Improving Health Outcomes
VOLUME TWO - Full version
Alastair McColl, Paul Roderick, John Gabbay
Mental health and cardiac health in South Cheshire

Geographical Area covered: South Cheshire
Focus: Case studies focusing on effectiveness

 Contributors:
Authors: Leslie Klein, Consultant in Public Health Medicine
Susan Ellerby, Consultant in Public Health Medicine
Roger Simpson, Director of Public Health
Address for correspondence: Dr RJ Simpson, South Cheshire Health Authority, 1829 Building, Countess of Chester Health Park, Liverpool Road, Chester, CH2 1UL.

Editorial comments on how case study is linked to improving health outcomes: (also published in Volume 1)

In their schizophrenia study Klein, Ellerby and Simpson focus on components in a proposed service specification that were known to be associated with improved outcome. These included strengthened community mental health nursing, specified liaison with hospital services, and specialised residential units for longer-term rehabilitation or placement for highly vulnerable people. For their cardiac study the focus was on changing diagnostic services and behaviour, which would lead to more appropriate and effective treatment and so improvements in personal and population health outcomes. Both these clinical areas are the subjects of an increasing volume and quality of evidence at a time when variations in access and outcome are becoming clearer.

Abstract (also published in Volume 1)

Mental health and cardiac health feature prominently in The Health of the Nation and are influenced by other national policies. The new Primary Care-Led NHS provides further opportunities, and challenges, for balancing individual patient care decision-making within agreed public health priorities for these and other issues.

Recent work in South Cheshire has addressed mental and cardiac health from a population health outcomes perspective. Both are the subjects of an increasing volume and quality of evidence at a time when variations in access and outcome are becoming clearer. The focus in the schizophrenia study was on components in a proposed service specification that were known to be associated with improved outcome. For the cardiac study, the focus was on changing diagnostic services and behaviour, which would lead to more appropriate and effective treatment and so improvements in personal and population health outcomes.

The schizophrenia study identified 1,150 cases in a population of 440,000 and was an integral part of planning a better mental health service. It included data from patients, carers, and all professional groups. The results identified components in the specification that needed special emphasis and were known to be associated with improved outcome. These included strengthened community mental health nursing, specified liaison with hospital services, and specialised residential units for longer-term rehabilitation or placement for highly vulnerable people.

The cardiac study identified from the literature that direct access cardiology services can improve diagnostic accuracy, therapeutic management, and therefore patient outcome for people with angina or suspected heart failure. Published results were used to estimate likely need and referral rates for 180,000 residents. Protocols were agreed for referral and the reporting of results. Prospective audit was built in to the study. In the first 6 months there were 121 referrals. The general practitioners reported that referral management changed as a result of the service in 43% of cases: referral to a cardiology clinic was avoided in 37% of cases while for 6% of cases referral was recommended which otherwise would not have occurred.

The practical lessons learned from these two studies fell into five categories:
- **Information** - particularly the difficulties in relating results from the literature to local practice in order to define usable and realistic “gold standards” or expected frequencies.
- **Commitment** - including advanced agreement so that the potential results could be responded to appropriately.
- **Participation** - including the avoidance of early discussion about future service contracts so that the study design was not influenced adversely.
- **Design** - particularly obtaining the views of users/carers and practitioners.
- **Consequences** - including the ability of an evidence-based outcomes approach to be an effective mechanism for change.

We conclude that a population health outcomes design provides a powerful catalyst for a more evaluative and evidence-based approach, and can generate local standards and audit tools for continued monitoring and fine-tuning.

**Introduction:**

**Why this clinical area was chosen:**

Mental health and cardiac health feature prominently in The Health of the Nation and are influenced by other national policies such as Community Care (Caring for People) and the Patient’s Charter. In addition, the new Primary Care-Led NHS provides further opportunities, and challenges, for balancing individual patient care decision-making within agreed public health priorities.

These two aspects of health are the subjects of an increasing volume and quality of evidence at a time when variations in access and outcome are becoming clearer. Examples nationally include differences in drug and surgical treatment rates for serious heart disease which are not correlated with disease frequency, and inadequacies in some community care services leading to poorer outcomes for people with chronic mental illness. Therefore they provide the opportunity for a more informed debate about what is needed by a population, and what can be done best to meet those needs. In doing so, there was potential within South Cheshire to test the usefulness of our local criteria for setting priorities which were adapted from The Health of the Nation:

- the subject area is a major cause of avoidable ill-health, premature death, or public expenditure;
- effective interventions are possible, offering significant scope for health improvement and/or cost reduction;
- it is possible to set objectives, measures of progress, and targets for improving health and reducing inequalities.

