The use of population based health outcome measures in South Birmingham

Geographical Area covered: Birmingham
Focus: Case studies focusing on the use of national indicators

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Editorial comments on how case study is linked to improving health outcomes: (also published in Volume 1)
Crump describes how the indicators in Population Health Outcome Indicators for the NHS were used in South Birmingham. Comparative population health outcome data, taken alongside other local information, lead to the prioritisation of relevant topics. Proxy outcome measures, or impact measures, were introduced into contract monitoring in order to focus the attention of those providing the service on factors which were likely to be associated with a good outcome for the patient and were within their sphere of influence. These measures helped to begin a dialogue about the quality of aspects of clinical care relevant to outcome. The author describes the approach to the development of these proxy measures of outcome, focusing particularly on the measures for fractured neck of femur, and on the steps taken to introduce them into contracts.

Abstract (also published in Volume 1)
This case study describes how the Population Health Outcome Indicators were used in South Birmingham, how and why the indicators on fractured neck of femur raised the profile of this issue and how, in collaboration with other authorities, a suite of measures was introduced into contracts to begin a dialogue about the quality of aspects of clinical care relevant to outcome. The study describes the approach to the development of these proxy measures of outcome, focusing particularly on the measures for fractured neck of femur, and on the steps taken to introduce them into contracts.

Comparative population health outcome data, taken alongside other local information, can lead to the prioritisation of a relevant topic. An approach can then be followed in order to bring questions of the quality of the content of clinical care onto the agenda of contracts for services for relevant patients. The approach used in South Birmingham introduced proxy outcome measures, or impact measures, into contract monitoring in order to focus the attention of those providing the service on factors which were likely to be associated with a good outcome for the patient and were within their sphere of influence.

Both the population health outcome measures dataset and trends in mortality from accidents in the elderly, which is a Health of the Nation target area, lead to an examination of the management of fractured neck of femur. For relevant providers the quality section of the contract was supplemented to include the requirement to establish a protocol addressing the need for early involvement of geriatricians in the care of patients with a fractured neck of femur, and to report on the speed with which patients with this diagnosis were transferred from A&E to the ward. These specific requirements were chosen from a number of recommendations made by a working group established by the Royal College of Physicians which had studied the care of patients with this condition.

These impact measures, along with a range of others aimed at seven other areas of clinical practice, were introduced by a number of neighbouring health authorities into their contracts in an attempt to broaden the scope of quality monitoring in contracts to include areas of clinical practice.

Introduction:
Why this clinical area was chosen:

Further information that was required:

Analysis identified the local providers caring for the majority of the resident population with the diagnosis. A limited literature review was conducted to identify studies or reports pertinent to the quality of clinical management of patients with hip fracture.

Data validity studies:

No formal data validation was conducted.

Summary findings from initial work:

Changes which were made:

General Initiatives

A number of interventions were initiated, or given further impetus, following the attention drawn to the problems of accidents in the elderly, and to fractured neck of femur in South Birmingham. Many of the projects aimed at the prevention of accidents in the elderly were brought together in a 1993 multi-agency strategy (Healthy Birmingham, 2000) produced by a task group which was jointly chaired by a Consultant in Public Health Medicine from South Birmingham Health Authority and a Health Promotion Officer employed by Birmingham City Council. The strategy was underpinned by substantial direct consultation with elders in Birmingham in a series of meetings co-ordinated by Age Concern.

Recommendations which were implemented included a joint initiative between community health and fire service staff around the use of smoke alarms in the homes of elderly people; the facility for health visitors to arrange prioritised referrals for repairs to the Housing department when a hazard was discovered in the home of an elderly person and the establishment of a multi-sectoral group to generate clinical guidelines to reduce the risk of tranquilliser induced falls in the elderly. Whilst not directly prompted by the strategy the University Department of General Practice have instituted a programme of controlled interventions to train Primary Health Care team members in accident prevention in the elderly, following a successful programme aimed at the prevention of accidents in the young.

It was recognised that a potentially major contribution to the prevention of accidents from the Health Service would be the provision of local data about the pattern of injuries, hazards, and the identification of communities at high risk. An innovative piece of work was initiated with the local coroner to allow detailed access to his records. However attempts to introduce collection of standard data between accident and emergency departments which relate to the cause of injuries and where they took place, proved difficult, with A&E information systems being poorly developed for this role.

The development of local “impact” measures.

