



**NEW ZEALAND INSTITUTE FOR THE STUDY
OF COMPETITION AND REGULATION INC.**

**Restructuring Primary Health Care Markets in New Zealand:
Financial Risk, Competition, Innovation and Governance Implications**

June 2005

New Zealand Institute for the Study of Competition and Regulation Inc. and
Victoria Management School, Victoria University of Wellington
PO Box 600
Wellington, New Zealand

Phone 64 4 463 5563
Fax 64 4 463 5084
Email bronwyn.howell@vuw.ac.nz

***Acknowledgement:** The author gratefully acknowledges the supervision and constructive criticism provided by Professor Lewis Evans throughout the preparation of this portfolio of work, the insights and helpful comments provided by Glenn Boyle, Hugh Kettlewell, Sadhana Maraj and Richard Meade, and the editorial assistance of Mark Obren. Any remaining errors and omissions are the responsibility of the author.*

Abstract

New Zealand's primary health care sector has undergone fundamental changes under the Primary Health Care Strategy announced in 2001 and implemented from 2002. The strategy replaces historic fee-for-service general practitioner subsidies with population-based capitation subsidies, and restructures the key contracting relationships within the sector. Primary Health Organisations take on the responsibilities for contracting with services providers to deliver services, and for contracting with District Health Boards in order to secure funding and ascertain service type and quality requirements for the services delivered to patients.

This paper uses the framework of economic contracts to analyse the effects of the changes brought about by the changes to primary health care arrangements in New Zealand. The paper finds that the change in arrangements is likely to lead to higher costs of financial risk and reduction in the level of competition between providers of health care services. When combined with the governance arrangements specified in the strategy, these effects are likely to result in reductions in efficiency in the primary health care sector relative to the arrangements prevailing prior to the change, and are unlikely to lead to the levels of innovation in service delivery anticipated by the strategy. These findings draw into question the extent of value for money that will be delivered from the substantial increases in government funding applied to the new strategy.

Contents

INTRODUCTION	8
1. THE NEW ZEALAND PRIMARY HEALTH CARE STRATEGY	16
1.1 BACKGROUND.....	16
1.1.1 Structures.....	16
1.1.1.1 Role of DHBs.....	18
1.1.1.2 Role of PHOs	18
1.1.2.3 Role of HealthPAC.....	20
1.1.2 Institutional Relationships.....	20
1.1.3 Funding.....	21
1.1.3.1 Population-based Capitation Funding	22
1.1.3.2 Capitation Rates.....	23
1.1.3.3 Care Plus	24
1.1.3.4 Subsidy Funding for Non-PHO Practitioners and Patients.....	25
1.2 ‘MANAGED CARE’ MODEL	25
1.3 FINANCIAL, COMPETITION AND GOVERNANCE IMPLICATIONS OF THE NZPHCS	27
1.3.1 PHO Pays Providers by Capitation.....	27
1.3.1.1 Patient List Profiles, Financial Risk and the Capitation Instrument	28
1.3.1.2 Risk Management and the Size of the Capitated Entity.....	29
1.3.1.3 ‘Cream-Skimming’ and Governance of PHOs	31
1.3.2 PHO Pays Providers by Fee-for-Service	31
1.3.3 In Practice.....	32
1.4 THE NZPHCS IN INTERNATIONAL PERSPECTIVE	33
1.4.1 England.....	34
1.4.2 The United States	36
1.4.2.1 The History of Managed Care in the United States.....	37
1.4.2.2 Outcomes of the Managed Care ‘Experiment’	38
1.5 EFFICIENCY IMPLICATIONS FOR NEW ZEALAND	42
2. FINANCIAL RISK AND HEALTH CARE FUNDING SCHEMES	45
2.1 INSURANCE AS AN INDIVIDUAL’S RESPONSE TO UNCERTAINTY	47
2.1.1 Insurance and Moral Hazard.....	47
2.1.1.1 Consumption and Moral Hazard.....	49
2.1.1.1 Co-Payments and Restraint of Moral Hazard	50
2.1.1.2 Patient Co-Payments in Government-Funded Schemes.....	51
2.1.1.2 Co-Payments and Information about the Cost of Service Provision.....	52
2.1.2 Consumer Responses to Changing Co-Payments.....	53
2.1.2.1 ‘Crowding Out’ Patient Co-Payments.....	53
2.1.2.2 ‘Crowding Out’ Alternative Treatments	54
2.1.3 Insurance and Adverse Selection.....	55
2.1.3.1 Independent Demands and Reinsurance	55
2.1.3.2 Correlated Demands and Adverse Selection.....	56
2.2 SUPPLY-SIDE CONTRACTUAL RESPONSES TO MORAL HAZARD.....	59
2.2.1 Risk-Sharing and Provider Reinsurance.....	59
2.2.2 Provider Risk Sharing and Adverse Selection	61
2.2.2.1 Pool Size.....	61
2.2.2.2 Access to Patient Information.....	62
2.2.3 Provider Responses to Risk Sharing.....	63
2.3 CONTRACTUAL RISK SHARING OPTIONS	64
2.3.1 Fee-For-Service	66

2.3.2	<i>Full Capitation</i>	66
2.3.2.1	Capitation, Risk Management and Practitioner ‘Profits’	66
2.3.2.3	Competitive Responses to Poor Risk Management.....	70
2.3.3	<i>Partial Capitation</i>	71
2.3.3.1	Incidence of the Fee-For-Service Payment.....	72
2.3.3.2	Patient Co-Payment as a Risk-Rated Premium.....	72
2.3.3.3	Co-Payments and Risks Not Controlled by the Patient.....	76
2.3.3.3.1	Increases in Subsidy and Moral Hazard and Reductions in Co-Payments ..	76
2.3.3.3.2	Risk Management Costs, Adverse Selection and Co-Payments.....	78
2.3.3.3.3	Adverse Selection Co-Payments and Provider Profits	79
2.3.3.4	Patient Co-Payments and Risk Reduction for Health Fund Managers	79
2.3.3.5	Risk and the Power to Set the Patient Co-Payment.....	80
2.3.3.6	Co-Payments and Income Redistribution.....	82
2.3.4	<i>Varying Capitation Rates</i>	82
2.4	SUMMARY OF THE THEORY	84
2.5	FINANCIAL RISK AND THE NEW ZEALAND PRIMARY HEALTH CARE STRATEGY	84
2.5.1	<i>Pre-NZPHCS</i>	85
2.5.2	<i>Instruments of Change: From Welfare Benefits to Insurance Markets</i>	89
2.5.2.1	PHOs are Insurance Companies	90
2.5.2.2	Co-Payments Become Insurance Premia	91
2.5.3	<i>Increases in Total Costs of Health Care</i>	92
2.5.3.1	Unit Size and Demand Volatility.....	92
2.5.3.2	Prudential Monitoring and Insurance Market Regulation Costs	93
2.5.3.3	The Nonprofit Constraint as an Alternative to Regulation	94
2.5.3.4	Regulation to Ensure Service Quality	95
2.5.3.5	Cashflow Risks from Deductions for Casual Visits	96
2.5.4	<i>Distributional Consequences of Varying Capitation and Co-Payment Rates</i>	97
2.5.4.1	Insurance Markets and Adverse Selection Costs.....	100
2.5.4.2	Adverse Selection and PHO Governance.....	103
2.6	RESPONSES TO RISK MANAGEMENT COSTS OF THE NEW ZEALAND STRATEGY.....	104
3.	COMPETITION IMPLICATIONS OF THE PRIMARY HEALTH STRATEGY.	106
3.1	BACKGROUND.....	106
3.2	COMPETITION LAWS AND REDUCTION OF COMPETITION.....	109
3.2.1	RISK MANAGEMENT, MERGERS AND COMPETITION	110
3.2.1	<i>Mergers and Random Risk Management Under Capitation</i>	110
3.2.2	<i>Adverse Selection and the Incentives to Merge</i>	111
3.2.2.1	Incentives and Risk Profiles.....	111
3.2.2.2	Mixed Capitation, Co-Payment Price-Setting and Incentives to Merge	112
3.2.3	<i>Service Quality, Mergers and Contractual Alliances</i>	113
3.2.4	<i>Mergers, Contractual Collaboration, Competition and Innovation</i>	115
3.2.5	<i>Competitive Entry of Providers in Subsidised Systems</i>	117
3.2.5.1	Barriers to Provider Entry and Exit	117
3.2.5.2	Barriers to Consumer Exit.....	118
3.2.6	<i>Competitive Entry, Adverse Selection and Supply Shortages</i>	120
3.3	COMPETITION PRE AND POST THE NZPHCS	120
3.3.1	<i>The NZPHCS Strategy Mandate to Reduce Competition</i>	122
3.3.1.1	Benefits from Collaboration.....	122
3.3.1.2	Collaboration and Reduction in Competition	123
3.3.1.2.1	Counterfactual pre NZPHCS.....	124
3.3.1.2.2	Vertical Alliances, ‘Tying’, Market Power and the NZPHCS.....	128
3.3.1.2.3	Reduction in Competition and Commerce Commission Thresholds	130
3.3.1.3	Choice and Competition From Uncapitated Providers.....	130
3.3.2	<i>Competition, Differential Subsidies and PHO Administration Costs</i>	131

3.3.2.1	Management Collaboration.....	133
3.3.2.2	Uneven Allocation of Resources for Innovation	135
3.3.3	<i>The NZPHCS Evidence</i>	136
3.4	REGULATION IN NEW ZEALAND.....	137
3.5	SUMMARY	139
4.	OWNERSHIP AND GOVERNANCE IN NEW ZEALAND PRIMARY HEALTH CARE.....	140
4.1	PRINCIPAL-AGENT CONTRACTS IN HEALTH CARE	141
4.1.1	<i>Agency Relationships in Health Care Markets</i>	142
4.1.1.1	The Insurance Agency	142
4.1.1.2	The Health Service Provision Agency	143
4.1.1.3	Third-Party Purchasing.....	143
4.1.2	<i>Conflicted Agents</i>	144
4.1.2.1	Conflicts, Opportunism and Ownership.....	145
4.1.2.2	Prioritisation of Conflicting Incentives	146
4.1.2.4	Conflicts and the Hippocratic Oath	146
4.2	INSURER-PROVIDERS AND THE NONPROFIT ORGANISATIONAL FORM.....	147
4.2.1	<i>Nonprofits as a Second Best to Optimal Ownership</i>	148
4.2.1.1	Nonprofits in Health and Insurance Markets	149
4.2.2	<i>Nonprofit Objectives</i>	150
4.2.2.1	All Organisations (Incl. Nonprofits) Have a Profit-Maximising Objective..	150
4.2.2.2	Nonprofits and Control of Assets	152
4.2.2.3	Nonprofits and Governance Incentives	153
4.2.2.4	The ‘Soft Budget Constraint’	154
4.2.2.5	Summary	155
4.2.3	<i>Nonprofits as an Alternative to Regulation</i>	155
4.3	GOVERNANCE AND FIDUCIARY DUTIES.....	156
4.4	APPLICATION TO THE NZPHCS.....	158
4.4.1	<i>Agency Relationships and PHOs</i>	159
4.4.1.1	PHOs Optimally Consumer-Owned Co-Operatives.....	159
4.4.1.2	NZPHCS Intentions and Institutional Design Mismatch	161
4.4.1.3	Agency Relationships and the Intentions of the NZPHCS	162
4.4.1.4	PHOs, Agencies and Ownership of Assets	164
4.4.2	<i>Providers as PHO Governors</i>	165
4.4.3	<i>Community Representatives as a Constraint?</i>	167
4.4.4	<i>Board Composition</i>	168
4.4.5	<i>Conflict in DHBs as Regulators and Customers</i>	169
4.4.6	<i>Summary</i>	170
5.	CASE STUDY: WELLINGTON INDEPENDENT PRACTITIONERS’ ASSOCIATION.....	171
5.1	WIPA.....	171
5.1.1	<i>WIPA Trust</i>	172
5.1.1.1	WIPA Trust Membership	173
5.1.1.2	WIPA Trust Governance	174
5.1.2	<i>WIPA Ltd</i>	176
5.1.2.1	WIPA Ltd Ownership.....	176
5.1.2.2	WIPA Ltd Governance	178
5.1.3	<i>Governance and Competition Analysis: WIPA Ltd and WIPA Trust</i>	179
5.1.3.1	WIPA Ltd and Control of WIPA Trust	180
5.1.3.2	WIPA Ltd/WIPA Trust Contracts	182
5.1.3.3	Reduction in Competition	186
5.1.3.4	Benefit Distribution and Competitive Processes	188

5.1.4	<i>Summary</i>	190
5.2	WIPA LTD AND THE PHO CONTRACTS.....	191
5.2.1	<i>Contracts and Equal Input of all Provider Groups</i>	192
5.2.1.1	Governance Control in the PHOs	193
5.2.1.2	PHOs as de facto WIPA Subsidiaries.....	194
5.2.2	<i>Competition Analysis</i>	196
5.2.2.1	WIPA Ltd Across Two Government Strategies	197
5.2.2.2	Strategic Role of WIPA Ltd Contracts with PHOs	198
5.2.2.3	PHOs as WIPA Subsidiaries and Reduction in Competition.....	201
5.2.2.4	Governance of WIPA and Conflicts of Interest.....	202
5.2.2.5	Contracts and Substantial Lessening of Competition.....	204
5.2.2.6	PHO Contracts and Financial Risk Management	206
5.3	OUTCOMES OF THE ALLIANCE.....	207
5.3.1	<i>Regulatory Restraint and Conferral of Benefits</i>	208
5.3.2	<i>Competition or Not</i>	209
5.3.3	<i>NZPHCS and WIPA Outcomes</i>	209
5.4	CONCLUSION.....	211
6.	FOR THE FUTURE.....	213
6.1	NONPROFIT PHOS	214
6.2	FUNDING BY CAPITATION	215
6.3	A WAY FORWARD?	217
6.3.1	<i>Was the formation of PHOs necessary?</i>	217
6.3.2	<i>Is a capitation funding instrument feasible?</i>	220
6.4	CONCLUSION.....	224
	REFERENCES.....	226
APPENDIX 1:	RISK TYPES IN INSURANCE-FUNDED HEALTH CARE.....	234
APPENDIX 2:	COMPARISON OF PRIMARY HEALTH CARE FUNDING	236
APPENDIX 3.	PROOFS	238
APPENDIX 4.	NEW ZEALAND PHOS BY TYPE DECEMBER 2004.....	241
APPENDIX 5.	PHO MEMBERSHIP STATISTICS DECEMBER 2004	244
APPENDIX 6:	GOVERNANCE RELATIONSHIPS AMONGST WIPA PHOS.....	249
APPENDIX 7.	GOVERNANCE, CONTRACT AND CASH FLOWS IN THE WIPA ALLIANCE	251

List of Figures

FIGURE (I)	PRE NZPHCS PRIMARY HEALTH CARE CONTRACTS	9
FIGURE (II)	NZPHCS PRIMARY HEALTH CARE CONTRACTS.....	10
FIGURE 3.1	PRIMARY HEALTH CARE COMPETITION PRIOR TO THE NZPHCS.....	125
FIGURE 3.2	PRIMARY HEALTH CARE COMPETITION UNDER THE NZPHCS	127
FIGURE 4.1	PRINCIPAL-AGENT RELATIONSHIPS UNDER THE NZPHCS.....	160
FIGURE (III)	DHBS AS PRIMARY CARE CO-ORDINATORS	220
FIGURE (IV)	COMPETITIVE INSURANCE MODEL	224

Introduction

For at least the past twenty years, the financing and delivery of New Zealand's state-funded health care services have been in a state of constant flux as successive governments have struggled to balance the dual imperatives of increasing consumer demand and the rising costs of a much wider range of services and treatments, within the constraints of a budget determined by taxpayers' ability to pay and the position of health amongst other political priorities (Ashton, 1999; Ashton, 2005). New Zealand has not been alone in this state of constant change, as over the same period fundamental reforms have been pursued in many OECD countries (Scott, 2001).

Prior to 2000, the New Zealand reforms were characterised principally by their focus upon the funding and provision of services in the secondary, tertiary and public health sectors. Much of the reform process of the 1990s was concerned with restructuring the state-owned entities charged with the purchasing and delivery of secondary, tertiary and public health services, and the methods by which these services were financed. Whilst public hospitals metamorphosed from Area Health Board facilities into Crown Health Entities (CHEs), District Hospital and Support Services (DHSSs) and finally District Health Board facilities (DHBs), funding responsibilities passed between the Regional Health Authorities (RHAs) and the Health Funding Authority (HFA) purchasing contracted services, and the Ministry of Health (MoH) and DHBs administering population-based budget allocations. Until 2001, the 'public-private partnership' between the government and private sector general practitioners for the delivery of primary care services remained largely unchanged. This agreement, instituted as a compromise between politicians and the medical profession in the aftermath of the Social Security Act 1938¹, resulted in the government agreeing to make a fixed price contribution towards the cost of general practitioner visits made by patients to privately-owned general practitioners. Substantive changes (i.e. changes other than variations in the level of the government contributions²) were made to this agreement only once, in 1991, when eligibility for the subsidy

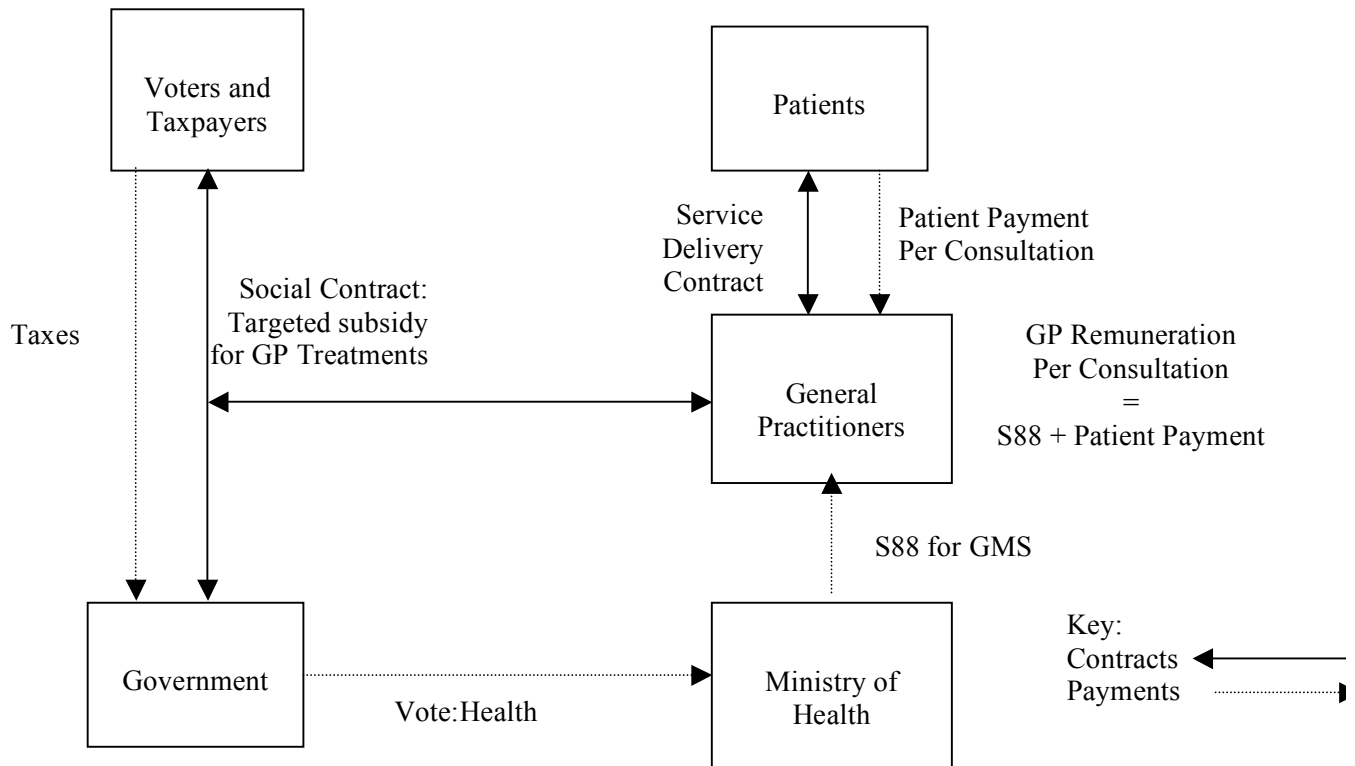
¹ This Act proposed a vision of 'free' taxpayer-funded health services for all New Zealanders, regardless of ability to pay, as in England's NHS. However, widespread opposition from the medical profession resulted in a bifurcation of the health sector into a public hospital, maternity and mental health sector, funded by and with the assets for production owned or employed by the government, and a private sector, where assets were owned by private providers who retained the right to charge fees in excess of the contributions paid from government funds (Ashton, 2005:5).

² Over time, the proportion of general practitioners' fees covered by the government contribution fell substantially (Austin, 2004).

shifted from a universal entitlement based upon patient age to a targeted benefit depending upon a patient's age, income and health need³.

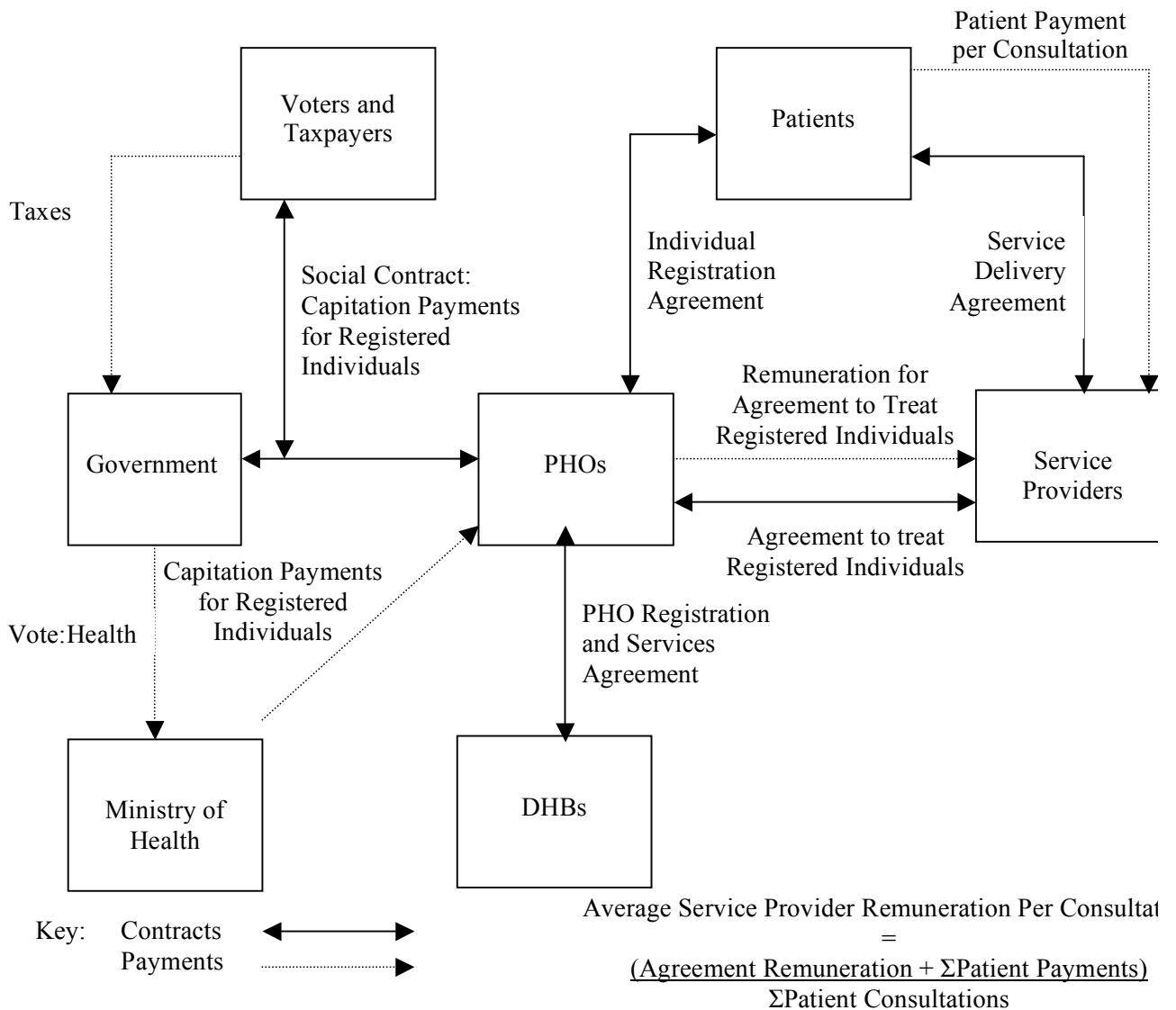
In 2001, following the creation in the New Zealand Public Health and Disability Act 2000 of 21 regionally-based DHBs responsible for purchasing all health services for the population living within their geographical boundaries, the Minister of Health announced the New Zealand Primary Health Care Strategy (NZPHCS) (King, 2001). Under the NZPHCS, the 1938 'social contract' between the public and the government for the funding of primary health care services, based upon general practitioner consultations delivered and the public-private partnership between the government and general practitioners to deliver the payment expectations of the social contract, was fundamentally rewritten. Whilst the contract between a patient and a practitioner for the delivery of services remains unchanged (except for the size of the fee paid), the 'social contract' between the patient seeking treatment and the government, whereby a contribution was made by the government towards the payment of the general practitioner's fee for services for each eligible consultation (termed a 'Section 88 payment for General Medical Services' or 'S88 for GMS') (Figure (i)) is replaced by a completely new set of contractual arrangements (Figure (ii)).

Figure (i) Pre NZPHCS Primary Health Care Contracts



³ Whilst the subsidy for children under six was raised in 1996, this was arguably only a change in the subsidy level for targeted individuals who had already been identified as an eligible group under the 1991 reforms.
 June 2005

Figure (ii) NZPHCS Primary Health Care Contracts



Firstly, the social contract whereby taxpayers funded targeted subsidies for general practitioner treatments is replaced by a new social contract, whereby taxpayers are funding a universal capitation payment made on behalf of all individuals who register for the new primary health care scheme, irrespective of their demand for and consumption of primary health care. These capitation payments are made to new entities called Primary Health Organisations (PHOs), which are required under the NZPHCS to be private, nonprofit entities with service provider and community governance, but which, unlike DHBs, have neither statutory definition nor uniform expectations regarding their legal form, governance requirements or accountabilities. PHOs are charged with co-ordinating care on behalf of their registered populations, and either providing the care themselves or entering into contracts with service providers (who can be for-

profit providers) to deliver the care to registered individuals. The ‘other parties’ at the end of the ‘social contract’ with the government on behalf of taxpayers are the newly-created PHOs.

The ‘public-private partnership’ with general practitioners that gave rise to the S88 payments has been terminated by the arrangements under the NZPHCS. The ‘public-private partnership’ is now between the government (represented by the Ministry of Health and the DHBs) and the private, nonprofit PHOs. If private sector providers wish to participate in treatment funded by the social contract with taxpayers, they must enter into a private treaty with a PHO. The terms of the payment under this contract are subject entirely to whatever agreement the parties concerned negotiate and agree upon. The practitioner may be remunerated on a fee-for-service basis, the capitation payment may be ‘passed through’, or any other mutually agreeable arrangement may apply. The remuneration associated with this contract need not be linked to services performed, as was the case under the S88 payments. This set of contractual arrangements is illustrated in Figure (ii). Only if the patient opts not to join a PHO will the practitioner be able to claim a S88 payment under the pre NZPHCS system.

Secondly, the capitation payments for all classes of patient under the NZPHCS, presuming average levels of consumption of health care services, are, more generous than the equivalent S88 payments in each targeted patient class. It is envisaged that, over time, as taxation revenues permit, capitation payments will rise, so that the government contribution will constitute an increasing percentage of the average costs of primary health care. It is the government’s expectation that the remuneration agreements between PHOs and service providers will reflect these additional government inputs, and that service providers in turn will adjust their charges to patients to reflect the government increases. However, the manner in which these increases in capitation payments are ‘passed on’ to patients is entirely dependent upon the terms of the contracts between PHOs and service providers, and the choices of individual service providers.

As illustrated in Figure (ii), the newly-created PHOs are central to the functioning of the government-funded primary health care sector. Under the capitation funding arrangement, PHOs become the ‘budget holders’ for all government funds applied to primary health care services delivered under the social contract, and are directly responsible for all contracts for service provision to patients paid in part or in full with government-funded capitation sums. The exact details of the services for which the PHOs assume the responsibility for purchasing on behalf of, or providing to, patients in exchange for the capitation funding are contained in

the agreement between each PHO and its registering DHB⁴. DHBs and PHOs are free to enter into separate agreements for the funding and provision of services over and above the services covered by the primary capitation funding. The terms and conditions of the contracts entered into by the PHOs with their variety of contracting partners, be they regulators, legislators, funders, suppliers or customers, are therefore pivotal to the performance of the NZPHCS. These contracts will determine the prices paid by patients, the range of services provided and the identity of the service providers delivering capitation-funded services. The contracts will also determine the ‘value for money’ (efficiency) achieved by the primary health care sector, in respect of both the government-funded and patient payments, and ultimately, the ability of the NZPHCS to deliver upon its core objectives of increased access to primary health care services by identified population groups, and improved health outcomes for all New Zealanders.

Economic analysis of the contracts that arise under the NZPHCS provides a framework against which the likelihood that the strategy will achieve its objectives efficiently can be assessed. Whilst formally a contract is a legally enforceable promise (Milgrom and Roberts, 1992:597), all agreements between parties, including technically legally unenforceable agreements such as the social contracts between taxpayers and the government, create expectations and obligations, enabling their economic effects to be analysed as though they were legal contracts. Contracts can describe the obligations created for the exchange of goods and services, and include agreements specifying the obligations associated with decision-making in the entities undertaking to enter into contractual obligations. Thus the nexus of contracts that the NZPHCS creates includes the governance obligations arising from the creation of the PHOs as new entities, and the effects that these governance contracts will have upon the nature and type of contracts entered into by the PHOs, and the parties with whom the contracts are agreed.

Economic analysis of a contract can be undertaken on two dimensions: the process by which the contract is performed, and the content of the contract. Contracting processes include the search for contract partners, negotiating the terms, writing the contract, monitoring performance and enforcing performance (or seeking redress) in the event that one party does not perform the contract terms as agreed. The interaction of the parties to the contract is a competitive process. Each party wants to achieve their individually-desired best outcome at least cost. Their ability to do so will be influenced by ways in which this interaction occurs. The content of a contract reflects the agreement made by the parties within the competitive process in which they interact. All contracts, however, are ‘incomplete’ as it is impossible at the time of negotiating

⁴ Although the contents of these agreements will be guided by national policies established by the Ministry of Health to ensure a uniform set of services to be provided nationally.

to completely specify all potential future outcomes under all contingencies (the consequence of ‘bounded rationality’ – Milgrom and Roberts, 1992:596). The contract terms that are specified can be used to assess the allocation of the costs and benefits of the contract between the parties, including the allocation of costs and benefits that arise due to events that are the results of bounded rationality or are unforeseen by either one or both parties to the contract at the time the contract is agreed (e.g. where one party has private information unknown to the other and chooses to use it to advantage in either agreeing the terms of the contract – adverse selection – or after the contract has been agreed – moral hazard).

An efficient contract is one that achieves the outcome desired by each of the contracting parties at least cost. This arises from a trade-off between the costs of the contracting process, and the costs of the contract terms failing to adequately deliver the desired outcomes. A number of factors have been identified which influence the efficiency of a contract, and upon which the contract can be analysed from an economic perspective. These include the ways in which the contract minimises of transaction costs (i.e. the costs of the contracting process), uses incentive mechanisms and monitoring to limit opportunistic behaviour by individuals (for example, moral hazard and adverse selection), allocates risk (e.g. how the additional costs are allocated when the outcomes of the contract deviate from the intentions of one or both of the parties), facilitates investment in assets specific to the performance of the contract and allocates property rights (Boyd, Evans, Quigley, 1999). These provide a useful framework upon which specific contracts can be analysed.

The changes to the interaction of participants in the New Zealand primary health care sector as a consequence of the NZPHCS can be analysed using the economic frameworks associated with contracts. The NZPHCS has changed both the nature of the contracts and the entities undertaking the obligations under the social contract between the government and voters and taxpayers. The change in the core product of the social contract – universal capitation funding of the registered population irrespective of health care demanded is exchanged for targeted fee-for-service payments made only in respect of those who fall ill and demand care – alters the financial risks associated with the contract, and creates new obligations as PHOs must manage funds across patients and across time in a manner not required under the pre-NZPHCS arrangement. The alteration of the ‘other party’ in the social contract alters the allocation of property rights relative to the pre-2001 arrangement, as government funding previously transferred direct to general practitioners is now paid to PHOs. As it is the PHOs rather than the Ministry of Health that decides upon the terms of the contracts with service providers (that is, individually-negotiated contracts between PHOs and service providers replace the S88

contractual agreements), the identity of the contracting parties has changed, altering the competitive processes that will occur in order to negotiate contracts in the sector. The governance contracts associated with PHOs will therefore have a fundamental influence on the identity of the decision makers, their accountabilities and the nature of the contracts to which they will bind the PHOs in the competitive contracting processes and consequent exchanges occurring under the NZPHCS.

The following body of work uses the economic framework of contracts to examine in detail the financial risk-bearing, competition and governance implications arising from the changes to the contractual basis of the New Zealand primary health care sector following the introduction of the NZPHCS. The aim of this analysis is twofold: firstly to determine whether the changes are consistent with, and are likely to lead to, the principal objectives of the strategy being achieved; and secondly the likely effects that changes in contracts will have on the 'value for money' (efficiency) in the primary health care sector, relative to that prevailing under the pre-NZPHCS contracts. The answers to these questions are fundamental in the assessment of not just the policy, but also the performance of the political and policy-making bodies responsible for its design and implementation. Given that the policy has already resulted in an additional \$1.7 billion of taxpayer funds being committed to primary health care⁵ between 2002 and 2005, given that health care expenditure has risen by over 57% between 1999 and 2005 to now comprise 20% of government expenditure⁶, and given that the 2005 Budget commits over 40% of all new government operating expenditure to health sector spending between 2005 and 2009⁷, of which the primary health care strategy is a central plank, the answers to these questions are salient to an assessment of the performance of the New Zealand economy as a whole.

The paper proceeds as follows. Chapter one describes in detail the changes in contracts, institutions and relationships required as a consequence of the NZPHCS. The objectives of the strategy are outlined, and the contracts, institutions and relationships explored in comparison to those prevailing in the England and United States primary health care contexts. The international comparisons, and the literatures associated with the performance of primary health care in these environments, are used to identify the key areas of financial risk, competition and

⁵ Total government health spending in the 2005/6 Budget year was set at \$8.5 billion.

⁶ Treasury Fiscal Outlook 2005 figure 2.9 <http://www.treasury.govt.nz/forecasts/befu/2005/2foexpenses.asp>

⁷ Health sector spending comprises 66% of funds committed to Advancing Social Policies expenditure, which itself comprises 61% of new operating expenditure. New health expenditure rises nearly six times (from \$164.9 million to \$973.7 million between the 2004/5 and 2005/6 financial years alone. \$270.8 million of this extra expenditure is directly related to higher than anticipated costs of the Primary Health Care strategy (p 11) and the costs of increasing

governance that are likely to impinge upon the ability of the New Zealand strategy to deliver on its objectives. Chapters two, three and four take each of the themes raised in chapter one in turn, explore the underlying theory and overseas empirical evidence to determine the likely outcomes in the New Zealand context, and then use evidence from the New Zealand primary healthcare sector⁸ to date in order to assess whether it is possible yet to draw any conclusions about the likelihood of NZPHCS objectives being achieved, and the efficiency performance of the NZPHCS relative to the pre-NZPHCS arrangements. Recognising that the primary health care sector is a sum of a number of complex contractual interactions, chapter five explores, as a case study, the financial risk management, competition and governance activities of five PHOs and their associated provider network under the NZPHCS. The purpose of this chapter is not intended to be an assessment of the performance of these PHOs and their network, but merely to illustrate the types of contracts, competitive behaviour and governance arrangements that are emerging under the NZPHCS, and to provide support to the projections and assessments made in the previous three chapters. Finally, in chapter six, some overall conclusions are reached. Whilst it is not the purpose of this analysis to propose ‘solutions’ to perceived ‘problems’, this section poses some questions about the performance of the NZPHCS that may lead towards changes to increase either or both of the efficiency of the primary health care sector and the likelihood of the NZPHCS objectives being realised.

the numbers of individuals eligible for higher subsidies. Cullen, Michael. 2005. *Budget 2005*. Wellington, New Zealand: The Treasury. Available on: <http://www.treasury.govt.nz/budget2005/summary/>

⁸ The evidence used for this analysis comes entirely from publicly-available sources. This approach was taken in order to replicate the ability of the beneficiaries of the NZPHCS to monitor and assess the performance of the strategy and the individuals and organisations acting in a fiduciary duty on their behalf. Furthermore, as PHOs are private sector entities subject only to the same information disclosure requirements as any other private sector entity, publicly-available information is all that is available to other private sector entities when assessing the risks associated with entering into contracts with PHOs. Whilst it is recognised that contracting entities may as part of the process have access to additional information not in the public domain, such rights are granted at the discretion of the PHO, and their veracity cannot be easily verified. Thus, publicly-available information provides the most credible source of evidence as to the likely outcomes of the NZPHCS.

June 2005

1. The New Zealand Primary Health Care Strategy

1.1 Background

The New Zealand Primary Health Care Strategy, announced by Health Minister Annette King in 2001, implements the government's vision to "focus on better health for a population" and actively work to reduce health inequalities between different groups" (King, 2001: vii). The six key directions of the New Zealand strategy are to (King, 2001: vii):

- work with local communities and enrolled populations;
- identify and remove health inequalities;
- offer access to comprehensive services to improve, maintain and restore people's health;
- co-ordinate care across service areas;
- develop the primary health care workforce; and
- continuously improve quality using good information.

Underpinning the changes is a perception that under the previous system, certain population groups faced financial and service-related barriers to accessing care appropriate to their needs, with the consequence that wide variations in health state were emerging between different groups. There was also a political will to use increases in government funding as the primary means via which changes would be implemented. King (2001:15) notes "New Zealand is unusual amongst developed countries in only funding about 40% of first-contact services through Vote Health, in what is otherwise a predominantly publicly-funded system".

1.1.1 Structures

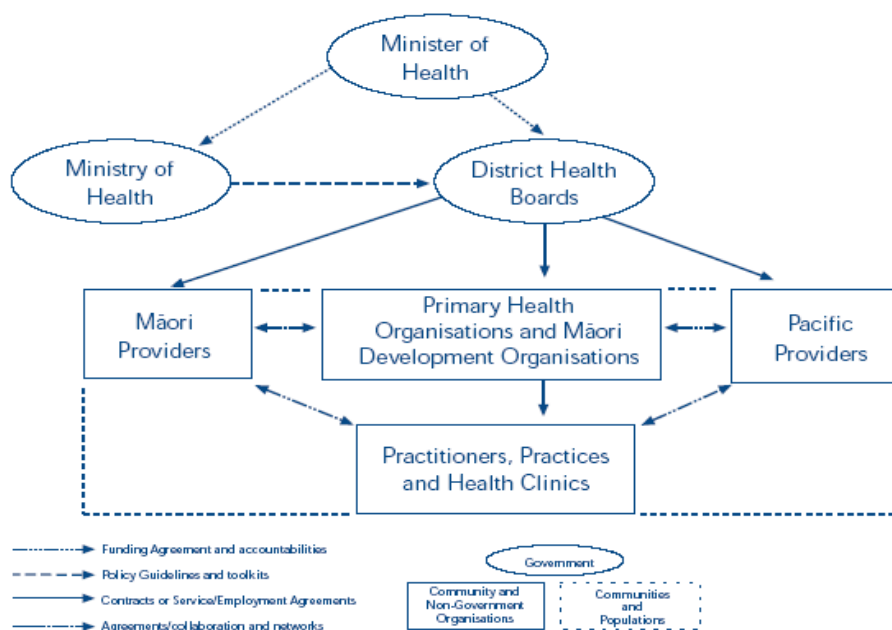
Prior to 2000, New Zealand's primary health providers received government funding from the Ministry of Health. General practitioners were paid fee-for-service subsidies by the Ministry's subsidiary, Health Benefits Limited, for each eligible patient visit. Other bodies (e.g. Maori health providers) received funding directly from the Ministry via individual contracts for specific services, typically on a volume and quantity basis. All service providers had the capacity to set co-payments in order to recover costs not covered by the subsidies. In 2004, government subsidies for general practitioners comprised approximately 30% of income (Austin, 2004: 3)⁹.

⁹ The discrepancy between the percentage of government funding cited by King (40%), and by Austin (30%) is probably due to King's figure including all primary health contracts that had previously been let by the Health Funding Authority, including contracts for first contact services provided by groups other than general practitioners (e.g. Iwi Health Clinics, Youth Health services). As these services were often fully funded (i.e. no co-payments) the *June 2005*

Following the passage of the New Zealand Public Health and Disability Act 2000, 21 geographically-determined District Health Boards (DHBs) were created to manage the health needs of populations. Over time, DHBs would gradually assume responsibility for overseeing the purchase and provision of all government-funded personal health services in the primary, secondary and tertiary sectors. When the Act came into force on 1 January 2001, responsibility for individual provider contracts for the specific primary health services, along with all secondary and tertiary services, was moved from the Ministry to the DHB in whose area the service was provided. The Primary Health Strategy, announced in 2001, moved responsibility for administering the remainder of government primary health contracts and funding, principally the funding of general practitioner services, from the Ministry to DHBs. This would take place progressively, beginning in 2002, as DHBs and other stakeholders in the sector developed the capabilities and institutions to undertake the necessary contracting.

The Minister's perspective of the structures and relationships in the new sector are portrayed in the following diagram (King, 2001:5):

THE NEW PRIMARY HEALTH CARE SECTOR³



³ This diagram reflects the sector as envisaged under this Strategy, however, as noted previously, primary health care practitioners will be free to decide whether or not they join a Primary Health Organisation.

proportion of government expenditure in total may be more than Austin's estimate, which specifies only the proportion in general practitioners' revenues.

June 2005

The principal instruments of delivery of the Primary Health Strategy are the 21 DHBs with “overall responsibility for assessing the health and disability needs of communities in their regions, and managing resources and service delivery to best meet those needs” (King, 2001: 4), and the newly-created Primary Health Organisations (PHOs). PHOs are funded by DHBs according to nationally-set population-based demographic formulae for the provision of a set of essential primary health services (King, 2001: viii).

1.1.1.1 Role of DHBs

Under the New Zealand Primary Health Care Strategy (NZPHCS), bulk budget-funded DHBs are required to enter into contracts with PHOs for the exchange of government-funded subsidies. The DHB contracts will specify priorities for PHOs, as well as quality and other expectations. However, the amount of funding transferred between DHBs and PHOs is set centrally by the Ministry’s capitation policies.

The DHBs also have the responsibility of monitoring the levels of co-payments charged by PHOs and their practitioners. They have the power to request notification of co-payment prices and changes from PHOs, and “if a DHB believes the increase is unreasonable, they will set up a fees review committee and examine the arguments for the increase in detail” (MoH, 2004:3). This provision is the mechanism by which the Minister’s expectation that the NZPHCS will lead to lower fees (co-payments) charged to the patient will be monitored and enforced. However, there is no formal requirement for providers to lower their fees under the new arrangement.

The DHBs are also required to impose, monitor and enforce, via their contracts, an agreed set of quality and safety standards for services provided, or contracted for, by PHOs (“DHBs will specify and monitor quality and safety standards and outcomes of care through service arrangements” King, 2001:26). However, the nature and extent of these standards is not stated. The only requirement of the strategy is that they will be ‘open’ to public scrutiny.

1.1.1.2 Role of PHOs

The PHOs will be “expected to respond to the needs and priorities of their communities, and involve their communities in their governing processes” (King, 2001:9). The governance requirements placed upon PHOs are that they “will be not-for-profit bodies and will be required to be fully and openly accountable for all public funds that they receive”, and “all providers and practitioners must be involved in the organisation’s decision-making, rather than one group being dominant” (King, 2001: vii). The nonprofit objective has been imposed in the belief that

“this will guard against public funds being diverted from health gain and health services to shareholder dividends” (King, 2001: 14). However, beyond these guidelines, there are few other restrictions upon the nature and form of PHOs. Any group of collaborating practitioners can form a PHO, although to do so they must gain the approval of the DHB with whom they will contract to receive funds. There are no specified limits below which PHOs cannot establish (e.g. size, location, etc.) although the Ministry of Health publishes guidelines, processes and procedures to be undertaken when they are established (MoH, 2004).

The PHOs are also charged with the responsibility of developing “innovative ways of providing services that people can afford” (King, 2001:17). This is to be achieved by a broad, inter-sectoral, collaborative, multi-disciplinary approach. The “old isolated ways of working must be replaced by new collaborative models” (King, 2001:18). The NZPHCS thus mandates collaboration amongst providers of all types at the PHO level, but endeavours to counter possible collusion and dominance by one particular provider group or type with the governance imposition that all providers must participate in decision-making. This requirement is presumably to ensure that the range of services provided meets different patient needs, as determined by the practitioners. However, the NZPHCS does not specify how the relationships between nonprofit PHOs, for-profit practitioners and patient and taxpayer beneficiaries will be managed, apart from a general statement that PHOs will be able to contract with profit-making entities: “Although Primary Health Organisations will not be responsible for providing all services, they will be a co-ordinator of care for their enrolled patients” (King, 2001:19). In respect of services to patients that PHOs do not themselves provide, PHOs “will be able to contract for services from private, for-profit providers” (King, 2001:17). Thus, although PHOs receive funding on a capitation basis, they can disburse the funds on any basis that they see fit, providing that it is consistent with improving the health of their patients. For example, they can enter into capitation contracts that shift risk to other providers, invest in preventative care activities or deliver services themselves.

During the transition phase (the duration of which is not specified, but is assumed to be within the total five year implementation period for the NZPHCS), general practitioners who are not allied to a PHO can continue to receive the existing fee-for-service payments. However, the intention is that ultimately only those providers who are allied to a PHO will have access to government subsidies.

1.1.2.3 Role of HealthPAC

A third body, not identified in the above diagram, is HealthPAC. HealthPAC is a subsidiary of the Ministry of Health, established to collect and co-ordinate information and to enable the primary health system to operate effectively across all 21 DHBs. Every New Zealand citizen registered with a PHO via a service provider (e.g. a general practitioner) is assigned a unique identifier, with HealthPAC maintaining a national list of the linkages between patients, PHOs and practitioners. Each quarter, HealthPAC reconciles the individual patient registers of all PHOs with the national register, and calculates adjustments to the capitation payments to reflect changes in patient PHO registrations. HealthPAC also makes adjustments to account for casual consumption of services supplied to patients by providers other than the ones with whom they are registered. These reconciliations are passed on to the Ministry for payment to DHBs, who then pay PHOs, and PHOs. The PHOs have the responsibility for paying their contracted providers.

1.1.2 Institutional Relationships

Initially, it is expected that PHOs will be formed by agreements between existing providers and their communities. Existing practitioner patient lists become the tool by which PHO patient lists are constructed for funding purposes. The direct link between patients and PHOs is via their provider practitioners¹⁰. Practitioners have the responsibility of choosing the PHO with which they will ally. Consequently, it is practitioners, not patients, who choose the PHO to which the patient belongs. If, once established in a PHO, a practitioner chooses to leave one PHO and join another, the rights of patients to remain with both the existing PHO and the existing practitioner appear non-existent. The patient must either remain with the PHO and choose a new practitioner, or move with the practitioner and become a member of a new PHO.

The NZPHCS emphasises the rights of patient choice of practitioner. The NZPHCS does not preclude a patient seeking treatment from a provider with whom the patient is not enrolled (“regardless of people’s nomination for continuity, the enrolment system will allow them to continue to see any primary health carer” - King, 2001:9), and “the system will also allow people to change their nominated provider without difficulty and without having to explain or seek permission” (*ibid*). However, as there is no direct relationship between the patient and the PHO, the patient’s choice of PHO is constrained by the choices of the practitioner with whom

¹⁰ This presumes that the ability to influence the activities through the political agency is so weak as to be effectively nonexistent (Howell, 2002; Horn, 1995).

the patient is registered. The NZPHCS contains no provisions for any direct contractual relationship between patients and PHOs, other than the implicit agreement via the practitioner.

As practitioners' patient lists determine PHO incomes, it is not possible for a practitioner to enter into agreements with more than one PHO. However, there is no constraint against a practitioner treating a patient who opts not to enrol, despite the fact that no capitation funding is received in respect of that patient: "If a person chooses not to enrol they will still be entitled to seek care – but they may miss out on some preventive services because they are not in the identified population" (King, 2001:9). The system thus enables a patient to enter into a private agreement with a provider to provide services that might otherwise be provided by a PHO, but does not enable the patient to empower a PHO other than the one with which the provider has chosen to ally entering into a contract with that provider to provide services on the patient's behalf. Whilst the diagram does not show them, it is feasible for both patients and providers to transact outside of the subsidised system.

As PHOs and service providers are independent entities, they are able to enter into contracts of any form that is mutually agreed. There are no restrictions in the strategy on the terms of contracts, apart from the requirement that PHOs will receive capitation funding from DHBs based upon characteristics of their registered patient base.

1.1.3 Funding

The strategy entails the injection of significant additional government funding, initially over a five- to ten-year time horizon (King, 2001: viii), subsequently brought forward to three to five years (King, 2004: 1). The 2004 Budget committed an additional \$415.7 million over three years to the NZPHCS. Over six years, the total additional funding committed to the NZPHCS is \$1.7 billion (Consumer, 2005). Increased funding is aimed at addressing the problem of cost being a barrier to some New Zealand citizens' ability to access health services¹¹. User part charges targeted according to an individual's age, income and family size are not regarded as satisfactory tools to address the cost barrier, "particularly people from groups with the greatest needs and who experience the worst health status" (King, 2001:15). The new funds will be distributed to healthcare providers "according to a formula that reflects the relative need of their enrolled populations, taking account of factors such as age, sex, deprivation level and ethnicity" (King, 2001:14).

¹¹ Although it is not clear that there is a direct relationship between the size of the subsidy and access to services, as any patient payment may be a barrier to access for some population groups (Barnett and Barnett, 2004).
June 2005

PHOs, and by extension the providers with whom they contract for the provision of services, retain the right to charge co-payments to patients in order to recoup costs in excess of capitation subsidy payments. Whilst this right is maintained, it is fettered by the requirement that co-payments be approved by DHBs.

1.1.3.1 Population-based Capitation Funding

The new funding formula relies upon the population-based demographics of the service-providing entity rather than individual patient circumstances, either financial or health status, as prevailed under the previous fee-for-service model. The NZPHCS is a capitation funding model, where financial risks are shifted onto providers, so that they face incentives to reduce costs by maintaining wellness of all patients in a given population. This is in contrast to the incentives underpinning fee-for-service, where providers are rewarded for specifically intervening only to treat an individual's incidences of illness. It is intended that the combined approach of increased funding and selective application of different capitation rates for different populations will "help to reduce inequalities by directing resources to communities with greatest health needs" (King, 2001: 14), rather than previously, where resources were directed towards the individuals with greatest health (i.e. they are sick and need treatment) and income (i.e. they qualify for an income-related subsidy) need. Furthermore, the Minister notes that the "full benefits of population-based funding will not be realised while a large percentage of providers' revenue is generated through user part charges – the fee-for-service nature of user part charges encourages the continuation of episodic treatment" (*ibid*). Thus, the intention of the strategy is to increase the share of government funding applied in the primary health sector, and thereby total funding in the sector.

Capitation payments are made quarterly to PHOs on the basis of the patient lists supplied to, and reconciled by, HealthPAC. PHOs are paid capitation funds quarterly by DHBs according to their reconciled patient lists. HealthPAC reconciliations match not just patient registrations, but also patient visits. Whilst practitioners are paid on a capitation basis, they are charged on a fee-for-service basis for services consumed by any of their registered patients and supplied by another practitioner. If during a quarter a patient elects to visit a practitioner other than the registering practitioner, a debit equivalent to the 'average per visit subsidy' is created against the registering practitioner (and hence the relevant PHO) and a corresponding credit created for the servicing practitioner deducted from the capitation sum due to the registering practitioner (and hence the relevant PHO). The PHOs' payments are adjusted accordingly and, where

applicable, the PHOs can make adjustments to individual practitioners' payments based upon the HealthPAC information (Perera, *et al.*, 2003: 31).

1.1.3.2 Capitation Rates

The NZPHCS defines two forms of capitation subsidy: Access and Interim. PHOs demonstrating a registered patient base where more than 50% of patients are is of 'high need' – that is of NZ Deprivation Index 9 or 10, or of Maori or Pacific Island ethnicity¹² - are classified as Access PHOs. All patients registered in Access PHOs attract the higher level of subsidy, even though they may not individually meet the 'high need' definition. The remaining PHOs, termed Interim PHOs, are funded according to the Interim PHO formula. Subsidy levels vary according to age and gender. Access PHO and Interim PHO capitation subsidies are identical for patients under five years of age and 65 years and over. However, for the balance of age groups the Access PHO subsidy is between 1.2 and 9.1 times higher than the equivalent subsidy for an Interim PHO patient.

Individual patient or family income is no longer a consideration in setting the subsidy levels for patients registered in PHOs funded by the Access formula. However, distinctions continue to be made between financially needy patients (determined by holding a Community Services Card) in PHOs funded by the Interim PHO formula. As an example, the capitation subsidy for a 45-64 year old female with no special financial or health needs is \$12.22 under the Interim PHO scheme and \$110.99 under the Access PHO scheme. For a patient with a Community Services Card, the Interim PHO subsidy rises to \$88.74 (see Table 1). However, these distinctions are to be gradually removed, as the Minister intends that the Community Services Card criterion for subsidy-setting will be removed within five years of the NZPHCS's implementation (King, 2004), when presumably all patients within Interim PHOs will be capitated at the same level, as currently occurs in Access PHOs.

Individual need still commands a different level of funding in both Access and Interim PHOs, for a small number of patients. Chronically ill patients who have had 12 or more visits in the previous 12 months, identified by having a High Use Health Card, are subsidised in future periods at a higher rate¹³, as long as they maintain their high use status. The 'high user' subsidy rate is identical in Interim and Access PHOs. The only distinction for high users is age, with younger and older patients subsidised more than others. For example, a 0-4 year old high user

¹² Although it is noted that some DHBs have opted to fund some PHOs on a mixed basis, based upon individual practice, rather than overall PHO, characteristics.

¹³ http://www.moh.govt.nz/moh.nsf/wpg_Index/About-High+Use+Health+Card

is subsidised at \$471.96 per annum, whilst a 25-44 year old has a \$291.50 subsidy¹⁴. However, such patients must make the co-payments relevant to the first twelve visits before the additional subsidy is applied, and must continue to consume services at the rate of twelve or more visits in a twelve-month period to maintain the higher subsidy. At an average consultation fee of \$45, the high use subsidies are equivalent to 10.5 visits per year for a 0-4 year old and 6.3 visits per year for a 25-44 year old. Thus, even high users face significant co-payments, or practitioners must cross-subsidise such users from other income streams, even in Access PHO practices, if the full costs of treating high users are to be covered.

Further subsidies are applied depending upon the rural or urban nature of practices, and the size of the entities via which practitioners collaborate to manage the capitation funding. General Practices are ranked on a 'remoteness' scale, and an additional annual capitation subsidy of between \$7.42 and \$18.54 per registered patient is paid for rural practices (MoH, 2002:11). Where the capitation entity has fewer than 20,000 patients registered, a management fee of \$6.93 per patient is paid per annum. This reduces to \$6.30 per patient between 20,000 and 75,000, falling to \$5.67 for patients in excess of 75,000 patients (MoH, 2002:9). Additional capitation payments tagged to be used for 'Services to Improve Access' are paid depending upon the ethnicity of the patient (Maori/Pacific or Non Maori/Pacific) and a deprivation indicator (see Table 1). These apply independent of the funding status of the PHO.

1.1.3.3 Care Plus

In July 2004, additional funding to cover the costs incurred by especially heavy consumers of health services, such as chronically ill patients, was introduced. Branded Care Plus¹⁵, this funding was developed "to replace the Access and Interim PHO population-based funding formulae with a way of targeting individual priority patients" (Ministry of Health, 2004: 5). Whilst nominally targeted at specific high-use patients, it too is being supplied as capitation funding: "Care Plus provides additional capitation funding (approx 10 percent) to target about five percent of the enrolled population" with the percentages determined again by age, ethnicity and socio-economic status (*ibid.*, p 4).

¹⁴All figures sourced from http://www.moh.govt.nz/moh.nsf/wpg_Index/-Primary+Health+Care+Funding

¹⁵ Care Plus was introduced on 1 July 2004. "It's aimed at people who need to visit their family GP or nurse often because of significant chronic illnesses such as diabetes or heart disease, have acute medical or mental health needs, or a terminal illness." http://www.moh.govt.nz/moh.nsf/wpg_Index/-Primary+Health+Care+Care+Plus

1.1.3.4 Subsidy Funding for Non-PHO Practitioners and Patients

A practitioner who has yet to align with a PHO, or one who chooses not to align, is currently able to receive subsidies at the previous fee-for-service rate for all eligible patient visits direct from the Ministry of Health, as per the pre-NZPHCS system. As additional government funding is applied only to capitation funding, the fee-for-service subsidy payment received under this system is less than the ‘average’ consultation subsidy under the Interim PHO capitation formula. However, fee-for-service subsidies do not offer a long-term funding option for practitioners and patients as, at a future date yet to be disclosed, fee-for-service subsidies will be withdrawn. Ultimately, only providers who have contractual agreements with a PHO will have access to income from government subsidies.

1.2 ‘Managed Care’ Model

In essence, the NZPHCS establishes a ‘managed care’ model for government-subsidised personal health services. Managed care models have evolved around a set of:

“fiscal and practice-based strategies. Managed care seeks to reduce variability in medical care by identifying ‘best practices’ and promoting adherence to guideline-based decision making. This includes evaluating the appropriateness of services rendered and the level of care necessary to provide the services” (Rivers and Tsai, 2001:302).

Managed care models are characterised by health care funders (generally insurance companies or governments acting as agents of individuals) entering into capitation-based contracts with managed care organisations (MCOs) who assume responsibility for both the funds management (insurance) and service provision aspects of health care for a designated population.

Managed care providers assume responsibility for both the insurance and health care elements of health care delivery. The New Zealand Public Health and Disability Act 2000 creates DHBs as the principal managed care providers for all personal health needs. The Ministry, as the government’s agent, and ultimately the taxpayer-patient’s agent, purchases capitated health care management from DHBs, in exactly the same manner as governments, insurance companies or employers in the United States might purchase services on behalf of beneficiaries, policy-holders or employees. The NZPHCS, by its stipulation that DHBs fund PHOs on a capitation basis, requires DHBs to subcontract the managed care role for primary health services to PHOs that may, and generally will, consist of collectives of primary health care providers. The PHOs are therefore charged with managing both the financial risks and health care delivery for their populations. As such, the previous clear contractual separation between the purchase and supply of health care services has become blurred. Within these re-merged functions, the

provisions of the NZPHCS contain specific mandatory requirements on PHOs in respect of health service development and delivery. The only mandatory requirements in respect of financial risk management in the NZPHCS relate to capitation funding of PHOs, increases in the total level of government funding, and the ability of DHBs to regulate the size of patient co-payments.

By the injections of significant additional government funding, the strategy aims to alter patient incentives to consume care. As co-payments decrease, patients will consume more services. As targeted patients receive higher subsidies, it is anticipated that they will consume proportionately more services than their less-heavily subsidised counterparts, thereby improving their health states and reducing the gaps in outcomes between different patient groups. In keeping with the philosophy of managed care systems (Danzon and Maclaine, 1994; Newhouse, 1996; Robinson, 2004), the NZPHCS also uses risk sharing capitation instruments to provide PHOs with financial incentives to manage service delivery in a manner that is sensitive to the costs of treating patients.

The NZPHCS places very strong financial incentives on PHOs to reduce costs by using instruments such as service co-ordination, which by necessity means previously competing providers are required to co-operate with each other. However, the NZPHCS simultaneously expects PHOs to invest in the development of new services to better meet patient health needs, by developing “innovative ways of providing services” (King, 2001:17) and by continuously improving quality using good information (King, 2001: vii). Juxtaposing the financial and innovation perspectives, these incentives appear to be in contradiction with each other. Innovation in the health sector, unless it is specifically targeted at reducing costs, generally increases, rather than decreases cost:

“Some innovations decrease costs by displacing more expensive forms of care, but most add to expenditures by alleviating discomfort and disability in contexts where previously no intervention was available” (Robinson, 2004: 1885).

If innovation is at once both costly, but unnecessary, as collaboration between providers removes competition and hence the incentive to differentiate by innovation, then new service innovations, other than cost reductions, are unlikely to occur.

The strategy thus raises questions about how the behaviour of the parties affected by these changing incentives – practitioners and patients – will alter as a consequence of the interaction of the new range of incentives they face. As the key changes are to elements of allocation of responsibility for risk-bearing, service purchasing and provision, competitive behaviour, and ownership and governance of the entities carrying out the tasks of purchasing and provision, the

financial implications of the New Zealand strategy can be analysed using a framework comprised of three key elements: financial risk bearing, competition and governance.

1.3 Financial, Competition and Governance Implications of the NZPHCS

The outcomes of the NZPHCS will hinge upon the form of the contracts entered into between PHOs and providers. However, the NZPHCS places no specific requirements on these contracts, despite the fact that one of the primary intentions of the strategy is to change provider behaviour by placing financial risks upon PHOs in the first instance, and ultimately, via the contracts, providers. How these contracts allocate the risks between PHOs and practitioners will therefore be crucial to the performance of the NZPHCS.

Whilst the ownership, form and objectives of for-profit private practitioners are transparent, the same cannot be said of PHOs. Although their form is nonprofit, and beneficial ownership is defined as being patients, their legal ownership (in terms of appointment and accountabilities of decision-makers) is only partially addressed (all practitioners must be represented, and communities must be involved) and their financial risk management objectives are unstated. Specifically, are PHOs required to be accountable to funders for their management of financial risk, or are they charged with minimising their financial risk by passing it on to other entities?

The NZPHCS does not make clear if, or how, the governors of PHOs are to be held accountable for the decisions they make when entering into contracts that allocate financial risk. In the absence of any guidelines in the NZPHCS, it can be presumed that the outcome will be determined ultimately by the evolving governance roles in PHOs, and thus the nature of the contracts that these governors preside over. The propensity for PHOs to assume the financial risks of capitation will be determined by the incentives and risk-bearing tolerances of those who win the competition for PHO governance roles. These governors can choose to retain the risk in the PHO or choose to contract it elsewhere. If the governors are exposed to risks from the contracts as participants in the sector in other capacities, then it must be assumed that their decision-making in respect to PHO assumption and delegation of risks will be influenced by the degree to which the PHO contracts expose them to risks in their other capacities.

1.3.1 PHO Pays Providers by Capitation

If the PHO-provider contracts result in 'passing through' capitation sums for their registered patients to the registering providers, then all financial risk is passed to providers. Such contracts leave the PHO with no scope to manage financial risk, so the PHO's only purpose in

existing will be to offer economies in administration costs (e.g. service co-ordination) and a forum for providers and communities to collaborate in new service development. As the only major Ministry of Health-commissioned public report on PHO operation to date (Jordan, McCardle and Norgrove, 2004) focuses entirely upon management services and makes no mention of financial risk management, it might be inferred that at the current point in time at least, PHOs are expected to be performing solely administrative tasks and delegating all financial risks directly onto providers.

As it is intended that quality of care is to remain at least at the levels prevailing prior to the implementation of the NZPHCS, if not increased due to new service innovations, the only mechanisms available to providers to manage risk are the ability to set patient co-payments and the ability to manipulate the portfolio of patients. Co-payments are measured as reductions in either or both of patient financial wealth or health state. Portfolio manipulation constrains cost by maintaining a patient list with more than the population average of 'healthy', low-cost patients ('cream-skimming').

1.3.1.1 Patient List Profiles, Financial Risk and the Capitation Instrument

Under capitation, a fixed sum is paid to the provider. In exchange, the provider agrees to provide care to the registered individual whenever it is sought. The capitation rate is typically set using population demand averages and the average cost of providing services. If the registered patient requires more treatments than the amount on which the average is based, the provider must bear the costs in excess of the income the patient brings, but if the patient requires fewer treatments than average, the provider gets to keep the difference between income and costs. If the provider has an 'average' patient portfolio, the additional costs of each 'heavier than average' demand patient will be netted out by the lower costs (and additional capitation income) associated with the demands of 'lighter than usual' consumers. Each new patient registered will either increase costs or increase profits.

If the provider can distinguish between patients, then the provider will favour adding 'lighter than usual' consumers at the expense of 'heavier than usual' consumers. The registered patient base becomes biased, with an average cost base lower than the population average. A provider with this sort of patient base is unlikely to register a patient with unknown future demand, as each such patient will on average simply result in a return of the registered base towards the population average, and the profits fall. Only patients with a known demand that will bring income in excess of their costs will be desirable. All others bring at best a neutral return, and at worst, costs in excess of income. However, it is the high demand, persistently ill individuals

who are most in need of health care that are the least likely to be registered under these sorts of capitation schemes, as they are almost certain to bring costs in excess of income. If the provider can charge a high co-payment to recoup the additional costs that such patients bring, then the incentives not to register them may be muted. But as the ability to set co-payments for some high demand patients is limited by the NZPHCS's intention that their co-payments be low or non-existent, then when active 'cream-skimming' (adverse selection) occurs, it will be these patients that are most likely to be disadvantaged, as they will not be able to find providers willing to register them. This outcome is contrary to the NZPHCS's intention of increased access and consumption by these types of patients.

If providers can raise their co-payment charges, then their financial risks are reduced. The NZPHCS allows higher co-payments to be charged for patients of Interim PHO-capitated providers. However, as prices rise for these individuals, fewer patients in the higher co-payment classes will be treated, equalising access and outcomes as the health state of high-consuming co-paying classes falls closer to that of the more highly subsidised classes. Furthermore, if co-payments can be raised, then there will be less pressure on the government to alter the capitation sums in the event of providers coming under financial stress. Thus, the ability to raise co-payments shifts the financial risks from PHOs, providers and the government onto patients.

If the ability of providers to vary co-payments is restricted, then providers are very limited in their ability to cover costs. Provider financial failure will be more likely to occur. Unless practitioners can successfully petition the government to increase capitation payments, options by which practitioners can reduce service delivery costs are confined to reducing service quality (for example, shorter consultation times, longer waiting times for patients), further biasing the selection of patients covered by engaging in more aggressive 'cream-skimming', or restricting the extent of possible losses by registering no new patients ('closing the books'). The financial viability of practices under restrictions to co-payment setting will be especially susceptible to correlated increases in patient demand, such as occurs during an unusually severe epidemic (e.g. a non-immunisable influenza epidemic, Asian 'bird flu').

1.3.1.2 Risk Management and the Size of the Capitated Entity

Aside from cost containment strategies, the only other option available to capitated practices would appear to be to merge into larger entities, thereby spreading the financial risk amongst a bigger pool of both providers and patients. Assuming that providers cannot distinguish between patients with higher-than-average and lower-than-average health care demands, any

random selection of patients will yield a group with either higher or lower than average costs in a given period. High cost providers make losses and low cost ones a profit. Thus there is significant income volatility between providers. Just as an individual practitioner can counter the risks of having a high-cost patient by recruiting a low-cost one, so can loss-making providers reduce the risks of financial failure by pooling their patient lists with the lists of profit-making ones. The profile of the combined list is now more likely to be closer to the population average upon which funding was based, so the likelihood of making a large loss is reduced. The large variance in profitability between providers is reduced by sharing the risk of selecting a high-cost patient group over a larger number of providers (Milgrom and Roberts, 1992: 212-4). Thus, under conditions where there is no correlation between the process of selecting patients for the list and the costs that the patients bring, merging provider lists into larger groupings to lower the costs of financial risk is indicated.

However, if there is a correlation between the selection process and the costs that patients bring (for example, some patient health states are known, and adverse selection is occurring), then the incentives to merge will be different from when they are uncorrelated. A low-cost provider who knows that the low costs arise because of a healthier than average patient list will have no incentive to merge with a high-cost provider, as this provider has a less healthy patient list that will reduce the ability to make profits above reasonable costs. Thus, only loss-making providers will seek to merge, and the only other providers with whom they can merge are also loss-making ones. Whilst such mergers will reduce the variability in the size of the losses, the average outcome will still be a loss, as the profits to compensate for these losses are being retained by the low-cost providers who will not willingly merge. Thus, if 'cream-skimming' is occurring, the likely profile will be a single large provider biased towards a high-cost patient list, with a number of smaller low-cost providers.

