The Evolution and Transformation of Networks: A Study of Private Health Insurance in Ireland

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ABSTRACT

The focus of this research is the process of network evolution and transformation in health insurance. It uses network theory to express the dynamics of change in the private health insurance market and it emphasises the structural features of density and sparseness, as well as relational features of strength and weakness of the ties. The study found that the network was characterised by high centrality, high density and weak ties, and cost efficiency was a key outcome. The study concludes that there needs to be an optimal portfolio of both strong and weak ties, in that together they enable information exchange, knowledge-building and innovation.

***Key Words*:** Private health insurance; Weak ties; Strong ties; Networks.

INTRODUCTION

This study describes the evolution and transformation of private health insurance (PHI) in Ireland using social network constructs. To date, there has been little or no study of Irish PHI from a network perspective. In the network school of thought, it is argued that the performance of firms depends on their ability to develop relationships

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and to cooperate with other actors (Hakansson and Snehota, 1995). Social network theorists recognise that market exchanges are embedded in, and defined by, complex social processes; for instance, trust is critical in networks (Morgan and Hunt, 1994). A related body of literature on supply chain management (Harland, 1996; Dabholkar and Neeley, 1998) emphasises the need for a move from an adversarial, arms-length perspective to a long-term, relationship-orientated view of inter-firm relationships.

CHARACTERISTICS OF THE IRISH HEALTHCARE AND PRIVATE HEALTH INSURANCE SECTORS

Health systems can be structured in different ways and, as a consequence, different kinds of private health insurance networks emerge.

The Irish health system is a mixture of a universal public health system and a fee-based private system. PHI arrangements in Ireland are complementary (covering services excluded by the state) and supplementary (for faster access to non-crucial services and better amenities). Today, an estimated 52 per cent of the Irish population have private health insurance; this figure is quite striking given the full entitlement to public hospital care. A range of policies exist to ensure affordability of PHI, such as tax relief and subsidies on public pay-beds for private patients (Health Insurance Authority, 2005a). People buy health insurance because it frequently improves the individual's choice over health providers, treatments and timing of care (OECD, 2004).

The key features (OECD, 2004) of the Irish voluntary health insurance system are community-rated premiums, open enrolment, minimum benefit and lifetime cover.[1] VHI, a state-owned company, was the sole provider of insurance prior to 1997. After the Irish market was opened up to competition, BUPA entered the market in 1997 (subsequently taken over by Quinn Healthcare), and VIVAS Health entered the market in 2004. The market leader's share of the market fell, but it remains a dominant player with an estimated 75 per cent share of the market. A risk equalisation scheme was implemented in 2006 by the Irish government, almost ten years after the market was opened to competition. It is a government response to the strong incentives of new entrants to select healthier enrollees,

leaving the incumbent with the burden of claims (Health Insurance Authority, 2005b). According to the OECD (Columbo and Tapay, 2004: 208), risk equalisation is designed to prevent 'unfair competition'. It involves transfer payments from one insurer to another and is designed to 'neutralize differences in insurers' costs due to variations in the health status of its members' (Worz and Foubister, 2005: 27).

The opening up of the market intensified competition and stimulated the design of new products. New entrants have to cover operating costs and meet shareholder expectations (i.e. the need to maintain prudential reserves, invest, reward entrepreneurial risk-taking and remunerate capital appropriately). Insurers are expected to compete on the basis of providing the best coverage at the lowest cost. A price following strategy is evident, with the market leader setting the premium and other companies following by charging a similar, albeit marginally lower, price (Health Insurance Authority, 2003). PHI contracts contain highly technical information and cover every conceivable medical treatment. They include:

- technical charges (e.g. charges for theatre, disposables and diagnostic tests)
- accommodation (e.g. daily rates for private beds)
- salaries (e.g. consultants)

Insurers are obliged to pay the professional fee directly to the hospital consultants. From the insurer's perspective, clinicians have little incentive to minimise costs. Clinicians are not always aware of, or responsible for, the economic consequences of their medical decisions (Doyle, 2006). However, Doyle (2006) found that if hospital managers enter into dialogue with clinicians and involve them in new management accounting practices, then that helps change attitudes.

In many healthcare systems, hospital costs are driven by rates of utilisation, increases in bed capacity, labour costs, the cost of pharmaceuticals, regulatory compliance, clinical equipment and information technology. Cost structures vary across hospitals depending on clinical research, teaching status and provision of specialised services (Robinson, 2003). The Irish healthcare system is heavily biased towards hospitalisation (OECD, 1990), although

government policy aims to refocus on primary care and strengthen the role of the general practitioner.

NETWORK THEORY AND RATIONALE FOR ADOPTING A SOCIAL NETWORK PERSPECTIVE

The network concept in industrial marketing theory was developed in the 1980s by researchers in the IMP (industrial marketing and purchasing) school of thought (see Thorelli, 1986; Hakansson, 1987; Axelsson and Easton, 1992; Hakansson and Snehota, 1995).

