

A comparison of the impact of hospital reform on medical subcultures in some Australian and New Zealand hospitals

PIETER DEGELING, DAVID SAGE, JOHN KENNEDY,
ROD PERKINS AND KAI ZHANG

Pieter Degeling is Associate Professor in the School of Health Services Management, Sydney. David Sage is Clinical Director of Anaesthesia and Operating Rooms, Auckland Hospital, New Zealand. John Kennedy is a lecturer at the University of Newcastle-upon-Tyne, England. Rod Perkins is a Senior Lecturer in the Department of Community Health at the University of Auckland, New Zealand.

Kai Zhang is a researcher in the Centre for Hospital Management and Information Systems Research, Sydney.

Abstract

This article examines similarities and differences in the way that hospital staff in Australia and New Zealand are evaluating efforts to improve quality, clinical effectiveness and service integration, and to strengthen clinical accountability. We draw on data from a cross-national study of hospital staff in Australia and New Zealand. The results highlight the way in which respondents' views about reform are influenced by the interplay of two factors: the impact of respondents' occupational backgrounds (our findings point to differences in the profession-based subcultures of medicine, nursing and general management and the way that these are reflected in respondents' assessments of particular aspects of reform); and the way that the impact of professional subcultures may be mitigated by differences between the systems in which respondents were located, including differences between the programs of reform that have been pursued in each country. The implications of these findings are discussed.

Background

In both New Zealand and Australia, the 1990s were a period of significant experimentation in the funding, organisation and management of hospitals. During the 1970s and 1980s the health care systems in both countries had undergone significant

review, but to little effect (Hospitals and Health Services Commission 1974; Ministry of Health 1975; Jamison 1981; Pennington 1984a, 1984b; Scott, Fougere & Marwick 1986; Hospital and Related Services Taskforce 1988). The sources of dissatisfaction, particularly in policy circles in each country, were broadly similar and echoed concerns in other industrial economies. Of primary concern was the efficiency and effectiveness of hospital-based services, particularly when viewed in terms of their growing impost on an already strained public purse and the economy as a whole. Other reasons given for reform included:

- the need to address identified inequities within health care systems
- growing concerns about unexplained variation in clinical practice
- doubts about the efficacy of many of the diagnostic and treatment regimens ordered by doctors
- perceived shortcomings in the medical profession's capacity to ensure the accountability of its members, and
- increasing concerns about clinicians' responsiveness to consumer needs and demands.

These worries, when combined with the emergence of a more educated, assertive, critical and organised health consumer population, signalled an erosion of the cultural underpinnings of medical authority as well as the standing which conventionally was attributed to hospitals as the core of the acute care system.

By the late 1980s, policy players in New Zealand and Australia had come to the view that the way to address these issues (as with their equivalents in other areas of public policy) was to be found among structures and methods developed for market-driven private sector management. In the period which followed, while a commitment to largely publicly-funded health care provision was preserved in both countries, their service delivery systems were increasingly subjected to the rigours of what has come to be termed corporate rationalism. These policy initiatives included:

- efforts to extend the application of management concepts and technologies into what up until then had been strictly clinical domains
- the introduction of output-based funding mechanisms, and
- in the case of New Zealand, experimentation with methods for introducing value-for-money considerations into acute care funding.

Moves to extend management into clinical preserves was justified by reference to the way that existing structures and management practices were inadequate to satisfy demands arising from an ageing population and medicine's increasing capacity to intervene in the body (Pollit et al. 1988). Prior to the 1990s, what had been termed 'hospital administration' was procedural and negotiative in character and directed at accommodating and/or balancing the often conflicting demands of different professional groups. In contrast, newly appointed hospital managers were expected to be more tightly focused, proactive and directive. They were also expected to have a specific concern for

improving performance on output targets, strengthening the accountability of clinicians and controlling their hospital's financial performance. In pursuit of these ends, health authorities in New Zealand and Australia acted on a number of fronts. For example, in keeping with the 'logic of productivity' depicted above, broadly-cast service goals were supplanted by explicit measurable output targets. In addition, implicit negotiated accountability arrangements (characteristic of professions) were complemented by explicit accountability to management. The reform program's underlying orientations on these and related matters was exemplified in:

- the establishment of detailed performance appraisal systems
- the growing trend toward limited-term contract appointment of designated staff
- the establishment of performance-related salary systems
- the enforcement of cash limits
- tighter spending controls
- cost improvement programs, and
- drives to reduce patient waiting lists.