Furthermore, the incentives to merge will be higher the greater the probability of making a loss. Lower-capitated providers face greater income volatility than higher capitated ones, simply because the higher capitated providers have more cash from which to cover the demand volatility. If demand patterns are not actually significantly different between groups, then the lower-capitated loss-making providers will face bigger losses on average, so have greater incentives to merge than the higher-capitated loss-makers. Thus, it is likely that Interim PHOs will have greater incentives to merge to manage financial risk than Access PHOs. Moreover, there will be no incentives for higher-funded Access PHO practices to merge with lower-funded Interim PHOs, even if they are of like populations, simply because the net benefits per patient under the two schemes are different.

Thus, if patient list selection was completely random, merger activity would likely result in the creation of very large practices, and in the ultimate, a one-to-one match to practices and PHOs. However, if patient list selection is not random (i.e. there is ‘cream-skimming occurring’), despite the apparent benefits, mergers for financial risk management purposes will not occur.

1.3.1.3 ‘Cream-Skimming’ and Governance of PHOs

Overall, under provider capitation, there are strong incentives for providers, especially those who have been quite successful in ‘cream-skimming’, to want to gain control of the PHO decision-making process. They can ensure that the nature of the contracts shifts PHO risks to practitioners, can isolate the extent of financial losses to the less successful ‘cream-skimmers’, can avoid individual financial responsibility for the losses their contract-setting processes contribute towards, and reap the benefits of their own efforts. Meanwhile, as governors of the PHO, they have no individual responsibility to patients to manage risks, as these have been contracted to each practitioner.

Moreover, if groups of successful cream-skimmers can collaborate and prevent less successful cream-skimmers from joining their collective, then patient risk profiles between PHOs will vary considerably. A dichotomy between high risk, high cost and low risk, low cost PHOs will emerge, even within areas of like population demographics. As funding is independent of individual patient risk type, such PHOs will be funded identically. If all funds are spent on health services, the health state of patients in the low risk, low cost PHO will rise relative to that of patients in the high risk, high cost PHO, contrary to the intentions of the NZPHCS. If the health states achieved in the high cost, high risk PHO become the benchmarks against which the performance of the low cost, low risk PHO is measured, then it becomes possible for for-profit contracted practitioners to the low cost PHO to extract the corresponding surpluses as profits, again contrary to the intentions of the NZPHCS.

1.3.2 PHO Pays Providers by Fee-for-Service

If, however, PHOs enter into fee-for-service contracts with providers, financial risk lies with the PHO. The PHO then manages the variation in demand, and must maintain reserves to meet reasonably expected fluctuations. Under fee-for-service, providers face no incentives to ‘cream-skim’, as they are reimbursed for each service provided (recognising that there are many ways of operating fee-for-service, such as caps on treatment numbers, varying prices for varying services, exclusions, etc.). However, the governors of PHOs with such contracts in place are

accountable directly to patients for risk management activities. It becomes the PHO's responsibility to set service payments, monitor contracts, and meet patient service expectations directly. If funds are not available for treatment, it is the PHO who is directly accountable, unlike the capitation model, where it is the provider who is directly accountable. Under such contracts, there is no greater incentive for a provider to be a governor than any other stakeholder in the system. Indeed, under such contracts, given the nonprofit (i.e. subject to a non-distribution constraint¹⁶) nature of PHOs, the stakeholders with the strongest incentive to be involved in PHO governance are the patient and the funder.

1.3.3 In Practice

Given that the NZPHCS creates PHOs as new entities, whilst providers are already established, and that the fundamental premise of the NZPHCS is that PHOs be funded by capitation, it would not be surprising to see, in the first contracting rounds, PHOs entering into capitation contracts with participating providers. This requires the least cost administration effort for PHOs, given that all financial reconciliations on a capitation basis are undertaken by HealthPAC. PHOs can simply pass on the capitation subsidy based upon practice patient lists, retaining the management capitation fee for the provision of co-ordination and service delivery functions.

Further, given that practitioners must be part of the decision-making process, it would be unlikely, in the first instance, to see otherwise independent practitioners willing to pool their investments without detailed information of the potential biases of their colleagues' practice lists with respect to high cost and low cost patients. Hence, practitioners unlikely to want to assume accountability for the delivery of health services to patients other than their own will, as PHO decision-makers, opt initially for capitation 'pass throughs' to practitioners.

If practitioners gain effective control of the PHO decision-making processes, then the incentives for PHOs to assume financial risk management activities will be low. The first round of PHO contracting will likely to see practitioner-dominated bodies entering into contracts that simply pass capitation monies directly to individual practices. However, as identified above, this is likely to lead to higher costs to patients, and is unlikely to lead to greater levels of access or increases in patient health states. Furthermore, if 'cream-skimming' occurs, it is even less likely that efficiency-raising mergers for risk management purposes will emerge. Entrenchment of the 'pass through' capitation contracts will likely emerge, with

¹⁶ For a full definition of nonprofit entities, see Howell (2000).
June 2005

consequential higher risk management costs than are necessary, and very little capacity to address the issues of equity and access upon which the NZPHCS was premised. Furthermore, substantial additional injections of government funding will do little to reduce the inequities, as the interactions of elements in the system will lead to the creation of even greater health outcome gaps, and more opportunities for successful ‘cream-skimming’ practitioners to extract even larger surpluses.

1.4 The NZPHCS in International Perspective

Insights into the likely outcomes of the New Zealand strategy can be gained from an analysis of the primary health strategies of other countries since the 1980s. Contractual assignment of the responsibility for purchasing and provision of health services, changing location of financial risk bearing and associated insurance issues, the role of competition amongst groups of service providers and groups of service purchasers, the role of government funding, the governance design of institutions for delivering purchasing and service provision and changing responsibilities for the co-ordination and delivery of care are recurring themes in the international health service literature.

The ‘problem’ of health service design is commonly seen as one where the systemic interaction of elements is a fundamental consideration. Dwyer (2004: 2), in respect of the Australian reforms, notes that the solutions that have been applied are typically “systemic in the sense that they examine broadly the structure and performance of the state/territory health system, and/or address the governance of the system”.

Analyses of interactions often focus on those between government and the private sector. Consideration of the role of government funding in an environment where health costs are rising faster than the economy as a whole is growing, is a common theme (Ham, 2004; Aaron, 2004), alongside the roles of public and private providers, of both insurance and risk management products, and health service delivery. Irrespective of the source of funding or ownership of the interacting entities, the over-riding consideration appears to be extracting the best health status for the total dollars of both public and private funding spent (Danzon and Maclaine, 1994; Dwyer, 2004; Flood, Stabile and Tuohy, 2002; Aaron, 2004). Interestingly, despite originating from very different approaches to funding and provision, “several countries appear to be converging on a common model, in which government plays a major role in assuring that insurance coverage is universal, but with competition in the provision of insurance

and medical care, in order to stimulate efficiency and provider responsiveness to consumer preferences” (Danzon and Maclaine, 1994: 81).

In contrast, the New Zealand model blurs the distinction between separation of funding and provision, merging both into the role of PHOs, at least in respect of state funding. Competition between providers is reduced by the collaboration requirements, although limited competition is possible in the form of potentially competing funder-provider PHO-practitioner pairs, within a government-mandated funding system. Whilst patient choice of provider is available, patient choice of funder is conditional upon choice of provider. Competition from unsubsidised providers is not precluded, but is not overtly considered within the strategy. The New Zealand focus upon reducing gaps in health outcomes is also somewhat distinctive in an international literature that appears to focus more on equity of access in order to ensure a base level of care is available to all citizens. The absence of any overt requirement that the system achieve its objectives efficiently (that is, delivers the maximum amount of care for a given budget) also distinguishes the NZPHCS from other systems.

Two international comparisons provide an interesting perspective on the ability of the New Zealand reforms to deliver on intentions. Both the English National Health Service (NHS) reforms and the growth of managed care models in the United States pose some interesting parallels. Both use capitation as the primary financial instrument and a focus on changes to practitioner behaviour to bring about outcome changes for individual patients. The English proposals also appear to place less consideration on efficiency issues. Whilst the instruments are similar, the intentions and outcomes of these policies are somewhat different from those of the NZPHCS. Nonetheless, they offer some insights into the likely outcomes in New Zealand.

1.4.1 England

The English NHS reforms have been associated with the injection of substantial additional government funding. Whilst to some extent an apparent diminution of concern for efficiency has attended the English reforms (Ham, 2004), clear separation has been maintained in respect of contracts for service purchase and contracts for service provision. Primary Care Trusts (PCTs) receive taxpayer funds directly from central sources, and undertake purchasing of services (including secondary and tertiary hospital services) on behalf of a defined population base. Patients have direct individual contracts with PCTs. Whilst PCTs provide primary services to patients, in most instances the providers of these services are employees of the

nonprofit trust, rather than subcontracted for-profit entities¹⁷. Governance structures of PCTs are uniform, and clearly stated. Particular attention has also been given to the governance design of other institutions with which the PCT will routinely interact, such as Foundation Trust hospitals (Howell, 2004). A principal feature of the NHS is that patients seeking treatment make no co-payments. Hence, higher costs and poor risk management will lead to patients being exposed to lower service quality and lower health state, as PCTs and the government debate the setting of an appropriate capitation payment.

Whilst efficiency has not been overtly emphasised in the design of institutions, significant reliance has been placed upon competition between service-providing entities to drive efficiency and innovation in the English system. The primary emphasis of the NHS has been upon competition between service providers to develop new products, increase choice and raise service quality (Gravelle, 1999). Consumer choice is a significant component of this competitive discipline. Furthermore, the English reforms do not have equity of outcomes as a primary objective at their core. Indeed, there is an underlying recognition that different communities may accept different outcomes as a consequence of having different aspirations, and that contracting by PCTs will reflect these differing expectations (Department of Health, 2002). Care quality standards will be enforced by the regulatory oversight of a number of bodies, including the National Care Standards Commission, the Commission for Health Improvement, the Commission for Healthcare Audit and Inspection and the National Institute for Clinical Excellence (DoH, 2002a:36-38).

Moreover, the presence of a vibrant private primary health system, independent of any government funding, stands as a strong competitive discipline upon the performance of the NHS system. Although it is difficult to draw exact comparisons, from data on household expenditure on private outpatient medical services and the budgets for PCTs, it would appear that private spending on primary health care services amounted to only around 1% of PCT expenditure in 2002, indicating that the private burden for general practitioner services is comparatively small¹⁸. Even allowing for the fact that PCTs must provide secondary and tertiary services in addition to primary services, this proportion is very substantially less than the 70% private share of spending on general practitioner services in New Zealand. Public spending for health in total is around 82% in England, compared to 74% in New Zealand. It is

¹⁷ Although recent changes have allowed purchasing of primary services as well.

¹⁸ Data sourced from the Department of Health and the Office of National Statistics:

http://www.statistics.gov.uk/downloads/theme_economy/CT2004q4.pdf

<http://www.statistics.gov.uk/healthaccounts/downloads/HealthexpendituremethodsDec2003.pdf>

<http://www.dh.gov.uk/assetRoot/04/07/25/27/04072527.pdf>

June 2005

also noted that private household spending on medical services amounted to less than one third of household expenditure spent on dental services and one quarter of that spent on pharmaceuticals.

It is widely accepted in England that differences in individual circumstances will allow patients different health care funding options, leading to different levels of access to services and different outcomes. It is also recognised that unless the government-funded NHS system can compete on service quality and value for money issues with the private sector, it is vulnerable to exit by the wealthier, high taxpaying patients from the NHS to the private sector. Exit by these patients also brings with it political risk for the Blair government that introduced the reforms, as health service delivery is one of the major political priorities in England at present. The perceptions of NHS performance amongst an affluent class of voters that is growing in numbers carries significant weight in determining the balance of political power in England (Ham, 2004). The political imperative increases the incentives for politicians to incentivise government regulatory agencies to closely monitor and report on both service purchasing and service delivery entities.

In contrast, under the New Zealand strategy, the boundaries between purchase and provision that existed previously have been specifically removed by the requirement that service providers be part of the decision-making in the funding bodies purchasing services. The boundaries have been made even less distinct by the requirement that DHBs, as providers of secondary and tertiary services, are effectively also the budget-holders for the purchase of primary services. Moreover, there is no distinct contractual relationship between individuals and their DHB and PHO purchasing agents. Competition has been significantly reduced by the mandated collaboration between previously competing providers. The absence of a strong private primary health provider market means that the New Zealand market will, at the outset, lack this additional competitive discipline on service costs and qualities. However, as fully private competition is not specifically precluded by the strategy, it is likely inevitable that it will ultimately emerge, with the result that the New Zealand system may eventually resemble the English system, with both fully private and subsidised sectors.

1.4.2 The United States

The New Zealand reforms, at least in respect of their allocation of financial risk management via capitation funding models and provider management and co-ordination of a patient's services, appear very similar in scope to the United States managed care model. However,

contrary to the New Zealand objectives of increased service choice and improved health outcomes for specific groups, the managed care reforms in the United States have been predicated largely upon the need for cost containment, limiting the perceived excessive range of costly, high quality services on offer and addressing equality of health outcomes by reducing costly over-treatment and over-consumption of health services by a subset of patients (Kessler and McClellan, 2002; Danzon and Maclaine, 1994).

Robinson (2004:1881-1884) defines 'managed care' models as approaches that seek to address benefit design, provider network design and medical management concurrently. Specifically, the benefit design elements of managed care are undertaken under the principle that financial incentives for cost-control should be directed at physicians rather than patients. Network contracting addresses the cost containment objective by aggregating administrative control at higher levels than the individual practitioner, thereby seeking to benefit from economies of scale in management and administration. Medical management utilises connections within networks of physicians to co-ordinate individual patient care and develop new services co-operatively in order to improve individual health outcomes at lower cost. Thus, like the New Zealand model, managed care systems merge the roles of service purchase and service provision into a single entity. However, in the United States context, patients have separate and distinct contracts for financial risk management and health service provision, which need not necessarily be let to the same entity. Even where government subsidy funds the insurance coverage (Medicare, Medicaid), the patient has a separate, binding contractual agreement with the purchasing entity, which in turn has specific obligations to the patient.

1.4.2.1 The History of Managed Care in the United States¹⁹

Managed care has existed in the United States since the 1800s, having first been established in rural and remote areas for the benefit of labourers, many of whom were immigrants. Initially operated as pre-paid consumer-owned health care co-operatives, they employed physicians and provided healthcare benefits to employees of lumber camps, mines and railroads. In the 1930s, the model was adopted by Henry Kaiser, who developed it into the Kaiser-Permanente Medical Care Program in 1942.

However, in the 1950s, indemnity insurance models, whereby physicians were compensated on a fee-for-service basis, eclipsed managed care plans. By the 1970s, federal government concerns about the burgeoning costs of state-funded Medicare and Medicaid plans under fee-for-service, and attempts by federal and state governments to regulate health care costs, led to a

reconsideration of the managed care model as a means of reducing health care costs. In 1973, the federal government legislated for the creation of cost-containing Health Maintenance Organisations (HMOs), whilst the 1983 Social Security Amendments Act mandated a prospective payments system for services supplied to Medicare beneficiaries, whereby hospital reimbursement for specific diagnoses was paid on an average number of expenses, rather than the actual costs incurred by an individual patient. Until the late 1970s, HMOs were “typically not-for-profit, physician-led organizations that believed in prepaid medicine as the best way to deliver affordable and accessible high quality care” (Simpkin and Janousek, 2003:1).

Thus, the combination of capitation payments and provider management of service delivery to specific groups of patients by a group of allied providers became more widely accepted. In the 1980s and 1990s, the number of managed care plans burgeoned, as employers began to see them as ways of controlling the costs of providing medical benefits to employees. This period saw a “dramatic growth of independent practice associations as a means to give independent physicians access to capitated HMO lives and associated revenue streams” (Simpkin and Janousek, 2003:1). Employees also found them desirable, as an employee could elect to ‘top up’ the employer’s contribution in order to selectively buy access to service types and qualities over and above those funded by the employer.

1.4.2.2 Outcomes of the Managed Care ‘Experiment’

Whilst managed care²⁰ has enjoyed significant popularity in the United States, this has been in the context of its competition with the traditional, indemnity model of health service funding and delivery. Whilst extremely popular with government funders (“with some states enrolling up to 50% of beneficiaries in managed care Medicare or Medicaid programs” - Rivers and Tsai, 2001:304), at its peak in areas where the model has been used extensively, such as Chicago, managed care plans held a market share of only around 25% of the total health care insurance market (Simpkin and Janousek, 2003:1). Reductions in the popularity of capitation-based contracting have been observed in states where the practice has been both widespread (e.g. California) and more limited (e.g. New York) (Robinson and Casalino, 2002:W11).

In the face of competition from alternative health care management and financing options, practitioner dissatisfaction and greater consumer demands for product choice and diversity, managed care is now declining in popularity with both practitioners and patients (Robinson, 2004:1881).

¹⁹ This subsection principally summarises Rivers and Tsai (2001:302-304), with additional material as indicated.

Practitioner dissatisfaction is occurring principally because the extent of risk that capitation places upon both providers and management companies has been too great for many to bear. Simpkin and Janousek (2003) examined the Chicago market, which provides an interesting parallel to New Zealand, as the prevailing model in that city has been the assumption by primary care practitioners of “full professional risk, accompanied by delegated medical management responsibility” (p2). Since the late 1990s, Chicago has seen a consumer backlash against managed care, with “rising medical costs, inadequate capitation increases and financial failures among medical groups” (p2). Enrolment decreased by 5.3% in 2001 and 7.6% in the first few months of 2002, and “physicians are the primary force pushing to exit or limit risk contracts” as they “have come to believe that physician organizations cannot or should not take on the role of insurer” (p7). Anderson and Weller (1999:152), citing Simon and Emmons (1997), found that whilst it was critical for physicians in the United States environment to understand the risks they are accepting under capitation, “there is evidence that many physicians with capitated contracts do not understand the principles of reinsurance or even if they are covered by reinsurance”, with a 1995 American Medical Association survey of primary care physicians with at least one capitated contract revealing that 56% did not know if they had reinsurance. Similarly, Burns and Pauly (2002:133) cite “lack of practitioner experience and expertise in forecasting enrollees’ future expenditures and information systems for tracking cost and use” as possible reasons for the disappointing financial performance of health management organisations.

Patient dissatisfaction principally hinges on restrictions in the choice of providers and services, and the perception that managed care plans are acting primarily as agents of the employers (purchasers) in focusing upon saving costs rather than meeting health needs of patients. The backlash against managed care is underpinned by a growing recognition that “individuals differ widely in what they want and are willing to pay for, and hence that successful health plans must offer different products at different prices to match the heterogeneity in demand (Robinson, 2004:1881). Moreover, there is a perception that successful constraint of burgeoning costs will require “substantial increases in the consumer’s financial responsibilities” (*ibid.*). Consequently, new trends are emerging whereby there is an increase in consumer cost-sharing, and an “accelerating diversity among benefit designs offered to different market segments and different consumers within each market segment” (*ibid.*).

²⁰ It is noted that in the United States, managed care may apply to either or both of primary health services and hospital services.

The United States evidence also casts doubt over the wisdom of the use of averaged demographic characteristics to set capitation rates. Anderson and Weller (1999:153) state “researchers repeatedly have criticized the ability of demographic factors to predict the future use of health care services at the individual level”, yet “demographic risk adjusters are the most common prospective risk adjuster used today”. This occurs, despite repeated evidence that “an individual’s present utilization is a good predictor of future utilization and therefore models of previous utilization tend to score relatively well in predictive accuracy”, and that even when individual health state is known, only “an estimated 20% to 25% of total variation in health care expenditures on an individual basis is predictable, and the remainder is random” (Anderson and Weller, 1999:153, citing Newhouse, 1996). Notably, Robinson (204:1883) finds an uneven distribution of health risks and expenditures across a population, with 67% of enrollees being quite healthy, 20% with acute conditions, 15% with significant chronic illnesses and the sickest 1% contributing a very large share of total expenditures. This is reinforced by Anderson and Weller (1999:151), who found that the most expensive 10% of all children in the Washington State Medical programme were responsible for 70% of spending in 1992-3, and that this same trend also translated into specific disease groups. For example, the most expensive 10% of children with each of diabetes and asthma accounted for approximately 70% of all spending for children with either of these conditions.

The United States data suggest that the New Zealand model, with funding based upon population demographics and not individual need, will be especially vulnerable to the additional risks brought to small practices by a few low co-paying patients with especially heavy demands. These patients may cause a disproportionate cost, with small practices being especially vulnerable to even a small number of such patients. The only means available to practitioners to manage these risks appear to be raising the co-payments of other patients, or merging to enlarge the pools to manage the costs of a very small number of patients. It may be that if small practices are to remain viable, whilst still providing care to such high-need individuals, funding in New Zealand may need to be allocated to individuals rather than based upon broad demographic averages.

Combining evidence of the extent of unpredictable variation in health care costs, and the lack of awareness of the need to manage these risks, it is not surprising that there have been widespread financial failure of physicians with capitated contracts in the United States. Indeed, the Health Care Financing Administration considers capitated physicians or physician groups to be at substantial financial risk if they have fewer than 25,000 patients, whilst Anderson and Weller (1999:152) find that “primary care physicians may find capitation disadvantageous even if they

have only one or two patients who happen to require intensive medical care during a given year, or have a consistently sicker panel of patients relative to other primary care physicians”.

Financial default and changes in accountabilities and incentive structures have also contributed to a significant decline in consumer confidence in capitated practitioners. Robinson and Casalino (2002: W15) find a “charged atmosphere of distrust”, whilst Kao, *et al.* (1998:1708) found that patient trust in their practitioners to “put their health and well-being above keeping down the health plan’s costs” was substantially less for the patients of capitated, as opposed to fee-for-service, practitioners.

The role of regulation in the United States also plays a significant role in the activities of the sector. The United States system recognises that, as capitation is a risk-sharing instrument, the use of capitation contracts in effect turns managed care organisations into insurance companies (Danzon, 1997). As such, health insurance regulators’ roles have been expanded to include prudential monitoring of managed care organisations as well as insurance companies to ensure that the funds devoted to health care, and the risks that attend the use of the funds, are managed appropriately. This is in addition to the regulatory bodies that oversee care quality standards.

However, even with regulation present, concerns have been expressed about the ability of regulators to vouch for the quality of risk management by managed care providers and the companies that they themselves share risks with by ‘passing on’ elements of capitation. The inability to get sufficient information from private providers means that it may be impossible to give guarantees to patients that the funds to pay for their health care will be there when they need to use them. This has led to questions about the long-term viability of the managed care model itself. Hagen questions whether different regulatory interventions could have altered the outcomes experienced. In respect of California, at least, Hagen thinks it unlikely, given the difficulties in accessing information not just about the insurance firms letting the contracts, but the private providers with capitation contracts where the risk was actually borne:

“Yet for all the statutes, ordinances, filings (quarterly financial statements and annual reports), and monitoring (periodic audits and unscheduled reviews), I worried that I was not privy to the true financial status of the health organizations I was sworn to monitor. I was concerned that some appeared healthy on paper only by riding on the backs of providers burdened by insufficient capitation payments, but whose balance sheets no state regulator ever sees”. (Hagen, 1999:42)

In summary, the United States evidence appears to point more to fundamental difficulties in the managed care model itself rather than flaws in implementing and enforcing it, as the source of

the difficulties that have resulted in its reduction in popularity. Whilst initially, it appeared that cost savings were possible by utilising economies of scale from practitioner collaboration, Robinson (2004: 1882) questions the relative ability of these mechanisms to generate real cost savings in practice. Furthermore, Robinson argues that the savings that were engendered from economies of scale are small relative to the effects achieved from benefit design and the ability to send appropriate cost signals to consumers about their consumption and generate provider responses to patient heterogeneity and wide variations in consumer preferences.

1.5 Efficiency Implications for New Zealand

From the English and United States experiences, it would appear that significant concerns exist about the ability of the New Zealand managed care strategy to deliver on its objectives. As capitation models shift financial risks from funders onto providers, the providers to whom the risks are now shifted must now bear risks in respect of individuals' variations in health state that were previously borne by the government and insurers. Given the United States experience, it is likely that the financial risk management costs of the New Zealand model will be high, that practitioners with governance control of PHOs who are specialists in health care service delivery and in not managing insurance companies may struggle to manage these risks, and that the result will likely be significant financial stress and failure of many capitated practitioners. Without real competition in the form of either a competing service provision sector, as in England, or competing financing and provision sectors, as in the United States, these higher costs will be borne principally by patients and the government.

Whilst service outcomes might, in the short term, be equitable, this will be likely achieved by the reduction in outcomes at the upper end, as per the United States experience, and will likely come at the expense of increased quality. Unless purely private provision of primary health care services evolves rapidly, so that the New Zealand environment emulates that in England, reduced competition in service provision will likely reduce the amount of service innovation occurring, leading to fewer, rather than more, ways of meeting health needs. Absence of existing competition in the market for alternative funding models will also likely lead to delays the introduction of new funding options. However if purely private competition to the state-funded sector can emerge, with subsidised and unsubsidised patients self-selecting into different groups, outcomes will actually become dichotomous, as in England.. The changes to the funding and competitive environments will inevitably induce changes in the behaviours of providers. These changes may not necessarily be in accord with the intentions of the NZPHCS.

In order to address these questions, the paper now proceeds by examining in detail the changes in financial risk bearing from capitation, the competition issues that the change in risk bearing and collaboration directives of the NZPHCS invoke, and the governance implications of the structures that the NZPHCS mandates. These chapters draw into sharp relief some significant doubts about the ability of the NZPHCS to deliver on its core objectives of “better health for the population”, a reduction in health inequalities between different groups, and cost-effective use of both private and public monies.

Table 1. PHO Types and Annual Capitation Subsidies, 2004-521

PHO Type		GMS/Nurse Interim		Access		Services to Improve Access All				
Age Group	Gender	CSC	HUHC		HUHC		Maori/Pacific		Non Maori/Pacific	
			N	Y	N	Y	1 thru 4	5	1 thru 4	5
00-04	F	Y	\$308.12	\$471.96	\$315.73	\$471.96	\$63.15	\$126.29	\$0.00	\$63.15
		N	\$308.12	\$471.96						
	M	Y	\$327.88	\$471.96	\$332.42	\$471.96	\$66.48	\$132.97	\$0.00	\$66.48
		N	\$327.88	\$471.96						
05-14	F	Y	\$79.33	\$302.61	\$99.94	\$302.61	\$19.99	\$39.98	\$0.00	\$19.99
		N	\$79.33	\$302.61						
	M	Y	\$75.18	\$302.61	\$93.54	\$302.61	\$18.71	\$37.42	\$0.00	\$18.71
		N	\$75.18	\$302.61						
15-24	F	Y	\$78.90	\$291.50	\$92.22	\$291.50	\$18.44	\$36.89	\$0.00	\$18.44
		N	\$36.09	\$291.50						
	M	Y	\$42.38	\$291.50	\$50.75	\$291.50	\$10.15	\$20.30	\$0.00	\$10.15
		N	\$20.79	\$291.50						
25-44	F	Y	\$72.61	\$291.50	\$81.04	\$291.50	\$16.21	\$32.41	\$0.00	\$16.21
		N	\$7.32	\$291.50						
	M	Y	\$43.16	\$291.50	\$52.38	\$291.50	\$10.48	\$20.95	\$0.00	\$10.48
		N	\$5.91	\$291.50						
45-64	F	Y	\$88.74	\$319.27	\$110.99	\$319.27	\$22.20	\$44.40	\$0.00	\$22.20
		N	\$12.22	\$319.27						
	M	Y	\$67.96	\$319.27	\$82.90	\$319.27	\$16.58	\$33.16	\$0.00	\$16.58
		N	\$9.57	\$319.27						
65+	F	Y	\$191.27	\$342.40	\$191.27	\$342.40	\$38.25	\$76.51	\$0.00	\$38.25
		N	\$191.27	\$342.40						
	M	Y	\$164.95	\$342.40	\$164.95	\$342.40	\$32.99	\$65.98	\$0.00	\$32.99
		N	\$164.95	\$342.40						

Per capita management fees are paid irrespective of Access or Interim status, and are based upon PHO size:

- \$9.61 per individual up to 20,000 and \$4.67 per individual thereafter, for PHOs with fewer than 75,000 registered individuals
- \$6.41 for the first 20,000, \$5.83 for individuals 20,001 to 75000, and \$5.25 for all others, for PHOs with more than 75,000 registered individuals

Definitions

PHO Types:

- Interim PHOs: more than 50% of the registered population of Maori or Pacific Island Ethnicity, or living in areas determined to be in NZ Deprivation Index deciles 9 or 10.
- Access PHOs: the remainder

Individual Characteristics:

- HUHC: High User Health Card – individual with 12 or more GP consultations in 12 months
- CSC: Community Services Card – identifies low income or beneficiary status of registered individual – irrelevant for registered patients of Access practices

Capitation Subsidy Type:

- GMS/Nurse: subsidy for first contact services provided by General Practitioner or practice nurse – nominally based upon an effective consultation subsidy of \$36.40 for children under 6 and \$26 for all other population groups eligible for low or reduced cost access, thereby presuming 13 fully subsidised visits for a HUHC young child and 8.5 for others; 6.3 partially subsidised visits per annum for a 65+ man and 7.4 for a 65+ woman (3.3 and 3.8 fully subsidised visits respectively assuming a \$50 cost per visit).
- Services to Improve Access: capitation to develop access initiatives for high-needs populations (paid in addition to GMS/Nurse capitation)

²¹[http://www.moh.govt.nz/moh.nsf/0/2E1A4681028F3A4BCC256C5200044CF3/\\$File/PHOCapitationRates2004_05.pdf](http://www.moh.govt.nz/moh.nsf/0/2E1A4681028F3A4BCC256C5200044CF3/$File/PHOCapitationRates2004_05.pdf)

2. Financial Risk and Health Care Funding Schemes

“Appropriate managed care regulatory policy depends on the other incentives facing health care providers and how these incentives interact to affect decisions about medical treatment” Kessler and McClellan, 2002: 184).

The principal dilemma facing health system designers, be they public or private, governments or insurance companies, is that the product– health care – has some specific characteristics that distinguish it from many other products. Together, these characteristics pose challenges to the designers of health care funding schemes that are not present in the market for other goods.

Firstly, demand for health care services is a derived demand, arising from the occurrence of a stochastic event – illness²². The unpredictability of a specific individual falling ill and requiring medical care creates demand uncertainty. Demand uncertainty affects both the individual, who must make budget allocations across time to meet the expenses for health care without knowing if, or when, the costly event of illness will strike, and providers of healthcare services, who must undertake investment decisions in an environment where there is significant uncertainty about both the extent of likely demand in total, and the identity of, and hence the ability to contract with, the individuals who will demand. Secondly, health care provision is a service, and as such its outputs are typically very hard to measure and quantify. Whilst instances of care and the inputs used to create them are easy to count and measure, the outputs and outcomes that they lead to are not. In particular, quality of care is difficult to discern. Thirdly, health care services are typically supplied in an environment where there is a severe information asymmetry – the provider of the care is an expert who knows far more than the individual about the nature of an individual’s state of health, and the treatments most likely to lead to an improvement in that health state. Thus it is extremely difficult for an individual to discern whether the diagnosis is correct, the treatment recommended is appropriate and/or cost-effective and the quality of the service delivered is of a standard commensurate with the fee paid.

The dilemma created by demand side uncertainties means that the design of health care systems must take cognisance of the characteristics of two interacting product markets – an insurance market for the management of demand-side risks, and a market for the production and supply of health care products and services (Cutler and Reber, 1998). Consumers manage their individual risks using either classic insurance products, or taxation-funded collective instruments. Market

²² For the purposes of this document, the term ‘illness’ encompasses all demand for primary health care, including injuries.

interaction occurs when consumer-appointed purchasing agents negotiate on behalf of their insurance market clients with suppliers of services to ensure service provision occurs when the individual is sick. Such arrangements draw clear distinctions between the roles, and consequently markets, for the purchase and provision of health services.

The interaction between the insurance and service delivery markets leads to a tension between insurance agents and service delivery agents, which the designers of health care systems must recognise when deciding how the system will allocate the risks and costs. Danzon (1997: 493) characterises the tension from the demand side perspective of the patient as one between the ex ante preferences expressed when purchasing the risk management product, and the ex post preferences expressed when care is demanded. Alternatively, Ma and Riordan (2002: 81-84) describe the challenge as one of balancing the use of demand management instruments, such as co-payments and deductibles²³, against the use of supply management instruments such as capitation and cost-sharing contracts. “In the standard model of the health care market, consumers and health care providers are linked to the insurer by insurance and payment contracts. The insurance contract specifies the premium, and any payments (co-payments and deductibles) that have to be paid at the time of service; the payment contract specifies the terms by which health care providers are paid when services are supplied: reimbursement, per diem, or capitation.” (Ma and McGuire, 2002:2).

The characteristics of health service markets thus lead to challenges in the design of health systems not present in most markets for ‘standard’ goods. The risks to be managed are different. Optimally, system designers seek to design a system that allocates the risks in such a manner that the maximum amount of health outcome is provided for a given sum of funding. This necessitates a trade-off between the costs and risks of the insurance market and the service delivery market. Design of the system entails understanding what the risks are, the costs they impose, the methods by which the risks are allocated and managed, how changes in risk allocation alter the behaviours of participants in the sector and what effect these changes will have upon the overall costs and outcomes of the system.

This chapter examines the specific financial risk management issues that attend health care system design. Firstly, the specific demand uncertainty characteristics that lead to the use of insurance markets for health service provision are discussed, and the moral hazard and adverse

²³ The term ‘deductible’ refers to a fixed payment made each time a claim on an insurance policy is made. In New Zealand, this payment is more commonly called the ‘excess’. This is in contrast to a co-payment, which takes the form of a variable payment (usually a proportion of the fee for service provision) paid by the patient to the provider of the service. The balance of the fee is paid by the insurer.

selection consequences that these solutions invoke are outlined. Secondly, the use of contracts, and in particular capitation contracts, to manage moral hazard behaviours, and their inherent risk-shifting consequences, is discussed, in the perspective of the evolution of the ‘managed care’ systems in health care system design. Thirdly, the likely risk consequences of the two primary elements of the New Zealand Primary Health Care Strategy (NZPHCS) – increases in subsidy and the move to capitation payments – are appraised. The analysis suggests that the system shifts risk in ways that increase cost and do not enhance quality of care. It explains that aspects of these predictions are already occurring.

2.1 Insurance as an Individual's Response to Uncertainty

An individual's incidence of illness, and hence demand for health care, is unpredictable. This risk can be termed the ‘hazard risk’ of falling ill (McNamee, 1997). The uncertainty in an individual's demand for health care leads to the creation of a financial risk, as the budget required to meet a given individual's needs in the future is uncertain. The uncertainty invokes the challenges of imperfect information that generally attend the management of risk (Arrow, 1963), leading to the “difficulty of contracting on illness ex ante” (Ma and Riordan, 2002: 83; drawing on Grossman and Hart, 1986). Uncertainties in patient demand lead to uncertainties for suppliers who must make decisions about investing in capital (physical and human) to meet patient demands. That is, the uncertainties in patient demand and the consequent financial risk for individuals leads to financial risks for providers. In order to ensure the supply of, and payment for, health services when they are demanded, markets for risk management instruments specifically designed to meet the needs of health services have emerged.

2.1.1 Insurance and Moral Hazard

An individual does not know when or if expensive health care treatment will be needed, but if it is needed the cost may be so large that the individual cannot afford the treatment. The individual may prefer to manage the financial risk arising from the unknown future health demands by sacrificing a small amount of income regularly when well (the insurance premium) to purchase certainty that treatment can be purchased when and if the unknown probability, high cost event of falling ill occurs. By utilising the law of large numbers, aggregators (e.g. insurance companies, governments) can take the premiums of a large number of individuals, estimate with greater accuracy the likelihood of how many of the of the group (but not which specific members) will fall ill, meet the costs for the specific individuals for whom the probability becomes an actuality, and thereby manage the risk more efficiently (that is, at lower cost) than the individual can alone. The financial risk to the individual has been reduced due to

June 2005

a wealth transfer from the 'lucky' individuals who face the risk but not the actuality of falling ill to the 'unlucky' individuals for whom the probability of falling ill becomes the actuality that they have fallen ill.

Certainty that there are funds available to meet the costs of care when it is required by individuals also provides incentives for suppliers to invest in the necessary capital to provide the services when demanded. The certainty that there are funds available to provide treatment to the 'unlucky' individuals means that the financial risk to the provider has also been reduced. Absent these reductions in financial uncertainty (risk), there will be lower levels of supply as well as lower demand for health care services.

On the one hand, individuals do not want to pay any more for the financial risk management product, in taxation or insurance premiums, than they need to. On the other hand, when they are ill, they want access to as much care and treatment of their choosing as necessary to be restored to health. If patients²⁴ do not have to pay the full cost of the treatment when they are ill, as the insurance company or the state pays the direct treatment costs, then they may demand too much care (that is, more care than would be provided than where extra social benefit equals extra social cost), excessive quality levels, an over-wide range of treatments to choose from, or the most costly treatments. This behaviour creates additional costs, which for the purposes of this paper will be termed 'patient-induced over-consumption' costs.

Treatment providers, as patient agents, knowing that it is a third party (that is, collectively all individuals who subscribe to the aggregated scheme) and not the patient who has fallen sick who pays, may prefer to recommend even more costly treatments, treat beyond the point where a cure has been efficiently effected, or utilise the information asymmetry between patient and practitioner to 'treat' conditions that do not actually exist. These behaviours lead to a second set of additional costs, termed as 'supplier-induced demand' costs.

The additional costs engendered by a single patient's consumption are thus spread over all individuals contributing to the scheme. Premiums must rise if the costs of the scheme are to be met from the central pool of funds. Healthy individuals now bear some of the costs of both patient-induced over-consumption and supplier-induced demand, leading to tension between care demanders, whose preferences (either their own or those inspired by their provider-agents)

²⁴ For the purposes of this paper, the term 'patient' is used to define an individual for whom the probability of falling ill and requiring treatment has become an actuality. 'Individual' is used to refer to someone who faces the probability of requiring treatment in the future, but does not yet know the extent of that likely future demand.

lead to higher costs for all the contributors to the scheme, and insurance purchasers, who want lower prices (Zeckhauser, 1970).

2.1.1.1 Consumption and Moral Hazard

Patient-induced over-consumption and supplier-induced demand are examples of ‘moral hazard’ behaviours. Milgrom and Roberts (1992: 601) define moral hazard behaviour as a form of post-contractual opportunism that arises when the actions required or desired under a contract are not freely observable. Rasmusen (1989: 133) further subdivides moral hazard into two classes: moral hazard with hidden actions, where following the agreement one party simply undertakes an action which is unobserved by the other, and moral hazard with hidden information, where following the agreement of a contract, a change occurs that is observed by one party but not the other, and the more informed party utilises this new information. Supplier-induced demand and patient-induced over-consumption are both examples of moral hazard with hidden actions, where the uninformed party is the insurance company (representing all insured individuals collectively) and the informed party is respectively the supplier and the patient.

Patient-induced over-consumption and supplier-induced demand behaviours in health care markets are a direct consequence of the presence of the agreement whereby the payment made by the patient when consuming care is less than the marginal cost of providing that care. It results in the proportion of the total population requiring care demanding that the entire population pays for the provision of more care than is socially optimal. As long as the service providers’ costs are met, service providers are willing to recommend patients consume care up to the point that the marginal benefit of treatment equals the marginal cost the patient faces. If the patient faces no out-of-pocket expenditure for the treatment, then no limits are placed on the qualities or quantities of care demanded and supplied. Information asymmetries between the doctor and the patient allow the doctor to recommend the most costly treatments, or the treatments most profitable to the practitioner, and the patient will likely respond positively to these recommendations.

In any system where the patient does not pay the full costs of treatment directly, the total costs of service delivery are potentially unbounded (Zeckhauser, 1970). Service providers and patients can collectively ‘conspire’ to raise total costs, to the point where it may become impossible to observe a meaningful market price for the demand and supply of health care services. Consequently, the supply price is set administratively in a transaction between the insurer (or government agent) and the provider (Newhouse, 1996: 1238).

2.1.1.1 Co-Payments and Restraint of Moral Hazard

The insurance market mechanism typically used to constrain patient-induced over-consumption and supplier-induced demand is the patient co-payment. Patient co-payments may take the form of either a fixed fee each time the service is used, irrespective of the cost of the treatment (sometimes known as an excess or a deductible), or a proportion of the fee charged for any treatment (the classic patient co-payment – for example 20% of the cost). The effect of the deductible or patient co-payment is to shift the costs of the patient's moral hazard behaviours onto the person who can control the extent of the cost (the patient), thereby reducing the burden on individuals who do not fall ill and are not causing moral hazard costs. Moral hazard is thus a behavioural risk factor that leads to increases in financial risk for the collective insurance scheme (McNamee, 1997), whilst co-payments and deductibles are instruments to reduce the financial risks to the scheme.

If the patient is charged some of the cost of treatment every time care is demanded, then the patient-controlled risk of excessive demand occurring is reduced²⁵. However, it is not removed completely. As the price the patient pays is still less than the cost of the service, the patient may still consume more than the socially efficient quantity of service. Thus, pure indemnity insurance models result in more consumption than is optimal, simply because the consumer faces a charge that is less than the marginal cost of providing the service. The consumption level is less than it would be under the counterfactual of complete subsidy, where the patient bears none of the costs directly.

The extreme case of patient co-payment is where the patient pays the full cost of health care consumed. The patient in this case is self-insured, and bears the full financial risk of his own uncertainties in health care demand (that is, the patient pays 100% of the fee). In these instances, there is no risk of the patient engaging in moral hazard of over-consumption, and there is no insurance scheme via which the demand uncertainty and financial risks are shared (although the provider may still engage in moral hazard behaviour, up to the individual's willingness to pay). Indeed, the consequence of self-insurance may be that the patient will consume less care than is socially optimal in the long run (e.g. lower health state leading to

²⁵ Ma and Riordan (2002) show that if the patient makes both the premium payment and a patient co-payment, then it is possible to reach a 'second-best' outcome where the costs of patient-induced moral hazard are eliminated and the elements of supplier-induced demand that relate to patient consumption choices are minimised (e.g. recommending care that exceeds the patient's willingness to pay, in respect of both the premium cost and the co-payment cost). However, some elements of supplier-induced moral hazard behaviours remain, such as recommending those pertaining to the information asymmetry, such as where providers can recommend the most profitable rather than the

greater calls on income subsidy, premature death and consequent lost productivity etc.), as the cost of care may be too high relative to other demands on the patient's constrained budget. In markets where individuals can choose to insure or not, then such eventualities may lead to long-term cost consequences as it is typically the poor and those who fall ill repeatedly who are unable to afford either insurance premiums or care when needed.

2.1.1.2 Patient Co-Payments in Government-Funded Schemes

In government-funded health care systems, taxation funding may be applied as either a subsidy towards an insurance premium for all individuals (premium subsidy), or as a fee-for-service subsidy towards the cost of services provided to those patients who demand care (consumption subsidy). If subsidies apply to all individuals irrespective of their health demands (e.g. a 'capitation' subsidy or defined premium contribution), then the subsidised scheme is unequivocally a universal insurance system and the subsidy is a premium subsidy. Examples of such schemes include the social insurance systems of Germany and the Netherlands (Scott, 2001:40, 52), subsidised Medicare and Medicaid in the United States (Scott, 2001: 65), and Medicare in Australia (Scott, 2001:92).

However, if subsidies are applied only in respect of those patients who seek care, then there is no universal health insurance scheme of the type described above outside of the taxation system that shares the financial risks of health demand uncertainty amongst all individuals. The consumption subsidy becomes a welfare benefit that contributes towards the fee-for-service cost of health care only for qualifying individuals who fall ill. At the extreme, all patients are eligible (universal coverage), and the subsidy covers the full cost of treatment (full consumption subsidy). The English NHS prior to the 1990s reforms was of this type. Variations include universal coverage with part consumption subsidy, and targeted coverage with varying consumption subsidies. Under targeted coverage schemes, eligibility for the consumption subsidy is determined by patient characteristics, such as wealth and health state. The health care consumption subsidy forms part of the taxation and wealth redistribution system. The collective taxation fund bears the financial risks arising from demand variation only for targeted individuals, and pays a 'welfare benefit' only to those targeted individuals who fall ill. The insurance instrument in this case is an income insurance mechanism that results in a wealth transfer from individuals based upon the characteristics of the taxation system to a group of 'targeted' (i.e. they exhibit the characteristics upon which eligibility for

most efficacious treatment, offer care of a lower quality, or offering care in excess of the optimum, up to the patient's willingness to pay.

June 2005

the benefit is based) ‘unlucky’ individuals who fall ill. The New Zealand primary care system prior to the NZPHCS reforms was of this form (Scott, 2001:128-130).

The patient co-payment under the ‘welfare benefit’ income insurance approach to health care subsidisation simply makes up the difference between the consumption subsidy and the cost of treatment. As all taxpayers have (presumably) already made a taxation contribution in respect of financing the health care subsidy system, then relative to a universal full consumption subsidy system, the patient co-payment in effect is an additional ‘consumption tax’ on becoming sick or a ‘user-pays part charge’ rather than specifically a tool to constrain moral hazard behaviours²⁶. Its intention is primarily to serve equity rather than efficiency objectives. Individuals who do not qualify for a consumption subsidy are self-insuring. They pay the full cost of treatment when they fall ill. If such a patient pays the marginal cost of service provision, then there will be no patient-induced over-consumption. However, the possibility of supplier-induced demand occurring still arises. As the patient meets the full cost of this additional treatment directly, the expected losses from moral hazard behaviours are less than under the counterfactual of a benefit being provided.

2.1.1.2 Co-Payments and Information about the Cost of Service Provision

The patient co-payment also plays an important role in allowing the market price, and hence the marginal costs of service delivery to be determined by third-party purchasers. Assuming there is competition between service providers, where there is a class of unsubsidised patients not constrained by wealth paying the full cost of service, then the prices they pay will likely reflect the costs²⁷ of providing specific service types and qualities²⁸ (notwithstanding the difficulties of discerning differences in quality levels given that health care provision is a service). Where the co-payment is a substantial portion of the fee, then under fee-for-service payments, where there is a clear relationship between total cost and fee paid, it may still be feasible to determine a market price net of subsidy, and thereby deduce the marginal cost. However, as the level of co-payment decreases and the extent of moral hazard increases, the ability to determine a marginal cost for an effective and efficient service quality from patient and provider signals becomes harder. The more complex the subsidy formula becomes (for example, cross-subsidisation between patient classes under capitation), the more difficult it becomes for an external purchaser to discern the actual costs of a given level of service provision. Therefore it becomes

²⁶ Although it is acknowledged that it may also have the effect of reducing patient-induced over-consumption.

²⁷ Including a fair return to the provider on the capital invested and reservation value of time.

²⁸ It is noted that when the provider has some market power, the price paid will be higher than cost. Arguably this may be the case in the provision of doctors’ services where there are supply constraints, such as the ability to restrict entry to the profession.

more likely under complex funding formulae that there will be substantial discrepancies between the prices purchasers negotiate with providers and the actual costs of supplying services to patients. These may impose additional costs on health care systems, over and above the costs of moral hazard behaviours.

2.1.2 Consumer Responses to Changing Co-Payments

When contract changes alter the amount that a patient pays upon consumption of health care relative to the costs of that treatment, changes in the behaviour of patients, insured individuals and service providers are inevitable. Specifically, decreasing the patient co-payment, or extending subsidies to groups who were previously unsubsidised, grants these consumers a ‘benefit’ that will necessarily increase the costs arising from moral hazard behaviours. It is noted that these effects are likely to be more pronounced in state-subsidised systems, as the direct nexus between the cost of the premium and the co-payment that exists in insurance schemes where the patient makes both payments (Ma and Riordan, 2002) is significantly more remote in state-subsidised systems where the subsidy amount is collected from all taxpayers independent of their health care demands (Gravelle, 1999). That is, patients in taxpayer-funded schemes do not ‘internalise’ the relationship between premium and co-payment that occurs in typical insurance schemes.

2.1.2.1 ‘Crowding Out’ Patient Co-Payments

Increasing the ‘benefit’ for patients who were already consuming services increases the benefit-provider’s share of expenditure, but usually at the expense of co-payment shares that patients were already making. In respect of increases in taxpayer subsidies, such reduction in individuals’ out-of-pocket expenses is termed ‘crowding out’ the proportion of private funding that was previously applied to that consumption. If patients receiving the increased benefits consumed health services only when ill, then the co-payment change does not alter the likelihood of them getting ill and consuming services²⁹. They may consume exactly the same amount of health care as previously, only it now costs these patients less in ‘out-of-pocket’ expenses. The change has resulted in a wealth transfer from the collective population (insured individuals or taxpayers) to these individuals. Costs to the collective population have increased for no additional gain to society in health status. In the case of taxation-based systems, the increase in the consumption subsidy results in a wealth transfer from taxpayers in total to the specific targeted groups who are subsidised.

²⁹ Except perhaps in a very remote sense in that it may reduce the likelihood of others with infectious illnesses who now seek treatment infecting otherwise healthy individuals.

However, the benefit increase will also likely change the consuming behaviour of patients previously making higher co-payments. As the out-of-pocket expenses drop, these patients are likely to engage in a greater degree of moral hazard behaviour. They would be expected to consume more health care, in the typical trade-off between price and quantity, whether or not it is clinically indicated. For example, they may seek reassurance from practitioners about observations that are simply variations of normal health states, to an extent that they would not if they had to meet more of the costs of providing these services (a moral hazard behaviour termed over-consumption by the ‘worried well’). The total cost of the system rises to meet these increased costs, again for minimal health gain.

2.1.2.2 ‘Crowding Out’ Alternative Treatments

The nature of the treatments to which a benefit applies also has an effect upon the extent of patient co-payments. Increases in benefits for specific forms of treatment may alter the behaviours in markets that are not subject to benefits.

As benefit increases alter the prices of purchase decisions, patients may choose to substitute more costly (in total) treatments to which the benefit applies for cheaper (in total) products and services that they previously paid for out of their own pockets. If patients must pay out-of-pocket the full cost of the cheaper products and services, but a smaller share of the more costly (in total) product for which they receive a benefit, they will likely purchase the ‘benefit’ product even though it may not be the most efficient or effective option. Once again, more in total is paid for an equivalent outcome. For example, a patient may seek advice from a pharmacist and purchase an over-the-counter medicine for a headache pre benefit as this is the cheaper option to the patient, but post benefit may seek care from a doctor as this now becomes the cheaper option. The consultation may result in exactly the same medication being dispensed, but the increased subsidy or insurance payment ‘crowds out’ the use of ‘non-benefit’ treatments even though the total expenditure for the identical treatment is greater. Higher costs are incurred for an identical health outcome.

Likewise, differences in the application of the benefit between services may result in a less efficacious treatment being selected by the patient, simply on the basis of the presence or absence of a benefit-funded service. Selective application of the benefit thus alters the markets for substitute products and services (e.g. some physiotherapy services, pharmacy advice, homeopathy, osteopathy), to the extent that such providers may find it difficult to compete with subsidised services, and exit the industry. If the affected markets provide products and services

complementary to the ‘benefit’ services, then the welfare associated with these complements is reduced. At worst, the complementary markets are lost entirely, leaving the more costly, subsidised services as the only ones from which a patient can select. This hidden moral hazard consequence can be costly in its effect, but is difficult to measure.

2.1.3 Insurance and Adverse Selection

Whilst some moral hazard costs may emerge when patients are ill and demand care, uncertainty in knowing who will fall sick and demand care, and therefore demand more care than is socially optimal, invokes another information problem of insurance markets – adverse selection. Milgrom and Roberts define adverse selection as:

“the kind of precontractual opportunism that arises when one party to a bargain has private information about the something that affects the other’s net benefit from the contract and when only those whose private information implies that the contract will be disadvantageous for the other party agree to the contract”. (Milgrom and Roberts, 1992: 595)

Adverse selection in health care markets typically attends the information about an individual’s health state. For example, individuals may utilise information about their health states unknown to an insurer to choose whether or not to participate in a collective insurance contract, or a service provider may utilise information about patients’ health states to decide whether to participate in a scheme. Insurance firms may also utilise information about likely future health demands of individuals that is unknown to the individual to decide whether or not to admit a specific individual to a scheme. Rasmusen (1989: 133-4) describes screening and signalling as special cases of adverse selection, whereby one party can either obtain information to allow adverse selection to be engaged in, or whereby the uninformed party can obtain the necessary information to prevent the informed party from benefiting from the asymmetry.

2.1.3.1 Independent Demands and Reinsurance

Assuming health states are symmetrically distributed within a population, then half the population will be more healthy than the average, and half less healthy. Less healthy individuals will, by dint of their health state, have higher demand for health care services, and hence will incur higher costs than those who are healthier than average, leading to higher financial risk for the individual and the insurance scheme. If the health state of an individual is unknown, and the likelihood of any given individual having a specific health state is independent of the health state of any other individual in the population (that is, they have uncorrelated health states), then any random selection of patients is as likely to yield a healthier-than-average patient grouping as an unhealthier-than-average one. Insurance pools

individuals and their funds for health care together: if the pools are small, then the pool health state average may differ substantially from the population average. Half the pools will be less healthy than average and have higher costs of health service delivery and half will be healthier than average and have lower costs. As each individual brings the same amount of funding to the pool, the 'healthier' pools will have more revenue than costs and the less healthy ones will incur a loss. For the purposes of this paper, the risks associated with pooling health states will be termed 'random risk'.

If the pools are sufficiently large, by the law of large numbers, each pool is likely to have an average health state that so closely resembles the population average that the difference in their costs is statistically insignificant, and the random risk to the insurer is negligible. If it is not feasible to create sufficiently large groups to spread the risks amongst a pool that resembles the population, then in a given time period some pools will have very high costs and be less profitable, and some very low costs and be more profitable. If the managers of the pool do not know what pool type they have, they face significant financial uncertainty. However, the managers of the pool can spread the additional costs that result from the uncertainty of not knowing whether the pool is going to have a high-cost or a low-cost membership by merging their pool with the pools of managers of other schemes who face the same uncertainties about whether or not they will have a low-cost or high-cost membership. The uncertainty is now spread amongst a bigger number of individuals, with the profits of low-cost pools compensating for the losses of the high cost schemes, reducing the costs of uncertainty overall. Merging has allowed the managers to 'reinsure' the risk. Alternatively, the pool managers can 'on-sell' the risk to specialist reinsurers, who 'buy' the risks of a large number of pools and underwrite them, be they high or low cost, thereby achieving the same effect as a merger. As there are transaction costs to operating a reinsurance system, it is generally less efficient than the ideal mechanism of managing the risks in a single population. However, as there are typically productive efficiency losses when a monopoly manages a single pool, in practice, smaller pools, with the ability to reinsure, may result in a more efficient 'second-best' outcome.

2.1.3.2 Correlated Demands and Adverse Selection

If, however, the health states of individuals are not independent of each other, then the costs of the pool will be biased away from the population average. The risk is no longer random – rather, it is correlated. For example, if the members of a specific pool are picked from the same geographic location, then the pool is vulnerable to extra costs if an epidemic strikes the region. Pools of otherwise identical individuals in other regions may not be exposed to the epidemic, so

therefore have lower costs. For this reason, unless health insurance pools are recruited from wide geographic bases, reinsurance is essential³⁰.

Furthermore, the demands of an individual across time may not be independent. The likelihood of an individual consuming care in subsequent periods may be linked to consumption in the past. If each instance of care demanded is independent of any other, then the likelihood of any pool making a profit or loss in any period (say, a year) is random. Incurring a loss in one year does not alter the probability of making either a loss or a profit in subsequent years. However, if the demand is correlated (e.g. the individual has a 'poor' health state and will demand more care, and hence incur more costs, indefinitely), then a pool with more such individuals will have a higher probability of making a loss in subsequent periods than a pool with fewer such individuals.

If demand is correlated, and the identity of individuals whose demand is correlated in this manner can be ascertained, those who will benefit from the information have a strong incentive to utilise the information to bias the membership of the pool. For example, individuals who know that their demands will be low as they have a good health state will seek to join insurance schemes with similar individuals as the premium they each contribute to meet the pool's total costs will be lower than if the pool membership reflected the population average. Likewise, managers of insurance pools where the premiums paid on behalf of insured individuals are identical, irrespective of the individual's actual health state (for example, social insurance schemes) would like to recruit more low-cost individuals than the population average as the profits will be higher. If information is available that allows the managers to do this, then it might be expected that such behaviour will occur. In this case, the informed party is the insurance provider and the uninformed party is the agency paying the premium (for example, the state). This is a classic example, of adverse selection. If such low-cost pools can form, the remaining pools must be formed from individuals with costs higher than the population total. The informed parties enjoy lower costs or higher profits and have no need to reinsure, whilst the costs for the remainder are higher and the profits lower than they would be absent the adverse selection. The informed party may be the individual, and the uninformed party the insurance company, or the informed party may be the provider, whilst the individual and the insurer are less informed.

³⁰ This is also the reason why disaster insurance companies providing coverage for customers in tightly defined geographic locations must have substantial reinsurance in place, simply because the claims in the case of a disaster occurring (e.g. flooding, earthquake) are highly correlated.

In order to overcome the effects of adverse selection in the markets for insurance, tools are utilised to both raise the size of the pool, and limit the ability of an informed party to selectively ‘opt out’ or ‘opt in’ and therefore skew the group from which members are chosen. For example, group membership of insurance schemes within workplaces, or compulsory membership such as provided by a single, national, taxpayer-managed scheme, provide some assurances that the membership is more likely to reflect the population average, and hence reduces the costs of adverse selection (Milgrom and Roberts, 1992: 595).

Screening and signalling tools can also be utilised to identify the likely health state of an individual, with both positive and negative cost consequences. A healthy individual may wish to ‘signal’ the good health state (using credible information such as past claims history) in order to join a low-cost group and pay a lower premium. An otherwise uninformed insurer may utilise the information in the signal (or lack of it) to adjust the premium charged to reflect the amount of risk the individual brings to the scheme, thereby overcoming the potential adverse selection problem (a strategy known as ‘individual risk-rating’). However, the insurer can also utilise the lack of a signal to deny an individual cover, thereby biasing the group membership so that it has a larger than average proportion of low-cost individuals. The benefits of lower premiums for the low-cost members are locked in, and the costs for competing pools raised.

The insurer can also use screening mechanisms to either bias membership or adjust premiums. Fixed terms for cover allow the insurer to build up a claim history for an individual, and then adjust the premium or deny cover for subsequent periods if the individual incurs higher than average costs. Whilst on the one hand, adjusting the premiums means the individual pays according to the risk brought to the scheme, thereby allowing lower-risk individuals to pay lower premiums, such mechanisms result in high-cost individuals, the ones who benefit most from sharing their risks with other individuals, facing higher costs once their health state is revealed. They are penalised by this information being shared, so have incentives to conceal it. However, as their state is revealed each time they demand care, it is difficult to conceal the relevant information from either the providers who treat them or the insurance companies who pay the bills. By default, if high-cost individuals are discouraged from purchasing insurance, the remaining members of the scheme are the low-cost ones. In this manner, schemes with risk-rated premiums tend towards outcomes where the heaviest demanders of health care who are also financially needy are denied treatment, simply because they cannot afford the premiums. Self-insurance becomes their only option. However, if the heavy consumers cannot afford to self-insure either, then they will consume less than the optimal amount of care, to the detriment of their health states.

A table summarising the various risk types that arise in health care insurance markets is contained in Appendix 1.

2.2 Supply-Side Contractual Responses to Moral Hazard

Responses to the presence of moral hazard and adverse selection in health insurance markets have typically relied upon the use of demand-side instruments, principally the patient co-payment, to constrain patient behaviour and thereby limit the extent of inefficiency in the system. However, as demand uncertainty cannot be eliminated, and insurance markets will inevitably exist as a response to demand uncertainty, the presence of some level of moral hazard and adverse selection is also inevitable. The challenge to health system designers becomes one of finding additional mechanisms by which the inevitable extent and costs of moral hazard and adverse selection can be minimised.

As the actions of medical care providers are ‘complicit’ in the ability to raise the costs of supplier-induced demand and consumer-induced over-consumption in particular, attention has turned towards the use of supply-side instruments, in addition to demand-side co-payments, to constrain these behaviours. If the providers can be made to bear some of the costs that moral hazard behaviours cause, then ‘acceptable’ levels of care may be delivered for lower cost overall (Ma and Riordan, 2002). Ultimately, “the moral hazard risk is most efficiently borne by the individual physician, for whom it is not a risk, but a controllable cost” (Danzon, 1997: 200). But whilst supply-side instruments may restrain behaviour in the care delivery markets, and specifically those that arise as a consequence of the presence of a consumption subsidy, it is unclear how supply side interventions will reduce the costs of adverse selection. As adverse selection is principally a consequence of the presence of insurance pooling mechanisms and information asymmetries, it may not be a cost that is controllable by the service provider. Indeed, if the contractual mechanisms chosen to address the costs of moral hazard behaviour transfer the responsibility for managing insurance pools from large insurance companies with limited knowledge of individuals’ health states to smaller service providers with more knowledge of individuals’ health states, the opportunities for adverse selection costs to be incurred may actually increase.

2.2.1 Risk-Sharing and Provider Reinsurance

The typical mechanism used to make providers responsible for the additional costs they incur, principally supplier-induced demand, is using the contract between the purchaser and the

June 2005

provider to shift the costs of such behaviour onto the providers. Involving providers in constraining the consequences of moral hazard means transferring onto providers some of the demand variation risks that, erstwhile, have been confined to the relationship between insured populations and their insurers. Health care system designers are charged with deciding how much risk from the consumer-insurance relationship should be shared with providers, and how to share it. Sharing risks, however, sets up an inevitable tension between the markets for insurance and the markets for the supply of health care services.

Newhouse describes the tension as two distinct trade-offs. The first is the trade-off between risk aversion and moral hazard:

“greater insurance coverage implies less risk bearing by the insured, but induces greater moral hazard. As a corollary, the less demand responds to price, the greater should be the coverage of the loss”. (Newhouse, 1996:1236)

The second is the trade-off between efficiency in production and selection:

“By efficiency in production I mean least cost treatment of a patient’s medical problem, holding quality constant. Thus, efficiency includes the quantity of services used to treat the problem, as well as the unit price of those services. By selection, I mean actions of economic agents on either side of the market to exploit unpriced risk heterogeneity and break pooling arrangements, with the result that some consumers may not obtain the insurance they desire”. (Newhouse, 1996:1236)

Newhouse further elaborates upon the risk-sharing between markets:

“whereas the essence of the moral hazard-risk aversion trade-off is captured by the cost the patient bears at the time of use, e.g., the size of a deductible, the essence of the selection-efficiency trade-off is captured by the cost the health plan or medical provider bears at the time of use, or the amount of supply-side cost-sharing, to use the term of Ellis and McGuire (1993)”. (Newhouse, 1996:1237)

The theme of raising efficiency by cross-market risk-sharing is well-recognised in the literature. Danzon and Maclaine (1994: 81), in a commentary on international trends in health care system design note that “efficient control of moral hazard requires putting providers at some risk”. Whilst models where the insurance consumers bear all of the risks is not optimal, neither is shifting all demand side uncertainty risk to producers, because the party to whom the risk is shifted may not be risk-neutral, or may not have sufficient funds to cover the variations in costs that result from the demand uncertainty. Newhouse (1996: 1237) notes “analogous to coinsurance on the demand side, supply-side cost sharing in its simplest form is a linear combination of fee-for-service and capitation pricing”. Newhouse cautions that the optimal outcome is some form of cost-sharing, and not “the corner solution of no cost sharing” (p1236), a theme echoed from the opposite extreme of full transfer of the uncertainties from the insurance markets to the health care provision markets by Ma and McGuire (2002:5), who find

that in practice, “the financial incentives of explicit contracts are often low-powered, (and) yet significant changes in providers’ behaviour have been observed”.

As risk-sharing contracts necessarily expose providers to unpredictable costs from the unknown (and unknowable) health states of individual patients (the random risk defined previously), the onus is now upon providers, as well as the traditional insurance companies and governments, to insure themselves against the financial risks associated with the demand variations of all individuals for whom they are obligated, by the risk-sharing contract, to provide treatment. “Efficient risk pooling requires reinsurance for providers” (Danzon and Maclaine, 1994: 81).

Where reinsurance is feasible, Danzon and Maclaine conclude that:

“competing systems that integrate both insurance and health care delivery functions offer the best prospects for efficient trade-off between the twin goals of efficient risk-spreading and control of excessive use”, (Danzon and Maclaine, 1994: 81)

which has led in countries where government funding plays a significant role, to converge:

“on a common model, in which government plays a major role in assuring that insurance coverage is universal and affordable, but with competition in the provision of insurance and medical care, in order to stimulate efficiency and provider responsiveness to consumer preferences”. (Danzon and Maclaine, 1994: 81)

2.2.2 Provider Risk Sharing and Adverse Selection

Inevitably, however, the move to make providers more responsible for the demand variation of consumers also shifts the locus of adverse selection behaviour from insurance markets to health service provision markets. System design must therefore take cognisance of both the size and information availability of the parties onto whom the risks will be transferred.

2.2.2.1 Pool Size

The size of the pools which providers can form, and the other mechanisms via which the random health state risks can be reinsured, are important components of the ability for risk-sharing systems to perform more efficiently than when all risks are borne within the insurance company-insured individual relationship. Sharing the random risk with providers will be an improvement only if the additional costs incurred from suppliers managing the random risks and the new adverse selection possibilities that arise are less than the costs of the moral hazard behaviour that the risk-sharing instruments avoid. International evidence suggests that the financial risks from demand variation alone are substantial. Anderson and Weller (1999:153), citing Newhouse (1996) and the Rand health insurance experiment, state that only “an estimated 20% to 25% of total variation in health care expenditures on an individual basis is predictable, and the remainder is random”.

Furthermore, both Robinson (2004) and Anderson and Weller (1999) offer evidence of a substantially uneven distribution of health states across a given population. A small number of a given population cause a disproportionate amount of the costs, suggesting that there is also substantial degree of correlation in respect of individuals' demands for services. Thus risk-sharing with providers in health care systems requires providers to manage not just the costs of demand variation, but also the costs of adverse selection resulting from an uneven distribution of costly patients amongst provider pools. The risk-sharing system will thus be more efficient only if the reductions in moral hazard costs exceed both the additional random risk management costs plus the additional adverse selection costs that smaller pools of risk bearers will automatically invoke.

Ma and McGuire (2002: 5-6), using United States evidence of provider risk-sharing, find that the size of the provider group onto which the risks are shifted is crucial to both the financial viability of providers and the efficiency of the system: "given its bigger size, a managed care plan should be in a better position to bear risks than a group of physicians". Referencing an earlier study by Remler *et al.* (1997), where the mean percentage of patients for whom capitation is paid to the physician or to the group to which the physician belongs was only 13%, they find "it is not surprising that the share of risks borne by physicians is not very high" (*ibid.*). Their findings are reinforced by the United States Health Care Financing Administration, which considers capitated physician groups to be at substantial risk if they have fewer than 25,000 patients.

2.2.2.2 Access to Patient Information

Adverse selection arises when an informed party uses information that is unknown to the other party in order to achieve an advantage at the expense of the other party. The specific information that is valuable in health care markets is the current and likely future health state of the individual. The party that stands to be disadvantaged by not having access to that information is typically the insurer (that is, the collective entity representing the interests of all individuals except the informed one). If risk-sharing contracts shift the responsibility for managing demand variation to parties with more information about the health states of individuals, there may be a positive benefit, in that the informed individual may be able to reduce the costs of treating that individual (e.g. preventative intervention). However, sharing the risk also increases the ability of the more informed party to use that information to increase the occurrence of adverse selection.

Anderson and Weller (1999) argue that insurance models show that an individual's present utilisation of health services is the best predictor of the individual's future utilisation and hence future costs. Medical practitioners, by dint of their existing relationships with the patient, have even more detailed knowledge of the patient's past and present health consumption not just in terms of dollars spent, but the actual causes of illness and hence the patient's actual and likely future health states, than insurance companies. Thus, they are substantially better informed than insurance companies, who have access only to population demographics, to predict the likely future health costs of an individual patient. Medical practitioners are much better informed, and therefore much better able to engage in adverse selection of their capitated patient base than insurance companies. As service provider-insurers are equally as likely as insurance companies or individuals to seek to minimise their costs by engaging in adverse selection, and the ability to practice adverse selection is increased by making providers the insurers, then it would be unusual if the costs of adverse selection did not increase as a consequence of risk sharing with medical practitioners.

2.2.3 Provider Responses to Risk Sharing

Efficiently trading off moral hazard costs and supply-side contract incentives in the design of health care systems thus appears to require a fine balance in the amount of risk that is shared. The trade-off must also recognise both the increased risk-sharing costs and adverse selection costs that will emerge as random risks are borne by providers with smaller numbers of patients rather than insurers with large numbers of patients. The smaller the size of the provider entities, the more informed about individual patient health states the provider entities are, and the greater the degree of risk shared, the higher these additional costs will be. For such risk sharing to be efficient, the costs of moral hazard that must be avoided will be significantly greater, the smaller the entities or the greater the risk sharing the system design imposes.

