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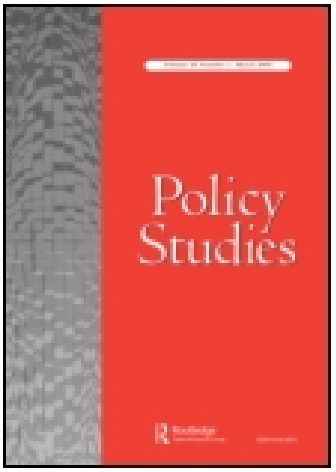

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Policy Contradictions Limiting Hospital Performance in China

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Policy Contradictions Limiting Hospital Performance in China

PEI LIKUN, DAVID LEGGE AND PAULINE STANTON

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ABSTRACT *In this paper we explore some of the ways in which the current health policy environment in China enables and constrains performance improvement in the teaching hospital sector. We commenced this research with concerns about the quality and efficiency of hospital services. We aimed to estimate the degree to which these problems are due to weaknesses in management training and/or to wider system factors.*

We collected data from managers in three teaching hospitals in south-western China. Our results demonstrate some shortfalls in organisational performance in the three hospitals, some of which are partly due to lack of management expertise. However, there are also contradictions and perverse incentives in the wider policy environment that would prevent even the best-trained managers from achieving high levels of quality and efficiency. In this paper we explore some of the key policy constraints limiting the development of hospital performance in China and the implications of these for policy-makers.

Background and Context

The purpose of this paper is to explore the ways in which the current health policy environment in China enables and constrains performance improvement in the teaching hospital sector. We commenced this research with concerns about the quality and efficiency of hospital services in China. We were aware of anecdotal evidence of patient complaints (in particular, about long waiting times and bad service manners) and some evidence of inefficiency in the use of hospital resources, in particular, over-prescribing. Bed occupancy in some regions was actually decreasing in 1993 and length of stay increasing (Yunnan Provincial Bureau of Health, 1994). Problems in the hospital sector in China were starting to attract comment in the published literature around this time (Ma & Fang, 1994; Wang, 1990; Wang & Han, 1994; Wang & Fang, 1995; Zuo *et al.*, 1987).

In certain respects, the problems facing Chinese hospital services are common to health systems world-wide: raising sufficient funds to ensure equitable access and acceptable standards while controlling costs in the face of advancing technology and an ageing population. However, there are features of the Chinese hospital system which are unique to the historical, economic and political circumstances of China.

The economic and social reforms following the Third Plenum of the 11th Central Committee of the Chinese Communist Party in December 1978 aimed to transform the country from a socialist planned economy to a socialist market economy. The reforms have had

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far-reaching effects in the economic sector, setting the scene for sustained increases in economic growth rates.

Reforms have been implemented throughout the public sector also, including health care. Government funding has been reduced and hospitals are under pressure to raise an increasing proportion of revenue through user charges. Hospitals are encouraged to embrace modernisation, including the acquisition of new technologies. Many management responsibilities have been devolved from government bureaux to hospitals and from chief executives to departmental managers.

Economic reform has also had certain unplanned consequences which have affected hospitals, including the dismantling of much of the organisational and funding base for health insurance and for the three-tiered system of hospital planning and patient referral. With the family responsibility system replacing collectivised agriculture and the progressive reform of the state-owned enterprise sector, the infrastructure that had previously underwritten people's access to health care in China collapsed. The dramatic reduction in health insurance coverage, from over 95% prior to the commencement of economic reform to around 21% nationally in 1993 (World Bank, 1997), created serious tensions between the objectives of generating revenue from user charges and ensuring access to care according to need.

Rapid change challenges health service managers anywhere. The challenge is magnified when there are major contradictions between the pressures presented by different policy imperatives. Our focus in this paper is on the teaching hospital sector in China and the constraints and opportunities presented to hospital managers in China by the changing policy regime that frames their work.

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Research Model

In order to assist us in working through the logic of the research, planning the data collection and structuring our subsequent analysis, we created a research model (see Fig. 1). We defined 'organisational performance' as our dependent variable, the 'outcome' of hospital management. We identified 'the policy environment' and 'managers' competencies', as the two main domains within which lie the determinants of organisational performance. We have identified 'management practice' as the mediating domain in which managers' competencies interact with the policy environment to create organisational outcomes. We have focused much of our analysis on the domain of management practice in trying to understand how the policy environment is both enabling and obstructing hospital performance.

Methods

We have undertaken a survey of managers in teaching hospitals in a south-western province in China. Our data collection was designed, firstly, to record their struggles in trying to deliver quality of care efficiently and to develop their organisations and, secondly, to capture their experience and judgement in relation to the influences on and outcomes of their work.