The perceived need to strengthen management also justified efforts to displace profession-specific authority structures with structures called clinical directorates. The day-to-day operation of these units was placed under the control of part-time medical managers who, in attending to the organisational and financial dimensions of their clinical unit's performance, were expected to meet budget and clinical output targets. The new arrangements were promoted to remove:

- dysfunctions attributed to the independent standing accorded to 'profession' within conventional hospital organisation, and
- the resulting (deeply sedimented) separations between medicine, nursing, allied health and administration that this produced.

Reformers argued these factors, in combination, had produced multiple bases of power within traditional hospital organisation. It was further claimed that the attendant absence of leverage points for asserting managerial authority undermined management's capacity to provide strategic direction and/or to observe and control the web of activities involved in hospital-based service provision.

Similar concerns informed efforts to improve hospital information systems. The proponents of reform argued that the information systems of most hospitals were structured to provide data only on the operations of units that provided inputs to the provision of care (for example nursing, hotel services, pharmacy or pathology). The resulting absence of information about the composite of services used in the treatment of patients classified by diagnosis at discharge (that is, output-oriented information) meant that the resource implications of medical decision-making (the primary driver of activity within the hospital) were neither mapped nor reviewed. Under these circumstances there was little basis for either establishing the cost of different treatment regimens or for evaluating the clinical outcomes that they produced.

Accordingly, in both Australia and New Zealand, attention was given to harnessing the dramatically expanded data processing capacity of information technology to establish information systems which could map the range of clinical and organisational resources used in diagnostic and therapeutic activity.

The absence of patient-based clinical, management and financial information was also seen as contributing to shortcomings in hospital budgeting and financial management. The paucity of good information on clinical activity and costs, for example, meant that, other than history, health authorities and/or hospital managers lacked the means necessary for calculating the budgets of hospitals or of individual clinical units within them. Moreover, once budgets were allocated, the system did not provide the information required to evaluate the performance of individual units or to permit comparison with similar units in other hospitals.

The response by health authorities in Australia and New Zealand to hospital funding and budgeting has varied. In Australia efforts were directed at developing casemix payment and budgeting systems. These systems were claimed to enable health authorities to fund hospitals in ways which take account of both the volume of patients treated and the resource requirements associated with treatment of different patient types (defined in clinical terms). Underlying these reforms was the assumption that, with the introduction of a more output-based funding system, managers and clinicians would have common cause to address the range of organisational and clinical practice issues which affected their hospital's efficiency.

For their part, health authorities in New Zealand pursued similar goals, but by a different route. In early 1991, long-established bureaucratic allocation procedures were replaced with what was termed an 'internal market'. Under these arrangements, purchasers, in the form of four Regional Health Authorities, were responsible for negotiating prices and volumes of services for their respective populations. With respect to service provision, public hospitals, previously governed by locally-elected boards and funded largely by central government, were reconstituted as Crown Health Enterprises; 23 in all. These newly constituted entities were to be run on business lines and were to compete not only with each other, but also with private and voluntary organisations, for contracts with Regional Health Authorities.

Other arrangements and practices introduced at the same time placed limits on the prospect of market-driven commercialisation in health care delivery. What emerged was more in the way of a 'managed market'. For example, to mitigate against the possibility that market forces and the adoption of business principles would cause either Regional Health Authorities or Crown Health Enterprises to act against community interests, each was required to consult with their communities and take heed of their social responsibilities. In addition, the enabling legislation for both entities contained provisions which empowered the responsible minister to direct Regional Health Authorities and require Crown Health Enterprises to deliver nominated services and report their performance on both financial and social grounds to an auditing authority which reported to parliament.

The supply side of the equation was further regulated through price controls and through the minister's capacity to limit the extent to which individual Crown Health Enterprises could develop high-tech niches in the market. In somewhat the same vein, with the establishment of a Core Services Committee in 1992 and recent experimentation (since 1996) with what have come to be termed Bookings Lists, policy players have signalled their willingness to begin rationing services on the grounds of appropriateness, clinical effectiveness, and value-for-money considerations.

