King's **Fund**

NHS
Executive

Getting better with evidence

Experiences of putting evidence into practice

Appendices

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Getting Better with Evidence

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Appendices

The first appendix summarises advice the project teams, as pioneers, hope will be key points for others trying to implement evidence led change

The case studies in the second appendix are grouped by broad topic area, and all follow a similar format. For each health authority project (or pair of projects, in a few cases), we describe in turn:

- What they were trying to do

- Approaches used

- Key challenges

- What worked

- Successes

- Sustainability

The final appendix describes key features of the methodology we followed.

Appendices

Contents

Advice from project teams

Introduction

At one of our first workshops, a project worker commented that these teams were pioneers. The following section is an amalgamation of advice they would give to those contemplating similar projects.

Starting with enthusiasts

Several teams were not sure whom to approach first. One team chose practices on the basis of highest prescribing, and encountered resistance as poorer performers had many other concerns. With hindsight, this team believes they might have had more success with more willing practices. Several other project teams, which did focus on the enthusiasts (or "least unenthusiastic" as one said), found it a more effective strategy.

Picking the right project worker

A good project worker is essential. The drive, personality, motivation, enthusiasm and/or non-threatening style of the project worker was often cited as being a key factor to the project's success. Having invested heavily in these individuals, who now have a wealth of information on managing implementation projects locally, it is a great shame that only five of the project workers have stayed within their present organisation. The expertise of the others is lost to those who stand to benefit the most.

Locating the project within the sphere you want to influence

Several projects, which were primary care based and located in the health authority, were subject to extra suspicion from GPs. As Gill Musson found in her evaluation of the *facts* programme working with GPs in Sheffield to implement evidence based change, independence from statutory bodies and drug companies can be central to why GPs choose to take part.[1]

Incorporating evaluation from the start

Ten of the 15 project teams had some sort of internal evaluation. Those who did not were in a difficult position. Without either qualitative or quantitative data from before the intervention, they cannot show more critical professionals that the new service has made a difference.

Building on existing mechanisms

Many teams found it useful to plug into existing mechanisms rather than create their own events and systems. Examples include carrying out educational seminars through the existing education

and audit programme and getting the Multi-professional Audit Advisory Group (MAAG) to audit uptake of the guidelines.

Getting negative views

Getting key people involved and enthusiastic is absolutely essential. But several teams said they wished they had also made a serious attempt to talk with sceptics. By actively incorporating the negative perspectives of local practitioners, they might have been better able to foresee, and possibly avoid, previously unexpected problems.

Reviewing progress constantly

One project worker commented,

> *Even though it can be boring, it's important to constantly go back to the project plan.*

Smale suggests using a reflective problem solving approach with four key questions: What's the problem? What needs to change? What needs to stay the same? Has the problem been solved yet?[2]

By continually asking these questions, the reasons for changing practice are kept in the forefront of the team's mind and teams avoid changing more than what is necessary. Other helpful questions may be: What worked? What didn't? Where do we go now? Is the project still manageable?

Working incrementally

All of the teams stressed that a piecemeal approach is likely to be more effective. Many said their first task was to raise awareness, then help practitioners apply the guidelines, and then help practitioners implement the guidelines *correctly*.

Tailoring your approach

In practice this meant:

- breaking up the work into manageable pieces
- offering as much help as you can
- using marketing techniques, where possible
- designing user friendly formats
- trying more than one way

Different strategies will be successful in reaching the different types of individuals within their varying organisations, especially in primary care. Those who could offer an extra pair of hands sometimes made more progress.

Getting a team together

Adopting a team approach, with at least two key enthusiasts who can carry on the project on their own temporarily, may keep a project going.

Six of the projects became low priorities after the original bid writer left for new posts. Knowing when to delegate work to others, such as asking GPs to talk with other less enthusiastic GPs, is also helpful. Finally, knowing when to let go and handover the work to others, as in the case of PCGs, is also important.

Recognising that changing practice is time-consuming

As one project worker said,

Everything takes three times as long as you think it will.

Prochaska and DiClemente's model shows[3] that before anything concrete can happen people need to:

- Be aware of the possibilities of change

- Recognise the need to change

- Emotionally engage and accept the need for change

- Rationally clarify the problem and plan.

What's more, all the key participants involved need to be at roughly the same place at the same time. Building and sustaining this kind of momentum takes a lot of time.

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[1] Musson G (1996) Interim Report – Qualitative Evaluation of the facts Aspirin Programme. Sheffield Business School, Sheffield.

[2] Smale, G (1996) Mapping Change & Innovation. Tavistock Institute, London.

[3] Prochaska J and DiClemente (1984) The Transtheoretical Approach, Krieger Publishing.

Case Studies

Cardiac/Stroke

Barking and Havering: Secondary prevention of coronary heart disease (CHD)

What were they trying to do?

By using a multi-faceted approach (guidelines, audit & feedback, prompts, clinics), they wanted to increase the provision of clinically effective interventions for patients with known CHD.

Particular focus was on the prescription of aspirin, ACE inhibitors and statins. Non-pharmacological interventions (e.g. dietary and smoking advice, blood pressure monitoring, etc.) were also included.

Approaches used

Guidelines
- developed by a local team of GPs, cardiologists, a health promotion specialist and a dietician
- A4 laminated card produced to summarise key recommendations
- guidelines distributed to every practice in district

Presentations
- 4 formal presentations to GPs – 2 at post-graduate meetings to advertise guidelines and 2 at academic centres to recruit practices to the project

Audit
- 2 pilot audits –one with 4 local practices & the other at local acute hospital
- results of pilot audits fed back to practitioners at recruitment presentations
- random sample before and after (6-8 months) audit of patient notes carried out by project worker
- 17 practices were included in the before audit; 8 of which were also included in the after audit
- Data collected on pharmacological and non-pharmacological interventions (e.g. exercise advice, weight, BP etc.)

Opinion leaders

- 2 GPs who worked on guidelines spoke in support of the recommendations at the post-graduate centre presentations

Team meetings

- project worker offered to feedback post-audit results to practices with the aim of devising an action plan

Prompts

- prompt cards used for mixed paper/computerised practices

- prompt cards not used for computerised practices as none in existence

CHD clinics

- two practices set up nurse-led, protocol-driven CHD clinics – combination of opportunistic and systematic approaches to seeing patients

Key challenges

When the project worker came into post in October 1996, the original project was ambitious and largely unachievable. After meeting with various professionals experienced in implementation, he made it much more manageable.

Even though the objectives were more realistic, the project worker realised that he would not be able to show an impact in 18 months. He made a successful case for extending his contract.

Resource issues were also difficult for clinicians.

> *Time pressure and the scarcity of auditing skills in general practice made this expectation (that practices could do the audit themselves) unrealistic...the Education Board would have been unable to provide reimbursement for practice nurses' time, and even if resources had been available from another source, in many cases there was actually little or no scope to increase Practice Nurse input...[because] many nurses work part time or share their time between two practices.*

Because most practices could not find the time to do the work themselves, the project worker carried out the before and after audits himself.

What worked?

Reports from local health professionals were mixed. Several survey respondents were not interested in talking about the project and one said,

> *The only difference [the project made] is that it has flagged up awareness.*

Other practitioners who carried out the work themselves were more enthusiastic.

> *It's a very good model and it's been good meeting with X [project worker]. It's a way to improve practice. If you take away the grey area and improve the technical area, then it has a good chance.*

Those who took a proactive approach needed a great deal of time and energy before they saw an improvement.

We discovered from the audit cycle that we were very high on smoking but not on aspirin... When we re-audited we saw some improvement but not much. The practice nurse said we need a proper clinic for systematic monitoring...We now need to re-audit. The practice didn't get any funding for this.

As the practice nurse responsible commented, what finally made the changes possible were

...an administrative system – nothing technical or clever. Just getting things organised...It's not a knowledge gap with practitioners. They know it all. But they have problems in how to organise it.

Success

Because the project worker carried out a good quality audit of a random selection of patient notes, we have some evidence on impact. Post audit took place 6-8 months later.

Pharmacological interventions

	Audit alone (2 practices)	*Prompt cards & audit (5 practices)*	*Clinic, prompt cards & audit (1 clinic)*	*All 8 practices*
Aspirin	+13%	+12%	+39%	+21%
ACE inhibitor	+9%*	+23%	+12%*	+15%
Statins	+30%*	+10%	+45%*	+28%
Total	**+17%**	**+15%**	**+32%**	**+21%**

* Small numbers (<35 patient notes)

Non-pharmacological interventions

	Audit alone (2 practices)	*Prompt cards & audit (5 practices)*	*Clinic, prompt cards & audit (1 clinic) ***	*All 8 practices*
BP	-6%	+9%	+4%	+2%
Blood/urine sugar	+15%	+15%	+3%	+11%
Weight	+4%	+7%	+50%	+20%
Dietary advice	0	+12%	+33%	+15%
Exercise advice	+1%	+16%	+52%	+23%
Smoking status	+4%	+14%	+1%	+6%
Smoking advice	-2%*	+37%	+67%*	+34%
Total	**+2%**	**+16%**	**+30%**	**+16%**

* Number of notes audited very small (between 2-21 patients), so findings should be treated with caution.

** 37 patient notes were audited in the "before" period and 45 at re-audit, therefore findings should be treated with some caution.

These data show that audit alone has been effective in improving prescribing (+17%), but has negligible impact in non-pharmacological interventions (+2%). The addition of prompts to audit has a moderate effect with both types of interventions (+15% and +16% respectively). But the

biggest impact is with audit, prompts and a clinic (+32% prescribing & +30% non-pharmacological), bearing in mind that only one practice was audited after doing this.

Better relationships is one of the most important outcomes. The public health department has strengthened their relationship with (some) local GPs and learnt that top/down dictates do not work. This more partnership oriented approach, which is reflected in the tone of the Health Improvement Programme, is timely with the coming of Primary Care Groups (PCGs).

Sustainability

An added bonus is that all five of the local PCGs have selected CHD as one of their priority areas. In addition, the health authority has made a firmer commitment to clinical effectiveness by employing the project worker on a permanent contract. A senior health authority staff member said,

> *The strict intervention has stopped, but we have translated that into our CHD HImP. We've got a suggested plan for PCGs and we hope that they will take it forward. We have found funds for CHD clinics.*

> *Although the project itself may have stopped, the work around CHD will continue.*

Brent and Harrow: Non-invasive cardiac assessment

What were they trying to do?