A network consists of actors who control resources and perform activities (Hakansson and Snehota, 1995). In networks, resources exchanged between actors include capital, information, advice, emotional support and legitimacy signals (Heracleous and Murray, 2001). Network structures bring benefits: enhancing learning (Knight, 2002); increasing innovation (Baker, 1992; Araujo and Easton 1996; Ahuja, 2000); and decreasing transaction costs and reducing uncertainty (Heracleous and Murray, 2001). However, there are also limitations such as insecurity and the risk of hold-up (see Alter and Hage (1993) for a summary). Actors are vulnerable to risk, yet many forces reduce the risk of opportunism (Lindberg et al., 1991), such as contracts and the need to maintain one's reputation, as well as trust (Morgan and Hunt, 1994).

Research into networks is motivated by dissatisfaction with the atomistic view of economic actors (Granovetter, 1985), the view that exchange is driven by pure economic motives and social relations are set aside (Rangan, 2000). There is a body of literature on healthcare networks (Boonekamp, 1994; van Raak et al., 2002) that are particularly effective in the area of community-based health and social services (van Raak et al., 2002; Provan et al., 1995). While the interests of the provider and those of the insurer are not aligned, scholars propose that insurers and clinicians would benefit from the adoption of a partnership approach to healthcare (Berry et al., 2006).

KEY DEBATE IN THE LITERATURE: STRONG AND WEAK TIES, DENSE AND SPARSE TIES

A central debate in the literature is whether ties between actors in networks should be sparse and weak (Granovetter, 1973; Burt 1992)

or dense and strong (Coleman, 1988; Gilsing and Nooteboom, 2005). According to Granovetter (1973: 1361), in personal networks there are four dimensions of strength: amount of time, emotional intensity, intimacy (or mutual confiding) and reciprocal services. Granovetter's (1973) 'strength of weak ties' thesis shows how, in personal networks, weak ties (i.e. acquaintances) as opposed to strong ties (i.e. family and friends) yield a greater variety of information. Granovetter (1973) found that job seekers tend to search for job openings through acquaintances. While actors with strong ties tend to be strongly motivated to help each other, weak ties should not be overlooked because distant contacts are privy to information that one's immediate circle does not have. They play a crucial role in job searches, social mobility and in the diffusion of innovation. Nooteboom (1999) has put forward a similar argument, claiming that weak ties (sporadic contacts) can lead to greater 'cognitive distance' (i.e. different ways of seeing, interpreting and dealing with the world).

The literature has produced counter-arguments, arguing that strong ties (intense and long-lasting ties) may be needed for the exchange of complex knowledge (Uzzi, 1997). In a business context, strength has been equated with long duration and high frequency of interaction, and with trust, openness and a willingness to share information and coordinate activities (Gilsing and Nooteboom, 2005). Uzzi's (1997) study of the clothing industry is an excellent example of how benefit is derived from strong ties, even though the industry itself is characterised by intense price competition. Uzzi's (1999) study on small business lending found that networks promote the transfer of private information (i.e. information that is restricted and unique). Uzzi (1999) concluded that small firms that form social attachments with lenders receive lower interest rates on loans. In a similar vein, other writers argue that value creation, associated with product innovation, occurs through social capital within the firm (Tsai and Ghoshal, 1998; Tsai, 2002). Although time and energy is expended in setting up and maintaining strong ties, it is implicit in the literature that the benefits outweigh the costs.

It has also been proposed that optimal networks consist of both strong and weak ties (Uzzi, 1996; Giuffre, 1999). The weak ties

assist in bringing new information into the network, while strong ties support the knowledge creation processes that embed strategic capabilities into the network (Pavlovich, 2003). In the context of PHI, strong ties could facilitate knowledge transfer in relation to clinical best practice and quality management.

Density is defined as the number of direct ties in relation to the total possible number of direct ties (Granovetter, 1985). Density refers to how many actors are connected; it means that all actors have multiple partnerships (Gilsing and Nooteboom, 2005) and thus it gives rise to redundant ties (Hagedoorne and Duysters, 2002). In a dense structure where all actors have multiple partnerships, much of the information circulating is redundant – each person knows what everyone else knows. Density can force organisations towards conformity (Di Maggio and Powell, 1983) as institutional values are diffused within networks. Density, according to Coleman (1988), helps build up reputation, social norms, social control and sanctions. Highly dense networks, through tight information exchanges and the circulation of institutional norms or rules of behaviour, give rise to strong constraints on focal organisations (Pavlovich, 2003).

