JournalScan

Critical relationships in the quality and safety of health care

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The papers in this issue of *JournalScan* explore relationships that are each thought central to the quest of improving the quality and safety of health care. They relate to the following different dimensions:

- relationships between organisations and professionals;
- relationships between patients and professionals;
- relationships between professionals and within teams.

Two of the papers consider the methodology of relating health policies to the communities they serve.

Relationships between organisations and health professionals

Improving reporting systems in hospitals ► A paper by Crawford *et al* in the *Journal of Medical Systems* analyses medication errors that “result from process breakdowns in organizational systems” and that “should be preventable with effective organizational processes and systems controls”. The study sought to identify systems factors related to higher levels of error reporting. It investigated a range of hospital systems factors—the “multifactorial and interdisciplinary problems and sources” of medication errors.

Hospital policies, procedures and practices were surveyed in 201 hospitals. Based on a review of the literature, a number of independent variables were tested. These included:

- existence of formal committees for the review and evaluation of error reports;
- staffing ratios of pharmacists and registered nurses per occupied bed;
- baseline screening or testing of nurses on proper medication use and preparation;
- use of computerised medication administrative records;
- 24 hour pharmacy service;
- use of patient focused care models.

There was an 84% response rate (169 questionnaires) based on 156 hospitals. A total of 951 serious medication errors were reported for the previous year, nine of which resulted in patient death and 12 caused permanent impairment of body function. The hospitals were divided into two groups—low and high reporters. The first group reported no more than two incidents (39%) and the second reported 6–32 incidents (38.5%). A middle group was excluded from the analysis. The study found that the reasons behind “increased reporting of medication errors warrants serious evaluation, but does not necessarily equate with a higher rate of actual error occurrence. In this context, the identification of systems factors associated with higher error reporting may paradoxically indicate improved error surveillance.”

The authors are from pharmaceutical administration departments. They found that the group that reported many errors included hospitals with 24 hour pharmacy services. However, after controlling for bed size, the significance of a 24 hour pharmacy service dropped out of the logistic regression model. The number of occupied beds was the sole factor with statistical significance. Larger hospitals are more likely to have 24 hour pharmacy services.

Capturing data on medication errors is important because it leads to analysis of why the errors occur and engagement with the more human factors connected with the dispensing and administration of

the wrong drug (and/or wrong dose, route, strength), confusion from look alike/sound alike drug names, miscalculations, misuse of equipment, and errors in prescribing and transcribing.

▲ Crawford SY, Cohen MR, Tafesse E. Systems factors in the reporting of serious medication errors in hospitals. *J Med Syst* 2003;27:543–50.

Strengthening relationships between organisational and clinical perspectives

► Health professionals often see continuous quality improvement (CQI) as a managerial initiative. In a paper in the *Journal for Healthcare Quality* Mace argues that health professionals can use CQI to incorporate quality analysis and improvement efforts into their professional practice. The author considers that a CQI programme can produce better alignment between organisational and clinical management through negotiating agreed indicators, benchmarking, clinical pathways, protocols, and clinical policies.

Information needs to be collected which links clinical and organisational activity. The paper places particular emphasis on process indicators because they monitor interrelated actions. An understanding of the flow of care allows consideration of what can be done differently—for example, the steps involved in obtaining cardiac enzyme results. Clinical professionals can use techniques to map different interventions and points of contact in the process of care, helping to set out treatment regimens that include all elements of care required within a set time throughout the patient’s entire treatment.

This analysis can be extended to explore interprofessional working. As the author states: “Clinical pathways are more extensive than clinical protocols and include more disciplines (i.e. not only physician treatment but also nursing, respiratory therapy, dieticians, and other healthcare staff) and more elements of patient care”.

▲ Mace S. Continuous quality improvement for the clinical decision unit. *J Healthcare Qual* 2004;26:29–36.

Exploring “relationship centred care”

► To some extent the above papers seem somewhat removed from the human and interpersonal aspects they each refer to. A very different view of relationships is seen in a paper by Wylie which explores the development of “relationship centred care”—a phrase coined by a report in the mid 1990s which aims to “capture the importance of the interaction between people as the foundation of any therapeutic or healing activity”. It seeks to promote “an integrated biomedical-psychosocial perspective” in health care.