They set up an open-access service which included echocardiography and other non-invasive tests. The project team hoped the new service would reduce patient waiting times, decrease number of referrals to out-patients and encourage appropriate use of ACE inhibitors and diuretics by improving diagnosis.

They also wanted to re-skill GPs in managing cardiac patients. They believed that by giving GPs more control over testing and diagnosis, GPs would then feel more comfortable with managing coronary cases in primary care.

Approaches used

Open discussion

- Team met with GPs at an extra event organised by LMC
- Purpose - to consult GPs about preliminary plans suggested by cardiologists (40 GPs attended)
- Training sessions with GPs
- One-off training session arranged by GP tutors
- About 15 GPs at each training session – 70 GPs in total

Feedback

- Test results to doctors

Evaluation

- GPs asked to return a form on receipt of test results giving information on how helpful they found the tests and what they planned to do next (e.g. change prescription, refer to out-patients)
- Of 239 echoes performed, 151 audit forms returned
- Calculation of reduction in waiting times for open access versus out-patients
- Calculation of savings in terms of out-patients costs

Key challenges

This project team were reluctant to take part in the evaluation as they felt the grant by North Thames was too small (about £18,000). Nonetheless we do have some information gathered

from the one workshop they attended in January 1998, a survey with three local professionals in March 1998 and their chapter in the book written by the regional facilitator for the whole programme, and the former regional R&D director[1].

This team's assumption is that if you give GPs the correct diagnosis, then they will manage patients more appropriately. Evidence from this, and many of the other projects teams who adopted the strategy of "to know is to act differently"[2], is that knowledge is a pre-cursor to changing practice, but not enough on its own, as they themselves acknowledge.

> *151 cases audit forms were returned, and these indicated that 18 patients had been prescribed ACE inhibitors for the first time following the tests, and that 4 had this prescription stopped...Nevertheless if the numbers of patients who have been started on ACE inhibitors as a result of the service are compared with the estimated incidence of heart failure in the community, we are reminded of the modesty of our progress, as it seems that as yet we are addressing only a small proportion of unmet need.*

What worked?

This was one of the smallest of all of the North Thames projects in terms of money, but it delivered good value. As one GP said,

> *[We've learnt that]...this can work to the benefit of GPs, the hospital and patients. Without putting lots of money into it, you can improve the service and roll it out to other areas.*

All three survey participants mentioned that the service not only speeded up access to test results, but also educated GPs about cardio-vascular disease. This plus a much valued service has worked well in generating GP enthusiasm, as shown by the turnout of 40 GPs to the objectives meeting and 70 GPs to training meetings.

Waiting times have been decreased from about 119 days to around 19 days. The service has also cut down referrals to out-patient services as 85% of the patients tested have not gone on to secondary care. So the topic chosen seems to be a good one in that four different groups of key people (patients, GPs, cardiologists, acute service managers) have benefited in saving either time or money.

Success and sustainability

Establishing the open access cardiology service has done much to improve relationships between cardiologists and GPs. Primary care knowledge and skills in cardiac disease management are improving. Appropriate, well-run services are in place and will continue as long as modest funding (approximately £11,000 annually) can be found. But the final step of helping practices to act on the information needs to be organised.

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[1] Evans D and Haines A (forthcoming April 2000) *Voices of Experience* (working title). Radcliffe Medical Press, Oxford.

[2] Smale, G (1996) *Mapping Change through Innovation*. London: Tavistock Institute.

East London & the City: Cardiac Intervention

What were they trying to do?

Before successfully bidding for North Thames money, this team had created an "evidence resource" with over 1500 references on angiography, angioplasty and bypass grafting, which they wanted to implement.

The objectives of the project changed to improving access to medical information for all hospital staff by putting databases on a ward terminal.

Approaches used

Open meeting
- Staff-wide open meeting organised to introduce staff to concept of evidence based medicine and the project itself
- Chaired by an outside senior registrar in Epidemiology and Public Health

Workshops
- Five lunch-time teaching sessions open to all staff covering critical appraisal skills and searching techniques.
- A full paper analysed at the end of the series and books on evidence based medicine (Sackett) provided to participants (funded by pharmaceutical companies).
- One practical demonstration on the use of computers to access information in session five (four out of five sessions happened before computer installed)
- Separate series of lectures with similar format set up for medical students attached to the trust.
- Two smaller and more directed courses subsequently set up for cardiac technicians and nurses alone.

Computer
- Stand alone computer with CD-ROMs of Medline, Cochrane and Best Evidence databases set up in the study room

Evaluation
- Independent qualitative evaluation by Tavistock Institute
- Evaluation covered usage of databases, before and after (training sessions) interviews with doctors, nurses and technicians.

Key challenges

This project team experienced numerous difficulties which radically affected what they were able to do.

It was never really clear in whose interest the project lay. The original bid was written by a senior registrar at the health authority who left before funding was granted. Although a resident cardiologist was named on the proposal, neither he nor any of his senior colleagues whom we spoke with seemed enthusiastic.

> *I think it is somewhat over-hyped. I think that basically the idea is correct, but it needs pilots and studies.*

Others did not feel that the approach was usefully. There were fears about challenges to the status quo. Comments to Tavistock Institute researchers were:

> *If juniors can get advice from a machine, will they bypass their seniors?*

> *[With this] nurses would tell doctors how to do their job.*[1]

This was compounded by the events of a one-off lunch-time meeting early on in the project. A senior consultant strongly challenged the ethos of evidence based medicine. Reportedly, he stated that evidence based medicine was

> *…public health doctors trying to tell clinicians how to practise.*

Because this was expressed in public at an open meeting, his views were highly influential and as the project worker stated in her report

> *This intense challenge to the legitimacy of the project had quite a profound effect on the subsequent interest and enthusiasm shown by the hospital staff.*

> *To make matters worse, the project was also beleaguered by resource difficulties, chiefly technological and skills. The level of IT literacy amongst staff was variable, and in many cases much lower than expected. Both the Tavistock evaluators and the project team recognised that this was a mistake with one nurse commenting*

> *…[the] computer training we have had has made some of us feel very bad. It was difficult to keep up with the session and the trainer was too high powered and assumed far too high a level of knowledge*

> *The team initially planned to link into the network, but when this was not feasible they bought a stand alone computer. Through a series of delays and mishaps, four out of five workshops on accessing the evidence took place without staff being able to access anything as the computer was not available. Nine months later, it was stolen.*

> *Another complication was computer placement and choice of databases. The team wanted to encourage all clinical staff, not just doctors, to access the evidence. But they could not find a place that was suitable for all groups of staff and did not include all relevant databases. Because these problems were not resolved successfully, many nurses and technicians felt that the project was not for them.*

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[1] Standing H with Holti R. *Evidence based Practice at the London Chest Hospital.* Final report. Programme for Organisational Change and Technological Innovation. The Tavistock Institute. London. May 1998

Success

As the team met one obstacle after another, their original large-scale ambitions were reduced considerably. Even those were only partially met. Perhaps the greatest benefit of this project is that it has many lessons about how *not* to try to change practice.

The Tavistock evaluation found that registrars were the main computer users. They carried out literature searches, the contents of which influenced written papers and the daily senior registrar ward round (to a small degree). None of the consultants or technicians surveyed had used the computer and only one of the eight survey nurses.

Even if usage of the databases had been high, the team might have found it hard to help staff translate the recommendations of the evidence the into daily practice. With hindsight, it perhaps seems optimistic to think that over-worked, excessively busy NHS staff would have the inclination to carry out complex literature searches and then find the motivation to make the necessary changes in their practice on their own. As one survey respondent commented,

> *Just sticking terminals in wards is not good enough…This approach does not help.*

Interestingly, one of the positive effects from the project has been that nurses are more interested in improving their computer skills. The Tavistock evaluators found

> *…some of the nursing staff had developed their own ways of managing their discomfort with new technology. An "informal economy" of equipping and training ward nurses had developed through husbands or other relatives who were professionally involved in computing…Training was then provided by one nurse who was experienced in computing.[1]*

Sustainability

As far as we know, this project has stopped. After the computer was stolen, the project worker left post a few months later and despite numerous attempts to contact her, we have been unable to learn what happened.

Hertfordshire: Nurse-led anti-coagulation clinics

What were they trying to do?

By setting up nurse-led anti-coagulation clinics in secondary care trusts, they intended to improve anti-coagulation treatment across the county. In part, this was to be achieved by setting up DAWN A/C information system for clinical management and domiciliary clinics.

More than one acute site was involved. A Public Health Officer, originally at Hertfordshire Agency then subsequently West Hertfordshire health authority, co-ordinated development across the initial two, and subsequently three, sites.

Approaches used

Guidelines (Queen Elizabeth II hospital - QEII)

- Two page summary clinical guidelines drawn up by consultant haematologist for nurses

- Safety objectives document also for nurses

- 2 page protocol for DVT and pulmonary embolism for nurses

Training (QEII)

- 2 nurses given intensive, one-to-one training by two consultants

- 14 sessions over first three months in post

- Training covered clinical management, computer skills and introduction to organisation

- Nurses visited other sites where nurse-led clinics and DAWN AC computer system already in use

Opinion leader (QEII & St Albans)

- Projects led by well-respected, enthusiastic senior consultants

Services

- Initially two nurse-led anti-coagulant clinics set up at QEII, expanded to 5

- To secure the service and provide viable, interesting work for the nurses, anti-coagulation work combined with deep vein thrombosis (DVT) work at QEII

- Initially 2 anti-coagulation clinics set up which expanded to 5 on three sites for St Albans (one domiciliary)

Feedback

- St Albans nurses meet regularly with consultants, laboratory and clerical staff to discuss any difficulties

Audit

- Audit data gathered every three months and presented to the Medical Directorate at QEII

- GP questionnaire on atrial fibrillation in May 1998 (QEII) to remind GPs of service and collect information about current GP practice

- Patient and junior doctors' views on the DVT service (Oct-Dec 1997 and Feb 98) (QEII)

- Patient outcome data on in-patient stroke admissions (QEII)

Key challenges

Initially they planned to improve anti-coagulation treatment across secondary and primary care. Subsequently, effort was focused on setting up nurse led clinics in secondary care.

Half of the North Thames money (about £28,000) went to St Albans and the rest (about £21,000) went to QEII. We focused on QEII, as the consultant from St Albans was on long-term sick leave. Much later Watford received £20,000, but the project was in such early stages that we did not include it in the external evaluation.

The Queen Elizabeth lead faced several difficulties in setting up the clinics. A recurrent problem was the computer system.

