The Failure of Corporatisation: Public Hospitals in New Zealand

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Government-owned public hospitals dominate hospital care in New Zealand and provide approximately 95 per cent of all hospital services. Between 1988 and 1993, when most government-owned businesses in New Zealand were being restructured more closely to resemble their private sector counter-parts, public hospitals were 'corporatised'. Hospitals, previously run as non-profit co-operative enterprises, became for-profit hierarchical corporations called Crown Health Enterprises (CHEs). Twenty-three CHEs were created in all.

Although government retained ownership, CHEs were expected to be financially independent, earning revenue in an 'internal market' supplying services to the newly created Regional Health Authorities. A key feature of the corporatisation process was the restructuring of hospital management to improve operational efficiency. The efficiency improvements were expected to flow from the creation of 'correct' incentives at the top of the structure and from their internal transmission throughout the organisation.

Prior to the reforms, hospital staff were on fixed-wage contracts that generated little direct financial interest in hospital efficiency. In the absence of incentives to improve operational efficiency, one may expect hospital staff to further their own objectives — be it patient welfare, hospital prestige or job satisfaction. It is not surprising, therefore, that a 1987 government commissioned investigation into hospital efficiency commissioned estimated that \$500m were being wasted by a poorly run hospital system (Gibbs, Fraser and Scott, 1988). Recognising that hospital remuneration policy may have contributed to this inefficiency, the 1993 health reforms imposed high-powered financial incentives at the top of the hospital hierarchy. The Chief Executive Officer (CEO) of each CHE was offered substantial personal incentives to achieve efficiency targets. As a result of the reforms, forty per cent of CEO's income was tied to performance. How rigorously these incentives were applied is debatable, since bonuses were paid to many CEOs whose CHEs were in deficit (Ashton, 1999).

Dispersion of management responsibility was thought to be another significant contributor to hospital inefficiency. Prior to the reforms, the hospital manager, the medical superintendent and the principal nurse shared managerial responsibility. A standard result in the economics of incentive-based contracts is that motivating teams is more difficult than motivating

individuals, because team members may shirk responsibility and free ride on each other's hard work (Holmstrom, 1982). Hospital CEOs, therefore, were given sole authority over all hospital staff and a private sector-like pyramidal authority structure was established.

The CEOs were often individuals with generic management skills recruited from the private sector or promoted from the ranks of existing hospital managers. The Minister of Crown Health Enterprises appointed a CHE's Board of Directors, which in turn was responsible for the appointment of the CEO. This relatively long chain of command between politicians and hospital executives was supposed to isolate day-to-day operational decisions from politicians, who may have been tempted to sacrifice hospital efficiency for short-term political expediency.

At the same time as the formal authority and control of the CEO was being expanded, doctors were demoted within the hospital hierarchy. Whereas formerly they had enjoyed considerable decision-making power, the reformed structure placed them at the second or even third tier of authority. Thus doctors sometimes found themselves reporting to managers with little medical knowledge, but nonetheless responsible for operational management of the wards (Health and Disability Commissioner, 1998).

However, as the financial performance of hospitals deteriorated during the 1990s and CEOs resigned *en masse*, it became increasingly clear that the corporate model was failing to achieve 'traction' within the hospital sector (Ashton, 1999). Within the first three years of reforms, more than half of the twenty-three CEOs originally employed had resigned, complaining bitterly of the difficulties they had encountered in meeting unrealistic expectations (Easton, 1997). By 1996, the Ministry of Health had conceded that the promise of significant efficiency gains in CHEs had generally not been achieved (Ministry of Health, 1996).

A 1996 report commissioned by the government concluded that CHEs had been less successful at controlling costs in the short term than their predecessors, and that costs had risen faster after the reforms than before (Deloitte Touche Tohmatsu, 1996). A 1998 report by the Auditor General (Controller-Auditor General, 1998) revealed a hospital sector in serious financial trouble, as reflected in the financial data summarised in Table 1.

In response to this deteriorating financial performance, and the resulting political backlash, the government dismantled vital elements of the corporate model. High-powered incentive contracts for CEOs were toned down and, in 1996, CHE Boards were permitted to pay a fixed salary to their CEOs — albeit larger salaries than those earned by managers prior to these reforms.¹ There was also an increased trend towards joint management by doctors and

¹ For example, one of the first appointments made after this rule change was that of Leo Mercer at Capital Coast CHE who was paid a fixed salary of around NZ\$290,000.

managers and with more formal authority given to doctors within the hospital hierarchy.