Wylie undertook a literature review to see which dimensions of this concept have been developed most and by which healthcare profession. The paper provides an interesting insight into whether and how new concepts develop over time. The key words “relationship-centred care” were searched for the years 1995–2001 in bibliographic databases and a total of 47 articles were found. First authors included 24 physicians, seven registered nurses, and 14 others who were professionals affiliated with medical schools.

The most cited area was the patient-practitioner dimension (79% of articles), with particular focus on one-to-one interaction. Patient-centred agendas were the focus in most of these articles, or a movement towards patient control within the physician interviewing process. Emphasis is placed on practitioners having knowledge of multiple components of health and greater sensitivity to the power imbalance in consultations. Self-awareness was the second most cited dimension and appeared in 18 articles (38%). They included attention to the inner world of patients and practitioners, analysis of talk and of thoughts and actions, and attention to the role of discussion and document in documenting development. The third most cited area was practitioner-practitioner relationships. Doctors

tended to focus on relationships with other physicians, whereas nurses focused more on interdisciplinary efforts.

Perspectives from the social sciences, humanities and systems theory, and an understanding of social and political dynamics are at the forefront of papers focusing on relationships between practitioners and the community they serve. This dimension was the least cited of the four areas. The author considers this is because it is the most complex: "It may be that this particular dimension cannot fully develop until the other dimensions are well in place".

▲ Wylie JL. Development of relationship-centred care. *J Healthc Qual* 2004;26:14–19.

Changing relationships between patients and professionals ► The papers that follow can be related to different dimensions of the relationships identified.

Improving communication ► Most of the communication skills taught to doctors tend not to focus on particular specialities but are generic. However, the communication skills that are effective for general practitioners are not necessarily effective for other specialists. With this in mind, Harms *et al* developed a programme specifically for anaesthetists in the preoperative setting. The participants, all from Basle in Switzerland, were trained in small groups of 7–10. Each group received 10 training sessions (one a month), with each session lasting about 2 hours. Training started with a short theoretical introduction to interpersonal communication and its effect on patient outcomes. Each trainee had to record two preoperative visits and these videos were discussed and analysed within each group.

The training programme was assessed using pre- and post-intervention design, examining patient satisfaction and preoperative anxiety as the core measures of improvement in communication skills. Data were collected for a period of 3 months from all patients undergoing elective surgery and for a 3 month period after the training finished. 1338 patients completed the survey, of whom 905 were patients of anaesthetists without training in communication skills and 323 were patients of anaesthetists who received at least some training.

Overall satisfaction with the preoperative visit was high. With and without training, 79% and 78% of patients, respectively, felt that their anaesthetist visit had been "very good" or "excellent". Training was found to increase patient satisfaction with the preoperative anaesthetist visit and to decrease anxiety with the specific aspects of anaesthesia and surgery. However, the effect was small, given the intense programme, and there was no evidence that training had any effect on overall anxiety when measured by the Spielberger score or by general questions about anxiety. After adjusting for other predictor variables, however, there was strong evidence that communication skills training decreased median anxiety about specific aspects of anaesthesia and surgery.

The authors set out some reasons why training does not always lead to improved patient outcomes. These include:

- environmental constraints such as changing practice volume;
- appropriateness of outcome measures;
- time point of outcome measurement;
- high pre-intervention scores of the outcome measure;
- differences in study groups;
- bias of participants (volunteer participants may be more motivated and therefore already more skilled at communication than control subjects).

The authors close by noting another reason for the difficulty in studying communication effects. "As a teaching hospital, we have a considerable turnover of residents and faculty which makes a longitudinal study over a 16 month period difficult, and only 10 out of 59 physicians were present for the full 16 months".

▲ Harms C, Young JR, Amsler F, *et al*. Improving anaesthetists' communication skills. *Anaesthesia* 2004;58:166–72.

Power relationships between doctors and patients ► A new patient list system was introduced in Norway in 2001. Previously, patients had visited any doctor. The reform was intended to strengthen primary care and to make better use of

resources. Doctors were paid differently; 30% now came from a capitation based fee paid by local government and 70% from an out-of-pocket consultation fee and a fee-for-service reimbursement from the national insurance fund.