The Setting, the Sample and the Survey Instrument

The study was carried out in three teaching hospitals affiliated with the main medical university in a south-western province of China. Two of the three hospitals are general hospitals with a combined total of 1700 beds. The third hospital specialises in the treatment of tumour patients. One is long established; two are more recently established. One hospital is located in an industrial area and treats a large number of patients who do not have family health

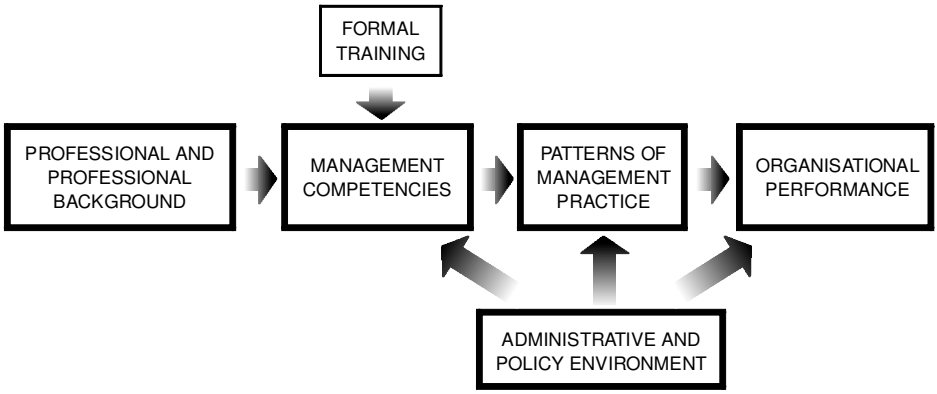

Figure 1. Research model. The boxes with bold edges represent those domains for which data were collected for this research.

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insurance and whose employers, including state-owned enterprises, are unable to pay the full cost of hospital care. This hospital has a heavy burden of bad debts.

A self-administered questionnaire survey (in Chinese) was undertaken, including all managers in each of the three hospitals, a total of 342 managers. Twenty managers were selected from the larger set for in-depth interviews (also in Chinese). Some administrative data including indicators of hospital performance (such as cure rate, recuperation rate, uncured rate, bed occupancy, turnover, and length of stay) and financial data were also obtained from the hospitals.

Of the 342 managers to whom questionnaires were sent, there were 242 returned and analysed, representing 71% of the identified population. Respondents were judged to be representative of administrative positions and levels. Forty-nine per cent of the managers were men. The average age of the respondents was 45 years. Half of respondents had a bachelor degree, and only 8% had postgraduate education. Over 50% and about 25% had medical and nursing backgrounds, respectively. Fifty per cent of respondents identified themselves as being professors and associate professors and over 40% as lecturers. Seventy per cent had been appointed to a formal managerial position for less than 10 years and 2% for over 20 years. Most of the managers in the three study hospitals had been appointed from among the hospitals' medical staff.

Twenty managers were selected for interview. The sample comprised a group of managers who had been selected by the leadership of the university for enrolment in management training and those interviews were designed in part as baseline data-gathering with a view to evaluating those training programmes. Managers were selected for training (and therefore for interview) against criteria which included their record as manager and their enthusiasm and capability as well as securing a spread of representation across the three hospitals and across administrative levels. Of the 20 managers interviewed, 35% were at the presidential level and 50% at the departmental level.

The self-administered questionnaire asked about: the managers themselves and their careers as managers; recent improvements in the way their hospital is run; barriers to implementing change; reforms which might be needed; frustrations in their work. The interview schedule ranged over broadly the same ground. Both the survey and interview questions were designed to elicit comment on each of the domains of the model.

The coding framework, which we have used in analysing the texts produced through the survey and interviews, was developed through an iterative process involving attention to what

the respondents were saying, continuing regard to the broad research model, and attention to the current literature regarding the areas included in the model. We worked through this cycle several times before settling on the coding framework that we eventually used. Further detail regarding our methods and findings can be found in Pei (1998).

Findings

Organisational Performance

We conceptualised hospital performance within two broad categories: current performance (technical efficiency, allocative efficiency and quality) and organisational development (including buildings, equipment, staff, organisation, etc.).

Many informants spoke of improving quality of care and of improved patient satisfaction and commented that patients appreciate reduced waiting times (22% of respondents cited quality of care as one of the areas where improvement had occurred recently). However, over 50% of interviewees also expressed concern about increasing numbers of adverse medical incidents and complaints, poor attitudes toward patients, over-servicing and long waiting times. These may provide some indication of the general quality of care being provided to standard care patients.

There was a common belief among respondents that hospital efficiency has improved in recent years (48% volunteered improved efficiency as one of the main recent improvements). There have been significant improvements in activity levels and throughput (reflected in reduced length of stay and an increased bed turnover rate and increased outpatient attendances). However, the increased activity levels are largely driven by the pressure to increase departmental revenue and, while increasing activity and revenue are widely assumed to reflect increasing efficiency and profitability, the accounting and costing data that might test such assumptions are not widely available. Managers point to the development of more efficient procedures, as in the scheduling of surgical operations and the more efficient use of diagnostic equipment. However, the average length of stay remains relatively high (23–30 days in the three study hospitals in 1997) and there is clearly still some scope for improving procedural efficiency. Several managers mentioned long delays in the scheduling of preoperative investigations as one of the important factors affecting length of stay.

There is a need for further investigation also with respect to allocative efficiency. There are strong pressures on hospitals, departments and clinicians to over-prescribe, especially the more expensive medications (12% cited this as a current problem). While this is rational in terms of revenue generation at the hospital and departmental level, it is an irrational use of resources and perhaps the leading example of allocative inefficiency. There are also grounds for concern about inefficient resource allocation in relation to the acquisition of large items of equipment, the setting up of new specialist units, and staff allocation between different departments.

These examples also raise questions about the productivity of equipment, buildings and staff. We were told by several respondents of equipment that lies unused for large periods of time and of equipment that was purchased under the pressure of competition between hospitals or between departments within hospitals. There are some departments where staff work under great pressure but there are other departments where staff are idle or even rostered off duty owing to lack of work. The pressure of competitiveness has some benefits in terms of promoting technical efficiency but it can have downsides in terms of over-capitalisation and reduced productivity.