Table 1: CHE Aggregate Financial Data 1994-95 and 1996-97

	1994-95	1996-97
Revenue (\$ 000)	2,601,768	2,902,025
Net Operating Deficit ⁽ⁱ⁾ (\$ 000)	(198,400)	(228,071)
Long-term Debt	252,153	375,635
Debt Equity ratio ⁽ⁱⁱ⁾ (%)		68

Notes:

(i) When CHEs run a deficit, the extra money is provided by government in the form of loans.

(ii) The 'Equity' represents the difference between total assets and total debt.

Source: Report of the Controller and Auditor-General: Second Report for 1998.

Impetus for this change came from the success that some CHEs experienced when doctors were involved with the running of hospitals. For example, after one CHE managed to reduce its financial deficit, the manager publicly attributed this to 'doctors, nurses and other health professionals heading hospital departments instead of managers' (Mold, 1996).

The reinstatement of medical authority was further reinforced by the Health and Disability Commissioner's investigation into allegations of poor patient safety at Christchurch Hospital. Following the introduction of the corporate model, Christchurch hospital had become a battle-zone as managers attempted to wrest control from doctors. This power-struggle culminated in public outcry and an investigation by the Health and Disability Commissioner following doctors' allegations that patients were dying because of managerial incompetence. In her report, the Commissioner suggested that the hierarchical structure at Christchurch Hospital resulted in a hostile relationship between management and clinicians, and poor quality care. She made an explicit recommendation that Christchurch Hospital involve clinical staff in all health-care decision-making (Health and Disability Commissioner, 1998).

In this paper it is argued that the corporatisation attempt was ineffective because it failed to recognise and address the powerful control that doctors exert over hospitals. Although corporatisation changed formal authority, doctors retained real authority. Hospital outcomes, therefore, were determined by doctors' objectives rather than those set by CEOs. It is further argued that the continued domination of the hospital sector by medical

interests is particularly worrying because doctors have a strong financial interest in maintaining long waiting lists in the public sector so as to fuel demand for more lucrative private sector care.

Corporatisation and the Theory of the Firm

An interesting question, and one that is addressed in this paper, is why did the corporatised hospitals perform so badly? What happened within the hospital to subvert what appeared to be so reasonable a set of reforms? Economists have only recently become interested in such questions. While traditionally economics has viewed the firm as a 'black box', with the advent of information economics, researchers have been getting inside this black box to understand the control problems within organisations. Although research along those lines goes back at least to Coase (1937), it is only comparatively recently that the ideas have been formalised, and brought within the mainstream of the economics of information. They have studied, *inter alia*, the role of authority, ownership, delegated decision-making and hierarchy (Holmstrom and Tirole, 1989). While this type of research may not offer a complete framework for formal analysis of complex real world organisations, it does offer some useful insights into the failure of the corporate model within public hospitals.

A reasonable first step to analysing the failure of the reforms is to consider the following question: Having promoted the managers and given them formal authority over the employees of the hospital, what was expected of the managers?

Since resource utilisation within hospitals is largely controlled by doctors, prevention of waste in a hospital depends crucially on a CEO's ability to restrain a doctor's zeal in using expensive hospital resources (Harris, 1977). This is difficult because doctors generally have an innate tendency to over-utilise health care resources on behalf of their patients (Pauly, 1980).

The ability of managers to achieve parsimonious clinical decisions is limited by the substantial informational barriers that may prevent them from being able to distinguish between necessary and wasteful use of resources. Although the manager may reduce this moral hazard problem by closely monitoring doctors, such monitoring is expensive because specialised medical knowledge is necessary to interpret clinical decisions properly. As many Health Maintenance Organisations (HMOs) in the US have discovered, providing indirect financial incentives may therefore be cheaper.

Providing incentives for agents in the presence of asymmetric information is not easy. For one thing, when clinical decisions are unobserved, the principal requires an appropriate signal upon which to condition the payment scheme. In the US for example, HMOs often tie doctors' personal incomes to their utilisation of resources on behalf of patients. A well-recognised danger

with such schemes is the incentives for doctors to select relatively inexpensive patients rather than exerting effort in rationing care.