The publication of the Population Health Outcome Indicators coincided with a number of discussions taking place in a forum of Public Health doctors from the District Health Authorities of Birmingham, Sandwell and Solihull about methods of bringing issues of clinical quality into the contracting arena. Each authority had been disappointed with their ability to address issues of clinical effectiveness in contracts, with the quality sections of contracts being principally concerned with environmental issues, procedures for the management of care, the handling of complaints and consumer satisfaction rather than the exercise of clinical judgement or clinical skill.

In South Birmingham the original guidance on Operating Contracts (NHSME 1990) had been closely followed. This proposed that it was for the lead purchaser for each provider unit to identify the areas in which they would wish to see quality monitored and for the provider to respond with its proposed standards in these areas and the way that it would monitor and report on performance. The Health Authority had asked for standards to be developed for the commonest conditions for which its residents were treated by each unit; in part this was because the local teaching hospitals were being
asked to look at their standards for the provision of low technology local services for local people. There was very little response, and very little evidence of medical involvement in drawing up a response. In the immature market of the time it was difficult for purchasers, whose requests were met with silence, to exercise much authority.

In the face of this apparent lack of interest in bringing clinical quality into the contracting arena the Public Health departments in the Districts in and around the city agreed to insert a quality schedule into their contracts which would require the collection of clinical data in a number of areas, to a standard method.

It was agreed that the measures used should be proxies for outcome; locally the term used was impact measures. To be an acceptable proxy the measure should be reliably related to a good or bad clinical outcome for the patient. Ideally this link should be established from published studies or systematic reviews, though some of the initial measures related to authoritative, though not evidence based, guidelines or recommendations for clinical management. Since the object was to measure the quality of clinical care the measures chosen were within the span of control of the clinicians involved; hence door-to-needle time for thrombolytic therapy was measured even though pain-to-needle time would be more relevant in population health terms. They were also chosen so that they were recordable whilst the patient was in contact with the provider concerned. These factors both led to the exclusion of some potentially useful indicators, and to an acknowledged scope for criticism of the value of some of the indicators chosen.

The collaboration of the different Health Authorities was useful if not essential since cross boundary flow of patients was very common and the lead purchaser principle, with the host purchaser defining the quality schedule with a provider which all other purchasers would follow, was very much established local practice. Potentially it also allowed for inter provider comparisons to be made.

It was agreed that a manageable number of measures should be introduced, that they should focus on high priority areas, but that they should indicate an intent to consider clinical quality in community and mental health services as well as acute services. The first list of areas for impact measures emerged from consultation within the Public Health departments and some limited consultation with GP advisers to the authorities. Little or no discussion took place at this stage with providers since there was a strong feeling that it was time for the purchasers to be seen to take a lead.

The management of fractured neck of femur emerged as one of the first impact measures to be developed and will be discussed in more detail. For interest the remaining areas in which impact measures were introduced were:

- Thrombolysis in the management of Acute MI;
- The use of chemotherapy in selected malignancies;
- Rates of breast feeding in the newborn;
- Re-admission rates in schizophrenia;
- Risk scoring and management protocols for bedsores;
- Provision of smoking cessation advice to selected patients;
- Time of operation and seniority of staff in the care of patients needing emergency surgery.

(The last impact measure, which was introduced as part of an extension to the original scheme, was in fact proposed by a surgeon who felt that it would help to identify some of the apparent discrepancies in efficiency between competing units).

It was for each Health Authority to decide how to secure compliance with the data collection. In South Birmingham a percentage of the clinical audit allocation was held back to be distributed to the unit when satisfactory returns were provided which demonstrated that the requirements of the impact measure could be met. The payment of the audit money was not related to a target level of performance. No additional requirements for clinical audit were made of units which could therefore choose their own priorities for clinical audit; compliance with the Impact measures programme was seen to meet the terms of central guidance that purchasers could direct a proportion of audit activity to areas which they saw to be of priority (NHSE 1994).

Initiatives related to fractured neck of femur

The content of the fractured neck of femur impact measure was drawn from the Royal College of
Physicians Report on the Management of the condition (Journal of Royal College of Physicians 1989). This influential report was already familiar to several of those involved in the development of impact measures and was also referred to in the chapter on hip fracture in the feasibility study which was published simultaneously with the Population Health Outcome Indicators themselves (McColl and Gulliford 1993).

