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SECTION I

HOSPITAL ORGANISATION AND STRUCTURE AND ITS EFFECT ON INTER-PROFESSIONAL BEHAVIOUR AND THE DELIVERY OF CARE

WARREN KINSTON
Health Services Organisation Research Unit, Brunel Institute of Organisation and Social Studies, Brunel University, Uxbridge, Middlesex, England

Abstract—Some form of organisation within and between hospitals is necessary to provide effective and integrated care to patients, to ensure that medical, nursing and paramedical services develop efficiently and coherently, and to ensure that needs of the community are met. However research into the design of structures for the provision of hospital services has been remarkably limited considering the transformation of hospital work in recent decades. The absence of clearly articulated models of organisation and lack of consensus on the relevant data make needed comparative studies difficult to mount. Nevertheless systematic empirical and evaluative studies of matters like appropriate limits to authority, working of intraprofessional hierarchies, management of clinical autonomy, and the effects of interprofessional rivalry on patient-care seem both feasible and desirable. Many studies bearing directly on these topics take the form of inquiries mounted within government departments or by professional groups with an interest in the outcome.

DESIGNING ORGANISATION FOR HOSPITALS

Organisation is about the regulation of human behaviour for social purposes. It therefore mediates between policy (social purposes) and the delivery of health care to patients (human behaviour). Organisation does not link to implementation in a mechanical fashion. Rather, it is a framework constructed out of values, both individual and social, which should facilitate the work to be done.

When individuals work together, they typically "negotiate an order" [1] out of their dynamic interaction. Organisational structure, explicitly designed, is needed because it is usually necessary and beneficial to constrain the boundaries of that negotiation. These boundaries exist as expectations that individuals have of each other and typically include details of the extent of authority which, in the working situation, one individual may exert legitimately over another. Obtaining usable descriptions of work and authority is not easy, but Mechanic [2] has argued that the future of health services depends on doing just this and creatively conceptualising and implementing new organisational forms.

Particular individuals working in a hospital will bring a variety of personal tendencies and private and cultural goals and assumptions to bear in their post; and Perrow [3] suggests that these 'non-formal' aspects of organisation are the distinctive province of sociologists, social psychologists and social anthropologists. He argues, as do others [4], that discipline-based social scientists tend to, and sometimes ought to, neglect basic pedestrian characteristics of hospitals like the work to be performed in them. Students of organisational design however, take the work to be done as a starting point, and require an accurate formulation of this work (together with other information) if they are to produce a formal structure of positions and authority relations which may facilitate the work. The results are socially significant as they not only affect the quality of the service jointly provided but also influence the well-being, status, pay and career opportunities of large numbers of individuals. The study of organisational structures as defined here is in its infancy and organisational theorists, analysts and investigators are to be found in a variety of disciplines within the social and health sciences.

Organisational arrangements, perhaps because they are contextual and manifest less tangibly, or because they seem matter-of-fact, impersonal, static or artificial, have often tended to be overlooked. Illsley [5], for example, notes that Freidson, a foremost critic of medical organisation in the U.S., sidesteps the task of offering acceptable alternatives. Similarly, in developing countries, there has been great concern with medical technologies and health policies but often insufficient study of the organisational mechanisms whereby these may be implemented [6].

In their textbook, Kaluzny *et al.* [7] advise that organisational design may be a prime predictor of performance in a health facility. They note particularly the studies by Rhee [8, 9] which examined types of ambulatory care settings and types of hospitals; by Flood and Scott [10] which noted the effects of size of facility, teaching status, influence of staff, degree of centralisation, and formalisation of rules; and by Roemer and Friedman [11] which looked at medical staff structure, including appointment procedures, departmentalisation, control committees and documentation.

On *a priori* grounds it may be argued that suitable organisational structures must be designed for hospitals if there is to be sensible resource allocation and budgetary control, if services are to develop coherently, if the hospital is to conform to regulations and governmental policies, and if meaningful evaluation of output is to be pursued. If cost control is not to lead to excessive deterioration in standards of care or to a serious fall in morale, the organisation of hospital staff must be efficient, contribute to effective care, and feel fair to those involved. This is most likely if organisation is designed around the need to ensure that care to patients is provided in an effective, integrated and humane fashion; and this requires doctors, ancillary professionals and supporting services to work appropriately together and be under appropriate public governance.

Recent trends in organising health professionals

The growing demand for health care, although having preventive and primary care components, has largely been associated with the growth in complexity of the large general hospital [12, 13]. It is not surprising therefore that the focus of organisational studies in health care has been primarily on hospitals [14–19]. Since the early 70s, however, there has been a marked shift to considering health services as a whole. This has not meant that the problems in organising hospitals have diminished, rather the reverse is true. Indeed a major new challenge has been to construct workable links between hospital and community and primary care services. In addition, hospitals everywhere must respond to more complex statutory demands for quality control, for coherent development, and for policy conformance; and much effort has concerned the creation and understanding of multi-hospital systems [20, 21] and the regionalisation of services [22, 23].