In the context of health insurance, the Irish network is a dense one. For instance, the market leader has contracts with all hospitals. There is little desire to exclude hospitals from the network since the insurer is eager to avoid the opprobrium that results from denying patients freedom of choice; network exclusion would mean patients would have to travel for care, giving rise to geographical barriers to health access. A major weakness of this system is that it limits selective contracting. Under selective contracting, insurers negotiate agreements with certain doctors, hospitals and healthcare providers to supply a range of services at reduced cost. In a case study of the Swiss insurance system, it was noted that having to pay 'all willing providers' prevents insurers from selecting from approved lists of cost-effective, or safe, or consumer-friendly doctors or hospitals (Health Policy Consensus Group, 2003). In the USA, network structures exist that channel consumers towards a restricted number of economical providers (Robinson, 2003). In the UK, private insurers offer coverage for the use of approved preferred hospitals, but only partial coverage for the use of other hospitals (Health Policy Consensus Group, 2003).

There is an argument in favour of ties that are weak and sparse. The publication of Burt's work on structural holes (1992) has directed attention to how an actor exploits his or her position in a network. Burt notes the lack of ties among actors, a condition he names structural holes, and claims that an actor should develop a limited set of ties that bridge 'structural holes'. Thus, sparse ties provide the advantage of 'brokerage' – the actor maximises gain by connecting unconnected actors. Burt (1992) argues that weak ties are critical for engendering entrepreneurial activity, since new information is brought into the network. In recent times, insurers have sought to differentiate their products by offering coverage for out-patient services and non-core medical treatments (e.g. medical screening, laser eye surgery and alternative therapies).

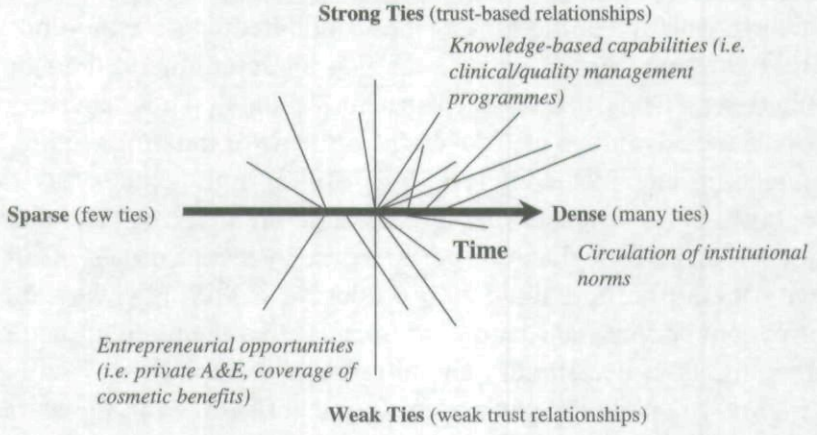
Figure 1 depicts the conceptual framework, showing the associated benefits of networks and how a network becomes denser over time as more ties, both strong and weak, are cultivated. Weak and sparse ties are manifested in entrepreneurial opportunities, and as a network becomes denser it promotes the spread of institutional norms.

RESEARCH METHODS

The objective of this paper is to describe the evolution and transformation of private health insurance using social network theory and to explore whether benefit is derived from strong or weak ties and from dense or sparse ties. A qualitative research method was adopted due to the lack of theory in this area. Traditionally, research on social networks has adopted a quantitative approach. However, there is an increase in studies that examine mainly small networks qualitatively (see Gilsing and Nooteboom, 2005; Pavlovich, 2003).

In-depth interviews with key informants were undertaken (see Table 1). As a form of naturalistic enquiry, the key informant methodology is appropriate when the underlying theoretical framework is not well understood. Key informants should be selected on the basis that they occupy roles that make them knowledgeable about the issues being researched and are willing to communicate with the researcher. While the researcher has a plan of inquiry, questions should be loosely structured, giving respondents considerable latitude in terms of the scope and direction of the interviews

Figure 1: Conceptual Framework: Density, Strong- and Weak-Tie Connections



Key:

Density: Each actor has a large number of ties or contacts; refers to the extent to which actors in the network know each other. If everyone in the network knows everyone else, this leads to spread of information, strong norms of behaviour, legitimacy, conformity and constraints.

Sparseness: Fragmented nature of ties leading to less efficient information exchange. some actors have reduced access to resources; fewer opportunities for building legitimacy and strong norms.

Strong ties: Strong trust-based relationships. Tie of kinship, friendship; tightly knit ties, contacts with others within a connected group; support, knowledge-building.

Weak ties: Weak trust relationships. Arms-length ties, acquaintances. Random contacts with people in the more distant environment, unconnected groups; access to novel information or performance of creative work is through weak ties.

Source: Burt (1992), Granovetter (1973), Uzzi (1996), Pavlovich (2003).