Based on nine group interviews in Hordaland and two in Oslo, the authors found two results that were not anticipated before the reform: (1) the changes have created a more competitive environment for doctors (they worry about losing patients from their list); and (2) doctors say they are withdrawing from their gatekeeping role (they are less likely to argue with the patient and assert a view that no treatment is needed). They tend to follow patients' wishes whereas, without competition, they were more likely to persuade a patient that a referral was not needed.

"The informants generally claimed that it has become more important to satisfy patient demands and that they would rather adjust their medical judgement to avoid conflict with patients. When GPs sometimes refuse to comply with patients' wishes it seems to be because of professional and not resource management motives."

The new relationship has resulted in benefits for patients. Under the new system patients only see one doctor and the responsibility, if anything goes wrong, has "induced them to work with long term preventive strategies".

The paper concludes that reform sometimes works in unexpected ways. The benefits for patients are clear, but the worry is that the resources are not being adequately constrained: "better use of scarce resources might be achieved if GPs were made more conscious of their gatekeeper role through continuous education".

▲ Carlsen B, Norheim OF. Introduction of the patient-list system in general practice. *Scand J Primary Health Care* 2003;21:209–13.

How do patient preferences influence outcome? ► A paper by Thomas *et al* in the *British Journal of General Practice* starts from the premise that "patients' beliefs and expectations are powerful contributors to the effect of care, and they either enhance or reduce the effect of the therapeutic interventions and thereby influence subsequent outcome". The researchers drew from the results of a randomised controlled trial (RCT) to assess how the initial treatment preference of participants affected functional outcome. The 207 subjects participating in the project had a choice between a steroid injection and physiotherapy for unilateral shoulder pain.

The importance of understanding and addressing patients' beliefs about treatment is highlighted by the high rates of non-adherence to patient plans and has implications for the findings produced by research. Perhaps patients allocated to a less preferred treatment in an RCT might do worse as a result. "It is important to consider whether the observed treatment effect is only a result of the treatment's physiological or pharmaceutical properties or whether it is influenced by the individual's preferences".

All trial patients were asked about their treatment preferences by a research nurse before randomisation and 6 months after randomisation. Before treatment, preferences were evenly split (40% for injection, 20% for physiotherapy, and 40% gave no preference). Women were more likely to have a pre-randomisation preference, but age did not make a difference.

A good functional outcome was defined as at least a halving in the disability score at the 6 month follow up. In participants who gave a pre-randomisation treatment preference, post-treatment preferences and changes of preference were strongly influenced by outcome and by whether the treatment preferred before randomisation was received. Participants experiencing a good outcome were more likely than those experiencing a poor outcome to give a post-treatment preference for the treatment to which they had been randomised, with the relationships being similar in both the injection and the physiotherapy groups.

The results confirm what common sense would suggest—namely, that experience of treatment will be one determining factor in shaping or changing preferences. In this study the participants with no treatment preference were less likely overall to have a good outcome, but good outcome was associated with a subsequently ascertained post-treatment preference for the received treatment.

▲ Thomas E, Croft PR, Paterson SM, *et al*. What influences participants' treatment preference and can it influence outcome? Results from a primary care-based randomised trial for shoulder pain. *Br J Gen Pract* 2004;54:93–6.

Relationships between health professionals and within teams

Understanding relationships between professionals ► A paper by a team of Canadian researchers begins with the observation that, while collaboration and healthcare teams are common in hospitals, this is less often the case in the community setting because most practitioners work independently. Dieleman *et al* examined the perceptions of pharmacists, physicians, and nurses as they worked together in community based teams to provide care to 190 high risk community dwelling individuals.

Twenty two people were organised into six teams and a simple pre and post-test design was used to evaluate the impact of team care on providers' attitudes. Questionnaires were administered at the beginning, twice during the study, and at the end. The basic questionnaire contained five questions examining job satisfaction, nine examining role recognition and experience in the team, and nine questions addressing satisfaction with the collaborative process, care decisions and quality of care. Each question was scored on a Likert scale from 1 (disagree strongly) to 7 (agree strongly). The mean age of the individuals in the teams was 38.8 years (range 23–52). All physicians were male and all the nurses were female. All but one of the pharmacists was female.