If the moral hazard costs of excessive choice, quality levels and supplier-induced over-consumption in a standard insurance or subsidy system are very large, then sharing risks with providers may be effective, as it is providers who largely determine the extent of supply of this range, quantity and quality of services. However, if the moral hazard costs are not especially large, then the increased risk management and adverse selection costs may be very large, even for small amounts of shared risk. Ma and McGuire (2002:5) find that in United States markets, significant changes in providers' moral hazard behaviour have been achieved with only very small amounts of risk being shared with providers.

Providers' initial responses to risk sharing contracts are to limit their costs. Provider responses typically result in reductions in the range, quality and quantity of health care services provided, as these are the cost factors most directly in the control of individual and independent providers, and can be implemented in a relatively short time frame. Seeking alternative ways to reduce costs, such as service innovations and collaborating with other providers, tend to be secondary responses, as they require more time to investigate and develop. If reductions in service range, quality and quantity are the strategic objectives of the healthcare system, then provider risk sharing would, in the first instance, appear to be an effective tool. However, if reduction in quality, in particular, is not desirable, then risk sharing may also entail the implementation of additional contractual mechanisms to enforce the quality levels delivered (Gravelle, 1999). These mechanisms can be any combination of overt monitoring and enforcement, incentives or liability, collectively comprising the instruments of service quality regulation. However, all add to the transaction costs of the provider risk-sharing system, relative to the insurance-based one where the equilibrium quality level is higher (Danzon, 1997:499).

2.3 Contractual Risk Sharing Options

The design of a health care system that endeavours to share risks with providers must take cognisance of the extent of risk shared, and the mechanisms by which it is shared. Under traditional fee-for-service, no patient demand variation risk (either random or correlated) is shared between the funder and the service provider. Danzon (1997:498) identifies two contractual methods whereby providers can assume some of the financial risks: selected provider networks, where 'preferred providers' "agree to accept lower fees and/or assume financial risk in return for the higher volume that results from participation in the network"; and capitation models, where providers accept "various forms of fixed fee payment for a comprehensive episode or period of care, regardless of the volume or cost of services actually delivered".

The first of these methods imposes on providers the financial risks of over-servicing the market by reducing the margins for providers whose actions are leading to this moral hazard cost. It also encourages providers to join networks to utilise economies of scale in production, and innovate to provide new, cheaper services, in order to maintain profitability. Whilst it exposes the provider to some financial risk, the risk is typically the variations that arise simply from the cost variations associated with each treatment provided. For example, a provider may be contracted to provide a fixed number of consultations in exchange for a fixed fee (sometimes

called ‘price and volume’ contracts). Some of the patients treated may incur more costs, for example take more time or materials to service, than others, and the provider bears the risk for these variations, rather than charging a fee in proportion to the time taken and materials used for each treatment. If over-servicing arises, for example, from spending more time than necessary with each patient, thereby increasing the fee charged to the insurance company under fee-for-service, such contracts encourage providers to be more sensitive to the actual costs of service provision necessary for adequate treatment in each instance, thereby leading to a reduction in supplier-induced moral hazard costs of over-servicing.

‘Price and volume’ contracts were used extensively in New Zealand by the Health Funding Authority (HFA) during the late 1990s for the purchase and provision of elective surgery from crown-owned hospitals. They were employed in order to reduce the perceived overly-high treatment costs that had arisen due to the crown hospitals’ monopoly status in providing some surgical services. Whilst these were not moral hazard costs, the example illustrates how cost inefficiencies can be addressed by making the provider, rather than the purchaser, responsible for cost variations. In this respect, they are financial risk-sharing contracts, albeit in markets that keep separate the provision of services from the purchase of services, and insulate providers from the demand variations that attend the likelihood of any specific individual developing the condition and thereby needing to seek treatment from the provider.

The second model, however, exposes the providers directly to demand variations in the patient base that they are obligated to treat. Whereas the first option specifically targets moral hazard behaviour, the second blends the markets for insurance and service provision in that it requires a service provider to become “a risk-bearing insurance entity” (Danzon and Sloan, 2001:662). Designers of systems that blend the markets must therefore take cognisance of the effects that this change will have upon the behaviour of, especially, medical practitioners who are now charged with being both treatment providers and insurance company managers. The form of contracts and institutions designed under this set of presumptions may be very different from that required by separate insurance and service provision markets, and contracts that share the moral hazard risks, but not the demand variation risks.

The following subsection compares the behavioural responses of providers under the two extreme risk-sharing options of fee-for-service and capitation.

2.3.1 Fee-For-Service

Under fee-for-service, the provider is paid a fee every time a patient seeks treatment. As long as the fee at least meets the cost, including a reasonable return on the assets invested to provide the service³¹ (e.g. physical and intangible assets, provider time), then the service will be provided. If fees fall below costs, the provider will exit the market. If fees exceed costs (e.g. the provider has lower costs than fees received), then the provider keeps the profit for every transaction³². As long as the fee equals or exceeds the cost for each visit, the provider is unaffected by the financial implications of demand fluctuations associated with the stochastic nature of any individual patient's health state. If any one provider's patients are 'sicker than average', it is the funder who pays for each additional treatment caused by the higher than usual number of sick patients. Funding aggregators then spread the additional costs amongst their entire population by increasing insurance premiums³³ or the taxation contribution.

2.3.2 Full Capitation

Under full capitation, where the provider's only revenue is a fixed fee for all services provided in respect of the patient in a given time period, all financial risks associated with demand variation lie with service provider. The provider's income net of costs is now dependent not solely upon his level of effort, but upon a range of factors, some of which the practitioner can control and some of which nothing can be done to alter their effect. Whilst revenue is fixed, costs are highly variable due to the inability to predict how many, or which, patients, will demand care in the given period, or the complexity of the care that they will require. Practitioner profit is therefore highly variable, influenced by luck as well as practitioner effort (for example, a patient may need no treatments one year but several the next, simply because it is in the second year that an illness is encountered).

2.3.2.1 Capitation, Risk Management and Practitioner 'Profits'

Under full capitation, practitioners must manage the income volatility between years that the capitation payment method necessarily invokes. As providers are now insurers, undertaking risk management activities is mandatory. Distinguishing profit from risk contingencies is very difficult, and can lead to financial stress.

³¹ Gravelle (1999) models this as the 'reservation wage' of the health care provider.

³² It is noted here that where competition exists between primary health service providers (free entry, absence of collusion, etc.), and all providers offer the same products and have the same cost structure, then no provider will be able to make a return in excess of costs (an 'economic profit') on each visit. The return to the provider will match the reservation wage. Net revenue increases with the number of patients treated. The practitioner determines the level of his income by deciding how much effort he will exert (i.e. how many patient consultations he will provide).

³³ Assuming population-based rather than individual risk rating.

Specifically, if the cost of treating patients exceeds the population ‘average’ upon which the capitation payment is calculated, (i.e. more of the provider’s patients are sicker than the average), the provider will incur a loss. Conversely, if the cost is less (i.e. fewer of the provider’s patients than the average are sick), the provider gets to keep the difference. However, the difference is not necessarily a ‘profit’ that can be extracted from the practice as a dividend. It may be that through good fortune the practitioner has simply just had a ‘low demand’ year. Assessing this situation requires consideration of an information asymmetry.

Firstly, unless the practitioner has detailed knowledge of the health states of the entire population, including the extent to which demands are independent or correlated, it cannot be discerned if the surplus results from a ‘good’ year or because the practitioner’s costs are lower than the average upon which capitation is based. If the practitioner knows it has been a ‘good’ year and the demands are independent, then it is likely that there will be a ‘bad’ year in the future. Prudent risk management would require the practitioner to either retain at least some of the surplus in the firm to cover the expected higher costs of the inevitable future ‘high demand’ year, or purchase a contract from an insurance company with some of the proceeds to manage the risk – that is, reinsure the income volatility risk. Secondly, if the practitioner does not know whether it has been a ‘good year’ and has no knowledge of either the extent of demand correlation present or the extent to which adverse selection has affected the distribution of patients amongst pools, then there is even more justification to apply some of the surplus to future income risk management, simply because of the uncertainty arising from less than perfect information. Thirdly, it is also noted that both the incentives and the ability to collect information from which the population averages can be calculated are also affected by the distribution of these tasks to many providers, relative to the incentives and ability for a central funder to amass the necessary knowledge base. If the data to ascertain this information is to be collected, processed and disseminated in a distributed risk-sharing system, then the transaction costs of doing so may likely be larger than in the case of the task being undertaken by a single central entity.

The example of an influenza epidemic underlines the effects that capitation funding can have, especially if demands are correlated either by geography or across time. If an epidemic strikes, a capitated practitioner faces significantly increased demand, which cannot be controlled (i.e. it is an unknown new strain for which a vaccine does not exist). The practitioner receives no

additional income even though the number of patient consultations, and hence costs³⁴, will increase significantly. If the practitioner has retained earnings or an insurance premium covering such an event, the increased costs can be covered without putting the practice in financial or operational jeopardy³⁵. If the risks have not been managed, then the only way of maintaining a viable business will be to reduce service quality³⁶ thereby shifting the cost onto patients, increase prices either by demanding a higher capitation fee or increasing patient co-payments (if this is feasible), or redirect the demand onto other providers (e.g. charity providers, who will not turn the patient away). Ultimately, the patient bears the additional costs of inadequate risk management, through lower health state, higher insurance premiums or higher taxation.

2.3.2.2 Information and Risk Management Performance Measurement Under Capitation

Increased risk of practitioner misappropriation (either inadvertent or deliberate) thus necessitates greater levels of prudential monitoring of the recipients of capitation funds. These prudential monitoring activities increase efficiency if the additional costs of monitoring are less than the losses that they prevent. Most insurance industries have some form of regulatory oversight in order to assure funders and beneficiaries of insurance schemes that funds will be available when the insured parties make a claim. In markets where insurance mechanisms have traditionally funded health care, the mandate of insurance industry regulators has typically been extended to cover the health care providers who assume capitation contracts (Hagen, 1999). In markets where taxation has historically funded services, the move to capitation might well be accompanied by the introduction of specific financial monitoring mechanisms similar to those of insurance industry in order to ensure that recipients of capitated funds are managing the risks appropriately.

One objective of financial regulators in capitated environments is to ascertain that the necessary reinsurance has been undertaken. However, doing so requires knowledge of what the ‘average patient health state’ is, and what constitutes ‘average costs’. Such information is not usually easily obtainable, and its acquisition incurs further costs. Furthermore, information about the extent of capitation contracts, and the ability for individuals and firms to manage the risks, may be difficult to acquire.

³⁴ Foregone leisure time, or the costs of hiring additional staff to cope with the increase.

³⁵ For example, hiring a locum to provide additional care during the crisis, or at a later date in order to recover lost leisure time.

³⁶ In a market such as New Zealand’s, where supply of additional resource (e.g. locums) is constrained, in the event of an epidemic that increases demand, reduction in quality is the likely first response (e.g. seeing more patients in a given time period).

Where capitated providers subcontract capitation risks to other service providers, the resulting complex nexus of contracts makes it very difficult for any external regulator to ascertain all of average costs, average health state and whether the party who ultimately bears the risk is engaging in adequate risk management practices. The likelihood of risk management funds being extracted undetected, either inadvertently or deliberately, becomes significantly greater. A Californian health regulator has noted:

“yet for all the statutes, ordinances, filings (quarterly financial statements and annual reports), and monitoring (periodic audits and unscheduled reviews), I worried that I was not privy to the true financial status of the health organizations I was sworn to monitor. I was concerned that some appeared healthy on paper only by riding on the backs of providers burdened by insufficient capitation payments, but whose balance sheets no state regulator ever sees” (Hagen, 1999:42).

In some jurisdictions, nonprofit organisations have been proposed as a constraint against extraction by dividend of funds that should otherwise have been used for risk management. In these cases, it has been suggested that overt financial regulation may be less necessary. English Primary Care Trusts provide an example where this assurance has been offered. Whilst the nonprofit constraint precludes the removal of funds via dividends, it offers no protection against the removal of funds via other contractual mechanisms, such as contracts with other providers or remuneration of employees. Neither does it guarantee any greater knowledge of what constitutes ‘average cost’ or ‘average demand’. The constraint will only guard against inappropriate use of funds to the extent that the risks managed by the nonprofit company, and the funds to manage them, can be guaranteed to be safe, well managed and remain within the company. The guarantee is therefore only as effective as the internal and external governance and regulation processes of the nonprofit organisation allows.

Specifically, the nonprofit constraint offers no special guarantee against mismanagement of the risks that the company assumes and the funds that it manages, relative to any other ownership structure. If the risk can be subcontracted, then risk management funds can be inappropriately extracted by the contracted companies via any mechanisms available to them, including dividend payment if they are for-profit. The governors of the nonprofit have the same responsibility as the governors of any other company to ensure that the risks are managed, by both themselves and their subcontractors. Nonprofit status offers no special guarantee of the risk management competence and diligence of governors in this respect relative to any other ownership form. Indeed, the absence of an effective ownership control may reduce the intensity of monitoring of the governors and managers, potentially allowing less sound contracts to be let than in the case of a for-profit with a concentrated shareholding (Fama and Jensen, 1986; 1986a; Jensen, 1993; Howell, 2001).

2.3.2.3 *Competitive Responses to Poor Risk Management*

Normally, it might be expected that competition between fully capitated providers would result in poor risk managers with financially unviable practices leaving the market. Where a poor risk manager increases prices, or reduces quality, but a good risk manager does not, disadvantaged patients would exercise their choice by severing their relationship with the poor risk manager and entering into a new relationship with the good risk manager. However, if competition is limited or practitioners can collaborate to all raise fees or reduce quality together, then poor risk management can go undetected and unpunished. Fees rise (or quality falls) for all providers.

Where full capitation applies, there is no exchange of services for a price, so no price signal is available for service purchasers to gauge the marginal cost of service provision. If there is also limited competition between service providers (or collaboration occurs) it is difficult to determine whether provider requests for increases in capitation rates reflect only increases in real costs. Requests may also include increases to cover the costs of inadequate risk management (e.g. neglect of the requirement for reinsurance, inefficiently small pools) and provider appropriation of funds that should have been applied to risk management. Increases in capitation prices in such circumstances may allow poor risk managers to maintain the financial viability of their practices, whilst allowing good risk managers to extract rents in excess of their costs.

Such possibilities underline the importance of competition in both the markets for insurance and service provision, as exhorted by Danzon and Maclaine (1994). Holding constant the level of capitation funding, the signals of competition in the insurance market are determined from patients' choices of service provider-insurer. Competition between service providers is no longer primarily determined by competition for patients, but by competition between providers for more advantageous contracts with the capitation setters (e.g. lower quality requirements, less onerous regulatory requirements). Competition for more patients is replaced by competition for specific patients (i.e. healthy, low-cost patients).

Given the incentive for providers to actively engage in adverse selection behaviours, there may be active competition between providers *not* to be obligated to provide services to specific patient groups. Risk-averse providers or providers with an agreeable contract and a low-cost patient base may actively cease looking for new patients ('close the books'). Such behaviours indicate providers' intentions to 'lock in' their existing advantages and limit their exposure to the additional income volatility that arises when taking on new patients with unknown health

states. Patients who are unable to register with providers are left with no insurance coverage, and become subject to the uncertainties of charity care, or providers who choose not to refuse patients, but are substantially riskier and thus costlier as a consequence of the adverse selection of other providers.

Such actions lead to a two-tier set of cost structures in the sector. Just as in the case of poor risk managers, if the capitation rate-setters base universal capitation rates upon the cost structures of the riskier providers, then the low-cost, risk averse providers receive incomes even greater than those they would receive under population average costs. Thus, in a two-round strategic game, risk-averse providers might actually favour extreme adverse selection in the first round of the game, with resultant financial failure of other parties. If a poorly-informed capitation rate setter responds by increasing capitation rates for all providers in round two based upon the costs of the failed providers, the risk-averse providers are doubly rewarded for their adverse selection behaviours. Building on Dixit and Nalebuff (1991:58-60), active adverse selection practices thus become a dominant strategy for informed providers.

2.3.3 Partial Capitation

The additional costs of financial risk management and adverse selection under full capitation are extremely large and as Newhouse (1996) recognises, are non-optimal, just as the full fee-for-service option is non-optimal. If capitation is the risk-sharing instrument chosen, then the most likely contract is part-capitation and part fee-for-service. Reducing the proportion of capitation funding in the service provider's income reduces the amount of financial risk to which the provider is exposed, thereby reducing the intensity of, but not eliminating, the incentives for providers to engage in adverse selection behaviours. Likewise, the reduction in reliance upon capitation funding reduces, but does not eliminate the degree of financial volatility that partially-capitated providers face. As long as providers are exposed to any degree of demand variation risk, reinsurance and monitoring of risk managers remain necessary.

As many of the costs of monitoring, in particular, are fixed, the transaction costs of operating a mixed system may not be very much lower than the costs of a full capitation system. The desirability of mixed systems from a risk management perspective, therefore, lies principally in the lower costs of financial risk management and adverse selection that they engender. Thus it is important to understand how different mechanisms shift the risks, relative to a pure indemnity insurance model and a pure capitation model.

2.3.3.1 Incidence of the Fee-For-Service Payment

The identity of the entity making the fee-for-service component has a significant effect upon the incidence of risk-bearing under mixed capitation and fee-for-service systems. The entity may be the central contracting entity, or the individual patient. Danzon and Sloan (2001:662) note that in the United States managed care environment, the fee-for-service payer is typically the insurance company: “even with the growth of MCOs, most individual physicians still practice on a fee-for-service, albeit discounted fee-for-service, basis”. If the insurance company pays both the capitation fee and the fee for service, all risks associated with the trade-offs between the adequacy of the capitation rate and the fee-for-service component are internalised in the relationship between the insurance company (and hence all potential consumers of health services collectively) and the service provider.

However, if it is the patient who makes the payment in a mixed system, then the fee-for-service component becomes a levy only on the patients that consume services. These patients individually bear any risks that are not borne by the provider. Even though the capitation component reflects risks shared in relation to all patients covered, only the patients who actually get sick bear the residual risks not borne by the practitioners. Thus, rather than these risks being shared with the entire pool of insured individuals as occurs under the model where the insurance company pays the fee for service component, these risks are borne by a smaller pool of individuals – those who fall ill. The sick patients now become directly exposed not just to the risks of their own demand variation, as occurs under pure patient-paid fee-for-service, but also any residual demand variation risk and other moral hazard and adverse selection costs that the capitation contract is normally intended to share between third party purchasers (the collective individuals insured) and providers, that is not actually borne by the providers. Specifically, if the service providers have the power to set the size of the co-payment, the moral hazard risks that are best borne by providers, justifying the use of capitation contracts in the first place (Danzon, 1997 *op. cit.*) can now be shared with individual patients who are not the best parties to bear these risks. The net result would appear to have the potential to ‘undo’ many of the benefits that provider risk sharing offered in the first place.

2.3.3.2 Patient Co-Payment as a Risk-Rated Premium

Capitation contracts with patient co-payments may be interpreted as a variant of risk-rated insurance premiums. Under full capitation, the capitation payment for an individual is the equivalent of the insurance premium paid by the central insuring entity to the provider-insurer. For the balance of this section, it will be assumed that the entity that pays the capitation fee to the provider-insurer is either a government entity or an insurance company, and that the

capitated service provider is just one of many providers from whom the insurer or government purchases services in relation to the health care needs of an individual. In this respect, the model replicates the mixed capitation and fee-for service purchase of primary physician services by an insurance company that also purchases pharmaceuticals, secondary and tertiary care on behalf of an individual from other providers. Whilst the individual pays a premium in respect of all services, the capitation instrument for primary health care (physician) services is distinct in that there is no ‘ring-fenced’ premium paid for this service alone. It is bundled in with all other calls on the premium. In this sense, the insurance model is directly analogous to the state subsidy for primary health care, paid from taxation revenue, with the individual’s contribution bundled in amongst all other calls on taxation payments. In both cases, the central entity negotiates the contract with the provider-insurer, determines the size of the capitation fee and thereby implicitly sets the size of the ‘fee-for-service’ component. However, unlike the standard contract where the insurer makes both the capitation and the fee-for-service payments, the patient makes the fee-for-service payment.

If the capitation payment is less than the full actuarially-calculated premium for the individual in respect of the primary care services, then the unmet costs of the scheme must be recouped from patient co-payments. Whilst part-premia are paid for all registered individuals, the difference between the full premium (which if calculated accurately will equal average costs) and the capitation payment must be collected from the subset of patients who fall ill. Assuming that the premium required per member per period to cover average costs is P , the number of members of the scheme is n , the capitation payment per member per period is S , and $m < n$ patients seek an average of q treatments each in the period and the co-payment per treatment is C , the actuarially-calculated premium income equals practitioner revenue when:

$$(1) \quad Pn = Sn + mqC$$

and the co-payment in the period for an ‘average’ individual who falls ill the average number of times in the period is:

$$(2) \quad Cq = \frac{(P - S)n}{m}$$

The co-payment thus becomes a supplement to bring the insurer-practitioner’s revenue up to the level it would be if the full premium had been paid (a ‘premium top-up’). However, it is levied only on those who fall ill and need treatment. The $n-m$ individuals who make no visits in the period pay no co-payments. They are ‘rewarded’ for their zero demand (from their ‘good’ health state or luck – e.g. not exposed to any epidemics) by not having to make any premium

top-ups. The revenue they bring to the practitioner is less than the full premium P that attends a fully-capitated scheme.

Each patient who makes a visit pays C per visit. Those making fewer than q visits pay less than the average, and those making more visits pay more. Heavier users thus pay more than light users, with their co-payments effectively subsidising the unmet premium income of the light and non-users that would accrue to the practitioner under full capitation. The premium top-up paid by patients is thus proportional to their demand. As demand reflects the level of risk an individual brings to the system, high demanders (more risky individuals) pay higher premiums than low demanders (less risky individuals). The individual bears all of the risk of variation in his own demand, whilst the collective entity paying the subsidy bears none of this risk, making only the fixed payment S for each of the n individuals in the scheme. Neither does the provider bear any of this risk, because levying the co-payment means that the provider recovers all costs of service provision.

When the patient makes the co-payment, the effect is the equivalent of a perfectly calculated individually risk-rated insurance premium. Indeed, when the premium ‘top-up’ is collected on consumption, rather than as a premium before demand becomes evident, the risk to the insurance company or government from unknown patient health state in relation to primary care is eliminated. The patient can now no longer engage in adverse selection behaviours in respect of concealing his health state in order to pay a lower premium than the level of risk that the patient brings to the scheme. However, the consequence is that the provider-insurer now has much better information than the third party insurer had to engage in adverse selection behaviour.

For completeness, it is noted that when the subsidy is zero, the patient pays the full premium upon consumption, in a pure user-pays manner. This is the equivalent of a central insurer or government making no payment in respect of the individual for the type of treatment provided by the capitated insurer-provider. As the capitation payment increases, the premium component paid to the insurer ex ante by the individual will increase, and the component paid when care is demanded will reduce. Increasing the subsidy for all individuals thus reduces the extent of the patient’s contribution upon consumption. However, it does not alter the fact that the patient’s out-of-pocket contribution upon consumption is a risk-rated premium. It merely affects the share of health care costs that are paid by all individuals collectively, and the share that is paid by the patients who fall ill. As long as the patient continues to make the payment only on consumption of services, all patients are forced to bear some of the costs of their own

health state risk. Whilst this is true of all co-payments, the rationale for the co-payment under partial capitation comes down to an analysis of who should pay the costs of all risks attending the system. Unlike a pure capitation model where the ‘lucky’ pay the costs of the ‘unlucky’ plus the costs of all moral hazard and adverse selection, patient co-payments in partially capitated systems result in the ‘unlucky’ meeting at least some of the costs of their bad luck plus all additional adverse selection and moral hazard costs, whilst the ‘lucky’ benefit from their good fortune by paying lower premiums and not having to pay premium top-ups. However, ultimately, the individuals receiving cover pay the full costs of the scheme. The only variable is how much of the cost is shared between the entire pool, as an ex ante premium payment (or taxation share) and how much is levied as a risk-rated premium only on those consuming care.

It is also noted that the average cost of providing the treatment is not explicit in Equation (2). It is implicit in P . If the average cost per treatment is K , and average revenue exactly equals costs, the relationship is:

$$(3) \quad Pn = Sn + mqC = mqK ,$$

giving:

$$(4) \quad C = K - \frac{Sn}{mq} .$$

Equation (4) shows that the relationship between the average cost of service delivery and the cost to the patient is not simple. Rather, it involves the size of the capitation payment, the average numbers of visits per period, the number of patients in the scheme, and the proportion of patients actually demanding services in the period as well as the actual costs of service delivery. Calculating the co-payment accurately requires a significant amount of information, both in relation to the population averages and the nature of the demand in individual practices. It also assumes that the subsidy, calculated on ‘average’ population consumption, applies equally to all individuals and practices, across the entire population, and remains constant as behaviours change. As each practice will have different costs and member profiles, it would be expected that the co-payments will vary between practices, depending upon these factors. For example, Shen and McFeeters (2005:14) show that holding all other factors equal, higher-educated individuals in the United States consume more care from Health Management organisations (HMOs) than individuals with less education, meaning practices with such patients will have higher q than other practices, leading to higher co-payments.

2.3.3.3 *Co-Payments and Risks Not Controlled by the Patient*

Unless there is an overriding requirement that access to health care be universal with no difference in cost to the patient at the point of service delivery (e.g. as in England's NHS), it may appear reasonable that patient co-payments at consumption be used to recoup additional costs rather than collecting it in the form of a 'risk-rated premium' levied ex ante. However, the reasonableness of this argument holds only if patient-controlled moral hazard behaviour is the sole cause of additional costs to the system. The rationale becomes less supportable when the risky behaviour is analysed in light of equation (4).

Where patient-induced moral hazard is adding to the costs of the scheme, and the amount of patient induced moral hazard is proportional to patient health state and thus demand (i.e. those who fall sick more often engage in moral hazard behaviour more often than those who fall sick less often) then a partial patient co-payment in the form of a risk-rated premium may be indicated. However, if patient-induced moral hazard is a result of factors such as over-consumption by the 'worried well', who consume services less frequently than the average, risk-rated premiums may result in the genuinely sick paying higher prices for demand that results from genuine illness requiring intervention, whilst the 'worried well', although paying a premium top-up for each consultation, pay proportionately less of the costs of their moral hazard behaviour. Indeed, increasing the subsidies paid under mixed schemes may actually make the penalty proportionately higher for the genuinely sick, whilst simultaneously increasing the extent of moral hazard costs induced by the 'worried well'.

2.3.3.3.1 **Increases in Subsidy and Moral Hazard and Reductions in Co-Payments**

Extending equation (4), it can be shown that a change in the capitation payment S does not lead automatically to pro rata reduction in the average co-payment Cq , even allowing for the fact that not all individuals consume services in the period. A direct relationship will exist only if there is no increase in moral hazard from the increase in subsidy. If moral hazard behaviour increases as S increases, the average number of visits per period q will increase, the proportion of the members seeking treatment in the period will increase, or both will occur. The larger the increase in S , the larger the size of the moral hazard cost becomes, and the more the size of the co-payment is influenced by the increase in moral hazard costs rather than the increase in the subsidy. The new moral hazard costs are borne disproportionately by those who actually consume services relative to those who do not consume, as the consumers pay both the subsidy increase and the increased moral hazard costs, whilst those who do not consume pay only the increase in premium, and face a lesser expected co-payment if, in the future, they consume services. Furthermore, light consumers (q less than average) pay less of the difference than

heavy consumers (q greater than average)³⁷. Thus, if consumption by the ‘worried well’ is the predominant cause of patient-induced moral hazard costs, increasing the subsidy will benefit these individuals relatively more than the heavier-consuming genuinely ill. Over-consumption by the ‘worried well’ may be especially pronounced if, as a consequence of the increase in base premium to cover the capitation increase, light users are incentivised to ‘get their money’s worth’ in service provision.

If the increased moral hazard costs are simply a result of individual choice to consume, then imposing all of these costs on consumers may be considered reasonable, in that the over-consumers meet all of the costs of their over-consumption. However, the over-consumption is not entirely in the control of consumers. By the rationales underpinning the moves towards risk-sharing contracts with providers via capitation in the first place, it is to an extent in the hands of providers.

It therefore begs the question of why a collective decision-making insurance body, that wishes to share the costs with providers to constrain moral hazard behaviour that is in the control of providers would institute a co-payment process that actually allows the providers to shift all of the costs of providers’ moral hazard actions straight back onto the individual members of the collective insurance scheme. Patient co-payments in mixed capitation schemes simply allow the risk, shifted from the insurance scheme to the providers to be shifted back not simply to the insurance scheme as a whole, but to individual members of the scheme who are in a weak position, due to the information asymmetry that attends their knowledge of the intricacies of the complex trade-offs between costs, moral hazard, scheme membership types population and pool risks, the intricacies of subsidisation and other factors, to ascertain whether the co-payment price charged is reasonable. As individuals, patients are in a weaker position to enter into an agreement that prevents providers from shifting the costs than they are collectively, via their third party contracting instrument. If such instruments exist in practice, then their existence likely reflects the relatively limited ability of individuals to hold the collective contracting entity to account. It is unlikely that individuals seeking to use an insurance instrument to avoid being held financially responsible for the moral hazard behaviours of providers would willingly sanction their agents entering into contracts that allow the risk to be shifted straight back onto specific individuals, under the guise of the self-same contracts sharing the risks with providers.

³⁷ Full mathematical derivation of these results is contained in Appendix 3.
June 2005

2.3.3.3.2 Risk Management Costs, Adverse Selection and Co-Payments

Extending equation (4) also shows that the devolution of risk management tasks from a large central pool to many smaller providers unequivocally increases the costs of health service delivery, and that if these costs are recovered via the co-payment, rather than the premium from which the capitation payment is derived, the result is lower health outcomes. If risk is managed poorly, (for example the pool is too small, and the cost variation is substantial) then the cost per treatment K will rise (for example, financing the loss, higher reinsurance premiums), leading to a rise in the cost of the system for the same health outcome. The additional cost can be recouped by levying the entire population (increasing the subsidy paid per member) or by charging only those who consume services. If the cost is recovered only through the co-payment, then the co-payment will rise for the same level of output, leading to lower health consumption by the sick, and poorer health states, relative to the case where the premium, and therefore the subsidy, for each member is increased.

The level of health service consumption is not a good proxy for the levying of the additional random risk management charge, as it arises from the design of the scheme and the actions of the risk managers, rather than the act of consumption. To include it in the co-payment penalises heavy consumers of health services relative to light consumers for elements of scheme design and operation that are outside their control. Consequently, the consumption of health care by those with poor health states, resulting in higher demands, will be reduced as prices rise, and their health states will suffer disproportionately, relative to the case where these costs are borne by the entire population.

Levying the risk management charge via patient co-payments also disadvantages those individuals who pay the full cost of their own treatment ($S = 0$). If a provider serving both capitated and uncapitated patients sets the co-payment for unsubsidised patients at the subsidised co-payment plus the subsidy, these patients pay the risk management premium even though they bring no risk to the provider. This finding leads to the conclusion that the cost of service provision will, all other factors being equal, be lower for providers who do not have capitation contracts, simply because it is the purchasers who internalise the demand variation risks. Thus, there is a positive disincentive for fully self-insuring individuals who do not want to participate in an insurance scheme to seek treatment from providers with any capitated contracts, unless they can be assured that the price they are charged is the provider's true average cost of service delivery and does not include a premium to cover risk management services that are not provided in respect of the self-insuring patient. This finding provides further support for the presence of fully private fee-for-service markets alongside markets with

pure and mixed capitated contracts, both as a strong incentive for risk managers to limit the size of the additional costs of risk management, and to provide choices for patients who self-insure.

2.3.3.3.3 Adverse Selection Co-Payments and Provider Profits

Equation (4) shows the effect that adverse selection will have on co-payments and practitioner incomes. If adverse selection results in practitioners picking a patient pool with lower health needs (q and m both lower than average), then the co-payments for patients of those practices can be lower than the average and costs still recovered. However, the co-payments for the pools with higher health needs will be higher than average simply to break even. If the high cost providers must charge higher co-payments to remain in business, the low-cost providers can charge the same high co-payments, even though their efficient co-payments are lower, and keep the difference as a profit. All patients now pay more than necessary but the burden is once again borne disproportionately by the high-users, relative to the counterfactual of the costs being shared across all members of the population.

2.3.3.4 Patient Co-Payments and Risk Reduction for Health Fund Managers

Whilst the argument that patients should pay the actual costs of the risks they bring to the scheme has some validity in respect of the health states and patient-controlled moral hazard behaviours, it appears harder to justify the additional costs of provider-controlled moral hazard, risk management and adverse selection arising from risk-sharing falling upon patients who cannot directly control the terms and conditions of the risk-sharing contract.

Rather, the existence of patient co-payments in mixed capitation schemes may reveal more about the propensity of the collective scheme managers to assume the risks which they are charged by their insurance customers with managing. On the one hand, capitation payments make providers responsible for the moral hazard costs they cause, and patient co-payments make patients responsible for the moral hazard costs they cause. On the other hand, if mixed contracts means all random, correlated and behavioural risks can be shared with providers, via the capitation component, patients via the patient co-payment, and members via the premium (or taxation), and they are responsible for no fee-for-service contracts, the managers of the insurance scheme face no financial risks from the nature of the scheme they manage. Their income is fixed by premium income and their expenditure budgets are fixed via capitation payments. The only uncertainty they face is the commercial success of their scheme, although in the case of taxation-funded state monopoly capitation-setters, even this pressure may be absent. The managers of such schemes are now no longer risk managers, as all of the risk management has been subcontracted. The only task that remains for such entities is the

decision about who sets the co-payment. The consequences of this decision determine how much of the subcontracted risk is ultimately borne by providers and how much by the patients and members of the scheme.

2.3.3.5 Risk and the Power to Set the Patient Co-Payment

If the provider can set the co-payment, then all of the provider-induced moral hazard, adverse selection and risk management costs can be shifted onto the patient. If however, it is the capitation setter who controls the level of the co-payment, then the providers may still be required to meet some of the costs of their moral hazard behaviours. They now become vulnerable to the additional financial risks from the capitation setter getting the co-payment level wrong, just as in the model where the capitation body also makes the fee-for-service payment. However, if the capitation body simply sets the co-payment, but bears none of the financial risks that it imposes, then ultimately the residual risks are still borne by individual patients that fall ill, rather than the insured population as a whole. If the co-payment is too low, then providers bear disproportionately too much of the consumer-induced moral hazard and reduce the quality of care provided. If they cannot cover costs, they will leave the market, and patients will not be able to get treatment when ill. In either case, health outcomes fall. If the co-payment is too high, providers receive profits and sick consumers reduce their consumption, again resulting in lower health outcomes. In all cases, the funding mechanism disproportionately affects individuals who enjoy lower health states and who need medical care most, relative to the counterfactual of a premium-based risk-rating system with the full capitation, simply because the central funding body (collectively) bears none of the random risks of variation in health state that the insurance mechanism is designed to manage.

The capitation-setting body becomes simply an income redistribution and collective contracting mechanism, collecting premiums (or taxation) from members, and allocating funds and patient welfare via contracts of its devising. Its sole economic purpose for existing is to utilise economies of scale in the income redistribution and contracting processes. Consequently, in competitive private insurance markets, such as those of the United States, it is extremely rare to see mixed capitation systems where the patient pays the co-payment direct to the practitioner. Such a scheme has not emerged in competitive markets because it is more costly to high consumers, who would prefer to either self-insure or conceal their health state and self-select into an insurance scheme (including managed care) whereby the premium payment is made ex ante, albeit with some risk-rating based on less than perfect health state information. Without the high-use consumers to pay the additional costs of risk management, adverse selection and moral hazard, the co-payments and/or premiums for the remaining patients would rise, to the

point where they too may find self-insuring, or even a pure indemnity model with signalling, more attractive, given their low demand. From a strategic perspective, it also makes little sense for insurance companies to pass up the opportunity to utilise their risk management competencies (Barney, 1995).

If such a system was to emerge, it is more likely to be in a state-managed environment. In such an environment, the resources that fund the capitation payment are opaque to individuals, so the trade-off between premium subsidy and patient co-payment is not internalised in the individual member. In addition, the normal commercial disciplines upon insurance managers may not be present due to state monopolies. Likewise, the ability for members to discipline the governors who enter into such contracts is minimal due to the inability for individuals to share risks effectively with the governors across political boundaries and the complex nexus of contracts that such systems engender (Howell, 2001). These environments also tend to be ones where governance and management expertise in, and incentives to practice, income redistribution are typically more prevalent than skills in financial risk management. However, even then it is difficult to find examples of such models. The English PCT system avoids the problem as the core principle of the NHS is that treatment will be provided free of charge to the patient at the time it is delivered. The NZPHCS appears unique in this respect. The difficulty in finding an example of scheme that capitates centrally, but levies co-payments directly on the patient at consumption rather than as an ex ante premium top-up for all insured individuals is likely indicative of the extent of the less than optimal risk shifting evidenced in this section that attends such schemes.

It is also questionable what the objectives are in a government scheme that is universal, in respect of the fact that capitation fees are paid for all registered members, but redistributive in respect of the levying of the premium top-up, especially given that the redistribution is effected as a risk-rated premium contingent upon patient health state. The scheme does not appear to meet the objectives identified by Danzon and Maclaine (1994) for government-funded schemes, in that there is no assurance that the scheme is “universal and affordable” as long as it disproportionately penalises heavy users. Thus, the ‘redistributive’ portion must be intended to reduce significant over-consumption by one class of users, whilst increasing consumption by another. Any attempt to use the mixed capitation instrument to increase consumption by any group must necessarily have the consumption reduction effect on other groups so long as the patient makes the co-payment. The use of such a scheme, therefore presumes the presence of selective over-consumption as well as selective under-consumption.

2.3.3.6 Co-Payments and Income Redistribution

In government-funded consumption subsidy systems, patient co-payments are in effect a ‘consumption tax’ or a ‘user part-charge’, and as such form part of the tax and wealth distribution system. The patient co-payment in a part government-subsidised insurance system is also a ‘consumption tax’ in this case levied upon the ‘premium top-up’ collected by providers, so it too forms part of a tax and wealth distribution system. However, the basis for levying the tax is not a financial one, but a health state one, with the tax being levied disproportionately upon those who fall ill, who may consume less than the optimal amount of health care due to the higher costs. If, as indicated by Anderson and Weller (1999), health demands are highly correlated, with a small number of patients causing a disproportionate amount of the costs of treatment, the effect of reduced outcomes for the very high users may be substantial and highly visible, relative to the much smaller gains of a larger number of low-demanding individuals.

The unequal incidence of the ‘tax’ on falling sick also may not be distributed equally even amongst patients of equal co-payment type. If adverse selection is widespread, patients of low-risk providers face a lower tax than patients of high-risk providers, simply because of the unequal distribution of demand uncertainty. Where high demand is correlated (e.g. a random epidemic strikes in the region where a provider draws all patients), the effects may be very unequally distributed between patients of practitioners in regions where the epidemic strikes, and those in regions that it bypasses. Rather than the tax or insurance system equalising the incidence of luck amongst patients in all regions, as would occur under fee for service subsidy, the ‘unlucky’ patients bear the costs of their misfortune through fee for service co-payments, whilst the ‘lucky’ avoid the otherwise higher premiums or taxation charge that would emerge from a broader system.

2.3.4 Varying Capitation Rates

Just as varying the co-payment amongst different patient classes affects the allocation of risk amongst individuals, so does varying the capitation rates. On the one hand, varying capitation rates may reduce the exposure of providers to random risk, if the factors on which the capitation rates vary are good proxies for actual demand for services of the capitation base. Arguably, some demographic characteristics, such as age, are strongly causally linked with costs, thereby leading to calls for higher capitation rates based upon these characteristics. However, demographic indicators are substantially less accurate predictors of an individual’s demand for

services in a given period than past consumption and information about an individual's actual health state.

Where population demographics rather than individual health state and usage characteristics are used to differentiate between capitation rates, and hence the payments made to practitioners, the incentives for practitioners to engage in adverse selection is increased even more than under the counterfactual of a single capitation payment (known as community rating, Scott (2001: 162)). For example, where the capitation rate for elderly people is higher than for the rest of the population, the incentives for practitioners to cream-skim will be even greater amongst this group than for the general population. A healthy, low demand elderly person is more valuable to the practice in terms of income in the current period than a healthy younger person, and substantially more valuable than a sick younger person, so intense competition for patients in the lower-risk, higher-funded class is likely to emerge, sometimes at the expense of the more needy individuals in lower-funded classes. Where further distinctions such as geographic location, financial deprivation and ethnicity are also added, then competitions to enlist low risk individuals in geographic locations (often highly correlated with ethnicity and financial deprivation) also become intense.

Varying capitation rates amongst a population may also exacerbate the effects illustrated in equations (1) to (4) in respect of which patient classes pay the additional costs of the mixed capitation system, especially when subsidies are increased for one class of patient but not another. This is illustrated by assuming that there are two types of patient – *a* and *b*. If the capitation rate is increased for type *a* patients, but their co-payment is capped so that the sum of the old subsidy and the old co-payment equals the sum of the new subsidy and the new co-payment, then the co-payment for type *b* patients must rise³⁸. This occurs because type *b* patients must now bear all of the moral hazard cost consequences of the new subsidy for type *a* patients, whilst type *a* patients bear none of these additional costs that they incur.

Consequently the consumption of type *b* individuals decreases, reducing their health outcomes relative to the counterfactual before the capitation increase for type *a* patients. The 'risk-rated premium' of the type *b* patients increases not because they bring any more risk to the system, but because type *a* patients bring more risk to the system. Furthermore, the effect is highest on the highest consuming type *b* patients – the worse their health state, the more they are penalised for the type *a* behaviours. If the purpose of the capitation increase is to conduct an income redistribution to type *a* consumers, even though the subsidy increase is sourced from all

taxpayers, then the type *b* consumers face an additional tax as they pay both the subsidy increase through general taxation, plus a consumption tax when they use the services.

The iniquity of the incidence of the tax arises because of a fundamental clash between the role of a patient co-payment in insurance systems to reduce the moral hazard behaviour of consumers of health services, and the role of a patient co-payment in an income redistribution system. In the case of mixed capitation and patient co-payment systems, the dual purpose actually sends the opposite signals to both classes than the ones intended. Higher-capitated low-need individuals are encouraged to consume more care, even though their health state may not indicate it, but lower-capitated high-need individuals consume less care than previously, and likely less care than necessary. Health outcomes of individuals are ‘equalised’ principally by reducing the outcomes of the lower-capitated high-need individuals. It is unclear exactly how this will affect ‘average’ outcomes, especially if demand is not random, but correlated. The result may actually be a reduction in average health outcomes rather than a rise, if the condition of the very needy declines faster with the reduction in their consumption than the proportionately lower returns from increased consumption by the ‘worried well’.

2.4 Summary of the Theory

The special characteristics of the health care product necessarily invoke the need for insurance markets, leading to the presence of moral hazard and adverse selection. Sharing risks with providers by capitation contracts may partially overcome some of the moral hazard problems of insurance markets, but exacerbate the adverse selection problems as doing so requires all providers to become insurance companies. The problems of adverse selection, and perverse outcomes whereby ill people end up paying more of the costs of health care when falling ill, rather than the costs being shared amongst all individuals as an ex ante risk management premium that such contracts induce may in fact be quite significant, especially where the fee-for-service payment is made by the individual falling ill. Moreover, they increase as the extent of capitation funding, relative to fee-for-service funding increases.

2.5 Financial Risk and the New Zealand Primary Health Care Strategy

The NZPHCS invokes many of the challenges of health care system design that emanate from both the subsidisation of individuals and merging the insurance and service provision markets.

³⁸ See Appendix 3 for the proof
June 2005

The system moves from a simple, fee-for-service taxation subsidy paid to a small subset of patients from a single national risk management pool when individuals fall ill, with patient co-payments based upon patient wealth and health status, to a highly complex financial risk sharing system for the entire population. The new system is comprised of a mixed fee-for-service and capitation system. It has variable capitation rates based upon a mix of population demographics and patient health states, and variable patient co-payments levied when services are consumed, based upon a mixture of population demographics and individual characteristics (age, wealth, health state). The introduction of the NZPHCS is accompanied by significant additional government expenditure, aimed at reducing the co-payments made by all consuming classes, but with the objective that certain demographic groups (based upon age, ethnicity and geography – i.e. residents with specific demographic index addresses) would receive greater increases in subsidy than others. Thus the NZPHCS invokes multiple dimensions of increased moral hazard adverse selection and risk management costs.

The complexity of the financial instruments employed by the NZPHCS results from the issues of designing a system that seeks to expand the quality and quantity of care provided, whilst simultaneously moving to a capitation funding model which is conventionally used to constrain the behaviours of practitioners by sharing with them the responsibility for the risks and costs of the system. The following section examines whether the financial instruments chosen to achieve the goals of the strategy will deliver on the objectives, and whether the costs incurred will be less than any additional benefits yielded.

2.5.1 Pre-NZPHCS

Prior to the implementation of the NZPHCS, the New Zealand primary health market was underpinned by fee-for-service payment to general practitioners paid by a combination of patient co-payments and government subsidy, and volume-based government contracts with a variety of other providers. General practitioner services provided by far the largest share of expenditure. Taxation-based subsidies were paid to practitioners for each patient treatment delivered to specific individuals, based upon health state and income. Patient co-payments direct to the practitioner accounted for the balance. Government subsidies comprised 30% of general practitioner income, with patient co-payments comprising the remaining 70% (Austin, 2004). In total government funded 40% of total primary health care expenditure (King, 2001).

Whilst the pre-NZPHCS consumption subsidy likely led to some moral hazard behaviours by subsidised individuals, the extent of subsidy was, by international standards, quite small. The

vast majority of New Zealanders aged over 18, by dint of their health state (i.e. they made fewer than 12 visits in the last 12 months to the general practitioner) and income (i.e. they did not qualify on the basis of family size and income to carry a Community Services Card), were self-insuring their primary health care costs. The government contribution towards primary health costs in respect of the general practitioner services was incurred only in respect of the subset of eligible individuals who actually fell ill. Indeed, the extent and targeting of the subsidies meant that the best description of the pre-2001 New Zealand system³⁹, at least in respect of the general practice subsidies, is a welfare benefit system. Taxpayer subsidies in effect ‘topped up’ the income of poor and chronically ill individuals so that they could afford to visit the doctor when ill, whilst the remainder of the population who fell ill paid the full cost. In addition to the general practitioner contracts, supplementary contracts were let to specific providers, in exchange for taxpayer funds, to target specific primary health care needs (e.g. diabetes, asthma, cancer), communities (e.g. local health trusts) and ethnic groups (Maori and Pacific Island health care groups).

The welfare benefit description is analogous to the system providing a ‘safety net’, just as recipients of income support benefits can be granted additional benefits for specific purposes (e.g. the Special Purpose Benefit to purchase necessary clothing and appliances). An alternative analogy, given the wide extent of private for-profit general practitioners in the sector, that also incorporates the choices that subsidised individuals might have to receive care from either a general practitioner or an alternative taxpayer-funded entity, such as a Maori Health provider, is in early childhood education. The general practitioner subsidy was like the government subsidies that allow children of financially needy families to attend private day care centres and pre schools where the fees for the majority of children are paid fully by their parents. The parents of subsidised children can still choose to send them to fully state funded kindergartens (analogous to the Maori Health Care provider), but income is not deemed to be a barrier to the children attending an alternative facility if that one best suits the needs and tastes of the family.

As the pre-NZPHCS system was a welfare benefit system, paid only in respect of ill individuals, and was paid from a single, central fund, it had none of the adverse selection consequences that attend insurance markets. Taxpayers collectively absorbed any variation in demand from the probabilities of subsidised individuals falling ill. Unsubsidised individuals fully self-insured, and bore no responsibility via premiums for the financial consequences of the

³⁹ The targeted ‘welfare benefit’ replaced a universal fee for service subsidy as part of the welfare benefit reforms of the 1991 Budget. At that stage, the subsidy for all patients was less than xx% of the average fee, with the cost to low

demand variation of other individuals, either subsidised or unsubsidised, outside their responsibilities as taxpayers. There were no premiums paid into the central fund via which individuals could be discriminated against in respect of their eligibility or their coverage. As practitioners were fully rewarded for each instance of care provided independent of any other characteristics of the individual seeking treatment⁴⁰, they faced no financial incentives to discriminate between individuals on the basis of health or income state. Neither did the system engender significant moral hazard costs from over-consumption of services, except in respect of the minority that received subsidies. Even here, the extent of moral hazard was partially constrained by a sliding scale of co-payments depending upon subsidy class (young children and elderly received subsidies, but the co-payments were greater for those whose families did not have Community Service Cards).

If there was a problem in the pre-NZPHCS system, it pertained to individuals ineligible for subsidies foregoing treatment on the basis of cost, and therefore having lower health status than might otherwise be the case. However, it is not entirely clear that there is any evidence to suggest that under-consumption of primary care amongst unsubsidised individuals was a particular problem. Whilst acknowledging that it is very difficult to objectively measure health outcomes, Scott (2001:6) shows in 1996, in standard measures for comparing health states, life expectancies at birth and potential years of life lost per 100,000 life years, New Zealand performs substantially better than the United States, despite spending less than half the amount of GDP per capita on health care.

Neither is there any firm evidence to suggest that unsubsidised individuals were actually under-consuming, except perhaps at the margin where the subsidies began to apply. In this case, the under-consumption arises not as a consequence of the method of subsidy payment, but the adequacy of the subsidy and the efficacy of the targeting system. Under-consumption of general practitioner services by individuals beyond the margins where subsidies applied (i.e. they did not qualify under the subsidy targeting) might simply represent a voluntary choice not to purchase primary health care services from traditional providers, reflecting the individuals' personal tastes and valuations of this product amongst other calls on constrained budgets, or their preferences for primary health care products other than general practitioner services (e.g. alternative therapies, such as over the counter medicines, homeopathy and osteopathy, or ethnically-traditional treatments).

income individuals being cited as a substantial barrier to those with low incomes (Scott, Fougere etc.)

⁴⁰ Aside from bad debts, that accompany any commercial operation.

However, the NZPHCS seems to treat as axiomatic the fact that the significant under-consumption problem under the previous system concerned individuals who were already eligible for subsidies (low income Maori and Pacific Island communities, and communities with New Zealand Deprivation Index 9 and 10) (King, 2001). From the preceding theoretical discussion, it is far from clear how changing the methods of funding and levels of subsidy for all other actual and possible future consumers of primary health services will directly affect the consumption of these classes of user, except by redistributing existing resources away from those already enjoying services⁴¹. Rather, the financial objectives of changing the funding method appear to be directed towards making health care cheaper overall to the consumer, but with some groups (e.g. elderly people over 64 years of age, and young people under 18 years of age) gaining access to cheaper care earlier than other groups. This redistributive objective is supported by the substantial increases in government expenditure on primary health. However, it remains questionable whether the move to capitation funding, whereby all individuals, including those who are low consumers of health services receive subsidies, but co-payments levy the remainder of the costs on individuals who fall ill, in proportion to their consumption, will actually result in cheaper health care overall. Indeed, the complexity of the system may mask evidence of the costs actually rising as new risk management costs, not necessary in the previous system, are introduced. There may be a lower outcome per dollar spent than the pre-2001 result.

Moreover, the information available under the pre-NZPHCS system may have provided a better basis for targeting the income redistribution. The fact that the majority of primary health care consumers paid the full cost of health care pre-NZPHCS, and were sensitive to price changes, allowed the government agents charged with setting the subsidies (the Ministry of Health) to determine with some degree of accuracy the marginal cost of providing a standard primary care consultation, and therefore set subsidies based upon reasonably certain facts. As there was no distinction in the quality of care provided (beyond individual doctor characteristics), there was no need for the subsidy-setters to have to allow for quality differences between the care and prices set in a private sector market when determining public sector subsidies, as in the English PCT system.

⁴¹ Whilst it is recognised that service innovations and widening the provider range in order to meet the needs of these individuals may assist in meeting the aims, these objectives could have been met with increased, targeted subsidies. It is not clear that changing the payment method for all other individuals will substantially affect the uptake of services by this group.

2.5.2 Instruments of Change: From Welfare Benefits to Insurance Markets

At the simplest level, the two financial instruments chosen to implement the NZPHCS are an increase in government funding intended to reduce the costs of health care for specific groups, and shifting financial risk to providers via capitation contracts. Increasing government expenditure along with an expectation that the direct costs of health care for certain groups of consumers will decline leads to the conclusion that there will be an increase in moral hazard over-consumption in the groups who, as a consequence of the NZPHCS, face part-payments significantly less than they did previously. As it is the expectation that the increased spending will result in cheaper care for all patients (as even previously unsubsidised individuals now qualify for government-funded capitation payments), the incidence of moral hazard costs overall can be expected to be substantially larger than previously. There would also likely be effects from crowding out of private expenditure, and distortions between markets as the price paid by patients falls even further below the marginal cost of service delivery.

More pervasively, the NZPHCS has fundamentally changed the nature of government-subsidised primary health care in New Zealand from a safety net welfare benefit top-up into a partially taxpayer-subsidised insurance system for the entire population. Yet on the other hand, the system retains all the elements of a targeted benefit system, in that the premium subsidy and consequently the patient co-payment varies according to a number of specified criteria. The end result is a risk-rated insurance scheme with mixed capitation funding of providers, with co-payments levied to consumers of health services. The policy removes all financial risks related to the management of individual health states from the government, and distributes them amongst providers and patients, whilst government agencies retain the right to set the capitation subsidies paid to providers on behalf of patients, thereby deciding how the risks will be shared between providers, taxpayers and patients. Furthermore, as the subsidies vary based upon demographic characteristics, and the government can influence the size of co-payments charged to members of each subsidy group, the scheme grants the government the power to determine which patients will bear the greater and lesser proportions of risk (and hence costs) shared with patients.

The consequence is a system that must perform both standard health insurance tasks and policy-motivated income redistribution simultaneously, using an individual's health service consumption to redistribute any residual risks. The NZPHCS results in a transfer from the 'unlucky' (i.e. the consumers of more health care than the average who make high co-payments) to the 'lucky' (i.e. they consume less health care than the average, so make lower co-payments when they do consume), with the transfers being greatest from the 'unlucky

untargeted' (i.e. frequent consumers in the low-subsidised, high co-payment demographic groups) to the 'lucky targeted' (i.e. those in high-subsidised, low co-payment groups who consume less health care than the average). Thus, the NZPCHS differs substantially from both England's NHS, where care is universal and provided free at the point of consumption, and therefore contains no redistributive element in care delivery (redistribution is achieved entirely within the taxation system) and the United States' Managed Care Organisations (MCOs), where risk-rating of members of the scheme is confined to the premium-setting process.

2.5.2.1 PHOs are Insurance Companies

The NZPHCS sets up an indeterminate number of insurance companies (PHOs) who recruit members. The government then pays a fixed sum for each individual recruited, according to the demographic characteristics of the PHO as a whole and the individual numbers in each broad premium class (determined by initially age, health state and income, but by 2007 to be determined by age and health state alone) in order for the PHO to either deliver itself, or contract for delivery, all primary health care services to its enrolled population.

As all risk previously managed by the government via fee-for-service payments, plus all the individual health demand risk embodied in the insurance mechanisms embodied by capitation have been shifted in the first instance onto the PHOs, according to the theories of risk management and reinsurance discussed earlier in this section, the PHOs must reinsure this risk. If they do not, then the additional costs of risk management will be borne initially by the providers, but ultimately by all consumers of the scheme via higher premia (capitation payments from taxation and co-payments).

As the PHOs are new entities, with no assets and no ability to raise equity, they have no financial capacity to bear the risks initially. The full cost of building up risk reserves, or the costs of reinsurance of the risks, must be met from existing cashflows. Moreover, reinsurance must be undertaken without the assistance of any specific instruments, such as initial granting of lump sums to meet expected average demand volatility in the first period, or a specialist insurance company whereby PHOs can reinsure amongst each other. Neither do PHOs, as nonprofit entities, have shareholders⁴² to underwrite the risk⁴³. As capitation income is fixed, the only financial instrument available to PHOs to meet the additional costs of demand volatility and increases in moral hazard and adverse selection (aside from merging into

⁴² In shareholder-owned organisations, shareholders as legal owners, bear the financial risks. Nonprofit organisations have legal owners, but no shareholders, and therefore have no individuals to bear the financial risks.

⁴³ The analogy would be setting up an insurance company, such as Lloyds, without requiring that it be backed up by 'names'.

extremely large organisations, which will be discussed in the next section) is the patient co-payment. Thus, absent any other clear risk management and reinsurance provisions, inevitably patient co-payments will rise in order to meet the additional costs.

2.5.2.2 Co-Payments Become Insurance Premia

Unlike traditional individual risk-rated premiums, which are set using complex and detailed actuarial formulae, so that the premium income paid to the insurance company reflects the total costs of the services that the premium obligates the insurer to deliver, the capitation payments in the NZPCHS are subsidies towards what constitutes the complete, actuarially-determined income as outlined in equations (1) to (4) above. In typical insurance systems, the insurer would bill the insured individual the difference between the subsidy and the full premium. All individuals covered thus bear the costs. However, in the New Zealand system, the difference between the government contribution and the full actuarially-determined premium (if indeed this can be calculated) is recouped not directly from the individuals who enjoys insurance cover, but from the pool of individuals who fall ill, in direct proportion to the amount of service they consume. The New Zealand co-payment becomes an additional risk-rated premium levied on the patient, which penalises higher consumers of health care relative to lighter consumers, reducing the consumption of care by those who need it most. Care is relatively cheaper for light users, but relatively dearer for heavy users. The price to the patient reduces simply because the increase in the government subsidy by capitation increases. However, the cost of the care is higher than if the same amount of subsidy was applied direct to the patient as a welfare benefit for a fee-for-service payment pre-2001.

The severe penalty occurs because the patient co-payment in the NZPHCS is required to fulfil the role of both a premium top up, in the form of a patient contribution to the costs of operating the scheme, and its typical insurance role as a restraint upon moral hazard behaviour. Under the pre-2001 system, the patient co-payment had no insurance role whatsoever. Patient co-payment and subsidy together comprised the price paid under fee-for-service. However, under the NZPHCS, the random risk associated with patient health states previously managed centrally must now be managed by dispersed entities, likely at higher per capita cost, and moral hazard costs, previously met by all taxpayers, must now be met only by those who fall ill.

The problem of patient co-payments to providers becoming vehicles for reinsurance of financial risks is avoided in most government-funded capitation systems, such as that of England's PCTs, and even managed care systems such as those in the United States, simply because the patient

makes no co-payment when service is received⁴⁴. In the United States, risk-rated premia are collected directly from the individual. However, the New Zealand system contains no provision for a financial arrangement directly between the insurance company (the PHO) and the patient. The only mechanism for recouping the difference between costs and the subsidy is the patient co-payment levied by providers, who in most instances are general practitioners. The effect is that the government has shifted all risk that it would normally manage under an insurer-managed fee-for-service component of a mixed payment mechanism onto patients. The result is a transfer from patients who fall ill and pay co-payments to those who remain well, and therefore avoid having to make premium top-ups⁴⁵.

2.5.3 Increases in Total Costs of Health Care

It is inevitable that the total costs of primary health care in New Zealand for the equivalent level of health outcome enjoyed pre-NZPHCS will rise as a consequence of the change from individual self-insurance to the part government-funded insurance scheme.

2.5.3.1 Unit Size and Demand Volatility

The shift from a single, central pool to manage the demand volatility, even in respect of subsidised individuals under fee-for-service only, to a very much larger number of insurance companies (77 in December 2004, with an average of 48,000 members, but ranging in size from 3200 to 333,000 members – Appendix 4) will result in the substantially larger costs that smaller pools face in managing random risk from the varying health care demands of individuals. Small PHOs will be especially vulnerable. Already, there has been one high-profile collapse of a financially unviable PHO (Te Kupenga A Kahu – Meylan, 2005). Whilst it is difficult to discern if this failure was directly a consequence of excessively high demand and insufficient income or mismanagement of the capitation monies received, the combination of the move to insurance markets and an expectation that the NZPHCS will lead to lower co-payments to patients, especially in the higher-subsidised classes, means that PHOs coming under financial pressure from high demand simply from the volatility of the patient base, may find it difficult to raise co-payments sufficiently to cover the real costs of both instances of treatment and risk management.

⁴⁴ In the United States case, provided the service deliver is one of the ‘approved’ providers.

⁴⁵ A comparative summary of the risk types in the respective jurisdictions is contained in Appendix 2.

2.5.3.2 Prudential Monitoring and Insurance Market Regulation Costs

As insurance companies are charged with managing risk on behalf of individuals, and management of risk entails either the retention of funds or the purchase of reinsurance, stakeholders of the companies (e.g. shareholders, policy-holders) typically require the managers to provide independently verifiable assurances that that companies hold reserves or reinsurance contracts proportionate to the level of risk they carry. The difficulties of individuals acquiring information and the technical nature of determining the adequacy of the risk reserves and reinsurance contracts mean that this is often achieved by some form of specialist monitoring or regulation (e.g. state-legislated, or voluntary industry self-regulation). Monitoring mechanisms typically include mandatory reporting, external and internal audits to ensure the financial probity of the insurance company, and requirements to maintain specific levels of reserves and reinsurance contracts. This regulatory overhead of itself adds transaction costs to the system, over and above that which was required with the single government-controlled fund.

In the absence of any such financial regulatory system, it would be expected that self-interested insurers would be able to extract funds undetected and engage in faulty risk management procedures, likely at a larger cost than the costs of monitoring and regulation.

In the New Zealand case, there is no mandatory regulation to address the financial risk management of the system (save for the ability for DHBs to peruse the accounts of PHOs and express an opinion on the size of co-payments). There is no mandatory requirement for PHOs to become members of the self-regulating Insurance Council, even though other nonprofit medical insurers such as Southern Cross must belong. The strategy makes no mandatory requirement for funds to be retained in PHOs to meet year-to-year demand variations. Furthermore, the ability for DHBs to scrutinise risk management processes via audited accounts is limited to PHOs. The PHOs have no constraints placed upon their ability to pass financial risks onto other private for-profit providers, who are under no obligation to expose their financial records to public scrutiny or audits, let alone insurance market monitoring and regulation. Thus, the system provides no safeguards that the funds placed in these PHO insurance companies will be subject to the normal scrutiny of other insurance providers. Furthermore, neither can it provide any assurance that the PHOs or their subcontractors have funds available to meet any reasonable demands upon their services. Thus, all of the additional risk costs can be moved from providers onto patients, undetected.

Given the lack of prudential monitoring and regulation, it is not only feasible, but extremely likely that inadequate costly risk management practices (either deliberately fraudulent or arising

by chance) are occurring undetected within the nexus of PHO and service provider contracts. Considerable evidence exists that many PHOs are simply passing the bulk of capitation funds directly on to general practitioners, who are therefore the ultimate insurance companies (see Chapter 5 of this paper). The PHOs and general practitioners are not subject to disclosures under the Official Information Act 1982, as they are not government entities. Thus, they are substantially less accountable for risk management in relation to government funds than the Ministry of Health under the pre-NZPHCS system, or even the DHBs. Under the current system it may be impossible for accurate information to be obtained whereby the financial probity of any financial risk-bearing entity receiving government funds in the primary health sector can be examined.

If practitioner understanding of risk management processes amongst United States primary care physicians can be used as a guide, the NZPHCS is especially vulnerable to inadequate understanding of the risk management task amongst general practitioners. Anderson and Weller (1999) find more than 56% of practitioners with a capitated contract in a 1995 United States survey cited did not know if they had reinsurance contracts. This sample is from a population that has practised within a predominantly insurance-funded system since the 1930s. It is extremely unlikely that New Zealand, practitioners who have operated in a full fee-for-service, welfare benefit environment from the 1930s, with negligible interaction with insurance companies, would have any greater knowledge or understanding of the importance of reinsurance under capitation than their United States counterparts. Indeed, given the lack of attention given in the NZPHCS to the change to an insurance system, it is quite likely that New Zealand practitioner understanding of financial management under insurance schemes is lower than that in the United States.

2.5.3.3 The Nonprofit Constraint as an Alternative to Regulation

The inadequacy of the nonprofit assurance as an alternative to regulation is discussed above. The nonprofit status of PHOs provides no safeguard even against legitimate withdrawal of dividends given that PHOs are explicitly allowed to enter into contracts (including capitation contracts) with for-profit companies. The nonprofit assurance has also been offered in respect of English PCTs, although the assurance is equally impotent in that context since 2002, when contracting became permissible. Indeed, the mechanism that has probably offered most assurance against unrestrained shifting of risks in the English system is the absence of a patient co-payment. With no co-payment, the financial risks to which the providers are exposed by capitation cannot be shared directly with patients (except in the form of reduced service quality). Thus, capitation risks shared with providers remain the responsibility of providers,

with competition from other PCTs and the private sector reducing the extent to which providers can shift risks using service quality. As the NZPHCS specifically allows both subcontracting and patient co-payments to recoup the additional costs of inadequate risk management, the nonprofit status of PHOs is meaningless as an alternative to overt monitoring and financial regulation.

The 'nonprofit' imperative for PHOs may actually encourage ill-informed governors to manage the insurance risks inappropriately. The nonprofit imperative has been interpreted in at least one PHO (Capital – see Chapter 5) as a directive to distribute all monies received, and carry forward no funds whatsoever between years. The company thus retains no risk management funds whatsoever. The annual accounts of this PHO also show no reinsurance policies in the assets, and no liabilities in the form of loans to cover losses. This PHO 'manages' its risks simply by subcontracting them all to private sector providers – largely general practitioners – who can levy the additional costs in the form of patient co-payments. Furthermore, its annual report shows no prudential monitoring of the risk management activities of its subcontractors. Thus, the PHO is abrogating its insurance company responsibilities, with likely effects being higher risk management costs, just as the government (Ministry of Health and the DHBs) is abrogating its risk management responsibilities. Even without the risk of inappropriate expropriation of funds, the random and correlated risk management costs of this behaviour are significantly higher than if the PHO managed the risk across a much larger population. As the capitation risk is now managed by individual general practitioners, who on average have between 1200 and 1400 patients with at most 2000 in urban practices, and at most six or seven practitioners potentially sharing risks in group practices in urban locations, the size of the risk pool is now incredibly small, with consequent extreme income volatility risks to be managed. In a recent survey (Consumer, 2005⁴⁶) the co-payments charged by practitioners in the area served by Central PHO are amongst the largest in New Zealand.

2.5.3.4 Regulation to Ensure Service Quality

As the share of premium subsidies increases, the extent of the demand variation risk that PHOs and their subcontractors can share with patients as a group via the co-payment will be gradually reduced. Over time, if DHBs are successful at constraining the co-payments charged, PHOs and practitioners will face increased financial risks that they cannot subcontract. As capitation rates are set centrally by the government, and patient co-payments are subject to some limited regulation by DHBs, the element most able to be managed by PHOs in the event of costs being

⁴⁶<http://www.consumer.org.nz/topic.asp?category=Health&subcategory=Health%20services&docid=2142&topic=Gp%20fees%20survey&title=What%20we%20found&contenttype=general>
June 2005

greater than the average is service quality. Reducing service quality will reduce costs, and therefore reduce financial pressure. Indeed, reducing service quality is the most likely outcome of provider risk sharing systems (Danzon, 1997). Hence, mechanisms to ensure service quality does not fall below some benchmarked level are required (Danzon and Maclaine, 1994). Limited quality regulation is allowed for via the contracts with DHBs. However, this regulation adds an overhead cost that must be met. This cost was not present under the pre-NZPHCS system simply because the fee-for-service nature of the payment meant there was no downward pressure on the level of service quality (e.g. short consultations, long waiting times, unavailability of appointments) that could not be addressed by patient purchase preferences (switching to other providers).

2.5.3.5 Cashflow Risks from Deductions for Casual Visits

The NZPHCS allows fee-for-service deductions to be made from one practitioner to cover 'casual' visits made by registered patients to other practices. Perera, *et al.*, (2003) indicate that the effect can be as much as a 10% variation in quarterly cash flow for some practices. Whilst the practice enhances patient choice of practitioner, the concept of on the one hand sharing risks with providers as they can influence the costs, then exposing them to a risk entirely outside of their control, is hard to justify. Most managed care schemes limit these risks by restricting patients to seeking care only from a practitioner within the group, thereby internalising the risk. In England, PCTs own services of different forms (e.g. standard clinics, walk-in clinics) and have facilities in a wide range of locations to meet patient needs. Capitated insurance schemes generally require non-registered patients to pay the full cost of the service on delivery, leaving the patient to seek recompense from the usual company, thereby allowing cash flow to be managed.

The nature of the deduction practice (from general practitioner's accounts, not the PHO's) further highlights the absence of a direct customer relationship between the PHO as insurer and the insured patient, and offers further evidence of the extensive subcontracting of capitation risks by the PHO onto individual practitioners. Prudent risk management would probably see PHOs managing the deduction risk and contracting individual practitioners on a fee-for-service basis (albeit maybe on price and volume contracts) and specifying a range of providers from whom additional visits can be sought, as in the classical MCO model as in the United States.