A more pressing problem is that doctors are agents of patients as well as being employees of the hospital. This common agency role may stymie managers' attempts to restrain doctors. As a rule, doctors are professionally and legally inclined to provide patients with maximum quality care (Evans, 1984). This suggests that even though patients are poorly informed, they do not generally perceive a substantial agency problem in the doctor-patient relationship. However, when doctors are given incentives by the hospital CEO to provide only cost-effective care, patients may retaliate.

Patients who were receiving 'excessive' levels of care from a fixed-wage doctor, will experience rationing, and therefore have an incentive to undermine the doctor-manager contract. Patients may offer 'bribes' or threats in order to counteract the incentives offered by the manager. For instance, as occurs in the US, patients may threaten doctors with law-suits unless provided with the maximum quality of care (Lowe, 1997).

However, it is not just those patients whose care is rationed that have a reason to overturn the doctor's incentive scheme. Because the interests of patients and doctors are no longer aligned, all patients face an agency problem — even those patients who face no real rationing. For example, when discharged from hospital, patients will be uncertain as to whether they are genuinely well enough to go home, or whether the doctor is responding to financial incentives being offered by the manager. Such uncertainty is likely to be harmful to all patients (Evans, 1984). Patients may respond collectively to such schemes, as occurred in the US, where the political backlash against managed care has seen legislation at both Federal and State level regulating the use of financial inducements for doctors.

So far, we have discussed informational barriers to implementing incentives for doctors. An additional difficulty confronting hospital managers is that of contractual incompleteness. Newly appointed hospital CEOs were expected to do two things: first to devise a plan for improving the efficiency of the hospital, and second, to implement the plan (National Interim Provider Board, 1992). Consequently, most CHEs spent a large amount of money on business plans — between 1993 and 1996, a total of \$63m was reportedly spent on external management consultants by CHEs (Anon(a), 1996). Although theoretically possible, it is unlikely that the manager and doctor could write a contract at the outset, which specified all the relevant contingencies that may arise as a result of the planning stage. Therefore, during the course of the doctor's tenure, changes to the nature or conditions of his or her employment contract will become desirable.

As suggested by transaction cost theories, contractual incompleteness may lead to hold-up problems, because managers have to bargain with doctors to obtain their co-operation with the managerial plan (Coase, 1937). If, at the

planning stage, managers anticipate this *ex post* bargaining and the resultant surplus sharing, then there will be a sub-optimal level of planning (Grossman and Hart, 1986). The two preconditions required for the hold-up problem to occur are met within the hospital setting. The first condition is that the manager's initial investment is firm specific — in the sense that management plans have little resale value. The second condition is that the agent has substantial bargaining power, which doctors do have due to their relative scarcity.

Transaction cost theory suggests that the existence of contractual incompleteness leads naturally to the existence of 'authority' within the firm, as embodied in the employer-employee relationship to fill the contractual gaps. Where contracts are incomplete, authority is useful in overcoming the hold-up problem. Simon (1951) defined the concept of authority over an employee as the employer's right to choose an action for the employee, from a set of pre-specified actions. This eliminates the employee's right to bargain over the action to be taken, so the employer may safely invest in identifying the most efficient action to choose.

This concept of managerial authority was central to the success of the corporate model. At the time of introducing the new corporate structure, it was explicitly stated that the intention was for managers to have the autonomy to make effective use of resources (National Interim Provider Board, 1992:39). There was an expectation that, if placed in a position of authority by the government and given the right incentives, the CEO could achieve efficient resource allocation within the hospital.

Unfortunately, there are numerous examples of the difficulties that hospital CEOs faced in asserting their authority over doctors. The Health and Disability Commissioner made the following observations about doctor-manager relationships within Christchurch Hospital:

It is clear that the Service Managers had little or no control over the clinical staff and in some cases Clinical Directors refused to report to or co-operate with the Service Managers (Health and Disability Commissioner, 1998:159).

Yet another example is the case of Capital Coast CHE, whose managers entered into a supply arrangement with the Regional Health Authority in 1995 to undertake elective surgery on patients of a neighbouring CHE. Unexpectedly, surgeons at Capital Coast CHE refused to perform these operations, arguing that it was 'unethical' for patients from another hospital to leapfrog Capital Coast's waiting lists. The RHA contract therefore had to be cancelled and the effort expended by the managers and the RHA in negotiating this contract wasted (Maling, 1995).