Over the past decade, medical specialties have continued to proliferate and in addition there has been an expanded variety of physician's assistants (audiologists, gastrointestinal assistants, respiratory technicians, etc.) and paramedical professions (physiotherapists, speech therapists, health education specialists, etc.). Each subdivision of care provides the potential for useful highly-skilled care for the patient but at the same time creates greater demands for integration and coordination of that care. Both the assistants and the supplementary professionals have wishes, often completely legitimate, to make direct contact with patients and, putting aside political implications, this may conflict with the availability of personnel for work with doctors. New professions have emerged which have a similar status to doctors: for example, a leading article in the Lancet [24] suggested that other Royal Colleges might follow the lead of the Royal College of Pathologists and admit non-medical scientists such as physicists and pharmacologists. The problems of the nursing profession are of particular significance in organising services in hospitals as members struggle to determine the distinctive nursing task on one hand and move towards a supplementary physician role on the other [25].

The struggle for status amongst the professions and semi-professions is now a regular part of health politics, and it appears that factors such as prestige, remuneration, and wishes to control access to patients often cloud sensible inquiry. When this political struggle invades hospital wards and out-patient departments, patients are the principal sufferers. This intrusion of interprofessional rivalry and conflict into care settings often manifests as refusal to develop needed organisation, or as structures which meet the needs for dominance or prestige rather than for treatment. Similar problems have arisen in the U.K. in relation to the various hospital supporting services such as cleaning, linen and laundry, catering, supplies, works and maintenance [26]. The tendency to professionalisation within these services and an emphasis, sometimes an over-emphasis, on career development structures has led too often to splintering of authority and impotence on the part of the responsible administrator or health professionals.

Problems of hospital organisation which require investigation and resolution therefore exist at three levels. First, the level of clinical work and direct patient-care: arrangements are required to ensure that the proper range of treatments or tests are available, to integrate multiple modalities of management and treatment, to maximise efficiency through the use of clinical policies and priorities, and to minimise or resolve inter-professional and intra-professional conflicts. Second, the level of the hospital as a whole: arrangements are required to develop policy, to manage resource allocation, to implement national regulations or policies, to evaluate health care, to ensure supporting services assist medical work, to link with primary care facilities, and to change hospital organisation in the light of changes in clinical work. Third, the level of the hospital system: arrangements among hospitals will depend heavily on the nature of the national health system, but the need for developing such organisation is becoming emphasised. At this level, problems of inter-sectoral coordination, links with education, housing, employment and so on, also become more prominent.

After briefly reviewing how hospital organisation and structure has been and might be studied, the paper will examine some currently important issues particularly the effect of complexity on organisation, the difficulty in organising medical work and the need to design structure which focuses on and serves patient care.

RESEARCH APPROACHES TO HOSPITAL STRUCTURE

Although a voluminous literature on hospital organisation exists, little of it deals mainly with structural issues. Approaches to the study of designing structures for hospital services, to examine structures in existence or to evaluate structures can be classified in various ways. Using a model based on the work of Churchman [27], research studies may be categorised by the form of the knowledge output [28]. This output may be either (a) a model, (b) facts or factual (empirical) propositions, (c) a fact-based comparison of alternative models, (d) exposure of underlying values and assumptions or (e) socially usable definitions.

Model building

Workers in operational research and systems analysis tackled problems in hospitals and health services relatively late, but in the past 10 years the number of studies has increased both in the U.K. [29] and U.S. [30]. The researcher attempts to build a model, usually mathematical, to solve a discrete technical, programmatic or personnel problem. To do this the researcher works with staff involved, tests assumptions for validity against their judgement and depends on them for data with the aim of producing a credible flexible and simple model to be implemented. Unfortunately, very few completed systems analysis studies have been implemented [31, 32]. In most problems implementation depends on the agreement and active cooperation of many individuals and professional groups in a variety of positions within the hospital. In other words, implementation depends on appropriate organisation. One explanation of the poor implementation of OR studies may therefore be a soggy, confused or incompetent client organisation; a state which is apparently the international norm in health services [26, 33, 34].

A non-quantitative model building approach applied to organisational structure itself, rather than programmes, has been developed in the U.K. at the Brunel Institute of Organisation and Social Studies (BIOSS) [19]. Models of medical, paramedical, nursing, administrative, finance and other staff groups and relations between them are built up from elemental notions of aim, function, task, authority, accountability and so on. As in the quantitative OR analyses, all models aim to solve expressed client problems, derive from detailed discussions with hospital staff individually and in groups, and lead to the offer of options. For example, they noted that the work and contribution of paramedical groups within hospitals suffered because they had neither committee structures nor hierarchical structures linking them to the governing body. Solutions included management by a single doctor, management by an administrator, management by a head paramedic and direct multiple accountability to the governing body. Different forms of authority relations to clinicians and others within the hospital would be required depending on which option was chosen.

Because model building approaches demand a well-structured problem with well-defined parameters, a different approach may be required in conjunction where the nature of the field is conceptually uncertain. This applies, for example, in organising mental illness services.