She had even more difficulties around money. Initially there was no confirmation within her trust that North Thames money had arrived. Once it was found and nurses trained, she discovered the trust had decided not to employ new staff without on-going funding. They only had money for one year. One staff member commented,

> *It was a nightmare for us. What are they going to do when funding runs out in three months? We had to blackmail people to get the money.*

> *The project lead convinced the Medical Directorate that it would have been impossible to go back to where they had been before. Anti-coagulation nurses also began to combine the anti-coagulation service with deep vein thrombosis work (DVT), thereby improving the management (and survival chances) of both.*

> *Lack of senior interest did not stop the project, but it has frustrated progress.*

> *Haematology consultants tend to manage themselves and don't involve others so no one else sees them. The trust doesn't see them as a problem. Trust managers are never keen to notice. They pay lip service to it. We had one good meeting with the CEO and 2 medical directors involved. We got through the importance of the project in terms of funding. But we want 7 day cover, so there is still some way to go.*

What worked?

There have been great benefits for many involved. One survey respondent said,

> *Everyone has won. It's an improved service for the patient. It's good employment for two nurses...Junior doctors benefit. There are savings in out-patients, so the trust benefits. And nurses have relieved the consultants of hours of [what consultants see as] dull, repetitive work.*

Adding on DVT work was useful in that it also created more interesting work for nurses. The nurses we spoke with were enthusiastic with one saying

It has improved communication between nurses and patients. It's better one to one and it's a different way of dealing with patients. Patients are more able to ask questions. Patients have more time and there is a different rapport...It's set protocols for everything and forms to back them up. There is a proper procedure for those who are DNAs. And there is better communication with the GPs on who the patients are.

The face to face, practical training which built up the nurses' skills over 14 sessions in 3 months was also useful.

There was a good training programme...We learnt from practice. We came in without much experience, but we've learnt by trial and error...I'm learning things all the time.

They also value the autonomy and specialist nurse status that the service gives them, although there were some drawbacks.

I'm very much my own boss. I have my own patient caseload. It can get quite isolated at times.

Before setting up the nurse-led clinics, consultants felt very overstretched. Now, the situation is much improved.

In my practice, it's given me time, all the stuff that I used to do at the end of a working day, like administration. It enables me to see more haematology patients.

Success

We do not have quantitative data on the extent of practice change. But we do have (confusing) patient outcome data on stroke admissions to QE II.

- 212 stroke admissions from 1-Apr-95 to 31-Mar-96

- 198 stroke admissions from 1-Apr-96 to 31-Mar-97

- 220 stroke admissions from 1-Apr-97 to 31-Mar-98

Baseline figures are 212 and 198. The change was being implemented between April to August 1997 (training) and took effect fully from September 1997 to March 1998.

This indicates that despite the numbers of patients on warfarin doubling from 300 in 1995 to over 600 in 1998, admissions for stroke did not fall. Auditors predicted a fall of 28 admissions annually and neither they nor we know why this has not happened.

Nonetheless in terms of embedding practice change, this project has been very successful. Nurses run the clinics well; warfarin dosage has increased; and the number of clinics has jumped from two to five. Not one of our survey participants thought they could go back to working the way they had before.

Sustainability

The model has been successfully applied in two sites and is being developed in a third. The future for the nurse led clinics looks good, as long as they can continue to find funding and keep their staff.

My main anxiety about sustainability is related to the fact that there is no National Training Programme in Anticoagulation for nurses and no professionally recognised qualification. Should one of our nurses leave, we would have great difficulty in replacing her…during this time, it would be very difficult to provide cover to the clinic and we would potentially have to reduce the level of service provided

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Kensington, Chelsea & Westminster: Chronic heart failure in primary care

What are they trying to do?

After auditing the current management of heart failure in primary care, they developed and worked towards implementing guidelines for improving the treatment of chronic heart failure. In part, this was to be achieved by setting up a new, open access echo-cardiography service.

They chose to work with one locality of 9 practices first, of which seven participated.

Approaches used

Audit

- Baseline audit on practice notes (1997) from seven of nine participating practices

- Data collected on numbers of patients who had undergone an echo, had been considered for ACE inhibitors, had been diagnosed with/without an investigation

- Audit model adopted by neighbouring Multifund and data from a further 9 practices collected

- Re-audit of practice notes (1999), not finished in time for external evaluation

Feedback

- Baseline audit results fed back to practice teams prior to setting up echo service

Meetings

- While feeding back audit results, there was also some discussion including suggestions for improvement, relationships of GP practices with acute unit, diagnosis and treatment of heart failure and preferences for the open access echo service

- Project worker also met separately with local cardiologists to feed back concerns of GP practices

Guidelines

- 2 types of guidelines developed: one for diagnosis and management of heart failure and other for use of open access echo-cardiography service

- Guidelines for diagnosis and management based on literature review including European Cardiology Society's guidelines

- Guidelines for open access service evolved out of two open discussions held with GPs, technicians, practice nurses, cardiologists, pharmaceutical advisers and public health doctors

- Draft guideline flowchart devised

- Revised guidelines, chart, referral form and patient information leaflet re-disseminated (not clear to whom)

Prompt

- Referral form developed to serve as a prompt for flow chart

Service

- Open access echocardiography service set up in local trust

Evaluation

- Questionnaire to GPs on "best practice" (e.g. when to refer for investigations, prescribe ACE inhibitors, and attitudes to ACE inhibitors) before setting up service

- Re-survey of GPs one year after setting up service to get views on service and guidelines

Key challenges

Because the project worker comes from a research background, this team has focused on evaluating their interventions from a variety of perspectives. Obtaining robust, accurate evaluation information is very time consuming and expensive; it has taken more than 18 months and the original £50,000. It's unfortunate that final evaluation data were not available to the external evaluators at the time of writing this report, but the team is making very good use of that data, both locally and nationally.

They have faced numerous difficulties with the echo service. For example, one GP wanted the service based in his surgery. And some GPs feel that the service can be improved.

> *The turn around of the reports is slow. And the reports are done for cardiologists. I can't work out the technical jargon. It needs a more clinical report. Only one fifth of the report is understandable; the other four fifths is not. It's pointless to give GPs all that information.*

What worked?

This team worked well together. The skills of the project lead and the project worker complemented each other. Although the project lead left in January 1998 and the project worker went on maternity leave, their commitment was high and the project has continued despite these lulls in momentum.

This project is rich in data on just how complex changing behaviour can be - what people say they do and what they actually do can be very different.

For example, before setting up the echo service 82% of surveyed GPs (14/17) said they would use the service. One year later, 43% (10/23), half as many as expected, have made a referral. Even more importantly, the survey on how GPs think they would treat heart failure patients varies considerably from the evidence brought to light in the audit of patient notes, indicating that many were not acting according to their beliefs on "best practice".

A key factor to making the project work, mentioned by many local participants in our survey, was the personality of the project worker. When asked about the project's strengths, one said

> *The personality of X [project worker]. She's very personable*

Using the approach of "we're here to develop the service for you", the project worker was able to gain access to the practices and even more importantly the practice notes. To get an idea of how difficult that was, as external evaluators we were unable to get anyone to talk to us for the first survey and only got access to local clinicians for the second survey *after* the project worker wrote all concerned a note.

Success

The KCW team incorporated both guideline development and audit and added a big incentive – a new open access echocardiography service. In looking at changing practice, the question the KCW project throws up is: how useful is the incentive of a much valued service in giving clinicians a push towards changing their behaviour?

Unfortunately without the results from the second audit into GP management of heart failure, we can't say.

However, they have set up a new service which is valued.

> *The echo service has been very useful in general practice in sorting out what is cardiac and what is not. The audit assured us that we were not abusing the service as there was a reasonably accurate use of the service.*

They have also improved relationships across the primary/secondary care interface.

> *It's opened up the service. It's interactive. It's brought about working in partnership between GPs and the hospital. It encourages self-learning. All that good stuff.*

Sustainability

In terms of sustainability, the outlook for this project is good. At one workshop, the project manager commented that since they were taking a discrete project approach, she feared that their work might not spread. Instead the success of the project has been such that GPs from a neighbouring patch actually asked if they could do the audit as well.

In addition, a Chair of one of the PCGs told us,

> *X [the project worker] has been back and looked at heart failure referrals from all GPs, not just Y locality ones. It's an objective audit. She audited waiting times, which has been a useful tool for quality issues with the hospital…PCGs are trying to refine the service.*

The health authority may have set the service up; but in at least one patch local practitioners now sufficiently value it that they are taking over the responsibility for how it should run.

South Essex: Hypertension in the elderly

What were they trying to do?

This team wanted to persuade GPs to diagnose and treat hypertension in line with British Hypertension Society Guidelines. Specifically, they wanted to encourage GP practices to treat elderly hypertensives at lower blood pressure levels (160 mm Hg systolic and 90 diastolic) to reduce strokes, myocardial infarction and other vascular events.

Approaches used

Guidelines

- Local guidelines based on British Hypertension Society guidelines developed by a consultant cardiologist, GP and public health consultant

- Part of the *Really Useful Guidelines* series promoted by the health authority

- Went to local GP advisory meetings and Local Medical Committee for discussion and endorsement prior to dissemination

- Guidelines sent to all 344 GPs in the health authority

Seminars

- Developed by Consultant in Public Health with local hospital consultants, GP tutors and audit facilitators

- PGEA accredited

- Part of existing education and audit programme, not an extra event

- Discussions on evidence of effectiveness, estimates of likely workload, likely health benefit for a practice population and likely prescribing costs (i.e. aim of seminars to persuade GP practices of value of guidelines)

- 5 seminars for GPs; 242 GPs attended

- 2 seminars for practice nurses; 67 attended

Incentives

- GPs worried about workload, so health authority agreed to drop 'over 75s' checks

- Practices reimbursed for audit work

Evaluation

- Questionnaire before and after seminars with self-reported information on when likely to start treating elderly hypertensives

- 42 GPs at one locality recruited for audit by Consultant in Public Health during their Locality Forum meeting

- All patients 70-75 years old identified using the health authority's computerised register of patients (6,208 patients identified)

- Pilot of 79 patients to check data collection form

- Practice nurses extracted data from 5,234 patient notes (84% of total)

- 16 of 17 practices participated

Key challenges

One of the difficulties for this team was convincing a minority of the validity of evidence.

> *Several GPs voiced the opinion that aggressive treatment to lower blood pressure in the elderly was not always appropriate due to co-morbidity and iatrogenic side effects.*

There were also resource concerns from clinicians.