Respondents report that there have been significant improvements with respect to organisational development in recent years, including increasing revenues (33%), improved buildings

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(12%) and amenities, and the acquisition of modern equipment (25%). There is also a high level of consciousness regarding the need to provide training opportunities for staff.

While there are important positives with respect to organisational performance in the hospitals studied, in particular, progress with modernisation, there are significant shortfalls with respect to quality of care and efficiency in both the production of care and in the allocation of resources.

Managers' Practice

We conceived 'management practice' in terms of the tasks and challenges that managers are focusing on in their day-to-day activities. This conceptualisation of 'management practice' corresponds to that used by Lawson (1991) and Stern et al. (1994). The common preoccupations of the managers participating in this study are set out in the following sections.

Enhancing revenue at departmental and hospital level. With the reduction in government funding to hospitals and the introduction of the Contract Management Responsibility System (CMRS), under which hospitals are allowed to retain their own revenue, managers face continuing pressure to generate increased revenue for their departments and hospitals. Seventy per cent of managers spoke of the benefits of the CMRS in terms of increases in the volume of services provided and increased revenue.

Using the bonus system to motivate staff. Over 60% of managers reported that they rely heavily on the bonus system to motivate staff. This involves considerable time commitment in setting up rules governing the payment of bonuses (for example penalties for coming on duty late, rewards for seeing more patients), setting up contracts with individual staff, setting and reviewing goals and objectives, and finally allocating bonuses to staff members.

It seems clear that the use of the bonus system has increased activity levels quite dramatically and the use of the bonus as an incentive has improved efficiency in some important respects. However, there are also some perverse incentives arising from the use of bonuses. In particular, the heavy reliance on bonuses to motivate staff is focusing the attention of managers and staff on maximising revenue rather than also considering the efficient and effective use of resources.

Keeping morale high when staff are overworked and underpaid. Thirteen per cent of respondents and 25% of interviewees indicated that, even with bonus payments, salary levels remain low and managers are constantly challenged to maintain staff morale and commitment. China has a long history of using moral encouragement through ideological and political education to heighten employees' work commitment. The Party secretaries of these hospitals are expected to spend much of their time on this task.

The provision of staff welfare benefits, such as low-cost housing, child care and education, imposes a heavy financial burden on hospitals and a heavy workload on managers themselves.

Trying to eliminate the payment of commissions. Eighteen per cent of managers identified the widespread payment of commissions as another consequence of low salaries. The hospitals have rules prohibiting such behaviour but these rules do not seem to be working very well. The biggest problem appears to be in the area of pharmaceuticals, with commissions being paid to individual doctors and to departmental heads (for distribution to doctors and nurses within their departments) to encourage the prescribing of particular drugs.

The failure of moral arguments and of rules and regulations to eradicate such practices needs to be seen in terms of the wider system issues, including low salaries, fixed prices for

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medical services and relatively lax regulation of pharmaceutical pricing with wide scope for mark-ups at various points in the distribution chain.

Managing for quality. The provision of good quality services is a major preoccupation of the respondents in this research. Seventeen per cent of managers spoke of the difficulty of maintaining quality in the face of heavy workloads in departments that are understaffed. Six per cent of managers described the way in which pressure to generate revenue can get in the way of a focus on patient care.

One of the main issues with respect to quality that managers are concerned about is the conduct of staff in dealing with patients. How to improve the service manners of clinical staff and thereby enhance the quality of care generally has become a major issue for managers (17% of respondents and 20% of interviewees). In trying to encourage improved service manners, managers appear to rely mainly on moral exhortation and medical ethics education rather than addressing the underlying causes.

There was a strong focus on clinical decision-making when managers spoke about quality of care. Nurse managers spoke of introducing ward inspections with a view to improving quality of nursing care. They also lamented the fact that they are forced to organise nursing care around a task-centred model rather than use primary care nursing (or patient-centred nursing) for lack of staff.

Few managers are familiar with the models for quality assurance, which have been developed internationally over the last two decades, and most managers do not have any training in basic evaluation methodology. All of the hospitals collect aggregate outcome data (such as 'cure rates') but the arrangements through which these data are collected cast doubt on their validity and reliability.

One of the main strategies being pursued for better quality patient care is modernisation – acquiring modern medical equipment, the development of specialist units and support for staff development. This pursuit of quality through modernisation corresponds to the recognition of modernisation as a policy objective across the economy generally. However, the drive to modernisation in the health care sector is not always balanced by an awareness of efficiency and productivity.

Managing the introduction of new equipment. Managers are very conscious of the challenges of modernisation, including the purchase of new equipment and investment in staff development. Managers recognise the acquisition of high technology equipment as a marketing advantage in terms of competition for paying customers and as an important source of revenue. Two interviewees raised issues of efficiency, effectiveness and appropriate use in discussing the introduction of new technology.

Current hospital financing arrangements include tight controls on government funds and on fees for basic clinical services, but relatively lax controls on the fees that can be charged for services based on modern equipment. Under such circumstances hospitals are under strong incentives to provide more high technology services whilst containing, through queuing, the provision of basic clinical services.

It may be that the real costs of high technology services are greater than is generally assumed owing to a failure to account for the cost of capital, particularly where equipment purchases are funded through donations or government grants.