(Babbie, 1998). All three private health insurance firms participated in the study. Crucially, the CEOs of two of these firms, including that of the market leader, were willing to be involved in the research project. In one case, where the CEO was unavailable, the Director of Provider Affairs was interviewed. Data for this paper were drawn from interviews with managers of private hospitals. The sample included a large, not-for-profit hospital, as well as two high-tech

Table 1: Key Informants

Position/Title	Background	Organisation
1. Chief Executive Officer	Accountancy	Health Insurer A
2. Director of Health Services	Health Sector	Health Insurer B
3. Chief Executive Officer	Business	Health Insurer C
4. Director of Provider Affairs	Accountancy	Health Insurer C
5. General Manager	Business	Private Hospital A
6. Founder/Medical Director	Medical Consultant	Private Hospital B
7. Chief Executive Officer	Business	Private Hospital C
8. Secretary General	Business	Irish Hospital Consultants' Association
9. General Manager	Business	Private Hospital D

for-profit hospitals. Interviews with hospital management helped the author assess the validity of claims made by insurers and visa versa. These respondents are negotiators, decision-makers and influencers. All of them thoroughly understand the nature of their business. A medical entrepreneur and a representative of a consultant's association were also interviewed since they might have a different perspective on the nature of the PHI contract. Confidentiality was assured. A total of nine, semi-structured interviews, which lasted 60 minutes, were conducted between February 2006 and June 2006. Detailed notes were taken during the interviews and they were analysed shortly afterwards. The sample size is smaller than is conventional, but Mintzberg (1979) has argued that small sample sizes should not be precluded from studies of organisations since they often offer superior insights than large samples.

The interviews sought to address the following issues:

- the kind of relationship the hospital manager sought to create with the insurer and visa versa
- sources of bargaining power and conflict, and mechanisms used to resolve conflict
- implications of density, sparseness and strong and weak ties for corporate strategy
- future development of private healthcare and health insurance networks

Given the expansion of the private healthcare sector in Ireland and the debate over risk equalisation, the sector has been extensively studied in recent times. A great deal of data were acquired from newspaper articles, industry reports, corporate websites and promotional literature. The narrative uses a mixture of interviews, oral histories, documents and observations, which together form an account of recent developments in the PHI market in Ireland.

The general analytical strategy was to identify common themes and patterns in the data (Miles and Huberman, 1984) by using a grid matrix. Table 2 identifies key themes and the discussion following the grid allows the reader to follow the logic of the researcher.

CASE DATA ON PHI, NETWORK STRUCTURE, DENSITY

This section explains the implications of density and weak and strong ties for actors in the network. It describes how, over time, seeds of discontent were sown in relation to reimbursement rates, budgets and the negotiation process.

Theme 1: Implications of a Dense/Expanding Network

Spread of Institutional Norms

Traditionally, the role of the insurer was an administrative one. A patient's claim may consist of a hospital bill as well as separate bills from a number of hospital consultants. The insurer's focus was on verifying what was done, whether the treatment provided was covered by the contract between the patient and the insurer,

Table 2: Grid Matrix: Analysis of Interviews against Network Constructs

Key Network Constructs	Level of Support
Theme 1: Implications of a dense/expanding network	
Spread of institutional norms, guidelines or rules	
Hospital length-of-stay guidelines, procedural pricing	Yes
Inertia and barriers to innovation	
Inappropriate reimbursement models	Some
Delays in funding new insurance benefits	Some
Difficulty in funding medical innovation	Some
Theme 2: Implications of weak ties	
Opportunities for insurers to develop new products by establishing linkages with new providers	Yes
Pressure for productivity improvements in hospital sector coming from insurers	Yes
Theme 3: Implications of strong ties	
Opportunities for knowledge transfer on medical innovation	Some

Key: Yes: clear evidence of support
Some: some evidence of support

and matching costs to the entitlement. In the late 1990s, insurers became more involved in clinical management and this was driven mainly by cost and pragmatic rationales. Utilisation of health services is crudely measured by nights spent in the hospital. In response to rising costs, insurers introduced hospital 'length-of-stay' guidelines by drawing on claims data and international experience. This was designed to 'reward the most efficient hospital and penalise the inefficient hospitals' (Insurer B). A positive comment was:

> For the most part, it has brought clarity and certainty for insurance companies and it allows hospitals to receive a marginal benefit for being efficient and reducing length of stay… (Hospital D).

A significant number of patients are admitted to hospital for 'tests'. In these instances, a patient's illness may be diagnosed through the process of elimination. Insurers also introduced the concept of 'fixed price packages', a standardised pricing model. Fixed price packages are all-inclusive packages, where all the costs incurred in treating a patient or dealing with a particular medical case is assessed, such as need for an X-ray, blood test, theatre fee, disposables, post-operative dressings and prostheses. Prior to this, hospitals presented a bill to the insurer for each separate item. A schedule of fees was developed. This became one of the hardest fought provisions in the contract as hospital managers feared that claims would be settled in too rigid a manner. The new reimbursement models signalled a move away from passive funding to the more active involvement of the insurer in healthcare.