The report considered the prevention and management of fractured neck of femur. Several of the recommendations with respect to prevention were pursued through the accident prevention strategy referred to above. For the purpose of developing impact measures for clinical care of patients who had sustained a fracture the recommendations concerning clinical management were most relevant. On balance it was decided that the two most significant recommendations for which data could not be obtained from routinely supplied Contract Minimum Data Sets (CMDS) related to the patient being moved out of A&E with minimal delay (inferring early recognition of and early management of the fracture), and to the establishment of a care plan jointly with geriatrician, early in the patient’s admission (inferring very early establishment of a rehabilitation plan, identification of significant co-morbidity and a focus on life after hospital). Hence the requirement entered into contracts for this impact measure reads;

Providers should develop a protocol to ensure that all patients aged 65 years and over with a fractured neck of femur will receive joint care from a geriatrician and an orthopaedic surgeon. The protocol will be forwarded to the purchaser by a date to be agreed.

The implementation of the protocol will be audited and a report supplied annually in January of each year.

Providers will monitor time spent in A&E by patients aged 65 years or more who have a fractured neck of femur (door to ward) and will supply the following information on a quarterly basis;

<table>
<thead>
<tr>
<th>Waiting time</th>
<th>No</th>
<th>%</th>
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<tbody>
<tr>
<td>&lt; 60 mins</td>
<td></td>
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</tr>
<tr>
<td>61-120 mins</td>
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<td>121-240 mins</td>
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<td>&gt; 240 mins</td>
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<tr>
<td>Not recorded</td>
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<tr>
<td>Total # NOF &gt; 65</td>
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Arguably of equal importance to these factors are the delay between admission and surgery, and the seniority of those conducting the surgery and anaesthesia. The first of these factors can be calculated from routine CMDS if it is completely coded and accurately completed. The time of day at which surgery takes place and the seniority of the operator and anaesthetist are handled through the impact measure which addresses these issues directly and which aims to establish compliance with the recommendations of the National Confidential Enquiry into Peri-Operative Deaths.

Results

In South Birmingham data and the protocol for the joint assessment of patients with fractured neck of femur had been received by the purchasing authority during the year between the introduction of the measure and the time when I left the authority in March 1995. The approach was feasible and acceptable and certainly had opened a dialogue around the clinical issues for this group of patients.

In general the same was true of the other impact measures. It would be hard to demonstrate that there had been a sustained improvement in clinical performance as a consequence of the introduction of these measures, though it is true that issues such as door to needle time have been taken very seriously and have improved.

Organisational change has subsequently affected both the purchase and the provision of health care in Birmingham with further mergers of purchasing organisations and with very significant changes to the provision of Trauma services in South Birmingham. It is not clear if the approach which is
described here is to be developed. Personally, the lessons learned have influenced my approach in my new authority.

**How changes will be monitored:**

**Resource Implication:**

Concerning the Health Authority the resource implications of this work principally related to the opportunity cost of the time of public health professionals and quality managers working for the authorities. It is difficult to estimate the proportion of the work of such individuals devoted to this work. A more extensive programme, in my present authority, to develop similar measures to those described above across all specialities involves approximately 2 sessions per week of the time of a consultant in public health medicine along with a similar proportion of the time of quality manager with a nursing background, and of an information officer who helps with design of methods for data capture.

The capture of the data by providers did not emerge as a major resource issue, again being mainly an issue of the opportunity cost of the time of audit assistants employed by the units. That is not to say that the collection of a comprehensive suite of impact measures can be achieved without cost and indeed the ease of collection of data must be a key consideration in choosing measures.

Of the changes proposed in the clinical service in order that the standards identified in the impact measure should be met a proposal was developed by the local acute provider unit for the appointment of an associate specialist in geriatric medicine to enhance the input into the care of patients with fractured neck of femur by allowing earlier assessment of patients.

**Practical lessons learnt:**

This work might be seen as an early foray into the field of purchasing for a clinically effective service and, whilst superficial and limited broke the silence that had characterised the previous attempts to put the content of clinical care onto the contracting agenda.

The complexity of the establishment of the impact measures was added to by the need to involve several different authorities in their design and agreement. Whilst they were enhanced as a result the process was quite protracted and resulted in the agreement of some of the measures at a point in the contract cycle when those directly negotiating contracts, often with little direct public health involvement on the part of the purchaser, or clinical involvement on the part of the provider, felt it was too late for their introduction during that round. In some authorities a separate group of staff were responsible for negotiating the quality component of the contract. The greater performance management emphasis on clinical effectiveness in the time since this work was carried may mean that there is more universal agreement about its central importance to the work of a purchasing authority but at the time it sometimes felt like a marginal activity. Equally, those struggling to operationalise the clinical effectiveness agenda may see this work as a practical example of an attempt to introduce clinical issues into contracts which, with refinement, could form part of a strategy to promote evidence based practice.