Managing research. Ten per cent of managers identify encouraging research as an important part of their work. However, they appear to see research entirely in terms of biomedical and clinical research. Many managers recognise problems within the health care system, such as perverse pricing policies and inefficient use of hospital resources. However, none of them

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spoke of encouraging the kind of health services research that might contribute to more appropriate pricing or more efficient use of hospitals.

Working with 'guanxi' (but not being controlled by 'guanxi'). Twenty-seven per cent of respondents and 25% of interviewees spoke about the difficulties of working in an environment of multiple conflicting relationship obligations. Their work involves not just managing their unit, but also managing the incoming pressures and expectations and avoiding damage to important relationships.

Guanxi reflects an important part of managers' work life in China. *Guanxi* (Mandarin for 'personal connections') is very important in getting things done in Chinese society (see Warner, 1993). Managers operate within a web of personal relationships. In dealing with government authorities, with peers or with subordinates, managers have to depend upon personal credits and obligations to achieve their purposes. Stewart and Chong (1991) argue that managers in China need to maintain a network of personal contacts in order for their organisations to obtain the resources they need to be able to function properly.

Although hospitals now have more autonomy in their internal operations and management of finance, the government retains control over personnel, including recruitment and dismissal and salary levels. Managers still depend on working through personal relationships in achieving many of their objectives and in overcoming difficulties.

Coping with unnecessary meetings and trivial chores. Seven per cent of respondents complained that they are required to attend too many unnecessary meetings called by higher authorities. It may be useful to distinguish between meetings which are called with a view to working through a set of issues and making decisions, and meetings which are called for purposes of moral encouragement and motivational speeches. There are strong traditions in China of holding meetings for the latter purposes and it appears that these are the meetings that are most resented by the respondents in this survey.

Ten per cent of managers complained about the time wasted on 'trivial chores'. Departmental managers complained about the time cost of formal routines such as correcting medical records and preparing for accreditation inspections. Senior managers complained more about the number of people contacting them for favours of one sort and another.

Policy and Administrative Environment

Our purpose in studying the 'organisational and policy environment' was to understand how the 'policy environment' shapes hospital outcomes and affects managers' practice, with a view to drawing inferences about the relative importance of policy factors, in contrast to managerial competencies, in determining managers' practice and organisational outcomes. Our research objectives were to collect descriptive data which would provide a broad picture of the policy environment, and to collect opinions and anecdotes supporting inferences about the relative importance of environmental factors in shaping managers' practice and organisational performance.

The policy and administrative environment is complex and could be characterised in many different ways. Our focus has been on how 'environmental factors' impinge on the work of managers. From the managers' perspective, the pressures of the wider policy environment take the shape of perverse incentives and policy contradictions.

Increasing reliance on user charges encourages competition for the more affluent patients. Since the early 1980s, hospitals have been increasingly dependent on revenue raised directly through user charges. The role of government funding has been reduced from full budgetary support

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to partial budgetary supplementation. The government believes that increasing competition among health care providers will improve the quality of services and operational efficiency (Liu *et al.*, 1995). Findings from this research confirm that revenue from user charges has become the main source of hospital income and hospitals have been encouraged to find various ways to generate revenue to support their routine operations, staff welfare and development.

One of the consequences of the increasing role of user-pays financing is the increased pressure of competition between hospitals. With increased hospital autonomy and increasing pressure to raise revenue from user charges, there is a strong financial incentive on hospitals to orient their services and marketing to attract the customers who are able to pay for expensive drugs, for the top specialists and for comfortable wards and who will pay to jump the queues. Several studies have shown that the average length of stay of insured patients was as much as 1.6 times that of the uninsured; expenditure on drugs for the insured was as much as 3.5 times that of the uninsured (Xiang, 1988; Xu, 1990; Zhou, 1989).

The competitive dynamic is exacerbated by the national hospital accreditation requirements, which establish a number of different grades of hospital, depending in part on their level of technical sophistication. Achievement of Accreditation Level 3A has strong marketing advantages in terms of attracting the wealthier custom but may involve significant investment in specialist units and equipment (in some cases duplicating units and equipment already operating elsewhere in the same city).

In perfect markets, competition has a range of benefits including the pursuit of efficiency due to the pressure of informed buyers seeking comparable services at lower prices. In the case of Chinese hospitals where prices are tightly controlled there does not seem to be any pressure to improve efficiency. Competition through marketing may encourage over-capitalisation and reduced productivity.

Acquisition of high technology equipment has been encouraged; perhaps also over-servicing. Although government contributions to recurrent expenditure have declined yearly, considerable funding support is available for the acquisition of high technology equipment (Fang *et al.*, 1997; Liu *et al.*, 1995). In circumstances where capital costs are subsidised and fee levels (for high technology services) only loosely controlled, there is scope for generating significant revenue from high technology services. Under these circumstances there is increasing competition between hospitals to establish special units and departments and a certain amount of equipment is purchased without full consideration of efficiency, effectiveness and appropriate use of resources.

There is a need for a more explicit strategy to deal with the challenges of modernisation in the acquisition of equipment, at the hospital level and regionally. At the hospital level, the acquisition of equipment appears to be driven largely by the dynamics of competition rather than considerations of modernisation, efficient service delivery and access for the poor. These problems exist nationally in China and are well documented in the literature (Chen & Wu, 1997; Fang *et al.*, 1997; Li, 1997; Li *et al.*, 1997; Zheng & Hillier, 1995).