Inertia and Barriers to Innovation, Seeds of Discontent over Inappropriate Reimbursement Models

Dissatisfaction was expressed at some aspects of reimbursement. According to one respondent, procedural pricing is designed for elective procedures and not for acute admissions. Frequently, older patients may suffer from a number of illnesses, and it can be very difficult to estimate their length of stay or the range of tests or other interventions that may be required to restore them to good health. One comment was:

> In principle, there is nothing wrong with procedural pricing… but it only makes sense if the price is right, and procedural pricing does not always reflect inputs, it reflects the costs directly associated with a procedure… in our case, it is not properly costed… it is based on a flawed reimbursement model (Hospital D).

It is predicted that hospitals will, inevitably, have to invest more in information systems (IT) since insurers will pay for 'evidence-based medicine'. According to Guyatt et al. (2004), evidence-based medicine refers to the use of current best evidence, from systematic research or clinical trials, in making decisions about the care of individual patients. It is designed to help doctors maximise the quality of care and life expectancy for patients, it invalidates previously accepted diagnostic tests or treatments and replaces them with new

ones, and in some cases it raises rather than lowers the cost of care. It is also predicted that compliance with international standards and quality certification will become a requirement for insurance cover in the future.

At present, the reimbursement models are not directly linked to the quality improvement choices made by hospitals. They do not appear to capture certain aspects of good or poor service provision, as measured by infection rates, returns to theatre, rates of clinical errors, waiting times for surgery and patient satisfaction rates. According to one respondent, insurers could play a more active role in healthcare, but fear a backlash from consultants who jealously guard their clinical independence:

> The insurer could be more robust in terms of challenging reasons for surgery but they do not want to take on the medical establishment (Hospital C).

Consultants' contracts are standardised and difficult to alter in the face of strong medical power. One insurer remarked that they would welcome 'pay-for-performance' initiatives, which are designed to link fees to outcomes and encourage consultants to comply with currently accepted medical standards:

> We don't like this way of operating, it doesn't add value to the customer. They [the consultants] are charged the same rate regardless of quality – there is no reward for outcome, it is not evidence-based (Health Insurer B).

One respondent lamented that they are not viewed as 'customers' who are purchasing a healthcare service on behalf of their members (Health Insurer B).

According to the Irish Hospital Consultant's Association, the new reimbursement model will not work in practice. Firstly, there are a limited number of consultants and it is not uncommon to have only one specialist in a region. Secondly, clinical work is carried out by a team of consultants, and the complex and customised nature of healthcare makes it difficult to evaluate performance and negotiate fees in a definitive manner. Finally, patients are not in a position, or

are at a serious disadvantage, in the matter of 'shopping around' for a particular specialist charging a particular fee.

Seeds of Discontent: Difficulties in Funding Medical Innovations and Delays in Funding New Insurance Benefits

In healthcare, opportunities for better treatment arise through technological advances and through medical research. Innovation is driven by the provider. For instance Blackrock Clinic was the first hospital to use the cardiac CT scanner in Ireland, and the Galway Clinic was the first hospital to offer a private A&E service. Providers are financially dependent on the insurers, particularly the market leader, and need their prior approval for investment in new drugs, new technology, new services and the upgrade of capital equipment. Providers expressed dissatisfaction over levels of funding for medical innovation. The rate of medical inflation far exceeds the consumer price index and it is difficult for providers to gain substantial price increases. Funds for medical innovations are not easily won. One interviewee spoke about the conundrum of controlling healthcare costs and increasing clinical quality:

> Insurers have to stay in business, they have to control costs, it is a necessity, if they elevate quality of care, they go broke… they have to strike a balance; they don't have a bottomless pit of resources (Hospital B).

With regard to the insurer's attitude towards innovation, there was a positive comment:

> My impression of [X] is that they are innovators, amenable to looking at new procedures that we would like to introduce, there is an open door there, as an organisation, they come across as being very open-minded, forward thinking (Hospital A).

There was also a negative comment:

> I find it very difficult to deal with them. They are not open to new treatments, to new ideas. I suppose that is a cultural thing (Hospital A).

One respondent expressed dissatisfaction at the insurer's strategy, remarking that they were slow to provide cover for primary care and for new diagnostic technology for screening and prevention (Hospital C).

At times, insurers and providers help each other by exchanging information and discussing the merits of funding new treatments. In general, negotiations over medical innovation run into difficulties. Medical innovation is a complex, multi-faceted issue; new treatments need to proven by randomised trial, and there is some concern over ineffective health technology and overuse.