The degree to which clinical discussions take place at contract meetings clearly varies widely between authorities. Whatever the precise arrangements it was common in each of the provider units to meet clinicians who professed ignorance of what had been agreed contractually. In retrospect, and given time, whilst the experience of the preceding years justified the purchasers taking a lead, it would have been preferable to engage in more direct debate with relevant clinicians in order to endeavour to establish more ownership of the final group of measures. Most were prepared to accept that the measures proposed were sound. Some were later improved by clinical involvement.

Whilst the use of routine data is desirable, in practice most attempts to look at outcomes or outcome proxies will generate data requirements beyond the reach of CMDS and the linkage of routine population data. This is particularly true if apparent variations in performance are to be understood and if the exercise is to have credibility in the eyes of clinicians. At present clinical audit is the most likely vehicle for the collection of this data. This infers that the purchaser must be able to influence the topics and methods of those audits needed to meet their agenda, and have access to the results.

The use of incentives and sanctions to encourage compliance may be a double-edged sword;
threatening to withhold part of an audit allocation may not seem the best way to promote audit. Feedback of comparative data may be a better long term strategy but a start had to be made. Whilst it may be somewhat semantic we now use the term paying for contract verification. The purchaser needs to be able to verify what service was provided to which of his residents and to what standard. Providing that information is part of the contract.

Whilst the developing clinical effectiveness strategy in my current authority is being pursued in a collaborative fashion with local clinicians an important element of that strategy is refinement of the clinical specification which forms part of each contract, and the establishment of effectiveness and outcome measures which are monitored as part of the contract. It would be inappropriate for the substantial effort which is made to draw up contractual agreements between purchaser and provider to make no reference to the quality of clinical services provided. This section of the contract also alerts non clinicians involved in contract negotiation to the areas of practice which their purchaser sees as important. It also allows the regular discussions taking place between public health colleagues and clinical teams to reach some documented and agreed conclusions which can be monitored.

From a population health perspective the focus on clinical care of patients with a fracture, rather than a greater emphasis on prevention of hip fracture can certainly be challenged. This work did not preclude, nor was it seen as more important than the overall accident prevention strategy for the district. The prevention of osteoporosis was, and remains, a controversial area, though one of great importance. The work described here relates to a particular strand of an overall strategy.

**Conclusion:**

This case study shows the way in which comparative population health outcome data, taken alongside other local information, can lead to the prioritisation of a topic. An approach was then followed in order to bring questions of the quality of the content of clinical care onto the agenda of contracts for services for the relevant patients. This approach used the vehicle of proxy outcome measures, or impact measures, to focus the attention of those providing the service on factors which were within their sphere of influence and were likely to be associated with a good outcome for the patient.

The case study makes no claims for a beneficial impact on the care of patients with a fractured neck of femur in South Birmingham during the year following the introduction of this measure. There is, however, a basis for a dialogue, for refined measurement, and for the purchaser to be engaged in discussion about the clinical care of patients with a health problem which would appear from the population health indicators to be worthy of attention.

**References:**


McColl AJ, and Gulliford MC (1993). Population Health Outcome Indicators for the NHS. Faculty of Public Health Medicine and the Department of Public Health Medicine, United Medical and Dental Schools of Guy's and St Thomas' Hospitals.


**Organisational Context:**

The nature of this case study means that much of it has focused on the organisational context in which the authority dealt with the population health outcome indicators. The approach was specific to
the time in question, now approaching three years ago, and to the particular dynamics of health care in a major conurbation with a population of around 1.5 million served at the time by four DHAs, three FHSAs and more than a dozen provider units, several still Directly Managed Units, with seven acute hospitals amongst them.

The work was led by members of Public Health departments with support from other colleagues particularly with responsibility for quality and contracting and was most readily accomplished were Public Health staff were actively involved in the contracting process.

I now work for an authority with responsibility for a population of 921,000 in a mixed urban and rural setting, which has not been subject to changes of boundary. Care is provided by six NHS Trusts, three of them acute trusts with services which are to a large extent complementary. A suite of measures of effectiveness similar to Birmingham’s impact measures is being systematically developed, collaboratively with clinicians in the specialities concerned. This work forms part of an overall strategy for the promotion of clinical effectiveness in the district, which has been endorsed by the authority. The strategy seeks to bring together the strands of the development of clinical guidelines, the establishment of measures of effectiveness and the promotion of high quality clinical audit, particularly at the interface between sectors of care. The legitimacy of the role of the purchaser in promoting this work is not challenged. Now the challenge is to focus energies and resources on bringing about improvements in care in areas of high potential health gain, to create an environment which engenders enthusiasm and ownership amongst clinical leaders for this work and to begin to focus on the outcomes of the work of primary health care teams.