In summary, following Cumming and Salmond (1998), reform in New Zealand has been oriented:

- to strengthen the government's capacity to perform its agency function (as the primary third-party funder of health care delivery), particularly regarding its capacity to be an informed and prudent purchaser of services with respect to their cost, quality and effectiveness, and
- to create market mechanisms, and hence pressures, which would require managers of individual hospitals to set in place structures and process which would:
 - increase the responsiveness of service providers to the demands of purchasers and users with respect to diversity, access, quality and direct accountability
 - increase resource awareness among clinicians in order to improve cost containment
 - generate efficiency improvement without baleful equity effects
 - generate greater acceptance of the need for rationing
 - provide stimulus for greater flexibility in service organisation in the interest of increased quality and effectiveness
 - require clinicians to provide the explicit information required by contracting systems and hence introduce more transparency in clinical and resource accountability.

In February 1997, with the advent of the National/New Zealand First Coalition Government, some of the features of the market model were removed. In summary, competition was replaced by collaboration. What had been termed purchasing was renamed funding and the requirement that Crown Health Enterprises make a profit was dropped. These changes notwithstanding, the contractual relations between funders and providers remained intact and, this being the case, many of the features of the 1993 reforms continued to have a structuring effect.

Evaluating the impact of reform on hospital cultures

The analysis which follows proceeds from the view that the impact of reform in Australia and New Zealand will be registered, in part, in the increased willingness of medical and nursing clinicians to:

- recognise interconnections between the clinical and financial dimensions of care
- adopt a perspective which balances their professional autonomy with their accountability for the clinical and resource dimensions of their work
- accept the need for more transparent approaches to establishing their accountability
- participate in processes which are oriented to bring clinical work within the ambit of work process control
- accept the multidisciplinary, and hence team-based, nature of clinical service provision, and accept the need to establish structures and practices which are capable of supporting this.

Some indications of the extent to which these changes have been realised in each country are found in results from a recent (1999) cross-national attitudinal survey of 709 staff drawn from three Australian hospitals and two New Zealand hospitals. As illustrated in Table 1, respondents within each hospital were randomly selected to ensure representation from medical clinicians, medical managers, lay managers, nurse managers and nurse clinicians.

Table 1: Completed questionnaires by occupational class and hospital

Hospital	Medical clinician	Medical manager	Lay manager	Nurse manager	Nurse clinician	Total
1*	70	15	24	16	19	144
2*	55	20	12	27	20	134
3*	25	15	30	29	30	129
4#	56	16	30	23	20	145
5#	59	24	29	22	23	157
Total	265	90	125	117	112	709

* Australian hospital

New Zealand hospital

The survey instrument replicated one used in an earlier study (1996) of staff in two Australian and four English hospitals (Degeling et al. 1998). The following is a summary of the methodology (more detail can be found in Degeling et al. 1998). The instrument comprised a self-completion questionnaire. This elicited demographic information on, for example, respondents' occupation, qualifications, sex, age, and clinical and managerial experience. At a substantive level, the questionnaire comprised sets of related items structured to elicit respondents' views on:

- key health care issues
- strategies for dealing with hospital resource issues

- interconnections between the clinical and resource dimensions of care
- the causes of clinical practice variation
- who should be involved in setting clinical standards
- the forms of knowledge on which clinical standards should be based
- how clinical units should be managed
- the accountability and autonomy of clinicians, and
- the organisation of their hospital.

Responses to the items in each set were highly correlated. Accordingly, principal component analysis was used to obtain a number of independent factors. Respondents' scores on each of these factors were taken to reflect patterns of values, meaning and beliefs that structured their assessments of the issues under consideration. Factor scores were explored using a number of standard statistical tests. For each of the factors, using two-way analysis of variance, we examined the relationship between occupational class and other variables such as hospital, gender, age and education. The results showed that variation between respondents were most consistently explained by their occupational backgrounds. In light of this finding, discriminant analysis was used to examine the patterns of difference between occupational groups on the mean scores for each of the factors.

The results pointed to systemic differences in the values, attitudes and beliefs of nursing, medical and lay managerial staff on four dimensions, the first two of which together accounted for 91.1% of the variation between the occupational groupings. The results, as illustrated in Figure 1, also indicated that there were broad consistencies between the two countries in the location of each occupational group on both dimensions.

The factors that comprise the dimension represented on the vertical axis are set out in Table 2. The data pointed to differences between medical and nurse clinicians' ascription to structures and methods which would engender 'personalised/opaque conceptions of clinical work organisation and accountability' as compared with lay managers' attachment to more 'socially abstracted, transparent conceptions of clinical work organisation and accountability'.