> *GPs at these meetings...highlighted the increased workload which their implementation would create, and pointed out that this would be problematic given the prevailing degree of pressure on GPs' time. It was suggested that allowing them to relax the stipulation that all patients over 75 should have an annual review would be a pragmatic means of managing the impact of increased work generated by following the guideline.*

The only internal problem was the lack of a clear lead; someone who organises the meetings and takes the work forward. They had three and little happened between our first meeting with them in June 1997 and our second in February 1998. As one health authority staff member said,

> *When you take on an ambitious programme and evaluate change in a big area, you need a clear lead – someone who takes the operational lead...Each person was waiting for someone else to convene something. If we did it again, we would have one person firmly in charge. As it was, this didn't hugely jeopardise the project.*

This was one of the only teams without a project worker because they felt it would be harder to transfer lessons or have something sustainable if the lessons resided primarily in one person. The team still feels that this was a good decision, but they do recognise that momentum was harder to sustain.

What worked?

This project team had an excellent starting point in terms of the relationship between themselves (health authority) and the people they hoped to influence (general practices). One team member said that the reason relationships were so good was that he had spent six years developing them. Another survey respondent confirmed this and adding,

> *There are very good relationships between Public Health and the Education Programme. The GP tutors spread the educational message and those relationships are extremely good. The LMC has been involved and are very enthusiastic...The relationship with the hospital [is good] and we've been able to draw on the consultant for the elderly to give the message.*

Enthusiasm for the project was high. Attendance at the seminars was remarkable with over 300 GPs and practice nurses taking part, even though the team said with hindsight they would have concentrated more on practice nurses. For the evaluation, they managed to get 16 of 17 GP

practices in one locality to send in their data. In addition, the practice nurses themselves, not an outside project worker or audit facilitator, carried out the task of accessing over 5,000 patients' notes.

Success

This team carried out the most comprehensive evaluation of all the projects. While most of the others divided their funding between intervention and evaluation (not necessarily in equal parts), this team carried out the intervention *before* North Thames money was available. They then spent all of their £50,000 on evaluation, which gives an idea of how expensive and time-consuming evaluation can be.

Although there are some problems with the research design, this team did measure clinicians' behaviour, not process or proxy outcomes, both before and after their intervention. What's more, they looked at both *expressed* behaviour, though the questionnaires, and *actual* behaviour, with patient notes.

The response rate (15%) for the before questionnaires sent to all GPs was poor, but it did improve for the after questionnaire (50%). Despite this, analysis did show some self-reported change. Both practices in the project (i.e. those dropping over 75 checks) and those not involved stated that they would now treat patients at levels of blood pressure closer to those recommended by the British Hypertension Society. The team's efforts seemed to have been successful in changing clinicians' knowledge.

But the level of actual behaviour change was minimal. Data from before and after the seminars showed that:

- Of the patients who had systolic readings before and after the intervention
- Prior to the project 9.5% had a systolic pressure >160 (mm Hg)
- After the project 9.1% had a systolic pressure> 160

- Of the patients who had diastolic readings before and after the intervention
- Prior to the project 5.8% had a diastolic pressure >90
- After the project 4.9% had a diastolic pressure >90

These changes are not statistically significant at the 0.05 level.

Practices were still not treating blood pressure in elderly hypertensives earlier.

Confusingly, all of our survey participants said that the project had been successful in this, when clearly the evaluation shows it has not. Educational interventions can shift practitioners *beliefs* about what makes good practice, which is a substantial achievement in itself. But actually getting them to *act* in accordance with their new beliefs means considerably more effort. As one of the project team said,

> *The difficulty is not so much getting clinicians to agree, but getting them to apply it on a consistent basis. Clinicians often say that they are using guidelines, but in reality may only be using them for every third patient.*

Perhaps the seminars, which focused on convincing practitioners of the need to change but not how to change, were not enough.

Sustainability

This team may not have brought about practice change, but their work has been very valuable for anyone interested in putting evidence into practice. They have shown that practitioners may report, and sincerely believe that they have changed; but that does not mean they have. To be sure that change has occurred, more robust data directly measuring behavioural change need to be collected and analysed.

What's more, they have been extraordinarily successful in learning from their own mistakes and applying that knowledge to clinical governance strategies. As one project team member said,

> *If clinical governance is going to work, resources don't need to be spent in terms of guidelines. What they should be spent on is finding what is actually happening in practice. You need someone at the practices to get these data.*

In terms of the work on elderly hypertensives, hypertension had not been selected by most GPs as a priority area. But one project team member said,

> *We may not have got it right on this one, but we'll provide these data to the PCGs and keep slogging away at it*

H pylori

Camden & Islington: *H pylori* eradication

What were they trying to do?

By encouraging self-audit amongst GP practices, they intended to increase appropriate use of eradication therapy for *h pylori* and encourage rational prescribing, thereby reducing health authority spending on ulcer healing drugs. In particular, they wanted to reduce ranitidine prescribing and increase prescribing of triple therapy.

Approaches used

Guidelines
- Literature search on Medline & Cochrane in addition to regular scanning of relevant journals in health authority
- Suggested rather than prescriptive guidelines developed locally
- Guideline group of two health authority prescribing advisors, a GP, a community pharmacist, a consultant in public health, a gastroenterologist, a microbiologist & Chair of Clinical Pharmacology
- Presented in eye-catching one page, laminated card designed by outside graphic designer
- Sent to all GP practices in the health authority

Audit
- Pack developed for GPs with data collection form, suggested practice standards, guidelines and patient information sheet
- Audit pack suggested an incremental approach to encourage practices to do at least some of the audit (e.g. only patients on repeat prescription in past 6 months or only patients currently taking proton pump inhibitors)
- Audit to be carried out before and after (exact number of months post-intervention varied amongst practices)

Support pack for pharmacists
- Information on important reminders for counselling of patients

Incentives
- Flat fee of £250 for practices which carried out the audit.
- Part of prescribing incentive scheme so some monetary reimbursement

Practice visits

- To recruit potential practices into the pilot

- Pilot explained and potential workload problems discussed

- To offer project worker's help in carrying out audit

Presentation

- Formal presentation to local pharmacists as part of a Community Pharmacy Day

Distance Learning Pack and Delphi technique

- All GPs in health authority sent a copy

- GPs asked to agree on who should receive treatment and in what proportion, in this case 90% of those with confirmed or suspected peptic ulcer disease (known as "quality marker")

- Answers collated and fed back to GPs again in a total of 3 cycles

Evaluation

- PACT data on prescribing costs

- Patient note data on search criteria, numbers identified, reviewed and treated available from 17 practices

Key challenges

The first difficulty was with the topic itself. This was a health authority driven project to improve quality and reduce costs on ulcer healing drugs. It did not generate much enthusiasm about *h pylori* amongst practitioners.

> *...the process of recruiting practices to the pilot proved to be more difficult than envisaged ...Practices were involved in other audits, had limited resources (most importantly time) and were therefore reluctant to take on any additional work. Practices did not see the pilot as a priority in terms of day to day work...*

The time required to carry out the audit was a big obstacle. As one respondent put it,

> *It's an enormous audit – 220 patients in this practice alone*

Three other practices, which got as far as identifying potential patients, went no further when they realised that they would have to include over 180 patients.

The project team also noted that some practices lacked the skills and computer systems which an audit of this magnitude requires. As one GP said,

> *One weakness is that just giving practices the paperwork is not enough. You need to help practices to do everything, from pulling notes on.*

The project worker offered to carry out parts of the audit herself but only three practices took her up on it. In her learning diary she noted,

> *The process of reviewing notes that are poorly summarised really is a time-consuming business...A diagnosis is often absent or unconfirmed in this field of medicine. Patients may have 'dyspepsia' or 'acid' documented in their notes. This makes it difficult to apply guidelines based on more tightly defined diagnoses, and consequently identify all appropriate patients.*

Even with that extra help, only one of those three practices subsequently found ways to call patients in and prescribe an eradication regime. Nor did many of the practices which carried out the audit on their own take up the offer of the £250 fee (4 applied and 3 successful). The project worker commented,

> *Incentives may have a role, however they have limitations. Factors such as time, priorities and perceptions about the proposed change may be more critical.*

By default, this team chose a historically difficult type of practice since they selected pilot practices on the basis of highest spending. Nearly 60% of the these were single-handed. Although it was disappointing that so few wanted to take part, at least the team made the effort to get them on board, and in some cases succeeded.

What worked?

Despite the low pilot take-up, 17 practices did carry out the audit. GPs who we spoke to were positive about the project.

> *It's very well designed and supported. The flow chart is very good and it is well researched. It's not directive but suggestive and reflects the lack of consensus. It's easy to use. The back up on the information is clear and presented in such a way that the audit can be at any level we want.*

The team, and project worker in particular, became extremely resourceful at modifying their plans in light of feedback from practitioners.

> *GPs are individuals whose interests, priorities, motivations and needs all differ. An attempt to engage them must recognise and adapt to these differences. Flexibility in approach is key.*

Success

Success in achieving practice change was evaluated quantitatively in two ways: through PACT data and patient notes.

PACT data is useful in showing trends but does not give detailed information on the degree of practice change amongst individual practitioners. This shows that health authority wide there has been a 8.95% decrease in cost per STAR(97)-PU for gastrointestinal prescribing and a roughly similar 8.81% decrease in practices which carried out the audit. This suggests that the interventions carried out by the project team were of limited effectiveness; the trend is no greater for participating practices.

Patient note data are more encouraging. Thirteen of the 17 practices which carried out the audit supplied sufficient data. The search criteria used by practices ranged from broad definitions (e.g. patients who have received acid suppressants on repeat prescription for the past two years) to much narrower ones (e.g. patients who have had more than two prescriptions for acid suppressants in the past six months).

Keeping that in mind,

- 1634 patients were identified by search criteria
- 29% (467/1634) subsequently met criteria for eradication therapy
- 85% were reviewed (395/467) and
- 74% of those reviewed subsequently received treatment (291/395)

Although nearly 300 patients on eradication therapy does not make an impact on PACT data, it does have an important effect on those patients themselves. Anecdotally, GPs reported

Several patients were delighted with triple therapy and said it had almost changed their lives.

I have received several letters of thanks.

One miracle cure and a thank you letter.

Sustainability

As the second cycle of the *h pylori* project draws to a close (1998-9), it is disheartening that only 17 practices signed up. The Audit Facilitator has moved on to another post, so no one is actively recruiting practices or able to offer help.

Because no specific measures have been put in place to help practices continue to identify and treat *h pylori* patients more effectively, we fear that the 17 original practices may have treated the audit pack as a one-off exercise. We do not know how much practitioner behaviour has changed for the long-term. Perhaps in time, the new pharmacists appointed to the PCGs can build on this team's work.