Empirical studies

Empirical studies may take the form of simple surveys or may attempt to establish relations between organisational structures on the one hand and some aspect of care delivery on the other. These studies depend on a well-structured and consensually agreed practical or theoretical problem and use simple observation and data collection.

Qualitative research includes case studies such as that by Caudill [35] of a mental hospital or by Ingman [36] of a voluntary community hospital. Most empirical studies, however, involve quantification to facilitate hypothesis-testing. For example Raynes *et al.* [37] recently systematically explored differences within and between a number of mental handicap hospitals in the U.S. in this way. Their study included measures of the residents' characteristics, dimensions of care (daily activities, physical environment, staff speech, community contact) and organisational factors (delegation of authority, existence of rules, opportunity for communication amongst staff, and differentiation and specialisation of the task of caring). They attempted to determine the structure of the institution and its departments, units and sites, and then conducted a large number of analyses which showed significant effects of structure on care and excessive variation between formally equivalent parts of the hospital. The major structural innovation being studied was the development of Unit Director posts. These were to have substantial authority to ensure a full team response to the residents' needs. However, the posts' grading and pay were lowered, budget procedures bypassed the Directors and teams did not form. The study provides a useful, if sad, picture of the consequences of ignoring structural problems.

Work of this sort depends on the existence of 'facts'. Such an assumption is often problematic in studies of organisational structure because 'facts', when identified, evoke social contention or are contestable. This surprised the researchers:

"we initially thought that since the questions referred to matters of 'fact', we would obtain some consensus among members of the residence staff in the characterisation of their work situation. However, the results from the questionnaires simply did not support this interpretation. There was often considerable disagreement among staff in a building regarding such 'factual' matters as whether they had written work rules, for example" [37, p. 42].

Because organisational concepts are value loaded, they tend to be culture-bound and derived facts or empirical propositions may be difficult to compare cross-nationally. A 13 year attempt at replicating a U.S. study of hospital organisation in France failed on this account [38, 39]. The researchers described how concepts and variables disappeared or became meaningless when culturally transposed. They concluded at the point where critical analyses and organisation design commence, namely that terms like 'department' or 'committee' are socially defined, and the reality referred to is socially produced and socially maintained.

Even within the same culture, researchers may use the same measures for quite different theoretical constructs. For example, Steers [40] concluded that the organisational effectiveness construct is invalid or at least not yet linked to a meaningful set of indicators. Despite this many comparative studies have been conducted [41].

Allowing for these problems of measurement, data collection and comparison, there is still a disappointing lack of possible empirical studies on significant matters. By contrast, problems of intra- and inter-professional relations fill the pages of newspapers and the popular professional and health services press. For example, *The Sunday Times* of 31st October 1982 (p. 2.) reports that "A dispute between a psychiatrist and nursing staff who refused his orders

to drug a patient forcibly has shut down a hospital's psychiatric unit... the only one in East Berkshire". Another source of evidence, also generated as much by major scandal as by the need for regular review, is the Government inquiry. In the U.K. such enquiries in mental hospitals regularly report lack of effective leadership, insufficient awareness of policy, lack of cooperation or communication between disciplines, hazy lines of responsibility and confusion of roles [42] and findings are not dissimilar in general hospitals and academic medical centres both in the U.K. and U.S. [43, 44]. The numerous government inquiries into the organisation and role of medical and non-medical professions are notable for their oblique formulations [45]. Such inquiries are typically dominated by professional values but sometimes less so than reports originating from the professions themselves.

If we are to believe anecdotal accounts and official inquiries, there is considerable friction within most professions and between almost any professional groups that come into contact. Such discord is organisationally close to patients and might be expected to be harmful to them. Some relevant independent academic studies do exist [46, 47] but further documentation of intra- and inter-professional problems, empirical investigation of their basis and study of their effect on patients would be highly desirable and might contribute to the resolution of current problems.

Comparing alternative models

The assessment of different forms of organisation calls for the development of clear models implemented separately and the collection of data relevant to these models. This is the approach used with such advantage in clinical medicine in randomised control trials, and it is also the basis of cost–benefit analyses. Cochrane [48] and Wing [49], for example, are disparaging of descriptive studies and suggest that evaluative studies based on these principles should be promoted throughout health services.

The difficulty of applying such an approach to organisational structure at present is considerable. First, as indicated above, neither model building-cum-implementation nor fact collecting has proved an easy task. Second, controlling the parameters of an organisation's structure (as opposed to the appearances on a wall chart) may be exceedingly difficult. Third, the number of viable possibilities and relevant variables is very large and hence difficult to control. Finally, although large questions may be tackled, it is doubtful whether many of the practical details of organisation will ever admit of a generally applicable best answer. This is because local circumstances need to be allowed for and because social pressures may preclude adoption of a supposedly better alternative.