Real and Formal Authority

The failure of CEOs to impose changes on doctors suggests that a useful distinction may be drawn between 'real' and 'formal' authority. Aghion and Tirole (1997) define formal authority as the right to veto a change, while real authority is about who ultimately gets his or her own way. As they point out, formal authority need not confer real authority.

In the case of Capital Coast CHE discussed above, it appears that the CEO had formal authority over the surgeons but did not have sufficient real authority to nominate the group of patients on whom surgery was to be performed. In the context of running a hospital, this seems to be a fairly crucial weakness in the CEO's authority.

The inability of hospital managers to wield real authority over doctors is explicable within Aghion and Tirole's framework. Aghion and Tirole argue that, if subordinates are better informed than their superior, they may have real authority, because the superior may have no option but to follow the subordinates' suggestions. This is particularly so if decisions have to be made urgently, and therefore the superior has insufficient time to check their reasonableness.

This echoes Harris's argument that doctors demand and obtain a great deal of autonomy within the hospital because treatment decisions are made under urgency and the spectre of death (Harris, 1977). To require the doctor to check with a manager on a treatment plan during a medical emergency would not only be intolerable to the doctor, but life threatening to the patient.

Indeed, the Health and Disability Commissioner's review of Christchurch hospital (Health and Disability Commissioner, 1998) found that a lack of authority given to doctors in that hospital contributed to the death of hospital patients. Given the dire consequences of delay within a hospital setting,² one expects hospital managers to be extremely cautious in exerting their authority over medical decisions.

Aghion and Tirole argue that the existence of multiple principals may also undermine the real authority of each principal. Hospital CEOs are particularly vulnerable to having their authority diminished by other principals, especially patients. The conflict of interest between patients and hospital managers means that patients have an incentive to weaken the CEO's authority. Since a CEO's authority is conferred by the government (as the owner of the hospitals), patients will use the political system to undermine the CEO's authority. Doctors, in turn, may utilise this political pressure for their own ends, as occurred when the CEO of Taranaki Healthcare attempted to restructure hospital services in 1998. Doctors employed at Taranaki took out a full-page advertisement in the local press signalling their opposition to the

² In her review of the Christchurch Hospital case, the Commissioner was particularly critical of hospital managers.

move. Such actions are clearly intended to provoke a political response from the local community. The net effect is to weaken the CEO's authority and enhance doctors' real authority.

There are also other principals who have an interest in and authority over doctors' actions. The Medical Council and the Health and Disability Commissioner, for instance, have statutory powers to investigate medical decisions and prosecute cases where doctors contravene the *Medical Practitioner's Act 1995* or the *Health and Disability Commissioner's Act 1994*.

These Acts prescribe statutory obligations upon the doctor to act in the best interest of his or her patient. Therefore, any action that the doctor deems harmful to patients may be unlawful. A statutory duty has a higher claim in law than the common law duty of an employee, so a doctor may repudiate a manager's orders by asserting that the orders are harmful to patients (Wallace and Johnson, 1995). This provides the doctor with a powerful shield against CEO authority, leaving the CEO with only residual authority.

Indeed, because the corporate model may be seen as a challenge to the authority of these statutory bodies, there has been a recent trend for these bodies to become more protective of their own claims over doctors. The Medical Council recently issued ethical guidelines provocatively titled 'Doctors' duties in an environment of competition or resource limitation' (Medical Council of New Zealand, 1998). Among other things, the guidelines warn doctors not to allow the commercial interests of their employer to override their ethical responsibilities to patients. It goes on to state that 'doctors have a responsibility to advocate to the appropriate authorities for the provision of the range of services needed by their population'. Such pronouncements by the Medical Council could be taken as a counter-attack against the strengthened authority of hospital managers. It also provides useful ammunition for those doctors whose objective is to undermine CEO authority.