The risk to practice cashflows also creates an additional adverse selection issue. Whilst the objectives of the system are to enrol the entire population, providers would actually be better off by not having transient patients (especially sick ones) on their registers, as they risk having

large deductions removed from their funding, making forward planning extremely problematic. Yet, transient, sick people are likely amongst the high priority, under-serviced groups that stand to benefit most from increased access to health care services (Sinclair, 2003:13). The deduction instrument is thus likely to result in these patients being serviced by providers outside of the NZPHCS (e.g. public hospital accident and emergency services), contrary to the objectives of the new system.

The presence of capitation payment and fee-for-service deductions creates a situation where, under some circumstances, it may be advantageous to practitioners not to register a new patient (e.g. one transferring from another area), but to treat the patient for a number of ‘casual’ appointments in order to establish the patient’s health state, and thus the risk that registration brings to the practice. As ‘casual’ appointments bring fee-for-service payment, as long as the fee meets the marginal cost of service provision, the practitioner servicing the patient faces no disincentive to treat the patient, as casual treatment incurs no long-term financial risk to the practice. Indeed, the practitioner faces a lower cost of service provision, simply because the casual treatment brings with it no future demand risk management obligations. The casual treatments allow the practitioner wishing to ‘cream-skim’ to build up sufficient information about the patient to know whether the patient is of lower or higher need than the practice average (screening is a special case of adverse selection, as per Rasmusen, 1989). If the patient proves to be of lower need than average, then an offer to join may be made. If the patient is of higher need, then no offer to join will be forthcoming.

Evidence exists that some practitioners in at least one area (Porirua), where there is a general practitioner shortage, are ‘closing the books’ to new patients, but continuing to treat unregistered individuals on a casual basis. Stevenson (2005) quotes a provider representative as saying unregistered patients “could try and enrol as a casual with a PHO, but the likelihood that they would be taken on is limited”. Whilst such behaviours limit the exposure to financial risk for the practitioner from treating the patient as a casual, the practitioner with whom the patient may be registered is exposed to significant additional risk, especially if the patient is high need. The result is an even greater financial risk in total to the health sector.

2.5.4 Distributional Consequences of Varying Capitation and Co-Payment Rates

The mixed capitation and patient co-payment system necessarily results in the additional costs of random, correlated, moral hazard and adverse selection risks being borne disproportionately by lower-subsidised high users. As the proportion of individuals in the population receiving

premium subsidies increases, and the size of the subsidies increases, as long as the limited price regulation processes overseen by the DHBs result in the expectation that increased subsidies will lead to dollar-for-dollar reductions in the co-payments of the newly-subsidised, the increasing residual risk costs of adverse selection and moral hazard will be increasingly borne by the smaller number of individuals with low premium subsidies, with heavy consumers bearing more of the costs than light users. Whilst ultimately, the objective may be to converge to the English situation where care is free to the patient, in the interim, whilst this transition is taking place, the full costs of adverse selection and moral hazard, and the additional costs of running a more costly risk management system that the NZPHCS invokes, will be borne by a successively smaller pool of individuals.

Already, the subsidy for over 64 year old individuals without a community services card, and children aged 6-18 years has been increased. Individuals aged 18-25 are scheduled to receive subsidy increases in the near future, followed by 45-64 year olds, and lastly 26-44 year olds. Total costs overall will rise, and prices for lower-subsidised individuals will likely increase, for no increase in health outcomes, with the inequity being especially marked for 26-44 year olds as other groups receive higher subsidies. As it is not mandatory for providers to restrict the co-payment reductions, providers may choose to spread the increased costs across all consumers, including the newly higher-subsidised ones. Thus it is not surprising that the Minister has found that the increases in subsidies for 6-18 year olds has not resulted in reductions in co-payments in direct proportion to the level of the increased subsidies (King, 2004:1). That the co-payments for the targeted group are higher than the new 'subsidy' had suggested they would be is simply a reflection of the fact that the risk management costs of the current system are positive, and that they are being shifted to consumers as there is no effective mechanisms in place to either allow or compel providers to manage these risks in any other manner than incorporating them into patient co-payments. This evidence also suggests that the oversight by DHBs of co-payment levels is in practice a weak regulatory mechanism. That co-payments for both high- and low-subsidised classes have risen since the advent of the Strategy, despite significant increases in subsidy levels (Consumer, 2005) indicates that there is considerable cross-subsidisation of the risks occurring between premium classes. Indeed, given the insurance nature of the system, and the lack of sensitivity of subsidies and fixed co-payments to actual risks, any other finding would be quite remarkable.

Evidence is also emerging of the different amounts of risk that are being borne by providers with different subsidy bases, and that the different levels of risk are being shared directly with patients. Under 'mixed' capitation schemes, the higher the level of the capitation fee, the more

risk the provider bears and the less the co-paying party bears. If the provider faces limitations to sharing risks, (for example, greater expectations that the higher capitation in will lead to lower co-payments), then it would be expected that, all other things being equal, the amount of risk shared with patients will be greater in the (generally) lower-subsidised Interim PHO practices than in the (generally) higher-subsidised Access PHO practices. If the additional risk costs are shared across all patient groups, then the co-payments charged to identically-subsidised⁴⁷ patients of Interim PHO practices will be greater than those of Access PHO practices, simply because the amount of risk that attends the fee-for-service co-payment for the other lower-subsidised classes in Interim PHO practices is higher compared to Access PHO practices.

Consumer (2005) provides evidence of higher-capitated Access PHOs charging lower co-payments than lower-capitated Interim PHOs, even for classes of patient who are subsidised at the same level, presumably because of the higher risk management costs faced by the lower-capitated practices:

“According to the survey, 58 percent of Access PHO GPs are charging more than \$20 for a patient over 65, compared to 93 percent of Interim PHO GPs - yet both collect a \$26 subsidy. Likewise, 26 percent of Access PHO GPs are charging over \$20 for a patient aged between six and 17 years, compared to 66 percent of Interim PHO GPs - each collecting a \$26 subsidy. However, only one percent of Access PHO GPs and two percent of Interim PHO GPs are charging more than \$20 for a visit by a child under six, which attracts a subsidy of \$36.40.”⁴⁸ (Consumer, 2005).

Independent Practitioners Association chief executive Victor Klap attributes the higher charges directly to the increased financial risk that practitioners are bearing. Yet, the charges indicate that through the co-payments it is the patients, not the practitioners, who are underwriting the increased financial risk, with the patients of Interim PHO-funded practices bearing a greater share of the risk than the patients of Access-funded practices. This is exactly what the risk management theory would predict should occur under the risk management arrangements of the Strategy.

This finding also draws into question the efficacy of the population demographic formulae used for setting the capitation subsidies. If the proxy was perfect, there would be no difference in the random financial risk faced by Interim and Access PHO practices, once the capitation payments had been made according to the higher levels of risk that (presumably) attaches to the demands

⁴⁷ Note that subsidies for individuals over 64 years and under 6 years are identical in Interim and Access PHO practices.

⁴⁸ <http://www.consumer.org.nz/topic.asp?category=Health&subcategory=Health%20services&docid=2142&topic=Gp%20fees%20survey&title=What%20we%20found&contenttype=general>

of Access PHO individuals. However, if the random demand risks of Access PHO individuals are not substantially different from those of Interim PHO individuals, yet the funding for Access PHO individuals is greater, Access PHO practices will have larger buffers to manage the demand variations than Interim PHO practices that must rely upon patient co-payments to recover more of the costs of demand variations. The same effect will occur if adverse selection has reduced the risks for Access PHO practices, but raised them for Interim PHO practices. The risk management costs of Interim PHO practices that must be shared with patients are greater, leading to Interim PHO co-payments being higher than Access PHO co-payments.

Consistent with the findings of Anderson and Weller (1999), Newhouse (1996) and others that demographic indicators are poor proxies for health care demand compared to an individual's past consumption, correlated demand from specific individuals would pose additional risks to practices, with the cost being greater to those with low risk management budgets from lower capitation subsidies. Notwithstanding the fact that the Interim PHO co-payments reflect the additional costs associated with cross-subsidising increases in co-payments for lower-capitated individuals and adverse selection may be present, the differences in co-payment for identically-subsidised classes between Access and Interim PHO practices found by Consumer (2005) are large. This suggests that the population-based funding proxies on which the differences in funding between Interim and Access practices are based may not necessarily be good predictors of individual demands upon individual practitioners. This is quite likely given that the objective of the NZPHCS was to increase *access* to primary health care services by specified groups, rather than specifically addressing the actual *utilisation* costs relative to the probabilities of different groups consuming different quantities of care, and individuals within each group consuming more or less care relative to other individuals.

2.5.4.1 Insurance Markets and Adverse Selection Costs

Prior to the NZPHCS, there was no overt insurance mechanism in New Zealand government-funded primary health care, and no adverse selection problem in either subsidy or health service provision markets. However, the NZPHCS sets up inevitable adverse selection incentives for providers, based upon patient health state, through the risk-sharing instrument of capitation. As outlined earlier in this section, there are very strong incentives for informed providers to 'cream-skim' in order to minimise costs, and maximise income, with risk-averse providers 'closing the books' to new patients once it becomes apparent that adding new patients to the list will on average raise marginal costs more than the marginal revenue that the patients bring. These providers will then engage in screening to ensure that only patients with risk profiles lower than the practice average are signed up. This will be especially likely to occur in areas

where existing suppliers have some market power, for example where there is a supply shortage. The consequence is that those individuals most in need of treatment will be least likely to get it. This will lead to reductions in health states for needy individuals. Adverse selection is also more likely to occur where there are differences in subsidy rates.

The NZPHCS contains elements that go towards maximising the likelihood of adverse selection occurring. Differences between Interim and Access PHO funding bases mean that adverse selection will be especially extreme in the higher-funded Access PHO areas, where healthy, low-cost, but highly capitated individuals will be highly sought after, at the expense of sick, high cost individuals. Once all of the 'low cost' Access PHO individuals have been 'picked', there is no incentive for 'cream-skimming' Access PHO practices to actively recruit new members. They will 'close the books' on their low-risk pool. Yet in order to manage the higher risks of the remainder of the population, the remaining Access and Interim PHO providers need to have very large pools to avoid very large levels of income volatility.

The result is likely to be a large number of small, low-risk, low-cost PHOs who have 'cream-skimmed' the 'desirable' patients, and a small number of large, higher risk, higher cost PHOs to serve the remainder. The rewards from 'cream-skimming' are greater in Access PHO practices than Interim PHO, as the payments for well Access PHO individuals are higher than for well Interim PHO individuals, so the practice is likely to be more pronounced in Access-funded areas. As they have higher costs, the large PHOs will charge larger co-payments than if adverse selection had not occurred. The Consumer survey findings may also be an indication that some Access PHOs have responded to the stronger incentives to 'cream-skin', resulting in lower costs than the Interim PHO providers, who consequently may have a disproportionate number of less healthy individuals 'on the books'. The consequence is that the sick, high cost individuals whose health state will benefit most from treatment, and are the target group for reducing inequalities, will most likely end up as patients of the larger, higher cost PHOs, paying higher co-payments, or not seeking care at all as it is too expensive, contrary to the Strategy's objective of reducing the effect of cost as a barrier to accessing health services.

As long as it does not threaten their population base as a high-need entity that gives access to higher subsidies (50% of registered individuals declaring Maori or Pacific Island ethnicity, or living in New Zealand Deprivation Index 9 or 10 areas), Access PHOs may even find it desirable to recruit low cost, low risk individuals from nearby Interim PHO areas onto the

books⁴⁹. The cost to the system increases, as these individuals would otherwise attract lower Interim PHO subsidies, but simply due to the nature of the entity registering them, they attract the higher Access PHO subsidy. The ‘poaching’ of low cost low risk Interim PHO patients by Access PHO practices increases the risk costs and hence the co-payments for the Interim PHO practices over what would have prevailed without adverse selection. In this case, it is sick wealthier patients who may forego care, with consequently lower health outcomes. Furthermore, if higher-cost PHOs have to charge higher co-payments, low-cost providers may be able to charge prices higher than cost, effectively raising costs even to the low-risk groups.

Appendix 4 shows that active adverse selection behaviours under the NZPHCS, practiced to a greater extent in Access PHO funded areas, cannot be excluded. The average number of patients in Access PHOs is 19,000, with a range between 3200 and 75,000. The average number of patients in Interim PHO practices is 53,000, with a range between 11,500 and 333,000. The median number of patients in Access PHOs is 58% of the average number of patients in Access PHOs, indicating a large number of small Access PHOs and a small number of large ones have emerged. The graphs in Appendix 4 show that there are proportionately more small Access PHOs than small Interim PHOs.

The average number of PHOs in DHB areas funded mostly by Access PHO formulae is 4.6, whereas the average in Interim PHO-funded areas is 3.2. Whilst not evidence of adverse selection being practiced, these findings are consistent with adverse selection occurring, given the differences in funding regimes. There is also evidence of practices in areas where there are shortages of general practitioners ‘closing the books’ (MacDonald, 2005b). This would be consistent with the presence of adverse selection and unequal risk distribution, as practices facing new custom bringing only the practice average level of risk would have no incentive to engage in such behaviours. Interestingly, one of the areas MacDonald identifies is a high capitation Access PHO area (Porirua) whilst the other is a low capitation area, but one where the population of likely high need elderly patients is significantly greater than the national average (Kapiti) (Kapiti PHO, 2004:7). The elderly population group is one where subsidies have increased and decreased co-payment expectations have been especially prevalent, so the Kapiti response may exhibit not the simple ‘cream-skimming’ of healthy individuals, but the deliberate avoidance of registering a high cost newly higher-subsidised group that will bring with it significant income uncertainties given the mismatch between the subsidies and real risks.

⁴⁹ Although there is a rudimentary check on the location of residential addresses undertaken by HealthPac, the information about the address given is not easily verifiable. Furthermore, as it is the
June 2005

Further evidence of the presence of active adverse selection and screening in the presence of fee-for-service deductions for casual visits is provided by Stevenson (2005) *op.cit.*

Hefford, Crampton and Foley (2005:17) show that 41% of registered individuals in Access PHOs do not meet the Access PHO deprivation criteria. Given that the maximum possible percentage of such individuals that a practice must maintain to receive the higher funding is 50%, this would suggest that there is significant patient ‘selecting’ occurring within Access PHO practices. If the Access PHO criteria are good proxies for demand, then Access PHO practices are receiving significantly more funds than they require to manage the health care demand risks of their populations, relative to the Interim PHO practices. If the proxies are poor, then the gains from adverse selection within Access PHO practices stand to be even greater than if the proxies are good, as funding status is largely independent of actual health risks. Hefford, Crampton and Foley’s (2005) figures also draw into question whether the entity upon which the premium subsidy size is determined should be the individual or the PHO, given the significant evidence of ‘selecting’ that is occurring of non-targeted individuals in Access PHOs. Assuming the proxy is good, if funding was attached to the individuals, then the Interim PHOs, whose registered population base is 18% ‘deprived’, would not be required to bear extra risks for no additional funding, whilst the Access PHO practices would not be ‘over-funded’, and the incentives for Access PHOs to ‘cream-skim’ healthy Interim PHO individuals would be reduced.

Whatever the reasons underpinning adverse selection, the demographic groups facing disadvantage from adverse selection are the needy individuals whom the strategy is designed to help.

2.5.4.2 Adverse Selection and PHO Governance

It is noted that the Strategy’s requirement that service providers be part of the PHO decision-making, and service providers’ patient lists make up the base upon which PHO funding is based, means that those with the best possible knowledge to practice adverse selection are necessarily part of the governance of PHOs. The informational advantage that practitioners bring, especially in respect of the real risks, rather than just the statistical averages of their population bases, make it easier for practitioners to know firstly when to close the books, and secondly, who to selectively ‘discourage’ from seeking registration. Such information and power held by practitioners does not benefit individuals, and again leads to the most costly being the first to be discriminated against. The practitioners individually managing the lists and

collectively managing the PHO can therefore decide which practitioners to admit and who to exclude from the PHO, on the basis of patient list risk, in order to maximise the income of the PHO. This may further exacerbate the imbalance between small, low-risk PHOs and large, high-risk ones. These issues will be further discussed in Chapter 3.

2.6 Responses to Risk Management Costs of the New Zealand Strategy

In summary, the NZPHCS sets up a partially state-subsidised universal insurance system covering all individuals, with risk-rated premium subsidies based upon a variety of age, ethnicity, health need and deprivation indicators, whilst recovering the balance of the funds from consumers in a part user-pays system, with the result being that the user-pays component, whilst reflecting the level of risk that an individual brings to the scheme, disproportionately allocates the additional costs of the risks of the insurance system. Lower-subsidised heavy users pay proportionately more of the costs of the risks of the insurance system than their higher-subsidised, and low-use counterparts.

Relative to the pre-NZPHCS system, the additional costs of risk management will be significant. The financial cost of the system will inevitably rise. The cost pressure will be created first in PHOs with demand in excess of the capitation averages, as their costs will be higher than average, but their incomes substantially more fixed. Cost pressure arises from demand pressure driven principally by single high-subsidy, low capitation individuals seeking repeated instances of care above the average, as health care costs are driven principally by a small number of very heavy consumers (Anderson and Weller, 1999). Providers who are exposed to this pressure, but are constrained in their ability to raise co-payments for this class, will seek capitation rises for this class of consumer. In the interim, to maintain cash flows, they will increase co-payments for the balance of consumers for whom rises may still be feasible.

Thus, it is not surprising that, less than two years into the operation of the new system, capitation increases for heavy consumers, in the form of Care Plus have been introduced. Whilst Care Plus claims to address the additional risks brought by chronically ill individuals, it is applied using the same population-based criteria that attends capitation, and applies to all practices, not just those with disproportionate numbers of high-risk, high cost individuals ‘on the books’. Its application thus bears no relationship to the individual risk that specific individuals bring. This might not be helpful if the proxies used to distribute capitation funding are not especially good predictors of individual need, as suggested by Newhouse (1996) and Anderson and Weller (1999). Care Plus might simply result in more money being distributed to

PHOs with a lower-than-average risk profile, whilst those with higher-than-average risk profiles are still left with shortfalls.

The introduction of Care Plus might also be interpreted as evidence that practitioners are also already financially stressed due to the increased costs of financial risk management, and their inability to use previous user-pays relationships between the service delivery costs, subsidies and co-payments to set co-payments in an environment that must account for the prospective costs and risks of patients who are not consuming services in addition to those who are. Again, this is consistent with the proposition that, relative to the previous system, the current one will be more costly, for the same level of output, measured in the number of consultations provided.

As the costs are substantially greater, by the propositions in the commencement of this section, then the benefits must be substantial in terms of the objectives of the strategy if the change is to be justified. Yet, the NZPHCS, at least in financial risk management elements, specifically disadvantages some of the targeted groups. Those with already poor health states will not necessarily enjoy lower co-payments, especially if they are aged between 25 and 44, and live in an Interim PHO-funded area. Indeed, these patients may face sufficiently large increases in costs that they consume less care than is optimal. Even higher-subsidised patients of Interim PHO practices may face higher co-payments than identically-subsidised patients in Access PHO practices as providers seek to spread the higher costs more evenly over the total patient base of the practice. Furthermore, less healthy patients, even in Access PHOs, may well pay higher co-payments than their healthier counterparts, simply because the better-informed practitioners may be able to 'cream-skim'. Thus, in 'like' areas, less healthy individuals face a relatively greater disincentive to consume services than the generally more healthy ones. At worst, especially in areas where practitioners are in short supply, these patients may be left without access to care in the form of the ongoing relationship between practitioner and patient that the strategy envisages as the 'ideal' way of maintaining wellness in individuals rather than simply treating incidences of illness. These are relative disincentives to access to care and the removal of health inequalities as a result of the Strategy that did not exist in the previous system.

As there appear to be no financial risk management benefits, and substantial additional costs from the strategy, then the benefits from service co-ordination, primary health care workforce development and improved information must necessarily be large if these additional costs are to be offset.

3. Competition Implications of the Primary Health Strategy

“Where reinsurance is feasible, competing systems that integrate both insurance and health care delivery functions offer the best prospects for efficient trade-off between the twin goals of efficient risk-spreading and control of excessive use” (Danzon and Maclaine, 1994: 81).

As shown in Chapter 2, the design of efficient health systems embodies trade-offs between individuals, insurance schemes and providers in respect of the amount of risk that each should bear, and the instruments via which that risk should be shared. Danzon and Maclaine (1994: 81), based upon an analysis of many systems, suggest that whilst governments may assist in the subsidisation of premia in order to ensure that insurance coverage is universal and affordable, the most efficient systems have “competition in the provision of insurance and medical care, in order to stimulate efficiency and provider responses to consumer preferences”.

This chapter explores the key competition issues raised by the NZPHCS. Firstly, the incentives to merge to manage financial risk and the consequences this may have upon competitive behaviour and innovation are discussed, and placed in the context of the boundaries of socially-acceptable competitive behaviours expressed in the competition laws of a jurisdiction. The design of the NZPHCS is then examined and empirical evidence offered of the competitive behaviour of market participants that has been observed emerged as a consequence of the strategy. Finally, an assessment is made of the likely and observed effects of the regulatory provisions of the NZPHCS upon the behaviours of market participants and the efficiency of the system.

3.1 Background

By their nature, capitation schemes pose a challenge to competition in both the insurance and medical care markets. Capitation contracts effectively merge the two markets, and if that happens, competition occurs between merged ‘insurer-providers’. The insurer-providers still compete with specialist providers of solely insurance products and specialist providers of solely health care services.

Whilst competition between providers of health care under fee-for-service contracts in the health care services market is undertaken between a large number of small providers (often individual general practitioners in sole practice), the imperatives of the capitation contract necessitate capitated providers managing risks, the costs of which are reduced by providers pooling their risks together. Devolving risk management from a small number of large central

insurers to a larger number of smaller insurer-providers increases competition in the markets for insurance, but at the cost of risk management. Without markets for reinsurance of the risks, there is an imperative in capitated markets for provider-insurers to merge in order to re-create more risk-efficient entities, perhaps incidentally reducing insurance competition whilst simultaneously reducing competition in the markets for health care services.

Where there are active reinsurance markets and competition for capitated providers in the form of specialist health care service providers and specialist insurers, reduction in competition between capitated providers of health care need not be a problem. Reinsurance providers can achieve the same effects as a single entity by underwriting the risks of many smaller providers, without the need for insurer-providers to merge, thereby allowing competition between smaller insurer-providers to continue. Competition from other providers results in limits being placed upon the survival abilities of capitated providers who are less efficient than the separate, but contractually-linked, insurance and service delivery providers. However, if competition is limited and reinsurance markets are absent or immature, a move towards capitation contracts will very likely result in reduced competition in the markets for health service provision.

Firstly, without adequate reinsurance arrangements, capitation contracts that initially result in an increase in the number of insurance-providing service provider entities will be accompanied by mergers between previously competing service providers, simply to manage the additional risks to which they have become exposed. Kastor (2003), and Dranove, Simon and White (2002) provide United States evidence of increases in service provider merger activity following the introduction of managed care. Burns and Pauly (2002) also offer evidence of vertical mergers occurring between hospitals, physicians and health plans as well horizontal mergers between entities producing similar products (e.g. physicians' networks). Whilst these mergers may have occurred for other reasons, the need to merge in order to manage the new risks is consistent with the behaviour the literature reports.

Secondly, as mergers may lead to reduction in competition between previously competing providers, a new trade-off is introduced. The new trade-off is between the increase in risk management efficiency from the merger, and any decreases in efficiency that arise as a consequence of a merger that would not have occurred absent the capitation contracts. These decreases in efficiency may arise from the introduction of new diseconomies of scale as well as consequences of reduction in competition in service provider markets.

Whilst it is recognised that there are potentially efficiency gains from merger activity aside from risk management in the markets for health service provision (e.g. economies of scale from

specialised production, improved co-ordination and spreading of fixed costs across larger numbers of patients), if these benefits were present and the benefits accrued to the owners of the providing firms, the mergers would occur irrespective of the presence of capitation contracts⁵⁰. If the mergers occur solely because of the introduction of capitation contracts, then it can be deduced that they are occurring simply to pool risk, and that mergers for this reason alone will likely be associated with diseconomies in health service provision simply because there is no economic justification for service provision mergers.

Robinson (2004), Burns and Pauly (2002) and Bazzoli, Dynan and Burns (2000) all find evidence of merged managed care entities failing to deliver any productive efficiency gains in respect of their health care products. Burns and Pauly (2002:130) suggest that the failures of some managed care entities may be a result of the “lack of expertise in actuarial science (poor pricing of risk)” contributing to merger activity that did not account for the “limits on the production side to efficient combinations”. Unless the design of health care systems takes cognisance of balancing the competing tensions between the risk-related requirements for mergers and the costs from reduction in competition that these mergers also invoke, the system may be more costly than necessary.

As insurer-providers merge to meet the needs of risk management markets, they may become sufficiently large that they gain market power in the markets for health service provision, even though they may still face competition in the markets for insurance provision. This problem is more likely to arise in small markets with already limited competition. Such market power may allow the insurer-providers the ability to set prices (to both capitation payers and co-payers, whether they are patients or third-party patient agents) thereby potentially earning higher profits and determining the quality of service provided and reducing the incentives to innovate to create new products and services. Reduction in competition may also reduce the incentives for providers to act in cost-conscious ways, leading to increases in the cost of service provision and loss of information about the costs of providing services that would be more easily obtainable in the presence of vibrant competition. Reduction in competition may make it easier for providers to collude, tacitly or otherwise, on issues such as price, quality and information availability.

⁵⁰ It is noted that these effects need not necessarily be achieved only through physical mergers. The same benefits may be achieved using contracts. Also it is possible that there may be externalities that mean mergers may not result in the benefits accruing to service providers, therefore they do not occur.

3.2 Competition Laws and Reduction of Competition

Most countries have competition laws, based upon the premise that competition enhances efficiency, which place limits upon the ability for suppliers of goods and services to merge. Mergers examined against these laws test whether the merger is within the boundaries that society has deemed sufficient to constitute an acceptable balance of competition and is therefore permitted, or whether the merger lies outside the boundaries enshrined in statute and is therefore deemed likely to be detrimental and should not be allowed to proceed without further consideration of the detailed costs and benefits. Whilst the actual test may vary somewhat between countries, typically an independent body assesses the available evidence to determine whether a proposed merger falling outside the acceptable boundaries will result in benefits in excess of the costs. A test applied to the merger of health provider-insurers would require the independent entity to be satisfied that the risk-reduction costs in the insurance market exceed the diseconomies arising from the merger in the health services market, plus the costs of any possible increase in market power in that market.

For example, section 47 of New Zealand's Commerce Act 1986, as amended by the Commerce Amendment Act 2001, prohibits:

“the acquisition of assets of a business or shares if the acquisition would have, or would be likely to have, the effect of substantially lessening competition in a market”.

The Commerce Commission expects to be consulted and be allowed to apply the net benefit test in relation to mergers where:

“the three-firm concentration ratio in the relevant market is below 70 percent and the market share of the combined entity is less than the order of a 40 percent share; or the three-firm concentration ratio in the relevant market is above 70 percent and the market share of the combined entity is less than the order of 20 percent” (Commerce Commission, 2004:25).

The merger need not necessarily require a total integration of the assets of two legal entities under a common owner to draw the attention of the competition authorities. If the same effect as a merger can be achieved by contractual agreements, or even by informal collaboration⁵¹, then the same limits to competition resulting from an ownership-based merger would arise from the contractual association. Sections 27-30 of New Zealand's Commerce Act 1986, prohibiting contracts, covenants arrangements or understandings that substantially reduce competition provide an example of such restraints.

⁵¹ For example, exclusive dealing contracts.
June 2005

From a performance standpoint, therefore, it is useful to assess how any move towards capitation contracts will affect the markets for service provision against the statutorily-specified test of competition. The balance of this chapter examines the interactions between the markets for insurance provision, and the consequences that they will have upon competition in the markets for health service provision. The examination finds that, without other provisions for financial risk management and any overt moral hazard behaviours by providers, the optimal size for a capitated practice may be quite large. Strong incentives exist for practices to merge to manage risks. Even if the incentives to merge were not present, the NZPHCS's requirement that PHOs be formed from collectives of existing providers means that practices will be operating together as quasi-merged entities by contract, even if they remain legally separate. The potential reduction in competition is significant and may be of concern, particularly if it is reduced below the point that society as deemed is the boundary of acceptable levels of competition, as enshrined in statutes.

3.2.1 Risk Management, Mergers and Competition

The typical justification given for sharing the financial risks of health insurance markets with providers is to incentivise them to constrain the moral hazard costs of service provision in a considered way. However, exposing providers to financial risks alters their behaviour. Whilst on one hand, the cost- and risk-shifting provides an incentive for providers to innovate and find new, lower-cost ways of providing services, at the same time it also incentivises providers to find other ways of reducing costs and risks, such as active adverse selection of the patient base, reduction in service quality and mergers to pool the risks amongst a bigger patient base, thereby reducing competition in the markets for service provision. These cost and risk management strategies are not mutually exclusive. Indeed, it would be expected that a number of them complement each other. Their interaction creates new consequences.

3.2.1 Mergers and Random Risk Management Under Capitation

Typically, small capitated insurer-providers face strong incentives to manage their risks by merging. If the ability to merge is constrained (for example, by population size, by geographic or ethnicity considerations, or by the design of the scheme), then it may not be feasible to form provider-insurers of the optimum size. Whilst the benefits of merging to manage risk may exist, they will be less than if merging can occur across larger or more diverse populations. Moreover, if the geographic constraint means that the size of the pool is constrained at a number smaller than the optimum for random risk management, then the risk management costs

of the pool will be necessarily higher than if the restriction did not exist. For example, local regions may experience an epidemic that is not experienced in other locations. If practices in the affected region can share risks with practices in non-affected regions, then the costs of risk management are less, simply because larger and more diverse patient pools can be formed. Constraining mergers on geographic bases will not provide adequately diversified cover for exogenous events such as epidemics if the epidemic affects the entire region. The analogy would be forcing reinsurance of risk in an earthquake-prone region to be constrained to investments in the region that is already at risk.

3.2.2 Adverse Selection and the Incentives to Merge

If, however, the risks of patient health demands are correlated, and providers have information that allows them to determine the risk type of specific members, then as shown in chapter 2, providers may be able to manage the costs of risk by engaging in selection behaviour. Such behaviour affects the incentives to merge. A provider who has successfully ‘cream-skimmed’ a low-cost, low-risk member base has ‘managed’ the risk cost, so faces no incentive to merge for this reason. Unless the provider can be certain that the provider with whom the merger will occur has a member risk profile that is the same or lower-cost, then there is no advantage to merging, as the merger will raise the average cost of the provider, and reduce the ability to make profits.

3.2.2.1 Incentives and Risk Profiles

Providers who are the ‘victims’ of ‘cream-skimming’, in that they have member risk profiles higher than the population average, face an even stronger incentive to merge than under the counterfactual of no adverse selection, as their risks are higher. Yet even these providers face no incentive to merge with providers whose risk profile they know is higher than their own. Thus, mergers, if they are to occur, will occur between providers of like member risk type.

However, as the incentives to merge are greater for the victims of cream-skimming than the beneficiaries, and information about the exact risk types of individual pools is not perfect, there is likely to be a different pattern of merger behaviour between low-cost and high-cost groups. Mergers in the high-cost provider groups are more likely than mergers between providers in the low-cost groups, as low-cost ‘cream-skimmers’ face a strong incentive to ‘close the books’ to both new patients and potential mergers when they are reasonably confident that their risk profile is lower than the average for which they are being funded, whilst high-cost providers will continually seek ways in which they can reduce their costs, including mergers with

providers with uncertain risk profiles that are likely to be similar to their own. The result in the presence of ‘cream-skimming’ is, at best, mergers between like-subsidised groups, with a bias towards more mergers in the high-cost, high-risk groups. As adverse selection leads to unequal group sizes in the first place, the result may be a large number of small, low-risk, low-cost providers who have successfully cream-skimmed, and a small number of large, high-cost providers, made up from the rest, who face stronger incentives to merge to manage their higher risk profiles.

The ownership form of the entities may also affect the incentives to engage in selection behaviour and mergers. Low-risk, low-cost patient pools are most profitable, so will be most attractive to investor-owners. Higher-risk pools are less profitable, and less attractive to investor-owners. Thus, high-risk pools are more likely to be owned by nonprofit organisations, for whom the level of return on investment is less important, whilst low-risk pools are more likely to be in private ownership. Private owners who receive the returns from risk management cost reduction thus face relatively stronger incentives to engage in selection behaviour, and if they have engaged in such behaviour will be reluctant to merge with providers of unknown risk profiles. Even if they have not actively engaged in selection behaviour, if they know that their risk profile is lower than the average they will face few incentives to merge and put their higher profits at risk. Conversely, higher-risk pools face greater incentives to merge, and if they are owned by nonprofit entities may be less concerned about the effects upon profitability from merging with pools of unknown risk profile. Hence, there may be a tendency for a pattern of a large number of small, privately-owned providers and a few large nonprofit providers to evolve, with separation between low-risk individuals, who are served largely by the private providers, and high-risk individuals serviced predominantly by nonprofit providers, as has emerged in the United States.

Ultimately, one very large provider may evolve, with higher risks than the average, whose costs become the benchmark upon which capitation prices are based, and a number of smaller, low-cost, low-risk providers. So long as this behaviour does not induce competition in the form of providers who choose to eschew the subsidised system entirely, the large provider has market power, so has the ability to set the base quality level in the market.

3.2.2.2 Mixed Capitation, Co-Payment Price-Setting and Incentives to Merge

Mixed capitation contracts where the capitation payment and corresponding patient co-payment varies between provider groups will also result in the similar merger-related effects as adverse selection, even if adverse selection does not occur, especially if the proxy by which the funding

difference is calculated is a poor proxy for actual incidence of costs, and the ability for providers to set co-payments is constrained.

Assuming that the actual risks faced by each group are not substantially different, which would be the case if the proxy for setting different capitation rates was not a good predictor of a given individual's likelihood to consume health care, the difference in capitation payments results in the creation of two distinct provider groups. Both groups face approximately the same demand from their patient bases, but one receives substantially higher capitation revenue, so has larger cash buffers from which to meet demand variation. The lower-subsidised providers have smaller buffers to meet the same level of demand variation, and therefore face higher costs of risk management. If providers cannot shift the additional costs of risk management onto patients in the form of higher co-payments, the incentives for low-subsidised providers to merge in order to better manage the demand variation are greater than the incentives for high-subsidised providers, given the higher risk management costs. If providers can charge co-payments to recover the additional costs, however, there are no significant incentives to merge in either subsidy group, as the firms will likely look to shifting the additional costs onto patients as the first recourse to managing the risk. Thus, the potential reductions in competition from mergers in mixed capitation environments may be less when providers are free to set the level of the co-payments. However, the costs to patients in these contexts will be greater, as they now bear the additional risk costs.

3.2.3 Service Quality, Mergers and Contractual Alliances

In the absence of reinsurance markets, if mergers do not provide a satisfactory means of managing the additional risk costs under capitation, the likelihood of providers responding to the higher costs of financial risk management by reducing service quality is increased. Such responses are also more likely to occur in systems where raising the price or co-payment is difficult (e.g. due to political imperatives or the presence of price regulations). Indirectly, these responses lead to increases in the incentives if not to merge, then at least to collaborate contractually in respect of the higher managerial overheads that capitated schemes entail.

As the proclivity for quality reduction in capitated markets is well known, capitation schemes are typically accompanied by stringent quality requirements. Danzon and Furukawa (2001: 196) note that “many administrative functions are designed not only to pay providers, but also to control moral hazard and monitor the quality of care”. Whilst these provisions “add administrative cost, ... that is usually offset by lower costs of care, attributable to lower prices

or fewer expensive services, and less financial risk to patients”. It is notable that Danzon and Furukawa, writing in the United States context, see reduction in service quality as a desirable objective of the introduction of capitation schemes in that market, where over-consumption of high cost treatments is one of the most significant risks to be managed. In the New Zealand market, however, the objective is to increase quality, defined as the range of services offered, in line with Gravelle’s (1999) findings in the English market. Indeed, some of the additional resources applied in the New Zealand market have been made with the specific expectation that they will lead to increases in service quality.

Capitation schemes thus add an administrative overhead that is not present in fee-for-service schemes, simply in order to monitor the level of quality to ensure that it does not fall below acceptable levels. As the additional administrative overhead must also be funded from capitation and co-payment income, but administrative costs are largely fixed, the average administrative cost per patient rises as practice size decreases. This serves to make merger activity between provider practices more desirable, irrespective of any incentives to merge for risk management purposes⁵². In the New Zealand context, this is illustrated by Jordan, McCardle and Norgrove (2004:72), who suggest that on the basis of management costs alone (that is, no risk management costs included at all), a break-even member number of 34,000 is required at the 1 July 2004 capitation rates for small PHOs (less than 20,000) and a break-even number of 89,000 for medium PHOs (50,00-70,000 members). These findings suggest that, despite the different management capitation payments for PHOs of different sizes, the unsubsidised management cost per member is around 50% higher in small PHOs than in medium-sized PHOs.

Thus, under capitation contracting, the high-risk, high-cost, low-capitated practices face greatest pressure to merge. Where there are surpluses in the low-cost, low-risk practices, there may be buffers to allow a small provider to remain financially viable, albeit to the point that the average cost rises to the point where all profits are eliminated. The likelihood of a single large provider emerging for administrative cost reasons alone in the high-cost, high-risk segment of the market is significant.

⁵² It is noted that the incentives to merge that arise from increased administrative costs are a direct consequence of the insurance/risk-sharing nature of capitation. Thus, they are independent of any of the incentives to merge for purely service delivery-related reasons, which may or may not have occurred irrespective of the move to capitation (for example, joint service delivery developments designed under contract by providers receiving fee-for-service payment). Thus, whilst mergers for scale economies in service delivery will occur irrespective of the funding contracts, mergers for managing the additional administrative costs more efficiently will occur simply

However, providers need not necessarily merge their patient pools in order to obtain the benefits of mergers for administrative cost reasons. Providers can contractually collaborate to share their administration costs by jointly contracting a separate management company to undertake administrative functions, co-ordinate contracting with capitating bodies, monitor and enforce quality standards and develop new products and services, but retain their patient pools separately. In these circumstances, successful ‘cream-skimmers’ can continue to reap the benefits of their low-risk member pools, and still share the lower per-member administration costs not just with the managers of pools of like risk type, but with the managers of pools with high costs as well. The average per member administrative overhead is the same for all collaborating pools, but the risk management overhead per member is conditional upon each pool’s own risks.

At the extreme, all providers may collaborate for the purposes of reducing management overheads, but customise the management of their own risks by selectively merging and shifting risks onto patients as the scheme allows. The returns to providers for this behaviour are greatest in an environment where the co-payment charge is set by the providers and levied on patients. The providers can gain all of the cost-reduction benefits of sharing administrative tasks, but bear none of the additional risk management costs of capitation (typically managed by merging for risk management purposes), by passing the risk management costs directly onto patients. The risk is managed at least possible cost (greatest profit) to the provider, whilst the risk management costs to the patient are very high, as the providers face no incentives to merge for risk management purposes, simply because they are not exposed to any patient demand variation risks.

3.2.4 Mergers, Contractual Collaboration, Competition and Innovation

Collaborative contracting reduces the level of competition between providers in the service provision market. If the collaborating practices are sharing common administrative procedures, delivering services to a common quality standard or jointly undertaking product and service development, the costs may be less per member. However the ability for service providers to differentiate themselves on the basis of different product and service types and qualities, will be substantially less. The only dimension left by which collaborating providers can differentiate themselves (aside from price, in that low-risk practitioners may choose to pass on some of the benefits of their lower costs to patients) is individual practitioner characteristics (e.g. location,

because of the nature of the funding contract, as these costs to control for quality under capitation are in addition to the actual costs of service delivery.

June 2005

personal empathy, historical association). Patient choice is reduced, as the merger and/or contractual collaboration has resulted in a reduction in competition in the market for health care service provision.

If the merger/contractual collaboration allows the joint development of new products and services, the outcome will likely be a reduction in the pace of innovation in the sector. New products and services will still emerge, but without the incentives for providers to innovate for differentiation, the amount of innovation will be less than under the counterfactual of vigorous competition. Dwyer (2004: 5) notes that standardisation around common quality levels may also inhibit innovation, and is especially costly in areas where ‘best practice’ is yet to be established. Firstly, the incentives to develop a ‘better’ practice are reduced, less innovation in total occurs, with the consequence that the benefits that might accrue from having more and better products and services are forfeited, and the ability to determine what is ‘better’ is constrained by a shortage of products to compare. Secondly, even if a ‘better’ practice is developed, it may be costly to replace the entrenched practice, especially if the group employing the common practice is large and the costs of training and enforcement are large (Shapiro and Varian, 1999: 273-81). Consequently, less than optimal practices may be retained for longer than they need to be, again to the detriment of patients, who forego the higher benefits (either lower cost or improved health state) that might have ensued.

Contractual collaboration may also enable the providers linked by single management entities and contracts to engage in co-ordinated actions, in respect of both the risk management and service delivery markets. Co-ordinated action is most easily achieved where there are mechanisms that make it easy and relatively low-cost to enforce loyalty and detect cheating. Specifically, these factors include having a homogeneous product (for example, one where quality variation is small, or where all firms are delivering to a common product specification), entry control, few firms in market, prices that do not fluctuate for reasons beyond the control of the members, prices widely known and a forum for organising meetings where conspiratorial behaviour can occur (Carlton and Perloff, 2000: 121-150). Where all of these are present, conspiring to limit competition and innovation will restrict both the number of providers, the number of new products in the market and the ability for prices to be competed.

If competition cannot reveal which of a range of new products is best, innovation may occur, but the number of new products and services developed will likely be less and there is no assurance that the fewer new products that are developed are the best that could have been achieved under the counterfactual of vigorous competition (Arrow, 1962). Moreover,

members of cartels in regulated environments can collectively conspire to influence the information received by the regulator, for example, refraining from providing timely and accurate information, in order to frustrate the regulatory process.

3.2.5 Competitive Entry of Providers in Subsidised Systems

In unconstrained markets, if a service provider's prices are substantially higher than the cost of providing the service, costs, or quality is lower than could be provided for that cost, an incentive exists for another provider who can provide an identical service for a lower cost, or a better quality product for the same cost, to enter the market. As long as there are no restrictions preventing entry, the lower cost/higher quality provider will enter, and attract customers away from the higher cost/lower quality provider. The higher cost/lower quality provider must adopt the same costs/quality as the new entrant in order to remain in the market. Total welfare is raised. Alternatively, the mere ability for another provider with lower cost/higher quality to enter provides a discipline on existing providers. Unless the existing providers (incumbents) provide services at the same price/quality as the potential new entrant, then the new entrant will enter the market, and take custom away from the incumbents. Thus, threat of entry can achieve the same welfare-raising effect as actual entry, even though actual entry does not occur.

3.2.5.1 Barriers to Provider Entry and Exit

If however, there are barriers to new providers entering the market, then the benefits of competition are lost. A barrier to entry is defined as "a cost or a disadvantage that a business has to face to enter a market than an established incumbent does not have to face" (Commerce Commission, 2004:27). For example, if an established collective (cartel) of providers with market power imposes a membership cost upon a new entrant in order to join the group, that the existing members did not have to meet, then a barrier to entry exists.

Moreover, barriers to exit may also exist, with the same effect as barriers to entry in dampening competition in a market. For example, a collective of providers may form to take advantage of economies of scale. As more members join the collective, the benefits to each existing member increase, whilst simultaneously making entry to the collective more desirable for providers who are not already part of the collective. The increasing benefits from a larger membership create a self-sustaining incentive for providers to remain within the collective rather than leave, as leaving requires the provider to forfeit the low-cost benefits of membership (termed 'network effects': Shy, 2002). An existing member of the collective will leave only if the benefits of leaving exceed the benefits of remaining. As the ability of non-aligned providers forming an

alternative collective with access to equal or greater economies of scale to the existing collective decreases as its membership increases, the barriers to exit for a member of the existing collective increase.

If the existing collective becomes sufficiently large that no other collective can achieve similar economies, then the market for ‘membership ‘tips’ and the existing collective becomes dominant, so the benefits of membership expand to include a share of market power in addition to lower costs. Even though the other barriers to entry for a provider entering the market for service provision, long-term survival may now depend upon being able to access the benefits of the collective with market power. Hence new entrants will most likely become part of the existing collective, reinforcing dominance and making it less likely that the collective will face normal competitive pressures from entry or even threat of entry by a rival collective. The network effects of the collective thus become the mechanism via which the stability of the collective is ensured (Shapiro and Varian, 1999).

Whilst consumers may choose any supplier, if all suppliers are in the same collective, then the consumer is subject to the market power of the collective group. Consumer choice of collectives is unlikely to arise as providers are unlikely to voluntarily leave the collective unless the implicit and explicit costs of remaining become very high. It is in this manner that collectives of professional providers can acquire and maintain market power by utilising economies of scale around common service provision aspects such as professional education and workforce development, quality control, research and development and common administrative tasks. Regulatory provisions (e.g. granting the collective the power to register providers) or preferential contracts (e.g. agreements that allow providers in one collective access to contracts not available to providers in other collectives) may grant collectives sufficient market power that the collective is self-sustaining without needing the benefits of economies of scale. However, where economies of scale are present as well, such collectives are even more likely to gain and retain market power, with little threat of viable competition emerging.

3.2.5.2 Barriers to Consumer Exit

In competitive markets, consumers are free to choose the supplier from whom they will receive services. If however, there are barriers to a consumer exiting from one provider and seeking services from another on equal terms, then a barrier to customer exit exists. Under normal insurance and health care provision arrangements, an individual can choose to enter into contracts with insurers and service providers for whatever combination of price and quality that

gives the individual the greatest benefit. However, when there is a subsidy applied from an external source (for example, a government subsidy towards the insurance premium), then there may be conditions placed upon how that subsidy can be applied. For example, the subsidy may be paid only to selected insurers or providers. If the individual seeks to enter into a contract with a non-approved insurer or provider, the subsidy must be forfeited. Only those individuals who can afford to forfeit the subsidy will be able to patronise unsubsidised providers, even though the unsubsidised provider may be offering a product or service of lower cost or higher quality than the subsidised one, and would therefore result in higher total welfare.

A non-transferable subsidy therefore acts as a welfare-reducing barrier to exit to patients. If patients cannot transfer the subsidy to their preferred providers, they pay not only the total cost of the selected service, but also the forfeited subsidy. Therefore, only patients who value the alternative services very highly will use them. Patients who cannot afford to transfer to another provider become 'locked in' to their existing providers, even if there are other providers who can provide a service that results in higher welfare. The subsidised providers, knowing that these patients cannot switch to unsubsidised providers, no longer face direct competition from unsubsidised providers in the manner that they would if the patient can transfer and take the subsidy with them. Likewise, gaining approval for subsidy status may act as a barrier to entry for providers who offer lower cost/higher quality services, if there are specific additional costs that must be faced by new entrants that the incumbents did not have to face (for example, a 'membership fee' to join an existing collective). The outcome is a bifurcation of the market into a publicly-funded, subsidised sector and a privately-funded unsubsidised sector, with patient wealth being the principal consumer differentiator, and service quality being the typical provider differentiator (such providers typically have to provide substantially different service quality in order to provide patients with sufficient benefits to justify the substantially higher prices – including forfeiting the subsidy - that they pay).

Capitation systems impose additional administrative costs that do not apply in fee-for-service remuneration systems. If sufficient benefits from capitation contracts do not accrue (e.g. lower costs for equivalent quality) to cover these additional costs, then the costs for equivalent services may be less when provided by uncapitated providers. Under such circumstances, provided there are no barriers to patients exiting the subsidised system for the unsubsidised one, capitation models will be competed out of the market by alternative insurance and service provision models. Robinson (2004) provides evidence of this competitive result occurring in the United States, as managed care models have in practice delivered fewer benefits than originally anticipated, and patients are expressing preferences for greater variation in quality

than these systems have typically allowed. However, if subsidy restrictions in capitated systems lock patients in and prevent them from expressing their price and quality choices with their custom, then a less efficient capitated system may not be able to be ‘competed away’ easily or rapidly. Such a system may persist for longer than is necessary, to the detriment of total welfare. Established competition, in respect of both the insurance and service delivery products, therefore provides a discipline not just upon the individual providers of a particular system, but also on the system itself.

3.2.6 Competitive Entry, Adverse Selection and Supply Shortages

In competitive markets, where a shortage of supply exists, existing providers gain some market power. This provides an incentive for a new provider to enter in order to gain some of the benefits of market power. New providers will enter up to the point where all demand is met, and the ability for any one provider to exercise market power is lost. In this way, competitive forces ensure that supply and demand are matched at a given cost and quality level. If adverse selection has been engaged in, however, a supply shortage may not result in entry up to the point where demand at a given cost and quality level is met. When a supply shortage exists, incumbent suppliers may exert their market power by selecting the lowest cost patients first. The remaining pool of patients that a new entrant must serve is higher cost than the average. The new entrant, who would normally enter in order to satisfy the unmet demand at the cost and quality level, will thus have higher costs than the incumbents. If the higher costs of the remaining pool are so high that a new entrant cannot cover costs under the constraints that the capitation and co-payment remuneration structure offers, then entry will not occur, and the supply shortage will persist. The incumbent suppliers will be able to maintain their market power. Adverse selection behaviours thus create barriers to entry.

3.3 Competition Pre and Post the NZPHCS

As explained in chapter 2, the NZPHCS has the effect of creating 77 new insurance companies, has no overt provisions for the creation of reinsurance markets and offers minimal monitoring and regulatory oversight of risk management processes. There is considerable evidence of the 77 new insurance companies shifting financial risk management directly onto individual practitioners who have registered member bases of only 1200-2000 individuals. Without adverse selection, it would appear that these individual practitioners will face significant incentives to merge simply in order to manage the inevitably greater financial risks that they face. Even without these financial imperatives, the NZPHCS instructs providers to collaborate:

“the old isolated ways of working must be replaced by new collaborative models” (King, 2001:18).

Yet the design of the NZPHCS places minimal restrictions upon the ability of providers to shift risks to patients and provides no restrictions upon the ability for providers to associate by contract with other providers to manage administrative costs, so therefore offers providers minimal incentives to merge for risk management purposes.

The outcome will likely be mergers to manage administrative costs, with the attendant reduction in competition for new products, services and quality standards, but minimal merging for risk management purposes. The consequence is a more costly risk management system and lower incentives for innovation than prevailed pre-2001. Thus, it is difficult to see where there are any benefits in the trade-off between reduction in risk management costs and costs of reduced competition in the NZPHCS. Rather, the competition implications of the NZPHCS imply that, unless there are significant positive externalities accruing to patients from provider collaboration that were not occurring under the pre-2001 system, the outcome will be a costlier system. The costs are disproportionately borne by patients who fall ill, in proportion to their consumption of services, and occur as a consequence of the NZPHCS incentivising, and even requiring, service providers to engage in activities that fall outside of the socially-acceptable boundaries of competitive processes enshrined in competition legislation.

Whilst providers gain increases in their power to determine service prices, quality, and the allocation of the additional costs of risk-bearing, patients are left in a weaker position to counter this power within the subsidised system than they were pre-2001. The only recourse available to patients is to seek treatment from providers who are not part of the subsidised system. However, to do so, they must forfeit the government subsidy. The likelihood of private, uncapitated competition emerging will be greater if active selection of patients by capitated practitioners occurs, with even higher likelihood of selection behaviour occurring where supply shortages exist. Chapter 2 provides strong indications that selection behaviour may be occurring, supply shortages⁵³ are documented in many areas⁵⁴, and there is evidence that a large proportion of general practitioners (nearly 50%) were not aligned with a PHO in February

⁵³ In 2004, the New Zealand Medical Association reported an 8% decline in the number of general practitioners between 2000 and 2002, with a decrease of 13.4% in the number of registered general practitioners who identify general practice as their main type of work between 1998 and 2002. “The NZMA is considering many options and will be developing recommendations to the Government about taking action to reverse the GP shortage”. <http://www.nzma.org.nz/news/media-releases/20040506-gp-numbers-declining.html>

⁵⁴ Especially rural areas – e.g. Hodge (2005) <http://stuff.co.nz/stuff/0,2106,3250254a7144,00.html> ; Stowell (2005) <http://www.wanganuichronicle.co.nz/storydisplay.cfm?storyID=3631598&thesection=localnews&thesubsection=>; <http://www.westcoastdhb.org.nz/publications/mediareleases/?filename=20041014.asp>

2004⁵⁵. Whilst the proportion of PHO-aligned GPs will have likely increased since this date as there was considerable PHO-forming activity undertaken during 2004, these findings appear to suggest that a number of GPs may be opting to remain outside the NZPHCS capitated system. Together, these findings suggest that the likely long-term outcome of the NZPHCS will be a two-tier primary system based upon patient wealth, as occurs in England. This would constitute a fundamental change to a primary health care system that, prior to 2001, placed no explicit barriers to the ability of a patient to seek treatment from whichever provider the patient chose, irrespective of subsidy eligibility.

3.3.1 The NZPHCS Strategy Mandate to Reduce Competition

The stated objectives underpinning the NZPHCS requirement for providers to collaborate are to improve service co-ordination and to increase the amount of innovation occurring in service development. However, the benefits of collaboration are difficult to quantify, and will bring with them the associated costs arising from the associated reduction in competition that collaboration necessarily implies.

3.3.1.1 Benefits from Collaboration

At first examination it is not obvious that collaboration should be urged in order to develop “innovative ways of providing services that people can afford” (King, 2001:17), given that such collaboration threatens to reduce, rather than increase, the likelihood of innovation occurring. Rather, it may be that there are some other administrative or service delivery costs that can be reduced, or increases in health outcomes to be gained, that would not be achieved if left to providers without the imperatives to collaborate contained in the NZPHCS (for example, better information from which to develop new products and services). However, these additional benefits, plus the reduction in financial risk management costs, must be greater than the losses from reduction in competition to justify support for such actions.

The NZPHCS offers few indications that such externalities are present, apart from the ability to “co-ordinate care across service areas” and “continuously improve quality using good information” (King, 2002:6). Community Health Trusts and Independent Practitioner Associations were actively developing new, collaborative and co-ordinated products and services prior to the implementation of PHOs⁵⁶, so collaboration across entities that were

⁵⁵ Although the December 2004 data show over 92% of patients registered with PHOs, a February 2004 national fees survey (CBG, 2004: 5) shows of the 1088 responses from GPs surveyed, 531 (48.8%) were not aligned with a PHO.

⁵⁶ See Ewart and Moore (2004) for an example of such innovation undertaken by the Pegasus IPA and the Canterbury District Health Board.

already independently innovating will likely reduce the quantity of patient-responsive innovation occurring. Requiring these entities to merge and act co-operatively, whereas previously they competed with each other thus constitutes a reduction in competition relative to the pre-NZPHCS counterfactual.

Furthermore, there is no certainty that the creation of PHOs will lead to better information emerging. Rather, there may be a net loss of information collected centrally about the health state of the population and the individuals within it. There is evidence within the NZPHCS that there are difficulties in accessing sufficient information to accurately monitor and calibrate the capitation contracts to generate the desired outcomes (Hayman, 2005)⁵⁷. Specifically, in order to design an optimal capitation contract to incentivise providers to alter their behaviour in ways envisaged by the designers of the NZPHCS, capitation setters must have access to information about individuals' utilisation of services in addition to their registration for capitation purposes, and accurate information about the cost of providing services. Unless this information is available, it is impossible to determine whether capitated providers are engaging in cost-raising moral hazard and adverse selection behaviour, whether the risk-rated population bases for capitation payments accurately reflect actual population risks, and whether the incentives provided by capitation are leading to the desired cost-containment activities. If providers are acting collaboratively, then accurate information may not be accessible to policy-makers. Moreover, if barriers to competition between subsidised and unsubsidised systems exist, then access to information normally available from competing systems (e.g. the private system in England's NHS market) may also be lacking.

3.3.1.2 Collaboration and Reduction in Competition

The mandate in the NZPHCS for providers to collaborate would appear to necessarily result in reduction in competition and increases in market power for collectives of providers relative to the counterfactual of the pre-NZPHCS market, with the associated higher costs from reduction in competitive pressures upon prices and the level of innovation occurring. Specifically, the NZPHCS requires providers to enter into service provision contracts with a PHO if their patients are to have access to capitation subsidies, which on average are higher than the fee-for-service subsidies available to patients of practitioners who choose not to ally with a PHO.

⁵⁷ The New Zealand Medical Association and the Independent Practitioners Association Council are collectively refusing to supply information enabling the Ministry of Health to set capitation payments for 18-24 year olds. Hayman, Kamala. GPs Balk at Govt demand. *The Press*, 14 May 2005. Available on:

<http://helicon.vuw.ac.nz:2177/iodnews/cma/cma.pl?cma=1%2Ccp%3A039%3Aw%3A1%2C2%2C3%2C4%2C5%2C6%3A01+May+2005%3A31+Dec+2005%3AGPs%3A0%3A0%3A-1%3A%3A&cpno=1&id=14206-155-105-A%3A&request=%5Efxstuff%2Ftext%2F2003%2FSTF%2F05%2F14%2F052329%2Fdoc00204.html>

PHOs thus become the instrument of contractual collaboration⁵⁸ as determined by the NZPHCS and espoused by the Minister⁵⁹, around which the distribution of preferential rates of government subsidy monies is based. If the providers who become allied under PHOs would not have entered into such agreements without the imperatives of the NZPHCS, but under the NZPHCS their collaboration results in a substantial lessening of competition, then there will likely be costs arising from the collaboration that will detract from any benefits achieved simply because of the imperative to collaborate in order to access preferential government funding. The counterfactual against which any reduction in competition resulting from the provisions of the NZPHCS may be measured is the extent of competition existing prior to the introduction of the NZPHCS.

3.3.1.2.1 Counterfactual pre NZPHCS

It is apposite here to revisit the distinctions between the provision of services by providers to patients, the contracting for the provision of those services by PHOs, the application of the subsidies for the provision of those services, outlined in chapter 2, and the competition between providers in order to receive income from subsidies and service provision. Two products exist: subsidies and health service provision. Prior to the introduction of the NZPHCS, government primary health care subsidies of two types were paid. Some subsidies were paid directly to service providers via contracts to provide services of specific types to defined patient groups, for example school health clinic services. Individual providers and collaborative groups of providers (e.g. Iwi providers, Independent Practitioner Associations) competed with each other for the contracts to provide these services. Other subsidies were paid to qualifying individuals based upon their individual characteristics in order to subsidise the cost of treatments provided by general practitioners. General practitioners competed amongst each other for the contracts to treat individual patients. The subsidy contract was directly between the patient and the government, although for administrative convenience, it was paid directly to the practitioner. The patient had complete freedom to choose the provider to whom the subsidy was paid. This arrangement is illustrated in Figure 3.1.

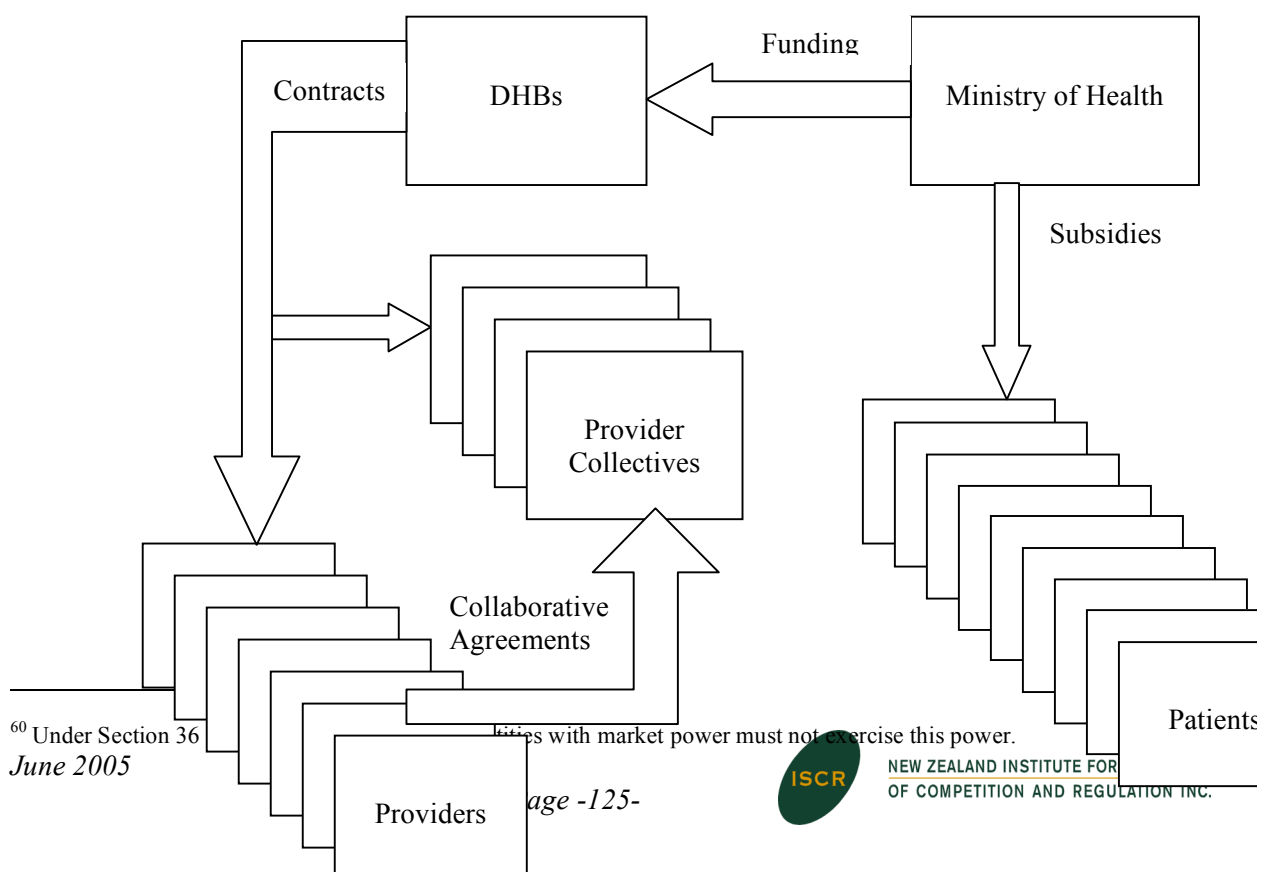
Under the NZPHCS, however, it is intended that all service providers will collaborate via PHOs. Specific service delivery contracts will be let by the DHBs to the PHOs, who will then

⁵⁸ Section 27 of the Commerce Act 1986 prohibits “contracts, arrangements, or understandings substantially lessening competition”.

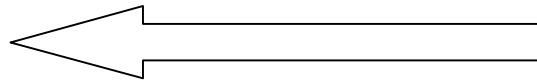
⁵⁹ If a breach of the Commerce Act 1986 is found, liability will extend to all parties who are found to have been “aiding, abetting, counselling or procuring” (Section 82(1)(b)), “inducing by threats, promises or otherwise” (Section 82(1)(c)), “in any way directly or indirectly, knowingly concerned in, or party to” (Section 82(1)(d)), or “conspiring with any other person” (Section 82(1)(e)). The Commerce Act binds the Crown in so far as it engages in trade (section 5(1)).

enter into contracts with service providers to deliver the services. Furthermore, the patient capitation subsidy, replacing the patient fee-for-service subsidy, is now paid to PHOs rather than to the patient. Theoretically, PHOs now compete with each other for both specific DHB service provision contracts, and to ‘sign up’ patients to secure capitation income. They then enter into contracts with service providers to deliver services to patients, in the manner of classic managed care organisations. In practice, however, whilst PHOs still compete with each other for specific DHB contracts, the competition for patients is contingent upon a competition between PHOs to enter into contracts with service providers, as it is from service providers’ patient lists that PHO capitation income is determined. The service provider thus determines the PHO to which a patient belongs, and there is no competition between PHOs directly for patient contracts. The health care delivery and subsidy products that the patient consumes are now ‘tied’ to the contract that the service provider enters into when allying with a PHO. This creates a vertical alliance between patient, provider and PHO, which affects competitive behaviour in the primary health care market. This is illustrated in Figure 3.2. Collectives of providers allied at the level of a PHO compete with other PHOs in order to provide services to patients. Unless there is real competition between collectives, or threat of competitive entry of new collectives, then PHOs with market power may form. If these collectives exercise the market power that they acquire⁶⁰, then patients and the Ministry risk paying higher prices and receiving lower standards of care than necessary.

Figure 3.1 Primary Health Care Competition Prior to the NZPHCS

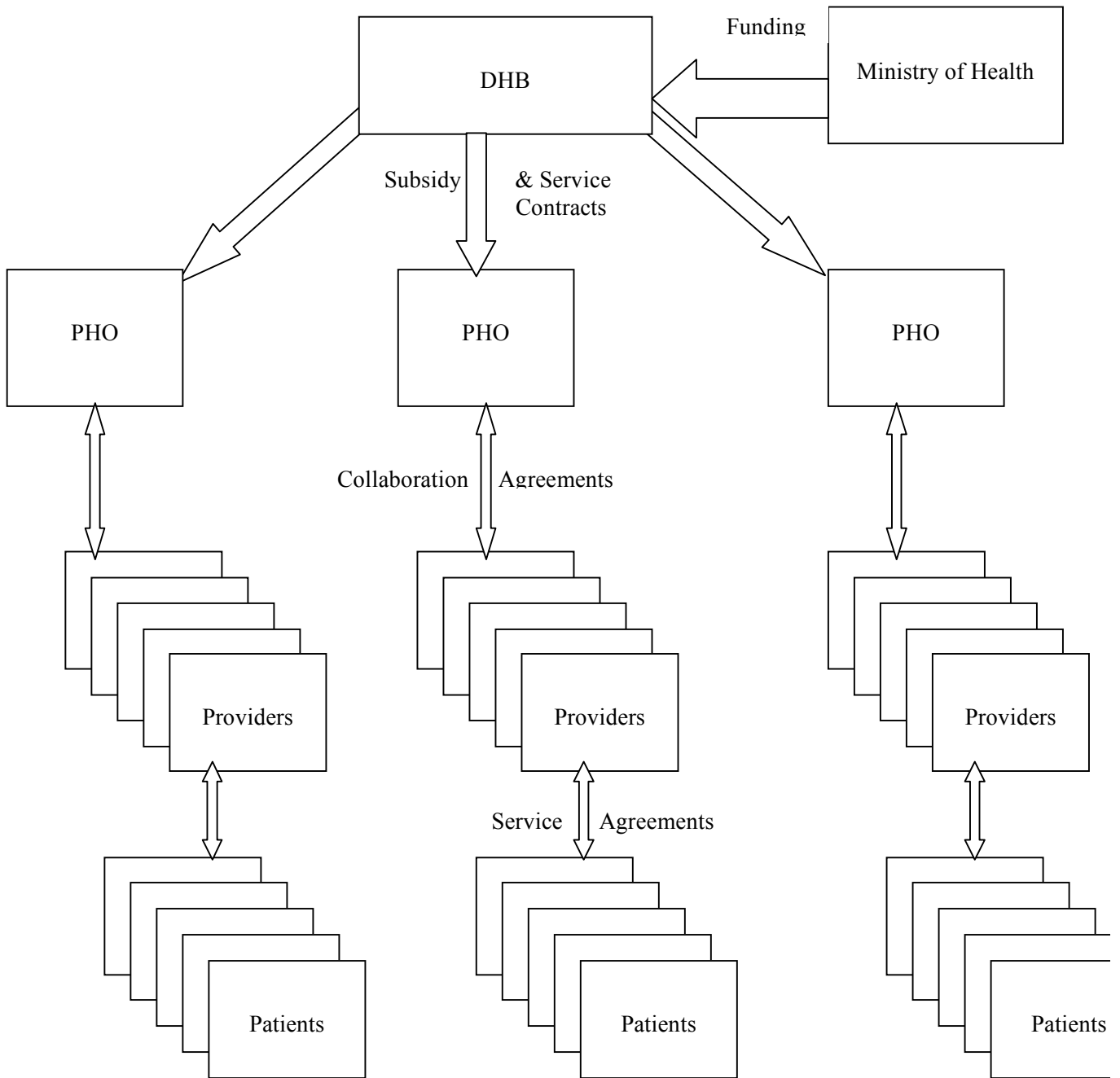


⁶⁰ Under Section 36 June 2005



Fees for Service

Figure 3.2 Primary Health Care Competition Under the NZPHCS



3.3.1.2.2 Vertical Alliances, 'Tying', Market Power and the NZPHCS

Competitive behaviour in the primary care market under the NZPHCS is in effect competition between contractual vertical alliances resulting from the tying of service provision to the patient (the tying product) to the contract for subsidy payment and care co-ordination between the service provider and the PHO (the tied product). Products are said to be tied when the purchase of one product compels the consumer to purchase the second product from a specified provider, whereas absent the compulsory requirement, the consumer would have had free choice over the selection of the supplier of the second product. Arrangements whereby sales of products in one market are 'tied' to sales of products in another market can be used to allow market power in one market to be conferred to market power in the second market. As such arrangements typically lead to restrictions in choice for the consumer in respect of the markets for the second product, they are typically welfare-reducing and therefore typically found to be illegal when tested under competition laws. High profile cases have included the tying of Microsoft's web browser Windows Explorer with its operating system Windows, and the tying of sales of IBM's punch cards to sales of its punch machines (Carlton and Perloff, 2001; Whinston, 1990; Whinston, 2001).