Critical analysis

A fourth type of study raises awareness and develops polarised 'ideal' options by revealing opposing values or underlying assumptions. Davies [4] for example, in her attempt to stimulate sociological enquiry into health care and hospital organisation, calls on her colleagues not to neglect the field of organisation analysis and advises them to search for complementaries and contradictions and to find their roots in the social construction of health and health care. Such an exposure of assumptions could open up new possibilities for dealing with structural problems and might provide leads and hypothesis for empirical testing.

Organisational structure depends on clearly defined boundaries, that is to say, assumptions about the meaning of key concepts, the proper division of work and the legitimate exercise of power. Questioning of these assumptions will immediately raise questions as to the appropriateness of current structures. This field of critical sociology and policy analysis is less concerned with immediate technical necessity or pragmatic functional requirements of the current work situation, but more with social ideologies and longer term alterations in the balance of power within society. Researchers often pick up on changes in boundaries that are already occurring naturally in society and putting a strain on previously agreed structures. For example, Eaton and Webb [50] described how as a profession changes its work it inevitably encroaches on the domain of other professions; and Goldie [51] questions whether the division of work within mental health has been negotiated and is agreed, or is imposed.

Critical studies polarise, and in hospital work many potential polarities are to be found: between professional caring and patient management [52]; between health care as based on conceptions of illness or of health [53]; between hospital-centred and community-centred organisation [54]. Research workers draw upon data to support each or either of the opposing value positions; and this is possible because the problem under investigation is viewed as poorly structured and socially contestable.

Design for change

Planned change hinges on the meanings assigned to the words (concepts) used in the plan. This fundamental type of research sees many concepts in current use as confusing and demanding in-depth clarification. Such study is best conducted during a change process and conjoined with the design of appropriate structures. This pragmatic conceptual work is often part of a 'systems' approach; and Checkland [55] sees the crux of soft systems methodology as the creation of a "root definition of the relevant system". Definition is logically subsequent to critical analysis in that it represents an awareness, acceptance and definitive resolution of contradictions and various value positions while simultaneously meeting the essence of the work. As described by Argyris [56] the validity of the research output lies in the commitment by the decision-makers responsible for making changes to the conceptual analyses of the researchers. Organisation development like that of Revans [57] which focuses on clarification of working relations falls into this category. However this work, like most action research, failed to deepen theoretically.

Kaluzny *et. al.* [7] note the lack of a conceptual framework and language in which contributions to a practical theory of organisational design might be framed and, as indicated above, model-building and

empirical studies suffer from this. As design is rooted in work to be done, new definitions of work and varieties of health service work will be prime topics for analysis. To which may be added a plethora of terms like governance, administration, team, authority, supervision, autonomy, hierarchy, region, patient, clinical responsibility, and so on. Any definitions will need to be acceptable to those doing the work if they are to be used and valued by them. Getting new ideas into a health system and properly used is a long-term effort. Members of the Health Services Organisation Research Unit at BIOSS have, over a period of 15 years, collaborated with many staff in key positions within the NHS and produced a variety of usable definitions, as well as a practical theory based on defining 'levels' of work which are held to correspond to natural levels of organisational complexity [19, 23, 58].

Having outlined the variety of epistemologically distinct approaches required for a comprehensive study of hospital structure, we may now select some current topics in administration, medical services, nursing services and the professional network.

HOSPITAL COMPLEXITY AND STRUCTURE

The growth of hospitals

The rapid development of hospital work has led to major changes in its organisation. For example, the hospital administrator in the U.S. has moved from being little more than a clerk at the turn of the century to a business manager (1920s–1940s) to coordinator (1950s–1960s) to corporate chief and management team leader (1970s-   ) [59]. Some descriptions of the different sorts of organisation which may be implied by the term 'hospital' in the U.K. may serve as an initial orientation towards more detailed structural issues.

Small hospitals of under 30 beds may often be run by the senior nurse who, under supervision of local doctors, manages the few personnel required for tasks like cleaning, typing and portering. However, once the hospital reaches 40–50 beds and becomes more than just a self-contained ward, its character changes and some form of professional administration is required, even though the nurse might remain in an on-site leadership role. If medical activity increases, so does the complexity of nursing and the number of other health professionals and ancillary staff. Usually an acute 75–100 bed hospital will require so many scientific, technical, administrative, catering, domestic, laundry and other support staff that each require their own manager and a single administrator is required to manage these managers. He is now seen as the person running the hospital, even though he does not have more than a monitoring and coordinating authority over the doctors and other health professionals working there. In such an institution, plans for development so as to maintain patient services are typically required.

A hospital of this last degree of organisational complexity may grow to a substantial size, certainly to over 400 beds. The key determinant as to whether more complex organisation and programme planning is called for depends on the sophistication of the medical staff and the degree of activity of the hospital. Teaching hospitals are typically of the more complex type and generate work on new developments by their very nature. The top role or roles in such institutions must therefore engage in planning with a 2–5 year time-scale. Swett [60], drawing on the U.S. experience, also contrasts two types of large hospital, referring to the first as "the traditional service offering" and the second as "a clinical centre of excellence". He contrasts the two structures in terms of management direction, marketing strategy, clinical and management information, physician direction, commitment to education, medical care audit, research components and relationships to other hospitals. He notes that the more complex hospital requires physicians to fit to its programmes, whereas the simple hospital is there to serve the physician in his day-to-day work. This is consistent with Donabedian's observation that specialists are more likely to accept employee status than are generalists [61].