Taking the sample as a whole, the researchers found that the experiment was regarded positively. A couple of common themes emerged across the teams: it had developed a better understanding of other team members' roles and led to a particular preference to work with others when caring for high risk individuals. While all 22 individuals thought working closely with others was helpful, not all found it comfortable. Individuals in three of the teams felt there was less equity in decision making at the end of the team working period than there had been before it, and not all members were satisfied with the decisions that were taken. Five of the six teams felt that working in the team had given them a better appreciation of the other team members' perspectives and roles in health care. One pharmacist said she had a greater understanding "of my team's work load, time constraints and the broad scope their jobs involve. When we each work in an isolated cage it's hard to truly understand what's going on in another professionals' cage."

The implication is that effective teams in community care need a clearer picture of the system of care. This awareness was found to be linked with an enhanced trust and respect for the roles of others. "When the skills and roles of other community health care workers are understood, effective teamwork is possible". But "before they could trust other providers, each person had to learn about that provider".

▲ **Dieleman SL**, Farris KB, Feeny D, *et al*. Primary health care teams: team members' perceptions of the collaborative process. *J Interprof Care* 2004;18:75–8.

Trust in teams ► In a UK study Pethybridge carried out research "to critically explore and analyse what factors in an interdisciplinary/multidisciplinary context inhibited or promoted decision making for the discharge planning process for patients returning home from an acute hospital in London".

What is it that defines multiprofessional working? Some see it as different professionals involved with the same client working towards the same end. Others see interdisciplinary activity as "interwoven working" across professions. Common to both views is the foundation of having a common purpose and a clear view of their own and others' functions. The advantages of team working are groups "pulling together and cooperating, sharing values". The disadvantages include "groupthink, confusion and lack of purpose" together with "hegemony by the most powerful group and disappearance of professional expertise".

Pethybridge used grounded theory to "illuminate who is involved ... who takes decisions for coordinating discharge ... to explore the nature of the relationships of team members ... whether different professional cultures and models of practice influence discharge planning [and] how team members support each other". The author observed social rounds, nursing handovers, and doctors' ward rounds on two different wards over a period of about 12 weeks. One ward specialised in respiratory patients with shorter lengths of stay with six different medical teams. The ward was very much controlled by the sister who coordinated and acted as a "go between" between the doctors and other members of staff. The second was a general medical ward with three separate medical teams and six dedicated stroke beds. For the stroke patients the consultant, registrar and house officers all attended the social

rounds, but the doctors, nurses, therapists and social workers all held separate case notes. For the other teams usually the registrar and/or the SHO attended.

The findings show that team exchanges were critical in the decision making process for discharge planning. "The factors that emerged as encouraging good team working were sharing, consensus and agreement, trust, being in a learning culture and good leadership". "There was great variance of these factors between the teams observed".

As with the previous paper, trust is placed central to team working. Working in an interdisciplinary way requires cross-professional faith. One participant said: "With more people you have to talk to each other and plan, we're too busy to overlap, we have to communicate, it comes down to having trust and confidence that others will follow through".

To improve teams the researchers argue that wards would have to be specialty based with all team members housed together. The problem with clinical teams is that, although they meet to discuss patients ad hoc, they rarely have "business" meetings to discuss how best to work together or iron out problems.

▲ **Pethybridge J**. How team working influences discharge planning from hospital: a study of four multi-disciplinary teams in an acute hospital in England. *J Interprof Care* 2004;18:29–40.

Exploring relationships between health policy and communities

► Relationships with communities are said to be the most complex and difficult of the various dimensions. Most analyses at this level are necessarily macro—either economic or epidemiological in nature. The difficulty lies in the distance of the analysis from individual encounters, squaring hypothetical with real relationships, and what is best for individuals with the most effective collective action.

