Impact of the evidence-based health care 'movement' on health service strategic planning 1995-1998

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Summary
This paper describes results of a study examining strategic commissioning behaviour of managers and GPs. The study examined use of research evidence in decision-making. Results show that between 1995 and 1998 awareness of the need to use evidence grew; however, decision-making was still limited by contextual and historical factors. The paper concludes that change towards more evidence-based practice can occur, but it is important to consider the realities of decision-making and costs.

Introduction
During the 1990s, health service professionals were subject to a marketing campaign which assaulted them from many fronts. Professional bodies, the government, patients' organisations and selected academics all supported and promoted this, apparently new, product - 'evidence-based practice'. It started in medicine, but the concept spread feverishly and soon all involved in the health service were exhorted to 'act on the evidence' (Appleby et al, 1995). There were many reasons why this was a product that had arrived at the perfect time. Given financial restrictions, the vogue for performance management and increasingly litigious patients, evidence-based health care presented a useful framework on which to hang 'rational' decision-making (Eddy, 1993).

The study reported here ran from 1995 until 1998. In 1995, the 'internal market' for health care, introduced by the Thatcher reforms of 1990, was just becoming established. The structure of the health service consisted of purchasers (later, commissioners) and providers. Commissioners were health authorities (health boards in Scotland) and a number of fundholding general practices. Fundholding practices were those who had opted to obtain their own budget to plan and commission services for their practice patients. Health boards had an over-arching remit for planning and commissioning population health within a region. They thus planned and commissioned for patients not covered by GP fundholding, but also (theoretically at least) worked with GP fundholders.

This study examined GPs' and health board managers' use of research evidence in commissioning decision-making. It was particularly concerned with changes in evidence use over the period of the study. This was interesting and topical as a large amount of National Health Service (NHS) funding was invested in infrastructure for evidence-based health care, including institutions for synthesising and disseminating evidence, training in critical appraisal and a vast number of local and national projects and initiatives. In the spirit of evidence-based health care, it was important to reflect on the extent to which these investments represented effective use of limited resources.

As the education sector is currently embarking on a similar crusade, perhaps this health service example can provide some evidence to reflect upon.

The development of evidence-based health care
Medline, the major medical database, reveals that the first mention of 'evidence-based medicine' (EBM) was in 1992, when an article was published by a group at Canada's McMaster University on teaching the 'new paradigm' to medical students (Evidence-Based Medicine Working Group, 1992) The idea of using research results to guide practice was, of course, not new as several sceptics noted during the mid 1990s (Grahame-Smith, 1995). But the brand name was new and, as Gladwell (2000)
would put it, it was ‘sticky’. EBM soon spawned a whole industry, encompassing:

the production of synthesised reviews of research by national (NHS Centre for Reviews and Dissemination) and local agencies (e.g. Wessex Development and Evaluation Committee);
support for ongoing expert groups to review and update evidence (Cochrane Collaboration);
production of clinical practice guidelines by professional bodies such as Scottish Intercollegiate Guidelines Network (SIGN).

In fact, by 1995, there were so many sources of evidence, that managers reported being confused about which to use and, if conflicting conclusions were drawn, which source had most credibility (Appleby et al, 1995).

Having traditionally been a later adopter of trendy management concepts (Marnoch, 1996), it could be said that health service management was off the mark with interest in evidence-based practice.

One of the most influential proponents of transferring the concept to management decision-making in the health service was Muir Gray (1997). In his book 'Evidence-based healthcare', he urged ‘the compleat manager’ to learn skills of critically appraising the evidence; to base management practice on research evidence and to apply evidence in health care decision-making.

Unfortunately, the rational, linear model of management decision-making described was based more on idealism than research results. The sentiment was important, nonetheless, and stimulated further discussion of evidence-based management and commissioning (Stocking, 1995).