Hart's definition of authority differs slightly from Simon's and Aghion and Tirole's (Hart, 1995). Hart argues that real authority is conferred by ownership of non-human assets, because subordinates are more likely to do what their superior wants, if the latter can exclude the former from productive assets. Therefore, the real authority of the CEOs stems from their right, conferred by government, to separate the doctor from CHE assets. However, unless such separation is more costly to the doctor than to the manager, this will confer only weak authority at best.

Doctors employed by public hospitals tend to operate their own clinics in the private sector.³ This means that doctors do not need CHE assets to be productive. Moreover, since the relative scarcity of specialists makes it

³ The 1997 health workforce survey found that approximately 75 per cent of medical specialists work in two or more employment locations; and of these, 50 per cent work in a third location.

difficult for managers to replace specialist staff, one could argue that sacking a doctor is more harmful to the CEO than to the doctor. When surgeons at Waikato CHE disagreed with its restructuring plans, they threatened to resign in protest, knowing that they could continue to work in their private clinics (Anon(b), 1996).

Given the urgent nature of medical decisions, the competing agencies that share some authority over medical decisions, and the powerful outside options possessed by doctors, the scope of managerial authority is highly uncertain. In solving the hold-up problem, uncertain authority is almost as unhelpful as the absence of authority.

Medical Authority and Waiting Lists

Given that doctors may have retained authority within the corporate hospital, their interests have probably influenced hospital outcomes to a greater degree than expected. In this section we argue that excessive medical control of the hospital system may have stymied government's objectives with regard to elective surgery.

Elective surgery describes those surgical procedures, such as cataracts, for which delay is not expected to lead to death. Although the health reforms were supposed to reduce the waiting times for elective surgery through increased hospital efficiency (Upton, 1991), between 1992-93 and 1995-96 waiting lists grew by 21 per cent (Ministry of Health, 1996). As at 1998, around 90,000 people were waiting for elective operations such as hip replacement and cataracts.

Patients who do not want to wait for surgery or have private medical insurance, may pay for care privately. Specialists tend to be employed in both private and public sectors concurrently, although there is a significant fee differential between these two markets. For example, a surgeon and anaesthetist are estimated to receive \$1,450 for a private cataract operation, while their effective fee from public hospitals is \$200 (Rankin, 1997). This begs the question as to why specialists are willing to continue to work in the public system. One reason could be that the private work tends to be routine, while the public sector offers a variety of acute and interesting cases. Working on acute cases may also prevent the rapid depreciation of specialist skills. Another reason could be that holding prestigious consultant positions in CHEs enhances demand for private consultations. Whatever the reason, the fee differential between the private and public sectors suggests that specialists would ideally like to perform all elective surgery in the private sector, while continuing to treat acute patients in CHEs.

One may speculate that given the control exerted by doctors within the public hospital system, coupled with their financial interest in long waiting lists, it was inevitable that waiting lists would remain a feature of the public

health system. Indeed, the case of ophthalmologists at Southland CHE lends credence to such speculation. In 1996 Southland CHE employed an eye surgeon from Australia, on a short-term basis, to perform cataract surgery on patients who were on the waiting list. Surgeons employed at the CHE were uncooperative and refused to provide the necessary follow-up treatment to patients of the Australian doctor. Consequently, the surgery had to be cancelled and waiting lists continued to grow.

Although in a more competitive labour market specialists willing to provide the necessary care could have been found, the market for specialists is far from competitive. The supply of specialists is restricted by the Medical Council and Specialist Associations that are statutorily responsible for accreditation and continuing certification of specialists. Doctors seeking to register as specialists are required to satisfy the relevant Association that they are competent in their specialty. Many doctors trained outside New Zealand, who are required to pass these specialist examinations, complain that they are so difficult that most practising specialists would be unable to pass.

The Specialist Associations are composed of specialists working in New Zealand. Of particular concern is that some surgical specialties not only control the registration process, they also control the number of training positions available for doctors seeking entry into a specialisation.

Although this situation creates significant potential for anti-competitive behaviour in the specialist market, the New Zealand government continues to rely on general, and arguably weak, anti-trust legislation to ensure that these registration bodies are not unduly restraining competition. Moreover, it has always been difficult to police professional bodies because it is not clear where quality control ends and restraint of trade begins.

In the case of the eye surgeons discussed above, the Commerce Commission filed a landmark lawsuit against the New Zealand Ophthalmologist Association for anti-competitive behaviour. This case is yet to be heard. In general, however, specialist bodies are left alone to regulate themselves with little attempt by government to check whether their activities enhance social welfare.