Can a hospital be even more sophisticated than the so-called clinical centre of excellence? A hospital will be more sophisticated if it engages in strategic planning and uses 5–10 year plans. Senior management then engages principally in developing scenarios and speculating on what the hospital is doing, could be doing and should be doing. Strategic work maximises viability in a changing environment but the planning and pushing through of a new viable role for the whole institution which integrates concerns of pressure groups and stake holders as well as meeting the primary task efficiently and effectively is not simple. Bander [62] found that of the 10 hospitals in his sample, none were satisfied with their strategic work, and almost all used 1–3 year plans. It has been argued that only strategic planning can convert hospital organisations to health organisations because only at this level can fundamental questions as to mission and philosophy be posed, and recommending such work is currently popular [63]. However it seems more likely that except for the larger academic medical centres [44] strategic planning will be more applicable to multihospital development [64] or to regional development [65] than to individual hospitals. In other words, hospital complexity typically increases by a hospital becoming part of a larger integrated hospital or health system. Such integration of hospital facilities does seem essential if the service is to be client- or community-oriented and is to minimise inefficient duplication of facilities and supplier-induced demand. The process of regionalisation may result in a single large organisation has occurred in the U.K., not unlike a multinational corporation in scale; or, as in The Netherlands [66, 67] it may result in networks of interorganisational relations. A considerable literature has grown up around the latter organisational form [68–70]. Its weakness in rationalising health care is being confirmed in the U.S. by the tendency for conglomerates on the corporation model to form, and it has been popularly predicted there that within two decades corporations will control more than 50% of all community hospital beds [71].

Characteristics of hospital work

Before discussing aspects of the internal organisation of hospital work, it may be useful to

indicate the characteristic features of hospitals which make a relatively simple managerial hierarchy within them inappropriate. Hasenfeld and English [72] emphasise that the raw material being processed within hospitals is human beings and note that staff–patient relations are therefore co-activities, to which must be added the confidential and personal nature of medical treatment [73]. Complexity is increased by the numerous supplementary professionals who require to do more than follow orders, that is to say, who must make and act decisively on their own clinical assessments of particular cases or situations [57]. Further problems result from the desire to use technology and procedures which are neither fully proven, safe or efficient [48, 74], and the lack of consensually accepted measures of hospital effectiveness. The secondary use of the hospital as a multi-professional educational establishment and as a research facility also poses organisational problems.

MEDICAL ORGANISATION

The most troublesome aspect of hospital organisation is the organisation of its health professionals. Professionals are typically highly responsible individuals capable of and requiring a high degree of autonomy in their work, and doctors epitomize professional status. Doctors are the prime professional group within the hospital, usually regulate admission and discharge, and are the key decision-makers when it comes to resource consumption and patient-care. Imposition of regulations or procedures on them to limit service to a patient is difficult, often ineffective, usually expensive, not uncommonly unfair, and inevitably proliferates administrative interference with their work.

Dynamic interaction amongst medical staff

Do doctors need to be organised, given their ability and social legitimation to work as independent agents? There are two polarised images of doctors which have been used to pursue this question. The first image is of doctors as a professional proletariat there to service the patient or serve the state. This image demands that doctors be organised but it glosses over the complexity of clinical practice and the social value still assigned to personalised doctoring. The second image is that of the doctor as a free-standing organisational entity, somehow beyond direct regulation. This image perpetuates an obsolete myth of the independent professional [75, 76].

Doctors in a hospital are closely linked in a number of ways, that is to say the activity of one inevitably affects that of others; and if these interactions are not organised, then mindless disruption, excessive conflict or resource waste ensues. Organisation is therefore a pragmatic response to the existence of dynamic interactions. The most important of these is the interaction which has grown up around the treatment of individual patients because of the growth of specialisms and technological advances. Donabedian [61] reviewed a variety of published reports which supported the view that coordinating medical care is beneficial to patients and cost-effective.

However doctors not only share patients, they may also share plant such as operating theatres, equipment like endoscopes, services like radiology, and ancillary professionals like physiotherapists. Such sharing becomes most problematic when the resource is restricted. Doctors also interact around the needs of the community which the hospital serves, and may have to share resources allocated for development of services. Doctors may also need or wish to share teaching responsibilities or research fields.

The economic basis for medical organisation can be demonstrated using a simple decision model [77]. This suggests that regulation is necessary to prevent unnecessary and greedy, but psychologically and socially natural, consumption of shared resources (money, plant, patients). Accordingly, unless doctors manage themselves, regulation will be imposed from outside the profession. Comparison of U.K. and U.S. health systems and hospitals within the U.S. suggests that self-management tends to be less bureaucratic, more protective of clinical autonomy, serves patients better and is cheaper [2, 78].