Hillingdon: *H pylori* and leg ulcers

What were they trying to do?

They wanted to improve the management of *h pylori* by reviewing and adapting previous guidance and setting up a serology service available to all GPs in the health authority. They promoted eradication on the basis of patient benefit and cost effective use of ulcer healing drugs.

With leg ulcers, the team worked with a community trust to train all district nurses and about a quarter of practice nurses in the use of Doppler ultrasound and high compression bandaging.

For both topics, the team was interested in looking at the obstacles to good practice and work towards developing a model for clinical effectiveness in general.

Approaches used (*h pylori*)

Guidelines
- Hillingdon Dyspepsia Group made up of three local GPs (one from each locality), three local hospital consultants including a Gastroenterologist and a Microbiologist, two consultants in Public Health Medicine and the health authority pharmaceutical advisor
- Guidance sent out to GPs in September 1996
- *H pylori* and peptic ulcer guidance based on *Effectiveness Matters* bulletin
- Consensus methods used to develop strategy for the management of dyspepsia

Presentations
- Guidelines presented at lunchtime meeting for GPs and hospital doctors at local hospital post-graduate centre in May 1997
- Also presented at 3 GP locality forum meetings during June of 1997 where team got a 10-15 minute slot
- Question and answer session included
- Aim of presentations to announce new serology testing service and to get feedback on barriers to implementing the guidelines more widely
- 31% of GPs in area in attendance at locality forum meetings

Informal meetings
- Pharmaceutical advisor discussed *h pylori* guidelines with GPs on ad hoc practice visits which also involved discussion on other pharmaceutical matters

Service
- Serology testing service set up at local hospital for GPs of two localities

- Serology service for GPs in the northern locality already in existence at a •different trust

Incentives

- Non-fundholding GPs received cash payments for practice development if they remained within their prescribing budget and met other criteria, one of which was introduced for *h pylori* eradication
- Part of prescribing incentive scheme

Audit & Evaluation

- Pharmaceutical company carrying out independent *h pylori* audit with 3 practices in Hillingdon
- Team took before and after measurements using routine data systems, specifically PACT, serology referrals & hospital episode statistics (quantitative data)
- Some qualitative feedback obtained from GPs during presentations

Approaches used (leg ulcers)

Guidelines

- Project Group made up of representatives from MAAG, acute hospital, community hospital and health authority
- Guidelines based largely on *Effective Health Care* bulletin
- 2 formats – 1 page A4 for GPs and more complete set for district and practice nurses
- 1 page guidance posted to all GPs

Presentations

- Leg ulcer guidelines presented to GPs, Practice Nurses and consultants at two post-graduate lectures in summer 1998
- Pre-audit results discussed
- 50-60 in attendance
- Further presentation to discuss results of post-audit planned for Dec '99

Training

- Funding for 15 hour a week district nurse secured from outside sources to set up training course
- Series of training courses of three sessions, three hours
- 87 district nurses (100% in area) and 23 practice nurses (25-30% of area) attended
- Sessions a mixture of practical (bandaging participants' legs) and theoretical (presentation by consultant)
- 20-25 attendees for each group

Evaluation

- MAAG audit on before and after usage of high compression bandaging and use of Doppler ultrasound taken from patient notes

- MAAG sent data form out to all senior district nurses who completed with data based on leg ulcers seen over a four week period

- Prescription data on number of bandages prescribed district-wide

- Qualitative questionnaire to training participants on knowledge base around Doppler, usefulness of course and barriers to applying the evidence

Key challenges

With both topics, this team has taken an incremental approach. They raised awareness through presentations. Then they encouraged implementation through services (*h pylori*) or training (leg ulcers). Using routine data from PACT and hospital episode systems as well as MAAG audit data, they continually evaluated before and after interventions to identify improvements and inform next steps.

They faced a number of difficulties, chiefly

> *…gaps in the research evidence and lack of professional consensus, lack of district wide organisation and co-ordination, lack of district wide training and education initiatives, lack of local support services and/or supplies.*

For example, with leg ulcers nurses could not get a hold of the orthopaedic wool on FP10 prescription. This was resolved by giving money to the trust so they could hand it out to all nurses as they needed it.

What worked?

From the start, the team worked hard to find the right people. They looked for benefits which would motivate staff such as a serology testing service (*h pylori*) and professional development (leg ulcers). They then kept up interest by regular updates.

> *…these projects were costly, both in time and resources. They required project management skills such as co-ordinating relationships between organisations and health care professionals and managers, planning activity and managing time.*

Because they used an informal approach, they found progress in setting up the serology testing service and the training sessions was much smoother. For example, once they secured extra resources for a district nurse, she could concentrate on the details of the training as all the persuading had already been done.

Success

Feedback from local participants and the project team indicates that both projects are viewed as successful.

> *The majority of GPs are following guidelines in some aspects. This is picking up variations like referrals to gastroenterology and testing. We would not have seen this without the project.*

More concretely, data collected by the team show they have made an impact.

With *h pylori*, serology referrals for those two localities previously without a service have gone up from an average of 17 per month to 42. The number of items prescribed per month showed a significant reduction after interventions. (p=0.04, df=17)

With leg ulcers, a before (1997) and after (1999) audit indicated that usage of Doppler ultrasound and high compression therapy by nurses had increased by about 50%.

Leg ulcer audit results

	1997 results			1999 results		
	District nurse	Practice nurse	Total	District nurse	Practice nurse	Total
Number of cases*	37	16	**53**	25	16	**41**
Doppler ultrasound	78%	37%	**66%**	52%	50%	**95%**
High compression therapy	27%	12%	**25%**	52%	50%	**52%**

* unit of measure = single leg ulcer therefore not patient based

With these data, the project team can show use of services and equipment has increased, but we do not know if there has been a corresponding improvement in patient care. We do not know how many of the *h pylori* patients tested positive subsequently received eradication therapy.

With leg ulcers, we know nurses are using the Doppler ultrasound more. But we do not know if nurses are bandaging correctly, especially as there is some confusion about the terms "compression" and "high compression". As several district nurses were involved in the audit, it is not clear if they all understood and collected data on the same items.

One survey respondent recognised that there was much work still to do.

> *Whatever you do, it'll never be enough and you have to keep doing it…It's like emptying an ocean.*

Sustainability

Knowing this, the team has helped to develop an audit model looking at the management of *h pylori* within practices, which one PCG pharmaceutical advisor is keen to carry out. If this is successful, then the two other Hillingdon PCGs will have a head start in carrying out their own audit, should they chose to.

With leg ulcers, the trust is putting in a bid for a tissue viability nurse to continue the work as part of the service and financial framework. Possibly, another MAAG initiated audit will take place in the future.

Since the project worker has recently left the health authority, there are some concerns that these projects will drop in priority. A good start has been made and it would be a shame if this work was not developed further.

Leg ulcers

Hillingdon: Leg ulcers - *see previous section*

East London & the City: Leg ulcer clinics

What were they trying to do?

By employing an additional tissue viability specialist nurse, they intended to develop, implement and audit their local guidelines on leg ulcer management. They also set up primary care led leg ulcer clinics in two premises. They hoped to reduce variability of clinical practice and outcomes across the trust's services. Another objective was to reduce inappropriate referrals to the complex wound clinic.

Approaches used

Guidelines
- Local guidelines developed with participation of nursing representatives from three trusts over two years
- Sent out to district nurses, hospital consultants, hospital nurses & GPs for consultation
- Officially launched at lunch-time sponsored event to multi-professional group including consultants, nurses, representatives from carers' groups and leg ulcer patients themselves
- Copies sent to all ward, district & practice nursing teams
- Sold to other providers in the UK, Europe, Hong Kong & Australia

Opinion leader
- Two well-respected tissue viability nurses worked on a part time basis with district nurses, consultants and GPs
- One acted as project lead and the other as project worker

Workshops
- Focused on helping practitioners to familiarise themselves with the guidelines and relate the guidelines to real patients
- Part of an existing two day in-service course on leg ulcer management

Meetings & training sessions with district nurses and GPs
- Aimed to generate interest in practitioners to host clinics
- Targeted most enthusiastic practitioner within the local team to persuade others less convinced

Training & feedback
- Clinical nurse specialist visits each clinic once a month to train and support nurses with patients in consultation

- Guidelines applied during consultations

Audit
- Limited to one audit of 26 sets of patient notes to monitor compliance with the guideline's specifications for documentation

Clinics
- 2 locality based clinics managed by district nursing teams set up with one more currently being developed
- One staffed by the same practitioners every week; the other staffed on a three-monthly rota basis by seven different nursing teams within the locality

Key challenges

This project did not have an auspicious start. Early on, the community trust where the project team was based underwent a massive re-organisation resulting in the loss of many staff. As one survey respondent put it,

> *We've seen lots of organisational changes in the past five years, and there is a culture of resistance. This coupled together with managers who don't know how you do it in practice. It's an enormous achievement to get change in this climate and [the project lead] has done it.*

Partly because of this turbulence, it took the team over 18 months to recruit a project worker into post. The original plan to second internally was not feasible and external candidates were not attracted to the short-term (9 months), part-time nature of the post. Eventually with some re-juggling of hours and funding, they did find a capable nurse to act as project worker.

Once this individual was in post, the team had to re-work the role of clinical nurse specialists.

> *In order to shift the focus from 'hospital' care to a service centred on the needs of patients...it was important to rethink the role of the Clinical Nurse Specialists. In practical terms this meant changing their job descriptions to reflect their key function as consultants on leg ulcer care...[They] were given a trust-wide remit which enabled them to work much more effectively across the primary/secondary care interface.*

Over and above these difficulties within their organisational base, the team also faced other obstacles.

> *The project team was fully aware of the evidence that leg ulcer clinics would facilitate improved management and healing rates and assumed that colleagues in primary care would share this understanding...In fact, in the majority of cases this assumption was incorrect. It had been based on the team's contact with a small number of enthusiastic and vocal clinicians, who in fact were not typical of their peers.*

There were also practical difficulties in that once they found premises which GPs were happy to have used, they were not of an adequate standard.

GPs were not the only ones who needed convincing.