**A) Schizophrenia study**

When the Health Authority started to plan better mental health services for the central and eastern parts of the District it became apparent that there were almost no hard data available about the services being delivered. What information there was related to events such as out-patient attendances, Community Psychiatric Nurse (CPN) contacts and cases subject to the Care Programme Approach. There were no routinely available statistics which gave an indication of the quality of services provided or the extent to which the population’s health needs were being met. At the same time, general practitioners and users and carers represented by MIND and the National Schizophrenia Fellowship expressed dissatisfaction with current services and quoted individual episodes of poor care. It was evident that the service was poorly resourced and under-managed. Morale was low and managers had difficulty coping with the mismatch between demand and resources.

The Authority agreed that if the plan and subsequent tendering exercise were to be fully informed there should be more assessment of local needs. It was decided to concentrate on people with schizophrenia because they are a particularly vulnerable group whose care spans all care sectors. In fact many issues arose from the study that were relevant to all mental illness rather than just to schizophrenia.

**B) Cardiology study**

In 1994 informal discussions began about how evidence-based care could be promoted for cardiac health. Direct access echocardiography and exercise electrocardiography (ECG) were identified as
interventions which promote more effective diagnosis and management of angina and cardiac failure.

The decision to target these services was informed by scientific literature, national consensus statements and local information, interest and goodwill. There was already local interest from clinical and public health practitioners in promoting evidence-based care for angina. Local GPs, with assistance from the Cheshire Multi-disciplinary Audit Advisory Group (MAAG), were planning an angina audit and were developing a minimum dataset for this purpose. In addition, a local GP audit of the management of cardiac failure had also started and other practices were interested in developing the concept with the assistance of the MAAG.

**Exercise ECGs**

In January 1996 the NHS Executive circulated to each Health Authority and NHS Trust guidance on promoting clinical effectiveness (NHS Executive, 1996a). A pack containing guidelines for conditions for which there appeared to be existing consensus on management was also distributed. Guidelines for the management of angina indicated that an exercise ECG is helpful in confirming or refuting the diagnosis of exercise-onset angina (Royal College of Physicians, 1993).

**Echocardiography**

There is increasing evidence that treating heart failure with angiotensin-converting enzyme (ACE) inhibitors reduces both the mortality and morbidity from cardiac failure and reduces the need for hospitalisation. Estimates indicate that the cost per patient of one year’s ACE inhibitor treatment is less than the cost of two hospital bed days (Dargie and McMurray, 1994). A review of the investigation and treatment of patients with heart failure provides evidence that many patients with heart failure who would benefit from an echocardiogram do not receive one (McClements et al. 1994). The same review suggested that all patients with cardiac failure should have an echocardiogram not only to confirm the diagnosis, but also to exclude valvular heart disease as an underlying cause and therefore a possible contra-indication to ACE inhibitor treatment.

**Further information that was required:**

**A) Schizophrenia study**

The study was designed to give both a clinical and social picture of the client group and to assess the extent to which their needs were being met. The results were integrated with routine data and literature on best practice (Wing 1994) to inform the tender specification.

Data were collected from GP records, CPNs and Approved Social Workers (ASWs) for all people diagnosed as having schizophrenia among the 440,000 residents within central and eastern Cheshire. In addition, the case notes of all people resident in hospital with a diagnosis of schizophrenia were examined. Users and carers were invited to complete forms to give an assessment of their own or a relative’s condition and their view of services. The aim was to have a clinical and social assessment for everyone with schizophrenia in the area.

The data collected covered the following subjects:

- demographic data;
- clinical features;
- ability to function in society;
- service utilisation data;
- support from carers and services;
- consumer satisfaction.

The clinical and demographic dataset was similar to that collected for the Salford mental health register (Fryers and Woof 1989), but was amended to take account of the fact that this was a prevalence survey rather than a long-term monitoring system.

**B) Cardiac study**

After identifying direct access cardiology investigations as a way of promoting evidence-based care, further evidence was obtained to establish the potential demand for the service and the likely effect such a service would have on health outcomes.