Evidence into practice

The gap between having the evidence and implementing it still eluded managers, though. For example, Redmayne et al (1993) conducted a series of content analyses of purchasing plans that revealed that the stated intentions of managers to conduct evidence-based purchasing were not always carried on into practice. What was missing was cognisance of the nature of management decision-making. Case studies appeared alluding to muddling through, crisis management and decisions being made on the basis of immediate impact rather than a rational considered process (Chrispin, 1996; Miller, 1997). Klein's (1993) overall analysis of health service management (purchasing) decision-making was important in suggesting the fundamental impossibility of a classical rational model. Other evidence, from empirical study, began to come to light which suggested that relationships and historical patterns of service provision were most influential in guiding decision-making (Laing & Cotton, 1996).

Thus, while work on changing individual clinical professionals’ practice became more sophisticated, there continued to be a lack of evidence about how to embed research results into strategic (local policy) decision-making and the extent to which this could be achieved. Hence the desire to conduct this study to examine health service commissioners’ responses to the ‘evidence-based’ movement.

Methods

The overall design of the study involved surveying Health Board and GP commissioners. As the box below shows, questionnaires and interviews were used at two stages, followed by a validation exercise.

The main elements of the study were:

1995 Questionnaire survey of GP fundholders.
1995 Questionnaire survey of senior health board managers.
1997 Questionnaire survey of previous GP respondents.
1997 Interviews with GP fundholders.
1997 Group interviews with senior health board managers.
1998 Validation of summarised findings and conclusions by GPs and Directors of Public Health.
Questionnaires were used in 1995 because it was important to investigate the widest possible range of attitudes towards use of information in decision-making. In 1997, it was considered important to obtain qualitative data on how decisions were made, as well as to investigate changes in use of information, following heavy promotion of the evidence-based practice concept. In 1997, it was necessary to work with staff of the Accounts Commission for Scotland who were working on this topic on behalf of the Scottish Office. 'Ideal' methods (i.e. questionnaire plus interview) had to be adapted to fit with their chosen method of group interviews. A validation exercise was conducted to examine the extent to which our analysis of findings fitted with the perceptions of those working at the grassroots.

**Surveying GP commissioners**

In 1995, a list of all 90 established Scottish fundholding practices was obtained from the NHS in Scotland Management Executive library and, following piloting, a questionnaire was distributed. Practice managers were asked to recruit the GP in their practice who they considered would be most interested in use of evidence-based information in commissioning to complete the questionnaire. This method of recruitment to the study was used because: names of individual GPs were unavailable; it was considered unfair to deluge individual practices with numerous questionnaires; it was anticipated that a better response might be elicited from those with a known interest or remit in evidence-based health care.

In 1997, questionnaires were sent to 62 GPs who had previously responded in 1995 and who were still located at their previous practice address.

A similar, mainly tick-box style, questionnaire was used at both stages. Topics covered included use of information in commissioning decision-making, perceived quality of information and influences on decision-making. Also, in 1997, use of research evidence in decision-making was explored in-depth through semi-structured interviews conducted with ten GPs who had responded in 1995 and 1997. GPs were selected to represent the Scottish regions that had fundholding practices and from which at least one practice had responded to surveys. At all stages, GPs were asked to respond in relation to their commissioning (i.e. strategic management) decision-making, rather than individual patient decision-making.

**Surveying health board commissioners**

A similar questionnaire to that used with GPs was distributed to all general managers, directors of finance, directors of commissioning and directors of public health working at the 15 Scottish Health Boards (a total of 59 managers) in 1995. These people were selected as they would be most heavily involved in strategic decision-making.

In 1997, a series of interviews was conducted with groups of senior managers representing the 15 Scottish health boards. Health boards were asked to nominate interviewees with a remit in evidence-based health care. Of the 26 managers who were interviewed, 20 had taken part in the 1995 questionnaire survey. So that comparisons could be made, themes covered encompassed those in 1995 questionnaires and 1997 GP questionnaire and interviews.