Theme 2: Implications of Weak-Tie Connections for Product Innovation and Productivity Improvements

After the health insurance sector was opened up to competition, the market shifted from a monopoly to an oligopoly, which, as one would normally expect, led to the intensification of competition among insurers. The trend is for rival insurers to differentiate their product in a more affluent market and, in some cases, to target the younger consumer. Plans have been designed for individuals who do not envisage a need for cover in high-tech hospitals where cardiac procedures are performed, but who want cover for primary care and ancillary services. This development was viewed positively by respondents in the sense that insurers were meeting a real consumer need by tailoring products for consumers; it was also viewed negatively in the sense that the original purpose of insurance is to protect against major illness and there was a perception that consumers were at risk of being under-insured.

Simultaneously, some insurers are seeking to hold down prices by channelling consumers towards economical providers. Insurers began to negotiate selective contracting agreements in relation to diagnostic tests, such as MRI scans.[2] Contracts go out to tender either annually or every three years, and centres are nominated using the following criteria: cost, demographics and quality of service. The market for diagnostic tests is characterised by over-supply and can be classified as a commodity health service, with the result that the insurer is liable to switch providers on the basis of price.

Historically, providers have had a contentious relationship with the insurer on account of their financial dependency. The market

leader possesses strong bargaining power. Comments include, 'the cards are stacked in favour of the insurer… the insurer is the dominant party and can dictate terms' (Health Insurer C) and 'the insurer is the paymaster of the hospital' (Health Insurer B). According to the market leader, cost is an 'unpopular message' with providers but they have helped drive efficiency gains:

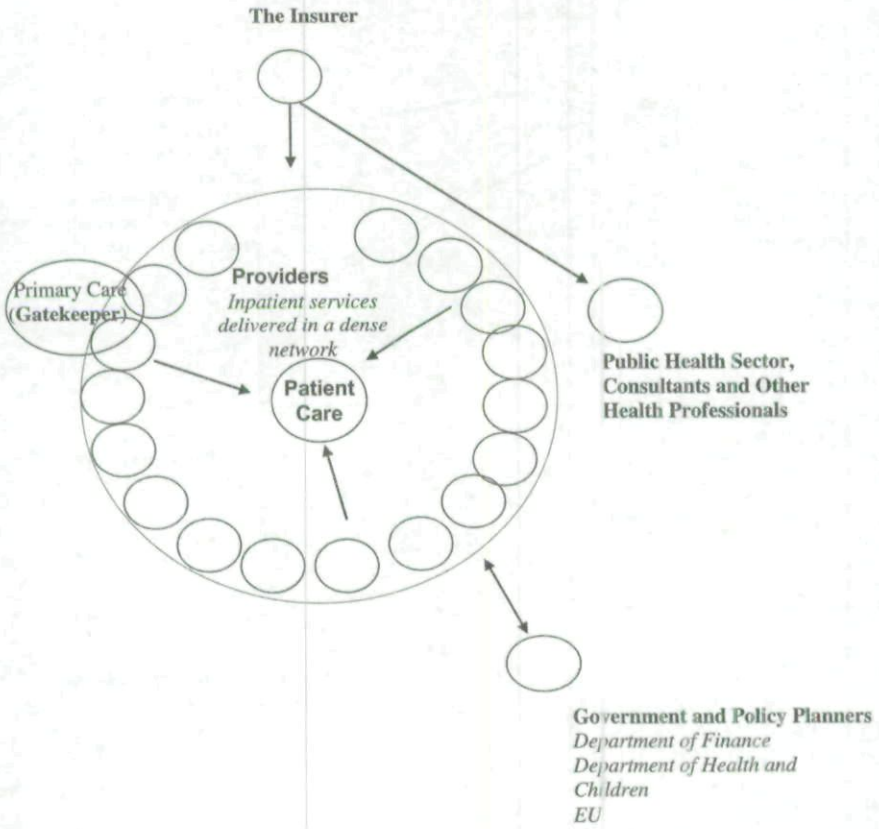
> Running a hospital is a business, it is cost-driven, it should be commercially driven, and if the hospital is not making a profit, if it is not making a return, then first port of call should not be the insurer – where the solution rests only with getting a higher price from insurers. The question should be – how do we maximize productivity? Are we cost effective? And that is reflected in our negotiations; we encourage greater efficiency (Health Insurer A).

There were expressions of frustration over the contracting process. It was difficult to reach agreement over reimbursement rates. Conflict arose when one party was asked to sign a contract that did not cover their costs: 'we can't accept the price offered without damaging the future viability of the hospital' (Hospital C). While both parties acknowledged each other's skills and expertise, it was clear that money defined the relationship. One respondent remarked:

> We have a courteous, long-standing, respectful relationship with the insurer, but we have separate agendas so bust-ups are common, you leave the table, you come back, we say take it or leave it… on occasions you walk out of the room… there is a lot at stake, six months of the year are taken up with negotiations (Hospital C).

Figure 2 identifies the key actors in the network. The insurer is part of a health network consisting of general practitioners (GPs), consultants and other healthcare workers; private and public hospital amenities; and government and policy planners. Figure 3 shows that a more complex structure is emerging with the arrival of new actors (highlighted with shading).