Roles and structures for medical staff

Organisation of medical work has always been a concern for doctors and governments committed to the development of comprehensive medical care. As the doctor's role in the hospital and the development of health services continues to grow [78–80], it becomes more necessary for appropriate structures to develop so that the medical contribution may be channeled and appreciated. A major task in doing so is developing and keeping up-to-date accurate descriptions of the work doctors are expected to do so that any designed roles and structures may facilitate this.

Medical work refers both to work on currently attending patients for whom the doctor is clinically responsible, and to work in the development and planning of medical services and the provision of medical education and research. Doctors may also appropriately contribute to health service work which concerns decisions about the total expenditure on medical work, overall quality of hospital care, priority of high cost services, services for people who are not currently medically active patients, preventive services and so on. This work brings doctors into a relation with governing bodies and other public agencies. In less developed countries where doctors have carried full political and executive responsibility for health services work as well as medical work, the results have been unsatisfactory [81–83].

Although hierarchical control of medical staff by an administrator or trustees has been advocated [84], there appears to be a general belief that this is unlikely to produce optimal patient-care. The usual argument goes even further and insists that hierarchical forms of authority amongst doctors themselves, except in relation to junior staff, are inappropriate [19, 85, 86]. However there is a thread through the literature which suggests that properly designed hierarchical organisation of medical work need not lead to excessive curtailment of individual authority. Goss [87] found in her survey that doctors differentiated administrative concerns from their professional concerns and in the former accepted control. However, many organisational decisions, for

example mechanisms for developing clinical policies or plans for development, involve issues on the border between general administration and clinical judgements.

The need to manage medical staff and medical work and the uncertainty about it has led to the developmental both of high-level salaried officer medical roles not involved in clinical work, and a representative structure of committees and elected roles to be used by clinicians working within the hospital. Rogatz [88] describes the salaried officer role as 'medical director' in the U.S. and an analogous role, the District Medical Officer, exists in the U.K. [89]. The medical management aspect of such roles tends to be advisory and monitoring on matters such as recruitment, appointment, promotion, standards, scope of services, adherence to contract. This role, indeed the whole hospital structure, cannot operate effectively unless the clinical medical staff acknowledges the ultimate authority of the governing body and accepts the medical officer as operating with that authority. However, governing bodies frequently do not adequately exercise their authority [36, 90, 91] and the officer post may be created without adequate clarity of its scope and powers.

Management of much medical work inevitably lies in the hands of the clinical staff. In the U.S., the Joint Commission on Accreditation of Hospitals [92] regards the medical staff organisation (MSO) as having an overall responsibility for the professional practices of its members and accountable to the governing body. The key person in the MSO is the elected President (or Chief of Staff) and the key committee is the Medical Executive Committee. There are a number of other recommended and optional committees including one to ensure high quality practice and another to ensure optimal resource use. In the U.K., the DHSS has recommended the development of a similar structure emphasising grouping by specialty as well as hospital. In addition to such committees and their Chairmen, a representative clinician is a member of the multidisciplinary District Management Team, which is the 'chief executive' structure and includes an administrator, nursing and, finance officer as well as the District Medical Officer and an elected general practitioner.

Medical committee structures have not always worked well. They tend to proliferate, have difficulty making painful decisions, and are stronger on giving advice then implementing policy. Sometimes the participation rate is so poor that the committees exist more on paper than in reality. Three major studies in the U.S. [11, 93, 94] have suggested that if doctors do participate in developing and maintaining a structured set of arrangements for working within the hospital, then scope, quality and cost-effectiveness of care are likely to be better. The besetting and not always rational fear of doctors in moving towards the reasonable goal of a structured MSO, in which they contribute to hospital policies and then work within them, seems to be loss of clinical autonomy [95, 96].

The need for clinical autonomy has resulted in much medical organisation depending heavily on the use of advice and persuasion. Whereas an advisory relation in other settings is often held to be weak, within medicine it often is strong, particularly if advice is solicited or if the advisor has acknowledged expertise [97]. It has been shown for example, that review and consultation can reduce test-ordering substantially and more effectively than financial incentives [98].

FOCUS ON THE PATIENT

Difficulties in the way of integrated care

Forces exist which move hospitals away from a patient-care focus. Wilson [99] has pointed to three systemic pressures: the preoccupation with resources and budgeting; the pressure for public accountability; and the demands for long-term planning in the face of changing governmental, especially financial, regulation. To these, we may add a fourth and a fifth, expediency and staff self-interests. As an example of the former, reports in the U.K. have repeatedly indicated that patients are woken far too early, often between 5 and 6 a.m., for the convenience of staff [100, 101]; as an example of the latter a report of a Working Party of the King's Fund was endorsed by a *Lancet* leading article [102] when it noted that "the distribution of medical work and the way in which doctors are organised have been influenced more by professional interests, financial inducements, rivalries and career aspirations than by analysis of the needs of the patient".