Policy Implications

One source of a doctor's real authority is the multi-principal nature of medical decision-making. In general, multiple authority is not a good thing. Statutory authorities are able to evade responsibility by 'passing the buck'. For example, when an unqualified American posing as a psychiatrist was mistakenly allowed to practice in New Zealand, there was no single authority that was accountable for the mistake. The Medical Council, the Specialist Association and the CHE that employed the impostor, all blamed each other (Neal, 1997).

Multiple authorities with over-lapping interests enable doctors to play these various bodies off against each other. Clarifying the roles of the various statutory bodies would be helpful in adding certainty to the CEO's sphere of influence over the doctor. Indeed, since ensuring that doctors maintain professional standards and provide a high quality of care is a common objective of statutory bodies such as the Medical Council and the Health and Disability Commissioner, clarification of their role should not be difficult. However, any attempt to weaken their role could be strongly resisted by patients.

A review of the rules governing the accreditation of specialists also seems warranted. In particular, the ability of some specialist associations to control training and entry, and the ability of individual specialists to control the length of the waiting list leave hospitals vulnerable to exploitation by monopoly specialists.

Although the government announced its intention to review the regulation of professional bodies in 1998, no concrete proposal has been forthcoming. This is not surprising given the entrenched interests that will vigorously oppose such moves and make it politically difficult for government to implement any new legislation. Indeed, in response to hints in the media that there may be a review of medical practice regulations, eye surgeons launched an advertising campaign justifying their entry criteria.

The problem is that doctors can play on voters' fears that a weakening of entry restrictions will place patients at risk. Moreover, because the government will continue to rely on specialist expertise to police a new accreditation regime, specialists may be able to undermine the efficacy of such a regime, thereby 'justifying' their opposition to it. Although it is possible to employ disinterested foreigners to police such a regime, this may not be acceptable to the New Zealand public.

Stewart and Stewart (1998) suggest a voluntary insurance-based accreditation regime for medical practitioners in New Zealand. Under their regime, doctors will be liable for malpractice and will therefore purchase health insurance. Because doctors with a history of defending malpractice suits will face higher premiums, doctors will have an incentive to provide an acceptable quality of service. Doctors will also be rated by an independent certification authority. The requirement that doctors voluntarily disclose their accreditation and insurance standing, will result in consumers being able to conduct their own quality assurance.

A general difficulty with using a 'buyer beware' approach to health care regulation is that it requires learning by consumers and employers about the standard of accreditation that they ought to demand from their doctor. Mistakes made while learning about the system could be fatal.

A third area of policy reform suggested by this paper is the prohibition of doctors from simultaneously participating in the private and public sectors.

Because demand in the private sector is enhanced by long waiting lists in the public sector, this dual role of doctors is unhelpful in furthering government's desire for shorter waiting lists. Of course, it may be the case that the private incomes of specialists subsidise public sector care. In this case, restricting participation in the private sector may back fire and reduce the supply of specialists to the public sector, exacerbating the problem of waiting lists. Therefore, the costs and benefits of restricting private sector participation by hospital employees need to be weighed up.

Conclusion

Corporatisation was promoted on the basis that by adopting a standard hierarchical structure and imposing the 'correct' financial incentives at the top, hospitals would be more efficiently run. The objective of this paper was to investigate the failure of the corporate model in the light of the economic theory of organisations. It was argued that the change in formal authority within hospitals belied the unchanged nature of real authority. Intersecting lines of authority, asymmetric information, and the powerful outside options possessed by doctors in bargaining situations, suggest that the real authority was retained by doctors.

In order for the corporate structure to work effectively, the government ought to tackle the source of medical authority. In particular, reducing the substantial barriers that prevent entry into Medical Specialties, as well as preventing clinicians from working for more than one employer, may go some way towards bolstering the authority of hospital managers. Additionally, an amalgamation of the various statutory bodies that are responsible for monitoring doctors may also be beneficial.

The control that doctors exert on the system means that any move by the government to weaken their authority may be punished in so severe a manner that government may quickly abandon its resolve. Therefore, policy interventions in this area need to take account of the political as well as the economic aspects of health reform.