Cardiac failure is a common condition. A prevalence of between 0.4% and 2% (10% in elderly people) has been suggested (Dargie and McMurray, 1994). Incidence rates estimated from general practice morbidity statistics suggest around 900 to 1,000 new cases of cardiac failure each year in a population of 180,000 people, and a similar number of new cases of angina. The rates are shown in table 1.
Initially there was concern that a direct access diagnostic service would not cope with the potential demand, given incident cases alone might need up to 1,000 of each test to be available. In addition, there were likely to be many prevalent cases of angina and cardiac failure who had not received an appropriate test but who might also be referred if a direct access scheme were established. However, the literature indicated that demand is not really as great as this because practitioners are unlikely to refer all cases of angina or cardiac failure.

In Belfast, a direct access exercise ECG service to general practices resulted in 212 requests from a combined list size of 180,000 in two years, equivalent to 6 per 10,000 per year (McClements et al. 1994). A study in Kent showed that 47 GPs requested 110 exercise tests, equivalent to 2 per GP per year (Sulke et al. 1991).

Direct access echocardiography in Edinburgh, for which 93 GPs attended the launch, resulted in 259 referrals in the first five months, or 7 per GP per year (Francis et al. 1995). Assuming that these results are generalisable, a population of 180,000 would generate 100 to 200 exercise ECG requests (6 to 11 per 10,000 per year) in the first year and 200 to 300 requests for echocardiography (11 to 17 per 10,000 per year).

### Data validity studies:

#### A) Schizophrenia study

In total, 50 people (4%) were chronically unstable, requiring intensive supervision either in hospital or a high dependency unit. A further 375 (33%) had a record of at least one attack during the previous year. There was a wide variation in clinical symptoms and social functioning but the majority of people had impairment of social skills and most were unemployed or had low grade jobs.

There was a surplus of acute beds and a deficit of resources to support people living in the community. In the central part of the district there were inadequate numbers of CPNs. There was poor provision of supported places for people with moderately severe illness in both areas. This group frequently have combinations of thought disorder, delusions, hallucinations and severe negative symptoms but do not have behavioural problems. As a result they live withdrawn, almost twilight, existences with little social life. Very often they have histories of heavy consumption of tobacco, alcohol and/or illicit drugs.

There was an excess of people with learning disabilities (109 out of 830 completed records, 13%), most of whom had been diagnosed in the 1950s and 1960s following behavioural problems. It was nearly impossible to objectively review diagnoses made so long ago but it appears that many did not have schizophrenia. This did not materially alter their management as most of their current problems were the result of institutionalisation over many years.

In 903 completed records medication side-effects were poorly described, with 547 people (61%) stated as having no side-effects, 157 mild (17%), 39 moderate (4%) and 11 (1%) severe symptoms. The GP notes rarely recorded side-effects so these figures almost certainly underestimate the presence of symptoms. The range of side-effects experienced was broad but most consisted of parkinsonian features, including rigidity and tremor, and tardive dyskinaesia. In contrast, the users/carers stated that the overwhelming majority suffered side-effects, most in the moderate or severe categories. Although the sample was small (52) no less than 44 (85%) stated that they suffered side-effects. The symptoms described were similar to those recorded by professionals, but lethargy and dry mouth were quite common and rated much more severely by users/carers.

Many simple items of information were not available to all the agencies involved in care. The data on Section 117 orders and the Care Programme Approach (CPA) were recorded rarely by GPs, with only 15 out of the 592 GP records (3%) having a note of a Section 117 order. More worrying was the conflict between ASW and CPN records, and the relatively few clients who had both professions actively involved. Of the 573 people with an active ASW or CPN record, only 50 people had active involvement from both professional groups as shown in table 2.

| Table 1: 1991-1992 Morbidity statistics from general practice |
|-------------------|-------------------|-------------------|
| **Annual Rates per 10,000** | **Angina**<br>(ICD 413) | **Heart failure**<br>(ICD 428) |
| New and first ever episodes | 52 | 51 |
| Patients consulting | 114 | 89 |
| Consultations with doctor | 264 | 231 |
| Referrals to hospital clinic | 9 | 9 |
Anecdotally, this was confirmed as correct and was due to pressure of work with a caseworker agreed informally and then everything left to that one person. There was little difference in clinical severity but clients managed by social services had slightly more symptoms than those managed by CPNs. Where forms were returned from both they disagreed on many items around social and clinical assessment. In particular, the CPNs often believed that section 117 orders had lapsed and had put the client on a care programme, while the ASWs still had the person on a section 117. It was evident that liaison between agencies was poor once the client had been discharged from hospital.