Figure 2: Network Structure and Weak-Tie Connections with Providers, Prior to 1997



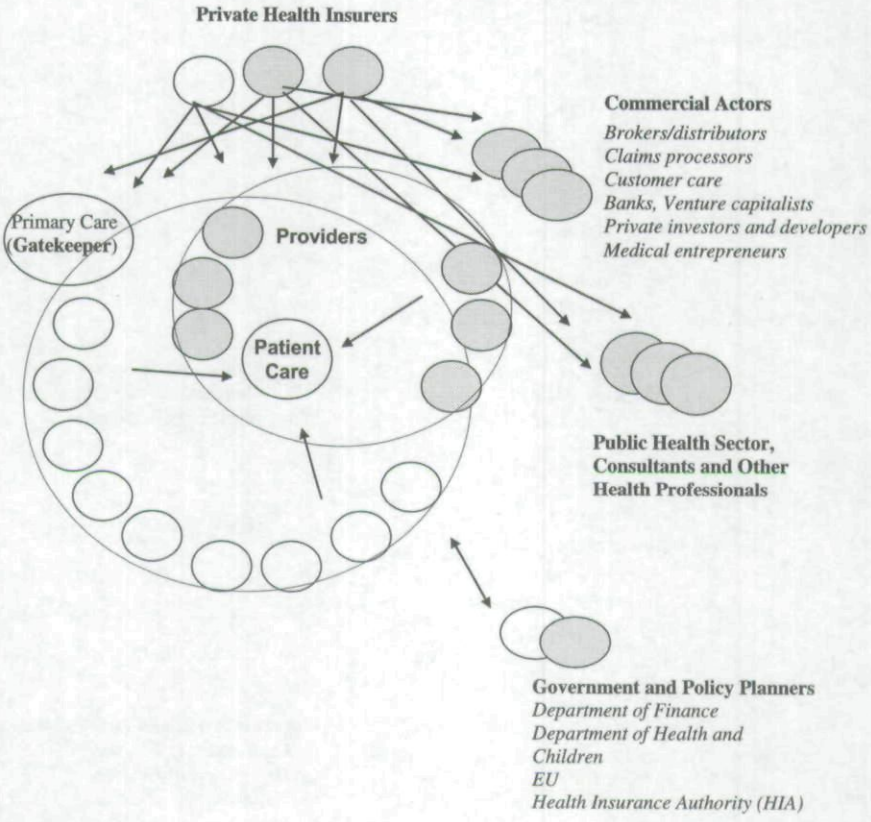
Note: General practitioners are 'gatekeepers' in the matter of consultant referrals; and the referrals are based on the reputation and skill of the consultant.

Theme 3: Implications of Strong Ties for Knowledge Transfer

Strong ties (i.e. as measured by duration and frequency of interaction, trust, intimacy and reciprocity) do not seem to be a defining feature of the insurer–provider relationship. All respondents described the relationship purely as a business relationship, and social ties or social bonds are not seen as important.

Strong ties promote knowledge transfer; for instance, complex, tacit knowledge on medical innovation and clinical best practice. Insurers have a Medical Advisory Council, which comprises leading medical

Figure 3: Core and Peripheral Networks and Key Actors after Market Liberalisation



physicians and consultants to advise them of new developments in healthcare. While there is evidence of dialogue between insurers and providers in relation to clinical management, discussions generally revolve around cost. Coverage may have to be removed from certain techniques due to skills obsolescence. Certain procedures that were complex and time-consuming twenty years ago have now become simpler and quicker to perform (e.g. a cataract operation), so insurers seek to renegotiate or 'realign the consultant's fee'.

Clearly, medical innovation has the potential to benefit providers, patients and insurers. For instance, microsurgery has benefits over open surgery in terms of reduced mortality, length of stay, duration of recuperation and return to work. New drug treatments

have benefits over overly invasive surgery. Certain surgical procedures that once required hospitalisation are now performed on a day-care basis, and this has lowered cost. Over the period 1996 to 2005 there has been a 166 per cent increase in day care and a 5 per cent reduction in average length of in-patient stay (Sheridan, 2006).

DISCUSSION: NETWORK OUTCOMES AND IMPLICATIONS FOR HEALTHCARE AND CORPORATE STRATEGY

This study focused on the evolution and transformation of the market for PHI in Ireland. Crucially, the structure of the network changed when new insurers, new private hospitals, new healthcare professionals, medical entrepreneurs and venture capitalists entered the healthcare market. The study shows that a dual network structure is emerging: a core network of dense and weak ties exists alongside the peripheral network with more diverse participants. The alteration of the structure of the network has led insurers to develop opportunities for innovation at the margins of healthcare. The study shows that pressure for productivity improvements in hospitals has come from the insurers, such as in the area of diagnostic tests. The reimbursement models introduced in the late 1990s were also designed to induce a new cost consciousness on the part of hospital management and, in response, managers had the option of engaging with clinicians in order to influence their behaviour. The literature shows that a network characterised by weak ties is associated with exploratory search and innovation (Gilsing and Nooteboom, 2005; Pavlovich, 2003). The study also supports Nooteboom's (1999) work on how weak ties help bridge 'cognitive distance' as well as Granovetter's (1973) work on the benefit of 'weak ties' in promoting access to a greater variety of information.