References

- Aghion, P. and J. Tirole (1997), 'Formal and Real Authority in Organizations', *Journal of Political Economy* 105:1-28.
- Anon(a) (1996), 'Health SC Chief Defends Reports', *The Timaru Herald*, 10 September, p. 1.
- Anon(b) (1996), 'Surgeons Offer to Stay on Rejected', *Waikato Times*, 21 October, p. 1.
- Ashton, T. (1999), 'The Health Reforms: To Market and Back', pp. 134-53 in Boston J., P. Dalziel and S. St John (eds), *Redesigning the Welfare State in New Zealand: Problems, Policies and Prospects*, Oxford University Press, Auckland.

Coase, R. (1937), 'The Nature of the Firm', *Economica* 4:386-405.

Controller-Auditor General (1998), *Report of the Controller and Auditor-General: Second Report for 1998*, Office of the Controller-Auditor General, Wellington.

Delloitte Touche Tohmatsu (1996), *Trends in AHB/CH Performance*, Wellington.

Easton, B. (1997), *The Commercialisation of New Zealand*, Auckland University Press, Auckland.

Evans, R. (1984), *Strained Mercy: The Economics of Canadian Health Care*, Butterworths, Toronto.

Gibbs, A., D. Fraser and J. Scott (1988), *Unshackling the Hospitals*, Report of the Hospital and Related Services Taskforce, Wellington.

Grossman, S. and O. Hart (1986), 'The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration', *Journal of Political Economy* 94:691-719.

Guyan, C. (1997), 'CHE Chief's Pay Tops \$460,000', *Evening Post*, 28 November, p. 3.

Harris, J. (1977), 'The Internal Organisation of Hospitals: Some Economic Implications', *Bell Journal of Economics* 8:467-82.

Hart, O. (1995), *Firms, Contracts and Financial Structures*, Oxford University Press, New York.

Health and Disability Commissioner (1998), *Canterbury Health Limited : A Report by the Health and Disability Commissioner*, The Commissioner, Auckland.

Holmstrom, B. (1982), 'Moral Hazard in Teams', *Bell Journal of Economics* 13:324-40.

Holmstrom, B. and J. Tirole, (1989), 'The Theory of the Firm', pp. 61-133 in R. Schmalensee and R. Willig (eds), *Handbook of Industrial Organization*, North Holland, New York.

Lowe, R. (1997), 'Explaining Things to an Angry Managed Care Patient', *Medical Economics*, 74:143-56.

Maling, N. (1995), 'Contract Row May Delay Hutt Surgery', *The Evening Post*, 24 November, p. 3.

Medical Council of New Zealand (1998), *Doctors Duties in an Environment of Competition or Resource Limitation*, Ethical Guidelines, revised 11 March.

Ministry of Health (1996), *Healthy New Zealanders: Briefing Papers for the Minister of Health*, The Ministry, Wellington.

Ministry of Health (1998), *Health Expenditure Trends in New Zealand, 1980-97*, The Ministry, Wellington.

Mold, F. (1996), 'CHE Reaps \$23 Million from Cost-Cuts', *Waikato Times*, 18 September, p. 1.

National Interim Provider Board (1992), *Providing Better Health Care for New Zealand: Report to the Government and the New Zealand Public*, National Interim Provider Board, Wellington.

Neal, T. (1997), 'Astor Review Planned', *The Nelson Mail*, 26 August, p. 9.

Pauly, M. (1980), *Doctors and their Workshops*, University of Chicago Press, Chicago.

Rankin, D. (1997), 'The Role of the Private Sector in Health Services Delivery', paper presented to the Future Directions in Health Care Management Conference, Auckland, 14-15 April.

Scherer, K. (1995), 'Hutt CHE Boss Paid 60pc Bonus', *The Evening Post*, 17 January, p. 1.

Simon, H. (1951), 'A Formal Theory of the Employment Relationship', *Econometrica* 19:293-305.

Stewart, D. and H. Stewart (1998), 'Deregulating Medical Practice in New Zealand: Achievable and Desirable?', *Agenda* 5(4):407-18.

Upton, S. (1991), *Your Health and the Public Health: A Statement of Government Health Policy*, Minister of Health, Wellington.

Wallace, M. and S. Johnson (1995), *Health Care and the Law*, Brooker, Wellington.

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