Whilst there may be competition between providers for service delivery contracts with patients, under the NZPHCS, the extent of patient 'choice' of PHO is dependent upon the extent of competition between PHOs for contracts with service providers. If competition between PHOs is restricted, then irrespective of the level of competition between service providers for service delivery contracts, patients are disadvantaged by the restrictions to competition in the markets for PHO services. The efficiency of the NZPHCS is therefore dependent upon the incentives for competition between PHOs for contracts with service providers, and the ease with which service providers can move between PHOs if the existing arrangements prove unsatisfactory.

The practical implications of the NZPHCS allow the opportunity for PHOs and providers to utilise the tying requirement between subsidy payment and service delivery to transfer any market power that may be obtained in the market for PHO services to the market for service provision. The geographic restrictions placed upon PHO formation within DHB boundaries mean that, given the imperatives of the capitation system to have large numbers of providers collaborating together, at least for minimising the per capita costs of management services, and the small populations served by some DHBs, there is unlikely to be substantial active and vibrant competition between PHOs. This is borne out by an analysis of PHO patient registrations. Appendix 5 shows that at December 2004, using registered members per PHO as the measure of market share, and the relevant market being PHO services in each geographic

DHB area, the concentration levels of PHOs in all DHBs on both criteria fall outside the safe harbours used as a guideline by the Commerce Commission. If the ‘mergers’ fall inside the safe harbours, then they are considered unlikely to raise competition concerns. If the mergers fall outside the safe harbours, then clearance or authorisation is given only if the Commerce Commission can be satisfied that benefits outweigh costs from loss of competition. The lowest three-firm concentration level is in Otago, at 82.5%, whilst only one DHB, Waitemata, has the largest PHO with a market share of less than 40% (36.4%, but the three-firm concentration level is 94.5%). Thus, all PHO formations fall outside the safe harbours as defined by the Commerce Commission.

There is substantial evidence that in most DHB areas there is a PHO with the ability to exert market power. The ability to exert market power will be greater if the ability of a new collective to enter the market is diminished, or if there are barriers to exit for existing providers leaving the collective and forming an alternative alliance. In most DHB areas, the dominant PHO is constructed around an alliance of general practitioners. General practitioners are the largest group of service providers, and it is principally general practitioner patient lists that comprise the subsidy list for the PHOs. If there are economies of scale in collaborating, then the existing dominant PHOs will have strong network effects mitigating against existing providers leaving the network, and providing compelling incentives for new providers to join the existing PHO rather than forming a competing one. Thus, due to network effects, normal competitive forces are unlikely to result in substantial competition to existing dominant provider groupings once they are formed.

If there are further restrictions against providers entering into contracts with alternative PHOs, then the providers and their patients, are ‘locked in’ to existing alliances, at least for the duration of the restrictions. The pro-forma back-to-back agreement⁶¹ used by most general practitioners and PHOs to define their contractual association contains a clause (Schedule 4, clause 1.2) preventing a practitioner from entering into “any other agreement, arrangement or understanding with any other body contracted with the [name of DHB] District Health Board to provide any of the Contracted Services (or any part of them) funded through this agreement”. This exclusionary clause further restricts the ability of providers to simultaneously enter into contracts with multiple PHOs, based upon the preferences of individual patients⁶². Patients are thus ‘locked in’ to PHOs by the contractual agreements entered into by, and the economic

⁶¹ Designed by the Independent Practitioners Association and available on their website: <http://www.ipac.org.nz/UploadedDocuments/BtB%20Agreement%20081203.doc>

⁶² Section 29 of the Commerce Act 1986 precludes “contracts, arrangements or understandings containing exclusionary provisions”.

imperatives facing, their chosen practitioners. Restrictions in the markets for provider-PHO contracts thus inhibit competition in the markets for PHO contracts with patients.

3.3.1.2.3 Reduction in Competition and Commerce Commission Thresholds

Thus, it appears that both the nature of the contracts linking providers with PHOs and the economic imperatives to collaborate under the NZPHCS lead to a substantial reduction in competition for service contracts between collaborating provider groups, and restrictions in choice of services available to patients, depending upon the provider group with whom their nominated service provider chooses to ally. This reduction in competition is relative to both that prevailing prior to the NZPHCS, and that which would prevail if patients could contract separately with PHOs and providers could enter into contracts with multiple PHOs. Tying patient registration to the PHO with service provider contracts, and the nature of the contracts binding providers to exclusive agreements with single PHOs both lead to welfare-reducing lessening of competition in the primary health care markets. When the strong network effects of collaboration in order to overcome the higher costs of service provision are added to the imperatives to collaborate and the additional restrictions from exclusive contracts, then the likelihood of self-sustaining collectives of providers with market power and few threats of competition forming are considerable.

It is thus not surprising to find that the empirical outcome in New Zealand suggests dominant providers within geographical locations. There is a very real possibility that the arrangements have created entities with market power and the raised the likelihood that these entities will exert that market power to the detriment of both patients and taxpayers. The extent of the reduction in competition observed here appears to breach the guidelines suggested as safe harbours by the Commerce Commission, both in respect to the extent of competition between vertically aligned provider groups and the market power this grants over subsidy contracts with patients, and in respect of the level of market power that the PHO collectives now have with respect to the markets for contracts for specific services let by DHBS⁶³.

3.3.1.3 Choice and Competition From Uncapitated Providers

Whilst it is noted that the NZPHCS does not prevent providers from operating outside the state-subsidised capitation system, and continuing to collect fee-for-service subsidies, Hefford,

⁶³ Arguably, any agreement where the PHO enters into a contract for services based upon a common price for all providers within the dominant collective rather than each provider tendering individually may constitute an abuse of the market power of the collective, given the recent warning issued by the Commerce Commission in respect of six funeral directors who collaborated to submit a joint tender to the Police for body removal services in the Manawatu. The Commission found that their behaviour risked breaching the price fixing provisions of the Commerce Act (Commerce Commission Release No 125 Issued 4 May 2005).

Crampton and Foley (2005:12) note that “fee for service subsidies have been frozen at existing levels, while PHO funding is more generous and is being increased regularly”. The funding policy thus discriminates against providers staying outside the capitation system relative to the pre-NZPHCS system. Lower-subsidised providers will find it harder to attract patients for whom the capitation subsidy provides a barrier to exit. The result is a reduction in competition between capitated and uncapitated providers, and in effect constitutes an inducement for patients and providers to join the capitated system over the uncapitated one⁶⁴.

Thus, there are barriers to competition both within the capitated system, and from the outside. The market power that capitated providers in dominant PHO alliances can exert is unlikely to be constrained by a strong private sector, at least in the short term, given that over 90% of New Zealanders are already registered under the subsidised system.

3.3.2 Competition, Differential Subsidies and PHO Administration Costs

Jordan, McCardle and Norgrove’s (2004) analysis of the management tasks of PHOs confirms that management tasks, along with co-ordinated service development, comprise the full extent of the tasks undertaken at the 14 PHOs that they examined are undertaking. There is no evidence in this study that PHOs are undertaking any financial risk management tasks. This is confirmed by the analysis of five PHOs undertaken in Chapter 5. This suggests that in practice, the primary determinant of PHO size, and therefore the extent of competition between PHOs in their endeavours to enter into contracts with service providers, is the imperative to minimise the per capita costs of the additional overheads that attend the change in funding methods from fee-for-service to capitation.

⁶⁴ All else being equal, a patient may choose to be treated by a specific provider, which under the pre-2001 system attracted the same subsidy irrespective of the patient’s choice of provider. However, under the new system, the patient’s choice is reduced if the chosen provider chooses not to join the capitation scheme, with the loss of choice having the greatest effect on patients in the groups that have had the biggest increases in subsidy. This is a noted feature of managed care schemes, as the patient in such schemes willingly joins knowing that the reduction in choice is traded off against a reduction in premiums. In effect, the patient can choose an alternative insurance policy. However, as the NZPHCS bundles insurance provision with service delivery, choices in the care delivery market influence the size and type of subsidies paid on behalf of the patient in the insurance market. Rather than in the typical insurance case, where insurance choice drives provider choice (including limitations in provider choice as a result of the insurance contract), under the NZPHCS, provider choice drives insurance subsidy eligibility – that is, the choice of provider leads to a reduction in competition in the insurance market, as capitated provider-insurers are benefited by a barrier to competition from uncapitated provider-insurers. To ‘opt out’ of the capitated scheme imposed by the NZPHCS via choice of an uncapitated provider costs the patient in foregone subsidy (or alternatively, ‘opting in’ by switching providers ‘rewards’ the patient, less the utility loss from being treated by a provider who is not the chosen one), thus providing a competitive advantage to capitated providers not enjoyed by uncapitated ones (that is, a reduction in competition). Not only is this facet of the PZPHCS potentially illegal it is also contrary to the objective of allowing patient choices in the insurance market.

Small PHOs will be disproportionately disadvantaged in respect of cost as they must meet both the higher costs of risk management and the higher overheads within capitation budgets. Jordan, McCardle and Norgrove's (2004) survey cites management costs significantly in excess of the ring-fenced management capitation sums allowed for under the NZPHCS. The ability of small PHOs to provide high quality management services at the same level as the bigger PHOs is limited. They will likely be 'competed out of the market' on management quality as they cannot afford to supply the same management services at the same quality levels as larger providers. Service providers will prefer to be aligned to PHOs who can provide high-quality management services, as ultimately they will be able to provide higher quality services to their patients. Smaller PHOs will survive only by differentiating the product and quality mix offered by all their providers sufficiently to appeal to patients who value a single specific service or quality characteristic very highly (e.g. treatment sensitive to specific ethnic characteristics), and are prepared to accept lower quality for all other services in order to receive higher utility from the very highly valued service or characteristic. As such PHOs will have limited appeal, they will likely only be niche competitors to the dominant firm.

It is therefore likely that the competitive environment that emerges between PHOs will be characterised by a 'dominant firm' with a 'competitive fringe'. Whilst normally a 'competitive fringe' provides some discipline upon the co-payment prices the providers allied to the dominant PHO can charge, in the case of the NZPHCS, this is unlikely to occur given the differences between Access and Interim PHO funding. As the Interim PHO practices receive less funding for the risk they manage, and pass the difference to patients as co-payments, it is the large, low-capitation practices that will have the higher prices. The effect of different pricing might be that in order to compete with patient expectations of lower prices created by the presence of Access PHOs and avoid loss of patients (especially low-cost ones) to the lower-priced providers, providers allied to Interim PHOs may have to reduce their costs further by reducing their quality levels. Rather than providing competitive disciplines on the dominant player (by size), the result may be a lowering of quality for all providers, with the outcome being an increased ability for the small fringe to make higher profits by reducing their service quality to that provided by the 'dominant firm'. The disjunction between the locus of 'market power' by practitioner size, and accrual of the associated profits means that, unlike the classic 'dominant firm, competitive fringe' equilibrium, it is the 'fringe' firms who receive profits in excess of costs. Thus, the ultimate beneficiaries of the NZPHCS are likely to be the owners of the provider firms allied to Access PHOs. This reinforces the incentives identified in Chapter 2 for Access PHO providers to 'cream-skim' to maximise their returns.

As PHOs comprise the entity upon which capitation subsidies are paid, and practitioners bring patients to the PHO, the competition between PHOs thus becomes one of competition between PHOs for practitioners whose patient base will increase the likelihood of the PHO gaining access to the higher levels of subsidy. Practitioners with a patient base comprised of the ‘desirable’ patient group will be sought-after, and have the power to decide how to associate. In contrast, Interim PHO providers face strong incentives to collaborate simply to manage their higher costs. On another level, competition is between PHOs to gain more advantageous contracts with DHBs. As the terms of the insurance contract are set centrally, and the expectation in the NZPHCS is that PHOs will have neither a direct relationship with patients nor the ability to vary the insurance terms of the agreement, there is very little that competition between PHOs will be able to directly offer the patient, apart from a different practitioner mix and minor service quality variations.

3.3.2.1 Management Collaboration

That PHOs have emerged as entities solely for co-ordinating providers is therefore understandable. ‘Supply’ of providers is the crucial factor for PHO survival, as there is minimal ability for any strategic differentiation between PHOs to emerge. Competition for patients occurs at the provider level, with ‘Access PHO providers’ being unwilling to grow (collectively, at the PHO level) any larger than is feasible given the need to maintain the Access PHO-eligible population base. As PHO growth is constrained by the need to remain within DHB boundaries, there will be limits to the growth of all PHOs. As eligibility to Access PHO funding is determined by characteristics that are also correlated to geography (Deprivation Index deciles are geographically determined, and specific ethnicities tend to be grouped in specific localities), then the pattern that is likely to emerge will be ‘pockets’ of small Access PHOs, surrounded by large Interim PHOs, within each DHB area. The focus upon communities in the NZPHCS will reinforce this pattern.

Access PHOs are therefore likely to be small, and unable to gain access to economies of scale in management costs available to the larger Interim PHOs, who face no barriers to growing large, as there is no funding incentive to preclude this occurring in Interim PHOs. Even though small PHOs receive higher management capitation fees than larger PHOs, Jordan, McCardle and Norgrove (2004: 43) find that even for basic management functions, smaller PHOs are less able to meet their costs than large PHOs. Management quality will be lower in smaller, largely Access, PHOs. Jordan, McCardle and Norgrove (2004, *op cit*) cite comments by managers of small PHOs that they may have to merge, and from large PHOs that they cannot see how small PHOs can provide even the basic levels of infrastructure and IT at current levels.

Whilst Access PHOs face barriers to merging in respect of their funding eligibility, they face no barriers to achieving the same economies of scale in management tasks by using contracts to replicate the same effects. Likewise, small Interim PHOs may also be able to retain a local identity by contracting out these services. If small Access PHOs join with large Interim PHOs to enter into contracts with management services companies that deliver services to many PHOs, the same effect as a merger may be achieved without having to put preferential funding at risk. The costs to the small PHOs reduce, despite the fact that they are still capitated at the higher level in respect of management costs. WIPA (see Chapter 5), providing management services to one Access PHO and four Interim PHOs, offers one example of these activities already occurring. Depending upon how the management companies are remunerated, small Access PHO providers, already the beneficiaries of the system, may be able to raise profitability (e.g. if the central management company spreads costs across all PHOs with a flat per capita fee, thereby creating cross-subsidies for costly PHOs from less costly PHOs, the owners of the Access PHOs may gain even more profits).

Such apparently cost-reducing arrangements may in the long term result in an even more costly system. Firstly, common management companies providing identical services to a large number of PHOs will further reduce the ability for innovation in management services to occur, as standardised management services become entrenched across a large number of PHOs. Secondly, differentiation between PHOs will be even less if the management companies are involved in setting the strategic direction of the PHO. The ability of the management company to minimise costs by applying a standardised, 'one size suits all' strategy across many PHOs will further reduce the small differentiation that may exist in individual PHOs, as well as making it even harder for the NZPHCS to deliver community-specific solutions to community-specific health problems. Thirdly, the presence of centralised management companies 'undoes' the incentive for PHOs to merge into bigger entities simply to reduce management costs. Small PHOs can claim the higher management capitation fees, but face very similar costs to the larger ones, who receive the lower fees, depending upon the trade-off between the fixed and variable costs of PHO administration at the central level. As the central management company reduces the fixed cost burden per PHO by sharing common costs (e.g. systems, reporting, information infrastructure, research and development resources) across many PHOs, the lower the average cost per capitated individual becomes. The fixed costs that made small PHOs unviable individually are overcome, and there is now no longer a barrier to being small. However, the cost to the government, which pays the management capitation, will rise with no guarantee that there will be a corresponding rise in health outcomes, as it cannot be guaranteed that the

proceeds will be applied to health services ahead of practitioner profits. Fourthly, if vertically integrated PHOs merge contractually with other vertically integrated PHOs in the same geographic area and act in a co-ordinated fashion, then vertically-integrated competition in that area is reduced. If dominant PHOs merge contractually with other dominant PHOs in adjoining geographic areas, then the extent of dominance is increased, and now covers a much wider geographic area (for example, across DHB boundaries). In either case, patient choice of PHO is further reduced, and the extent of competition between otherwise competing entities likely decreased.

3.3.2.2 Uneven Allocation of Resources for Innovation

If management collaboration does not occur, then the NZPHCS may be unable to deliver on its intention of directing resources to communities of greatest need. As the management services detailed by Jordan, McCardle and Norgrove (2004) include service development, without central management contracting, at current capitation levels there will likely be fewer available resources in smaller, largely Access PHOs to apply to innovation. Rather, it is the communities serviced by larger, Interim PHOs who will have the higher per-capita resources available for innovation. These are the communities that are largely already well served by community trusts and Independent Practitioner Associations (IPAs), who have typically undertaken community-based service development.

The NZPHCS thus incentivises community groups and Independent Practitioner Associations existing pre the NZPHCS to gain even higher levels of effective per capita funding by merging with each other into even bigger entities than previously in order to manage the high management costs. The mergers will likely reduce the levels of innovation occurring relative to 2001, in the communities where these innovations were occurring. Meanwhile, if smaller Access PHOs have less funding per capita for innovation, then their levels of innovation will be even less than in the Interim PHO areas, typically served by IPA-led PHOs. Thus, the total amount of innovation occurring will be reduced, but more of the innovation that is occurring will be more likely happening in Interim PHOs, rather than in the Access PHOs which have been targeted as requiring the greatest levels of innovation to encourage access to services. If contractual collaboration allows both Interim and Access PHOs to maintain their separate funding streams, and single management companies provide services (including innovation) for a very large number of PHOs, then the extent of collaboration will be greater, and competitions between PHOs less than if such collaboration did not occur. Meanwhile, the likelihood of innovation targeting specific disadvantaged communities is less if the management company is charged with developing services for both PHO types.

3.3.3 The NZPHCS Evidence

The patterns of PHO developments that have occurred are largely as the theory would predict. As found in Chapter 2, Interim PHOs are on average twice the size of Access PHOs, and there is minimal evidence of any risk pooling emerging. The limitations imposed by DHB funding boundaries and geographical location mean that Interim PHOs are largely local geographic monopolies. There is evidence (see Chapter 5) that PHOs are co-operating across DHB boundaries in respect of management costs in order to increase efficiencies. Even if competition between PHOs in large geographical areas (e.g. Canterbury, Otago) is feasible, the extent of market power evidenced suggests a level of co-ordinated activity that appears to warrant further investigation to determine whether there is in fact a net benefit to consumers from the structures that have emerged.

A strong tendency towards local geographic monopolies is evident. Specifically:

- three DHBs (Wairarapa, West Coast and South Canterbury) have only one PHO (i.e. monopoly);
- only half of the DHBs have more than three PHOs operating in their territories (the average number of PHOs per DHB is 3.67);
- only three DHBs (Waitemata, Taranaki, Otago) have a largest PHO with less than 50% market share – conversely, the largest PHO in 18 of the 21 DHBs has a market share in excess of 50%;
- the combined market share of the two largest PHOs is greater than 70% in all of the 18 DHBs where competition exists; and
- the three firm market share in the 11 DHBs with four or more firms ranges between 83% and 99%.

Despite appearances of competition, the market shares for the larger PHOs within DHBs appear to reflect geographic sub-regions in Northland, Waikato, Bay of Plenty, Tairāwhiti, Lakes, Hawkes Bay, Whanganui, MidCentral, Nelson Marlborough, Canterbury, Otago, and Southland. In Northland, Waikato Tairāwhiti, Bay of Plenty, Lakes and Whanganui, the only competition to the geographic monopoly PHOs appears to come from Maori providers – the largest of which has a 6.4% market share. Taranaki is equivocal – two PHOs have market shares of 46.1% and 47.7%, with the balance being a Maori provider. From PHO names it is hard to tell if they reflect geographic distinctions, or whether they are in competition.

The metropolitan PHOs Auckland, Counties Manukau, Capital and Coast and Hutt Valley all follow the ‘dominant firm competitive fringe’ model, with the larger ‘second firms’ typically representing either a distinct geographic community or an ethnic provider group, despite having large populations and small geographic areas. The largest of the second firms has a market share of only 18.7%. Smaller fringe competitors exist only in larger population centres – Auckland, Wellington, Christchurch.

Only one DHB – metropolitan Waitemata, with two PHOs with market shares of 36.6% and 36.4%, and a third with a market share of 21.6% – appears to exhibit any suggestion of any possible competition between PHOs (although from the names, it is unclear whether there may even be some element of geographic distinction between the two largest PHOs)⁶⁵.

Choice of PHO appears to be linked to funding type. In the South Island, where only one PHO is eligible for funding on the higher ‘Access PHO’ basis, there are no ethnically-based PHOs. The average number of PHOs per DHB in the South Island is 2.6, whereas it is 4.0 in the North Island. The average for the upper half of the North Island is 5.6. The DHBs with largest numbers of PHOs either have all PHOs funded by the Access PHO formula (Counties-Manukau – 7; Northland – 6) or have large populations and a mixture of funding formulae (Auckland – 6; Capital and Coast – 6). Areas with small populations are more likely to have niche providers if they are funded by the Access PHO formula. Wairarapa and Tairāwhiti serve similar population numbers, but Tairāwhiti (Access PHO) has two PHOs, whilst Wairarapa (Interim PHO) has only one. Smaller numbers of PHOs in the South Island support the contention that mergers (or large monopoly PHOs) are more likely to occur where differences in funding are less.

These findings are consistent with the outcomes predicted by theory, and international experience.

3.4 Regulation in New Zealand

Although the NZPHCS allows for limited price regulation, this power does not appear strong. DHBs have the power to request notification of co-payment prices and changes from PHOs, and “if a DHB believes the increase is unreasonable, they will set up a fees review committee to examine the arguments for the increase in detail” (MoH, 2004: 3). However, the DHBs are in a

⁶⁵ Although at the date of writing, anecdotal evidence indicates that a realignment of practitioners to PHOs in Waitemata is likely to occur in the near future, leading to a reduction in competition in this area too.
June 2005

poor position to assess what a ‘reasonable’ fee should be as they lack access to reliable information on actual provider costs and customer willingness to pay, especially in respect of new products and services. Furthermore, they may be unable to adequately assess the implications of their pricing decisions on the incentives for private investors, who are seeking to earn a fair return on their capital (including human and organisational capital as well as physical capital).

If competition between PHOs within a DHB area exists, then DHBs may be able to benchmark between PHOs. But where monopoly (or near-monopoly) exists, such benchmarking tools do not exist. This substantially increases the likelihood of regulator errors occurring, further increasing the costs of the system. Benchmarking is difficult in the best of circumstances, but the only benchmarking that is available in the event of PHOs with market power emerging is benchmarking between PHOs in different DHB jurisdictions. However, these PHOs may face substantially different cost structures and investment patterns, so may be of limited value in a benchmarking exercise. The fewer ‘like’ PHOs that exist, the less satisfactory any benchmarking exercise will be.

The only other existing regulatory instruments appear to be a very loose set of unspecified quality standards for specific services are contained in the contract between the DHB and the PHO (“DHBs will specify and monitor quality and safety standards and outcomes of care through service arrangements. PHOs will be openly accountable to the public for the quality standards they plan to achieve” - King, 2001: 26) and the trust-based nonprofit objective of PHOs. The limitations of the nonprofit objective are discussed in the subsequent chapter. Whilst disclosure of quality standards may aid transparency, it does not address the limitations inherent in the monopoly development of those standards. It may be clear what those standards are, but as Dwyer (2004) identifies, how do we know they are the best that could be devised, absent competition and in an environment when ‘best’ has yet to be determined?

The regulatory mechanisms of the NZPHCS are unspecified, and do not address the effects of collusion on any factors other than price. Even if active price regulation is contemplated, it may be relatively ineffective because it will be affected by quality and the nature of new products and services that may be beneficial to patients.

3.5 Summary

The design of the NZPHCS incentivises practitioners to segregate and separately manage their capitation funding, whilst simultaneously utilising the imperatives to collaborate to accrue cost savings and thus increased income. There is no incentive to merge for financial risk management reasons, although collaboration for management cost purposes is highly desirable, across both Interim and Access PHO providers, leading to reductions in product and service quality and choice, and reductions in innovation across the sector compared to the pre-2001 case. Collaboration between providers is thus likely to add to the costs of the system, resulting in even higher costs than simply a change in the funding and risk management arrangements.

The NZPHCS thus appears to grant significant market power to PHOs, who are in effect collectives of service providers with the power to apply their market power in the subsidy and contracts markets into power in the service provision markets. Hansmann (1996) suggests that supplier collectives tend to emerge in order to align the interests of diverse providers against a single, strong purchaser of their services, or in order to compete more strongly against large, united competitors. Neither of these justifications appear credible reasons for granting more market power to a provider group that already appears to have significant market power, except in respect of the intention for government to increase the capitation rate, thereby assuming a greater share than its existing 40% of sector spending. Yet arguably, providers already have strong collective advocacy groups to achieve these goals, in the Community Health Trusts, IPAs and the Medical Association.

Medical practitioners also already have some market power in their ability to register individuals into the profession. Granting additional market power to these individuals in local practice, as the NZPHCS does, appears to be contrary to the long-term interests of consumers. The governance responsibilities that providers have in respect of their dual agency as agents in both insurance markets and health care provision markets means that market power in one market can be utilised to achieve market power in the other. The available evidence suggests that reduction in competition both markets may have already occurred. An examination of the competition aspects of the directives and outcomes of the NZPHCS and the instruments and entities it creates would appear to be indicated.

4. Ownership and Governance in New Zealand Primary Health Care

This chapter examines in more detail the interrelationships between the ownership (capital markets) and governance elements of health care markets. It takes the approach adopted by Jensen (1993) (who builds on Coase, 1937) that a governance structure is a set of contracts, and that the efficacy of those contracts is influenced by the interaction of the entire range of contracts that pertain to an organisation. Whilst the governance contracts essentially construct a ‘principal-agent’ relationship between the owners of the capital invested in the firm and the managers, the nature of these contracts will be influenced by the contracts for purchase of inputs and sale of products, and the regulatory environment⁶⁶. In essence, the nature of the product, factor and regulatory market contracts can provide information, incentives and disciplines to assist the owners of the firm to monitor and enforce the behaviour of their manager-agents so that the owners’ assets invested in the firm are well-maintained and generate the maximum return in the long run. Where there are impediments to the ability for any one of the control forces to either constrain behaviours or provide information, the reliance placed upon the others to achieve the same outcomes is greater. However, ultimately it is the ability of the owner-manager principal-agent contracts to utilise this information and constrain managerial behaviour that will determine the outcomes for the organisation. The design of the governance structures must therefore take account of the control factors present or absent for the PHOs.

The NZPHCS contains a number of requirements upon the ownership and governance of PHOs, including their compulsory nonprofit ownership status, and the inclusion of both providers and community representatives in decision-making. However, the ownership and governance requirements do not occur in isolation from the disciplines provided by the product and factor markets and the legal/political/regulatory system. Rather, the four factors interact to create an environment whereby the behaviour may be either incentivised, or discouraged, detected and punished. For example, whilst in isolation the nonprofit constraint on PHOs may limit the ability for dividends to be extracted, its application in conjunction with the ability for PHOs to subcontract service provision to for-profit providers renders the nonprofit constraint a weak constraint against extraction of health funds via dividends, unless the governance system of the

66 Jensen (1993: 850) identifies “four control forces operating on the corporation to resolve the problems caused by the divergence between managers’ decisions and those that are optimal from society’s standpoint. They are the:

- * capital markets
- * legal/political/regulatory system
- * product and factor markets, and
- * internal control system headed by the board of directors”.

firm allows the risks to be identified and imposes constraints to prevent losses to the PHO and its beneficiaries.

The form of the chapter is as follows. Firstly, section one examines the nature of the principal-agent relationships that pertain to the insurance and health service provision markets in health care. Section two then examines issues of ownership of the entities that supply both insurance and health service delivery in health care markets, and their relationship to the contracts for sale and purchase of these products. Section three then addresses some specific issues confronted in the design of governance contracts in nonprofit entities. Section four then examines the ownership and governance requirements of the NZPHCS in light of the analyses in the previous three sections.

4.1 Principal-Agent Contracts in Health Care

An agency relationship occurs where one person (the agent) acts on behalf of another (the principal) (Milgrom and Roberts, 1992: 595). It thus covers a range of different relationships, including the relationship between a patient (principal) and a medical practitioner (agent), an insurance customer (principal) and the insurance company making purchase decisions on behalf of the customer (agent), a shareholder (principal) and the board and management of the company (agent) and an elector (principal) and the elected agent charged with making decisions collectively on behalf of a group of individuals (for example, politicians). It also embraces an agent appointed by another to carry out a task – for instance, a manager (principal) appoints an employee (agent) to undertake a task.

A characteristic of agency relationships is that they arise because the agent has information, skills or abilities, with which the principal does not have, to undertake a task. The agency relationship exposes the principal to detrimental exploitation by the agent of the superior skills or information. Design of agency relationships (and the contracts that formalise them) must take cognisance of this potential. When the potential can be reasonably foreseen, provisions can be made to ensure that the undesirable actions are detected and punished. Alternatively, contracts and institutional mechanisms designed to ensure that the party that can control the likelihood of the opportunistic action occurring (the agent), bears the costs of acting opportunistically, and is therefore discouraged from following this course of action. As neither course of action is ideal for controlling the likelihood of opportunism occurring, typically a mixture of overt monitoring and enforcement, and incentive mechanisms in contracts is desirable. The risk-sharing contracts that occur between an insurance company and a capitated

service provider are examples of the use of contractual mechanisms by insurance company principals to constrain the opportunistic behaviour (in this case moral hazard actions) of service provider-agents.

4.1.1 Agency Relationships in Health Care Markets

In a typical health care system, many agency relationships occur.

4.1.1.1 The Insurance Agency

In chapter 2, the contracts between patients and insurance entities were explicated. These contracts can also be viewed as a principal agent relationship between the individuals seeking to manage the financial risks associated with illness, and risk managers. The contracts may be entered into either voluntarily, via an insurance market, or compulsorily via legislation and taxation, and may be explicit (a specific legal contract signed by both parties) or implicit (e.g. obligations embodied in legislation). In either case, the agent (insurance company or government agent) is charged with managing the financial risks associated with the contract. This occurs because the insurance company is better placed to use its information about the health demand risks of the wider population to determine what the total costs will be for the given population, and to levy each individual for their share of the total cost (however this is allocated). However, as the principal does not have access to population health state information, it is difficult for the principal to determine whether the premium charged is reasonable, or whether unduly high premiums have been charged. Competition in the product market (insurance cover being the product) is the typical mechanism to counter this problem. Principals can ‘punish’ malfeasant agents by switching custom to another agent. Absent competition, information about a ‘fair price’ is missing and the principal may pay more than necessary.

In competitive commercial insurance markets, the ability of customer-principals to detect and punish is relatively straightforward. However, this is not necessarily the case in government-managed insurance provision. There may be no specific contract with a specific price between the taxpayer principal and the government agent, as both are ‘bundled’ in together with the agency for a variety of other constituencies. Consequently, there is no specific information about the product price, and limited ability to sanction either by withdrawing custom, or politically, given the dilution of the signal in relation to the insurance product amongst the myriad of other constituencies that the political signal embodies (Prendergast, 2001). In essence, the risks of agent opportunism borne by the principal cannot be shared directly with

the agent due to the inability to contract across the political boundary (Howell, 2001). Thus, agent opportunism in respect of the insurance agency is more likely to occur undetected and unpunished in government provisioning.

4.1.1.2 The Health Service Provision Agency

The insurance cover agency is distinct and different from the agency an individual enters into when seeking treatment from a health care provider in the event of being sick. In this case, the agent is the care provider who is charged with providing an agreed quantity and quality of care to the patient-principal. The agency is accompanied by a severe information asymmetry, as the agent is significantly more skilled and knowledgeable in both the ability to diagnose an illness and the availability and efficacy of the range of possible treatments available for a specific condition. As health service delivery is also an 'experience' good, the patient-principal is in a very poor position to determine either the quality of care received, or the reasonableness of the price charged for the quality actually received. The information asymmetry leads to the potential for 'supplier-induced demand' and under-servicing for a given price to occur (see Chapter 2).

Again, competition between providers is the typical product market discipline used to constrain such behaviour, along with mechanisms such as the ability to seek a second opinion, and quality assurances provided by registering bodies on behalf of their registrants. However, even these processes are subject to information asymmetries, as peers and registering bodies have different information and face different incentives⁶⁷.

4.1.1.3 Third-Party Purchasing

When the insurance company or government agent purchases care on behalf of a patient-principal, the insurance agent takes on some of the tasks that the patient-principal would normally undertake in a standard health purchase contract. Essentially, as the insurance agent pays the service-providing agent, there has been a subcontracting of the payment portion of the contract between a patient-principal and the service-provider agent. This is the standard 'third party purchasing' agency that is common in health care markets. In some cases, the agency entails not just paying the provider chosen by the patient-principal, but also charging the

⁶⁷ These issues are relevant in the New Zealand context given the power of the Medical Association to register practitioners. Possible evidence of collusive behaviours by members of the Royal Australasian College of Pathologists to approve lower than acceptable service quality by one of their members was raised in respect of the under-reporting of cervical cancer in Gisborne in the 1990s (see Howell, 2001 and Howell, 2004 for further discussion).

insurance agent with some of the tasks that the patient-principal might otherwise do, such as selecting the provider, and monitoring the provider's performance.

On the one hand, third-party purchasing agencies reduce the effect of the information asymmetry on the patient-principal, as insurance agents may have better information about providers, and greater ability to determine the quality and 'value for money' of the service provider's products. However, such agencies introduce further information asymmetries. The insurance-agent is now subject to an asymmetry with respect to ascertaining whether the payments made are matched with the treatment received. For example, a provider may claim that high-quality treatment was provided, when actually low-quality treatment was provided. As the paying agent is not the one receiving the treatment, this cannot be easily or costlessly verified. Furthermore, the patient-principal needs to be assured that the insurance-agent is making sound selection decisions on his behalf. For example, the insurance-agent may utilise information asymmetries with the patient-principal to skimp on the care quality commissioned, whilst still receiving a premium payment for high-quality care. Whilst the risks inherent in 'third-party purchasing' may be less than the full asymmetry faced by patient-principals vis-à-vis providers, the information asymmetry is not fully reduced by such arrangements.

4.1.2 Conflicted Agents

When the insurance agent also becomes the agent-principal with respect to the service provision contract, the ability for a patient-principal to sanction the agent separately for actions taken under the aegis of the insurance agency alone and those taken under the aegis of the agent-principal contracting a service provider for delivery of treatment alone becomes difficult. Just as the government insurance agency bundles tasks together, so does the combining of the insurance agency and the purchasing agency bundle activities together, making it difficult for the originating principals to monitor and enforce performance to each of the agency agreements. When the insurance and purchasing agencies are further contracted to the service provider (as occurs under the NZPHCS, where the insurance company is the service provider, by dint of the contracts from PHOs which shift capitation payments directly to providers) then a potential conflict of interest arises. The insurer-provider agent can respond to both risk management opportunism and provider opportunism incentives.

Whereas in separate contracts, insurer-purchaser agents monitor the behaviour of providers, and thereby provide some constraints upon the ability of the provider-agent to act opportunistically to the cost of the patient-principal, when the agency is combined, the insurer-provider-agent is charged with monitoring his own behaviour as the provider-agent, and vice-versa. The ability

of the patient-principal to rely upon an independent insurer-agent to manage the provider opportunism has been lost. Thus, if such systems arise, it would be expected that the patient-principal would seek to put in place other provisions to counter the loss of both information and a self-balancing mechanism to provide an additional integrity check upon the agents concerned. For example, patient-principals may need to place greater reliance upon ensuring the competitiveness of each of the insurance, service provision and combined insurer-provider markets to minimise the extent of opportunism occurring, or insurer-provider-agents might be subject to more stringent regulatory supervision in the absence of such competition (for example, overt monitoring by a regulating agency, regular forensic audits, fully independent boards).

4.1.2.1 Conflicts, Opportunism and Ownership

The presence of conflicted insurer-providers poses a challenge to the suppliers of capital for such businesses. Ordinarily, owner-principals can rely upon product and factor market signals to supply them with information about the performance of their manager-agents. For example, if customers of insurance companies move their custom to other providers, it is a signal to owner-principals that the managers are performing less well than those of other companies (for example, they may be charging overly-high premiums as they are not managing the risk and reinsurance portfolios efficiently). Likewise, if patients leave one provider for another, it may be because the price-quality mix provided is not that which patients are seeking. However, when patient-customers of combined insurer-providers leave for other insurer-providers, the owner-principals may not be able to distinguish whether the cause is a risk management problem or a service delivery problem. Whilst manager-agents may know what is occurring, they have an information advantage over the owner-principals, so may not wish to share this information. Hence, the owner-principals do not know whether to alter the mix of incentives and sanctions applied to the insurance market activity or the service provision activity in the agency contract they have with their managers. The result is that the managers of combined insurer-providers may be able to act opportunistically, undetected, unpunished or unsanctioned, for longer periods at greater cost to both owner-principals and patient-principals than may the managers in insurance companies and service providers.

For these reasons, in addition to those offered in Chapter 3, it is unusual in the international context to see all risk management tasks assigned to service providers. Not only will customers find such arrangements undesirable, so too will the providers of capital to these businesses. The one exception that may occur, however, is if the managers of the insurer-providers are the owners. In this case, there is no informationally-disadvantaged owner-principal. The owner-

provider is fully and costlessly informed. Indeed, such an arrangement provides the owner-manager the opportunity to exploit both the service provider agent and the insurance agent information asymmetries to the extent that third party regulation, monitoring and enforcement allows, to the detriment of the originating patient-principal. Moreover, such ownership behaviours are actually incentivised, as the returns from opportunism are certain to all accrue to the owner-manager, without any need to share the gains with separate owners, and without the transaction costs of owners identifying and managers concealing the fact that the opportunism is occurring.

4.1.2.2 Prioritisation of Conflicting Incentives

The combined insurer-provider agency raises a further conflict of interest. When a conflict arises between the insurance and service provider incentives that the combined insurer-provider faces (e.g. purchasing a new, expensive treatment for the patient), will the insurer-provider respond to the needs of the insurance/risk management interest or the service provision interest? Holmstrom and Milgrom (1991) argue that the conflicted agent will act in the interests of the agency from which he receives the greatest personal reward. This may not be the one that is in the best interests of the ultimate principal. As the principal to each agency is one and the same – the patient/funder - patients (potential and current) will always bear the increased costs that arise from such conflicts. The only question that arises is which of the patients will bear the costs: all, via the insurance agency, or specific, via the treatment agency. Whilst the presence of separate agents for the two tasks may not necessarily remove the incentives and alter the responses, the benefit to the ultimate principal is information about which agency contract is leading to the detrimental position.

Thus, the nature of the agency relationships leads to the same conclusions as the risk management analysis in Chapter 3. When the treatment purchasing contract is undertaken by the patient (i.e. the patient co-payment), then the patient bears at least some of the costs arising from the conflict, but when it is undertaken by the insurer-agent, then all patients collectively share the costs, and it is by the terms of the insurance purchasing contract that the costs are allocated amongst insurance customers.

4.1.2.4 Conflicts and the Hippocratic Oath

A particular problem attends the presence of a combined insurance and service provision agency contract when the individuals placed in the position of conflict are medical practitioners (doctors). A fundamental precept of this profession is the Hippocratic Oath. Under this fiduciary oath, an individual medical practitioner is an agent to specific patient principals, and

undertakes to place the interests of patients first, above any other considerations that the practitioner may have to take into account. Whilst this provision to some extent overcomes the risk that a practitioner may place personal business interests over the medical interests of a patient, it also means that in the event of any activities that the practitioner undertakes (either business or medical) that relate in any way to any others (patients, other providers, etc.) in any context, the practitioner has an obligation to place the medical interests of his own patients first. Thus, in a decision where the interests of his patients conflict with the interests of patients of another practitioner, the practitioner is under a fiduciary duty solely to his own patients.

The effect of the obligation to current patients places medical practitioners in a conflicted position when they undertake any activities other than service provision to current patients. For instance, where a medical practitioner is placed in a position where he must make decisions concerning a conflict between the medical needs of his own patients, and the financial risk management needs of a population, the Hippocratic Oath means that the conflict will almost without doubt be decided in the medical interests of the practitioners' own patients. If he does not decide in this manner, then the practitioner is in breach of his professional fiduciary duty to his own patients. It would therefore appear to be untenable for a medical practitioner who is currently attending patients in a patient-doctor capacity to be able to make a decision that adequately addresses a fiduciary duty to any other agency relationship that is related in any way to his relationship with his own patients.

Insurance agencies necessarily involve some forms of aggregation of the risks of patients from a variety of providers, and the very nature of the insurance product requires decisions to be made about the rationing of scarce resources amongst a patient base of many providers. Thus, it is difficult to see how a practising provider can avoid breaching the Hippocratic Oath in order to deliver on the requirements of the insurance agency that he may hold in relation to the patients of other providers. Neither can he avoid breaching the agency relationship with the patients of other providers if he upholds his obligations under the Hippocratic Oath. It is for this reason that the governance requirements of most medical insurance companies and government health policy agencies involved in rationing decisions preclude practising medical practitioners from holding either governance or management roles.

4.2 Insurer-Providers and the Nonprofit Organisational Form

The economics of agency relationships suggest it is unwise from a social perspective for insurer-provider firms to be owned by providers, or that they be governed by providers who are

currently treating patients, due to the inherent conflicts of interest that these arrangements invoke, and that investor-owners are unlikely to find it desirable to participate in these businesses. Consequently, the only viable ownership form for such entities would appear to be either a consumer-owned entity (that is, a consumer-owned co-operative) or a nonprofit organisation. Given the high costs of maintaining discrete shareholdings within widely-dispersed consumer-owned organisations, many such organisations forego the benefits of having a defined ownership and adopt the nonprofit form as this is the most efficient (Hansmann, 1996).

4.2.1 Nonprofits as a Second Best to Optimal Ownership

Hansmann (1996) argues that nonprofit ownership evolves as a consequence of the costs of ownership, control and market contracting that firms face. He argues that trading in the shares of the firm will result in the firm being owned by the party whose ownership minimises the total costs of trading (i.e. market operations) and ownership (i.e. operating governance systems), thereby maximising profits. Sometimes, these costs are minimised when the costs of having specific owners are greater than the losses incurred through poor performance and misappropriations – in this case, costs are lowest when the firm foregoes owners and relies upon governance contracts and the adherence to the fiduciary duties of those involved – the classic nonprofit firm. However, the cost-minimisation argument arises as an alternative to another form of ownership. Ideally, one set of stakeholders would be the optimal owners but the costs of co-ordinating them to exercise their ownership interest is just too great, making governance using the not-for-profit firm the best option.

This argument potentially explains nonprofit control of a number of activities that would otherwise be best managed as consumer-controlled co-operatives – especially, but not exclusively, services (e.g. health, education) and mutual insurance companies. Consumers have an incentive to own these activities as a more informed or monopoly owner might exploit them by acting opportunistically or charging prices in excess of marginal cost. If the co-operative owns the means of production (assets and contracts with staff to provide services as employees rather than owners), there is no point in acting opportunistically or overcharging members for services as it is members as owners will receive the profits.⁶⁸ Nonprofit operation may cost less than co-ordinating a large number of small shareholders each with minimal incentives to actively participate in the governance of the organisation. A small number of people bound by

⁶⁸ Although it is noted that this does not remove the potential for employee-managers to act opportunistically in their own interests as agents against the collective owners or their representatives.

fiduciary duties may perform the tasks more efficiently, but only if the monitors themselves are adequately monitored. Hence the nonprofit alternative to regulation emerges. The counterfactual is not a nonprofit as an alternative to regulation of a for-profit consumer co-operative, but a nonprofit as an alternative to regulation of for-profit independent investor ownership.

4.2.1.1 Nonprofits in Health and Insurance Markets

There are precedents using Hansmann's arguments that go some way towards explaining extensive nonprofit ownership of health service providers. The information asymmetry that attends health service provision (doctors know more than patients and funders) leads to potential exploitation such as supplier-induced demand (Culyer, 1971; Pauly, 1978). Consumers may be less exposed to financial risk if they own medical service providers and hire doctors and nurses as employees (e.g. public hospitals, union health clinics) in a classical consumer co-operative. The efficiency gain comes not from any objective not to make a profit, but from the identity of the optimal stakeholder and costs associated with this stakeholder owning the firm. The identity of the optimal owners emanates in this case from costs/risks associated with buying and selling health care. It is the diverse shareholding of the optimal consumer co-operative ownership structure⁶⁹ arising from the characteristics of the product market that leads to the evolution of the nonprofit being a potentially efficient model for certain health organisations.

Likewise, strong incentives have existed for co-operative ownership of insurance companies. Customers likely to be exploited by agents mismanaging their risks have had a strong incentive to own the insurance company to minimise this risk. For health insurance in particular, the ability to spread the random risks associated with health states across a large, diverse population, without facing the risks of adverse selection, makes compulsory membership of a single scheme (e.g. via taxation) desirable for many jurisdictions. But the large numbers required to manage the risks mean that there are many potential owners, and very high costs of governance. Nonprofit organisation of the owners may be less costly than diverse private shareholdings. However, nonprofit effectiveness depends upon the extent to which the fiduciary duties of the appointed trustees reflect the interests of the stakeholder who would otherwise be the logical owner. If the fiduciary duties do not strongly reflect these interests, then the advantage of the nonprofit form is lost.

⁶⁹ That is, all potential patients of a given service are at risk when trading with the entity either now or in the future, so have an incentive to be amongst the owners.

Government ownership of both health insurance and health service provision is a natural extension of the nonprofit co-operative models, as government is a mechanism that already binds whole populations. If whole populations would be the logical owners, government assumption of the responsibilities is essentially the equivalent of a nonprofit alternative to national individual ownership by all taxpayers. Government assumption of the task may be less costly if there are economies of scale to be gained in one entity managing a portfolio of such entities. However, government agencies tend to be poor monitors as their agency is diluted amongst the very wide range of agencies undertaken. Furthermore, competition with government-provided services is often limited. As an alternative, a private nonprofit with a dedicated agency responsibility offers a viable alternative, but only if there are satisfactory means of appointing, monitoring and disciplining the fiduciary agents. If these mechanisms are weak, then the nonprofit form may be more costly to consumers than a consumer-owned for-profit firm (Howell, 2000). The English Primary Care Trusts and Foundation Hospital Trusts offer examples of health service entities where ownership of previously government-owned health service providers has been conferred on local trusts with defined membership in order to overcome some of the monitoring and enforcement inefficiencies inherent in government ownership (Howell, 2004a).

4.2.2 Nonprofit Objectives

Thus it can be seen that ‘nonprofit’ is not a term that describes the objectives of an organisation. Rather, it is a term that has come to be used to describe entities where there are no defined owners, and a ‘non-distribution constraint’ exists. As there are no defined ‘beneficial owners’ of nonprofit organisations, no one individual has an inalienable claim on a specified share of assets of the organisation and the income that those assets produce, such as occurs in ‘owned’ or for-profit organisations with shareholders (James and Rose-Ackerman, 1986:2). Thus, in competitive markets there is no difference between the profit-making intentions of for-profit and nonprofit entities. However, there are significant differences in the behaviour of individuals in their different capacities, and therefore different opportunism risks to manage for, in nonprofit entities relative to for-profit ones.

4.2.2.1 All Organisations (Incl. Nonprofits) Have a Profit-Maximising Objective⁷⁰

All organisations that are to survive in the long term must at least cover their costs of capital (i.e. make an economic profit of at least zero) – even ‘nonprofit’ organisations, who must renew

⁷⁰ In this section, an operating profit is defined as revenues less operating costs. An economic profit is defined as revenues minus operating costs minus a ‘fair’ return on capital employed.

their physical capital and source funds for future projects. In competitive markets, all firms will on average make an economic profit of zero (irrespective of for-profit or not-for-profit status). If markets are not competitive, then all firms with market power stand to make economic profits in excess of zero, irrespective of for-profit or nonprofit status.

For-profit firms pay dividends to shareholders to recognise the company's use of their funds and the risks they bear as the company's primary risk bearers. Shareholders also accrue capital gains from successful projects, and bear the losses of unsuccessful ones. If the for-profit company fails, the shareholders lose their investment. Dividends and capital gains reflect the extent of the loan and the size of the risk of the project. If the for-profit company needs funds for a new investment (e.g. a new machine), as long as the expected returns are positive, debt or equity investors will lend more money. Dividends and capital gain are thus a means of recognising the opportunity cost foregone by the lenders of capital.

Nonprofit firms typically have no owners therefore pay no dividends, and all profits accrue to the firm. However, when nonprofits need investment funds, they have no 'owners' to provide the necessary capital. They also have no owners to underwrite loans, and often no capital assets to offer as security for borrowing. There is no owner willing to bear the risks of a project. Hence if a nonprofit firm has a new worthwhile project, it must be financed out of retained earnings. If there are no profits from retained earnings, the nonprofit has no ability to invest in new projects, no matter how financially attractive or welfare-enhancing to beneficiaries they may be. The only recourse is to seek donations of new capital from altruistic benefactors.

If nonprofit firms want to innovate or increase their level of charitable activity, they must seek profits, just like any other firm. If a nonprofit firm with a charitable purpose does not seek to maximise its profits, then it cannot be seeking to do anything other than carry out a pre-defined set of riskless, mundane and unchanging tasks – for example, acting as a conduit to receive funds from one source (e.g. donors) and distribute them to beneficiaries, without seeking to add any value to those funds via any trading activities. In contrast, if the firm deposits the money between receipt and distribution in an interest-bearing account, it is profit-maximising, as it is normally bound to seek the highest interest rate (within defined risk criteria) when undertaking such activities⁷¹. At the extreme, the firm may invest all the money in a trading operation, either to increase financial resources (through making economic profits – e.g. selling Christmas cards

⁷¹ It would be highly unusual for a nonprofit organisation to require its trustees not to invest in interest-bearing accounts of any sort, as such behaviour is contrary to the rational objective of any entity to preserve and enhance its asset base. If such provisions do exist, they are most probably a response to some form of external incentive that encourages such behaviour.

at higher than cost to raise more funds for the charitable purposes) or to perform the benefit distribution process (e.g. buying child car restraints to rent at low cost to people who otherwise cannot afford a seat). In either case, the objectives of giving more to beneficiaries are achieved by making higher profits.

4.2.2.2 Nonprofits and Control of Assets

As there are no defined ‘owners’ to whom the profits can be distributed (in the form of dividends or capital value), the real issue attending nonprofit firms is the control of decision-making surrounding the application of income and assets, the operation of the firm and the distribution of any profits made. These issues are determined by the governance arrangements of a nonprofit firm – who chooses the decision-makers, monitors their performance, rewards them for success/disciplines them for failure (e.g. quality of decision-making, allocation of profits) and how information to enable these tasks to be undertaken is established. It is the agents who control the organisation who have the power to pursue the profit (benefit) maximisation objectives, appoint agents to carry out tasks, and oversee the profit- and benefit-maximising activities of the entity.

For-profit firms usually have clearly-defined processes for electing and monitoring decision-makers (Board) – owners (shareholders) vote and the incentives to monitor the performance of their agents (board members, management). The presence of owners also allows the use of mechanisms such as incentive contracts to share risks with board members and managers in such a way that managerial excesses and illegal expropriations can be minimised. Where shares are traded, information signals about the performance of board and manager are available to shareholders on which to base their actions. The very fact that shares can be traded acts as a discipline on managerial and board performance. If the board and managers do not perform in the interests of shareholders, the threat of takeover exists (Jensen, 1993).

Nonprofit firms have no shares, so may or may not have clear processes for choosing decision-makers. The allocation of control is typically contained in the entity’s constitution. An active membership of individuals, who value their reputations, and have a common resolve to pursue a common purpose (e.g. members of New Zealand’s Plunket Society, who share the objective of “ensuring New Zealand’s children are amongst the healthiest in the world”⁷²), may act in many ways as owners if they have the power to elect and monitor board and managers. If the members have this ability, they have ‘legal ownership’, in that they bear the responsibility for the decisions made. However, they have no ‘beneficial ownership’, in that they receive no

financial reward. Members' incentives to monitor financial behaviours may not be as strong as those of shareholders⁷³, but a membership with 'legal ownership' may offer a second-best, relative to a nonprofit where there is no defined membership and governors are appointed by agents at the end of long and complicated principal-agent chains, such as occurs when agents of politicians, who are agents of voters, make arbitrary appointments to governance bodies (Howell, 2001).

4.2.2.3 Nonprofits and Governance Incentives

If there are no 'legal owners' in the form of a membership, then arguably no one is incentivised to monitor and enforce discipline. Weak monitoring tends to lead to greater levels of managerial excess (e.g. expropriating funds, poor control of organisational costs, excessive 'perks') and poorer quality managerial and board decision-making (as there is no threat of takeover). Weak board monitoring, absence of an owner to share risks with the board and managers, absence of a takeover discipline and an absence of any other incentivised monitor to observe behaviours, makes it easier for strong management to capture boards. Furthermore, many nonprofits operate in environments where they face little competition in product and factor markets. These organisations seek to limit board and managerial control to a far greater degree than that evidenced in for-profit organisations. This is typically achieved by stricter controls upon who can serve as a decision-maker on the board, and more rigorous fiduciary duties than are the case in for-profit organisations. In accordance with Jensen (1993), where a for-profit and a nonprofit firm are trading in identical product and factor markets, with undifferentiated legal/political/regulatory controls, then the internal governance system provides the only mechanism via which the behaviours of the nonprofit board and management can be controlled in order to produce the same outcomes as the for-profit firm with a defined ownership interest.

Typically, nonprofits preclude staff from holding board appointments, and where membership exists, from membership status, thus preventing attempts of staff to influence board activities by 'stacking' the membership processes and decision-making to obtain decisions that benefit their interests to the exclusion of others (Milgrom and Roberts, 1992: 524-7). Likewise, as the only other ways that the assets of the firm can be distributed is to beneficiaries, if the beneficiaries would not ordinarily be the logical owners of the firm as per Hansmann's arguments, then the appointment of beneficiaries to nonprofit boards is inadvisable unless

⁷² <http://www.plunket.org.nz>

⁷³ It is noted that passionate believers in the mission of some organisations may in fact provide significant levels of monitoring, but as the payback the members receive from their activities is intangible, it is difficult to either observe the presence or absence of such activities, and difficult to provide contractual incentives to reward such behaviours.

constraints are put in place to preclude the beneficiaries favouring their own interests over those of other beneficiaries⁷⁴ (Howell, 2000).

If the product of a nonprofit organisation is traded in competitive markets, then as with all other organisations, information is available to assess the performance of the entity. Thus, trading nonprofit organisations will survive or fail in these markets according to their economic merits, and ultimately the composition of the board may be less important in influencing the decision-making. For example, if the board makes a poor decision or managers act self-interestedly to the detriment of the firm, the entity will fail commercially, and exit the market. By extension, the board members of a nonprofit organisation that is not trading in competitive markets face an information asymmetry that makes it even more important that the distinction between management and board is maintained, to minimise the extent of managerial opportunism that can occur.

4.2.2.4 The 'Soft Budget Constraint'

If stakeholders do not allow failing nonprofits to exit the market (e.g. altruists provide more funds to keep the entity functioning, even though this is counter-indicated), then poorly-performing nonprofits may persist unchecked for longer than for-profits. Indeed, altruists may give more money to failing nonprofits in order to keep them functioning. These effects are known as a 'soft budget constraint', as the managers of such organisations are not constrained by their initial budgets. If they do not succeed against these budgets, they can ask for more money. By comparison, rather than investing more money, shareholders of poorly-performing nonprofits will likely withdraw their capital or more efficient owners will buy out the less efficient ones in a take-over as soon as the level of performance becomes sufficiently poor. A 'soft budget constraint' applies especially when the altruistic financier is the government, with the ability to apply taxation revenues to a failing nonprofit deemed to be providing an 'essential service'⁷⁵. The risks of soft budget constraints persisting even longer is even more marked when there is restricted competition and therefore fewer competitive disciplines on the organisation, especially less information on the costs of providing an efficient service. The governance implication of this consequence is that financial monitoring of the performance of nonprofits in these circumstances, supported by board members with a willingness and competence to understand and act upon the findings of such analyses, are even more important

⁷⁴ It is noted that the same constraints should apply to 'representative' board members, where the board is comprised of appointments from different constituencies.

⁷⁵ An example of this behaviour exists in state-owned public hospitals in New Zealand. The budget deficits of these entities is increasing: "The Minister of Finance will make a decision around whether to "look through" these items, or whether to adjust the new spending amount for some items (or components of them) for example reducing overall spending in light of an increase in forecast hospital deficits" (Treasury, 2003:16).

than in for-profit organisations to assure the beneficiaries and other stakeholders that they are receiving the maximum benefits from the organisation.

4.2.2.5 Summary

All other things equal, nonprofit firms incur higher risks of operating less efficiently than for-profit firms. If a nonprofit firm is to operate as efficiently as for-profit firm, it must have additional governance constraints (typically additional overt monitoring and enforcement requirements) to compensate for the lack of other mechanisms. These tend to be more costly than the alternatives – hence the firm faces higher costs and makes a lower profit⁷⁶.

4.2.3 Nonprofits as an Alternative to Regulation

Nonprofit status is often offered as an alternative to regulation in order to control the power of monopolies and other self-interested stakeholders. However, nonprofit status will not offer a credible alternative if there are insufficient governance mechanisms in place to counter the problems of potential poor board and managerial performance, excesses and expropriations. Indeed, nonprofit firms with lax governance controls and limited ability for beneficiaries to monitor and enforce behaviours and exert their claims can result in benefit distributions that may not ultimately be in the interests of the intended beneficiaries. For example, when government nonprofit ownership is offered as an alternative, government bureaucracies can grow large in order to satisfy managers' desires for empire-building (Horn, 1995) and boards 'captured' by specific interest groups often disproportionately favour one set of beneficiaries, specifically the group that has 'captured' it, over others (Howell, 2000).

Nonprofit ownership will offer a credible alternative only if the governance structures in place reflect the interests of the stakeholder group who would otherwise be the first-best owners of the organisation. If they do not, then there would appear to be little benefit in the entity assuming a nonprofit form. It makes little sense to create a nonprofit organisation as an alternative to regulation of investor-owned firms, and then institute a governance structure that confers significant governance control to a stakeholder who is likely to act contrary to the interests of the beneficiaries, with limited mechanisms for the intended beneficiaries to influence the outcomes. In terms of health care, it makes little sense to grant governance rights to medical practitioners in organisations such as public hospitals, whose economic justification for being nonprofit entities is to constrain the potential opportunism of medical practitioners. If

medical practitioners are to be given control in such entities, then it may be more effective to accept private, for-profit medical practitioner ownership of the entities, but impose other conditions such as stricter regulatory oversight and very strong contractual incentives to constrain opportunistic behaviour.

4.3 Governance and Fiduciary Duties

Irrespective of the ownership form of an entity, statutory and common law expectations require those individuals charged with the governance of any organisation to act with the care expected of a ‘reasonable director’ and with a fiduciary duty to the organisation in respect of any actions that they take in their capacities as directors⁷⁷ of the organisation. This expectation is designed to create a basic level of legal obligation between the director and the organisation. Specifically, this expectation requires that, if any director is ever placed in a position where there is conflict between the interests of the company and any other interests in which the director may be involved (e.g. personal shareholding, transaction involving a company with which the director is associated in another capacity – e.g. owner), the director must suspend all other interests and act solely in the interests of the company. Failure to do so exposes the director to personal liability.

An example of such a provision is contained in section 131 of New Zealand’s Companies Act 1993. Furthermore, it equally binds any individual who is not a director, but is acting as though the individual is a director (that is exercising powers that otherwise would be exercised by directors – a ‘deemed director’⁷⁸). Whilst it has yet to be tested in the courts in New Zealand, the likely outcome under common law is that this test of fiduciary duty will apply equally to board members and trustees of Incorporated Societies and Charitable Trusts.

Where it is anticipated that conflicts of interest will arise, governance structures typically include contracts and rules that seek to limit the firm’s exposure to exploitation by conflicted directors, or to facilitate the flow of information to enable monitors to detect otherwise hidden actions by conflicted directors. Thus, directors are expected to overtly declare interests (e.g. shareholding), are generally required to stand aside from voting in decisions that involve their

⁷⁶ That said, empirical evidence (largely hospitals in the US) finds on average no significant difference in the profitability of not-for-profit and for-profit firms in the same sector – the relative difference may be small compared to other factors such as quality of decisionmaking.

⁷⁷ In this chapter, ‘director’ will be used to describe a member of the board of any organisation, for-profit or nonprofit. Where there is a specific difference between the obligations of board members of nonprofit firms, they will be discussed separately as ‘board members’ of incorporated societies and ‘trustees’ of charitable trusts.

⁷⁸ Legally appointed directors are sometimes termed ‘de jure directors’ and ‘deemed directors’ are sometimes termed ‘de facto directors’.

other interests, and it is unusual (in the NZ case at least) for current staff (with the exception of the CEO) to be board members unless their ownership stake is large, in which case their presence on the board is principally as an owner rather than an employee. There are especially strong risks of conflicted decision-making behaviour occurring when director appointment processes grant certain shareholders or interest groups the right to appoint directors, who could be tempted to make decisions that favour the interests of those who appointed them over those of the firm, especially when the rewards that accrue to the decision-maker from the alternate interests exceed those from acting in the fiduciary interests of the firm (Holmstrom and Milgrom, 1991). Firms that are exposed to such risks could be expected to have processes in place to make detection of conflicts transparent, such as expectations that conflicted directors will voluntarily disclose the conflict and stand aside from decisions where they are conflicted, public disclosure of shareholdings and other relevant interests and distribution of the minutes of board meetings to all interested stakeholders.

As non-owned, nonprofit organisations are quite likely to have representative directors, it is almost always standard in the constitutions of such organisations to require minutes disclosure and declaration of conflicts of interest. However, disclosure is not a very effective instrument in detecting active conflicts. In the absence of an ownership interest, few individuals face a sufficient incentive to actually scan all minutes and other disclosures on behalf of all beneficiaries and detect and act upon breaches. In contrast, for-profit companies usually have large shareholders who take an interest, or institutional investors who will undertake such monitoring on shareholders' behalf. Whilst it might be expected that appointing bodies (e.g. Local Government Councils, Cabinet Ministers, Iwi Authorities) might take an interest, in practice they typically make many such appointments and each one is of minimal value relative to other activities. Hence they too are unlikely to actively monitor. Most breaches are detected by disaffected beneficiaries, and then only when the size of the loss incurred to the beneficiary or the potential redress from detection is sufficiently large to justify the expense of monitoring and acting upon such information when it is discovered (Howell, 2004). Hence, breaches of fiduciary duty are both more likely to occur, and more likely to go undetected, in non-owned nonprofit companies.

This suggests that wherever possible, the design of the governance bodies of nonprofit organisations should avoid representative decision-makers. The board members are therefore more likely to place the interests of the organisation first. Whilst it is acknowledged that such board members may bring information to the board table that is valuable in decision-making, the governance design needs to trade off the costs of their potential opportunism and inactivity

against the cost of acquiring the information in other ways. For example, representative input from advisory committees, who do not have decision-making power, may partially overcome this problem, and many nonprofits allow chief executives to attend meetings and take part in discussions, but with no right to vote. Others hold open meetings, with rights for beneficiaries to attend, or may have special advisory groups in respect of specific issues. The critical issue here is the assessment of how to acquire information and skills. It does not necessarily follow that the possessors of the required information and skills should execute decision-making tasks, especially if this would place them in conflicted positions. A better, more transparent outcome may result from neutral decision-makers assessing the evidence provided by interested parties. Prendergast (2001) argues that in any principal-agent relationship the uninformed principal will acquire the necessary information to assess the performance of an agent from a third party only when the third party is paid a positive sum in excess of the costs of providing the information. This suggests the need for separate and ideally, independent contracts for information acquisition and governance functions.

4.4 Application to the NZPHCS

The mandatory requirement of the NZPHCS that PHOs be nonprofit entities necessarily invokes all of the issues of governance design addressed in the preceding sections. This requirement combines with the greater opportunities for conflict arising from the expectation that providers be part of the decision-making, and that the balance of the boards be made up of ‘community representatives’, to expose PHOs to the very significant risks of loss from self-interested decision-making. The NZPHCS places minimal constraints upon the governance structures of these organisations. There are no mandatory requirements to disclose minutes, PHO board papers and board member conflicts of interest. The establishment guidelines for PHOs (MoH, 2002) contain disclosure requirements only of price, quality, service utilisation information and the details of contracts entered into. Other disclosure requirements are presumably contained in the Constitutions of individual PHOs.

The high degree of flexibility allowed for PHO governance structures under the NZPHCS leaves considerable room for alternative structures to emerge. However, there is no assurance that these structures will ultimately be in the long-term interests of patients. Given that patients constitute a large number small shareholders with limited incentives or ability to monitor, the potential for vested interest groups to gain control of nonprofit PHO decision-making, to the detriment of patient principals, represents a real risk to the ability of the NZPHCS achieving its objectives. The broad provisions of the NZPHCS appear to provide direct avenues allowing

vested interest groups to become influential in decision-making, whilst simultaneously providing few regulatory provisions to assist in either early detection of, or timely action against, self-interested decision-making by these groups if they do gain the balance of power in PHO decision-making. The likelihood of self-interested decision-making occurring, and persisting undetected and unpunished is therefore high.

4.4.1 Agency Relationships and PHOs

If it is the intention of the NZPHCS that patients enrolled in the PHO should be the beneficiaries of decisions that PHOs make⁷⁹ and the profits that ensue, then the balance of power in the governance structures of insurer-provider PHOs should lie with directly with patients. If patients are the intended beneficiaries, then it is also in the interests of all taxpayers whose funds comprise the government subsidy that these services provide, that the products and services offered be cost-effective, and that information should be available to further the ability of taxpayer-agents to monitor and enforce the behaviours of the patient-agents. Information revelation processes should be designed to further the ability of patients, and their duly-appointed agents, to undertake these governance roles.

4.4.1.1 PHOs Optimally Consumer-Owned Co-Operatives

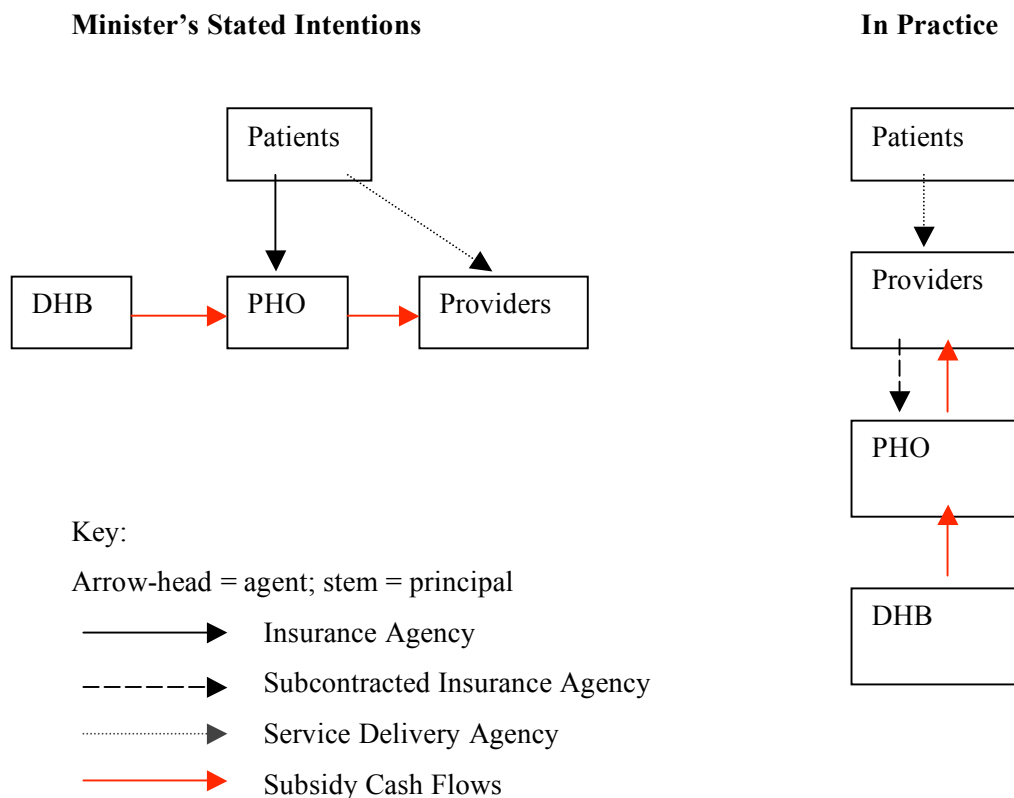
As patients and taxpayers are generally one and the same, then by Hansmann's arguments and the analysis in the preceding sections of this chapter, it would appear that PHOs would optimally be consumer-owned co-operatives in order to overcome the potentials for exploitation by both provider-agents and insurer-agents, but that nonprofit ownership is a reasonable 'second-best' given the costs of governance and the nature of the competitive markets. Indeed, if the lack of competition evidenced in Chapter 3 was anticipated, such an ownership structure might provide some checks against the acquisitive behaviour of investor-owners.