**Data analysis**

For each questionnaire survey, qualitative data were collated under question headings and analysed inductively to identify themes. Data for each survey were then analysed for over-arching themes. All interviews were recorded and transcribed in full. Data were systematically analysed for recurrent themes by two researchers working independently. This allowed independent verification of emergent themes. Finally, data from questionnaires and interviews were analysed together to induce overall themes and to compare and contrast GP and health board manager responses and responses at different stages of data gathering.

**Validation**

In 1998, summaries of findings for health board and GP commissioners were produced. These identified factors affecting the use of evidence in commissioning and the factors within the internal and external environment that might bring about change towards more evidence-based health care (Farmer & Chesson, 2001). These were distributed to seven Directors of Public Health and eight GP Advisers working at health boards across Scotland. Feedback on the validity of findings was elicited through telephone and in-person interviews, using a short schedule of questions.
Results

Response

Following one reminder, the 1995 questionnaire surveys achieved a response of 74.6% (44) for health board senior managers and 78.9% (71 practices) for GP fundholders. In 1997, 26 senior managers were interviewed in groups. These included 15 directors of public health, six directors of planning/contracts, three directors of finance, one general manager and one director of communication. There was a 61.3% (38 practices) response to the 1997 GP survey. Non-respondents were contacted. Questionnaire ‘fatigue’ and an excess of administrative work were reasons for non-response.

Use of evidence in commissioning decision-making

Results for 1997 show that more respondents were using a wider range of sources compared with 1995 (as shown in Figure 1). Health board managers reported consistently higher consultation of the literature. Reported use by GPs changed significantly between 1995 and 1997. For example, 13.2% of the directly comparable group of 38 GPs (who replied in both 1995 and 1997) consulted Evidence-Based Healthcare Bulletins (EHBs) in 1995 compared with 63.2% in 1997 (p<0.001).

Barriers to information searching

As shown in Figure 2, most respondents continued to feel that lack of time was a barrier to information searching. Although numbers are small, in 1997, more respondents thought they lacked searching skills compared with 1995; and fewer thought searching was not necessary.

Perceptions of Information Quality

As can be seen from Table 1, health board managers perceived a general increase in the quality of information available for decision-making over the period 1995-1997.

Conversely, fewer GPs thought information quality was high or adequate in 1997 than in 1995 (p<0.01).

Influences on commissioning

Questionnaires and interviews both asked respondents to consider what factors influenced their commissioning decision-making. Quantitative results2, shown in Figure 3, show that sources providing summarised research evidence about clinical effectiveness and cost-effectiveness did take on more relevance over the period. Change in scores for use of clinical effectiveness information by GPs over the two stages proved to be statistically significant (p<0.01). The influence of information about cost-effectiveness rose from 39.4% to 61.1% for GPs, although this was not statistically significant. Health board managers reported being heavily influenced by their Directors of Public Health (doctors with a special remit for advising the health board on population health) (score: 85.4% in 1995; 85.7% in 1997). Health board managers were also consistently influenced by government direction (national priorities) (82.9% and 100%) and locally agreed priorities (85.4% and 89.2%). GPs were consistently most influenced in their decision-making by their own professional experience (82.4% and 84.7%) and by relationships with local providers (contacts at hospitals) (84.5% and 83.3%). Interestingly, maintaining service availability locally (only asked in 1997) was quite important, while cost differences between providers of care, consumer opinion and local politics were reported to have some, but not consistently higher influence.

Interview findings regarding influences on decision-making revealed a different perspective. Both GPs and health board managers strongly expressed the influence of ‘politics’, local pressure groups and their relationship with the local press. ‘Politics’

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2 In this question, respondents were presented with a range of influences and asked to report if these generally had ‘high’, ‘some’ or ‘no’ influence on commissioning decision-making. Percentage scores indicated in the Figure are adjusted to allow for difference in size of response and responses of ‘high influence’ or ‘some influence’ in the following way: a ‘high’ influence score is given a weight of two and a ‘some’ influence score, a weight of one. Thus a total weighted score for each factor for the whole sample can be derived. Scores for factors are then divided by the total potential they could have scored. For example, for a sample of 71 GPs in 1995, a total potential score of 142 could be achieved if all GPs scored a factor as having ‘high’ influence. Therefore, the weighted score is divided by the potential score (142 for 1995 GPs) and multiplied by 100 to obtain a percentage score.