Across the sample as a whole the 'personalised/opaque conceptions of work organisation and accountability' of medical and nurse clinicians was illustrated by their tendency to:

- support resorting to personalised, and hence organisationally opaque, systems for establishing the accountability of clinicians
- oppose organisationally transparent clinical and financial accountability
- disagree with using stakeholder-inclusive approaches to setting clinical standards
- oppose using a hierarchical/surveillance model of clinical unit management, and
- rank clinical autonomy issues over information issues.

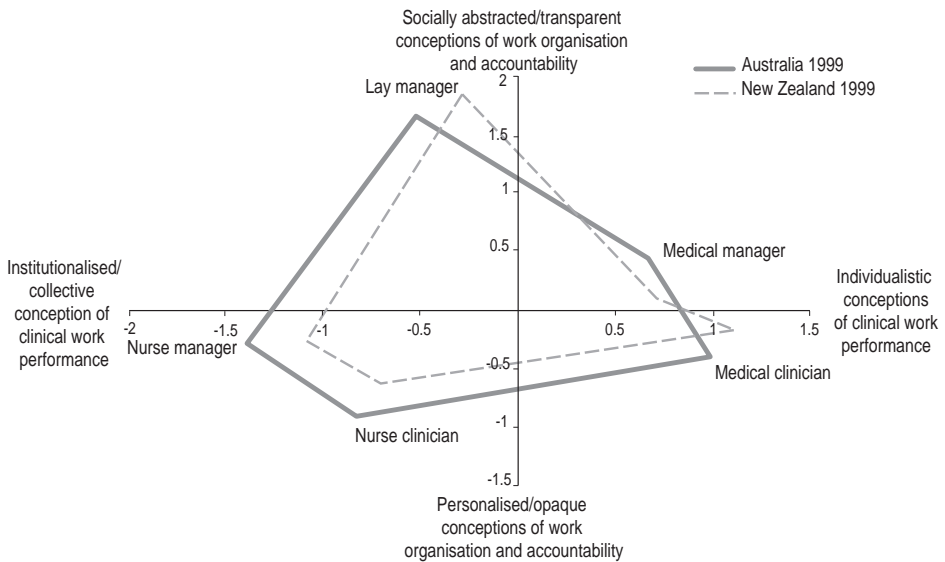


Figure 1: Discriminant analysis of occupations in Australia and New Zealand samples

In contrast, the responses of staff with managerial responsibilities tended in the opposite direction and this was very much the case with lay managers.

The factors which comprise the dimension set out on the horizontal axis in Figure 1 are set out in Table 3. These factors drew attention to differences between medical clinicians' and medical managers' individualistic conceptions of clinical work performance as compared with the collective orientations of nurse clinicians and nurse managers.

Table 2: Personalised versus socially abstracted approaches to clinical work organisation and accountability

Assessment of:	Clinicians	Managers
Personalised/opaque accountability	+	–
The importance of information issues relative to clinical autonomy issues	Autonomy	Information
Using hierarchical and financially driven approaches to clinical unit management	–	+
Organisationally transparent clinical and financial accountability systems	–	+
Stakeholder-inclusive approaches to setting clinical standards	–	+

Table 3: Individualistic versus institutionalised collective concepts of clinical work performance

Assessment of:	Medical	Nursing
Institutional shortcomings as causes of clinical practice variation	–	+
More systematised approaches to clinical work	–	+
The appropriateness of a medical ascendancy model for clinical unit management	+	–
Team-based clinical work systematisation as a model for clinical unit management	–	+
The autonomy effects of protocol-based service provision	–	+
Self-generated knowledge as a basis of setting clinical standards	+	–

The ‘individualistic’ orientations of medical clinicians and medical managers are illustrated by their tendency to:

- deny the importance of institutional shortcomings as causes of clinical practice variation
- reject the introduction of more systematised and integrated approaches to service delivery to address hospital resource issues
- subscribe to a medical ascendancy model of clinical unit management
- reject team-based systematisation as a model for clinical unit management
- assess being expected to follow protocols as restricting their autonomy
- support basing clinical standards on self-generated knowledge.