In fact, the design of the NZPHCS appears to pay little attention to the multiplicity of relationships between the patient and the combined insurer-provider agent, and the change in relationships between the provider and the patient that the NZPHCS invokes. The relationships diagram in Chapter 1 does not mention patients and taxpayers specifically, and shows the only relationship that a patient has with the PHO is via the service provider with whom the patient is registered. The implication is that the service provider agency is let by the patient to the practitioner, and it is the practitioner who sublets it to the PHO, in order for the PHO to receive the subsidy revenues. This suggests that in the structures designed to implement the NZPHCS,

⁷⁹ This appears to be the overall intention of the NZPHCS in its entirety.
June 2005

the PHO is acting as an agent of service providers in responding to the service provision preferences of patients. This is despite the clearly stated intention contained in the wording of the NZPHCS that PHOs receive the capitation contracts, manage the financial risks, let service contracts to providers and co-ordinate care across providers in respect of individual patients. The following diagram illustrates the intention of the NZPHCS as expressed in the Minister's words, and the practical application of these intentions as expressed in the relationships diagram in Chapter 1.

Figure 4.1 Principal-Agent Relationships under the NZPHCS



Because in practice the PHO is acting as the agent of service providers, the most effective disciplining instrument available to patients in respect of the PHO is not a governance instrument at all, but a product market signal as a customer. But the signal can only be sent in respect of the service provision agency, as there is no recognition given that the patient also has a separate insurance agency that has been granted to the PHO on the patient's behalf by the provider. As the patient's insurance agency is irrevocably tied to the service provision agency, the patient has no ability to exercise this agency separately. It too is discernable only through the actions of the patient as a customer. The consequence is a departure from the governance rights that the Hansmann-based analysis implies are optimally held by patients, but in a second-

best should be managed by agents acting with a fiduciary duty to those patients in respect of both their insurance and health service agencies.

4.4.1.2 NZPHCS Intentions and Institutional Design Mismatch

This finding suggests that there is a fundamental mismatch between the intentions of the NZPHCS and the institutions designed to deliver it. As the structures are portrayed, and have played out in the case of the majority of (Independent Practitioner Association-led) PHOs (from Chapters 2 and 3, with examples in Chapter 5), it is the service providers who act as the combined insurer-provider agents for patients. The service providers have subcontracted a number of administrative and service co-ordination functions, including financial process (but not financial risk) management, service development and service co-ordination in respect to certain services, to PHOs, who act as agents of service providers.

The power that the practical implementation of the NZPHCS gives to service providers to select the patient's insurer exposes a weakness in the governance design of the system. As the service provider is rewarded by the patient and the PHO on the basis of service delivery actions, then in choosing the PHO on behalf of the patient, it would be expected that the service provider will respond to service-delivery incentives over insurance-agency incentives when making the selection (Holmstrom and Milgrom, 1991). As the PHO has no direct contractual relationship with the patient other than that provided by the service provider, PHO decision-makers are unable to easily access information about patient satisfaction with the insurance component of the services provided, independent of that provided by service deliverers. It would therefore not be surprising to find that the activities of the PHOs, become dominated by activities associated with the service delivery agency, at the expense of the insurance agency.

In practice, order to serve the needs of service providers, PHOs may become effectively service provider co-operatives. As the governance requirements of the NZPHCS specify provider representation in the decision-making of PHOs, then the likelihood of providers forming a strong, self-interested group capable of 'capturing' the PHO decision-making process in order to ensure that service supplier interests are given priority is even greater. If the balance of governance power in PHOs results in them effectively acting as service supplier-owned co-operatives, then there is no purpose in making them nonprofit entities in order to safeguard taxpayer funds. Rather, if supplier-owned co-operatives are nonprofit entities, it is typically in response to the costs of a governance structure that must guard against an exploitative investor-owner or some other stakeholder harming the collective interests of the provider group (e.g. Fonterra in dairy processing and marketing, the Medical Association). If this is the case, then

it is appropriate that the balance of control of its governance body should be in the hands of service providers⁸⁰. However, if the beneficiaries of nonprofit PHOs are patients and taxpayers, but service providers hold the balance of power, then making PHOs nonprofit entities is not only contrary to beneficiary interests, but also serves to accentuate the problems arising from lowered monitoring incentives and absence of information about the activities of the entity.

4.4.1.3 Agency Relationships and the Intentions of the NZPHCS

If it is the intention of the NZPHCS that patients and taxpayers should control the governance of PHOs (as is apparently intended by the requirement that communities be represented in the governance of PHOs), then the institutional design to implement the NZPHCS needs to recognise the two distinct agencies that are held by entities that combine risk management and service provision. It is acknowledged that the implementation of the NZPHCS required the participation of entities that already existed under the pre-2001 strategy, and that some of the relationships existing pre-2001 could be utilised for administrative convenience to reduce the establishment costs of the system (for example, utilising the patient lists of independent providers as the basis for establishing PHOs in the first instance). However, the newly-designed institutions must recognise the ongoing relationships that attend the new form of funding. As capitation funding introduces financial risk management tasks to service provision, the ongoing tasks with which the NZPHCS charges PHOs cannot be carried out simply by requiring providers operating under the pre-2001 system to amalgamate into co-operative networks, and then imposing a new governance structure over the top of them that does not recognise the separate relationship between patients and the PHO. The relationships between participants are fundamentally different, and the institutional design should reflect this.

Under the pre-2001 system, there was a straightforward agency relationship between the patient-principal and the service provider-agent. Government subsidies (where applicable) were granted directly to the patient (although for administrative convenience were paid to the provider by the government-agent on the patient's behalf). Under the NZPHCS, however, the capitation subsidy is paid on the patient's behalf by the taxpayer-patient's government agent to the chosen PHO. The PHO then has the power to decide, on behalf of the patient under the

⁸⁰ It is noted that provider co-operatives tend to emerge to counter the pressures of a very strong purchaser, who has the power to exploit weak providers. Whilst there may be some argument that the strong purchaser (government) sets the extent of the subsidy, provider co-operation at the PHO level does not appear justifiable to counter this problem, as the PHOs interact with DHBs, and the capitation fee is set centrally by the Minister. Political co-operation (e.g. via the College of General Practitioners) would be the logical method of matching this power. It does not require provider collaboration at the local level. Moreover whilst DHBs could be seen as 'strong monopsony purchasers' at the local level, the extent to which DHBs can influence contracts is also limited, as basic requirements such as quality are also set centrally.

insurance agency, how that subsidy will be applied in respect of the patient's service provision agency, which is also vested in the PHO. When service provision contracts are let to provider-agents of the PHO in respect of treating any patient for whom a capitation subsidy is provided, then a sub-contracting by the PHO of the provider agency granted by the patient to the PHO occurs.

By registering with a service provider, the patient is simply nominating to the chosen PHO the provider to which the patient would prefer any relevant service provision contracts in respect of that patient be sub-let. Even though the form of the NZPHCS shows the patient granting this agency to a service provider, according to the wording of the NZPHCS, it is the intention that the decision-making power resides ultimately with the PHO. Even though the service provider receives payments directly from the patient, the size of the co-payment is dependent upon the terms of the contract the provider has with the PHO. Under this arrangement, the provider is the agent of the PHO, and ultimately the patient through the PHO.

The use by the NZPHCS of service providers' patient lists and initial provider-PHO alliances as a proxy to capture patient PHO preferences may be a low-cost way of establishing initial contractual relationships between patients and PHOs. However, the proxy is not satisfactory for managing the ongoing relationships between patients and PHOs, as it fails to recognise the very different contractual relationships that exist between patient, insurer and provider under capitation schemes relative to pure fee-for-service schemes. By continually relying upon service-provider choice to specify insurer choice (ergo a change of provider to a different PHO signals a different insurer choice), the PHO is denied an opportunity to develop any ongoing relationship with the patient independent of the service provider. As long as the service provider remains 'gatekeeper' to the patient gaining access to funding and other services provided by the PHO, as occurred under fee-for-service contracts, the high costs that these systems impose, and which managed care schemes are typically introduced to mitigate, will prevail and it is unlikely that the benefits of capitation contracts will be realised. The intention of managed care schemes, and the capitation contracts that they typically embody, is to grant more decision-making power to insurers to overcome high costs of supplier-induced demand resulting from providers determining the types and quantities of services provided to patients. These high costs resulted from being 'gatekeepers' to patients receiving treatments, and consequently the funding that was attached to provider choices. Yet the design of the agency relationships under the NZPHCS militate against the formation and operation of the very relationships required by insurers to gather information in order to design contracts to incentivise practitioners to reduce costly outcomes of them being 'gatekeepers', simply because

the ‘gatekeepers’ to capitation under the NZPHCS are the providers whose behaviour will be altered.

The use of the capitation funding instrument in a system that confers likely governance control of the insurance companies onto service providers and confers patients’ ongoing insurance agencies on service providers appears to offer negligible financial benefit, and may likely lead to even higher costs of providers acting in their own interests. The governance design of the NZPHCS, and one of the two fundamental changes to the funding instruments of primary health care therefore appear to be ill-matched and unlikely to lead to anticipated increases in the cost-effectiveness of the increases in government funds applied to the sector.

4.4.1.4 PHOs, Agencies and Ownership of Assets

The nature of the relationships between the patient, the PHO and the provider under the NZPHCS raises some issues about ownership of a significant asset – the patient list. The agency relationship between the patient and the PHO in respect of access to subsidies creates an asset for the PHO, in that the relationship confers an income stream to the PHO as long as the patient chooses to retain the PHO as the chosen agent for both the insurance and service provision agencies. Property rights to the patient list are therefore important. Historically, the patient lists have been a provider-controlled asset, and in most cases have been the sole determinant of the financial value of a general medical practice, given that premises are usually rented, and other capital requirements are minimal. As long as the patient wished to maintain the relationship, the provider could expect to generate income into the future (akin to ‘goodwill’ in other businesses) from owning the patient list.

As PHOs now receive the subsidies for patients (which will grow over time as the government increases its share of funding), the patient’s relationship with the PHO and the services purchased from the provider on the patient’s behalf by the PHO become the determinants of service provider practice value, rather than the patient list⁸¹. The income rights associated with the patient list have been transferred in part from the provider to the PHO, and over time the extent of the transfer of value increases. The provider’s practice value now becomes determined not solely by the nature of relationships with patients, but also by the nature of the contractual relationships with the PHO. If the PHO decides to share the funding in respect of a patient amongst many providers, irrespective of the patient’s preferences, the provider’s

⁸¹ Although the patient list held by a provider may be used as a determinant of the identity of patients for whom the provider receives monies from the PHO in respect of a patient, this is secondary to the contract between the PHO and the service provider.

current and future income, and hence practice value, will fall, as the patient has granted the decision-making in respect of the service delivery agency to the PHO.

In effect, the granting of the service provision agency to the PHO grants control of the patient list to PHOs. This asset and the future income streams associated with it have traditionally been controlled by the provider. There has been a redistribution of the property rights in the list, which will become more marked over time as the subsidy paid by the government increases, with associated decreases in the certainty of future practice incomes. If service providers can secure contracts of equivalent value from the PHOs, then compensation for this transfer of property rights may be achieved. Consequently, a further incentive exists for practice-owning service providers to gain control of the PHO decision-making processes, in order to ensure that they are not financially disadvantaged by the changes that arise from the alterations to the relationships between practitioners and patients.

4.4.2 Providers as PHO Governors

The NZPHCS specifically mandates that providers be involved in the decision-making of PHOs. This is not in accord with either governance design theory, or an intention that patients are the primary beneficiaries of the NZPHCS.

PHO decision-making is the prerogative of the governance body, and the single most important decision that PHOs undertake (given that it has already been established that they are unlikely to be undertaking any risk management activities) is the letting of contracts to service providers. The NZPHCS mandates placing providers as a group in the position of not simply influencing board policies or service provider contracts, or influencing the letting of contracts to other provider groups and types, but in the case of providers who are actually board members of PHOs, being involved in letting contracts to themselves. The NZPHCS offers no guidance on how these conflicts should be handled. It would be unusual if this governance arrangement resulted in providers giving identical treatment to their own contracts, and the contracts of any group whose interests they were chosen to represent on the PHO board.

The presence of providers on the boards poses the question of whether the provider-directors are so conflicted that they cannot effectively fulfil their duties to the organisation. If providers are adhering to their fiduciary duties to the PHO and its beneficiaries, they must stand aside from every service contracting decision the board makes, as the service contract either involves them directly, or involves a competitor who may be disadvantaged by their involvement in the

decision-making. Likewise, they would be expected to also stand aside from decisions to investigate new services as they could either (in fact or appearance) tilt all development towards services that relate to contracts for their own service type, or discourage pursuit of service development that would favour competing service types. If all such conflicts are to be avoided, then all such practitioners must stand aside from all these decisions, leaving a disproportionate decision-making load on a much smaller pool of directors. If their presence is simply for the exchange of information, then this may be achieved more efficiently if providers merely act as advisors to an independent, non-conflicted full-size board that can make decisions independently from the potential gains that practitioners stand to receive as owners of (in most cases, largely for-profit) supplying practices.

For example, the Trust Deed of Capital PHO (clause 20.1) requires that “a Trustee shall not vote in respect of any contract or arrangement in which he or she is interested, and if he or she does so, his or her vote shall not be counted, nor shall he or she be counted in a quorum present at the meeting”. This deed defines that “a Trustee shall be deemed to have a personal interest in any matter in which he or she would reasonably be regarded as likely to be interested materially to prefer interests other than those of the Trust or any other affected party impartially, for reasons of personal advantage or the advantage of business or family associates” (clause 20.3). It would appear that these clauses in combination would preclude any currently practising medical practitioner from taking any active part in any decisions relating to the principal activities of PHOs as stated by King (2001:5): the provision of a set of essential primary health care services to those people who are enrolled, and maintaining and improving these services. It also precludes them from the administration of contracts to achieve these objectives, stated as a key action in co-ordinating care (King, 2001:21).

The evidence to date shows significant involvement of currently-practising general practitioners, with many taking leading roles in the governance of PHOs. General practitioners, under the umbrella of Independent Practitioner Associations (IPAs) have been dominant in establishing PHOs in most DHB areas. All but four of the seventeen South Island PHOs are affiliated to IPA Southlink (the contact details for all of these PHOs on the MoH website is the same person at Southlink). Southlink-affiliated PHOs comprise 60% of the South Island’s market share (by registered patients). Likewise, upper North Island IPA Procure dominates in Auckland and Counties Manukau DHBs, and has a strong presence in Waitemata.

Wellington-based IPA WIPA has a contract to provide management services for five PHOs – three within Capital and Coast Health (85% market share); the monopoly Wairarapa DHB area

PHO and the geographic monopoly Otaki PHO in MidCentral DHB. Chapter 5 provides an example where an IPA which appoints board members to five PHOs only allows practising doctors to be members of the IPA decision-making body. The constitution of at least one of the PHOs to which the IPA has the power to appoint trustees requires that only currently practising doctors are able to assume the IPA-appointed trusteeships. So not only are medical practitioners currently servicing patients required to be part of the PHO decision-making process, but they are doing so as specific representative board members.

It may be that the activities identified in this section may be widespread amongst the larger PHOs, most of which have been able to form quickly simply because of the provider networks already established by the IPA.

4.4.3 Community Representatives as a Constraint?

Although the NZPHCS allows for community representation on the boards of PHOs, and a minority of PHOs have been community-led rather than practitioner-led, unless there are specific membership-based criteria where all members have the ability to participate in the appointment of community representatives, there is very little responsiveness to the needs of individuals as either patient principals or insurance principals. In most instances, there is no openly accountable representative process as occurs in political contexts, for example in the election of community representatives to the DHBs, so no constraints against these 'representatives' also acting opportunistically in the interests of specific constituencies. For example, Appendix 7 shows that Capital PHO requires six of its eleven board members must be appointed by providers (five of whom are appointed by WIPA Ltd and one by Te Ngawari), and five appointed by the community. Of the community representatives, three are appointed by specified entities (Ngati Tama, Rauru Teterere and Vai Ola) and two appointed by a nominations board comprised of the Wellington City Council the Consumers' Institute and the Wellington Public Health Forum. Only one of these entities is publicly accountable (Wellington City Council), and it is a nominating, not an appointing body. The specific accountabilities of any of these appointees directly to patients and taxpayers is negligible. The incentives for any of the appointing bodies to monitor their appointees is also negligible. There is also only very weak political accountability available to patients and taxpayers via the regulatory oversight provided by either DHBs and the Ministry of Health, or ability to influence the form of contracts let to the PHO.

Principals are thus effectively disenfranchised in respect of any governance involvement in PHOs, leaving their only effective signal their choice of service provider. Yet even here the signal is problematic as the patient agency and the insurance agency are bundled. In contrast, patients have greater (but still small) ability to influence the provision of secondary and tertiary services provided by DHBs, through their ability to vote for board members who have a designated responsibility to serve constituents' interests. There is also significantly less accountability than in the Foundation Hospital Trust boards in England, who are elected by a membership that allows any past, present or likely future patient to join (Howell, 2004a).

4.4.4 Board Composition

Given that the tasks required of PHOs are principally contract letting and monitoring, service co-ordination and development, and insurance fund management, with the inherent ongoing liability for funds management in respect of current and future patients, it is questionable whether a board comprised of practitioners and community members will have the necessary skills to oversee the operation of a complex risk management entity. Most 'best practice' for-profit governance guidelines identify a need for balance, the presence of independent board members and the necessity of recruiting decision-makers with the necessary skills (Hermalin and Weisbach, 2003; Schleifer and Vishny, 1997). However, the governance requirements of the NZPHCS appear to allow little room to ensure that boards have the requisite skills. Whilst service provider and community participation are explicitly required, there is no explicit requirement for boards to have competence in financial or risk management skills, despite the importance of risk management under capitation contracts, and the additional financial risks that a nonprofit delivering a difficult-to-measure product is subject to. Given the apparently limited attention given to these skills in the regulatory supervision of PHOs and service providers under the NZPHCS (Chapter 2), the absence of a requirement that they be present at the PHO level suggests that there may be costly losses to patients arising from financial and risk management practices at PHOs and amongst their subcontracted suppliers. This is again in direct contrast to the board appointment processes for DHBs, where the chair has the power to inform the Minister of specific skill gaps and can reasonably expect that the Minister will take these skill requests into consideration when making ministerial appointments to DHB boards⁸².

By further contrast, another New Zealand health sector nonprofit entity undertaking arguably similar tasks to those of PHOs, the state-owned Accident Compensation Corporation (ACC),

⁸²Personal interview with the CEO of a DHB in December 2003.
June 2005

has a fully independent board (albeit appointed ministerially), and has strict disclosure, audit and governance requirements significantly over and above those offered by the statutes governing PHOs, via its own Act of Parliament. It is not the intention of this paper to suggest that ACC offers a 'perfect' solution to the governance problems of PHOs, but the precedents offered in respect of this organisation provide a comparison against which the governance provisions of the NZPHCS can be matched.

ACC's focus is unequivocally upon serving the interests of its taxpayer constituency, and its board is neither required nor allowed to be amalgam of a supplier-owned co-operative and a community board. Moreover, it enters into service delivery contracts (amongst others) with the same providers that the PHOs contract with. Its patient customers have separate rights as beneficiaries of service delivery, and as insurance customers and taxpayers. The relationship a patient has with ACC as both the insurance provider and the co-ordinator of service delivery, provided by a variety of subcontractors, is also clear. Although its governance accountabilities are diluted by the political appointment of board members, it is subject to extensive expert interrogation by agencies such as The Treasury and the Crown Companies Monitoring Advisory Unit (CCMAU), providing some credible assurances to taxpayers that opportunistic or exploitative behaviours by board members and managers are minimised, and that the firm is fulfilling its required obligations (for example, maintaining satisfactory risk reserves and reinsurance contracts)⁸³. If PHOs were subject to the same degree of rigour in their governance appointment and accountability processes as ACC, then it is possible that the potential for losses to self-interested behaviour may be less.

4.4.5 Conflict in DHBs as Regulators and Customers

For completeness, it is noted that the design of the NZPHCS includes another element that leads to further conflicts of interest that must be managed. DHBs monitor and regulate co-payment charges of PHOs and their subcontractors, as well as entering into contracts with PHOs for the provision of services, both in respect of capitation contracts and other service development and delivery contracts. DHBs as contracting partners with PHOs are not disinterested parties. Whilst on the one hand DHBs will be seeking to contract for services with PHOs, presumably seeking the lowest possible cost or other terms favourable to their objectives, on the other hand, they will be allowed to extract information about the costs

⁸³ It is recognised that sensitivity to local needs is a requirement of the NZPHCS. However, as noted previously, sensitivity to local needs is an information provision issue rather than specifically a governance issue. Such informational needs may be adequately addressed using other mechanisms, such as the Community Health Trusts that existed in many localities prior to the introduction of the NZPHCS.

applying to PHOs and their service providers. The regulatory role enables DHBs access to information as a provider that they would not normally have access to. This has the potential to facilitate potential DHB control of PHOs. Whilst “Chinese Walls” may be cited as a limitation on this practice, the existence of an independent regulatory authority, such as exists for ACC in the form of CCMAU, would ameliorate these conflicts.

4.4.6 Summary

The integrity of the processes leading to making key decisions is entirely dependent upon the individual integrity of each individual board member, with minimal ability for the adherence to fiduciary duties to be assessed or verified, even if there were any individuals incentivised to undertake these activities. Given the extent of potential conflicts involved, it appears unlikely that ‘blind trust’ in PHO governors will lead to satisfactory outcomes for patients. The result is more likely to be some uncontrolled and uncontrollable individual and collective opportunism that will add to the costs of the system resulting from increased risk management costs and reduction of competition.

The problems of the institutional arrangements of the NZPHCS are not ones that can be easily addressed by installing more overt monitoring, enforcement, checks and balances. The problems can be significantly mitigated only by revisiting the institutional design taking into account all of the ownership interests, relationships and interactions inherent in a health system that combines both insurance and health delivery elements.

5. Case Study: Wellington Independent Practitioners' Association

This chapter draws on the previous three chapters to inform a case study of the Wellington Independent Practitioners' Association (WIPA), and the five PHOs that are affiliated with it. The case study provides evidence of the practices being adopted by both general practitioners and nominally community-governed PHOs under the NZPHCS. The study highlights the activities of only one group, but because these are in accord with most of the arguments already established, it is likely that the behaviour evidenced amongst this group is widespread amongst general practitioner-dominated PHOs that have emerged from the basis provided by IPAs.

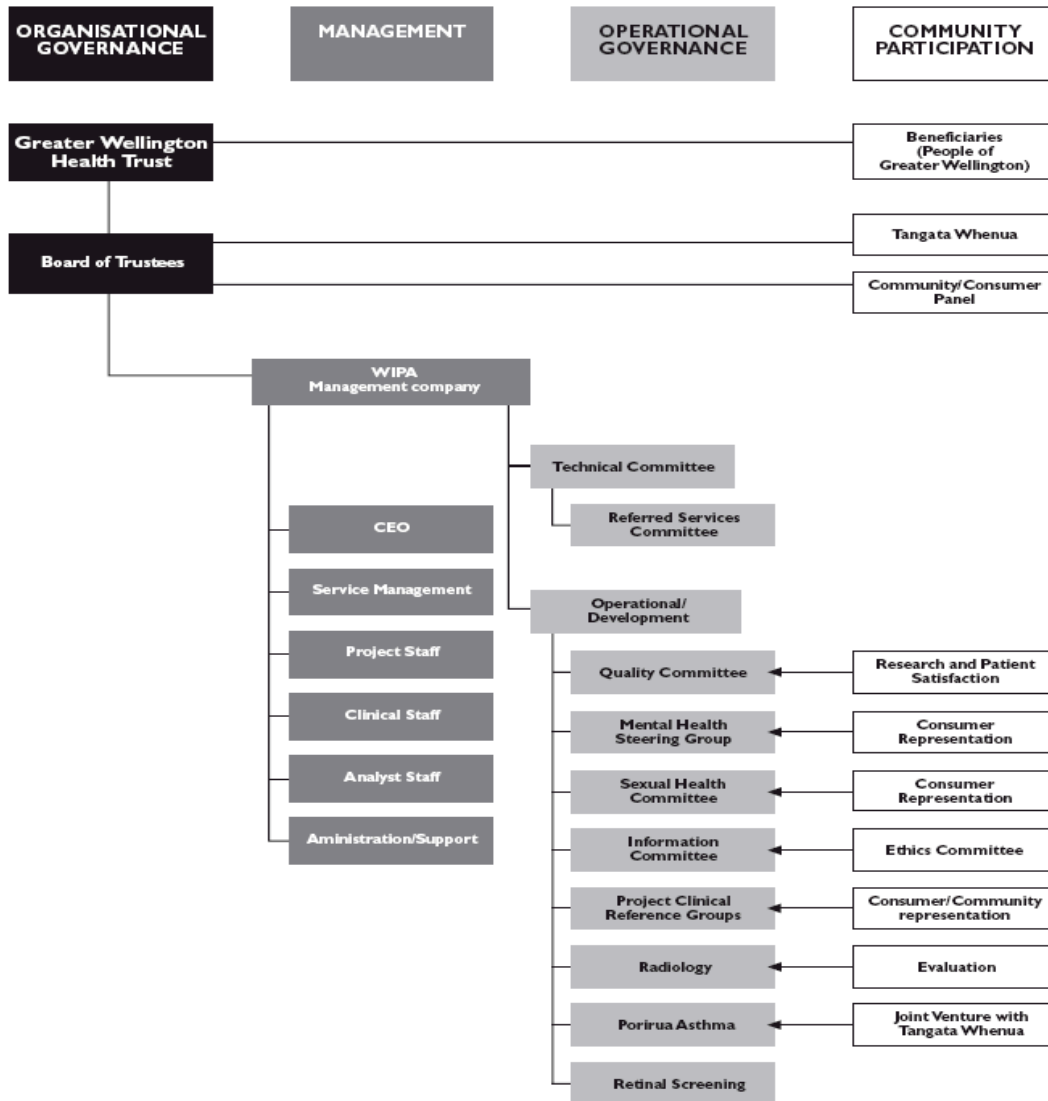
In summary, the case study suggests that mergers between PHOs across DHB boundaries are occurring, via common contractual arrangements between PHOs and management companies. In the WIPA case, the contracts linking these entities appear to be based upon common contracting arrangements that linked general practitioners together under the umbrella of Independent Practitioner Associations prior to the introduction of the NZPHCS. Under the NZPHCS, the incentives for PHOs to rationalise their administration costs and capitalise upon economies of scale in both administration and service delivery have intensified the incentives already present for general practitioners to collaborate in the manner of a supplier-owned co-operative. The existing general practitioner-owned and governed IPA alliances are strategically well-placed to become the management companies to facilitate PHO merger activity. Such merger activity amongst collaborating participants, irrespective of their past competitive activities, raises potentiality for future anti-competitive activities to occur, given that the general practitioner co-operatives and contractual mergers allow collaboration between: firstly, otherwise competing practitioners; and secondly, otherwise competing PHOs. The governance and contractual arrangements under which the management companies and PHOs are operating are demonstrated to be sufficient to allow one provider group to gain control of the PHO decision-making process. This is contrary to the avowed intent of the strategy, and allows an interested provider group to influence PHO decision-making at the expense of both total system costs, and patient and community influence in the primary health care sector. Existing regulatory provisions appear to have been unable to prevent such outcomes from occurring.

5.1 WIPA

The Wellington Independent Practice' Association (WIPA) is an umbrella Independent Practitioners' Association (IPA) operating in the greater Wellington area. The WIPA organisation comprises two entities: WIPA: The Greater Wellington Health Trust (WIPA Trust)

and Wellington Independent Practice Association Limited (WIPA Ltd). According to the WIPA website, WIPA Trust contracts “WIPA Management Ltd to provide management, administrative and health services”^{84,85}. The relationships between WIPA Trust, WIPA Ltd and the community as perceived by the WIPA group are illustrated below (WIPA, 2003:7):

WIPA: Governance, Management and Community Participation



5.1.1 WIPA Trust

The WIPA Website states that “WIPA: the Greater Wellington Health Trust” (WIPA Trust) is a registered Charitable Trust that “contracts with the Capital and Coast District Health Board and other health funders to provide a range of primary health services to the residents of its

⁸⁴ <http://www.wipa.org.nz/>

district”⁸⁶. Its vision is to work for “excellent, innovative and integrated health care for the people of Greater Wellington” (WIPA, 2004: 108). The beneficiaries of the trust are the people of Greater Wellington. WIPA Trust is a nonprofit entity. The annual reports indicate that the entity has operated since 1995 (WIPA, 2003:6).

WIPA Trust co-ordinates the delivery of a range of services, including community radiology, sexual health services, mental health services, retinal screening, immunisation, chronic obstructive pulmonary disease and asthma services, school clinics, health promotion, podiatry and palliative care (WIPA, 2004: 91). It also encompasses the Wellington Maternity Project (Matpro) and the Wellington Regional Diabetes Trust. The Trust sees its role as working to “improve health outcomes and reduce inequalities by developing new services and seeking innovative solutions, within sustainable financial models” (WIPA, 2004: 6). WIPA Trust also co-ordinates workforce planning and development, operates a GP locum scheme and has implemented a new graduate nurse programme to provide a career development path for recently graduated nurses into practice nursing in the region. The management of all WIPA Trust activities is undertaken under contract by WIPA Ltd.

5.1.1.1 WIPA Trust Membership

The trust was originally incorporated under the Charitable Trusts Act 1958 as the City of Wellington Health Trust, with the Trust Deed signed on May 8 1997⁸⁷. Following a resolution of trustees on March 14 2002, the Trust was incorporated as The Greater Wellington Health Trust on April 11, 2002 (AK/1205049). Its initial membership base comprised 32 general practitioners. Since commencement, it has grown to encompass a membership of over 220 general practitioners and 46 practices from the Otaki, Kapiti, Porirua, Wellington and Wairarapa areas (WIPA, 2003:6; 2004:12, 109). In the 2003-4 year, it provided services to “five PHOs across three District Health Boards” and “over 250,000 enrolled patients” (WIPA, 2004:8). The Trust Deed confirms that the purpose of the Trust is “promoting and enhancing the quality of primary health care services in the Wellington region” (clause 3.1).

The Trust deed specifies the ability of the trustees to create memberships (clause 9.1) of different classes (clause 9.1.2), fix and charge membership fees, call members’ meetings (clause 9.1.4), and confer membership rights on members (clause 9.1.5). Membership status is

⁸⁵The company actually providing the services is Wellington Independent Practice Association Limited. No such company as WIPA Management Limited was registered with the Companies Office in January 2005.

⁸⁶ <http://www.wipa.org.nz/>

⁸⁷ The annual reports do not distinguish between commencement of WIPA Ltd and commencement of WIPA Trust. The WIPA Ltd constitution is dated 19 January 1995, and the WIPA Trust trust deed 8 May 1997. However, as ‘membership’ is legally a WIPA Trust status, the Annual Reports are confusing and potentially misleading.

conferred by invitation of the trustees to “persons, firms and corporations who wish to support or take an interest in the purposes of the Trust” (clause 9.1.1). Membership status confers no rights to receive income, and confers no rights of control on the trustees in the exercise of their powers (clause 9.2). Membership status therefore confers no governance rights on members, but confers rights similar to that of non-voting shareholders in a typical for-profit company – the benefits of association (equivalent to dividend income and capital gain, were these available), but no ability to contribute to or influence the governance and strategic direction of the organisation, as there is no ability for members to elect trustees (directors) or hold them accountable for their actions.

The WIPA annual reports repeatedly refer to a ‘membership’ of general practitioners (for example WIPA, 2003:6; WIPA 2004: 12). The repeated use of this term implies that WIPA Trust has conferred membership status upon these general practitioners as per its Trust Deed. The nexus between membership and WIPA Trust funding both pre- and post-PHO creation is addressed in the 2004 Annual Report:

“Prior to PHOs, WIPA was funded a management fee from the Capital and Coast DHB based on the number of WIPA GP members. With the establishment of PHOs there are now only eight WIPA members who have not joined a PHO, and this funding goes to the PHO instead. As at 30 June, the Capital and Coast DHB funds WIPA a management fee for these eight GPs. However WIPA provides management services to five PHOs that have a combined membership base of over 200 GPs. GPs who are supported by WIPA are listed in Appendix 2.” (WIPA, 2004:12).

The implications of this statement are that, prior to the creation of PHOs, ‘membership’ was based upon DHB practitioner capitation agreements, and following the creation of PHOs, the relationship is based upon the joint contractual agreements between general practitioners and the PHO, and between the PHO and WIPA Ltd. Even if formal membership status has not been conferred upon these general practitioners following the formation of PHOs, they are ‘affiliated’ with WIPA (operating as either WIPA Ltd or WIPA Trust) in a manner that appears equivalent to their ‘membership’ previously. To distinguish it from the clear statement of ‘membership’ that prevailed prior to the formation of PHOs, the post-PHO relationship between the general practitioners and WIPA Ltd/WIPA Trust will be called, for the purposes of this paper, ‘affiliation’. Irrespective of the term used to describe the relationship, the effect is that general practitioners linked in this way are jointly ‘affiliated’ with each other via their association in the ‘WIPA club’.

5.1.1.2 WIPA Trust Governance

The Trust Deed states that there shall be no fewer than five and no more than seven trustees (clause 10.1), with the statutory power of appointment of trustees vested in the Wellington

Independent Practitioners Association (clause 10.2). The trustees have the power to alter the deed by resolution of three quarters of the trustees at a duly convened and conducted meeting, so long as the alteration does not affect the charitable nature of the trust (clause 11.1). Schedule 1 of the deed specifies “the Trustees shall be such persons who are from time to time Directors of the Wellington Independent Practitioners Association Limited, and if so agreed, these persons may appoint two further Trustees” (Schedule 1.1). Trustees “shall hold office for a term whilst they are a Director of the Wellington Independent Practitioners Association” (Schedule 2.1) or in the event that they are a non-WIPA Ltd board member “for a period not exceeding two years from the date of appointment but shall be eligible for re-appointment for a further term or terms” (*ibid.*). The chair of the trust will be elected from the body of the trustees, and has both a casting and a deliberative vote (Schedule 1.12).

The Trust Deed specifies that:

“a Trustee having a personal interest in a matter involving the Trust may contract or otherwise deal with the Trustees in his or her personal capacity or in any other capacity as if he or she was not a Trustee. This right shall apply even though a Trustee’s interest or duty in a particular matter may conflict with his or her duty to the beneficiaries of the Trust Assets, but the Trustee must comply with the conflict of interest procedures set out in the rules” (clause 12.2).

The conflict of interest procedures are contained in Schedule 18.1.1:

“It shall be the duty of a Trustee who is in any way directly or indirectly interested in any contract or arrangement or proposed contract or arrangement with the Trust or in respect of which the Trustees propose to exercise any of their powers, to declare the nature of their interest at a meeting of the Trustees, but failure to do so shall not disqualify the Trustee or invalidate the contract or proposed contract. A declaration of interest by a Trustee at a meeting of the Trustees at which some or all of the Trustees present are also interested shall be a sufficient declaration for the purpose of these Rules”.

A general notice is given by a Trustee that they:

“are a member and/or officer of a specified firm or company and is to be regarded as interested in all transactions with or affecting that firm or company” (Schedule 18.1.2)

is deemed sufficient disclosure for all transactions with or concerning that firm or company. Disclosure in the minutes is deemed sufficient for recording such interests (Schedule 18.1.3). As the minutes of WIPA Trust are not required to be publicly available, the only means by which a beneficiary may learn of any conflicts is via voluntary declarations in the annual reports.

The Trust Deed also contains a limitation of trustees’ liability when making decisions about trust assets and the exercise of any power vested in them. Clause 12.1 allows trustees to:

“obtain and act upon the opinion of a barrister of the High Court of New Zealand of at least seven years standing selected after reasonable enquiry by the Trustees as to the barrister’s professional reputation and relevant experience. The Trustees may act upon the barrister’s opinion without being liable to any person who may claim to be beneficially interested in respect of anything done in accordance with that opinion. This right to obtain and act upon a barrister’s opinion, however, will not restrict the Trustee’s right to apply to the High Court of New Zealand for directions”.

It is noted that this clause does not excuse the trustees from their liabilities under statutory or common-law obligations. Irrespective of this clause, their fiduciary duties to the trust in respect of actions undertaken in good faith (Charitable Trusts Act 1957 Section 20), and the common law expectations that the actions are undertaken in a manner as befits a “reasonable” trustee or director, including in respect of actions that may result in breach of the law, would prevail.

In the 2003-4 financial year, the board comprised “GPs from the WIPA membership, a practice nurse and practice manager from WIPA practices, two people from the greater Wellington Community and one person nominated by local Maori” (WIPA, 2004:107). Six of the trustees are general practitioners and directors of WIPA Ltd. Another two WIPA Ltd directors, who are not general practitioners, are trustees of WIPA Trust. The chair of WIPA Trust is also the chair of WIPA Ltd. Thus, eight of the eleven WIPA Trust trustees are also directors of WIPA Ltd. Despite the presence of community representatives, WIPA Trust is an instrument strongly influenced by, and potentially effectively controlled by, WIPA Ltd.

5.1.2 WIPA Ltd

5.1.2.1 WIPA Ltd Ownership

The Wellington Independent Practice Association Limited (WIPA Ltd) is a limited liability company with 59 shareholders. It was incorporated under the Companies Act in 1995 (WN 636252). Whilst the WIPA annual reports state that WIPA Ltd is a “not-for-profit administrative organisation” (WIPA, 2003:6)⁸⁸, there is no reference to this objective in either the company’s constitution and its subsequent amendments, or its certificate of incorporation. The constitution specifies the right for the directors to declare a dividend (section 10.1 (a)), as long as no share is paid a dividend different to any other share (section 10.2 (a))⁸⁹. According to the 2003 and 2004 Annual Reports, no distributions have been made in the past two years,

⁸⁸ WIPA Ltd and WIPA Trust report annually in a joint annual report. Although the financial accounts are reported separately, all other reports are assumed to be the joint product of both entities. Hence, there is no distinction in referencing between WIPA Trust and WIPA Ltd reports. All are combined and cited as WIPA, 2003 and WIPA, 2004.

⁸⁹ Although any shareholder may waive the entitlement to a dividend in writing (Section 10.2 (b)).

and that the entity's solitary tangible asset is \$87,000 of retained earnings (WIPA, 2004:101). The constitution specifies that new shares can be created only by the agreement of all existing shareholders (section 2), and that the board can "decide not to register the transfer of a share to any person who is not entitled by law to be registered as a medical practitioner in New Zealand" (section 4.4 (b)). Furthermore, shareholders must be contracting parties with WIPA Ltd ("It is acknowledged that all members must have a valid and subsisting back-to-back agreement ("a contracting party") – Clause 19.1, added to the constitution by special resolution of the board on 19 August 1995). If shareholders⁹⁰ cease to have a back-to-back agreement⁹¹, shares must be sold: "Should a member not be or cease to be, a contracting party, then the directors may at any time by written notice require such member to sell his or her shares forthwith" (clause 19.2). Likewise, if shareholders, retire from practice or leave the area (section 20), they must transfer all shares to eligible practitioners who meet the approval of the board:

"Where a member sells his or her part of a group practice and moves from the area or retires as a medical practitioner, or ceases to be a contracting party, the member shall sell or transfer all of his/her shares and the provisions of Clause 4 and 4A shall apply **PROVIDED THAT** the foregoing provision shall not apply where the member sells his or her share in a group practice but joins another practice in the area." (Clause 20).

WIPA Ltd is thus a private company, with its ownership effectively restricted to registered medical practitioners actively practising in the Greater Wellington area, who have 'back-to-back' agreements (or succeeding agreements meeting the same association requirements) with WIPA Ltd and/or WIPA Trust and WIPA Ltd-affiliated PHOs and who meet with the approval of the shareholders. WIPA Ltd can also be viewed as a 'club' with restricted membership, or a supplier-owned co-operative with an entry qualification based upon asset ownership and active trading in a specific industry sector, analogous to Fonterra and its predecessor co-operative dairy companies. As with the dairy co-operatives, WIPA Ltd offers both a political forum via which the interests of key asset-owning productive entities in an industry sector can be organised, and an instrument via which these entities can act collaboratively for their individual

⁹⁰ It is noted here that the term used in Clauses 19 and 20 is 'member', a term that is not defined in the Definitions (Clause 1) of the constitution of Wellington Independent Practice Association Limited, or used anywhere else in the document. Membership is a status defined in Clause 9 the Greater Wellington Health Trust trust deed. As the WIPA Ltd constitution clauses 19 and 20 refer to sale of shares, it would appear that the use of 'member' in this context is intended to mean 'shareholder'.

⁹¹ Although the identity of the 'other party' in the back-to-back agreement the 'member' is required to sign is not specified, it is presumed that this entity is WIPA Ltd. However, as membership status is a WIPA Trust status, and the IPA revenue associated with general practitioner 'membership' is paid to WIPA Trust, it cannot be discounted that the 'other party' is WIPA Trust. The interchangeability of the terms used between the WIPA Ltd constitution and WIPA Trust trust deed further supports the contention that WIPA Ltd and WIPA Trust are functionally indistinguishable.

and joint benefit, including co-ordinating joint purchasing, production and marketing where this is economically justified.

5.1.2.2 WIPA Ltd Governance

According to its constitution, WIPA Ltd is governed by a board of six directors elected by the shareholders (Section 14.1, amended from five by special resolution at the 1996 Annual General Meeting August 14, 1997, and registered as an alteration at the Companies Office on November 4 1999). Nominations for directors are made annually by “each group practice” (clause 14.3). No group medical practice may have more than one shareholder appointed as a director of the company (section 14.4). Directors may not be appointed by a resolution of the shareholders (clause 14.5). Eight directors are identified in the 2003/4 Annual Report, including six general practitioners and two other individuals (WIPA, 2004: 99).

WIPA Ltd directors are required:

“when exercising powers or performing duties to act in good faith and in what the director believes to be in the best interests of the company” (section 15.3 (a)).

The director may, however, in respect of a joint venture between WIPA shareholders:

“when exercising powers or performing duties as a director in carrying out the joint venture, act in a manner which he or she believes is in the best interests of a shareholder appointing him or her even though it may not be in the best interests of the company” (section 15.3 (b)).

Directors may hold:

“any office or place of profit under the company (other than the office of auditor) for such period and terms (as to remuneration and otherwise) as the board may determine” (section 17.1 (c)),

and must declare in the interests register the nature, monetary value and/or extent of any interests in transactions or proposed transactions with the company (section 17.2 (a)).

The only interests declared in the Statutory Information of the 2004 Annual Report pertain to two directors being directors of the Medical Assurance Society, one director being president of the New Zealand College of General Practitioners and one director being a director of Wellington After Hours Medical Centre Limited. There is no declaration of significant governance interests in parties with whom WIPA Ltd contracts. Specifically, there is no declaration to the effect that in the 2004 financial year, three directors were also trustees of Capital PHO (including one being the chair), two are trustees of the Kapiti PHO (including one being the chair) and one is a trustee of the Tumai Mo Te Iwi PHO, or that all eight directors were trustees of WIPA Trust (although the WIPA Trust Deed specifies the commonality of

directorship between the two entities). The non-declaration of these interests occurs in an organisation that derives the majority of its revenues from contracts with these entities (WIPA, 2004: 100)⁹². Therefore, the non-declaration is at variance with the Securities Commission guidelines for corporate governance. These guidelines recommend that:

“the annual reports of all entities should, in addition to all information required by law, include sufficient meaningful information to enable investors and stakeholders to be well-informed on the affairs of the entity” (Securities Commission, 2004: 17).

5.1.3 Governance and Competition Analysis: WIPA Ltd and WIPA Trust

WIPA Ltd and WIPA Trust are effectively acting as one single entity. Although WIPA Trust has trustees in addition to the WIPA Ltd directors, and a membership/affiliation of more than 220 general practitioners, these individuals participate in WIPA affairs solely at the discretion of WIPA Ltd directors (by either invitation or contractual alliance). Members of WIPA Trust have no governance powers, and WIPA Ltd trustees outnumber non-WIPA Ltd trustees by a ratio of 8:3⁹³. The WIPA Trust deed confers the absolute ability for the directors to act in their own interests, even if these interests should be in conflict with duties to the beneficiaries (clause 12.2), providing the interest is declared. Moreover, the WIPA Ltd constitution requires WIPA Ltd directors to act in the interests of WIPA Ltd when as a director, they are ‘exercising powers or performing duties’ (clause 15.3(a)). As being a WIPA Trust trustee is a duty that arises as a consequence of being a WIPA Ltd director (the term is identical with the term as a WIPA director), then WIPA Ltd directors are not only able, but actually instructed, to act in the interests of WIPA Ltd when discharging their duties as trustees of WIPA Trust, irrespective of the implications for WIPA Trust beneficiaries.

The suspension of the need for WIPA Ltd directors and WIPA Trust trustees to act in the fiduciary interests of the organisation to some extent reflects the ways in which the Hippocratic Oath enables medical practitioners to suspend their fiduciary duties to other entities when representing the interests of their own patients (Chapter 4). In effect, the WIPA Ltd directors

⁹² It is noted that the Securities Commission guidelines for corporate governance suggest that public entities should have an independent chairperson (i.e. not an employee or a representative of any party with which the entity trades), and a minimum of one third independent directors (Securities Commission, 2004: 11).

⁹³ A common heuristic in governance literature suggests that in shareholder-owned organisations, a 25% shareholding confers the ability to exert ‘significant influence, and a 40% shareholding ‘effective control’ if the balance of the shareholding is diffusely held. For the purposes of this paper, the Financial Reporting Standard (FRS) definitions FRS37 and FRS38 used to define ‘influence’ and ‘control’. These definitions are more rigid. FRS 38 defines ‘significant influence’ as “the capacity of one entity to affect substantially, but not unilaterally determine, either or both the financial and operating policies of another entity” (<http://www.kpmg.co.nz/pages/101409.html>) whilst FRS 37 defines control as having two elements: the power element- this is the capacity to determine the financing and operating policies of an entity; and the benefit element - this is the entitlement to a significant level of current or future ownership benefits and losses (<http://www.kpmg.co.nz/pages/101408.html>).

are obligated to suspend their fiduciary duty to WIPA Trust in order to satisfy the interests of WIPA Ltd, in the same way as a practitioner is obligated to suspend duties to other organisations (e.g. his own practice) in order to fulfil a duty to an individual patient. That this type of governance condition has emerged in a doctor-governed organisation reinforces the concerns raised in chapter 4 about the efficacy of allowing practising doctors to participate in the governance of nonprofit community health care entities overseeing the allocation (rationing) of government-funded health care resources. This example illustrates that the principles of representing specific patient and appointing interests conflict with the principles underlying the fiduciary duties to beneficiaries inherent in nonprofit organisations. In the case of the WIPA Ltd/WIPA Trust governance principles, in the event of a conflict, representative interests prevail over collective interests in the same manner as occurs in medical practice.

5.1.3.1 WIPA Ltd and Control of WIPA Trust

As the WIPA Ltd directors can be called to account only by the WIPA Ltd shareholders, and the WIPA Trust board is comprised of WIPA Ltd directors and a small number of WIPA-approved appointees, legal control of both organisations is vested ultimately in WIPA Ltd shareholders. There are no governance powers available to nominated beneficiaries (the people of greater Wellington) to call the WIPA Trust board to account for acting in interests that may be contrary to those of the beneficiaries. The only powers available to enforce actions in the interests of beneficiaries are statutory and/or legal ones. Yet the Trust Deed endeavours to contract trustees out of their statutory responsibilities (clause 12.2). As there is no mandatory requirement for minutes to be publicly available⁹⁴, the Trust Deed sanctions all actions undertaken by interested directors, as long as they are declared in a process (Schedule 18.1.1) that is opaque and not easily accessible to beneficiaries, given that these interests are not declared in the publicly-available Annual Reports.

Furthermore, if all trustees are affected by an interest matter (for example, letting identical contracts to their respective practices, or letting WIPA Trust contracts to WIPA Ltd), then all trustees may vote, notwithstanding such an interest (clause 12.2). Thus, actions in which the directors are interested may occur unchecked, and if these actions are prejudicial to WIPA Trust beneficiaries, it is extremely unlikely that either beneficiaries or statutory bodies who could act would have sufficient information to detect the occurrence. Furthermore, the cost to beneficiaries of acquiring information is likely to be substantial⁹⁵, reducing the likelihood of effective scrutiny occurring. Even if WIPA Trust meetings are held in a public forum, as most

⁹⁴ Although these may be made available upon request to WIPA.

matters of operation and process are handled by WIPA Ltd under the management agreement, and are therefore subject to decision-making by the eight WIPA Ltd directors in a process unlikely to be subject to public scrutiny or voluntary disclosure, interested actions are likely to be known only by a small number of individuals. Those with the power to act who might have access to information (WIPA shareholders) seem to face few incentives to act against their duly appointed agents, as these agents are acting in the interests of these shareholders when making interested decisions in their capacity as WIPA Trust trustees.

Together, the governance arrangements and the management contract between WIPA Trust and WIPA Ltd appear to be sufficient to constitute at least ‘significant influence’, if not WIPA Ltd ‘control’ of WIPA Trust, as defined in Financial Reporting Standards (FRS) 38 and 37. FRS 38 defines ‘significant influence’ as “the capacity of one entity to affect substantially, but not unilaterally determine, either or both the financial and operating policies of another entity”. A management contract between WIPA Trust and WIPA Ltd would appear to grant significant influence of WIPA Trust by WIPA Ltd, in the same manner as a management contract between a board and a CEO in the typical separation of ownership and control (Berle and Means, 1937) vests day-to-day control, and hence significant influence, of the organisation to the CEO. FRS 37 specifies control of one entity by another to occur if two tests are met: the power element, defined as the capacity of one entity to determine the financing and operating policies of another entity; and the benefit element, defined as the entitlement to a significant level of current or future ownership benefits and losses.

Whilst FRS 38 presumes a for-profit entity, using the typology in Howell (2000) of separating and attributing the rights associated with legal and beneficial ownership, it can be applied to a nonprofit entity. A management contract confers control of financial and operating policies wholly to WIPA Ltd. As WIPA Trust is a nonprofit entity, with no owners and therefore no equity, then WIPA Ltd management is also responsible for all financing decisions (e.g. contract negotiation, debt management). Thus, the ‘power’ test of FRS 37 is met. If it is considered that, in nonprofit entities, the distribution of benefits to beneficiaries is in the power of the trustees, then even though trustees may not receive benefits directly, the trustees exercise current and future legal ownership ‘benefits’ – specifically the benefits associated with legal control of the assets. The benefits of legal ownership of WIPA Trust, including the rights to dispense contracts underwritten by government funding to ‘interested’ affiliated providers, are conferred on WIPA Ltd by the governance arrangements linking the two entities. The ‘benefit’

⁹⁵ E.g. attending meetings; or getting to know of a decision that has been taken and having to specifically request the relevant information, in a process resembling that of the Official Information Act request process.

test is therefore met at least in respect of the legal ownership benefits and losses. This leaves the issue of entitlement to beneficial ownership benefits and losses. In a typical nonprofit organisation, trustees determine the extent and nature of benefits dispensed, and the identity of the beneficiaries. If, however, it is considered that the government funding contracts which provide WIPA Trust's income tightly specify the form of benefits (e.g. types of services provided) and the identity of the beneficiaries (e.g. specific population groups), then the ability to specify beneficial ownership rights normally held by nonprofit governors is outside the control of WIPA Trust. The solitary ownership 'benefit' within the powers of WIPA Trust to dispense is the right to earn income from performing contracted services – that is, legal ownership rights. These have been conferred to WIPA Ltd. Therefore it can be argued that the 'benefit' test is also met. As both the 'power' and the 'benefit' tests seem to be met, WIPA Ltd controls WIPA Trust.

The accrual and distribution of the benefits from the charitable trust (turnover in excess of \$5 million annually) are thus strongly reliant upon the difficult- and costly-to-monitor integrity of eight interested individuals acting as agents of a proprietary limited liability company comprised of 59 shareholders who are also directly interested in the transactions in the markets in which the Trust operates, and whose shares cannot be freely traded. Governance controls in the interests of beneficiaries of WIPA Trust are thus severely attenuated, and provide few assurances to beneficiaries that disciplines will be applied to trustees to act in their interests. As shares in WIPA Ltd can be traded only if the existing shareholders agree to 'admit' the new shareholder to their 'club', the restrictions in the capital markets for the shares further reduce the ability of Jensen's (1993) control forces to provide disciplines upon the directors of WIPA Ltd. As legal/regulatory processes may be difficult to impose due to difficulties and costs of accessing information, the effectiveness of the accountability processes upon the board and their agents will rely significantly upon the disciplines provided by the product and factor markets in which WIPA Ltd/WIPA Trust operate. If, however, the relationships between the stakeholders, effected by the governance and trading activities of the two entities, have the effect of further limiting the disciplines applied on the governing bodies, then the power for these bodies to act unilaterally would be substantial.

5.1.3.2 WIPA Ltd/WIPA Trust Contracts

WIPA Ltd's primary activity (equivalent to Jensen's (1993) product) is the provision of management services to WIPA Trust and five PHOs. WIPA Trust's products are the provision of a range of primary health care services. WIPA Ltd's customers are the users of its highly customised management services. This is a very specialised product, with the firm having (at

present) only eight customers: WIPA Trust, Matpro, the Wellington Regional Diabetes Trust and five PHOs. As the WIPA Ltd products require little capital (the 59 shares have not been paid up, and the company has only a small amount of long term debt (\$39,000), retained earnings of \$87,000 and plant and equipment valued at \$205,000 – WIPA, 2004:101) in order to generate its annual turnover of \$2.5 million, the retention of the small number of existing contracts is fundamental to securing company cash flows. Governance control of WIPA Trust by WIPA Ltd has ensured that this contract is secure⁹⁶. Until the 2004 financial year, WIPA Trust provided 70% of WIPA Ltd revenues. Revenues from sources other than PHOs and WIPA Trust amounted to 22% of revenues in 2004. Competition in WIPA Ltd's product markets, especially in respect of its major contract, is therefore constrained.

WIPA Trust's product markets are also constrained. Services appear to be provided to patients free of charge ('Other Income' amounts to only 1% of revenue in both the 2003 and 2004 Annual Reports⁹⁷). Thus, the effective 'customer' of WIPA Trust's primary health care services is the DHB who buys these services on patients' behalf. However, using Howell's (2000) typology based upon Hansmann's (1996) classifications, the fees to produce these services could be considered a supply of inputs (cash) via the factor markets, and the patients receiving them beneficiaries. There is a sole supplier of these inputs – the DHB. The DHB has historically (until 2003) paid WIPA Trust under two separate contract agreements: payments for primary health services, and 'IPA contract revenue'.

As a general principle, IPA contract revenue arose from agreements between the government, general practitioners and the IPA. Prior to the NZPHCS, the government to paid a fixed fee per general practitioner to the IPA with which that practitioner was affiliated. WIPA (2004:12, *op. cit.*) draws the association between this fee and "WIPA GP members" prior to 2004. Contracts of association (membership or affiliation) between general practitioners and IPAs have thus had the effect of granting a sum of money (equivalent to a 'membership fee' in a club) upon the IPA in respect of affiliated practitioners. Under the affiliation agreements, the IPA typically agreed to provide specified services to the practitioner (including management services, workforce development, service development etc.) – effectively 'membership benefits - in

⁹⁶ As minutes are not available, it cannot be discerned whether tenders were sought by WIPA Trust trustees in respect of this contract. Given the governance arrangements between the two organisations, the likelihood of this contract being put to tender is slight.

⁹⁷ Although it is noted that 14% of WIPA Ltd's income in 2003/4 and 8% in 2002/3 came from "fees for services". It is not known whether these are fees for medical services administered by WIPA Ltd on behalf of WIPA Trust, or other professional management services provided by WIPA Ltd for other (unnamed) customers. As only medical services and management services on behalf of WIPA Trust, PHOs, Matpro and the Diabetes Trust are mentioned in the annual reports, it is possible, but not proven, that these are could be 'fees for medical services' collected from patients.

exchange for the practitioner choosing to affiliate with a specific IPA. Affiliation agreements typically required the practitioner to refrain from entering into an affiliation agreement with any other organisation, to preclude the possibility of the practitioner ‘double dipping’ by belonging to two or more such ‘clubs’. However, the principal difference between the IPA agreements and most clubs is the requirement that membership of one club precludes membership by the practitioner in any other club.

Fees associated with membership/affiliation agreements (‘IPA Revenue’) provided 16% of WIPA Trust’s income in 2002/3. Whilst the exact form of the WIPA Trust/GP contracts, and the agreements now binding WIPA-managed PHOs and practitioners is not known, in order to meet the requirements that practitioners not ‘double dip’, it is likely that these agreements are similar to those promulgated by the Independent Practitioner Association Council and the Ministry of Health, and are available on the websites of both these organisations. These agreements contain a restraint clause preventing a practitioner from entering into “any other agreement, arrangement or understanding with any other body contracted with the [name of DHB] District Health Board to provide any of the Contracted Services (or any part of them) funded through this agreement”⁹⁸ (Schedule 4, clause 1.2). Whilst the exclusionary clauses legally prohibit multiple memberships, such clauses are not strictly necessary to ensure exclusive membership of only one club by each general practitioner. Even if a practitioner wished to join more than one association, having already committed the government-funded capitation subsidy to one ‘club’, there is a positive cost to joining a second club. As a club is unlikely to admit a member who does not bring the requisite membership fee’ (to prevent ‘free-riding’), there are financial disincentives to multiple associations, which will likely reinforce the existence of exclusive arrangements in practice, even if not in the terms of the contracts.

Securing the supply of exclusive affiliations with general practitioners has thus been an important component in securing WIPA Trust’s (and WIPA Ltd’s) revenue streams. The historic capitation nature of this payment has provided WIPA Trust with strong incentives to recruit more general practitioners to increase income, and to ‘lock in’ the practitioners to providing the income to WIPA in the future. The strong growth of WIPA practitioner members between 1995 and 2004 reflects the expected response to this capitation incentive. Contractual or economic restraints will likely result in provider ‘lock-in’, as once a provider has signed such an agreement, exiting it will be costly. Whilst the restriction has precluded ‘double dipping’ of DHB funds by general practitioners, it has also potentially restricted the extent of competition

for WIPA from existing or potential general practitioner alliances, as in order to leave the alliance, the practitioner must both break the contract and forfeit any benefits that membership entails.

If there are economies of scale available to the practitioner from entering into a contractual agreement with the IPA, then the market will likely tend towards a single large alliance. If so, the benefits of joining a large alliance are greater than the benefits of joining a smaller alliance, and the large alliance ‘crowds out’ the smaller. Once the practitioner is receiving the benefits, a barrier to exit occurs, as alternative alliances, with smaller benefit from lesser scale economies, cannot offer the same terms. Even though there may be costs to the practitioner in remaining in the large alliance, the practitioner will not leave until the costs of remaining are larger than the difference in benefits between the two alliances (Shapiro and Varian, 1999; Ma and McGuire, 2002). In the WIPA case, the forfeited benefits upon leaving may be considerable. Firstly, leaving the WIPA alliance would likely remove a practitioner from eligibility for contracts that it is in the power of WIPA Ltd to award. Secondly, any lower-cost benefits that the provider has enjoyed as a consequence of economies of scale in the services provided to the practitioner by WIPA (e.g. co-ordinated management, professional development, GP Locum scheme) would be lost. The effects of lock-in may at least partially underpin the statement in the WIPA Ltd annual report that “since its establishment, WIPA has never had a GP resign membership because they were disaffected with the organisation”, and the only reasons for resignation have been moving to a non-WIPA practice or overseas, undertaking further study or retiring (WIPA, 2003:6).

Thus, there are constraints in both the product and factor markets of WIPA Ltd and WIPA Trust. The contracts between WIPA Ltd and WIPA Trust, and the contracts between WIPA Trust and general practitioners have led to an environment where the decision-makers have a considerable degree of power that is largely unchecked by competitive forces in product and factor markets, the capital markets, and internal governance controls. This suggests that the most likely constraints upon the decision-makers will come from statutory, legal or regulatory processes. Given the potential for interested decision-makers to act contrary to the interests of beneficiaries, in respect of government-funded transactions provided to the entities to provide services to those beneficiaries, Jensen (1993) suggests that these constraints would need to be more stringent than under the counterfactual of an organisation that had stronger constraints in at least one of the other areas (e.g. a trust where the governance body precluded contracted

⁹⁸ This clause is taken from the pro forma Independent Practitioners Association Council (IPAC) agreement between practitioners and PHOs (<http://www.ipac.org.nz/UploadedDocuments/BtB%20Agreement%20081203.doc>), but is June 2005

service providers from holding decision-making rights). In the New Zealand context, it may be apposite to test whether the WIPA Trust/WIPA Ltd relationship has breached any of the statutory, legal or regulatory provisions that seek to protect disenfranchised parties from those who exercise their powers inappropriately.

5.1.3.3 Reduction in Competition

The key question in respect of the WIPA alliance is whether there is any evidence that the associations have been used to reduce competition in the markets for primary health care delivery, or the provision of management services for primary health care delivery. Collusion to reduce competition can be successfully engaged in if there are mechanisms within the alliance to detect cheating, or a self-reinforcing set of incentives that ensure that it is not in the interests of the participants to default on any anti-competitive agreements made. As membership of WIPA Trust confers no control rights or access to assets, it may be presumed that the benefits of membership must pertain to some intangible benefits that the WIPA Trust trustees (ergo WIPA Ltd directors) have in their power to distribute. If benefits did not exist, then rational practitioners would not voluntarily enter into an affiliation with the WIPA group, particularly given that such an affiliation in New Zealand risks breaching section 27 of the Commerce Act 1986⁹⁹.

According to WIPA (2004:12) practitioner ‘membership’ conferred income benefits on WIPA, but in exchange, the practitioners presumably benefited from lower management and administration costs and economies of scale in the production of the WIPA Ltd/WIPA Trust services and possibly services provided within their individual practices¹⁰⁰. These benefits include intangible benefits from collegial interaction, the ability to participate in and enjoy the benefits of contracts associated with the delivery of services managed by WIPA and access to and utilisation of intangible assets such as the databases of information that WIPA Ltd keeps in relation to services it provides. In the 2004 financial year, WIPA Trust received funding for, and administered, primary health service delivery contracts worth \$5.2 million (WIPA, 2004:

likely to be similar to those between practitioners and IPAs prior to the establishment of PHOs.

⁹⁹ The relevant case in respect of Section 27 is the ‘Ophthalmologists Case’ (Commerce Commission v Ophthalmological Society of New Zealand Incorporated, High Court, Wellington, CP 354/97, 1 March 2004, Gendall J. Anti-competitive action by a small number of members of a professional association was deemed to render the entire membership liable for those actions.

¹⁰⁰ If the services that WIPA Ltd/WIPA Trust provides benefit from economies of scale from joint production, in that it is more efficient for general practitioners to collaborate than to produce these products separately (e.g. joint professional development, GP locum scheme, administrative tasks), then it would be expected that joint production would emerge. This effect might explain the collaboration between the 59 WIPA Ltd shareholders. If the average cost declines with more general practitioners participating, then this could be achieved by the 59 shareholder-owners offering ‘membership’ to further general practitioners under the aegis of WIPA Trust, without having to dilute their existing control of the joint entity by creating more shares.

91)¹⁰¹. The *quid pro quo* for participating in the benefits was likely an agreement (either tacit or contractual) by practitioners not to compete with WIPA or associate with any competitor of WIPA's in respect of any of the services provided by WIPA and funded by the solitary paying customer of WIPA customer, the DHB. The affiliation of practitioners via WIPA thus appears to constitute a reduction in competition for contracts from the DHB. Whether the effect of the reduction was 'substantial', thereby invoking liability under S27, would depend upon how the Commerce Commission or courts might define the relevant 'market'.

As membership is a WIPA Trust status, but general practitioner affiliation with WIPA Trust is effected in practice by general practitioner association (i.e. having a contract) with a WIPA Ltd-managed PHO, WIPA 'club' 'affiliation' status is now granted via the combined effect of a general practitioner's contractual association with a PHO and the PHO's contractual association with WIPA Ltd. For PHO-affiliated general practitioners, membership of WIPA Trust comes via contractual alliances with WIPA Ltd¹⁰². The pro-forma back-to-back contracts on the Independent Practitioner Association's website contain a clause requiring practitioners entering into agreements with PHOs who have themselves entered into management companies to recognise the management company as if it was the PHO:

"Where the PHO has entered into a Management Agreement with a Management Services Provider, the General Practice will co-operate with the Management Services Provider as if the Management Services Provider were the PHO" (Schedule 4 clause 1.3).

If the WIPA PHO contracts have terms that resemble these, then the nexus of general practitioner-PHO-WIPA Ltd contracts would result in the same legal form of association between the practitioner and WIPA Ltd/WIPA Trust as prevailed under the pre-PHO IPA agreements, and apparently presumed in the WIPA 2004 annual report.

The degree of association is important in determining the extent of the collaboration occurring as a result of the WIPA Ltd agreements. The WIPA agreement creates a vertical alliance of practitioners in the form of a provider collective, as outlined in Figure 3.1. The contracts define the boundaries of the 'club'. If the nature of the contracts prevent competition between entities that would otherwise be competing for DHB contracts, or precludes the formation of alternative

¹⁰¹ In comparison, Capital PHO received \$7.3 million in the same financial year, Tumai Mo Te Iwi PHO \$4 million, Kapiti PHO \$2.6 million and Wairarapa PHO \$1.5 million (sourced from the annual reports of each PHO).

¹⁰² Whilst it is impossible to verify any changes in respect to membership status as the minutes of WIPA Trust are not publicly available, and the offer of membership is entirely at the behest of WIPA Trust trustees, the form of the annual report suggests that this scenario may give practical effect to a membership status that was previously associated with a general practitioner conferring government-funded management fees to WIPA Trust, but is now associated with a general practitioner conferring government-funded management fees to a WIPA Ltd-managed PHO.

alliances to compete for DHB contracts, then the losses from reduction in competition will likely be greater the larger the ‘membership’/’affiliation’ of the club.

5.1.3.4 Benefit Distribution and Competitive Processes

It is also possible that the WIPA Trust/WIPA Ltd alliance has also had an effect upon the nature of competition between providers in the market for at least some primary health services, simply because of the scale economies that arise from joint production. Many of the services that WIPA Trust provides (e.g. health promotion, immunisation, sexual health services, mental health services, asthma management, retinal screening) could be provided by general practitioners in competition with WIPA Trust. These services all benefit from specialisation and economies of scale, meaning that provision at individual general practice levels may be more costly or result in services of lower quality than centralised provision. WIPA Ltd provides an instrument via which general practitioners can collectively provide co-ordinated services to their patients at lower cost and higher quality than might be possible otherwise. Practitioners with specialties (including general practitioners and practice nurses within WIPA-affiliated practices) can be contracted for their expertise, with generalists ‘freed up’ to exercise their expertise more efficiently.

However, the maximum benefits will be achieved only if WIPA Trust does not actively compete with general practitioners in the general services, and general practitioners agree not to compete with WIPA in the specialised services. WIPA Trust/WIPA Ltd provides a forum via which such agreements may be made and financial incentives via which agreements may be enforced. If the benefits (e.g. cost savings, intangible distributions) of belonging to the alliance are substantial, and would be forfeited if the general practitioner voluntarily left the alliance, then the adherence of members to commonly-determined purposes is virtually assured. There is no evidence of direct competition between member practitioners and WIPA Trust for the services provided by either group, despite the potential for each to compete in the other’s markets.

Further intangible but significant benefits for general practitioners from WIPA affiliation also exist. Specifically, affiliation with WIPA Trust confers access to the ‘club’ controlled by WIPA Ltd that administers multi-million dollar contracts for primary service delivery, and therefore exerts significant influence over current and future general practitioner income streams, not simply in terms of individual provider access to specific contracts and eligibility to share the cost savings of jointly-produced services, but also significant influence over the shape and strategic direction of the primary health care industry sector.