Eliciting preferences in a trade off between quality and quantity of life

► Arnesen and Norheim explain that "cost utility analysis is an ambitious approach designed to compare the costs and the benefits of alternative health programmes". It aims to make all kinds of health gains directly comparable on a numerical level. The potential for better relating health policy to people lies in the value of a common currency for all health outcomes such as quality adjusted life years (QALYs).

The paper looks at how we can better understand difficult choices that people have to make. For example, in terms of QALYs, the value of a long life lived with chronic illness can be directly compared with the value of a short life lived in good health. Different weightings are given to health states and time trade off (TTO) is the most commonly used method for eliciting such quality of life weightings for QALYs. Respondents were asked which proportion of their remaining life time they would be willing to sacrifice in return for being relieved of a given health problem.

The authors examined how well this analysis relates to the communities at which it is aimed. To explore TTO further they looked at the different ways in which its results are used and questioned some of the assumptions that are made—for example, that there is a willingness to trade lifetime for improved health; that a hypothetical trade off reflects true preferences; or that quality of life can be measured on a numerical level. "We know that people react differently to illness. While the knowledge of a lethal condition makes some people value their days and minutes more than before, it makes others perceive a loss of meaning of their remaining days."

Studies of elderly people experiencing a loss of physical autonomy and another group with cancer found that more than half the patients would not trade one day of life in exchange for improved quality. "Choices involving trade offs between length of life and quality of life cannot be observed in a real market". Health economists have therefore opted for hypothetical choices as the second best solution. But it is not certain "that there exists a true point of indifference between preferences for living well and preferences for living long".

Quantifying quality of life depends on being able to define it. But the question of what constitutes "the good life" is one of the basic philosophical questions. "Concepts of quality of life vary not only between cultures but also between people in the same culture and even for the same individual according to situation and age".

▲ **Arnesen TM**, Norheim OF. Quantifying quality of life for economic analysis: time out for time trade off. *J Med Ethics: Medical Humanities* 2003;29:81–6.

How well is the distribution of health resources related to those who need it most? ► A paper by Asthana *et al* which concentrates on ways of relating health policy to community need asks if there are better ways to distribute resources. It begins by noting that the English NHS was the first healthcare system to distribute its resources in relation to population need, and has led the world toward the view that “a transparent, empirically based approach to matching health spending to population need is generally regarded as an improvement upon allocation based on historical patterns of expenditure”. But the authors suggest that this may not be the best method and propose instead that resources should be distributed on the basis of direct measures of morbidity “rather than indirect proxies such as health services utilisation or deprivation”.

The paper sets out to compare how a morbidity based capitation methodology and the current capitation formula would vary in their distribution of an identical budget for the hospital treatment of coronary heart disease. It covered 34 primary care organisations in seven different areas of England. The research design followed five stages: (1) obtaining national prevalence rates; (2) attributing these rates to primary care trust populations; (3) establishing an age/sex resource matrix; (4) calculating clinical programme budgets; and (5) a weighted capitation allocation for coronary heart disease services.

The findings suggest that the existing formula introduces systematic biases against particular population groups. The authors state: “Perhaps against expectations, the evidence we present suggests that the current formula discriminates in favour of deprived

urban areas”. Despite finding that the morbidity approach produces a better match of resources to need, they say that this method may not be adopted because many “health inequality researchers and policy makers in Britain are concerned to direct more health care resources towards the urban poor” and “a shift of resources away from deprived areas would be regarded as a retrospective step”.

The researchers argue against concentrating resources in deprived urban areas. “It is generally agreed that the NHS (and particularly national hospital services) has relatively little to contribute towards the reduction of health inequalities compared to other sources of variation such as income distribution, education, housing and lifestyle. Thus, the targeting of core services to urban deprived populations over and above levels of underlying morbidity is likely to be an ineffective response to health inequalities. It is one, moreover, that introduces a new form of inequity by underestimating the needs of more elderly but less deprived populations.” The “very transparency of the morbidity approach demands equal transparency between the treatment of existing disease on the one hand and the reduction of inequalities in health on the other”.

▲ Asthana S, Gibson A, Moon G, *et al*. The pursuit of equity in NHS resource allocation: should morbidity replace utilisation as the basis for setting health care capitations? *Soc Sci Med* 2004;**58**:539–51.

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