In contrast, the ‘institutionalised/collective’ orientations of nurse clinicians and nurse managers were illustrated by their opposing stance on each of these matters. For example, in contrast to their medical counterparts, nurse clinicians and nurse managers tended to:

- accept the importance of institutional shortcomings as explanations of clinical practice variation
- regard involvement in team-based management as enhancing their autonomy
- assess expectations that they follow protocols as enhancing their autonomy, and
- reject the view that clinical standards can be based on self-generated knowledge.

Differences between Australia and New Zealand

The data were also examined for differences between the two countries. Importantly, the results did not undermine the already described identity distinctions made between nurses, managers and doctors. However, there were indications of somewhat different managerial and medical cultures in each country.

For example, while Australian and New Zealand lay managers occupied common ground on the importance of socially abstracted/transparent accountability systems (as illustrated in Figure 1), the data also suggest that, compared with their Australian counterparts, New Zealand lay managers were:

- more inclined to stress the importance of information systems development
- more opposed to a medical ascendancy model of clinical unit management
- less opposed to personalised patient-centred accountability
- less inclined to rank accountability over clinical autonomy as an issue requiring attention in health care reform
- more inclined to rank personal autonomy over employment security, and
- less concerned with the need to avoid risk.

In summary the data suggest that New Zealand lay managers subscribe to a more information-based conception of management than their Australian colleagues. This greater interest in information is consistent with having to manage under contract-based conditions. Put simply, markets, even when managed, depend on informed purchasing, and necessitate more information-based approaches to service planning and contracting. Included here are detailed descriptions of service requirements with respect to content, volume, quality and cost. Similarly, to the extent that both the managed market and funding arrangements post-1997 have encouraged the emergence of more contract-based relations between hospitals and their medical staff, they have also provided the stimulus for establishing information systems that have the capacity to monitor medical performance. This outcome perhaps provides a basis for explaining why New Zealand lay managers were more confident about their roles, particularly in their relations with medical staff.

That there was some (if only tentative) basis for this confidence becomes apparent when we consider how New Zealand medical clinicians and managers differed from their Australian counterparts. For example, the data showed that, compared with the Australian sample, medical clinicians and medical managers in New Zealand were significantly more inclined to support patient-centred public accountability and accept interconnections between the clinical and resource dimensions of care.

Taken at face value, the dispositions of New Zealand medical clinicians and medical managers on these issues can be interpreted as registering their response to the introduction of a more contractually-based approach to service planning, funding and delivery. Such an interpretation, however, downplays the importance of differences in

the medico-legal climate of each country. In the case of New Zealand this references no-fault provisions which are inscribed in New Zealand accident compensation legislation. The effects of these provisions are such that the professional indemnity risks faced by New Zealand medical clinicians are substantially less than those of their Australian counterparts. This being the case, it is not surprising that New Zealand doctors are more sanguine about their accountability to patients.

Notwithstanding this qualification, the finding that New Zealand medical clinicians are more inclined, for example, to accept the proposition that all clinical decisions are also resource decisions is significant. It suggests that the New Zealand approach to funding reform has had more effect on the way that medical staff conceive of resource issues than the introduction of casemix funding systems in Australia. As demonstrated above, the New Zealand approach included the establishment of market-like relations between purchaser-provider arrangements as well as a demonstrated willingness by players in health policy circles to consider explicit rationing.

Additional support for this interpretation is provided in findings suggesting that, compared with their Australian counterparts, New Zealand medical managers were significantly more inclined to:

- regard involvement in resource-driven clinical unit management as enhancing their autonomy
- support work systemisation as a strategy for addressing hospital resource issues
- trace clinical practice variation to institutional shortcomings, and
- value resorting to technical expertise in decision-making.

Taken together, these findings suggest that, compared with their Australian equivalents, New Zealand medical managers were more willing to recognise the resource implications of clinical practice; and that they were more willing to recognise and accept the clinical and resource benefits which would derive from bringing clinical work within the ambit of work process control.

The data also suggest, however, that New Zealand medical clinicians had not shifted their attitudes to the same degree as their medical colleagues in management roles. Whereas medical clinicians in the New Zealand sample were markedly more willing to recognise the resource implications of their clinical practices and were less opposed to strengthening their accountability to patients and other stakeholders such as funders, they, along with Australian medical clinicians, indicated that they would continue to resist changes which would strengthen both the team-based nature and systemisation of clinical work. In this regard the data show that New Zealand and Australian medical clinicians continue to occupy common ground in their:

- denial of the importance of institutional shortcomings as causes of clinical practice variation
- rejection of more systematised and integrated approaches to service delivery

- rejection of team-based systemisation as a model for clinical unit management
- assessment of protocols as restricting their autonomy, and
- support for self-generated knowledge as a basis for setting clinical standards.