Loss of patient-focus may be accidental. When front-line health professionals pursue educational, research, pecuniary or other interests, they may subordinate concern for patients only in minor ways or for long-term benefits but there may be cumulative detrimental effects. Action studies to develop organisation typically report the need to reassert a patient-focus in delivering care [103, 104].

If each patient is to get the best possible care, then hospital personnel at all levels and in all occupations must have a vision which is patient-centred. The first implication is that front-line staff should see the need for their work to be coordinated; a role, which it will be argued below, is rightfully a nurse's. A second concomitant of this is that everyone not in the front-line should see themselves as supporting and servicing care delivery and themselves concerned with individual cases.

Organisations not concerned with human services need not operate with the same sort of focus on each particular case and transposition of theories and methods from such firms is likely to be unsatisfactory. In manufacturing firms, for example, the major focus is on ensuring the flow of products of adequate average quality to meet sales needs; and the key middle manager uses first-line managers (supervisors) to ensure that systems to do this are running smoothly [105]. His results are judged, often in quantitative terms, over a period measured in months or even 1–2 years.

Leadership in hospitals is different. It is about immediate care and effective first-line management. A qualitative judgement is made on the handling of each case, by the patient concerned and his relatives if no other, not on flows of cases or samples of these flows. Extensive litigation or public investigation may follow the mishandling of a single case. As a result, whatever the profession, key individuals are engaged

in making assessments of situations or cases, deciding significant action on the spot, controlling quality of particular activities, negotiating with other first-line managers, and keeping detailed records of all of this. Health professionals at this level often spend time advising or developing staff who are their peers rather than their subordinates. Second-line management in hospitals is necessary in an analytic, facilitatory and system-setting fashion to mediate between staff needs to provide a maximal standard of care and resource availability.

Comparatively little attention has been given to the needed pattern of posts, type of authority relations and loci of accountability needed to run hospitals properly [106]. For example there is a need to rethink the role of the doctor as patient-care leader because it seems to be in eclipse within the hospital. A doctor may still retain control over diagnosis and treatment (though even here specialisation seems to be fragmenting management) but a comprehensive concern with care—nutrition, toiletting, physical comfort, stimulation, protection, mobilisation, communication, emotional care, social support—seems outside his skills, interest and time availability. The organisational implications of this are yet to be fully explicated.

Ward organisation

In a general hospital, the patient's needs are manifested primarily on the ward. The organisational problem in promoting patient-focused care may be then restated as how to ensure that the ward is run to meet the patient's needs, which includes enabling doctors and other professionals involved to provide their services and have prescribed test and treatments carried out. This immediately suggests that the nursing profession might be the key group which ought to carry overall responsibility for seeing that the patient's needs, medical and otherwise, are met. Poorly designed or filled nursing structures and inappropriate definitions of nursing work and its relation to other work might therefore be expected to play a large part in reducing the quality of care available to patients.

Nurses are said to be overworked but underused, to receive poor administrative support, to lack staff and resources, to be subject to delays in urgent supplies or repairs of faulty equipment, to lack career opportunities , and to be excluded from making their proper contribution to patient care [107, 108]. Much of this is undoubtedly due to poor organisation. Aiken *et al.* [109] in the U.S. noted the inappropriate use of nurses (i.e. poor work definition or work monitoring) and argued that this led to lowered productivity and morale and generated apparent staff shortages. Surveys in the U.K. have suggested that nursing managers are frequently engaged in inappropriate or irrelevant tasks and unclear as to what their proper task is [104, 110]. Part of the cause of problems in the U.K. has been the unthinking adoption of a grading structure advocated in an official Report [111]. In many hospitals there was the belief that all possible grades needed to be filled and this led to an overcrowded hierarchy; in others the belief that titles and grades were synonymous led to inappropriate pay and inaccurate work expectations.

Many doctor–nurse disputes fall into perspective when viewed from the perspective of the patient. For example, a major concern in the U.K. has been whether a nurse should be able to "decide the admission of a patient". Campbell [112] pointed to the distinction between clinical and managerial aspects of admission. Whereas a doctor may judge on clinical grounds that admission is desirable or essential, he is in no position to know whether any particular ward, given its staffing levels, other illnesses, ward maintenance problems and so on, will enable the patient to receive care of an acceptable standard. Experienced commentators argue that nurses must be expected to make such complex and serious assessments and ensure that these are acted upon [113, 114].

Assessment work will be in relation either to patients (e.g. modification of diet; p.r.n. medications; rescheduling procedures; deciding vital sign monitoring; helping patients manage their own regimen) or to the ward as an entity (e.g. decide work priorities; balance patient needs to staff available; control the ward environment, in particular, determine calls on ancillary services). Nursing auxiliaries, assistants or trainees may be essential to carry out tasks resulting from such assessments. However a ward relying solely on such staff or lacking qualified staff confident and competent at assessing patient priorities in the face of conflicting and competing demands will function poorly.