The relative neglect of township and district level hospitals and the collapse of the three-tier referral system encourages consumers to bypass local services and further weaken local hospitals. In contrast to the investment in high technology in the teaching hospitals, it has been widely reported that the budgets for rural hospitals are too low to allow satisfactory development of services (Zheng & Hillier, 1995). In accordance with the user-pays policy, the government has reduced its financial support for the recurrent costs of hospitals and clinics in rural areas, including those operated by collectives and local communities. This has resulted in a decline in the

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number of village health posts and a reduction in bed numbers and staff of middle-level facilities (Croll, 1994; Liu *et al.*, 1995).

It is a limitation of this study that we have not examined rural areas. It appears that the collapse of the three-tier referral system and the relative poverty of people in the rural areas (and the consequent poverty of rural hospitals) may be exacerbating an already existing imbalance in resource allocation. More studies are needed in this area.

User charges constitute a barrier to utilisation by poorer people and create bad debts for hospitals. With the collapse of the rural co-operative insurance system, the great majority of rural people obtain their health services on a fee-for-service basis. The increased role of user charges has become a major barrier to access for poor people. Peng Peiyun (1997), the State Councillor, pointed out at the National Health Congress in 1996 that 73% of patients in the poor areas do not have access to outpatient care, 89% of patients who should be in hospital are unable to afford the fees so they cannot be hospitalised, and 5.5% of families have had to sell their properties in order to pay their medical bills. High user charges have increased the burden on the state, work units and individuals. Some state-owned enterprises are facing financial crises of their own and they are unable to pay their employees' health insurance. Some factories are not able to pay their share of the costs of in-patient care to patients who are notionally covered by their plan. Hospitals servicing such areas are in debt and under great pressure economically.

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Lack of control by local managers over recruitment, promotion and separation affects quality of staff and distribution of staff and is a source of inefficiency and unnecessary staff costs. The continuing central control of recruitment and dismissal of staff stands in sharp contrast to the principles underlying the CMRS of decentralisation of control and increased autonomy at the hospital level. Many promotions are still determined by seniority and *guanxi* rather than merit. Managers do not have the power to terminate permanent staff who are not performing adequately. Managers are under pressure to take on new personnel regardless of their expertise, which means that many of them have to be appointed as administrators. In quota situations, this reduces the scope for employing more clinicians.

The lack of control by managers over personnel is a major source of inefficiency in hospitals and increases the need for fee revenue to pay salaries for more staff than are needed. Meanwhile it becomes even more important to keep staff salaries low because the total number of staff is probably in excess of what would be otherwise needed. This in turn reduces productivity and contributes to the low morale of management and staff (Verma *et al.*, 1995; Warner, 1993).

Low salaries and the heavy use of the bonus system create a strong motivation on all staff to focus on revenue generation. China operates as a low salary and high welfare system (Verma *et al.*, 1995). Basic salary levels are very low. In the province where this study was carried out (in 1997) the monthly pay for a physician with the title of doctor-in-charge was slightly over 400RMB (US$32). The bonus system was instituted as part of the health care reforms in order to reward the good and diligent and punish the lax and unproductive (CPC, 1984). Now, however, nearly every staff member receives a high bonus (in some cases higher than their basic salary), which in practice has become a permanent part of staff remuneration. Employees are very concerned to maintain the revenue that pays their bonus and the hospital and departmental managers depend upon bonus payments to stimulate staffs' work motivation. Low salaries supplemented by high bonus payments create incentives for clinical staff to overservice in revenue-earning areas and to accept commissions. This has had a negative impact on the efficiency of service delivery.

Unbalanced price signals encourage over-prescribing and over-investigation but skimping on basic clinical services. Whilst moving towards a market economy, the government still has a major role in regulating market operations and enforcing such regulations. However, pricing policies with respect to the fees and charges levied by hospitals are perverse. Price bureaux have kept fees for routine medical services low in order to minimise financial barriers to care. The standard fee charged for clinical consultations is only one-third of the cost (Official Investigatory Group, 1990). However, the prices set for pharmaceuticals and fees for high technology services are generally well above the cost of production. This imbalance creates incentives to over-supply high technology services and pharmaceuticals and to contain the provision of basic clinical services.

In 1985, the government announced that the fee levels charged for medical diagnosis using high technique equipment could be set according to their cost (Li *et al.*, 1997). In fact, fee levels for some high technology items like CT scans, MRI and ultrasound may be based on incorrect data provided to regulatory bureaux, including underestimates of the life of equipment and underestimates of the volume of tests, leading to permission to set the fees at unreasonably high levels (Li *et al.*, 1997). Such latitude with respect to prices adds to the incentive for hospitals to use high technology equipment frequently and to acquire new and expensive equipment.

Prior to the 1980s, there was only one channel for pharmaceutical procurement: hospitals procured their pharmaceuticals from public wholesale companies. The price was fixed and the quality of drugs was assured. Under the economic transition, the drug market is booming. The number of pharmaceutical factories and wholesale units has increased, and many individuals and collective units are also engaged in drug wholesaling (Hu, 1996). Hospitals can buy their medicines from wherever they choose. The official retail prices are based on the official mark-up (about 15%) applied to the official factory gate prices. However, the drug manufacturers can produce the drugs considerably more cheaply than the official factory gate prices (see also Chen & Wang, 1997). This leads to bigger margins for profit. Chen and Wang (1997) estimated profit margins at up to 30–100% for most drugs, reaching 200% or more in some cases. The wholesalers can then sell drugs to the hospitals at lower than the official wholesale price whilst at the same time paying commissions to the clinicians to encourage them to prescribe.