These findings suggest that, along with their Australian counterparts, New Zealand medical clinicians remain committed to maintaining their claimed right to self-define, self-describe and self-validate their clinical work. Insofar as the market/contract arrangements resulting from the New Zealand reforms have had a disciplining effect, in the case of medical clinicians this has not advanced beyond a recognition of the financial strictures that result from their operation. Moreover, the reality of these structures is registered in the way that both New Zealand medical clinicians and managers were significantly more inclined to report that their hospital ranked efficiency over staff welfare; and in the way they both indicated significantly lower affiliation with their hospital.

Discussion

Our interest in the attitudes of hospital staff arises from the way that current hospital reforms challenge rules, practices, values and beliefs which have underpinned the negotiated order (and associated relations of power) and which, conventionally, have structured relations between medicine, nursing, management and patients in acute care settings. Our findings suggest that, judged by their impact, the reforms fall into two categories. The first references efforts by health authorities to rein-in expenditure in acute care services and improve hospital efficiency. The second covers efforts to introduce management technologies into what, up until now, have been clinical preserves.

Our findings show that reforms on the first of these fronts invite less opposition from medical clinicians than those on the second. Our results also suggest that, insofar as the attitudinal stance of medical staff affect implementation, there are some grounds to suggest that the New Zealand approach may be more effective than that used in Australia. Thus, while it is likely that medical clinicians in both countries continue to subscribe to the view that strengthening interconnections between the clinical and resource dimensions of care runs the risk of commodifying care and eroding its moral basis, they nevertheless find that, structurally, they have little option but to adapt to the financial strictures being imposed on them 'from the outside', as it were. Moreover, the data suggest that this adaptation has occurred to a greater extent in New Zealand.

In contrast, the data show that efforts to change the underlying rules and values which structure relations within clinical settings have not been as effective. For example, the concern to increase the transparency of clinical practice, in ways that will strengthen the accountability of clinicians, is often seen as undermining trust – an essential ingredient in therapeutic processes and hence a defining characteristic of patient–clinician relationships. Similarly, efforts to establish structures and practices which will

increase the systemisation and standardisation of clinical work are regarded as denying both the individuality of patients as well as the necessarily interpretative character of clinical work. Finally, moves to give institutional recognition to the interdisciplinary nature of clinical work call into question what many medical staff regard as medicine's necessary ascendancy over other clinical disciplines and, with that, their claimed right to self-define, self-describe and self-validate their work.

Importantly, on these issues, structure favours medical clinicians such that they are better placed to resist change and, as suggested by the findings presented above, act to maintain value/rule frames which underpin their privileged standing in service settings. The reasons for this advantage become apparent when we examine the social and historical foundations of the rules that pertain to both 'management' and 'medical autonomy' and consider what might be entailed in establishing and maintaining the force of these rules in clinical settings. With respect to management, case study evidence in the sociology of organisation has shown that the source of the rules that underpin the position of managers in commercial and industrial settings is to be found in historically sedimented and institutionalised systems of power and authority. The evidence also shows that the social foundations of these systems of power extend well beyond the confines of individual organisations at a particular point in time (Bendix 1956; Stanworth & Giddens 1974; Clegg & Dunkerley 1980; Giddens 1982; Weber 1982). When seen in this light it becomes clear that management is more than a designated stratum within an organisation chart. Rather, management as institution only exists in specific social settings, insofar as there is a generalised acceptance by all involved (that is, both the managed and managers) of values and beliefs which project rationality and systemisation as natural and necessary components of efficient work organisation (Braverman 1974; Marglin 1982).

However, these values and beliefs do not exist *in vacuo*. Their structuring force relies first on the support they draw from a range of legal, social and economic structures within society; and second, on the way that they are routinely enacted in everyday encounters within particular work settings (Wilmott 1984, 1987). The second of these conditions is realised as actors (both managers and the managed) routinely enact rules, values and meanings which construe management as a necessary, technically rational function, and embody management's claimed right to call others to account (Storey 1983, 1985; Knights 1990; Wilmott 1990).