> *Some district nurses appeared to be interested until they realised the degree to which they would personally have to be involved. They worried about the time commitment, particularly as the clinics were to be founded on the principle that they would treat patients who were not solely part of their 'own caseload'.*

The team managed to turn this around by emphasising the professional development aspect and

> *It [was] effective to focus attention on the least unenthusiastic member of each team, looking for (and often achieving) a 'knock on' effect to their colleagues. We found that the persuasive influence of enthusiastic practitioners was very important.*

This team did not collect any data before and after their interventions. They recognise that the lack of data is a disadvantage in that they have nothing concrete to compare themselves with. In hindsight, they realise

> *We would invest a proportion of the project's resources in a baseline audit because demonstrating improvement in healing rates provides the ultimate proof that an initiative to upgrade the care of patients with leg ulcers is working.*

What worked?

A key driver to making this project work has been the enthusiasm of the district nurses. The one-on-one training on a regular basis where guidelines are applied while the patient is physically present in the clinic has been useful. One district nurse who was contacted opportunistically said,

> *Having (the clinical nurse specialist) there to discuss different things makes a difference. When you are seeing seven leg ulcers in a row, it leads to better practice. We are using the leg ulcer care programme lots... The professional development is the best part of it.*

This learning was enhanced as they saw how patients are healing. Another district nurse said

> *Even in the short time I've been here (two months), I've seen wounds heal.*

Success

Despite the lack of patient data, we believe that this has been one of the most successful projects of the North Thames initiative, especially as their approach has been so interactive and practical. The team was able to convince local practitioners of the benefits in terms of improved patient care and professional nurse development. When asked if things could go back to the way they were before, one GP said emphatically,

> *No, no, no! I don't want that! That would be very bad news.*

Even though it was one of the smallest projects in the programme (£18,500) they used the money well and were able to bid for additional capital funding internally to cover the shortfall. They also got it right in terms of using extra resources (North Thames money) for development. As one manager said,

> *Rather than just use extra money to parachute in, try to use the money to build capacity for the training and development of staff. Once you have a clinic in there, if you've re-organised the systems then when the money goes away the system is still in place.*

Sustainability

Two clinics have been running for over a year and a third was due to open in the summer of 1999. There is also talk of a fourth. The clinics that are in operation are likely to continue as they are now part of the Tissue Viability Service.

The project worker left in the spring of 1998, which has slowed down momentum somewhat. The project lead has taken on all the responsibility for visiting the existing clinics and setting up new ones, but progress is slower.

There are also some concerns that although clinical practice has changed, further work is needed to sustain the clinics. One survey respondent commented,

> *Possibly, it's not sufficiently embedded yet. There is still lots of development work to happen in community nursing. The joint clinics is one strategy. Nurses in X trust have worked so long in isolation that they have no sense of how to locate their practice. A one day training course is no good. You need dedicated development time for reflection. It needs a couple of years more push.*

Nonetheless, the trust is applying this model to other specialities across the trust, specifically continence services, and diabetes. As one survey respondent said,

> *We're evolving a whole new approach around facilitating and enabling clinical nurse specialists to learn from each other. It's really exciting. You get them together and one says "Oh, do you do that? We could try that too."*

Perhaps this is the team's greatest achievement. They have contributed to replacing a severely fragmented, demoralised organisation with one where staff are enthusiastic and open to learning. Even more importantly, this is one of the few North Thames projects where patients clearly have benefited.

Diabetes

Barnet: Diabetes retinopathy and back pain

What were they trying to do?

With diabetes retinopathy, two primary care based clinics were set up. One is run by a GP and the other by optometrists as part of an initiative to improve care for diabetics.

With back pain, they wanted to reduce inappropriate referrals to out-patients by educating primary care practitioners and re-configuring physiotherapy services.

Approaches used

Guidelines
- Diabetes guidelines developed by active local Diabetic Liaison Committee
- Local back pain guidelines from pre-existing guidelines to focus on more detailed referral criteria
- Back pain guidelines out to consultation with all GPs

Workshops for back pain
- 3 practice based workshops with 35 primary care professionals attending in total (GPs, physiotherapists, chiropractors and practice nurses)
- Workshops facilitated by project worker, GP lead and orthopaedic surgeon using problem-solving exercises with the guidelines

Opinion leaders
- GP lead for each topic invited to participate by HA
- GP for back pain present at workshops
- GP for diabetes retinopathy set up the clinic at his surgery

Clinics for diabetes retinopathy
- 2 clinics – one GP led and the other optometrist led

Feedback of test results for diabetes retinopathy
- Both doctors *and* patients receive test results from GP clinic

Evaluation

- Back pain – monitoring of inappropriate out-patient referrals (summer 1998)

- Diabetes retinopathy clinics due March 2000

- Diabetes retinopathy evaluation will look at standardised unit costs, compare the two models (GP versus optometrist led) and include a patient survey

Key challenges

The difficulties with diabetes retinopathy clinics were mainly resource focused, such as getting the appropriate equipment and an enthusiastic technician to run the service. Both of these were eventually resolved.

With back pain, the project worker ran into other difficulties, specifically around insufficient evidence of effectiveness for physiotherapy and chiropractic services.

> *In the beginning, I spent a lot of time on researching to make sure that the evidence was good. This wasn't a waste of time, but I realise that it is more important to look at the feasibility of implementing something.*

She also had to work hard to gain enthusiasm from some GP practices, as well as senior managers within the health authority. One said,

> *It's good for the enthusiasts, but it has not rolled out for the whole district…It's a bit peripheral to the mainstream [of the health authority work], although low back pain uses up lots of resources. It still is seen as interesting, but we didn't have the CEO on board…So overall, I'd say it was relatively important but it didn't wake people up.*

A major part of the back pain work was re-configuring physiotherapy services to support the new guidelines. The project worker said,

> *As PCGs were coming, it was the right time to take money from fundholding outreach as that was finishing and re-configure services so they were more equitably distributed…One of the reasons this has gone through is that it is "cost neutral". If fundholding hadn't ended and there was no big pot of money, then there would have been no incentive for physiotherapy clinics.*

In terms of changing clinical practice around back pain, the project worker noted

> *Guidelines on their own do nothing. A patient comes in with back pain and the GP shunts them off to the physiotherapist. This is more likely than the GP looking at the guidelines…You need to think – which is the easiest way for the GP when you've got Mrs. Bloggs in the surgery? If the GP had to look up the guidance while with a patient in surgery, then they'd be more likely to implement the evidence.*

What worked?

Right from the start, the project worker identified a large number of potential allies including many often forgotten about such as neighbouring health authorities, practice nurses and receptionists.

In terms of improved relationships, she has had a great deal of success. One GP when asked about back pain told us,

> *It's forged wonderful relationships between the health authority, the practices and the physiotherapists who are practice based.*

Selecting appropriate GP leaders was also a key part of this team's strategy. The impact of the GP fellows ("opinion leaders") in influencing the practice of their primary care colleagues seemed to be helpful. When asked what were the strengths of the back pain project, one said,

> *The leadership of the GP. He is particularly interested and experienced in musculo-skeletal disease. He is a good link person...He inspires confidence and doesn't tell other GPs what to do.*

Furthermore, a key organisational lesson was around opinion leaders. One health authority staff member commented,

> *We've been using this model of clinical fellows before. An issue is always who to use. A doctor? A nurse? What's changed because of this is that we say "let's chose the right person". Is it the practice nurse who's dealing with bad backs or the physio? We are not necessarily picking the GP every time; we need to find the right person.*

Success and sustainability

We can only make a limited assessment the impact of these two projects because we only have "soft" process data. But on the basis of what we have learnt from other projects, these two seem to be going in the right direction.

In terms of future developments for back pain, once physiotherapy services are reconfigured, then PCGs can agree protocols. One PCG Chair said,

> *It may become a beacon service. It's possible it'll be taken PCG wide. We are also the lead practice to be interested in the MRC Beem study. So, it's had a lot of impact.*

With diabetes retinopathy, the clinics are funded from the Primary Care Development Fund maintained by the Local Medical Committee and the health authority. Local evaluation of the clinics in March 2000 should give more information on how successful they have been. Once that evaluation is completed, PCGs will have to decide if they want to purchase them.

The projects have also had an impact on the health authority. Clinical effectiveness has become a higher priority, as shown by the project worker's recent promotion to Deputy Director of Public Health. In addition, several other initiatives around clinical effectiveness for other topics are being developed.

Ealing, Hounslow & Hammersmith: Diabetes register

What were they trying to do?

By setting up a diabetic register, initially to be piloted in 18 GP sites, they intended to work towards improving the quality of care and realign and rationalise services.

Their objectives included accurately recording the number of diabetics, checking that these patients have an annual review, enabling practices to take part in more sophisticated clinical audit, recording diabetic complication rates & monitoring progress and providing a reliable recall system.

Approaches used:

Workshops
- First workshop - 18 participating practices invited to meet project worker, discuss project support and present software programmes (Hicom Diamond and Miquest)
- Second workshop – practice teams presented their own results which generated discussion around missing data
- Third workshop – pilot practices met with secondary care diabetic specialists. Other practices with compatible systems also invited to attend.

Opinion leader
- Enthusiastic GP recruited to persuade colleagues of value of register

Practice visits
- Visits made to GPs, practice nurses or whole team by project worker
- Training to upgrade practices' IT skills
- Discussion on missing data and how to improve their collection
- Practices given a list of individual patients without a record of annual review

Incentives
- Participating practices not required to hold Chronic Disease Registers for diabetes

Feedback
- Data collated centrally and fed back to practices on a quarterly basis

Audit

- Data from register indicating number of newly recorded diabetics, annual reviews, BMIs etc.

Key challenges

Early on, the team ran into problems with data confidentiality, which they resolved by setting up a password protected stand alone system and encouraging practices to gain written consent from all diabetic patients.

Another difficulty was with IT.

> *Although the project team realised from the outset that large chunks of information may not be present on practice computer systems, we had not anticipated that practices would not be using their clinical systems for data entry at all...these systems were in some cases being used only for prescriptions.*

Because setting up a data collection process is in itself so challenging, the project team has had to be careful not to lose sight of their focus. As one survey respondent put it,

> *What are you going to do with the data? And are there resources to back up data findings?...It's all right having registers but it's more important to see patients than just to know that they are there ...I can't see any strategy or direction. It's just data collection.*

This team has been operating under the premise that "better information leads to better service provision". They hoped that by feeding back better quality information, practices would look at their care and improve weak areas.

> *Data from the quarterly returns show that the first objective has been achieved - practices are improving their recording. The focus of practice visits and workshops has been on better data quality, so it is encouraging to see standards are improving.*

But our survey participants indicated that they need more than better information to improve service provision; practices need help in applying the improved information to changing practice. One GP commented

> *Everyone talks about chronic disease management and want GPs to follow guidelines but no one thinks about the organisational infrastructure and the way to deliver care. The register is the first step for that non-clinical aspect, for example call and recall...But we are not doing anything about call and recall for diabetes.*

The project is successful in letting practices know *whom* they should target, but has some way to go to working out *how* they should target.