With a low base pay for doctors, the commissions earned through the sale of pharmaceuticals is becoming an important source of income for some medical staff. The widespread payment of commissions discredits professional ethics and results in conflict among staff members.

Continuing constraints over managerial autonomy. The State and Party introduced and have supported the CMRS and the President Responsibility System (PRS). These policies reflected a judgement that hospitals in China were too centrally controlled and that there were difficulties deriving from the traditional dual hierarchy comprising the management hierarchy and the Party organisation in the hospital. The CMRS and PRS were deliberately framed to solve these problems. The former was designed to increase the autonomy of hospital managers in relation to government bureaux. The latter was designed to establish new rules governing the relationship between hospital executives and Party officials.

The additional autonomy that hospital managers gained under the CMRS has allowed managers to introduce more efficient ways of producing hospital services. However, there have been significant constraints on managers' ability to exercise this increased authority.

Hospitals still face multiple channels of accountability. Teaching hospitals, such as those in this study, are accountable to the parent university as well as the government administering authority. A number of other government bureaux (dealing with personnel, finance,

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prices, and science and technology) also has significant authority over various aspects of the work of the hospital. Furthermore, there is an expectation that the structure of the hospital will correspond to that of the administrative bodies supervising it, a department or unit for each of the different supervising bureaux.

More often than not, the decisions which hospital leaders face have implications for several of the supervisory bodies, all of which will have different perspectives on those decisions. Continuing centralised control over salaries and recruitment and over medical charges and bed day fees, plus conflicting accountability pathways, constrain the ability of managers to exercise strategic leadership in a consistent or creative way. The lack of managerial authority makes it more difficult for managers to discipline staff and encourage patterns of clinical practice that lead to quality and efficiency. The policy objective of increased management autonomy conflicts with the policy objectives of maintaining employment levels (high staff numbers) and ensuring access to medical care for the poor (low fees for basic medical services). (Although, while the incentive structures in which managers operate are so perverse the government's reluctance to allow hospitals more autonomy makes some sense.)

Under the PRS, the role of the Party is to guarantee and supervise the implementation of Party and State policy and to support executive leadership. In this study managers did not cite any evidence that the implementation of the PRS has produced benefits to hospital management. On the contrary, they reported that there is still conflict between hospital executives and Party officials. Senior managers in the three hospitals indicated that the Party secretary had considerable power, though not comparable accountability. Presidents indicated that they consult with Party secretaries before making any decisions on major management issues in the hospitals.

Child (1994) has argued that the emphasis in the PRS policy on the changed role of the Party amounted to a rationalisation of its function rather reducing its powers. He casts doubt on the notion that sharp boundaries could ever have been drawn between 'day-to-day hospital management' and 'overall monitoring and supervision of hospital performance in the light of central policy intentions'. The Party secretary retains a significant degree of influence within the management decision-making process. The policy role assigned to the Party is not working as well as might be hoped and this makes it difficult to transfer managerial responsibility to hospital executives under the PRS. The continuing tensions between executives and Party officials create a further constraint on the capacity of managers to fulfil their responsibilities.

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Management Competencies

There is a widespread agreement among managers that they need management training. Respondents said that no managers in their hospitals, including those at the executive level and the middle level, had received formal training in health management. No training in management is required of hospital personnel before promotions are given.

When asked about the factors that have contributed to their success as managers, 44% of respondents mentioned their medical background. Managers are aware of the degree to which they draw upon their knowledge of medicine in day-to-day management and in articulating planning needs within their organisation and beyond. Managers regard their skills in medicine as essential to their success in personal leadership and interpersonal influence. Most managers in the three study hospitals are appointed from among the hospitals' medical staff. Even presidential managers and general administrators who have medical backgrounds tend to keep up their clinical work and do not manage full-time. Many managers expect to return to clinical practice after completing a period in management and they are keen for this reason to maintain their clinical skills.

We asked managers to identify the knowledge areas and skills in which they believe they and their colleagues need training. The areas which the managers identify as most important are leadership (81%) and communication skills (75%), financial management skills (62%) and the application of information technology to hospital services (34%). They have a strong expectation that access to such training would make a big difference to patterns of management practice and the outcomes achieved by their hospitals.

We believe that many of our respondents have overly optimistic expectations of the benefits of management training in some of these areas. It may be partly because managers lack the knowledge and skills to name, analyse and put in place strategies to address the system level factors that they place such an emphasis on leadership and interpersonal influence.

Relatively few managers expressed the need for a stronger understanding of theories of organisation, theories of management and theories of organisational change. We feel that the (apparently) low ratings assigned represent an understatement of the importance of organisational and management theory and probably reflect the lack of familiarity with this kind of theory. A good understanding of organisational theory gives managers the language for thinking about organisation development and procedural reform. Modern managers need a range of different theories which enable them to describe and analyse how their own organisations operate and to reflect upon and learn from their own practice and that of their colleagues.

Very few managers identified policy analysis as a priority for management training. This may simply reflect the greater urgency of other priority areas.