Literature on the prevalence of schizophrenia is scarce but the rates in the district are comparable with those published from Salford and Camberwell (Wing 1982). After adjusting for the social class and demographic composition our local rates are higher probably, indicating better case ascertainment because of the wider trawl of data sources.

The study identified a total of 1,150 people with schizophrenia among the 440,000 resident population, a point prevalence of 2.6 per 1,000, of whom 573 (50%) had an active ASW or CPN record. Data validation was through cross-checking between records from the various agencies. However, only a minority of clients had records from two or more agencies and where the data could be checked there were invariably major gaps in the data between the records. Most GPs had a good record of the client’s medical problems but a poor assessment of current social functioning, while for CPNs and ASWs the reverse was true. There was general agreement about most data, but there were some consistent disagreements. In particular, there was confusion about which clients were on a Care Programme and which were on a Section 117.

Table 3 sets out more detail of records available and people identified.

<table>
<thead>
<tr>
<th>Clients</th>
<th>With record</th>
<th>Identified but no record</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>In community</td>
<td>963</td>
<td>125</td>
<td>1,088</td>
</tr>
<tr>
<td>In hospital</td>
<td>62</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td>Total</td>
<td>1,025</td>
<td>125</td>
<td>1,150</td>
</tr>
</tbody>
</table>

B) Cardiac study
Prospective data collection in the cardiology clinic indicated that of the 81 patients referred in a 5 week period 50% were for chest pain and 18% for heart failure or breathlessness, as shown in table 4.

Table 4: Reasons for referral to cardiology clinic (5 week period in 1994, approx 240,000 catchment population)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Number in 5 weeks (estimate per year)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest pain (including angina)</td>
<td>40 (416)</td>
<td>50%</td>
</tr>
<tr>
<td>Palpitations</td>
<td>13 (133)</td>
<td>16%</td>
</tr>
<tr>
<td>Heart failure / breathlessness</td>
<td>14 (150)</td>
<td>18%</td>
</tr>
<tr>
<td>Murmur</td>
<td>10 (100)</td>
<td>12%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>4 (42)</td>
<td>5%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>81 (841)</td>
<td>100%</td>
</tr>
</tbody>
</table>

At the time the study was being developed the main route locally to exercise ECGs and echocardiography was through the local hospital cardiology clinic.

The combination of local and national data suggested that around 1,000 new cases of angina would arise each year from the 180,000 residents in the area, of whom less than 50% would undergo an exercise ECG.
on diagnosis. Of the likely 1,000 new cases of cardiac failure, less than 15% would receive an echocardiogram on diagnosis.

◆ Summary findings from initial work:

◆ Changes which were made:

A) Schizophrenia study
In 1994 the Health Authority tendered for mental health services in central Cheshire (260,000 residents) using a specification based on published studies of good practice and the local schizophrenia survey that had highlighted gaps in the service. In particular the specification looked to improve liaison between agencies and the imbalance between hospital and community resources.

The new service specification envisaged a reduced number of hospital beds with a large increase in community psychiatric nurses. In addition, it included two residential units to bridge the gap between acute hospital psychiatric care and independent living. One of these units was for highly vulnerable people and would allow longer-term rehabilitation outside a hospital setting. The second was for people requiring long-term residential placement.

Numerous changes have been made to enable better liaison between all agencies. A named CPN has been attached to each practice with responsibility for liaison with the hospital service. There are joint working arrangements with Probation, Employment Services, Cheshire Police, Citizens Advice Bureau, plus Alternative Futures and Making Space (both independent charitable providers). The Trust is developing Community Mental Health Centres which will act as a focus of activity and enable local, more accessible services for clients.

B) Cardiac study
After establishing that the local service probably had the capacity to absorb increased demand and that the project could be feasible a small group was convened to develop the initiative. The steering group had the following tasks:

- Agree a protocol for referral, testing and feedback to GPs.
- Identify and obtain the additional resources required.
- Appoint staff and launch the scheme.

The group included a patients’ group representative, general practitioners, cardiologist, technician, and hospital manager as well as a Health Authority medical adviser and public health physician.

The protocol was derived from the literature and local discussion. The project was peer-reviewed as part of the regional research and development programme.