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1 McNemar test was used to examine differences between paired proportions of categorical variables (Altman, 1991).
was said to pertain at different levels, as the following quotes illustrate:

**Health service politics:**

“the health service runs like the 1960s Clydeside demarcation disputes...it's crazy...the clinicians agree the clinical part of care and then management have to make sure it happens and nobody can argue...” (GP)

**Health Board politics:**

“...the Health Board don’t always make decisions from an evidence-based point of view...they’re making decisions on a Political (large P) background...” (GP)

**Professional politics:**

“...the use and abuse of power within medicine is well known and it still occurs...we’re talking about people who are achievers and those with the most drive often get to places where they’ve got a lot of power and influence and they want to continue exerting that...” (GP)

The influence of consumer opinion was frequently mentioned by GPs. They felt that their day-to-day interaction with patients kept them fairly well informed of public perceptions. However, most had struggled to establish formal patient participation in decision-making. GPs reported encountering paternalistic perceptions ('what do you think, doctor?') and difficulties in informing patients about commissioning or other planning issues.

### Describing the decision-making process

Health board managers tended to describe commissioning decision-making processes in one of two distinct ways. A number explained a ‘textbook’ rational model, while others perceived decision-making as ‘muddled’ (Mechanic, 1997) (see box below). Whether their descriptions are in accord with the way decisions are actually made in their organisations, or more likely, with the way their personality and experience understands decision-making, it is impossible to tell without having spent some time observing behaviour in their organisations.

#### Perceptions of management decision-making

**Rational:**

“...strategic decisions are made on the basis of a commissioning cycle...needs assessment, then service review, health improvement programme, health evaluation. It works in a cycle...”

**Muddled:**

“I don’t think they are made...explicitly...”

“I think they are made in different ways...”

“It’s a bit like trying to describe a jelly...”

GPs’ descriptions of decision-making focused around decision-making triggers, rather than processes of decision-making. They perceived two main types of opportunity...
for decision-making; one arising from a planned situation (e.g. needs assessment exercise, annual review, contracting cycle) and the other more ad hoc (e.g. reacting to new research evidence or an unforeseen problem).

**Limits to rational decision-making**

Health board managers identified a number of factors that limited their ability to act in accord with 'the evidence'. They had very limited flexibility of movement within a finite budget because most resources were committed to historical patterns of service provision, as these comments suggest:

“...often, in the Health Board...it's not a question of what are we going to do that's effective - it's more a question of - how are we going to stay in budget?"

“...90% of our money is tied up in services...decisions are made...at the margins”

Additionally, health board managers were very wary of offending 'political' interests that might lead to adverse publicity. Fear of confrontations with patients’ interest groups, local politicians, local clinicians and drug companies were all mentioned. This perhaps reflects the continuing uncertain situation of many health board managers' posts in the face of constant 'reconfiguration' of organisational structures. Fluctuations in overall policy also meant radical solutions were unlikely as major effort to commit in a currently fashionable direction might have to be reversed. As one manager noted:

“the health board is like a cork on an ever-changing sea of central policy and ever-changing local priorities”.

Findings suggested that, in order to cope with constant change, commissioners had adopted an attitude of working towards some kind of 'ideal' model of the health service. It was as though respondents were working towards achieving their own tacit goals, rather than some short-term political agenda.

GP's interviewed were more confident that they could achieve service improvements in line with research evidence and some gave examples of areas where they had negotiated changes with consultants in secondary care. Their greater leverage in effecting change seemed partly to spring from direct relationships with clients and providers (i.e. mainly other doctors). In addition, their more valued roles, supported by the might of the medical establishment, meant GPs had a stable and confident professional base from which to negotiate change.