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Conclusions

Our purpose in this paper has been to present our findings in relation to the policy environment that frames the possibilities for improved organisational performance in the hospital sector in China. (We have reported our findings in relation to managers' competence and our conclusions regarding priorities for health management training in another paper. See Pei et al., 2000.)

We conclude by exploring the implications of our findings – first, from the perspective of the individual hospital manager and, second, from the perspective of the policy-makers.

There are significant shortfalls in hospital performance and these shortfalls are due to lack of competencies *and* to adverse policy settings. Managers need: leadership skills *and* the authority to manage; training in financial management *and* incentive structures which encourage good outcomes; a broad understanding of the principles and strategies for achieving best practice in organisational performance *and* they need incentive structures which encourage the achievement of good outcomes; training in health informatics and modern information technologies; they also need policy support in developing modern health information systems that support regional, provincial and national needs as well as the needs of hospitals; to have a good knowledge of the goals and principles of government health policies *and* they need to have the skills and opportunities to participate in policy development. We see three broad challenges for policy-makers emerging from our research. These are:

- first, the challenge of policy development in relation to issues that lie beyond the health sector;
- second, the challenge of plotting a path of incremental reform where there are complex system relationships between the different policy areas; and
- third, the challenge of capacity-building for better policy-making.

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The Challenge of Policy Development in Relation to Issues that Lie Beyond the Health Sector

Many of the policy contradictions and perverse incentives facing hospital managers are common across many different sectors of social practice and call for whole-of-government responses.

Access to health care and securing sustainable revenue streams for health services both depend critically on the establishment of comprehensive and universal health insurance. However, because of the disparities in wealth between provinces and between country and city, the establishment of adequate health insurance cover is a long way off for some provinces and for many rural people. These are issues which cannot be confined to the health policy domain; they depend on addressing wider policy issues such as taxation reform and redistributive financial transfers between regions.

Human resource management in the health care sector is another area where contradictions in health policy reflect unresolved issues in the wider policy environment. Centralised staffing controls are a major source of frustration for hospital managers and a source of inefficiency across the sector. However, the continuation of centralised staffing control reflects incomplete policy reform in the wider areas of employment and welfare policy. Like other enterprises in the public sector, hospitals are required to absorb some of the hidden unemployment.

Health policy-makers face their own frustrations in this situation and there are no easy answers. However, it is important to name the problem and take the necessary steps to ensure that the policy needs of the health sector are clearly researched, documented and understood in 'whole-of-government' policy discussions.

One of the risks is that the health authorities might introduce short-term policy solutions which can be implemented on a stand-alone basis within the health sector but which store up significant adverse consequences downstream. The recently announced policy to establish a private hospital sector, ostensibly to promote efficiency through competition, might embody some of the risks associated with short-term bypassing of system-wide roadblocks. Pharmaceutical pricing policy appears to reflect a similar situation.

The Challenge of Incremental Reform in a Complex System

Many of the policy contradictions and perversities which impinge on the managers in this study arise primarily within the health sector, but even here the challenges of policy reform are formidable. The health service is a complex *system* with multiple feedback loops and not-so-obvious interconnections between different parts of the problem. There is a risk in such a situation of being paralysed by the policy gridlock. It seems that nothing can be initiated because the solution of each problem is so tied up with the solution of all of the others.

In principle the solution is to devise incremental reforms which *both* address the immediate policy problem *and* work towards structural reform goals conceived at the system level – addressing the specific problems in ways that contribute to restructuring the system as a whole.

Articulating this principle serves to highlight some recent examples of simple policy solutions, which (it appears) were not based on an analysis, that also looked towards longer term system reform goals. A clear example is the case of hospital accreditation where a new policy (since scrapped) was borrowed from the US model without full regard to the differences between the two systems and without a clear analysis of the dynamics structuring organisational performance in the two systems.

Clearly, working with this principle of 'addressing the specific problems in ways that contribute to restructuring the system as a whole' is not a simple matter but we can identify two

pre-conditions for its realisation: first, the need to have a vision for where the system as a whole should be going; and second, the need to have a good understanding of the system relationships.

In the analysis we have reported in this paper we have tried to trace some of the systemic relationships whereby innovations in one area of policy can work their way through the system. Clearly, this kind of dynamic understanding at the system level is useful in all forms of policy-making, but we think it is particularly necessary where we are trying to achieve policy reform at two levels: sorting out the immediate problem in a way that also contributes to system-wide reform.

Our second 'condition' for system-wide reform is less abstruse: to have a picture of where we are going so that specific policy initiatives can be tested against the criterion – do they contribute to the system-wide restructuring in the directions that we are aiming for?

Capacity-building for Policy-making in Situations of Uncertainty

The third broad implication which we draw from our analysis concerns the management of uncertainty. Clearly Chinese health planners face huge uncertainties surrounding the appropriate policy choices. It is a complex adaptive system with close horizons of unpredictability.

Two common strategies for planning in such circumstances are, first, maintain maximum discretion and, second, build capacity for more confident decisions further down the track. The strategy of maintaining maximum discretion can be highly strategic but it also has a downside where it works against leadership and the projection of vision. Building capacity for more confident decisions further down the track can also have a downside, for example where chances are missed because decision-makers are unwilling to take risks without full information and certainty.

However, we think that there is considerable scope in the Chinese health care system for building the conditions for better decisions tomorrow, when some of the fog has lifted a little. China does not have a strong tradition of health services and health policy research. There is a critical need for good relevant research and a pressing need for capacity-building in this respect.