Some of the issues that are likely to arise in meeting these preconditions within clinical settings become clear when we consider the structural position of medicine within society, and the system of power and authority in which the medical clinicians are enmeshed. In the first instance, despite the prerogatives now attributed to clinician managers, medicine remains an occupation that has legislative and ideological backing for the monopoly power it exercises over its niches in the labour market. The system of power and authority of which doctors are a part is continually re-established as actors

in health policy circles and clinical encounters enact the ensemble of practices, rules, values and meanings (which underwrite medicine's institutionalised mandate) to define:

- what constitutes disease and illness, and
- what is required clinically and organisationally for the proper conduct of both its work and the work of other clinical occupations.

Under these circumstances medical managers are likely to find that, before they can manage, they are faced with the problem of establishing the legitimacy of their newly acquired role among people who claim autonomy as a defining characteristic of their professional work.

At issue here is the limited authority which medical clinicians will accord to clinicians who have taken on managerial responsibilities. To the extent that differentials in authority exist between hospital medical staff, these, in the main, are limited to a doctor's membership of a clinical specialty (which itself is grounded within a specialist medical college and/or society). Importantly, the operations of these collectivities remain outside the managerial writ assigned to medical managers. Membership of a college or society is central to establishing a specialist's rights of practice within their nominated anatomical and procedural preserves. This factor, together with recognition that career progression is closely tied to their specialty's capacity to maintain or expand its territorial claims, means that the mechanisms of social control within clinical specialties are structured to reinforce their exclusivity as well as their internal coherence and integration. Accordingly, the rules that govern relations between medical staff tend to emphasise values such as reciprocity, loyalty, trust and solidarity. These in turn serve to reinforce the clan-like structure of specialty groups and, in so doing, limit the authority of hospital-appointed medical managers.

Finally, while the information systems being introduced in hospitals are meant to be more output-focused, their utility for mapping (and hence managing) the work of clinicians remains very limited. Crucial here is both the absence of clinical pathways and of the structures and processes required to derive these. These shortcomings produce two effects. First, in the absence of pathways, clinician managers are denied both a rationale and a method for stabilising and monitoring care processes for specific conditions. Second, both clinician managers and clinicians in general, are denied the base building blocks needed to determine the data sets that they require to monitor – cost, quality and outcomes. And it is here that the underlying causes of the endemic shortcomings of hospital information systems are to be found.

For our purposes, clinical pathways may be defined as systematically developed written statements of the agreed sequence of diagnostic and therapeutic processes which, in light of available evidence and stated resource constraints, are essential for achieving nominated outcomes for specified clinical conditions. When fully developed, clinical pathways:

- describe the composition and timing of clinical activity

- specify a standard cost, and
- nominate the range of indicators which will be used to assess quality and outcome.

These attributes, in turn, provide the basis for recording and analysing variance within and between clinical units over time, in ways which will improve both their clinical effectiveness and efficiency. In this regard, an emerging literature on pathways shows that their use contributes to:

- improving outcomes and the appropriateness and integration of care
- lowering complication and infection rates
- improving patient participation and satisfaction, and
- achieving better resource utilisation

(Lomas 1989; Ellrodt et al. 1990; Leape 1990; Thomson, Lavender & Madhok 1995; Holt, Wilson & Ward 1996).

Importantly, the data suggest that New Zealand medical managers are much more likely to recognise the benefits that will accrue to themselves, to clinicians generally and to patients, from developing and implementing clinical pathways. As demonstrated in the body of the article, compared with Australian counterparts, New Zealand medical managers are more likely to trace clinical practice variation to institutional shortcomings and support work systemisation as a strategy for addressing hospital resource issues. But the evident opposition of their medical colleagues to structures and practices which would promote greater systemisation in the delivery of care suggests that the issues involved in developing and implementing clinical pathways cannot be addressed by medical managers acting on their own. This finding, when combined with the already noted change potential of funding mechanisms, suggests that these same mechanisms may provide means for creating conditions which will strengthen the hand of medical managers in overcoming the resistance of their clinical colleagues. For this to occur, however, purchasers and funders would have to send some strong signals. Central here will be signals about their determination to move to a more outcomes-based approach to purchasing for specified conditions. Clinical pathways, structured along lines described above, are well suited for describing clinical products in these terms.