What worked?

The team has been well-led and managed. The three key members worked well together, made their meetings sacrosanct from other work and ensured that they met on a systematic rather than ad hoc basis to review progress. They were also flexible in changing the course of the project depending on obstacles encountered. For instance, the original plan was to base the register in hospitals and when that was found not to be feasible the project changed tack to primary care.

Although they have had to work hard in generating enthusiasm amongst local practices, they have succeeded in getting many on board. From the initial lukewarm interest to the current involvement of over 70 practices, this team has achieved much in gaining the practices' enthusiasm and trust. In fact, some wanted even more involvement. One respondent commented,

X (the project worker) is a very competent and practical person. Her visits were the highlight and I would like to see more of her. Facilitators are too thin on the ground...I would like the register reviewed with me at a 6 monthly meeting in which my practice could be compared with other practices.

They also have made progress in helping practices to improve their auditing and computing skills, necessary pre-cursors to changing practice. As one practice nurse said,

We have always done some type of auditing...Now I've seen it done so well. I just love the way they do it.

Success

As well as improving relationships and skills, the project has also made progress in identifying more diabetics – one of their main objectives. Seventeen percent more diabetics were picked up on the diabetes register than on chronic disease registers within the 13 pilot practices. One GP we spoke with mentioned that he had found over 150 diabetics within his practice alone that were not on the consultant's list.

The team now hopes that as the numbers of hidden diabetics rises, commissioning bodies will put more money into diabetic care. This looks as though it is beginning to happen, since the Diabetes Advisory Group at the health authority recently agreed funding for extra diabetes nurse specialists at the local Trusts. But there is still more work to be done. As one survey participant said

The information obtained must inform service development. That loop is not completed.

Sustainability

The diabetes register has combined with work on coronary heart disease. Future developments depend on PCGs, which have prioritised both conditions. There are nine PCGs in the area and the team is targeting PCG Boards to influence them to take the work forward.

The health authority is also committed to continue this work, and have demonstrated this by funding the project worker when North Thames money came to an end, albeit on short-term, renewable contracts. But her remit has changed.

As more and more practices sign up to the register, she cannot visit all the practices herself and extract information. So the team intends to ask the practices to extract the data themselves with the help of a one-off visit and written guide. For those practices which have good computing and auditing skills, this new approach may be useful in further enhancing their IT skills - although again we are not sure how much practice change will result.

But for those practitioners with weak computing skills, we have some concerns. Findings from other North Thames projects indicate that many practitioners do not feel they have the time to devote to self-learning. And evidence from this project is that practitioners want more, not fewer, face to face encounters.

Other primary care topics

Barnet: low back pain – *see previous section*

Enfield and Haringey: GP learning sets

What were they trying to do?

By setting up self-directed GP groups for learning, where participants could chose what they wanted to work on rather than have topics dictated, they intended to establish mechanisms whereby evidence can be accessed, appraised and acted on as part of routine practice.

Approaches used:

Recruitment

- GPs recruited at a MAAG educational event publicising a range of educational opportunities
- Flyer advertising groups sent to all GPs
- Some recruited through educational and informal networks.

Learning sets composition

- 4 learning sets established – 2 practice based and 2 non-practice based
- 2 groups multi-disciplinary – 1 with 4 pharmacists and 1 with 2 practice nurses
- Thirty GPs in total recruited (roughly a quarter of those in one area of district)
- Groups met 5-6 times over 6 month period
- Groups facilitated by GP tutors
- Attendance by GPs generally good (average 72%, range 65% to 80%)
- Groups met in the evenings

Learning sets content

- Topics chosen by groups themselves
- Two topics selected by each group from a large initial list generated by groups
- Lipid management covered by 3 groups
- Diagnosis of depression, osteoporosis, proton pump inhibitors and non-steroidal anti-inflammatory drug prescribing chosen by one group each
- Evidence from Medline, *Effective Health Care* and academic departments
- Outside advice (chemical pathologist, cardiologist, rheumatologist) sought

Incentives

- £75 per meeting (total of £450) paid to each GP
- £40 per meeting (total of £240) for each pharmacist

- Nothing paid to practice nurses

Audit

- All groups carried out audit into their topic conditions which they shared with others at the meetings

- Two groups also shared their audit data with the project worker

Evaluation

- Qualitative semi-structured interview schedule administered to groups by project worker

- Some groups taped, tape transcribed and analysed

- GP facilitators interviewed individually

- Data analysed by project worker, project lead and an academic supervisor independently

Key challenges

Since many of the other North Thames projects had difficulties in generating enthusiasm for projects chosen by staff outside the targeted organisation(s), we would assume that this project, where topics were chosen by operational staff themselves, would fare better.

Unfortunately the agenda the groups set was largely unchallenging, as one GP said,

> *You need to look at needs within the community rather than doctors' interests. ...The problem is that the doctors were choosing the topics. You need the criteria to be the improvement of healthcare, where the need is maximum.*

Perhaps the lack of challenging topics is to be expected as on the whole the group members were negative about evidence based medicine. The project lead wrote,

> *They were very suspicious of expert opinion and of pharmaceutical company agendas which they considered likely to show bias...they were quick to question the generalisability of a large proportion of studies presented as research evidence...In examining the evidence they had found, groups were highly critical of the validity and reliability of papers.*

As group members generally did not feel evidence based medicine had much to offer, perhaps they chose topics where that belief could be confirmed (i.e. where their performance was good) or where they could dismiss the evidence as not suitable for their branch of medicine. As one survey respondent said,

> *Doctors want to talk about the subjects they are good at and ignore what they are not interested in.*

With the short time frame of five to six sessions, the groups experienced the "forming" and "storming" phases of group development, but did not get much further. The individual members were still jostling for position. One group member remarked,

> *GPs are very individual. Lots were from small practices and not used to working in a team. [The GPs] were scoring points off of each other... [Doctors] are used to didactic learning and there was not enough time spent explaining how the system works differently. There was an assumption that people can go into self-directed learning groups without proper training.*

Another difficulty was unidisciplinary make-up of the groups. Two were GPs only and two had a minority of members from either practice nursing or pharmacy. But none of them could be

described as fully multi-disciplinary. Tracey Sweet in an article on the position of token nurses on Primary Care Boards wrote,

> *The well-documented process of 'groupthink', in which a group considers only a limited number of options and does not consider the wider context of its decisions, occurs because groups often come to assume that all members think the same way...An environment that does not encourage contributions also increases confirmation bias, where the majority seek information consistent with their beliefs and theories.* [2]

At least one group participant that we spoke to knew the composition of the groups was a weakness saying,

> *Evidence based medicine needs to look wider than GPs. We need to do more with primary healthcare teams. But would they be allowed to take it up?*

The assumption was that by becoming more familiar with the research evidence and exposing individual practitioners to other practices through discussion, doctors would then see how the evidence applies to them. But group members needed help in applying the research to their own practice. As one survey participant remarked,

> *They are not sure when it is appropriate for their own practice. We need a step in the middle – how to assess the evidence for their own practice.*

What worked?

The role of this project team was very different from most of the other North Thames projects. The others worked to convince the people of the usefulness of the evidence based change. This project team offered administrative support, training in facilitation skills and some evaluation, but they did not have any role in choosing which changes to make or "selling" them. Several of the survey participants commented that this approach, which meant that the practitioners set their own agenda rather than having it dictated from "on high", was one of the most positive points of the project.

All but one of the people we spoke with commented that they enjoyed the experience and would be happy to take part in a learning set again – if funding was available.

Success

The key question this project team wanted to answer was: if you give doctors sufficient support, time and money, will they be motivated enough to make necessary changes in their practice *on their own*? In this case, the honest answer is no.

The project was hindered by a lack of time as it only went for 12 months instead of 18. Perhaps if the groups had met a few more times, they might have progressed on to the "norming" and even possibly the "performing" stages of group development.

Sustainability

Since the project worker's contract terminated, none of the groups have met of their own accord, even the practice based ones. Without the financial incentive, it does not seem that the groups are

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[2] Sweet T. Special Brew. *Health Service Journal*. **109**; 5657; 21. 3 June 1999.

sufficiently motivated to continue. However, several survey respondents thought interest would be high if PCGs chose to take this work forward.

Redbridge & Waltham Forest: Primary care guidelines

What were they trying to do?

They wanted to set up a mechanism whereby locally produced guidelines could be disseminated, assimilated and applied by local practitioners as they were developed. Using a team building approach, they were working specifically around diabetes, hypertension, antibiotic prescribing, asthma and paediatric urinary tract infections (UTIs).

Approaches used

Guidelines

- Guidelines development group made up of local GPs, hospital consultants and other health care professionals as appropriate

- Nationally developed guidelines adapted to local circumstances

- Re-devised local guidelines packaged in standard style and format

Presentations

- Guidelines launched at previously scheduled educational meetings and MAAG workshops or at local hotel

- Open to all GP practices in the district

- Between 10 to 100 GPs and practice nurses attended launches (diabetes launch most popular)

Locality workshops

- Workshops convened by local GP tutor with GPs from the locality to present the guidelines and discuss local relevance

Educational Outreach Team

- Team made up of Guidelines Facilitator, 3 GPs, a nurse practitioner and an audit facilitator from the MAAG.

Meetings

- Multi-professional practice based team meetings set up with Educational Outreach Team

- PGEA approved & certificates offered to help nurses demonstrate attendance as part of PREP portfolios

- Practices chose which guidelines they wanted to work on

- Topics discussed included: current clinical practice and how it compares with guideline recommendations, relevant roles and responsibilities of primary care team, amendment and updating of relevant practice nurse protocols, IT skills, chronic disease registers, audit and resources available to help implementation

- Practices re-visited

Audit

- Data collection proforma incorporated into each guideline

- Audit used to highlight specific areas of education/training needs

- Practices encouraged to take audit at first practice based visit by Educational Team

- 3 audits for each topic guidelines (basic, intermediate, advanced) for practice teams to chose from

- Follow up audit 4-6 weeks later, and then 6-9 months later

- If practices unable to audit themselves, MAAG facilitator or Guidelines Facilitator carried out the audit

Key challenges

This team has worked very hard to develop a model for implementing guidelines that can be used for a variety of conditions. They felt

> *The more overtly educational the dissemination strategy, the greater likelihood the guidelines will be adopted into clinical practice.*

They have used a face to face, small group approach whereby they constantly relate the guidelines back to current practice and suggest ways forward. But this has drawbacks.