The dairy co-operative analogy is useful in this context. A farmer (general practitioner) may have a choice over which co-operative to supply (practitioner association to join), and when the farmer changes co-operatives, the supply from all the cows (revenue associated with patients) moves with the decision. However, the likelihood of a farmer switching co-operatives is less if the farmer (doctor) has an ownership stake in the processing company (IPA) as well as the herd (individual practice). It is even less likely that the farmer will switch if when switching he must abandon the capital that he has accumulated in that company. The financial capital of WIPA Ltd is negligible (no paid-up share capital and \$86,000 retained earnings - \$1460 per share: WIPA, 2004:101). However, the institutional capital (including goodwill) is large and unpriced, embodied in the relationships between individuals, and ability to secure contracts for current and future income earning potential for the individual owners. When a WIPA Ltd shareholder quits his ownership interest, future income-earning potential is left behind. However, if the practice is sold to a successor acceptable to WIPA Ltd directors, the practitioner recoups this value in the price received for the practice. Likewise, an affiliate of WIPA Trust (but not a shareholder of WIPA) forfeits access to benefits such as professional development and the locum scheme. Moreover, employee GPs are unlikely to resign whilst still employed by a WIPA-aligned practice, as this is contrary to the interests of the practice owner, who will accrue the value of the relationship with WIPA Ltd¹⁰³. Where affiliation, shareholding in WIPA Ltd, and practice value are tightly linked, the financial cost of resigning is high and will not be undertaken lightly. Affiliation with WIPA hence creates an effective 'barrier to exit' for aligned practitioners.

Whilst economies of scale that lead to dominant providers do not of themselves constitute a barrier to entry, if the nature of the relationships binding general practitioners to WIPA Trust and the PHOs have contributed to the extent of the barrier, it might be argued that the nexus of contracts, including the nonprofit status of PHOs and WIPA Trust and the contracts between the DHBs and WIPA Trust and the PHOs, has contributed to the inability of practitioners to exit easily from the alliance. This nexus may itself constitute a barrier to entry by competitive alliances comprised of existing WIPA associates. If the entity with whom the DHB contracted was a for-profit entity, and the participating practitioners were all shareholders, then the market price of shares would reflect the value of the DHB contracts that the company held. When a practitioner left the alliance (e.g. selling shares), then the future earning potential and control

¹⁰³ It is likely the movement of salaried staff between practices that accounts for movement to non-WIPA practices. A practice owner resigning from WIPA would not constitute "moving to a non-WIPA practice", and is unlikely to occur due to the loss of value associated with the activities that WIPA Ltd has been undertaking on behalf of the collective.

over contract letting that ownership of the firm grants would be reflected in the price paid for the shares. The exiting practitioner would not be forced to forfeit this benefit. Given the effective status of WIPA Trust as a subsidiary of WIPA Ltd, and given that the membership association was historically with WIPA Ltd, it might be argued that the nonprofit form of WIPA Trust itself acts to facilitate lock-in of provider members, who may otherwise be owners of a for-profit entity. A similar barrier may also attend the nexus of contracts associated with PHOs and WIPA Ltd, under the arrangements whereby PHOs take on the role of co-ordinating practitioner alliances.

It is noted that, as part of the regulatory changes that allowed Fonterra to form as a dominant provider co-operative, 'fair value pricing' of farmers' interests (a quasi-share) was introduced to allow co-operative members to price and extract their share of capital when exiting the alliance, thus contributing towards a more competitive environment in the market for alliances between dairy farmers. If such steps were necessary to ensure competitiveness in the dairy industry, it begs the question whether such steps would also be helpful in achieving higher degrees of competition in other industries where production is similarly dominated by large non-owned provider co-operative entities in dominant positions.

5.1.4 Summary

On the basis of this analysis, it would appear that the WIPA alliance is organised as both a professional association of practitioners, and a service delivering entity undertaking contracts on behalf of its members, three District Health Boards and other unknown and unspecified clients. The extent of interaction between the activities is such that it is difficult to ascertain where the distinctions (if any) between these activities occur. The degree of control that the 59 shareholder owners of WIPA Ltd exert over its activities is in all likelihood substantial. The contracts between WIPA Trust and WIPA Ltd, combined with the management contract, confer effective control over the activities of WIPA Trust to the 59 shareholders of WIPA Ltd. The WIPA group is dominant in the geographic markets that it serves. There is some evidence to suggest that the effect of the group reduces competition in both the primary health care delivery and health care provider alliance markets, and it has entered into contracts and agreements that may have anti-competitive consequences. The competition and governance issues raised in this analysis suggest that any entity trading with WIPA Ltd should be aware that, despite appearances of charitable purpose, it is in essence a supplier-owned co-operative controlled by privately-owned, for-profit general practitioners, and is both charged with acting, and has the capability to act, in the interests of this provider group.

5.2 WIPA Ltd and the PHO Contracts

WIPA Ltd has entered into contracts with five PHOs: Capital, Tumai Mo Te Iwi, Kapiti, Wairarapa Community and Otaki Primary Health Trust; to provide management services. Under these contracts, WIPA Ltd provides all management and administration services to the PHOs. These services include a manager appointed by, and accountable to, WIPA Ltd physically located in each PHO's office, board secretariat services, financial processing and reporting, management of referred services, quality management, planning and service development, information management, legal, regulatory and professional requirements, occupational safety and health requirement and administrative and strategic support to the board and sub-committees (Schedule 1). In exchange for these services, the PHOs agree to pay to WIPA Ltd:

“those management fees calculated on a quarterly basis according to the national Primary Health Organisation funding formula as set by the Ministry of Health from time to time as documented in Schedule F1 clause 2.1 of the PHO agreement” (Schedule 2).

The agreements require each PHO to acknowledge that WIPA Ltd will be providing management services to other PHOs (2.3). The agreements also declare that the WIPA board will not be involved in the formulation of policy or policy direction in respect of the Trusts (4.2). The Schedule of management services sees WIPA Ltd “assisting with developing, documenting and publishing” the Trusts’:

- strategic and business plans (Schedule 1 (c) (i));
- community profile/needs analysis, along with tools that will help the Trusts to measure its performance against these plans (Schedule 1 (c) (viii));
- new initiatives and contracts for services (Schedule 1 (c) (ix)); and
- developing the Trusts’ policies and procedures in relation to governance operations, administration and financial functions, human resources, personnel and contracting functions, consultation, communications and media relations (Schedule 1 (c) (x)).

The agreements with Capital, Tumai Mo Te Iwi, Kapiti and Otaki PHOs are effectively identical. However, the agreement with the Wairarapa Community PHO contains three additional clauses. In clause 4.3 of the Wairarapa agreement, WIPA Ltd agrees not to compete actively with the Wairarapa Community PHO for the delivery of local health services, and agrees to declare any conflict of interest prior to entering into any contracts for regional services covering more than one District Health Board area. In clause 9.4.1, WIPA Ltd acknowledges the importance of the Trust in establishing a local presence in the Wairarapa,

June 2005

agrees to support the PHO in the development of a local brand, and confirms that all material related to the activities of the Trust will be branded under the Wairarapa PHO logo and name. In Schedule 1, clause 1(a) allows that:

“from time to time, the Trust may wish to seek independent advice, which might include legal, financial, clinical, Maori and/or community advice. This advice will be funded through the management services agreement, by WIPA as part of the overall management services budget”.

5.2.1 Contracts and Equal Input of all Provider Groups

The nature of the management contract between the PHOs and WIPA Ltd thus confers effective power over the PHO to WIPA Ltd, as defined in FRS 37, just as the management contract between WIPA Trust and WIPA Ltd conferred the capacity to determine the financial and operating policies of the entity on WIPA Ltd. Contrary to the intentions of the NZPHCS that all providers are to be represented in PHO decision-making, and irrespective of any provisions in the constitutions of the individual PHOs, the contracts grant day-to-day power over the PHOs to a firm that is a collective of general practitioners. Furthermore, the means by which the PHOs derive their income at present is dependent principally upon the contractual agreements between the general practitioner members of WIPA and the PHO. Thus, the supply of all factors that enable the contracted PHOs to carry out their activities of delivering services to their populations are controlled by WIPA in one or more of its guises. Prior to 2004, WIPA Ltd exercised management only over government-sourced IPA contract income granted by practitioners via their decision to affiliate with WIPA. Under the NZPHCS, WIPA Ltd manages not just general practitioner management fee income, but also the management fee income of any other providers allied with the PHO, and all government-funded service delivery income associated with the patients whose nominated primary care provider is a PHO (and hence WIPA) associate. The extent of power exercised over the PHO is apparently equal to that exercised by WIPA Ltd over WIPA Trust, but the resources over which that power is exercised have increased substantially.

The contracts between WIPA Ltd and the PHOs transfer the full management capitation fee for all individual PHO members (i.e. patients) to WIPA Ltd. Consequently, all management cost savings arising from the economies of scale will accrue to WIPA Ltd, rather than the PHOs. Any savings accruing from PHO management funding will be applied at the discretion of WIPA Ltd directors, not the PHO trustees. The use of these funds need not be declared, as would be the case if funds were held within the PHO, and need not be applied to spending priorities agreed between the DHB and the PHO under the terms of the ‘social contract’ whereby the capitation funds are supplied by the government. In the annual accounts for 2004, *June 2005*

over 12% of WIPA Ltd's revenue is applied to unspecified 'other expenses'. This expense category is the second largest (after staff salaries) of fourteen identified categories, and is 2.3 times the size of rent expenses¹⁰⁴.

5.2.1.1 Governance Control in the PHOs

Arguably, the governance control exerted by WIPA Ltd over PHOs is lower than that exerted over WIPA Trust, as the PHO constitutions do not grant the exclusive trustee appointment rights to WIPA Ltd directors. Nonetheless, WIPA Ltd and its member general practitioners have substantial appointing control over the makeup of the five PHO boards. Appendix 6 shows that providers constitute a majority of trustees in the five WIPA-managed PHOs, and WIPA Ltd and their affiliated general practitioners make appointments of between a half (Kapiti) and a third (Wairarapa) of the PHO trustees. WIPA-affiliated trustees constitute the largest 'bloc' in all of the PHOs, and WIPA appointees are chairs in Kapiti, Tumai Mo Te Iwi and Capital. The trust deeds of each of these PHOs grants the chair both a casting and a deliberative vote (Schedule 1, clause 13 in each of these trust deeds; a similar clause appears in the Wairarapa and Otaki deeds). Thus, WIPA Ltd exerts substantial governance influence, if not control, in addition to the power granted in the management contract. The extent of governance control is sufficient under FRS38 to exert a significant level of control over the organisation. Furthermore, as the co-ordination costs of the already aligned WIPA Ltd and general practitioner agents are substantially less than the co-ordination costs of unaligned trustees who may oppose them (Jensen and Meckling, 1976), the WIPA board member 'bloc' in all PHOs except Wairarapa need only secure the support of one or two of the remaining board members to achieve a majority. This would render WIPA Ltd as effective in terms of controlling the governance of the PHO as WIPA Ltd is in controlling the governance of WIPA Trust. The only PHO to secure a management contract with WIPA Ltd that allows the board to seek advice independent of WIPA Ltd, and paid for out of the management capitation funds provided by government, is Wairarapa, which has the lowest threshold of WIPA/GP governance control.

The trust deeds of the Capital, Kapiti, Tumai Mo Te Iwi and Wairarapa PHOs bear many similarities to each other, and many of the terms are identical to those of WIPA Trust. Only the Otaki trust deed is substantially different. Specifically, all deeds except Otaki's contain clauses identical to the WIPA Trust clauses endeavouring to contract trustees out of their fiduciary duties to the PHO providing an acceptable legal opinion has been obtained, and allowing the

¹⁰⁴ It is also 3 times the size of provider services, 6 times telecommunications expenses and 16 times the size of computer operations.

trustees to enter into contracts with the PHO, even though this may be contrary to the interests of beneficiaries, providing the interest is declared in the same, opaque processes which are costly for beneficiaries to monitor. Even though PHO meetings may be held in public, as with the WIPA Trust meetings, as all operational matters including contracting are handled by WIPA Ltd, not all relevant information will necessarily be revealed in the public domain¹⁰⁵. Given that PHOs are not government entities, information is not discoverable under a request under the Official Information Act 1982. It is therefore difficult to see how all relevant information might be discovered, by either beneficiaries or contracting parties wishing to assess the risks of entering into agreements with the PHOs. These processes also make it difficult for regulatory agencies and other interested parties (e.g. local body and central government representatives) to assess the effectiveness of government funding supplied to the PHOs.

The trust deeds have purposes and beneficiary classes that differ from both each other and the WIPA terms. Whereas the WIPA Trust deed specifies the people of greater Wellington as beneficiaries, beneficiaries are specifically identified only in the Kapiti and Wairarapa deeds (“those individuals and all the communities of the (respective) District” – clause 3.3). These deeds also have an explicit statement of principal objects and charitable purposes (Schedule 2). In contrast, the Capital and Tumai Mo Te Iwi deeds do not identify beneficiaries, but state a purpose “to promote the health of individuals, their families and communities” in the respective areas “through the provision of comprehensive, quality primary health care through working with other providers to enhance the integration of other levels of health care and initiatives related to health outcomes” (clause 3.3). These deeds also contain no overt declaration of principal objects and charitable purposes. All trusts have the capacity to admit members. However, only the Otaki deed specifies a process via which individuals or organisations can apply for membership status (clauses 15-17). In all other PHOs, membership or affiliation is at the invitation of the trustees, in a similar manner to WIPA Trust.

5.2.1.2 PHOs as de facto WIPA Subsidiaries

Together, the dominance of providers in the governance of PHOs, the reliance upon general practitioner contracts to secure PHO income, and the binding of other interested providers with the PHO using contractual affiliation and governance status, suggest that the PHOs are acting predominantly as supplier-governed co-operatives. The terms of the management contracts between WIPA Ltd and the PHOs (the PHO contract) confirm that, just as WIPA Trust was effectively a subsidiary of WIPA Ltd, the PHOs are also effectively subsidiaries of WIPA Ltd.

¹⁰⁵ Those minutes that have been viewed appear to consist principally of community consultation issues. ...
June 2005

The PHO contract grants almost all day-to-day control of the PHOs to WIPA Ltd. The delegations include responsibility for all daily activities of the PHOs (all board secretariat tasks, financial processing and reporting, managing referred services, quality requirements, information management, legal, regulatory and professional requirements, occupational safety and health, and administrative and strategic support to sub-committees), and significant input into medium and long term PHO product development and strategic direction: specifically assisting with developing strategic and business plans, workforce development, new initiatives and contracts for services, and developing policies and procedures in governance and administration. Despite the assertion in section 4.2 that the directors of WIPA Ltd will not be involved in the formulation of policy or policy direction, as the WIPA Ltd management are agents of the WIPA Ltd board and shareholders, it is impossible for there not to be WIPA Ltd director influence in PHO strategy. WIPA Ltd managers are acting under the authority of and are accountable to the WIPA Ltd directors. As their managers are contracted to be involved in PHO strategic development, development of services and letting of contracts, WIPA Ltd directors control these processes. In the event of a conflict, WIPA Ltd management would be bound to put the interests of WIPA Ltd first. Indeed, the extent of influence exerted by WIPA Ltd management over PHO decision-making may potentially go so far as to constitute WIPA Ltd management acting as deemed directors of the PHO, given the extent of the powers granted to management, especially in respect of developing strategy, contracts and services, and the term in contracts requiring general practitioners to interact with the management company as if it is the PHO. At the very least, the risks of management capture of the board, as attends all nonprofit entities, is likely real and present.

The parallels between the PHOs and the de facto WIPA Ltd ‘subsidiary’ WIPA Trust under the terms of this contract are extensive. It might be argued that, irrespective of the governance arrangements of the respective PHOs and the assumptions of general practitioners under the contractual agreements, the terms of the PHO contract have the effect of contractually binding the PHOs as if they too were de facto subsidiaries of WIPA Ltd, in a manner similar to that of WIPA Trust. Indeed, of the five PHOs, only Wairarapa, via its clause 1 (a) in Schedule 1, appears to have specifically allowed for the potential of receiving any advice on its activities other than that provided by WIPA Ltd. This clause specifically states that the independent advice will be funded out of the PHO management capitation funding supplied by government, all of which is transferred to WIPA Ltd under the agreement. By extension, the other four PHOs, having contracted to transfer all management monies to WIPA Ltd, have, by default, waived the ability to fund any strategic and management advice other than that provided by

WIPA Ltd. Even if there was a will to seek independent advice or pursue a course independent of WIPA Ltd, the resources to do so are not directly available to the trustees.

Interaction to the extent of WIPA Ltd being the effective ‘parent’ and the PHOs the subsidiaries is evidenced in the PHO annual reports. Kapiti PHO provides the most cogent example. The revenue classes in 2004 for this PHO match identically dollar for dollar with the expenditure classes and the amounts transferred to WIPA to either distribute to contracted practitioners for service delivery, or pay for WIPA Ltd management tasks (Kapiti, 2004:21). The extent of the delegation to WIPA Ltd is such that the trustees of Kapiti PHO (and of all other PHOs under the identical contracts) are paid direct from WIPA Ltd accounts (WIPA, 2004:100)¹⁰⁶. Capital PHO exhibits a similar pattern to Kapiti, with the only funds not transferred to WIPA Ltd being \$3,800 of interest received (Capital, 2004:36). Likewise, the accounts of Tumai Mo Te Iwi have identical transfers and show only a small sum in bank fees (\$59) and depreciation on a small amount of plant and equipment (valued at \$1333) owned by the PHO as significant activities not passing through WIPA Ltd books (Tumai Mo Te Iwi, 2004:44). Wairarapa’s report also follows the same form, but with small sums for each of bank fees (\$5), depreciation (\$167) and interest received (\$474) recorded (Wairarapa, 2004:27). It thus appears that, with the limited exception of Wairarapa PHO, the five PHOs are unable to undertake any independent financial activity without the input or knowledge of WIPA Ltd. These financial arrangements also confirm that the PHOs are undertaking no independent financial risk management activities on behalf of their registered populations. By default, all risk management tasks are ‘passed through’ to service providers.

5.2.2 Competition Analysis

The nature of the relationships between WIPA Trust, WIPA Ltd and the five PHOs invokes the same questions about the ability of the contract between the PHOs and WIPA resulting in a substantial lessening of competition as the relationships between WIPA Ltd and WIPA Trust. Indeed, it might be argued that the PHO management contracts and PHO service provider

¹⁰⁶ This fact raises an issue of potential misappropriation of funds. If the PHO trustee funds were retained in, and paid out of, PHO accounts, any interest relating to these monies would accrue to the PHO. If they are paid from WIPA Ltd accounts, then any attendant interest will accrue to WIPA Ltd. The amount may be small, but the principle illustrates the limited extent to which the PHOs can act autonomously. As PHO trustees would be paid out of management capitation funds, and these are transferred direct to WIPA Ltd, the trustees become beholden to WIPA Ltd for their remuneration, even though the legal obligation is upon the PHO to pay these fees. The PHOs have no independent capacity to meet their own governance obligations. This suggests a substantial degree of subjugation of PHO governance to WIPA Ltd. It is also strongly suggestive of a substantial subjugation of control of PHO decision-making to WIPA Ltd influence that such a condition could be agreed to by supposedly independent trustees. That such a transfer has occurred also illustrates either the lack of knowledge of non-WIPA trustees, or their limited ability to act, as they have a fiduciary duty to beneficiaries to prevent this type of activity from occurring.

agreements simply substitute for the equivalent agreements under the WIPA Trust-practitioner agreements. That is, the owners of WIPA Ltd may be endeavouring to utilise the contracts to replicate the income streams previously received from, and the control exerted over, WIPA Trust. This strategic objective may be made easier to achieve by the fact that primary health sector income attached to general practitioners' agreements is still paid by the DHB to the 'other party' in the practitioner's PHO membership agreement, just as government-funded 'IPA contract revenue', based upon general practitioner capitation, was paid to the IPA. .

5.2.2.1 WIPA Ltd Across Two Government Strategies

On one level, WIPA Ltd may simply continue the functions that it has performed previously, managing the capitation income assigned to it by general practitioners. Arguably, WIPA Ltd is experienced in this task, and the practitioners may choose to continue this relationship in order to continue accessing the WIPA benefits (e.g. locum scheme, workforce development). However, the substantive difference under the NZPHCS is that the basis of government-funded capitation payments is no longer the general practitioner per se, but patients. Using the dairy co-operative analogy, PHO incomes are now derived from the number of patients on the books (number of cows in the herd), rather than, as the WIPA incomes were, the number of doctors in the club (farmers in the co-operative). The financial success of the collective depends upon securing key inputs – individual patients' capitation fees or milk produced by the cows. The practitioner (farmer) chooses the collective where those inputs will be utilised. The incentives for the practitioner (farmer) to choose a collective where he has both an existing investment and decision-making power over the application of those inputs are considerable.

Ideally, the practitioner (farmer) will consider the interests of patients (cows) when making that decision. However, where multiple incentives collide, and the ability exists for the practitioner (farmer) to place personal interests over the beneficial interests of the original sources of the inputs (patients or cows), the practitioner's (farmer's) interests will prevail. But whereas cows have no ability to 'pick' a dairy company with which to co-operate, and arguably require no enforceable beneficial interest in the company that the farmer picks, patients are materially interested in the outcomes of practitioner collaboration under the NZPHCS. This interest is substantially greater than under the pre-NZPHCS arrangements, as patients are now individually and directly the intended beneficiaries of the funds that they entrust in the first instance to practitioner, and in the second instance to whom the practitioner contracts those funds. This is a very different relationship than the one that prevailed under the original WIPA Ltd/WIPA Trust arrangements, where the only government funds it was in the power of the doctor to control were 'IPA contract revenues'. Thus, whilst providing management services to

general practitioners remains a valid activity for WIPA Ltd, the extent of the decision-making around letting service delivery contracts, previously only a function of the contracts for specific services between WIPA and the DHB, now embraces all decisions in respect of primary health care industry delivery and development to which DHB funds are applied. It must be questioned whether the previous contractual and governance arrangements operating under the WIPA alliance are appropriate for the new environment under the NZPHCS, given that all patients are now materially interested in the actions of WIPA Ltd/PHOs in purchasing services on their behalf.

Without a designated accountable governance claim (all five PHOs) and in at least two PHOs, without a clearly-articulated beneficiary claim, the WIPA Ltd/WIPA Trust/PHO nexus of contracts and constitutions means that patients' beneficial rights are essentially not dissimilar to those of the cows in the farmer's herd. Whilst patients have the right to voice their choice of practitioner (join another herd), this will be of little practical benefit if all practitioners (farmers) belong to the same collective operating under the same contractual and governance arrangements. Thus, effective competition in the primary health sector is contingent upon real patient choice of practitioner collectives, just as real competition in the New Zealand dairy sector is contingent upon real choice of provider collectives and other competitive arrangements. Arguably, cows are more advantaged by the Fonterra arrangements than patients of the WIPA providers, as due to 'fair value pricing' of shares in Fonterra, farmers face fewer barriers to exiting their collective than do WIPA-allied providers, should remaining become detrimental to their ability to discharge their legal and operational duty of care to their cows.

The likely effect of extending the WIPA Ltd/WIPA Trust model of contracts and constitutional arrangements into the PHO environment is to further constrain competition in the primary health care industry (e.g. reductions in competition by extending the degree to which the alliances lock in not just practitioners but also patients into dominant providers). If this occurs, then in order to support such a set of relationships as being beneficial, the costs from reduction in competition would require even greater levels of benefits to be accrued than under the counterfactual of common contracting undertaken by a management company without a provider ownership.

5.2.2.2 Strategic Role of WIPA Ltd Contracts with PHOs

On one level, the contracts between WIPA Ltd and the five PHOs reflect the expected competitive response to the average cost-reducing potential of sharing the administrative overhead costs of PHOs across a wider population base. In this respect, WIPA Ltd contracts

are a cost-reducing innovation and illustrate the ability for small and Access PHOs to share common costs and benefit from economies of scale in management where these exist, without jeopardising their preferential funding arrangements arising from either small size (and therefore larger per-capita management fees) or population mix (that is, maintaining a size and population mix sufficient to retain Access funding eligibility).

On another level, however, as each PHO pays the management capitation fee in its entirety to WIPA Ltd, the cost savings from scale economies accrue to WIPA Ltd, not the individual PHOs. All of the risks, and profits associated with PHO management functions are borne by, or accrued by, WIPA Ltd. The capitation nature of the revenues paid under PHO contracts with WIPA Ltd provides strong incentives to WIPA Ltd to devise innovative ways to reduce management costs, as PHO management revenues and costs are disconnected, just as practitioner revenues and costs are disconnected under the service delivery capitation components of the NZPHCS. WIPA Ltd faces very strong incentives to reduce costs in order to maximise profits. Whilst it could pass these economies on to its customers, it faces few incentives to do so, as its 'prices' to customers (PHOs) are determined by the customers' inputs (management capitation payments), not WIPA Ltd's costs. If there are real cost savings to be gained from management cost sharing across PHOs (as suggested in previous chapters), then it is not surprising that WIPA Ltd has acted swiftly to secure them, as evidenced by its rapid¹⁰⁷ move towards entering into contracts with multiple PHOs in new areas not previously covered by the WIPA Trust agreements (Wairarapa and Otaki practitioners are not represented amongst the WIPA membership in 2003, but are in 2004).

General practitioners in areas not previously covered by WIPA may find it more beneficial to align with an established large network than a smaller one. Arguably the extension of the management contracts to other PHOs may also be an effective merger by contract of previously independent IPAs¹⁰⁸, using their association at the PHO level and common management contracts, to effect the merger¹⁰⁹. The network effects of collaborating, for example, gaining a stake in control of PHO decision-making in addition to the cost savings, would provide a compelling case to align with an IPA-dominated group such as WIPA Ltd, rather than one that simply offers cost savings from common processes. The fact that general practitioners are incumbent providers in an industry that is likely to undergo significant changes, principally

¹⁰⁷ The PHO contracting activity has occurred in less than one year, given that there is no income recorded from PHOs in the 2003 Annual Report, but five PHO contracts are represented in the 2004 Annual Report.

¹⁰⁸ or the equivalent organisational structures within a PHO or individual medical practices.

¹⁰⁹ Other practitioner groups, especially in specific geographic locations (e.g. Wairarapa) may have already been collaborating via their IPA (although not necessarily in as formal a way as the WIPA Ltd/WIPA Trust alliance).

from the imperatives of the NZPHCS that change the basis of funding from fee-for-service to capitation and requirements that ‘no provider should dominate PHO decision-making’, would also provide strong impetus for the incumbents to act quickly to consolidate their advantages and limit the opportunities for competing provider groups.

WIPA Ltd also faces some short-term production-based advantages aside from the control imperatives of its practitioner-owners that make it easier for WIPA Ltd to act quickly relative to other management-providing entities, and even other IPAs. As WIPA Ltd had been providing management services to WIPA Trust since 1995, the firm has already developed systems and resources (e.g. contracts, information technology, experienced staff) to undertake many of the management and administration tasks of PHOs¹¹⁰, and their costs were sunk. WIPA Ltd could move faster, and at lower cost, than competitors without these systems in place¹¹¹. Furthermore, with relationships already established with other providers (e.g. through the national IPA alliance and providers participating in WIPA Trust contracts), the search and contracting costs faced by WIPA Ltd in order to trade with newly-formed PHOs in areas beyond the WIPA Trust ambit were also likely less than those of potential competitors in PHO management services. Arguably, though, those systems and processes supported a service providing supplier-owned co-operative. Whilst cheaper in the short-term, they are not necessarily aligned with the different objectives of PHOs, who are charged by the NZPHCS with serving patient interests first, and using provider collaboration as a means to achieve this objective, rather than utilising patients’ health funding as a means to further collaborating providers’ interests. By utilising existing systems, it is likely that in the short-term, management processes serving specific provider interests will predominate. If these become

¹¹⁰ Including capitation processes, as maternity providers providing Matpro services had been remunerated by case-based capitation since the mid 1990s.

¹¹¹ When assets, such as development costs, are sunk, their costs are neither avoidable nor recoverable. The costs of production for a firm using assets whose costs are sunk are therefore only the marginal costs of each additional unit of production. In contrast, a new entity with no assets that wishes to produce the same goods must fund both the asset plus the production costs. The average cost per unit of production for the new entity will be higher than that of the established entity (it is the asset cost per unit and the marginal cost per unit). It is the ability to share the fixed costs of assets across larger production runs that gives rise to economies of scale. Where economies of scale exist, and one entity has already sunk the costs and another hasn’t, then it is more efficient (called static productive efficiency) for additional units to be produced by the entity that has already sunk the costs, rather than the new entity. However, this presumes that both entities are using the same production technology. The new entity may have a new asset with lower marginal costs of production, or a differentiated product (process) that customers value more highly than those of the existing firm. In this case, the efficiency argument supporting the imperative to seek the scale economies of the existing investment is less clear. The existing entity may be more efficient at producing the old product, but the new product may be sufficiently more valuable to consumers than the old one and/or sufficiently lower cost to produce, that total welfare is raised by the investment in the new production process (called dynamic efficiency gain). Retaining the old technology when the new one would lead to welfare gains imposes an opportunity cost in respect of the benefits foregone. The ‘sunk cost’ assets within the WIPA Ltd alliance include the relationships, skills, contracts and processes already built up to provide management services to WIPA Trust, and the goodwill and reputation already developed from past production.

entrenched, it may be very difficult subsequently to address patient interests, and legitimate interests of competing providers.

5.2.2.3 PHOs as WIPA Subsidiaries and Reduction in Competition

Given that the WIPA Ltd-PHO management contracts constitute an effective ‘merger’ of the activities of the six entities, the arrangement appears to lead to a substantial lessening in competition between PHOs that might otherwise been in competition with each other. As each PHO is a vertically-aligned entity, as per Figure 3.2, then the reduction in competition occurs not just at the level of competition for contracts with the DHBs, but also, due to the tying of service delivery and PHO membership, a reduction in competition at the level of patient choice of PHO, relative to a counterfactual of five independent PHOs all managing themselves independently. Furthermore, competition in the market for contracts between provided groups and PHOs may be reduced.

On one level the very existence of a common contract linking the five PHOs to a common agent may constitute a prima facie case of affiliated action amongst PHOs, leading to a reduction in competition. This question would arise irrespective of the identity and ownership of the entity through which the PHO activities are co-ordinated. On another level, however, the contracts granting effective control of the organisations are let to an entity (WIPA Ltd) that via its contractually-linked effective subsidiary (WIPA Trust) is a collective of suppliers of a specific type. The entity to which the contract is let already exercises significant governance rights over three of the five PHOs. As individuals, the members of the collective are also independently contracting parties with the PHOs whose contracts are effected by, managed and probably have terms influenced by, their agents in the management company. It cannot be discounted that the management contracts allow an even greater level of co-ordinated activity to be undertaken by the general practitioner shareholders of WIPA Ltd and their affiliated general practitioner colleagues in their core business of the supply of primary health care services than would have been possible otherwise.

In this way, the ownership of the entity which is undertaking the contract, and the affiliation to it of other members of a professional group, is material to the question of the extent of reduction competition that can occur if one specific provider group can utilise the contract for management services to gain control of decision-making in the entities via which contracts for service provision will be let to their members. In this case, reduction in competition in the market for management services may lead to a reduction in competition in the market for service provision contracts between the PHOs managed by WIPA Ltd and providers of services

that the PHO enters into contracts for. If general practitioner agents control decision-making in the PHOs, then it is less likely that contracts for service provision let by the affected PHOs will be let to provider groups competing with independent general practitioners of the form allied via the WIPA arrangements. The contracts therefore add to the power that WIPA Ltd already holds via the governance arrangements in Capital, Kapiti and Tumai Mo Te Iwi, extends this power to also include Wairarapa and Otaki, and decreases the likelihood that provider groups other than general practitioners will be able to enter into service provision contracts with the WIPA-managed PHOs.

Evidence exists of WIPA Ltd and the PHOs entering into agreements that will potentially reduce competition in at least some of the relevant markets. The WIPA Ltd-Wairarapa management contract specifically excludes WIPA Ltd (and presumably WIPA Trust, in its capacity as a service provider) from competing with the Wairarapa PHO for DHB contracts (clause 4.3). The combined effects of the provider affiliation contracts and the management contracts appear to imply that the other four PHOs, who receive their strategic advice from WIPA Ltd will not compete with Wairarapa PHO either for these contracts. As these contracts are presumably for new services funded by the DHB, and not part of existing contracted services, it certainly appears that this clause limits competition thereby making it more likely that Wairarapa PHO will gain the contracts. A 'disinterested' management company may facilitate competition between its other PHOs and other service-providing affiliates, as such competitive tenders would likely increase the probability of one of 'its' PHOs getting the contract, increasing the likelihood of the management company getting more business and the associated income. However, WIPA Ltd's control relies upon network effects. WIPA Ltd competing with Wairarapa or any other PHO threatens to destabilise the network (e.g. Wairarapa may withdraw from the alliance) so the restraint from competition term both reduces competition in the market for specific geographical services and ensures that the degree of dominance already gained by the network (and the attendant disincentives that this provides to other competitors to enter the market) is not diluted.

5.2.2.4 Governance of WIPA and Conflicts of Interest

The web of interconnection between the respective entities is so closely woven that it may be feasible to interpret practically all actions undertaken by WIPA agents as common, and binding the entire group which is affected by the outcomes. If any of these actions lead to a reduction in competition between service providers, or groups of service providers, then due to the extensive contracts that exist between general practitioners under the WIPA umbrella, liability for reduction in competition may not be confined solely to those individuals governing WIPA

Ltd. The question of the extent of liability arises as it is not at all clear in which capacities the WIPA agents are acting when they engage in activities that may lead to a reduction in competition. For example, when the chair of WIPA Ltd, who is also the chair of WIPA Trust, takes part in a decision to enter into a contract with Capital PHO, of whom he is also the chair, that will affect the nature of the contracts to which each of the members of WIPA Trust are interested parties, which sets of interests are bound by his decision? If, as indicated by the Constitution of WIPA Ltd that a director acting as an agent of WIPA Ltd in his appointment to the board of Capital PHO and is bound to put the interests of WIPA Ltd first in PHO decision-making, he implicitly binds all directors of WIPA Ltd to his actions, and shareholders to the liability for the consequences, to the extent of their shareholding? Arguably, his actions in this capacity might also bind the affiliates of WIPA Ltd/WIPA Trust, as the common governance arrangements imply a dual mandate. Or is he acting in his capacity as the chair of Capital PHO, on the advice of the manager appointed by him in his capacity as chair of WIPA Ltd, to which he is also joined (along with four of his PHO trustee colleagues, and the practitioner membership of WIPA Ltd/WIPA Trust), thereby binding the PHO board as well as the WIPA participants? In either case, some, if not all, WIPA general practitioners are implicated.

At the very least, the foregoing example cogently illustrates the complexities that arise when interconnected entities share common individuals in key decision-making roles. Individuals may either inadvertently or consciously implicate others, and the ability to unravel the consequences may be fraught with difficulty. It is for these reasons that best practice governance guidelines suggest that different individuals hold key the roles in legally distinct entities where appointments are made as of right by representative bodies. Thus, when common governance roles in distinct companies do arise, it is usually because the entities have near-identical ownership (e.g. parent and wholly-or majority-owned subsidiaries). It also illustrates the ‘common wisdom’ in nonprofit company governance that staff or materially-interested contracting entities should not undertake governance roles. Such conflicts between governance roles and principal contracting entities is not tolerated in the governance design of New Zealand’s State Owned Enterprises (Yap, 2005) or other entities distributing government funds to independent professional providers. For example, it is unlikely that it would be acceptable for more than half the board members of an entity responsible for distributing legal aid funds to be recipients of the contracts for service provision, and the management of the distribution process to be contracted out to a firm owned by a collective of law firms (or even the Law Society) with specific appointment rights to the board, as such an arrangement may be abused at the expense of the beneficiaries of legal aid services. The presence of overtly declared ‘Chinese Walls’ is insufficient under the New Zealand Securities Act 1978 to protect

investors from activities by conflicted directors of investor-owned companies, so it is unlikely that trust-based ‘Chinese Walls’ will suffice in nonprofit organisations, given the need for more stringent governance requirements as indicated by Jensen (1993).

5.2.2.5 Contracts and Substantial Lessening of Competition

Even if the ‘merger by contract’ has occurred, its effect may not actually be a substantial lessening of competition that will be detrimental to consumers if there are, or could be, competitors to the WIPA/PHO alliances. However, the degree of market power exhibited by each of the PHOs (chapter 3) shows that all are dominant individually in their geographic markets. Three are geographic monopolies, one (Capital) has an 85% market share and one (Tumai Mo Te Iwi) a 78% market share. Capital faces competition from fringe providers (Karori and South-East and City), although arguably at least one of these competitors (Karori) is based upon a geographical differentiation. Tumai Mo Te Iwi faces competition from Porirua Health Plus Limited. As four of the five WIPA PHOs are geographically contiguous (Otaki, Kapiti, Tumai Mo Te Iwi and Capital) and Wairarapa is geographically constrained, the ability of patients to seek contracts with practitioners aligned with non-WIPA PHOs is significantly constrained. Whilst choice is feasible, geographic location appears to be significant factor in New Zealanders’ choices of general practitioner (Barnett and Barnett, 2004).

The contractual alliance with WIPA Ltd and the five PHOs appears to have substantially reduced competition between PHOs on two levels – the level of patient choice of PHO, and the level of practitioner choice of PHOs. Constraints have been imposed in both the factor and the product markets as a consequence the contracts, and the expansion of WIPA Ltd beyond its initial Wellington boundaries is consistent with the imperatives to capitalise upon cost savings from joint management. However, as services will now likely be standardised across the five PHOs, it would appear that the extent of the management contract will result in innovation being constrained relative to the counterfactual of five competing PHOs, and existing practices may become entrenched, even if new procedures are developed or discovered.

Competition to WIPA will likely come from new entry in the WIPA PHO areas, or expansion of the existing fringe competitors. However, the existing size of WIPA, the network effects that this embodies, and the incentives that WIPA itself has to grow larger mean that the probability of competitive PHO entry is low. Network effects and the corresponding costs to exit have already been documented. The benefits of scale economies provide strong incentives for the WIPA network to grow larger, and bind in more general practitioners, expanding even further than the five existing PHOs. New general practitioners, both in WIPA areas and new

areas, will find the positive benefits of the WIPA alliance a compelling incentive to join. The alliance will grow larger, leading to stronger lock-in effects for collaborating practitioners, making exit by existing practitioners even less likely to occur. This alters the incentives for new PHOs to enter the market where WIPA Ltd is established.

New PHOs will require agreements with general practitioners to gain access to income streams. Without evidence that these assets have been secured by 'new PHOs', the DHBs are unlikely to approve their creation. When choosing a PHO, a practitioner must assess the comparative benefits that each potential alliance will bring. Whilst this will typically hinge upon the terms of the payment contract, other factors will also influence the decision. If all payment contracts are identical (e.g. all PHOs simply 'pass through' the capitation sum), then the other factors alone will determine the choice of PHO. These other factors may include the extent of control that the practitioner will be able to exercise upon the decision-making of the PHO, or the extent and types of the collaborative networks that the PHO will offer (e.g. professional affiliation, collegial support, future earning potential, access to intellectual property). The PHO-selection exercise is therefore equivalent to a practitioner selecting a network, as occurs in United States Physician-Hospital organisations or provider collectives (Ma and McGuire, 2002). The practitioner will opt to join the PHO that offers the greatest benefits. Practitioners already in agreements with PHOs will also be scanning available PHO options to ensure that they are getting the greatest benefits.

The relevant tests for competitiveness of the PHO market will therefore hinge around is the extent of difficulties faced by new PHOs entering a market, or difficulties faced by practitioners exiting existing contracts (i.e. they are 'locked in'). Costs to exit mean that dissatisfaction with the WIPA alliance amongst existing practitioners must be relatively high, or the benefits offered by a rival PHO larger than those offered by WIPA, to induce existing practitioners to exit the WIPA alliance and join a new one. Such benefits are unlikely to be available to new PHOs, given that WIPA already has already capitalised upon the benefits of economies of scale in its areas due to its dominance. New PHOs may not be able to match either the lower costs or the benefit of decision-making influence. Hence new entry within WIPA areas is unlikely to occur, except at the fringes (e.g. Maori providers). Only an even larger rival PHO alliance may be able to match the benefits of the WIPA alliance. It is unlikely that such an alliance will emerge within the WIPA geographic area, so such competition, if it is to provide disciplines upon WIPA, will come from an even larger collective serving other PHOs in other parts of New Zealand.

Under the current arrangements, it appears unlikely that there will be any competitive entry in the WIPA-managed areas that will increase the potential benefits for the majority of patients. The incentives of ownership, association, governance and contracts lead to a set of self-reinforcing outcomes that, unless competition law intervenes, will likely lead to WIPA facing few effective competitive challenges. The effect of the interaction of the governance, contract and cash flow linkages of the WIPA alliance conferring power on WIPA and its associates are illustrated in Appendix 7.

5.2.2.6 PHO Contracts and Financial Risk Management

Analysis of the financial accounts of the five WIPA-managed PHOs, WIPA Ltd and WIPA Trust confirms that none of these entities are undertaking any financial risk management tasks in respect of the patient capitation contracts under the NZPHCS. All the examined PHOs simply pass through all capitation monies either directly to WIPA Ltd or to the providers who register the patients, retaining no designated reserves, and there are no records in the annual accounts of any risk management contracts. WIPA Ltd and WIPA Trust declare no risk reserves or risk management contracts in their accounts. Passing through capitation monies to individual providers is leading to higher risk management costs than are necessary, and risk-shifting onto patients who are not well-placed to bear these risks. This practice has arisen because the parties who would otherwise be bearing these risks (general practitioners) control the contract-letting processes of PHOs, enabling contracts that minimise their individual exposure to these risks to be let. This behaviour is consistent with the actions expected of risk-averse individuals. These actions are contrary to the interests of patients, who would prefer the lower fees achievable from centrally-managed capitation pools or a risk reinsurance pool.

Moreover, the nexus of governance relationships and contracts leaves patients and taxpayers powerless to counter such activities. Providers of all types constitute a majority of WIPA PHOs. As all providers will prefer to minimise their risks, even the non-WIPA providers will likely find such arrangements to their advantage. Hence, governance checks cannot preclude such actions from occurring. If there is neither governance control nor alternative PHO alliances with different financial risk management approaches, patients do not have competitive power as customers or direct power as governance principals, to discipline behaviour of the PHO decision-makers to improve their financial outcomes.

The WIPA governance arrangements show that provider self-interest may be expressed not just in the choice of providers to whom the contracts are let, but the form of those contracts. These outcomes arise simply because providers must be represented in the governance of PHOs, and

in the WIPA PHOs, constitute a majority. This stands as a cogent example of why it is generally considered inadvisable in economics governance literature to have contract parties controlling decision-making in all organisations except where there is common ownership. As it was not the (apparent) intention of the NZPHCS for PHOs to be ‘owned’ by providers, it must be questioned why other contracting parties (such as DHBs) sanction trading with organisations where such conflicts of interest potentially disadvantage those parties (DHBs and the patients and taxpayers that they act as agents for), or that regulators with the power to oversee the activities of such organisations can allow such activities to occur, given the apparent costs borne by those whose interests they are charged with protecting.

5.3 Outcomes of the Alliance

The contractual relationships between WIPA Ltd and five PHOs appear to extend further the contractual collaboration between practitioners that has led to market dominance by large PHOs evidenced in chapter 3. Furthermore, the WIPA alliance appears to further restrict competition between PHOs. If the activities of this alliance are similar to those of (especially) IPA-led PHOs in other parts of New Zealand, then it is likely that similar outcomes are coming to dominate the primary health care industry. It is noted that all but four of the South Island PHOs are affiliated to a single IPA entity. Based upon the WIPA analysis, it may be that there is little real competition in the sector. Furthermore, it is likely that there is very little effective governance control able to be exerted upon interested provider groups, especially if these groups can utilise complex contractual relationships to gain income and degrees of influence beyond that intended in the NZPHCS.

The close integration of WIPA Ltd and the five PHOs confirms the hypothesis that, in practice, there is very little distinction between the PHOs and the contributing practitioners who provide the property rights to the patient lists. But rather than PHOs controlling the patient lists, and therefore being principals in contracts let to practitioners for the services that they offer, the WIPA alliance has occurred from the opposite perspective - WIPA practitioners appear to have effectively ‘merged’ their patient lists to create the PHOs as an extension to the management collaboration that they enjoyed previously, with WIPA Ltd maintaining control of (albeit larger) practitioner-determined incomes. If the major benefit that PHOs have the power to confer is access to service provider contracts and a controlling stake in decision-making in the sector, then it is the WIPA Ltd associates who stand to gain most from the contractual and governance arrangements examined above.

The consequence of the provider-led PHO formation process, based largely upon arrangements devised to further the interests of general practitioners collaborating in both a political forum and service provision, via IPAs, is unlikely to lead to real community involvement in WIPA-dominated PHO decision-making. This is particularly evident in this case study given that the WIPA Ltd/WIPA Trust model was predicated upon total control by a limited liability, practitioner-owned company operating a ‘club’ with closed membership designed to retain control within a group of like type. Whilst the ‘end’ envisaged by the NZPHCS may embody a role for community and patient participation, it is unlikely that PHOs formed via WIPA-type means will arrive at this ‘end’ without substantial intervention from legislative, regulatory or legal processes.

5.3.1 Regulatory Restraint and Conferral of Benefits

Despite the presence of some benefits from economies of scale in management, the case study provides examples of behaviour arising as a consequence of the WIPA alliance that likely reduces competition and may be in breach of competition law. The case study also includes examples of governance provisions that breach the principles of fiduciary duty normally due by board members and trustees to nonprofit organisations. Given the relatively weak ability of the product and factor markets, capital markets or internal governance processes to constrain such behaviour, it would appear that considerable importance must be placed upon the limited regulatory powers of the NZPHCS, competition law and company law, to ensure that patient and taxpayer principals are not disadvantaged by these actions. To date, it does not appear that the statutory and regulatory agencies charged with overseeing this behaviour (principally the DHBs and the Ministry of Health) have taken actions to intervene. Only one action in respect to potential breaches of the Commerce Act with respect to price fixing has been brought to the Commerce Commission, although this related to practitioners colluding prior to joining a PHO¹¹².

It is difficult to see where benefits from the WIPA arrangement may be accruing, given the high costs of risk management, potential for self-interested behaviour of providers and reduction in competition that are occurring. It is also difficult to see how the arrangement contributes to some of the intangible aspirations of the NZPHCS, such as having all providers participating and none dominating in PHO governance, and increasing the range of services available from which subsidised patients will benefit. Indeed, the WIPA evidence suggests that the existing regulatory arrangements have been unable to prevent general practitioner dominance from

¹¹² <http://www.comcom.govt.nz//MediaCentre/MediaReleases/2004/commissionwarnsaboutpricefixing.aspx>
June 2005

emerging and questionable contracts and alliances being entered into. Moreover, the extent of the alliances that are arising across DHB areas is likely hindering the ability for regulatory agencies to undertake their roles, as PHO and provider dominance frustrates the ability to ascertain benchmarks against which to compare PHO performances.

5.3.2 Competition or Not

Whilst some economies of scale in management arise from centralised processes, arguably the WIPA Ltd practitioners had already harnessed these benefits via WIPA Trust. Extension to other entities allows further economies to be gained, but at the cost of reduction in competition. The reduction in competition arising from collaboration per se, the ownership and control of the entities collaborating and the contracts being let as a result of the absence of limitations on the powers of those in control, may well outweigh these additional gains¹¹³, to the detriment of patients and taxpayers.

The arrangements entered into by the WIPA-affiliated providers highlights the need for considered assessment of the balance between the desirability of competition and the benefits of collaboration in the primary health care sector in New Zealand. If the gains from the NZPHCS are real and positive, then an analysis by an independent entity would inform on this (e.g. the 2004 Commerce Commission inquiry into a possible merger between Qantas and Air New Zealand). If there are benefits that are unable to be assessed (e.g. political or national interest), then further legislative intervention (e.g. as occurred in the case the dairy industry, leading to the creation of Fonterra) would appear to be indicated. However, as in the dairy industry case, any such legislation will itself be informed by the detailed examination of the balance between the desirability of competition and the benefits of co-operation that are revealed in an independent investigation.

5.3.3 NZPHCS and WIPA Outcomes

The design of the NZPHCS has been complicit in determining the net costs or benefits arising from WIPA alliance, as it has set up the incentives for practitioners to collaborate by vesting the patient-PHO alliance choice, and control of the associated income streams, in practitioners rather than patients. Practitioner power in PHO decision-making would not arise from normal commercial interactions if patients, rather than providers, selected their PHO, as patients can send a clear customer signal. It is the relative inflexibility of the payment proxy for the patient

capitation paid to the PHO being the provider's choice not the patient's that leads to exclusivity of the provider-PHO relationship and concentrates the incentives to ally on providers rather than patients. These incentives have led to the provider-dominated competition for control of PHOs observed in the WIPA alliance. Such competition for control by a specific practitioner group may be less likely to occur where there is a direct contractual relationship between the patient and the PHO (for example, where the PHO is a union and employs practitioners to deliver services), or where there were not strong provider alliances already participating in the market for other primary health care services.

The case study also illustrates the relative inability of the existing regulatory and contractual provisions of the NZPHCS to prevent a potentially anti-competitive outcome from occurring. Despite the clearly-stated intentions of the NZPHCS that no one provider group become dominant, this is the very outcome that has occurred in the WIPA alliance.

The NZPHCS grants DHBs powers to approve new PHOs, and to contract with them. However, once PHOs are established, the sole regulatory powers DHBs have are ones of price discovery. Thus, the sole ongoing influence of DHBs in the sector is by contractual choices. Significant reliance upon the integrity of the system is therefore placed upon the DHB contracting processes.

The DHBs have entered into contracts with WIPA PHOs, and continue to contract with them, despite the emergence of the outcomes described above that do not appear to be in the interests of the funders and beneficiaries of the NZPHCS. Prudent potential contract partners would likely examine the ownership and governance arrangements of the parties they were entering into contracts with, as well as the terms and conditions of the actual contract linking entities, in order to determine the likely risks to the contract achieving the desired outcomes. Such an analysis would be undertaken across all risk dimensions (financial, operational, hazard and reputational, McNamee (1997)). Without such enquiry, it is likely that the contracts entered into will have unanticipated and costly outcomes. The contracts between three DHBs and the WIPA-governed PHOs appear to have this potential. If the costs of such outcomes upon patients are to be minimised, DHBs must exercise their powers as purchasers of PHO services with a fiduciary duty to the patients that these contracts are intended to benefit.

¹¹³ Which are smaller in the WIPA case than if collaboration was started from scratch, as may be occurring in other areas.

5.4 Conclusion

By the number of PHOs, the data in Appendix 5 indicates around 65% of the 77 PHOs as at December 2004 were IPA-affiliated. However, when IPA affiliation is examined as a proportion of patients enrolled, then IPA-affiliated PHOs serve over 90% of the registered population. The potential influence of general practitioners on the direction in which the NZPHCS trends will be significant.

The WIPA case study shows that under the NZPHCS, alliances of providers have the ability to enter into contractual arrangements as suppliers of both management services and health care delivery services, in such a way that competition between provider groups is reduced, in respect of both PHO contracts with DHBs, and PHO contracts with providers. The contracts combine with the governance arrangements of the NZPHCS to allow provider collectives to gain a dominant position in the governance of PHOs, and extend this dominance over many PHOs, further enabling the use of this position to reduce both competition and the extent of patient choice of PHO. The result is a reduction in welfare as competition reduces, and a reduction in dynamic efficiency, as the incentives for PHOs to innovate is dampened. Given that, in the WIPA case at least, collaboration to reduce management costs was already occurring, it is debatable that the benefits of reduced costs and improved use of information envisaged by the NZPHCS will arise. Thus, competition is likely reduced, with its attendant costs, but with minimal increase in benefits, at least in respect of gains from more efficient contracted service delivery.

Whilst the extent of potential reduction in competition identified in the case study indicates independent investigation of the competition implications of the NZPHCS may be warranted, the study underlines the findings of chapters 2 and 4 that the design of the institutions and contracts within the NZPHCS has provided incentives for these outcomes to arise. Principally, the requirement that patient selection of service provision is tied to PHO membership, creates the necessity for exclusionary contracts, which lead to reduction in competition between PHOs for provider services, and reinforces the network effects of existing collectives. The case study shows how network effects in one market prior to the NZPHCS can be utilised in conjunction with the tying requirement to gain dominance under the arrangements of the NZPHCS. The behaviour of the WIPA-allied providers is predictable, given the constraints imposed upon the contracts between PHOs and patients imposed by the NZPHCS design. Thus, it is not surprising to find that the contracts entered into by practitioner-controlled PHOs result in the financial risks being shifted in a manner that minimises the exposure of individual practitioners.

Furthermore, the case study reveals the relatively limited ability of the regulatory powers to detect and act upon behaviour that will lead to higher costs of the system. The governance arrangements permitted by the NZPHCS and apparently sanctioned by DHBs who are prepared to register and contract with entities operating under trust deeds such as those of the WIPA-managed PHOs, appear to offer little confidence that taxpayer funds will be well monitored under the NZPHCS.

In summary, the case study supports the contention of the previous three theoretical chapters that there is considerable doubt about the ability of the NZPHCS to deliver its objectives cost-effectively.

6. For the Future

In the introduction to this paper, two questions were posed: are the contractual changes brought about by the NZPHCS consistent with achieving the principal objectives of the strategy, and what are the likely effects that the changes will have upon the 'value for government money' delivered by the primary health care sector? The body of the paper has addressed many issues relating to the contractual changes and subsequent institutional design and interaction.

Chapter 1 identified six broad aspirational goals for the NZPHCS:

- work with local communities and enrolled populations;
- identify and remove health inequalities;
- offer access to comprehensive services to improve, maintain and restore people's health;
- co-ordinate care across service areas;
- develop the primary health care workforce; and
- continuously improve quality using good information

and a number of specific objectives, including:

- increasing the share of government expenditure in primary health by increasing total resourcing;
- developing innovative ways of providing services people can afford;
- improving access to services amongst specific defined population groups;
- PHO governance that includes all participants in the sector and allows no one group dominance in decision-making; and
- a system that guards against public funds being diverted from health gain and health services into shareholder dividends.

Chapters 2-5 provide some assessments of the ways the instruments chosen are progressing these goals.

Individually, elements of the contractual changes appear to address the individual aspirational goals, but as the paper has shown, relative to the pre-NZPHCS arrangements, the goals appear to be in conflict with each other, and the changes to implement them are likely occurring at the expense of both specific objectives and value for money. The preceding analysis suggests that a number of trends are emerging. These trends arise from the creation of nonprofit PHOs, as the central entity in the contracting process and the use of capitation payments to resource the primary health care sector.

6.1 Nonprofit PHOs

The creation of nonprofit PHOs as regional entities appears to address the need for local involvement and co-ordination care for an individual across service providers, but also appears to be leading to a reduction in competition that will likely lead to dominance by a small number of large, geographic monopoly PHOs who may be effectively operating as subsidiaries of specific provider groups, contrary to the intention that PHO governance will be shared amongst all stakeholders. Although provider collaboration under the aegis of PHOs may lead to lower costs in the short term, in the long term, the effect is likely to be lower levels of innovation, slower development of new services, and a reduction in the information available to monitor and assess the performance of the sector, leading to lower total benefits than under the counterfactual of vigorous competition. Market dominance by specific provider groups is also contrary to the NZPHCS intention that care delivered to individuals be co-ordinated across a range of new, innovative services. The likely outcome is co-ordination of care only across those services meeting the approval of the dominant provider group. Whilst 'community input' in PHO governance may theoretically allow patient preferences to be expressed, the governance provisions of the NZPHCS as interpreted by the PHOs examined in Chapter 5 suggest that such expression may be overridden by provider preferences, if providers gain dominance on PHO boards. This can occur as a consequence of the absence of a clear and accountability of PHOs to individual patients, separate and distinct from the accountability of service providers to patients.

If the PHO instrument simply formalises collaborative activity that has already been occurring under the aegis of practitioner associations or community trusts, the gains from aggregation and co-ordination may have already been substantially realised. Further incentives will be necessary to ensure that innovative purchasing occurs across service provider groups. Moreover, dominant providers may lack incentives to act in a cost-conscious manner, or may charge prices higher than cost, and let contracts of a form that minimises provider exposure to financial risk, at the expense of patients, either individually or collectively. The NZPHCS arrangements cannot provide the assurance that public funds will not be diverted away from health gain, or that the resulting contracts will be the most efficient way of delivering the required services, given the relatively low ability under the NZPHCS for PHOs to be required to disclose relevant information or be held accountable under the current governance and regulatory provisions. Whilst collaboration between providers may assist in developing the primary health workforce, if it leads to reduction in competition and dominance of specific provider groups, then workforce development may occur, but only within narrow groupings of

provider types, which may not be consistent with the intention to provide a comprehensive range of services.

6.2 Funding by Capitation

The injection of substantial additional taxpayer funds into primary health care will increase the share of government expenditure, but it is not clear that this will necessarily lead to improved health outcomes, or a more equitable distribution of those outcomes. Higher subsidies will increase consumption, but will not lead to increased efficiency if they crowd out private spending and induce additional over-consumption by individuals who may not be the most needy. The additional resources may therefore not necessarily lead to reductions in health inequalities of the extent anticipated. Capitation mechanisms have been utilised in managed care schemes to encourage providers to prioritise allocation of resources by disconnecting provider income and costs. However the increased financial risks that these schemes place upon providers encourage selective risk management behaviour, including ‘cream-skimming’, reduction in care quality and risk-shifting, which often penalise those most in need of care, and further reduce efficiency by placing the financial risks on those least able to bear them. Whilst additional regulatory mechanisms may limit the extent of quality reduction, they increase costs and therefore lower efficiency relative to the pre-2001 counterfactual.

The NZPHCS introduces capitation, with the potential to encourage better management of costs, but simultaneously allows providers to shift any additional costs occurred, including the costs of financial risks, onto patients. The ability to charge patients directly negates the incentives inherent in capitation instruments for providers to seek more cost-conscious ways of providing services (innovation). Shifting financial risks onto patients shifts the costs onto the smallest possible risk pool – the individual patient – thereby increasing the variation in the costs of health care to patients. Under the NZPHCS, some patients will pay substantially more for primary health care, simply because of the distribution of financial risk, and the responses of providers and other patients in the system to the risks and costs they face.

The geographical limitations upon the formation of PHOs further limits the ability to manage risk pools efficiently, whilst the practitioner governance requirements of the NZPHCS reinforce the ability of provider interests in risk management decisions made by PHOs to prevail over those of patients. Furthermore, the capitation nature of management funding encourages PHOs to co-operate in respect of overhead costs, increasing the likelihood of mergers, reinforcing the negative benefits from reduction in competition outlined above, whilst the governance

arrangements simultaneously discourage mergers of risk pools in order to increase system efficiency.

The differential nature of capitation funding, based upon demographic and practitioner characteristics, has the potential to increase the registration of low-consuming individuals, and may lead to greater access to services by some groups. However, the NZPHCS provides no assurance that registration with a PHO automatically leads to consumption of appropriate services by the most needy. Differential capitation rewards registration of patients with specific characteristics irrespective of their actual individual health state, but does not reward intensive treatment of these individuals if capitation payments at individual practitioner level are less than the average costs of treating the registered patients. Rather the differential funding leads to an additional incentive to extensively ‘cream-skim’ the higher-capitated group, leaving the most needy in terms of health state as the least likely to be registered. The incentives provided by basing capitation funding differentials on PHO rather than patient characteristics further strengthens the incentives to cream-skim, distorts risk pools and leads to higher costs of risk management overall. The incentives may also lead to a bifurcation in ownership of provider entities in the sector, with high-cost, high-risk individuals more likely to be serviced by nonprofit providers whose incentives to cream-skim are likely to be less acute than those of for-profit providers.

Given the limited abilities of the governance, disclosure and regulatory provisions of the NZPHCS, it will be difficult to monitor, detect, discourage or punish efficiency-reducing behaviour. Even if contracts that prevent providers from passing risks onto patients are entered into by PHOs, the ability for capitation setters to gain access to sufficient information to set efficient capitation payment levels is severely constrained by the governance and regulatory design of the NZPHCS and the impediments that this places upon allowing individual consumption and capitation information to be matched. The ability to design an efficient contract is further constrained by the complex and highly varied structure of the subsidy payments, and the difficulty in accessing information from the capitation recipient about the extent to which income from one subsidy group (either government- or patient-sourced) may be cross-subsidising other subsidy groups.

The expectation that increased subsidies will lead to pro rata reduction in patient co-payments, and the levying of co-payments when treatment is consumed, means that even though the out-of-pocket price paid by patients may decrease, the additional risk management costs are borne disproportionately by low-subsidised individuals who fall sick. The distribution of benefits is

therefore not equitable. In the short term, some co-payment prices charged to low-subsidised patient classes will rise, even though costs are unchanged. This does not appear to lead to an improvement in either efficiency or equity outcomes relative to the pre-NZPHCS system.

6.3 A Way Forward?

In summary, therefore, it is difficult to discern where the measurable benefits from the NZPHCS will come. Whilst access to services by some individuals may increase, the risks to lowering sector efficiency are substantial and tangible. The efficiency and equity consequences may not be apparent as yet, as the effects of the substantial additional government funding are likely masking the visible effects. Whilst higher subsidies have led to lower costs for some individuals, there is already evidence that at least some individuals are paying more for primary health care than prior to the NZPHCS, even allowing for reasonable increases in the costs of care (distinct from the sum of costs of care and increased costs of risk management).

Irrespective of the individual issues, ultimately the discussion comes back to the effects of the contracts set up under the NZPHCS, the governance arrangements of PHOs, and the relationships between patients, providers and funders. Is it possible, given the aspirations and objectives of the NZPHCS to design a set of institutions and contractual relationships that are able to deliver the objectives more efficiently, relative to the benchmarks of the pre-NZPHCS system? Whilst this is not a trivial task, and is beyond the scope of this paper, the preceding five chapters provide some insights that may be helpful to policy-makers in addressing this question.

The preceding five chapters raise two significant questions about the changes made, relative to the pre-NZPHCS arrangements:

- was the formation of PHOs necessary? and
- is a capitation funding instrument feasible?

Each of these will be briefly considered in turn, using the pre-NZPHCS arrangements as a counterfactual.

6.3.1 Was the formation of PHOs necessary?

Given that the competitive forces of interaction between providers, communities and the funding instruments have led to the formation dominant PHOs apparently based upon geographical considerations, and typically centred around existing provider or community alliances, the apparent reduction in competition associated with these entities, and the loosely-specified governance and regulatory requirements and accountabilities that have emerged, the

rationale for forming PHOs appears questionable. DHBs had already been established as population-funded health service entities with a geographic basis aligned with serving the needs of specific communities. DHBs could have undertaken many of the activities charged to PHOs under the NZPHCS.

As DHBs ultimately bear the budget responsibilities for the health care needs of all individuals living within their geographic boundaries, so are charged with balancing the purchasing of all health care needs across primary secondary and tertiary sectors and managing the financial risks associated with these budgets, they are well-placed to devise efficiency-raising locality-specific contracts across all sectors in a truly locality-specific manner. They are also arguably in a better place than PHOs to co-ordinate care for individuals, as they can co-ordinate care not just between primary care providers, but across all health care sectors. As nonprofit, state-owned entities, they are covered by statutory information disclosure and governance arrangements, are directly and transparently accountable to the individuals whom they serve via central and local political mechanisms, and are therefore less subject to capture by specific interest groups¹¹⁴. As established entities already contracting for primary health care services over and above those services covered under S88 agreements, they are also likely to already have mechanisms whereby provider and consumer input can be sought in devising current and future contracting plans (for example, community consultation committees). Thus, the out-of-pocket costs of governance over the entire health sector from using DHBs as the co-ordinating mechanism are likely to be less than via PHOs, given reduction in duplication of many functions. Whilst arguably there will be some loss of local input, it is not at all clear that under the PHO governance arrangements, the local input that is occurring is necessarily a balanced representation of local preferences (given the dominance of providers in governance of local providers), or any greater in quantity than that occurring pre-NZPHCS¹¹⁵.

Were DHBs rather than PHOs responsible for primary health care contracting, then arguably the reduction in competition resulting from provider alliances would be less. Whilst individual provider groups, such as IPAs or community trusts, might collaborate for specific projects where these are economically justified, as has occurred prior to the implementation of the

¹¹⁴ Whilst such mechanisms limit capture by stakeholders within the sector (e.g. providers and patient interest groups), they do allow the possibility for political capture to occur.

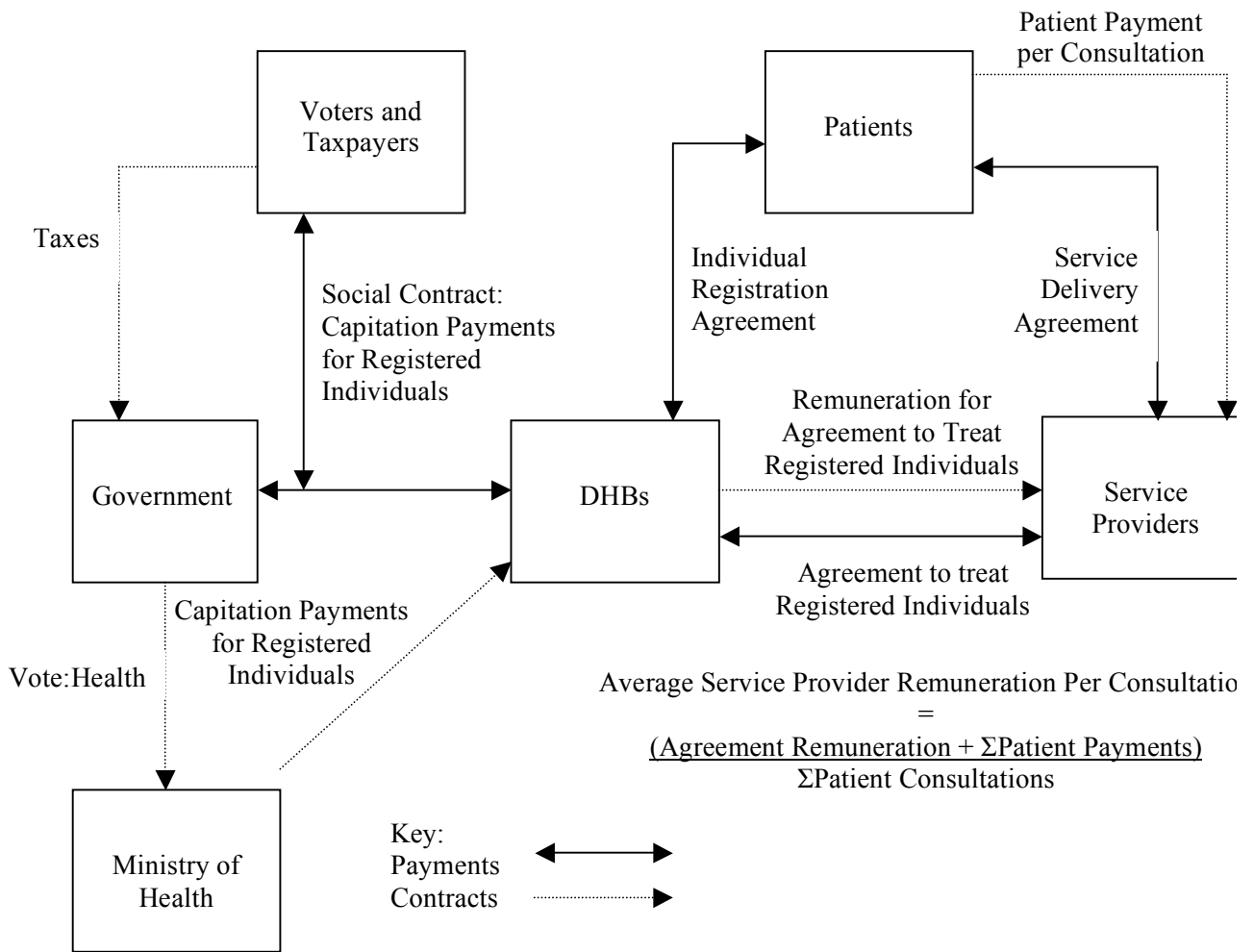
¹¹⁵ During the reforms of the 1990s, some Regional Health Authorities (Central RHA is an example) funded the establishment of local representative Community Health Groups. Many of these groups have survived through successive reforms as local community health trusts and incorporated societies, and have provided a vehicle for ongoing community consultation for the Ministry of Health, District Health Boards and Independent Practice Associations. Many of these groups have been instrumental in the formation of PHOs – for example, Kapiti Community Health Group Trust, the successor to groups established in Waikanae and South Kapiti under the

NZPHCS, this would not necessarily be at the expense of other provider groups forming and developing services based around their own product types, and the risk of specific provider groups increasing their dominance through gaining governance control of PHOs would be less. As DHBs also have large risk pools, given the larger numbers of patients that they serve, they are better placed to manage demand variations, leading to lower costs of financial risk. As they are already funded for their entire population, they face no incentives and have no ability to cream-skim. As they have responsibility for all health care needs for the population, as with insurance companies, they are better-placed to make decisions about the form of contracts for primary care, including the extent to which capitation incentives can be used to induce desired cost reductions and service developments amongst contracted primary care providers.