**Conclusions**

This study was not perfect in its conception, but it was conducted in an imperfect world. Longitudinal evaluation that interfaces in any way with policy-making will be subject to the same kinds of difficulties encountered here. Changes to methods were necessitated by the 'politics' of having to work with other agencies in order to access the study population. Both the policy of the internal market and the structure of the 'evidence-based' movement evolved very quickly over the period. This meant terminology, meanings and the questions it was appropriate to ask, all changed. Nonetheless, this kind of study is important in providing evidence of what can be achieved and hinting at barriers and promoters of change.

The study revealed much information about commissioners' reactions to the marketing bombardment of the evidence-based movement. There may be some lessons here for other sectors seeking to embrace the evidence-based 'movement'.

Perhaps the most important conclusion of this study is that things can change! Findings provide a number of indications that commissioning decision-making became more 'evidence-aware' or 'evidence-influenced' (Nutley & Davies, 2000), if not evidence-based, over the period of the study. Respondents thought they were more mindful of the evidence, more respondents used more sources of research evidence in 1997 than in 1995. Results suggest that the influence of evidence about cost-effectiveness and clinical effectiveness on decision-making rose. There were also suggestions of a more knowledgeable, critical perspective towards information use. Thus, heavy marketing, combined with a concept that was perfect for its time, led to managers attempting to adopt a 'product' that was not really tailored to their needs. That is, by its nature, management may require evidence that is different in its presentation and implementation strategy compared with
evidence to change individual’s practice. The lesson for the education sector, here, is surely that awareness and attitudes can be changed by a marketing campaign, but don’t expect miracles - changing management practice is more difficult. Also, consider carefully how much money you want to spend on infrastructure in order to achieve these changes.

Health board managers expressed particular frustration about how to get evidence into decision-making, given that processes were muddled and constrained by so many factors. Desire for a formula that would allow evidence to be ‘slotted-in’ to current management practice, quickly, was strong. At the time, the literature on achieving evidence-based health care management was vague and few researchers and commentators had crossed disciplinary boundaries to plumb the depths of the rich literature on the use of information in management decision-making (Wei Choo, 1998), public sector policy-making (Lindblom & Woodhouse, 1993) and knowledge diffusion (Weiss, 1980; Rogers, 1995). Recent moves towards discussion of more realistic ‘evidence-aware’ and ‘evidence-influenced’ decision-making (Nutley & Davies, 2000) are important in reassuring managers that there are no simple solutions. Those seeking to achieve evidence-based management and policymaking can learn much from the health care sector. Most importantly, the value of examining and understanding management decision-making so as to develop realistic expectations and advice about embedding evidence in practice.

References


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Cochrane = Cochrane Database of Systematic Reviews
Medline = Medline database of medical journal articles 1966-
EHCB = Effective Health Care Bulletins
SIGN = Scottish Intercollegiate Guideline Network clinical guidelines

**Figure 1:** Use of information

**Figure 2:** Reasons for lack of information searching
Table 1: Information Quality - comparison

<table>
<thead>
<tr>
<th>Information quality</th>
<th>% Health Board Managers 1995 (n=44)</th>
<th>% Health Board Managers 1997 (n=26)</th>
<th>% GPs 1995 (n=38)*</th>
<th>% GPs 1997 (n=38)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>2.3</td>
<td>26.7</td>
<td>5.3</td>
<td>2.6</td>
</tr>
<tr>
<td>Adequate</td>
<td>54.5</td>
<td>46.6</td>
<td>57.9</td>
<td>31.6</td>
</tr>
<tr>
<td>Poor</td>
<td>43.2</td>
<td>26.7</td>
<td>36.8</td>
<td>55.3</td>
</tr>
</tbody>
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Figure 3: Factors Influencing Commissioning Decisions