References

- Bendix R 1956, *Work and Authority in Industry: Ideologies of Management in the Course of Industrialization*, University of California Press, Berkeley.
- Braverman H 1974, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*, Monthly Review Press, New York.
- Clegg S & Dunkerley D 1980, *Organisation, Class and Control*, Routledge and Kegan Paul, London.

Cumming J & Salmond G 1998, 'Reforming New Zealand health care', in W Ranade (ed), *Markets and Health Care: A Comparative Analysis*, Longman, London and New York.

Degeling PJ, Kennedy J, Hill M, Carnegie M & Holt J 1998, *Professional Sub-Cultures and Hospital Reform*, The University of New South Wales, Sydney.

Ellrodt AG et al. 1990, 'Understanding conflict in the labour process: The logic and autonomy of struggle', in D Knights & H Wilmott (eds), *Labour Process Theory*, Macmillan, London.

Giddens A 1982, 'Power, the dialectic of control and class structuration', in A Giddens & G Mackenzie (eds), *Social Class and the Division of Labour: Essays in Honour of Ilya Neustadt*, Cambridge University Press, Cambridge.

Holt P, Wilson A & Ward J 1996, *Clinical Practice Guidelines and Critical Pathways: A Status Report on National and NSW Development and Implementation Activity*, New South Wales Department of Health, Sydney.

Hospital and Related Services Taskforce 1988, *Unshackling the Hospitals*, Hospital and Related Services Taskforce, Wellington.

Hospitals and Health Services Commission 1974, *A Report on Hospitals in Australia*, Australian Government Publishing Service, Canberra.

Jamison JH (Chairperson) 1981, *Final Report*, Commission of Inquiry into the Efficiency and Administration of Hospitals, Australian Government Publishing Service, Canberra, vol 1–3.

Knights D 1990, 'Subjectivity, power and the labour process', in D Knights & H Wilmott (eds), *Labour Process Theory*, Macmillan, London.

Leape LL 1990, 'Practice guidelines and standards: An overview', *Quality Review Bulletin*, February, pp 42–9.

Lomas J 1989, 'Do practice guidelines guide practice?', *New England Journal of Medicine*, vol 321, pp 1306–11.

Marglin SA 1982, 'What do the bosses do? The origins and functions of hierarchy in capitalist production', in A Giddens & D Held (eds), *Classes, Power and Conflict: Classical and Contemporary Debates*, Macmillan, London.

Ministry of Health 1975, *A Health Service for New Zealand*, Government Printer, Wellington.

Pennington D (Chairperson) 1984a, *Final Report*, Committee of Inquiry into the Rights of Private Practice in Public Hospitals, Australian Government Publishing Service, Canberra.

- Pennington D (Chairperson) 1984b, *Final Report*, Commonwealth Parliamentary Public Accounts Committee, Australian Government Publishing Service, Canberra.
- Pollitt C, Harrison S, Hunter D & Marnoch G 1988, 'The reluctant managers: Clinicians and budgets in the NHS', *Financial Accountability and Management*, vol 4, no 3, pp 213–33.
- Scott C, Fougere G & Marwick J 1986, *Choices for Health Care*, Health Benefits Review, Wellington.
- Stanworth P & Giddens A 1974, *Elites and Power in British Society*, Cambridge University Press, Cambridge.
- Storey J 1983, *Managerial Prerogatives and the Question of Control*, Routledge and Kegan Paul, London.
- Storey J 1985, 'The means of management control', *Sociology*, vol 9, no 2, pp 193–211.
- Thomson R, Lavender M & Madhok R 1995, 'How to ensure that guidelines are effective', *British Medical Journal*, vol 311, pp 237–42.
- Weber M 1982, 'Selections for economy and society, vols 1 & 2; and general economic history,' in A Giddens & D Held (eds), *Classes, Power and Conflict: Classical and Contemporary Debates*, Macmillan, London.
- Wilmott HC 1984, 'Images and ideals of managerial work: A critical examination of conceptual and empirical accounts', *Journal of Management Studies*, vol 21, pp 349–68.
- Wilmott HC 1987, 'Studying managerial work: A critique and a proposal', *Journal of Management Studies*, vol 24, no 3, pp 249–70.
- Wilmott HC 1990, 'Subjectivity and the dialectics of praxis: Opening up the core of labour process analysis', in D Knights & H Wilmott (eds), *Labour Process Theory*, Macmillan, London.