The structural effect upon the NZPHCS of DHBs undertaking PHO responsibilities is illustrated in Figure (iii). Comparing Figure (ii) with Figure (iii) shows that the structural effect is immaterial. The trend amongst PHOs to form into principally geographic monopolies within DHB boundaries (with smaller, largely ethnically-differentiated, fringe providers) supports the contention that the governance costs of such a system would have been less. Furthermore, the removal of an additional bureaucratic layer makes the shifting of financial risk more transparent, and therefore less likely to occur unless such action is actually efficiency-raising. Together, these issues beg the question of why separate PHOs were considered necessary in the NZPHCS, especially given that DHBs were already entering into separate service contracts with service providers in order to address issues specific to different ethnic groups. It is noted that the arrangements illustrated in Figure (iii) are, apart from the use of capitation funding and the identity of the entity paying general practitioners, essentially the pre-NZPHCS primary health care arrangements.

auspices of Central RHA, was one of the “key driving forces behind the establishment of” Kapiti PHO (Kapiti, 2004:5).

Figure (iii) DHBs as Primary Care Co-ordinators



6.3.2 Is a capitation funding instrument feasible?

At a population-based level, capitation funding provides the ability for budgets to be allocated amongst service-delivering entities. At the level of an individual receiving a capitation-based subsidy, then the purpose is to provide a ‘voucher’ to apply towards the purchase of a specific service. Where the only income received by a provider is the capitation payment, it makes no difference whether the payment is considered a budget or a voucher. However, if the service consumer adds a personal contribution towards the cost of the service delivered, the payment must be considered as a voucher, and the consumer’s contribution a ‘top-up’ to the service to which the voucher is applied. Prior to the NZPHCS, S88 payments were unequivocally vouchers for health care service delivery, paid to the provider of the patient’s choosing per treatment received. The fundamental difference between the use of budgets and vouchers is that the entity upon whom a budget is conferred bears the financial risks of demand variation

associated with the administration of that budget, whereas a voucher is a 'benefit' that raises the welfare of the recipient on whom it is conferred, but does not bring with it any additional financial risks (although there may be conditions associated with how the voucher can be used). Under the pre-NZPHCS system, the S88 payments imposed no additional financial risks on patients or service providers over and above those they normally faced.

The NZPHCS capitation payment invokes the financial risks inherent with budgets in respect of PHOs. However, as patients make payments to practitioners as well, the capitation payment can be viewed as an individual voucher paid on behalf of each patient each quarter to the PHO of the patient's choosing. This leads to some confusion amongst the institutions and individuals about how to interpret the information, and make decisions associated with, the services to which the budget/voucher are applied. The confusion is extended by the passing on of capitation payments to service providers.

Whilst conceptually, the capitation payment is a voucher towards an individual's insurance premium paid to the PHO in an agreement whereby the PHO undertakes to manage some of the financial risks of the patients primary health care demand variation, the imposition of a patient co-payment made to the service provider upon each consultation leads to confusion about the role of the government capitation contribution relative to the historic S88 payments, which were risk-free benefits. Whereas in fact the co-payments are insurance premium top-ups¹¹⁶, the legacy of the historic agreements combined with the absence of a clearly-defined contractual insurance relationship between either patients and PHOs, or a contractual insurance relationship between patients and the service providers to whom the insurance company has subcontracted the risk management tasks, reinforces the misconception that the co-payment is a top up to the cost of service delivery. This influences the perceptions of both patients, and policy-makers who set the capitation payments, and has led to the expectation that increases in capitation rates based upon 'average' health demand will lead to pro-rata decreases in the average co-payment. This will occur only if the level of risk borne by the recipient of the capitation payment is unchanged which, as demonstrated above, it does not. Unless this fundamental misconception can be allayed, and the contracts, institutions and processes surrounding the management of the payments (both capitation and co-payment) altered to reflect the reality of the insurance arrangement, it is difficult to see how the NZPHCS can avoid the occurrence of costly and inefficient decision-making. The reality is that the capitation funding instrument shifts the financial risks previously borne centrally by the government under the S88 agreements onto the

¹¹⁶ Ensuring that the sum of capitation payments for all registered patients plus fee-for-service payments for only those patients who seek treatment equals costs.

ultimate recipient of the capitation payments, and this recipient becomes the ultimate insurer. The contracts and institutions of the system, and the regulatory requirements, monitoring and enforcement of the outcomes, must be designed in recognition of this reality.

The principal difficulties arising from the NZPHCS confusion surround the ability of the decision-makers to make decisions¹¹⁷ that ‘calibrate’ the system to perform efficiently, given that the contracts and institutions do not take into account either the risk-bearing responsibilities or amounts and types of information required in an insurance-based system. Consequently, there is neither the ability to design, nor accountability for the design of, optimal contracts that balance both the costs of financial risk and the distributional effects of the system. As long as patients are expected to make part-payments, the optimal rates cannot be set without detailed individual patient consumption information. Without a direct contractual insurance relationship between the patient and the entity bearing the financial risks, there are fewer incentive for the costs of risk management to be kept as low as possible. Thus, it is difficult to see how an efficient capitation system can operate as long as there is separation between the setter of capitation rates and the setter of patient co-payments. The difficulties encountered in New Zealand do not occur in the United States managed care insurance system, as insurance companies balance capitation rates and fee-for-service payments in their contracts with providers, and patients balance the premium and co-payment charges levied under their insurance contracts with the quality of care and value for money of the combined insurance/health care package. Neither do the difficulties occur in England, as the NHS pays the full cost and Primary Care Trusts are fully budget-funded entities, and all system calibration is undertaken via political mechanisms. If the current NZPHCS arrangement continues, rather than achieving the benefits of both a capitation and a fee-for-service system, the result is an amalgam of the worst cost features of both – higher risk management costs and inequitable distribution of these costs.

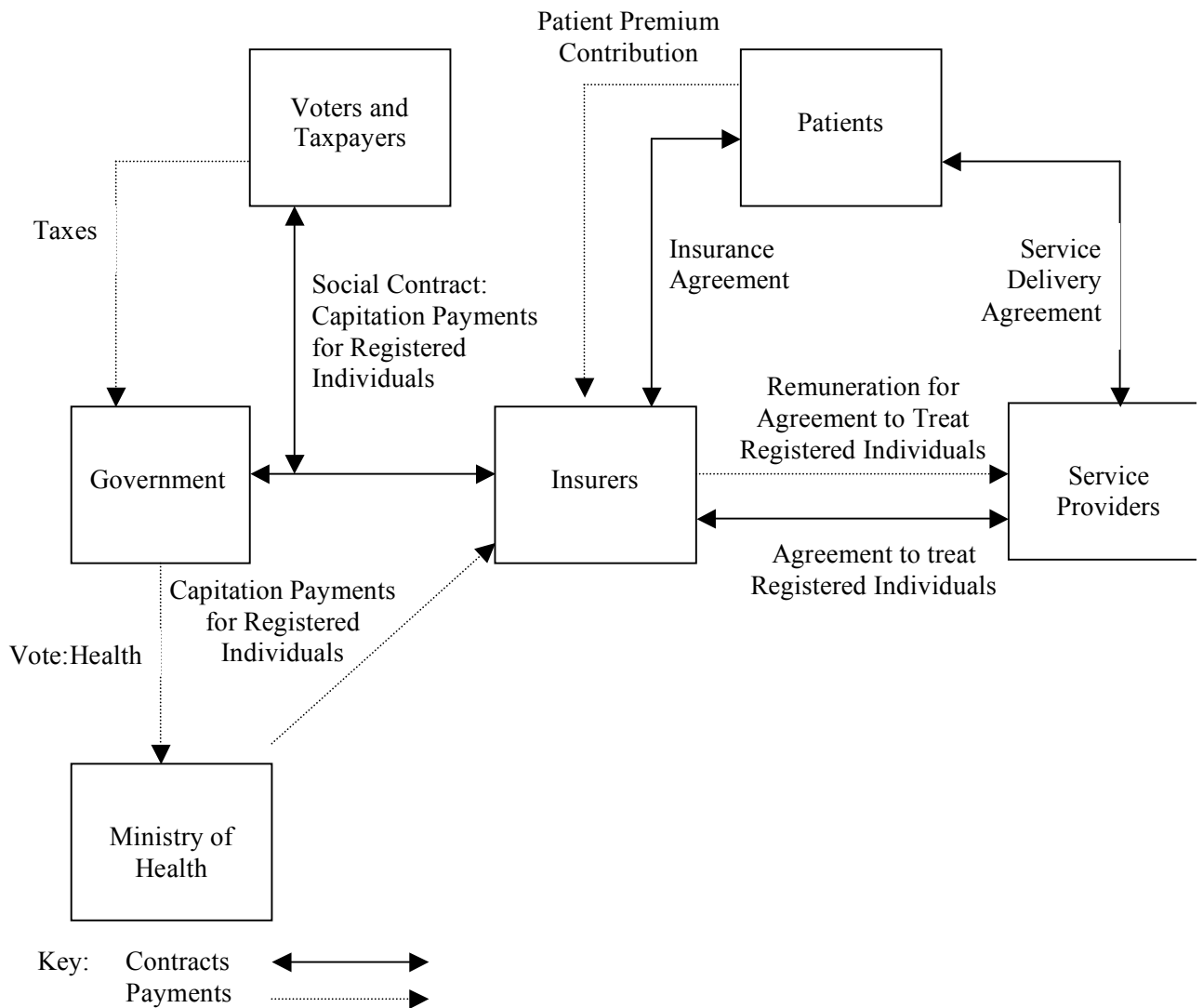
An efficient system therefore needs to recognise that patient consumption of health services, dependent upon health state, causes system costs, and that the stochastic nature of health care demand leads to patients sharing the financial risks of demand variation, and attendant costs. If the intention of capitation is to make providers responsible for financial risk management (cost containment), then the clear nexus between patients, subsidies and costs must be drawn. Service delivery costs arise from consultations, disconnected from budget allocations.

¹¹⁷ For example, the Ministry of Health when setting capitation payment levels, the DHBs when deciding whether to invoke their regulatory powers in respect of PHO co-payment price levels, patients when deciding whether the price/quality mix offered by a practitioner/PHO is reasonable, and citizens when adjudging the performance of political actions associated with capitation setting and co-payment regulation.

Consultations are determined by individuals' demand, which is also independent of population-based budget allocations (although the aggregate of individual demands may inform population-based budget-setting decisions). If insurance premium 'vouchers' are paid to individuals, who are then actively engaged in applying them to an insurance contract separate from the consumption of health services, the confusion is abated. If 'budgets' are paid to providers, then the insurance market implications can be inadvertently overlooked, with the consequences outlined in this paper. Thus, the conclusion is that capitation funding unrelated to actual consumption of services is feasible in New Zealand, given the expectation that patients will continue to make contributions towards the cost of primary care, only if it is developed under the model of an insurance scheme. Such a model is illustrated in Figure (iv). A budget-based system will avoid the costly consequences of risk-shifting onto patients only if it is fully funded from a single source – for example, as in England's NHS, where patients make no co-payments.

For completeness, it is noted that DHBs could undertake the insurance role, as they are already the primary locus of risk bearing for all elements of individual demand for health care. The NZPHCS simply requires DHBs to separate out primary health risk-bearing from secondary and tertiary risk-bearing, and subcontract it to PHOs. However, as long as DHBs have a geographic monopoly, the benefits of competing insurers and competing vertically integrated insurer-provider entities will not be available. Careful analysis of the trade-off between losses from competition and gains from local responsiveness in purchasing is required to determine which of these interests should be prioritised. Independent analysis of the competition issues, as suggested in chapters 3 and 5, would be informative in making an assessment of the best course for New Zealand. The international evidence tends towards the conclusion that the balance between equity and efficiency is more likely to be achieved in systems where governments provide funding to ensure equity of access to insurance, but both insurance companies and service providers compete to provide insurance products and health care services to individuals.

Figure (iv) Competitive Insurance Model



6.4 Conclusion

Health system reform is a complex issue. As with all systems, the interaction of the components affects the outcomes. Structures and contracts specify relationships, and interactions. The analysis of risk management, competition and governance consequences of the changes to primary health sector contracts in New Zealand raises a number of issues about the efficacy of the changes and the effects they have upon relationships in the sector, and likely outcomes. This analysis suggests there are some issues that warrant attention in the NZPHCS. The economic analysis of the contracts in this paper has provided a framework to both identify some of the issues and suggest some alternative arrangements. The analyses in this paper are

offered as a contribution to the debate on the ongoing reform of health care systems not just in New Zealand, but worldwide.

References

- Aaron, Henry J. *Health care challenges facing the nation*. Paper presented at the Conference On Health Care Challenges Facing The Nation, Washington University, St Louis 7 October 2004.
- Anderson, Gerard F.; and Wendy E. Weller. 1999. Methods of reducing the financial risk of physicians under capitation. *Archives of Family Medicine* 8(2): 149-155.
- Arrow, Kenneth. 1963. Uncertainty and the welfare economics of medical care. *American Economic Review* 53(5): 941-73.
- Ashton, Toni. Recent developments in the funding and organisation of the New Zealand Health System. *Australia and New Zealand Health Policy* 2005: 2-9. Available on <http://www.anzhealthpolicy.com/content/2/1/9>.
- Ashton, Toni. 1999. The health reforms: to market and back. In Boston, J., P. Dalziel and S. St John (eds.) *Redesigning the Welfare State in New Zealand: Problems, Policies and Prospects*. Auckland, New Zealand: Oxford University Press.
- Austin, Claire. 2004. *The Public and Private Interface in New Zealand Primary Health Care*. The Royal New Zealand College of General Practitioners. Available on www.rnzcgp.org.nz/PDF/Public_private_0504.pdf.
- Barnett, Ross; and Pauline Barnett. 2004. Primary health care in New Zealand: problems and policy approaches. *Social Policy Journal of New Zealand* 21:49-66.
- Barney, Jay. 1995. Looking inside for competitive advantage. *The Academy of Management Executive*; Ada; Nov 1995.
- Bazzoli, G.; L. Dynan and L. Burns. 2000. Capitated contracting of integrated health provider organizations. *Inquiry* 36(4):426-444.
- Boyd, Haleigh; Lewis Evans and Neil Quigley. The Efficiency of Contractual Arrangements in Private Agricultural Product markets. Wellington, New Zealand: Institute for the Study of Competition and Regulation. Available on: http://www.iscr.org.nz/documents/grower_contracts.pdf
- Burns, Lawton R.; and Mark V. Pauly. 2002. Integrated delivery networks: a detour on the road to integrated health care? *Health Affairs* 21(4):128-139.
- Capital PHO. 2004. *Annual Report 2004*. Available on <http://www.wipa.org.nz>
- Capital PHO. 2003. *Charitable Trust Deed*. Available on <http://www.wipa.org.nz>
- Carlton, Dennis, W. and Jeffrey M. Perloff. 2000. *Modern Industrial Organization*. Reading, Massachusetts: Addison-Wesley Publishing Company.
- CBG Health Research Limited. 2004. *National GP Fee Survey*. Wellington, New Zealand: Ministry of Health. Available on [http://www.moh.govt.nz/moh.nsf/0/1BF9A9B04AA23B8ACC256EF4000D3A8A/\\$File/eeSurveyReportCBG.pdf](http://www.moh.govt.nz/moh.nsf/0/1BF9A9B04AA23B8ACC256EF4000D3A8A/$File/FeeSurveyReportCBG.pdf)

- Commerce Commission. 2004. Mergers and Acquisitions Guidelines. Wellington, New Zealand: Commerce Commission. Available on <http://www.comcom.govt.nz/BusinessCompetition/MergersAcquisitions/MergersAcquisitionsGuidelines/Overview.aspx>
- Consumers' Institute. 2005. *Healthy Fees*. Available online <http://www.consumer.org.nz/topic.asp?category=Health&subcategory=Health%20services&docid=2142&topic=GP%20fees%20survey&title=What%20we%20found&contenttype=general>
- Coase, Ronald H., 1937. The Nature of the Firm. *Economica*, 4.
- Cullen, Michael. 2005. *Budget 2005*. Wellington, New Zealand: The Treasury.
- Cutler, David, and Sarah Reber (1998), 'Paying for health insurance: the trade-off between competition and adverse selection', *Quarterly Journal of Economics* 113(2):433-466.
- Culyer, Anthony J. 1971. The nature of the commodity "health care" and its efficient allocation. *Oxford Economic Papers* 23(2):189-211.
- Danzon, Patricia M. 1997. Tort Liability: a minefield for managed care. *Journal of Legal Studies* 26: 491-519.
- Danzon, Patricia; and Frank Sloan. 2001. Comments on 'The assault on managed care: vicarious liability, ERISA pre-emption and class actions'. *The Journal of Legal Studies* 30(2): 661-668.
- Danzon, Patricia M.; and Michael F. Furukawa. 2001. Health care: competition and productivity. Chapter 7 in *The Economic Payoff from the Internet Revolution*, The Brookings Task Force on the Internet. Washington: Brookings Institution Press.
- Danzon, Patricia M., and Grant D. H. Maclaine. 1994. Health care reform: an international perspective. *The Australian Economic Review* Second Quarter: 81-88.
- Department of Health. 2002. *A guide to NHS Foundation Trusts*. London, United Kingdom. 2002. <http://www.doh.gov.uk/nhsfoundationtrusts1202.pdf>.
- Department of Health. 2002a. *Delivering the NHS Plan: next steps on investment, next steps on reform*. London, United Kingdom: Secretary of State for Health. Document Cm 5503.
- Dixit, Avinash; and Barry J. Nalebuff. 1991. *Thinking Strategically: the competitive edge in business, politics and everyday life*. New York: W. W. Norton and Company.
- Dranove, David; Carol J. Simon; and William D. White. 2002. Is Managed Care leading to consolidation in health-care markets? *Health Services Research* 37(3): 573-94.
- Dwyer, Judith M. Australian health system restructuring – what problem is being solved? *Australia and New Zealand Health Policy* 2004 1:6. Available from <http://www.anzhealthpolicy.com/content/1/1/6>.
- Ewart, Baden; and David Moore. 2004. *Global Budget Management – Effectiveness and Lessons for DHBs*. Seminar, Health Services Research Centre, School of Government, Victoria University of Wellington, 27 June 2004.

- Fama, Eugene F. and Michael C. Jensen, 1983a. Separation of Ownership and Control. *Journal of Law & Economics*, Vol. XXVI, June, pp 301 – 325.
- Fama, Eugene F. and Michael C. Jensen. 1983b. Agency Problems and Residual Claims. *Journal of Law & Economics*, Vol. XXVI, June, pp 327 – 349.
- Flood, Colleen M., Mark Stabile and Carolyn Hughes Tuohy. 2002. The Borders of Solidarity: How Countries Determine the Public/Private Mix in Spending and the Impact of Health Care. *Health Matrix: Journal of Law-Medicine* 12(2):297-356.
- Gravelle, Hugh. 1999. Capitation contracts: access and quality. *Journal of Health Economics* 18: 315-340.
- Grossman, Sandman J.; and Oliver D. Hart. 1986. The costs and benefits of ownership: a theory of vertical and lateral integration. *Journal of Political Economy* 94: 691-719.
- Hagen, Gary. 1999. Shaky Ground: questioning health plan and provider solvency. *Risk Management* 46(11): 42-45,
- Ham, Christopher. 2004. *Reforming the NHS*. Presentation to the New Zealand Health Economists Meeting, Wellington, November 3, 2004.
- Hansman, Henry. 1996. *The Ownership of Enterprise*. Cambridge, Massachusetts: Harvard University Press.
- Hayman, Kamala. 2005. GPs balk at government demand. *The Press*, Ch3 p 19
- Hefford, Martin; Peter Crampton and Jon Foley. Reducing disparities through primary care reform: the New Zealand experiment. *Health Policy* 72:9-23.
- Hermalin, B. E. and M. S. Weisbach. 2003. Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature. *FRBNY Economic Policy Review*, Vol. 9, No. 1, April.
- Hodge, Karen. 2005. Two new doctors take pressure off. *STUFF: Health Story* 16 April 2005. Available online at <http://stuff.co.nz/stuff/0,2106,3250254a7144,00.html>.
- Holmstrom, B. and P. Milgrom. 1991. Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership and Job Design. *Journal of Law and Economic Organisation*, 7:24-52.
- Horn, Murray J. (1995), *The Political Economy of Public Administration: Institutional Choice in the Public Sector*, Cambridge University Press, Cambridge.
- Howell, Bronwyn. 2004. Medical Misadventure and Accident Compensation in New Zealand: An Incentives-Based Analysis. *Victoria University of Wellington Law Review* 35 (forthcoming).
- Howell, Bronwyn. 2004a. Lessons from New Zealand for England's Foundation Hospital Trusts. *Journal of Health Services Research and Policy* 9(2): 104-109.

- Howell, Bronwyn. 2001. *Medical Misadventure in New Zealand: Who bears the risks?* Wellington, New Zealand: New Zealand Institute for the Study of Competition and Regulation. <http://www.iscr.org.nz>
- Howell, Bronwyn. 2000. *Towards a Taxonomy of Nonprofit Organisations*. Wellington, New Zealand: New Zealand Institute for the Study of Competition and Regulation.
- Howell, Bronwyn. 2000. Ownership-Based Analysis of Public Hospital Corporatisation. *Agenda*, 7(3):237-250.
- Howell, Bronwyn. 1999. *MBA Research Programmes: Contracting and Nonprofit Organisations*, September 1999, GSBGM Project Report Series 21.
- James, Estelle and Susan Rose-Ackerman. 1986. *The Nonprofit Enterprise in Market Economics*. Switzerland: Harwood.
- Jensen, Michael C. 1993. The Modern Industrial Revolution, Exit, and the Failure of Internal Control systems. *The Journal of Finance*, Vol. XLVIII, No. 3, July, pp 831 – 880.
- Jensen, Michael C.; and William H. Meckling. 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3, pp 305 – 360.
- Jordan, Cathy; John McCardle and Kelvin Norgrove. 2004. *Review of Primary Health Organisation Management Services: Report to the Ministry of Health*. Auckland, New Zealand: Capital Strategy,
- Kao, Audley C.; Diane C. Green; Alan M. Zaslavsky; Jeffrey P. Koplan; and Paul D. Cleary. 1998. The relationship between method of physician payment and patient trust. *Journal of the American Medical Association* 280(19): 1708-1714.
- Kapiti PHO. 2004. *Annual Report 2004*. Available on <http://www.wipa.org.nz>
- Kapiti PHO. 2003. *Charitable Trust Deed*. Available on <http://www.wipa.org.nz>
- Kastor, John A. 2003. *Mergers of Teaching Hospitals in Boston, New York and Northern California*. Ann Arbor, University of Michigan Press.
- Kessler, Daniel P.; and Mark B. McClellan. 2002. Malpractice pressure, managed care and physician behaviour. Chapter 6 in Viscusi, W. Kip (ed.), *Regulation Through Litigation*. Washington, DC: AEI-Brookings Joint Center.
- King, Annette. 2004. *Memorandum to Cabinet Primary Health Care Strategy- Achieving Low Cost Access*. Wellington, New Zealand: Ministry of Health. Available on http://www.moh.govt.nz/moh.nsf/wpg_index/-Primary+Health+Care+Publications
- King, Annette. 2002. *Implementing the Primary Health Care Strategy and Improving Access to Primary Health Care Services*. <http://www.moh.govt.nz>
- King, Annette. 2001. *The Primary Health Care Strategy*. Wellington, New Zealand: Ministry of Health. Available on http://www.moh.govt.nz/moh.nsf/wpg_index/-Primary+Health+Care+Publications

- Ma, Ching-To Albert; and Thomas G. McGuire. 2002. Network incentives in managed health care. *Journal of Economics and Management Strategy* 11(1): 1-35.
- Ma, Ching-To Albert; and Michael H. Riordan. 2002. Health Insurance, Moral Hazard and Managed Care. *Journal of Economics and Management Strategy* 11(1): 81-107.
- MacDonald, Nikki. 2005a. Doctors' fees rise to manage PHOs. *The Dominion Post*, Monday January 10, 2005 p A5.
- MacDonald, Nikki. 2005b. GP shortage leaves needy out in cold. *The Dominion Post*, Thursday February 3, 2005 p A6.
- MacDonald, Nikki. 2005c. GPs bump up fees despite subsidy. *The Dominion Post*, Monday February 7, 2005 p A8.
- McNamee, David. 1997. *Risk Management Today and Tomorrow*. Wellington, New Zealand: State Services Commission.
- Meylan, Greg. 2005. Misuse of funding sees small PHO falter. *New Zealand Doctor Online* January 26, 2005. Available http://www.nzdoctor.co.nz/topstories/26jan05_misuse.html
- Milgrom, Paul; and John Roberts. 1992. *Economics, Organization and Management*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Ministry of Health. 2004. *Primary Health Care Strategy*. Wellington, New Zealand: Ministry of Health. Available on http://www.moh.govt.nz/moh.nsf/wpg_index/-Primary+Health+Care+Funding
- Ministry of Health. 2004a. *Care Plus: An Overview*. Wellington, New Zealand: Ministry of Health. Available on http://www.moh.govt.nz/moh.nsf/wpg_Index/-Primary+Health+Care+Care+Plus
- Ministry of Health. 2002. *Primary Health Organisation Funding*. Wellington, New Zealand: Ministry of Health. Available on http://www.moh.govt.nz/moh.nsf/wpg_Index/-Primary+Health+Care+Funding
- Newhouse, J. P.; J. L. Buchanan; H. L. Barlitt and D. Blumenthal. 2000. *Managed Care: an Industry Snapshot*. Boston, Massachusetts: Department of Health Care Policy, Harvard Medical School.
- Newhouse, Joseph P. 1996. Reimbursing health plans and health providers: efficiency in production versus selection. *Journal of Economic Literature* 34(3):1236-1263.
- Otaki Primary Health Trust. 2003. *Deed of Trust*. Available on <http://www.wipa.org.nz>
- Pauly, Mark V. 1978. Is medical care different? In Greenberg, W. (ed.) *Competition in the Health Care Sector: Past, Present and Future*. Germantown, Maryland: Aspen Systems.
- Prendergast, Canice. 2001. *Consumers and Agency Problems*. NBER Working Paper No. W8445. <http://papers.nber.org/papers/W8445>.
- Perera, Roshan; Janet McDonald, Jackie Cumming and Anne Goodhead. 2003. *Primary Health Organisations: the first year (July 2003-June 2003) from the PHO perspective*.

Wellington, New Zealand. Victoria University of Wellington Health Services Research Centre.

Rasmusen, Eric. 1989. *Games and Information: An Introduction to Game Theory*. Oxford, United Kingdom: Basil Blackwell.

Remler, D. K.; K. Donelan; R. J. Blendon; G. D. Lundberg; L. A. Leape; D. R. Calkins; K. Binss; and J. P. Newhouse. 1997. What do managed care plans do to affect physicians? Result from a survey of physicians. *Inquiry* 34: 196-204.

Rivers, Patrick Asubonteng; and Kai-Li Tsai. 2003. Managing costs and managing care. *International Journal of Health Care Quality Assurance* 14(6/7):302-307.

Robinson, James C. 2004. Reinvention of health insurance in the consumer era. *Journal of the American Medical Association* 291(15): 1880-1886.

Robinson, James C.; and Lawrence P. Casalino. Reevaluation of capital contracting in New York and California. *Health Affairs* Web Exclusive Supplement. Available from <http://proquest.umi.com/pdqweb?did=111260210&sid=2&Fmt=3&clientId=7511&RQT=309&Vname=PQD>.

Rochaix, L. 1989. Information asymmetry and search in the market for physicians' services. *Journal of Health Economics* 8: 53-84.

Ryan, Mandy. 1992. *The Agency Relationship in Health Care: Identifying Areas for Future Research*. University of Aberdeen Health Economics Research Unit Discussion Paper 02/92.

Scott, Anthony. 1996. *Agency, Incentives and the Behaviour of General Practitioners: the Relevance of Principal-Agent Theory in Designing Incentives for GPs in the UK*. University of Aberdeen Health Economics Research Unit Discussion Paper 03/96.

Scott, Claudia. 2001. *Public and private Roles in health care systems: reform experience in seven OECD countries*. Philadelphia, Pennsylvania: Open University Press.

Securities Commission. 2004. *Corporate Governance in New Zealand: Principles and Guidelines. A Handbook for Directors, Executives and Advisers*. Available on: <http://www.sec-com.govt.nz/publications/documents/governance-principles/corporate-governance-handbook.pdf>.

Shavell, Steven. 1979. Risk sharing and incentives in the principal agent relationship. *Bell Journal of Economics* 10: 55-73.

Shen, Yu-Chen; and Joshua McFeeters. 2005. *Out-of-pocket health spending between low- and higher-income populations: who is at risk of having high financial burdens?* National Bureau of Economic Research Working Paper 11179. Available on <http://www.nber.org/papers/w11179>.

Shapiro, Carl; and Hal R. Varian. 1999. *Information Rules: a strategic guide to the network economy*. Boston, Massachusetts: Harvard Business School Press.

Shleifer, Andrew; and Richard W. Vishny. 1997. A Survey of Corporate Governance, *The Journal of Finance*, Vol. LII, No. 2, June, pp 737 – 783.

June 2005

- Shy, Oz. 2002. *The Economics of Network Industries*. Cambridge, United Kingdom, Cambridge University Press.
- Simpkin, Elizabeth; and Karen Janousek. 2003. What are we without risk? The physician organization at a crossroads. *Journal of Health Care Finance* 29(3): 1-10.
- Sinclair, Gary. PHOs: the chasm between perception and reality. *Doctor* 24 September 2003:13.
- Stevenson, Rebecca. 2005. Overworked GPs close books on new PHO patients. *Kapi Mana News* 29/0/05 p1.
- Stowell, Laurel. 2005. Hunt on again for rural Taihape GP. *Wanganui Chronicle*, Thursday May 12, 2005. Available online at <http://www.wanganuichronicle.co.nz/storydisplay.cfm?storyID=3631598&thesection=localnews&thesubsection>
- The Treasury. 2003. *The New Zealand Fiscal Management Approach: an Explanation of Recent Changes*. Wellington, New Zealand: The Treasury. Available on <http://www.treasury.govt.nz/fmaproach/fisc-mgmt-app.pdf>.
- Tumai Mo Te Iwi. 2004. *Annual Report 2004*. Available on <http://www.wipa.org.nz>
- Tumai Mo Te Iwi. 2003. *Charitable Trust Deed*. Available on <http://www.wipa.org.nz>
- Van Roy, Yvonne. 2004. Medical practice and competition. *The New Zealand Law Journal*, November 2004:435-7.
- Wairarapa Community Primary Health Organisation. 2004. *Annual Report for the six months ended 30 June 2004*. Available on <http://www.wipa.org.nz>
- Wairarapa Community Primary Health Organisation. 2003. *Charitable Trust Deed*. Available on <http://www.wipa.org.nz>
- Wallack, Stanley S.; and Christopher P. Tompkins. 2003. Realigning incentives in fee-for-service Medicare. *Health Affairs* 22(4): 59-67.
- Wellington Independent Practitioners Association. 2004. *Annual Report 2004*. Available on <http://www.wipa.org.nz>
- Wellington Independent Practitioners Association. 2003. *Annual Report 2003*. Available on <http://www.wipa.org.nz>
- Whinston, Michael D. 2001. Exclusivity and tying in *U.S. v. Microsoft*: what we know and don't know. *Journal of Economic Perspectives* 15(2): 63-80.
- Whinston, Michael D. 1990. Tying, foreclosure and exclusion. *American Economic Review* 80:837-859.
- Yap, Maria Corazon. 2005. *Merit or Munificence? Board Member Appointments in State-Owned Enterprises*. Victoria University of Wellington MMBA579 Research Paper.

Zeckhauser, R. 1970. Medical insurance: A case study of the tradeoff between risk spreading and appropriate incentives. *Journal of Economic Theory* 2(1): 10-26.

Appendix 1: Risk Types in Insurance-Funded Health Care

Risk Type	Definition	Consequences	Management Strategies
Random	Risk resulting from the distribution of health states (and hence demand for health care services) amongst the population. Assumes that each individual's health state is independent of the health states of other individuals.	A practitioner's patient base selected from the total population will have a health state either better than the population average, leading to lower costs and higher net income, or worse than the population average, leading to higher costs and a lower net income. The smaller the patient group, the greater the variance between population average and group average.	Larger patient groups reduce the variance between the individual practitioner profit/loss and the theoretical population average assuming one agent managed the entire pool. Reinsurance of the risk of selecting a population group with higher costs than the average.
Correlated	Risk that arises when the demand of individuals for health care services is not independent, (e.g. either within one time period, across time periods, geographical region).		
	Correlation within a time period or geographical region.	The demand of one individual affects the likelihood of another individual demanding services – for example, in an epidemic. If individual practitioners are exposed to the demands of linked individuals, their costs will be higher than the average.	Larger patient pools. Recruiting patient pools across the boundaries that result in correlation (e.g. drawing patient pools from a wide rather than a narrow geographical region, thereby cross-subsidising the costs caused by the correlated risks with individuals who are not exposed to the same correlated risks. Reinsurance to spread the costs across regions and/or across time periods – e.g. a reserve fund built up in years when there is not an epidemic to cover costs in years when there is.
	Correlation between time periods	The demand of an individual in a given time period is linked to the demand in other time periods. For example, an individual with a 'poor' health state will demand multiple treatments (often for the same condition) and hence incurs higher costs over many time periods than an individual who has a 'good' health state and demands care intermittently for unrelated problems.	Individual, risk-rated premia reflecting the share of costs that the individual brings to the scheme. Manipulation of the patient list to reduce exposure to high-cost, low profit individuals with correlated demand ('cream skimming' -).
Behavioural: moral hazard	Post-contractual opportunism Individuals alter their behaviours in response to changes in the conditions under which	Patients: Over-consumption of treatments by patients as they do not pay the full marginal cost of each treatment (patient moral hazard) Patients choose subsidised	Co-payments

	they are operating to improve their own outcome at the expense of others. An information problem as the principal cannot observe and hence prevent the behaviours from occurring	treatments over unsubsidised ones as they are less costly to the patient, but may be more costly in total Insufficient effort in preventing exposure to illness Practitioners: Recommending patients demand/consume more care, higher quality care, range of treatments, treatments most profitable to the practitioner as it is not the patient who bears the cost (supplier-induced demand) Insufficient effort in preventing costs of illness, as individual practitioner receives profits when treating sick individuals	Risk-sharing contracts Discounted price/volume contracts
Behavioural: adverse selection	Pre-contractual opportunism Individuals use information known to themselves but not to other parties to offer themselves for as candidates for contracts that are more advantageous simply because of the known state	Patients: Offering themselves as candidates for insurance as they know they are more likely to need care Choosing to self-insure as they know they are unlikely to have high demands Practitioners: Managing the composition of the patient base to gain access to more advantageous funding agreements	Compulsory membership of scheme for the entire population Risk-rated premia No right to refuse registration
Behavioural: screening and signalling	Mechanisms that allow information about an individual's type to be discerned	If patient type can be identified, then the ability to engage in adverse selection is increased	

Appendix 2: Comparison of Primary Health Care Funding

Scheme	Patient Coverage Type	Provider Payment Type	Risks to be managed
NZ pre 2001	Self-insurance with welfare benefit subsidy from taxation revenue for financially needy and especially high users	Fee-for-service	Random, correlated risk managed by individuals if self-insuring, and by individuals at the state jointly for subsidised individuals Moral hazard of overconsumption (low) Under-consumption by those at the margin where subsidies apply
NZ post 2001	Managed care Universal coverage - part-subsidised by state from taxation revenue	Mixed capitation and fee State-funded capitation contribution for all citizens Balance of costs recouped as co-payment for services consumed	Random, correlated risk managed by providers – however costs of risks shared with patients using the co-payment to share risks with under full capitation and jointly by the insurer and provider under mixed systems Moral hazard of overconsumption (low) Adverse selection (patient scheme) Adverse selection (practitioner selecting patients) Adverse selection (high-cost patients self-selecting state subsidised care over full-cost private system) Quality management Reinsurance/risk reserves Screening
England NHS	Managed care Universal coverage fully paid by state from taxation revenue	Pure capitation	Random, correlated risk managed by providers under pure capitation – financial shortfall shared with the state as high capitation demands and patients as lower service quality Moral hazard of overconsumption (low) Quality management Reinsurance/risk reserves Adverse selection (high-cost patients self-selecting NHS care over private system) Screening
England Private	Self-insurance	Fee-for-service	Random, correlated risk managed by individuals
US	Indemnity insurance Premium paid by employer, patient or state	Fee-for-service Co-payment by patient upon service consumption	Random, correlated risk managed by insurance companies Moral hazard of overconsumption

	agency	– either proportion of the fee or a fixed amount per consultation	consumption (high) Adverse selection (high-cost patients opting for indemnity cover as cheaper option) Reinsurance/risk reserves
US	Managed care Premium paid by employer or state agency Patient has ability to make an additional payment for different service quality etc	Either: Pure capitation or Mixed capitation and fee-for-service Typically no payments made at the time of service delivery, but constraints upon where treatment may be sought, type of treatment for given conditions etc.	Random, correlated risk managed by providers under fee capitation and jointly by the insurer and provider under mixed systems Moral hazard of overconsumption (low) Adverse selection (low cost patient opting for the managed care scheme as the cheaper option) Adverse selection (practitioner selecting patients) Quality management Reinsurance/risk reserves Screening

Appendix 3. Proofs

Assuming that the premium required per member per period to cover average costs is P , the number of members if the scheme is n , the subsidy per member per period is S , and $m < n$ patients seek an average of q treatments in the period and the co-payment per treatment is C , actuarially-calculated premium income equals practitioner revenue when:

$$(1) \quad Pn = Sn + mqC$$

and the co-payment in the period for an 'average' individual who falls ill is:

$$(2) \quad Cq = \frac{(P - S)n}{m}.$$

If the average cost per treatment is K , and average revenue exactly equals costs, the relationship is:

$$(3) \quad Pn = Sn + mqC = mqK,$$

giving:

$$(4) \quad C = K - \frac{Sn}{mq}.$$

If moral hazard behaviours increase as S increases, the average number of visits per period q will increase, the proportion of the members seeking treatment in the period will increase, or both will occur. Assume that the subsidy S in equation (4) increases by a positive amount α , leading to either or both of an increase in the number of visits q made by the m patients falling ill or the number of patients seeking care, m , increases. These effects can be represented by applying a multiplier, β , which is greater than 1 to the denominator on the right hand side of in equation (4).

Prior to the subsidy change, the co-payment is:

$$(5) \quad C_1 = K - \frac{Sn}{mq}.$$

Following the subsidy change, the co-payment is:

$$(6) \quad C_2 = K - \frac{(S + \alpha)n}{m\beta q}.$$

Multiplying both sides by β , adding K to each side, and rearranging gives:

$$(7) \quad C_2\beta = K\beta - \frac{(S+a)n}{mq}$$

$$C_2\beta - K\beta + K = K - \frac{(S+a)n}{mq} = K - \frac{Sn}{mq} - \frac{\alpha n}{mq} = C_1 - \frac{\alpha n}{mq}$$

Rearranging to make C_2 the dependent variable gives:

$$(8) \quad C_2 = \left(K - \frac{K}{\beta}\right) + \frac{1}{\beta} \left(C_1 - \frac{\alpha n}{mq}\right)$$

The larger α becomes, the larger β becomes. As K , n , m and q are constant, and $\beta > 1$, the larger the subsidy increase α , the less the new co-payment is influenced by the size of the subsidy increase and the more it is influenced by the extent of new moral hazard behaviours that the subsidy increase invokes.

Assume now that there are two patient types – type a and type b , and that the subsidy increase α is applied only to type a individuals. If $C_a, C_b, q_a, q_b, m_a, m_b$ are the co-payments numbers of treatments per period and members of each type seeking treatment in a period for type a and b individuals respectively, from equation (3), as $n_a + n_b = n$, $m_a + m_b = m$ and $q_a + q_b = q$, premium income equals costs of service delivery when:

$$(9) \quad Pn = (S + \alpha)n_a + m_a q_a C_a + Sn_b + m_b q_b C_b = mqK$$

For simplicity, assume that the population is evenly split between type a and type b consumers ($n = (n_a + n_b) / 2$), and that the characteristic on which type is determined is not a good proxy for the likelihood of an individual falling ill and consuming care in a given period (that is, $q_a = q_b = q$ and $m = (m_a + m_b) / 2$). Equation (9) becomes:

$$(10) \quad Pn = (S + \alpha)n / 2 + mqC_a / 2 + Sn / 2 + mqC_b / 2 = mqK$$

Further, assume that the co-payment for type a individuals is set externally by the capitation setter, and is set at the co-payment in equation (5), minus the subsidy component – that is:

$$(11) \quad C_a = C_1 - \alpha n / mq = K - \frac{Sn}{mq} - \frac{\alpha n}{mq}$$

whilst the co-payment for type 2 individuals is free to vary. However, there are now moral hazard effects β to take in to account. Assuming that they apply only to type a individuals, as it is assumed that the price will change only for these consumers, total quantity supplied becomes $mq / 2 + mq\beta / 2$. From (10):

$$(12) \quad (S + \alpha)n / 2 + Sn / 2 + \frac{C_a mq\beta}{2} + \frac{C_b mq}{2} = mqK(\beta + 1) / 2$$

Simplifying, multiplying each side by 2:

$$(13) \quad (S + \alpha)n + Sn + C_a mq\beta + C_b mq = mqK(\beta + 1),$$

rearranging to make C_b the subject:

$$(14) \quad C_b mq = mqK(\beta + 1) - (S + \alpha)n - Sn - C_a mq\beta,$$

dividing both sides by mq :

$$(15) \quad C_b = K(\beta + 1) - \frac{(2S + \alpha)n}{mq} - C_a \beta.$$

Substituting (11) into (15):

$$(16) \quad C_b = K(\beta + 1) - \frac{(2S + \alpha)n}{mq} - \beta \left(K - \frac{Sn}{mq} - \frac{\alpha n}{mq} \right)$$

expanding:

$$(17) \quad C_b = K\beta + K - \frac{2Sn}{mq} - \frac{\alpha n}{mq} - K\beta + \beta \frac{Sn}{mq} + \beta \frac{\alpha n}{mq}$$

then simplifying and rearranging:

$$(18) \quad C_b = K - \frac{Sn}{mq} - \frac{\alpha n}{mq} + \beta \frac{Sn}{mq} + \beta \frac{\alpha n}{mq} - \frac{Sn}{mq}$$

the following relationship between C_b and C_1 is found:

$$(19) \quad C_b = C_1 + \frac{Sn}{mq}(\beta - 1) + \frac{\alpha n}{mq}(\beta - 1).$$

As $\beta > 1$, $C_b > C_1$. The co-payment for type b individuals will rise as a result of the subsidy to the type a individuals, even though their subsidy position does not alter.

Appendix 4. New Zealand PHOs By Type December 2004

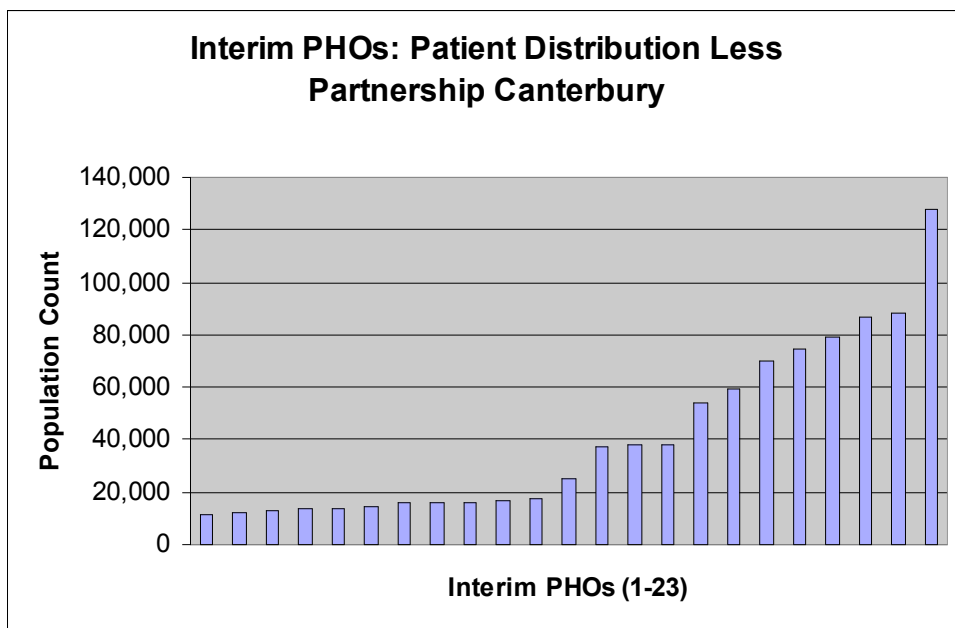
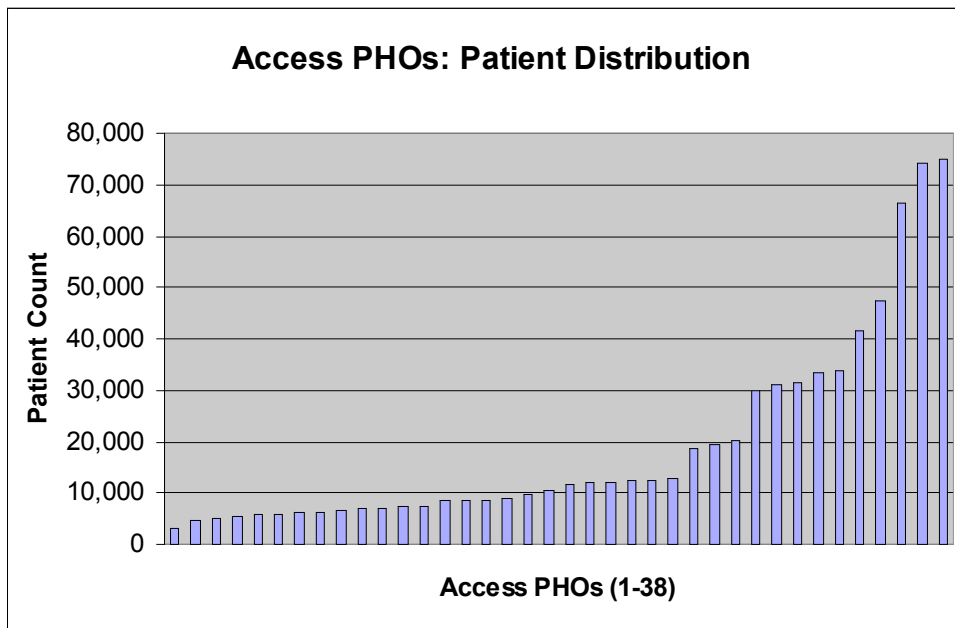
PHOs Access	Enrolled Population	Interim	Enrolled Population
AuckPAC Health Trust Board	30,044	Auckland PHO Ltd	15,636
Canterbury Community PHO	5,082	Capital PHO	127,559
Coast to Coast PHO (North Rodney)	11,910	Central Otago PHO Ltd (Rural Otago PHO)	37,837
Eastern Bay of Plenty PHO Ltd	31,463	Dunedin City PHO Ltd	79,065
Hauora Hokianga Integrated PHO	6,633	East Health Trust	69,851
Kaipara Care Incorporated	12,008	Eastern and Northern Southland PHO	16,920
Kawerau Interim Primary Health Organisation	7,208	Hurunui Kaikoura PHO	12,278
Lake Taupo PHO Ltd	33,821	Karori PHO Trust	12,668
Langimalie Health Clinic Tongan	6,039	Marlborough PHO Ltd (Nelson Bays)	38,379
Manaia Health PHO	74,244	Mornington Primary Health Organisation	14,595
Mangere Community Health Trust	11,827	Nelson-Tasman PHO Ltd	86,577
Maori Primary Health Organisation Coalition	7,328	Otago Southern Regional Primary Health	17,561
MidValley Access PHO	20,319	Partnership Health Canterbury	332,828
Nga Mataapuna Oranga	8,685	Procure Network North Limited	88,540
Ngati Porou Hauora Incorporated	12,579	Ropata Community PHO	16,186
North Waikato PHO	8,878	Rural Canterbury PHO	74,910
Otaki Primary Health Organisation Trust	5,975	Rural Southland PHO Ltd (Takitimu PHO)	13,922
Peoples Healthcare Trust	5,935	South Canterbury PHO Ltd (Aoraki PHO Ltd)	53,802
Piki te Ora ki Te Awakairangi	12,248	Taieri and Strath Taieri Primary Health	13,859
Pinnacle Incorporated	47,371	Tararua PHO Limited	15,882
Porirua Health Plus Limited	12,857	Waihopai PHO Ltd (Te Ara A Kewa PHO)	59,336
Rotorua General Practice Group Ltd	66,401	Wairarapa Community PHO Trust	37,159
South East & City Primary Health Org	9,543	Wakatipu PHO	11,644
Tamaki HealthCare Charitable Trust	31,023	West Coast PHO	25,396
Tamati Whangai PHO	4,563		Count 24
TaPasefika Health Trust	18,768		Max 332,828
Taumata Hauora Trust	5,492		Min 11,644
Te Ao Hou Primary health Organisation	7,176		Avge 53,016
Te Kupenga A Kahu Trust	6,870		Median 31,278
Te Kupenga O Hoturoa Charitable Trust	19,364		
Te Tai Tokerau PHO Ltd	41,468		
Te Tihi Hauora o Taranaki	6,140	Mixed	
Tihewa Mauriora Charitable Trust	8,729	Horowhenua PHO Ltd	23,843
Total Healthcare Otago	74,827	Procure Network Manukau Limited	260,039
Turanganui PHO Limited	33,500	Tipaka Moana PHO Trust	6,523
Waiora Healthcare Trust	10,652	Tumai mo te Iwi Inc	45,056
Wairoa District Charitable Health Trust	8,630	Valley Primary Health Organisation	76,953
Wangaroa Primary Health Organisation	3,218	Western Bay of Plenty Primary Health Organisation	125,836
	Count 38		Count 6
	Max 74,827		Max 260,039
	Min 3,218		Min 6,523
	Avge 19,179		Avge 89,708
	Median 11,240		Median 61,005

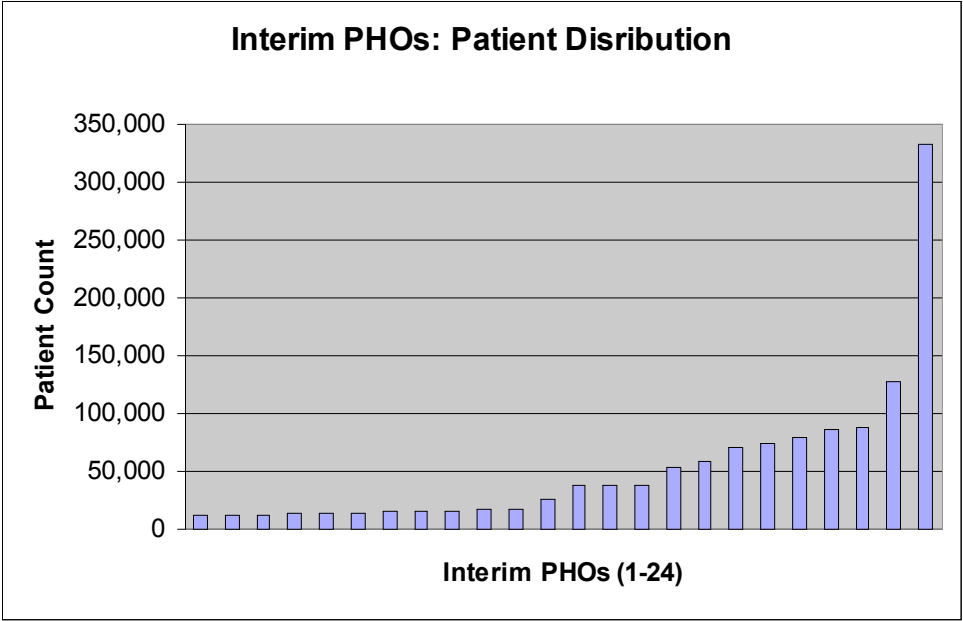
Mixed - Access with Interim

Mixed - Interim with Access

June 2005

North Harbour PHO Trust	149,797	Hauraki PHO	7,199
Pinnacle	286,401	Hawkes Bay PHO Ltd	131,336
Taranaki PHO Ltd	45,770	HealthWest	149,365
	Count	Kapiti PHO	33,219
	Max	Procure Network Auckland Ltd	305,674
	Min	Whanganui Regional PHO	47,760
	Avge		Count
	Median		6
			Max
			305,674
			Min
			7,199
			Avge
			112,426
			Median
			89,548





Appendix 5. PHO Membership Statistics December 2004¹¹⁸

DHB	PHOs	Enrolled	Total	PHO	Market	Concentration Levels			
		Population		No	Share	1 Firm	2 Firm	3 Firms	4 Firms
Northland	Hauora Hokianga Integrated PHO	6,633			4.6%				
	Kaipara Care Incorporated	12,008			8.4%				
	Manaia Health PHO	74,244			51.8%				
	Te Tai Tokerau PHO Ltd	41,468			28.9%				
	Tihewa Mauriora Charitable Trust	8,729			6.1%				
	Wangaroa Primary Health Organisation	318			0.2%				
				143,400	6		51.8%	80.7%	89.1%
Auckland	Auckland PHO Ltd	15,636			4.0%				
	AuckPAC Health Trust Board	30,044			7.6%				
	Langimalie Health Clinic Tongan	6,039			1.5%				
	Procure Network Auckland Ltd	305,674			77.4%				
	Tamaki HealthCare Charitable Trust	31,023			7.9%				
	Tipaka Moana PHO Trust	6,523			1.7%				
				394,939	6		77.4%	85.3%	92.9%
Waitemata	Coast to Coast PHO (North Rodney)	11,910			2.9%				
	HealthWest	149,365			36.4%				
	North Harbour PHO Trust	149,797			36.5%				
	Procure Network North Limited	88,540			21.6%				
	Waiora Healthcare Trust	10,652			2.6%				
				410,264	5		36.5%	72.9%	94.5%
Counties Manukau	East Health Trust	69,851			15.2%				

¹¹⁸ Data taken from the Ministry of Health website http://www.moh.govt.nz/moh.nsf/wpg_index/-Primary+Health+Care+Established+PHOS

	Mangere Community Health Trust	11,827	2.6%				
	Peoples Healthcare Trust	5,935	1.3%				
	Procure Network Manukau Limited	260,039	56.5%				
	TaPasefika Health Trust	18,768	4.1%				
	Te Kupenga O Hoturoa Charitable Trust	19,364	4.2%				
	Total Healthcare Otago	74,827	16.2%				
		460,611	7	56.5%	72.7%	87.9%	92.1%
Waikato	Hauraki PHO	7,199	2.3%				
	Maori Primary Health Organisation Coalition	7,328	2.4%				
	North Waikato PHO	8,878	2.9%				
	Pinnacle	286,401	92.4%				
		309,806	4	92.4%	95.3%	97.7%	
Bay of Plenty	Eastern Bay of Plenty PHO Ltd	31,463	17.4%				
	Kawerau Interim Primary Health Organisation	7,208	4.0%				
	Nga Mataapuna Oranga	8,685	4.8%				
	Te Ao Hou Primary health Organisation	7,176	4.0%				
	Western Bay of Plenty Primary Health Organisation	125,836	69.8%				
		180,368	5	69.8%	87.2%	92.0%	96.0%
Tairāwhiti	Ngati Porou Hauora Incorporated	12,579	27.3%				
	Turanganui PHO Limited	33,500	72.7%				
		46,079	2	72.7%	100.0%		
Lakes	Lake Taupo PHO Ltd	33,821	31.6%				
	Rotorua General Practice Group Ltd	66,401	62.0%				

June 2005



NEW ZEALAND INSTITUTE FOR THE STUDY
OF COMPETITION AND REGULATION INC.

	Te Kupenga A Kahu Trust	6,870	107,092	3	6.4%	62.0%	93.6%		
Hawkes Bay	Hawkes Bay PHO Ltd	131,336			93.8%				
	Wairoa District Charitable Health Trust	8,630			6.2%				
			139,966	2		93.8%			
Taranaki	Pinnacle Incorporated	47,371			47.7%				
	Taranaki PHO Ltd	45,770			46.1%				
	Te Tihi Hauora o Taranaki	6,140			6.2%				
			99,281	3		47.7%	95.4%		
Whanganui	Taumata Hauora Trust	5,492			10.3%				
	Whanganui Regional PHO	47,760			89.7%				
			53,252	2		89.7%			
MidCentral	Horowhenua PHO Ltd	23,843			52.2%				
	Otaki Primary Health Organisation Trust	5,975			13.1%				
	Tararua PHO Limited	15,882			34.8%				
			45,700	3		52.2%	86.9%		
Capital and Coast	Capital PHO	127,559			53.0%				
	Kapiti PHO	33,219			13.8%				
	Karori PHO Trust	12,668			5.3%				
	Porirua Health Plus Limited	12,857			5.3%				
	South East & City Primary Health Organisation	9,543			4.0%				
	Tumai mo te Iwi Inc	45,056			18.7%				
			240,902	6		53.0%	71.7%	85.4%	90.7%
Hutt Valley	MidValley Access PHO	20,319			15.6%				
	Piki te Ora ki Te Awakairangi	12,248			9.4%				
	Ropata Community PHO	16,186			12.4%				

June 2005



NEW ZEALAND INSTITUTE FOR THE STUDY
OF COMPETITION AND REGULATION INC.

	Tamati Whangai PHO	4,563	3.5%				
	Valley Primary Health Organisation	76,953	59.1%	59.1%	74.7%	87.1%	96.5%
		130,269	5	59.1%	74.7%	87.1%	96.5%
Wairarapa	Wairarapa Community PHO Trust	37,159	100.0%				
		37,159	1	100.0%			
Nelson Marlborough	Marlborough PHO Ltd (Nelson Bays Primary Health)	38,379	30.7%				
	Nelson-Tasman PHO Ltd	86,577	69.3%				
		124,956	2	69.3%			
West Coast	West Coast PHO	25,396	100.0%				
		25,396	1	100.0%			
Canterbury	Canterbury Community PHO	5,082	1.2%				
	Hurunui Kaikoura Primary Health Organisation	12,278	2.9%				
	Partnership Health Canterbury	332,828	78.3%				
	Rural Canterbury PHO	74,910	17.6%				
		425,098	4	78.3%	95.9%	98.8%	
South Canterbury	South Canterbury PHO Limited (Aoraki PHO Ltd)	53,802	100.0%				
		53,802	1	100.0%			
Otago	Central Otago PHO Ltd (Rural Otago PHO)	37,837	23.2%				
	Dunedin City PHO Ltd	79,065	48.5%				
	Mornington Primary Health Organisation	14,595	9.0%				
	Otago Southern Regional Primary Health Organisation	17,561	10.8%				
	Taieri and Strath Taieri Primary Health	13,859	8.5%				

June 2005



NEW ZEALAND INSTITUTE FOR THE STUDY
OF COMPETITION AND REGULATION INC.

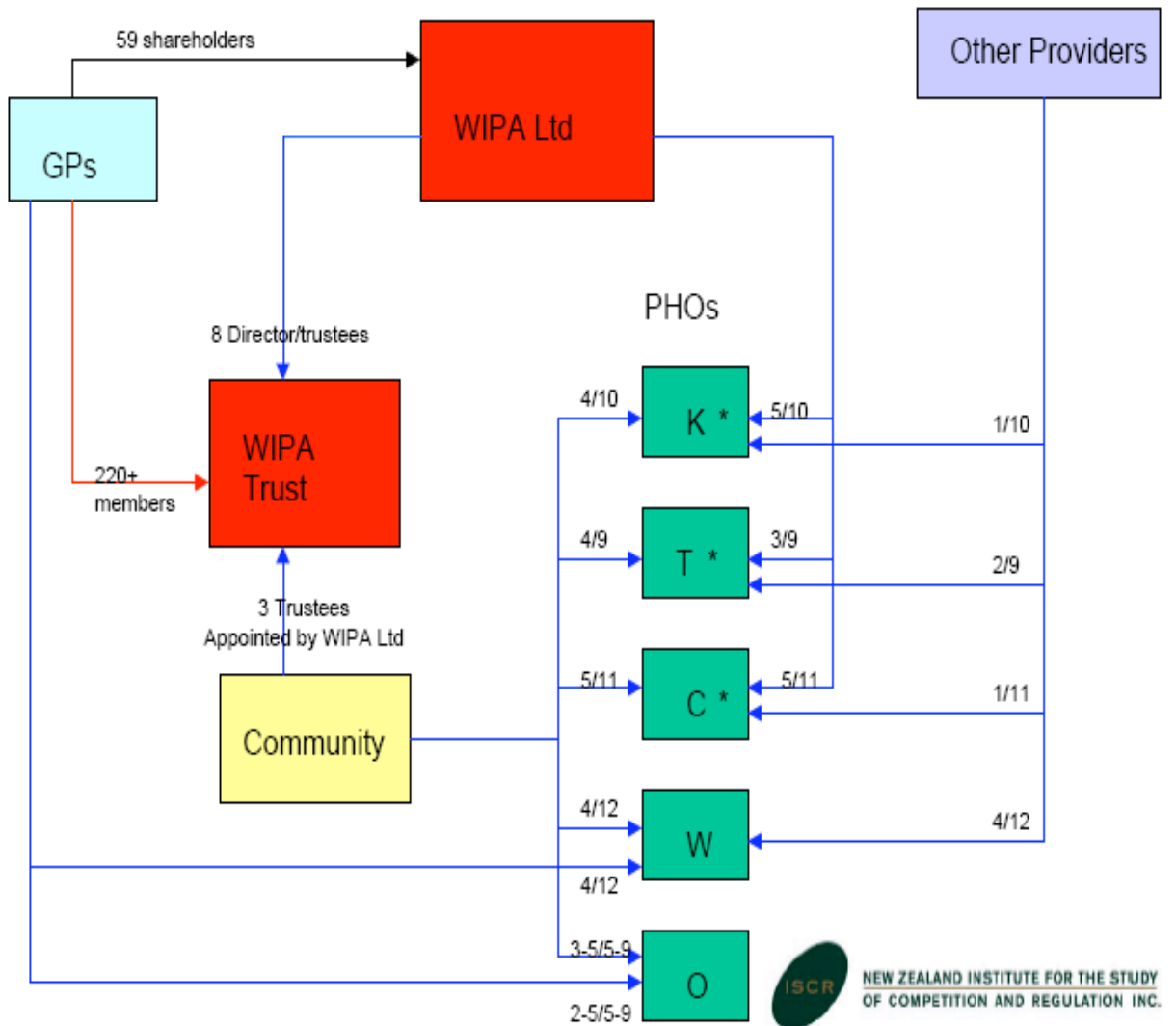
	Organisation						
		162,917	5		48.5%	71.8%	82.5% 91.5%
Southland	Eastern and Northern Southland PHO	16,920		16.6%			
	Rural Southland PHO Limited (Takitimu PHO)	13,922		13.7%			
	Waihopai PHO Limited (Invercargill - Te Ara A Kewa PHO)	59,336		58.3%			
	Wakatipu PHO	11,644		11.4%			
		101,822	4				
		3,693,079	77		58.3%	74.9%	88.6%

June 2005



NEW ZEALAND INSTITUTE FOR THE STUDY
OF COMPETITION AND REGULATION INC.

Appendix 6: Governance Relationships Amongst WIPA PHOs



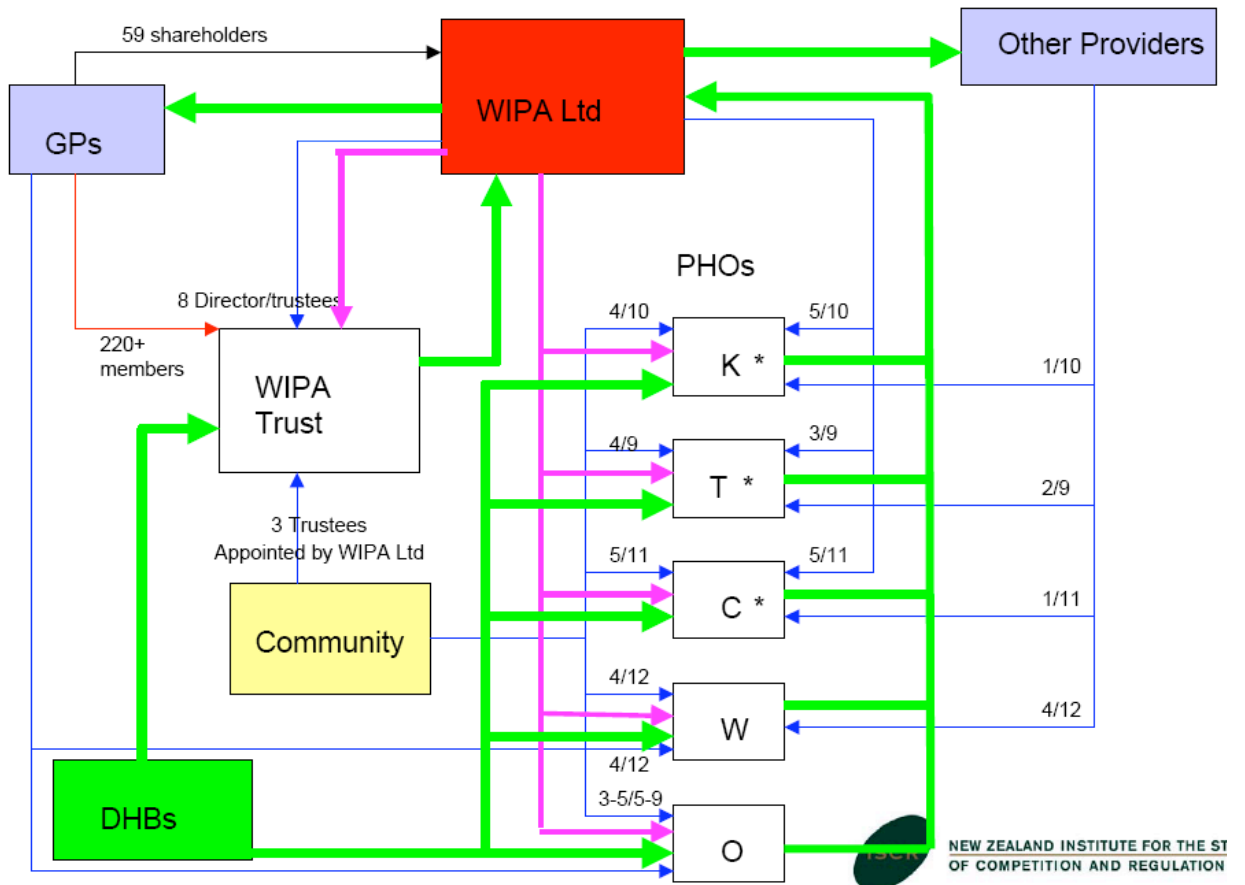
Summary of WIPA Governance Processes

1. There are 59 shareholder owners of WIPA Ltd.
2. WIPA Trust has more than 220 member general practitioners, who participate at the invitation of the WIPA Ltd board (by the Trust deed) but who in practice have participated (until 2003) by having membership contracts with WIPA Trust in order for the trust to secure practitioner-capitated management funding.
3. WIPA Ltd has eight directors nominated by group practices and elected by the 59 WIPA Ltd shareholders.
4. The eight directors of WIPA Ltd are trustees of WIPA Trust. Their terms are concurrent
5. Three trustees from the community are appointed to WIPA Trust by the WIPA Ltd trustees.

6. WIPA Ltd has powers of appointment to three PHOs:
 - 5 out of 11 Capital PHO trustees
 - 3 out of 9 Tumai Mo Te Iwi trustees
 - 5 out of 10 Kapiti trustees
7. GPs (currently all WIPA-affiliated) appoint trustees in two PHOs
 - 2 to 5 out of 5-9 trustees in Otaki
 - 4 out of 12 in Wairarapa
8. Other providers appoint trustees:
 - 4 out of 12 in Wairarapa (incl. Iwi providers)
 - 1 out of 11 in Capital (Te Ngawari)
 - 4 out of 9 in Tumai MO TE Iwi (one nurse¹¹⁹ and one from Te Roopu Awhina)
 - 1 out of 10 in Kapiti (Iwi providers)
9. Community trustees are largely interest group appointments:
 - 4 out of 10 in Kapiti (2 Iwi and 2 by Kapiti Community Health Group Trust)
 - 4 out of 9 in Tumai Mo Te Iwi (two Maori – Ngati Tama & Ngati Toa; one Pacific – Vai Ola; one community – Healthlinks)
 - 5 out of 11 in Capital (2 Maori – Ngati Tama & Rauru Teterere; 1 Pacific – Vai Ola; 2 by community nomination – nomination committee comprised of Wellington City Council, Consumers’ Institute and Wellington Public Health Forum)
 - 3 to 5 out of 5 to 9 in Otaki (two Maori and at least one community)
 - 4 out of 12 in Wairarapa (two in partnership with Maori) (2 clicks)
10. In 3 out of the five PHOs, a WIPA Ltd appointee is Chair (Kapiti, Tumai Mo Te Iwi and Capital)

¹¹⁹ The appointed nurse may be an employee of a WIPA practice.
 8/24/2005
 Version 3

Appendix 7. Governance, Contract and Cash Flows in the WIPA Alliance



NEW ZEALAND INSTITUTE FOR THE STUDY OF COMPETITION AND REGULATION

- Key:
- Governance
 - Management Contracts
 - Cash Flows