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References

Chen, H. & Wang, L. (1997) Discussion of pharmaceutical market administration through some medicines' profit margin of wholesale and retail (in Chinese), *Chinese Health Economics*, 16(169), pp. 38–9.

Chen, Z. & Wu, W. (1997) Problems and strategies in hospital long-term development (in Chinese), *Chinese Health Policy*, 4, pp. 8–11.

Child, J. (1994) *Management in China during the Age of Reform*. London: Cambridge University Press.

CPC (Communist Party of China) (1984) *China's Economics Structure Reform: Decision of the CPC Central Committee*. Beijing: Foreign Language Press.

Croll, E. (1994) *From Heaven to Earth: Images and Experiences of Development in China*. London: Routledge.

FANG, L., XU, L. & LIU, X. (1997) Reducing import of high tech equipment (in Chinese), *Chinese Health Policy*, 4, pp. 27–8.

HU, S. (1996) Major Health Policy Research in China: Context and Content. Paper presented at The Third Asia and Pacific Conference on the Social Sciences and Medicine (11–16 February), Edith Cowan University, Western Australia.

LAWSON, J. S. (1991) Clinical managers: difficulties in the transition from clinician to manager, *Physician Executive*, 20, pp. 19–21.

LI, D. (1997) Perplexity and thinking about problems facing medical equipment in hospitals (in Chinese), *Chinese Hospital Management*, 17(8), pp. 55–6.

LI, S. T., JIANG, Q., LI, S. H., ZHANG, B. & WAN, Y. (1997) Discussion of the policies in hospital supplementary (in Chinese), *Chinese Hospital Management*, 17(3), pp. 17–18.

LIU, Y., HSIAO, W. C. L., LI, Q., LIU, X. & REN, M. (1995) Transformation of China's rural health care financing, *Social Science & Medicine*, 41(8), pp. 1085–93.

MA, M. & FANG, H. (1994) A study on speeding up the turnover of hospital beds, *Chinese Journal of Hospital Administration*, 10(2), pp. 112–14.

OFFICIAL INVESTIGATORY GROUP (1990) *The Report of Hospital Reforms in Kunming and Dali* (in Chinese). Kunming: Yunnan Provincial Government.

PEI, L. (1998) Hospital management in a time of change: the need for management training (and policy reform) in three teaching hospitals in Yunnan. Doctoral dissertation, La Trobe University. *Dissertation Abstracts International*, 60-05B, 9933289.

PEI, L., LEGGE, D. & STANTON, P. (2000) Need for health management education in China, *Asia Pacific Journal of Human Resources*, in press.

PENG, P. (1997) The Summing-up Speech Given by the State Councillor (in Chinese). Paper presented at The National Health Congress, Beijing.

STERN, Z., SCHMID, H. & NIREL, N. (1994) Administrative behaviour of directors in hospitals: the Israeli case, *Hospital & Health Services Administration*, 39(2), pp. 249–63.

STEWART, A. & CHONG, C. H. (1991) Chinese winners: views of senior PRC managers on the reasons for their success, in O. Shenkar (Ed.) *Organisation and Management in China 1979–1990*. London: M. E. Sharpe, Inc.

VERMA, A., YAN, Z. & CHEN, Z. (1995) The changing face of human resource management in China: opportunities, problems and strategies, in A. Verma, T. A. Kochan & R. D. Lansbury (Eds.) *Employment Relations in the Growing Asian Economics*. Guildford: Biddles.

WANG, J. (1990) Exploratory discussion of the average hospitalisation days of ex-inpatients, *Chinese Health Statistics*, 7(5), pp. 334–35.

WANG, K. & HAN, S. (1994) A current investigation on the average hospitalisation days in 10 big general hospitals, *Chinese Journal of Hospital Administration*, 10(2), pp. 65–8.

WANG, Z. & FANG, H. (1995) An analysis of hospital medical indices in Wangxiang City between 1994 and 1990 (in Chinese), *Chinese Health Service Management* 12, pp. 642–43.

WARNER, M. (1993) Human resource management with Chinese characteristics, *The International Journal of Human Resource Management*, 4(1), pp. 45–65.

WORLD BANK (1997) *Financing Health Care: Issues and Options for China*. Washington, DC: The International Bank for Reconstruction and Development.

XIANG, Z. (1988) The analysis of the cost of the surgery for 574 cases of gastric ulcer, *Chinese Rural Health Administration*, 10, p. 45.

XU, H. T. (1990) The disadvantages of current government health insurance, *Chinese Rural Health Administration*, 11(8), pp. 8–9.

YUNNAN PROVINCIAL BUREAU OF HEALTH (1994) *Annual Statistical Report*. Kunming: Yunnan Provincial Bureau of Health.

ZHENG, X. & HILLIER, S. (1995) The reforms of the Chinese health care system: county level changes: the Hiangxi study, *Social Science Medicine*, 4(8), pp. 1057–64.

ZHOU, B. (1989) The utilisation differences of hospital services between the population covered by Social Health Insurance and the uncovered, *Chinese Health Economy*, 6(40).

ZUO, S., XIE, F., LIU, H., YUAN, S., LING, R., CHEN, Z. & CHE, C. (1987) Preliminary analysis of factors influencing average hospitalisation duration (in Chinese), *Chinese Journal of Hospital Administration*, 3(4), pp. 199–201.

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