Following some minor adjustments to technician and clinic schedules, additional sessions for echocardiography and exercise ECGs were identified. The local Trust estimated that it had the capacity to provide each year an additional 176 exercise tests and 220 echocardiograms.

◆ How changes will be monitored:

A) Schizophrenia study
When the Authority awarded the contract it was a condition that the new service should be evaluated and monitored. This is being performed by the University of Manchester Department of Psychiatry linked with the University of Keele as a separate project. The Health Authority has commissioned 5 separate studies.

The first looks at unmet need and usage of beds through a register being compiled by CPNs and ASWs. The second is an evaluation of bed usage through the appointment of a research registrar. The third looks at referral pathways to care through patient tracking. Study four will examine the quality of assessment of people who self-harm using the mental health liaison nurse in accident and emergency. The final study will cost clinical activity and will use retrospective data.

In addition the Trust has established an internal clinical audit team which has instituted a continuous programme of audit.

B) Cardiac study
The scheme began in July 1995. The study will establish whether the management of patients alters as a result of the local service. An assessment of costs and benefits will help decide whether future investment is appropriate. The study has been funded from the Region’s research and development fund and is being coordinated by the local MAAG.

Despite fears that the new service would be overwhelmed, demand has not exceeded capacity so far, as shown in table 5.

<table>
<thead>
<tr>
<th>Number of Cases</th>
<th>Capacity</th>
<th>Catchment (Residents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress test ECGs</td>
<td>88</td>
<td>81 (38)</td>
</tr>
<tr>
<td>Echocardiography</td>
<td>110</td>
<td>76 (63)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>198</strong></td>
<td><strong>157 (121)</strong></td>
</tr>
</tbody>
</table>

Early indications are that the scheme has enabled more patients to be managed by their family doctor without the need for referral to a cardiology clinic. Perhaps more importantly, some of the patients who were found by the test to require cardiologist assessment would not have been referred by the GP for investigation if the service had not been available. These results are summarised in table 6.

<table>
<thead>
<tr>
<th>“PREVIOUS PRACTICE” before direct access was available</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed by GP</td>
<td>Managed by GP</td>
</tr>
<tr>
<td>Referral to cardiology clinic</td>
<td>Referral to cardiology clinic</td>
</tr>
<tr>
<td>“NEW PRACTICE” with direct access</td>
<td>48</td>
</tr>
<tr>
<td>Managed by GP</td>
<td>7</td>
</tr>
<tr>
<td>Referral to cardiology clinic</td>
<td>41</td>
</tr>
</tbody>
</table>

Of the 121 resident cases tested in the first 6 months, GPs reported changed referral intentions for 43% (52 cases) as a result of a direct access exercise ECG or echocardiograph. In 45 cases (37% of total) referral to a cardiology clinic was avoided, while for 7 cases (6%) referral was recommended which would not have occurred otherwise. These changes do not necessarily mean better therapeutic decisions, but more efficient diagnosis is a precursor to more appropriate and effective treatment, and therefore to better personal and population health.

Resource Implication:

A) Schizophrenia study
Any study involving the collection of additional data has resource implications. In this case the research involved the capture of data from several different agencies and there was a considerable workload inputting and analysing the data.

Some general practices were willing to allow access to their records but others were less helpful. Many of the practices only agreed after a visit to explain what the research involved. In order to facilitate access to notes the Health Authority employed a GP trainee for a period of 2 months. This doctor worked with a research assistant and was very helpful in allaying GP anxieties about confidentiality.

Access to hospital records was by agreement with the clinical directors at the Trusts. There was no problem gaining access and the hospital records of all in-patients with schizophrenia on the census day were examined by a consultant in public health medicine.

The study confirmed that the southern part of the district did have a deficit of resources and as a result a further £1,000,000 revenue has been invested to fund the developments in community services.

B) Cardiac study
The development of the proposal and steering group meetings were absorbed within existing workloads. New money was required to establish this service, the estimated quarterly costs of which
are shown in table 7.