The study found that the network was, and still is, characterised by a high degree of centrality. This is manifested in the financial dependency of providers on the insurer and the ability of the market leader, a focal actor, to influence the strategy of providers. The market leader's success is based on its ability to control healthcare costs and provide its subscribers with what they demand. A dense network helped spread institutional norms of behaviour, notably hospital length-of-stay guidelines, and it also facilitated the transfer

of information on procedural pricing. The literature offers criticisms of dense structures in that they tend to reinforce inertia and can be hostile to innovation (Sabatier and Jenkins-Smith, 1993). Cost efficiency was a key outcome, with the result that coverage for new insurance benefits was slow to emerge, funds for medical innovation were not easily won and information on new reimbursement models and clinical quality was not widely diffused throughout the network.

This study found that the insurer–provider relationship is akin to a pure market relationship. The relationship is defined by conflict and the coercive use of power, which is detrimental to the formation of trust. While there is some evidence of dialogue, the contractual process tends to produce attitudes and behaviours that are at odds with the notion of cooperation and partnership. The work by Zaghloul and Hartman (2003) on construction contracts shows how mistrust is detrimental to the achievement of both parties' goals. Likewise, Berry et al. (2006), in a study of the US health regime, argue that physicians, employers and insurers need to restructure their working relationships, which tend to be adversarial and distant.

The literature shows that there needs to be an optimal portfolio of both strong and weak ties, in that together they enable information exchange, knowledge-building and innovation. This paper acknowledges the work of Tsai (2002) and Tsai and Ghoshal (1998) on social capital (see also Putnam, 1994). They show how knowledge-sharing in intra-organisational networks is facilitated by social interaction and by shared values. They draw on the concept of 'co-opetiton' (Brandenburger and Nalebuff, 1997) to emphasise simultaneously cooperative and competitive behaviour amongst organisations. This research is interesting as it suggests that inter-organisational networks in healthcare and insurance could benefit from more social interaction and stronger ties (i.e. greater time and emotional investment). This paper brings to mind the recent study by Porter and Teisberg (2004, 2006) of the US health system, in which they not only argued for competition between providers in terms of treating disease but also cooperation and dialogue between insurers, hospital managers and clinicians as a means of improving medical outcomes (i.e. reduction in hospitalisation rates, waste and

inefficiency, and rates of clinical errors). The literature shows that networks are not based on harmonious, utopian relationships alone, but comprise trust, power asymmetries and insecurity (Alter and Hage, 1993; Axelsson and Easton, 1992). Despite the cultural differences between insurers, consultants and hospital managers, they share common goals – the provision of first-class service and quality healthcare at affordable cost – and all parties have something to offer and something to gain.

LIMITATIONS AND FUTURE RESEARCH

This paper adds to our understanding of the evolution and transformation of networks and makes a contribution to the literature on healthcare management. Amongst the drawbacks of this study are the limited number of interviews conducted and the subjective nature of the data; this raises questions about validity and the findings do not generalise to other samples. In the main, the participants had a business background, with the result that the view of the clinician was underrepresented. A quantitative study, which gathers international data on premium levels, funding rates of medical innovation, providers' costs and medical outcomes, is essential. The implication of quality initiatives on the way healthcare is purchased and provided has been the subject of recent academic research (Porter and Teisberg, 2004, 2006; Bowie and Adams, 2004). Future studies need to focus on the benefits and drawbacks of various reimbursement models and whether current models sufficiently reward, and discriminate between, providers who deliver high quality care and cost savings. Simultaneously, there is a need to explore the nature of the relationship between hospital managers and clinicians in the context of its impact on efficiency.

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[1] The key features of the Irish PHI system: community-rated premiums refer to the absence of discrimination in premium calculations on the basis of age, gender, health status, claims history or other factors. Open enrolment: insurers are compelled to accept all applicants for PHI; the insured is able to leave one insurer and join another; however, certain waiting restrictions apply. Minimum benefit: insurers cannot provide health insurance below a minimum level. Lifetime cover refers to guaranteed renewal, as individuals get older

their health may deteriorate, but insurers cannot deny individuals the right to renew cover from one year to the next.

[2] MRI scanning (magnetic resonance imaging) has become an increasingly important tool in early and accurate detection and diagnosis of brain, spine, disc and bone diseases, diseases affecting bone marrow and muscles, and sport injuries.

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