If the work naturally called for in the ward is to be done, then qualified nurses, particularly ward sisters, require defined authority in relation to other health professionals. Doctors, in particular, must appreciate that different decisions are the prerogative of a nurse, a ward sister and a nurse manager. The ward sister must also have rapid access to service departments (catering, domestic, supplies, etc.) and receive appropriate support from her nurse manager when things break down. Attempts have been made to reduce the administrative work-load of nurses in wards. For example, in the U.S. Unit administrators (first-line manager status) have been assigned to groups of wards [115, 116] but problems of administrator–nurse relations persist [117].

Qualified nurses must be aware that all are engaged at a similar level of work though the focus of assessment and decision work may vary from patient to shift to ward. The nursing service as far as direct patient-care on the ward is concerned is therefore a team with a defined leader, not a hierarchy, and there is no room for numerous levels of supervision or management.

INTERPROFESSIONAL AND INTRAPROFESSIONAL RELATIONS

Lateral and vertical relations within professional groups and between professionals belonging to different groups tend to be sensitive and problematic. Both official inquiries and professional lobbies tend to become inarticulate or confusing on these matters. For example, it is sometimes suggested that doctors do, or should, manage the work of other professionals or be accountable for such work. If this were so, they would be expected to engage, like any other manager, in recruitment, induction, appraisal, discipline, development, education, scheduling and a variety of other

managerial activities for which they manifestly lack the inclination or ability. Doctors do however require a certain authority to see that various treatments are provided and procedures carried out. The nature of this authority varies in subtle ways and if its details are not worked out and agreed discord and confusion are likely.

In the U.K., medical consultants have managerial authority over their juniors in that the junior doctor may be selected, inducted in role, assigned work, appraised and developed by his senior. By contrast in relation to nurses, doctors have been described as having 'prescribing authority' [57] defined as the right to determine particular tasks to be carried out to a satisfactory standard. In relation to physiotherapists, however, doctors have less extensive authority. Official guidance to the NHS [118] indicates that physiotherapists are expected to make an *independent assessment* as to the need and value of prescribed treatments. Unless the treatment requested is judged useless or inappropriate, the physiotherapist may be expected to carry out the prescription, even if in her professional judgement another treatment might be preferable. The doctor's authority is severely curtailed with both professions insofar as he is not able to determine the absolute priorities of his tasks. Most importantly, he is not permitted to appraise the other health worker.

Details of necessary and desirable authority relations may need to be devised between a variety of professional groups. National pronouncements, politically developed, require careful on-site research to check whether the arrangements are indeed appropriate and whether any particular qualifying factors must be considered.

Without such details, the notion of the hospital as a matrix organisation [119] is evocative but not usable. The teams in the matrix appear as groups of professionals coalescing from an available network within the hospital to care for a particular patient for the duration of his attendance. This type of team is to be distinguished from the permanent multidisciplinary groups who regularly receive referrals, decide diagnostic workups, implement modes of management and so on. Such coherent teams are most prominent where the clinical leadership and control of the medical profession is not accepted as inevitable or necessary. This holds in some geriatric facilities, in rehabilitation units and mental hospitals, as well as in primary care; but rarely on general medical or surgical wards [120, 121]. The operation and effectiveness of such teams deserves further investigation but it can be predicted that there will be no easy alternative to formulating, possibly with external assistance, clear expectations of members and the assignation of acceptable authority [122].

Much current concern focusses on a loss of the more able clinical practitioners to administration. This is partly dependent on the design of appropriate pay and grading structures. However the basic issue concerns the nature of 'high-level clinical work' which is yet to receive a satisfactory definition.

In general, supplementary professionals require hierarchical managerial structures of a simple type. Usually a second-line manager is necessary as described earlier to set up systems, such as work rotas, and keep them working in support of the practising clinical workers. The authority of such a manager need not extend to interference in on the spot clinical judgements in most professions, but it may extend to appraisal of an individual's competence. In certain of the larger hospitals there will be a role for a top manager engaged in introducing new developments in professional work, making a substantial contribution to the hospital's long-term planning and developing research work. Such a hierarchy only functions usefully if the individuals in post have an ability and perspective commensurate with the post and are assigned the appropriate budgetary and other authority to do the job.

If such hierarchies are absent, then the front-line professionals will find themselves either left in limbo or managed by a doctor or by an administrator, or perhaps dependent on committee strutures. Medical or administrative management may be suitable for dieticians, radiographers or chiropodists, but not for nursing or the remedial professions. In these latter groups, the medical imcumbent often feels out of place and only perfunctorily fulfils his managerial responsibilities; administrative management is often without much idea of the work involved; and committee structures tend to be weak. Hence without a formalised hierarchy, or with excessive insistence on autonomy near the front-line, there is likely to be little effective input into policy-making, resource allocation and long-term planning and weak control of pressures on front-line staff to adapt inappropriately to administrative or medical demands.

CONCLUSION

Hospital organisation is the framework for the provision of care in hospitals. Despite its significance, research efforts suffer from being caught in political conflicts of the involved professionals and from the lack of a discipline-base. Health services research commissioning bodies need therefore to offer more explicit encouragement than usual and to give a higher priority to conceptual and empirical studies in this field.

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