<table>
<thead>
<tr>
<th>Test</th>
<th>Capacity per quarter</th>
<th>Cost per test (£)</th>
<th>Overall cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress test</td>
<td>44</td>
<td>38</td>
<td>1,672</td>
</tr>
<tr>
<td>Echo</td>
<td>55</td>
<td>43</td>
<td>2,365</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>99</strong></td>
<td></td>
<td><strong>4,037</strong></td>
</tr>
</tbody>
</table>

The Trust was not prepared to undertake financial risk in establishing a service for which demand was not known. Hence, an agreement was reached whereby the Health Authority guaranteed funding for all sessions whether or not patients attended. The Trust agreed to refund any sessions that were filled with patients from fundholding practices for whom they later received reimbursement from the practice.

**Practical lessons learnt:**

**Conclusion:**

Conclusion and lessons learnt

Our work illustrates the two major approaches employed by commissioning authorities when looking at health outcome. In the first example we have undertaken a special study to answer specific questions relating to the quality and quantity of mental health services in part of the district. This was necessary because there were no routinely available statistics which gave an indication of the quality of services, provided or the extent to which the population’s health needs were being met. In the second, the cardiac health study used existing data sources and compared national and local statistics with expert opinion as to what constitutes good practice. Both methods have advantages and disadvantages and the choice will be dependent on the specific questions being examined, the timescale of the project and the resources available.

The lessons from these studies fall into five categories: information, commitment, participation, design, and consequences.

I) Information

In general, it is possible to use routinely collected statistics when looking at acute services where the majority of care is provided in hospital. Care is recorded as a consultant episode, an operation, a procedure or an out-patient visit and it is possible to compare performance after correcting for local coding biases.

These methods are much less useful for chronic conditions such as long-term mental illness. In these instances most of the care is delivered in primary care or community settings where data recording is either poor or non-existent. Relying on what data are collected may give a distorted and incomplete picture. By contrast, special studies can be tailored precisely to answer specific questions and can cross a range of services. Subjective questions can be asked where issues are not clear cut, and complex issues about quality and outcome can be researched.

Preliminary intelligence should always be obtained from the literature and from local routine information. Together these should provide current evidence about the potential size of the problem and the range of opinions about effective interventions.

One difficulty is that results from the literature, if there are any, are often difficult to connect to current local practice. The expected size of the problem, and the selection criteria for sub-group interventions, usually cannot be calculated for the local population because adequate rates are not published and routine data may not be available to fill the gaps. A second problem is illustrated by the cardiac study, in that even when the literature does define usable “gold standards”, these often turn out to be impossible to achieve in practice. Publications giving “real world” results are very useful but may be few and far between.

II) Commitment

Both studies required advanced agreement so that the potential consequences for services could be responded to adequately. The trap must be avoided of concluding that service changes would improve specific outcomes if only they could be afforded or delivered. Of course, advanced agreement is not the same as guaranteed change, and it is equally important to ensure careful planning, supervision, and progress monitoring of projects.
The time commitment is considerable for all projects, and is usually underestimated, especially for studies requiring special data collection. The disadvantages of this latter approach arise because of the intense amount of preparation and resource that is required to answer even the simplest questions. In the schizophrenia project extensive preparation was needed with a detailed protocol that required ethical approval and backing from medical practitioners. In addition, it required the active involvement of CPNs in both community and hospital sectors, Social Services and ASWs, plus users and carers. Overall the work needed 6 months to agree the project and almost 6 months to complete the research work. Finally, one-off work such as this is basically a “snapshot” of the service so regular review of the new service may require a substantial investment to monitor its impact in the area.

III) Participation
Each study required involvement from users and professionals. The cardiac study required patients representation on the project group and this was easily achieved and very effective. Gaining a wider consumer view was part of the schizophrenia study, but it proved difficult to achieve good coverage. Both studies established steering groups that involved GPs and consultants. These groups had the dual role of advising on clinical aspects of the work and of keeping all health professionals up to date on the progress of the work.

Both studies raised problems about collecting data from a variety of sources and agencies. There were issues about confidentiality and data sharing. However, if we had not collected data from all sources the picture may have been incomplete or distorted. For the future, GP systems may form the basis for a community health information service but at the moment they contain little information about the care received from other agencies.

It proved helpful that issues of future service contracts were excluded from the early project work so that the design was not affected by premature assumptions about the consequences of each study. This helped overcome one difficulty in the cardiac study which was due to the Trust’s catchment population being 33% larger than resident population. The population health outcome approach allowed only the resident population to be defined as eligible for the study so that coverage and follow-up could be tracked appropriately.

IV) Design
Both studies were descriptive rather than analytical designs, with “expected” measures derived from the literature where possible. However, both included hypothetical questions which proved to be very powerful in the analysis of results. In the schizophrenia study, respondents were asked what they thought should be done to improve things. In the cardiac study, GPs were asked as part of the referral form to indicate what they would have done for the patient before the service, and this proved to be an essential part of the audit analysis.

V) Consequences
The studies addressed three questions:

- “What makes a difference to outcome?”;
- “What is happening now?”;
- “What might happen after a particular change?”.

The results generated a fourth question:

- “What should happen next?”

This fourth question generated an ethical dilemma in the planning of the cardiac study because there would be a delay between completing the data collection and concluding the results. Should the service continue to be available while its worth is being analysed? We concluded that it could not be stopped and then restarted. However, this is a serious dilemma for studies involving less well-proven interventions.

Inevitably, one conclusion of most studies is the need for more research, as in the schizophrenia survey. For the cardiac work, there is great enthusiasm in the project team to address other cardiac issues. However, project leaders usually want to retire hurt at the end of a study! A population health outcome design provides a powerful catalyst for a more evaluative and evidence-based approach, and can generate local standards and audit tools for continued monitoring and fine-tuning. In this
way, practitioners become empowered to adapt the delivery systems to better meet the needs of their patients/clients, and to answer two related questions:

- “Which population should I see?”
- “Whose outcome can I improve?”

**References:**


**Organisational Context:**

**Organisational context**

South Cheshire Health Authority serves two-thirds of a million residents and spends £408 million annually (1996/97 prices). It has 94 general medical practices (366 GPs) within its boundaries, of which 62 are fundholding practices. There are 3 Total Purchasing Pilot sites serving almost 103,000 registered patients.

Variations in health outcomes and care delivery provide the principal means of assessing the resident population’s health status. Analysis is undertaken using seven “Personal Health Programmes”, of which the work featured in these case studies is linked to two:

Programme I: Mental Health and Well-being;
Programme V: Healthy Hearts and Circulation.

Each of the seven programmes represents separate aspects of each person’s social, physical, and psychological health and health care needs. The programmes are used by the Public Health Policy
Team to structure the Authority’s strategy, commissioning plan, corporate contract, public health report as well as its library reference centre. They are also used to summarise research and development portfolios, clinical effectiveness evidence and clinical audit proposals.

Each of the studies featured was “championed” and coordinated by a public health physician. Components of each study were led or supported by other Health Authority staff, notably Medical Advisers, Locality GP Advisers and Service Development Managers. However, the success of the projects was due to the active involvement of service practitioners and input from patients or their carers.

The Health Programmes approach provides the Authority’s intellectual framework, but still needs to be embedded in the new Primary Care-Led NHS locally. This will be supported by linking and employing the four components which influence service standards:

**RESEARCH AND DEVELOPMENT = KNOWLEDGE**

**CLINICAL EFFECTIVENESS = EVIDENCE**

**EDUCATION AND TRAINING = SKILLS**

**CLINICAL AUDIT = RESULTS**

In organisational terms, the results can be assessed using the three criteria set for the NHS by the national priorities and planning guidance (NHS Executive 1996b):

**EQUITY:** Improving the health of the population as a whole and reducing variations in health status by targeting resources where needs are greatest.

**RESPONSIVENESS:** Meeting the needs of individual patients and ensuring that the NHS changes appropriately as those needs change and as medical knowledge advances.

**EFFICIENCY:** Providing patients with treatment and care which is both clinically effective and a good use of taxpayers’ money.

In turn, these criteria, which are easily linkable as elements of population health outcomes, allow the Authority to connect its three roles in the Primary Care-Led NHS - Strategy, Support, Monitoring - (NHS Executive 1995) to the management of its policies, programmes and performance:

**MONITORING PERFORMANCE (Results)**

**SUPPORT PROGRAMMES**

**STRATEGY POLICIES**

These concepts mirror the three criteria which have been derived locally from *The Health of the Nation*. The Authority’s Health Programmes approach supports the linkage of results to policies by allowing evidence to be structured and variations in outcomes and service delivery to be analysed and reduced systematically.

We hope the new Primary Care-Led NHS is capable of responding to the challenge of improving population, as well as personal, health outcomes and that our local experience provides some clues to maximising the advantages (such as clinical consistency) and minimising the disadvantages of an evidence-based approach (such as the great initial demand on staff time).