> *It takes lots of time. You need to audit and re-audit. This has resource implications.*

One survey respondent from the health authority said,

> *The approach is okay, but we need more people. It's very labour intensive going into practices. We need more resources from outside the health authority.*

Because this approach is so resource intensive, this team has had to considerably scale down original project objectives.

> *The original bid was lunacy. The plan was for guidelines for diabetes to be in the computer system and then link that up to hospital systems. This was not really possible. The idea was about 5 years ahead of its time*

One of the continuing difficulties is the gap between suggested practice and current services.

> *GPs may not have direct access to [the services they need]. We need more links to labs. We have no direct access to ECGs and that is a gap in the service.*

Although undoubtedly guidelines have become much more pragmatic, there are still service issues that go un-addressed when guidelines are developed.

What worked?

Throughout the process, the team has taken a flexible approach.

*We came to realise as the project evolved that greater flexibility was a virtue, and would be a strength rather than a weakness. It is in this respect that the contrast between the rigorous, inflexible approach which gives rise to the highest quality research **evidence** and the flexible, pragmatic approach necessary for research **implementation** is most marked.*

Some practices responded well to individual team based visits; others preferred locality meetings. The team adapted their strategy according to the particular practice's requirements.

GP practices seemed to respond well to this.

Ownership and dissemination are reasons why lots of guidelines fall down. For example, BTS guidelines for asthma were published in Thorax, which nobody reads. Lots of guidelines don't go looking for people...X [project worker] and Y [GP tutor] got it right. In terms of resources they had at hand, it was fantastic. But they weren't adequately resourced.

They were also clear about their roles and how they could be perceived. Although it was a health authority funded project, the team was housed first at the MAAG and then at a local practice. The Guidelines Facilitator also made sure to be seen as the "relayer" not the source of messages, so the Audit Facilitator carried out the audits, if the practices were happy to let her. This worked well in establishing good relationships with the practices.

Their non-threatening style [made the project possible]...I would say that they got the trust of practices.

Success

Although practice audits were carried out, different practices audited different items so it is hard to compare like with like. Data on 52 (1997) and 50 (1998) diabetic patients from one practice were passed on. They showed:

- 73% improvement in recording of HBA 1c levels
- 5.6% improvement in recording of blood pressure levels
- 44.6% improvement in recording of feet checking
- 56.8% improvement in recording of eyes checking

Because the number of patients included was so small and the data are only from one practice, we cannot conclude that district-wide the project has made a similar impact.

However, they do seem to have influenced at least some GPs. We interviewed one GP opportunistically. When asked if the project had made a difference, he commented,

Very much so, an enormous difference. I didn't have a sense of direction before. Personally, I find safety in guidelines and am happy to work with guidelines...We've done a first proper audit of diabetes and have a second one coming up.

The project has also helped the organisations involved.

It's given MAAG a lot of confidence in making a difference. Initially, X [project worker] had to knock on doors a lot. Now it's by word of mouth. Individual practice have improved, and so now practices are asking her in.

Sustainability

Identifying exactly who should pay for this service is difficult, especially with the arrival of Primary Care Groups. Because the financial future is so uncertain, all the members on the project team have had short, fixed term contracts.

> *X and Y's [project worker and GP tutor] contracts are annual...They are plodding along in their short-termism.*

Their approach, building up relationships to gain the trust of practices, is constantly undermined. In the summer of 1999, both the project lead and project worker left. However, they have since got a new Guidelines Facilitator in post.

In its short life this project has had many "leads". If any project has learnt how to keep on going, even in the face of major challenges such as losing a much valued project worker and an enthusiastic project lead, then this one is it.

Other Secondary Care Topics

Brent & Harrow: A&E protocols

What were they trying to do?

By purchasing stand alone computers and entering physician agreed protocols for conditions commonly presented in A&E, the team hoped to encourage doctors to work to protocols. These protocols were *symptom* rather than *disease* based, and were combined with patient clinical notes to ensure that they were used every time. The team had previously had great success using this model with nurses and wanted to see how applicable it would be with doctors.

They hoped this would lead to more appropriate tests being requested and an improvement in the quality of care.

Approaches used:

Guidelines (protocols)

- Literature searches using Medline to look for existing guidelines, meta-analysis, systematic reviews and other relevant publications

- Protocols evidence based where evidence robust, uncontested and available; consensus based on best practice where it was not

- Doctors and nurses from within the department encouraged to develop ones which interested them most

- Initially created checklist format for early protocols with nurses

- Evolved onto more information based, less prescriptive format for both nurses and doctors

- Risk assessment included with each protocol to facilitate safe discharge

- 24 protocols for minor conditions, 11 protocols for major conditions and one general protocol for when the computer was down or patient multi-symptomatic

- Protocols printed out for every patient as s/he presents

Opinion leader

- Project led and managed by well-respected senior A&E consultant

Interviews

- Informal interviews held with doctors to explore why they were not using original checklist protocols

- Further informal interviews with doctors following audit of protocol usage to work out later difficulties

Training

- 6 monthly turnover of junior doctors who are introduced to protocol usage by a member of staff

- Basic training on computers offered by department member

Audit & feedback

- Once monthly meeting with senior consultant and staff to go over any problems and get staff suggestions for improvements

- Staff appraisals

- Audit on protocol usage & appropriateness of protocol selection

Patient involvement

- Focus group with sickle cell patients to clarify their difficulties

Key challenges

One difficulty was around doctor psychology. They needed to find a way to persuade doctors to increase their protocol use to approximate nurse practitioner usage at 100%. For those doctors who were particularly resistant to protocols,

> ...the 'general' protocol provided a 'safety valve' in that it offered a way of complying with the Departmental policy of universal protocol use without requiring adherence to a detailed, specific protocol...[This] provided a way of avoiding alienating the small number of colleagues who remained unconvinced...This 'latitude' was particularly helpful given that clinical freedom is an important point of principle to some doctors.

In terms of technical problems, the project lead was concerned that the IT would become obsolete. Every change necessitated visiting each of the six computers to key in new information. And the computers often broke down. In the spring of 1999, the team reported that these worries would soon be resolved as the protocols were to go on the network.

A further difficulty was keeping the protocols current.

> It's difficult to keep up to date. Networking is important so the most recent information is included. Being able to change the protocol is also important.

Once protocols were changed, there were further complications.

> "Attention drift" occurs because staff think they know it. Doctors are particularly bad at this and they may need an induction when they come on how to read protocols. X [researcher] is also working on revising the layout when she makes a change, although she has tried to mark changes in bold in the past and that didn't work.

What worked?

Survey respondents mentioned several factors which led to this project's success.

> We have a non-hierarchical culture, which helps, with an open access policy. There is also lots of commitment from top down, the CEO and other trust staff.

> The protocols are within the entire organisation, not just A&E. The consultant is behind it... They are building on a very strong foundation.

Within the department itself, the nurses have been instrumental. They see the protocols as part of professional development. One nurse said,

With more protocols, we are updating our skills. Once we become happy with a case, we think "what next"?

Another spoke of how the protocols were a part of on-going education.

This [a mistake] is usually identified from an audit meeting we have once a month. It's a constructive discussion. The consultant says, "This is great. This is how I would like it to be done."...In group learning, we swap protocols. This is very beneficial. The professional learning is great.

The non-hierarchical team approach was also important. One practitioner, who had been on an away day to an A&E department in another trust commented,

I found it very hard because there was nothing innovative. In this department, it is nurse initiated. At Hospital X, I had to hold back. Here, doctors just see the patients; everything else is done by the nurses. We wouldn't have got this far if doctors hadn't put their trust in us. It's a team.

Success

This team has audited if protocols are chosen correctly and subsequently used.

We were aware that getting involved in attempting to measure outcomes would be beyond the scope of our project, and therefore focused our attention on evaluating protocol usage rates, the appropriateness of protocol selection and adherence to the standards defined in the protocol.

Unfortunately, as external evaluators, we do not have access to any data other than protocol usage rates, so we do not know how much current practice is in line with the evidence.

However, we do believe that this project team has got the four major areas in managing change right, especially approach and getting the right people on board. In terms of process measures, at the time of our last meeting with this team (spring 1999) doctors were using protocols 80-90% of the time (up from 40% in 1997).

Sustainability

The future of this project looks good as it is now incorporated into routine practice.

...doing something the 'way we always do it' is usually more comfortable, quick and often feels more efficient in a pressurised situation...We thought the power of habit in the workplace could be turned around, so it became a force for using research evidence...We felt that making protocols the only source of documentation would be a key step to achieving their widespread, routine use.

Because there is nothing else to write on, staff have to document their actions using protocols, even if we are not sure how closely they are following them.

When asked if people could go back to working the way they had done, one replied,

We can't stop now. We have a culture of evidence based medicine in the department now. It's very dynamic. We couldn't go back to the way we were before.

The A&E department is one of the pilot sites for the trust's clinical governance policy. They have also taken over administrative responsibility for urgent treatment services at Edgware Hospital and have introduced protocols there. As one of the projects which has had the most success in becoming firmly embedded within the organisation, we believe this project has a great deal in its favour in repeating this success elsewhere.

North Essex: Colorectal and breast cancer services

What were they trying to do?

By developing colorectal and breast cancer guidelines, they intended to work towards fostering teamwork and standardising treatment across two trusts, leading to improved survival rates.

The team also wanted to increase recruitment into clinical trials and make a business case for purchasing a cancer services information system. In the long-term, they hoped to establish mechanisms for further collaboration on other types of cancers.

Approaches used

Guidelines

- Guidelines structured on three levels covering operational strategy (e.g. configuration of teams and quality standards), medical guidelines (e.g. referral and indications for treatment) and local protocols (e.g. surgical case selection).

- Guidelines also encompassed secondary care management including appropriate tertiary referral and entry into clinical trials.

- Steering groups made up of surgeons, oncologists, nurse specialists, radiologists, histopathologists and chemotherapists set up for each of the two conditions to help develop guidelines

- Draft guidelines sent out to a cross section of GPs

- Referral guidelines available on the Internet at EQUIP site *(www.equip.ac.uk)*

- GP referral guidelines also in quarterly magazine to GPs

Meetings

- Project worker met on a face to face basis with individual consultants, secondary care clinicians, key primary care professionals and public health colleagues to raise awareness and gain consensus on approach

- Project worker attended local Cancer in Primary Care group to discuss guidelines and gain consensus on approach

Audit

- Before (1996) and after (1997) audit of time of referral to appointment date, type of referral, numbers seen in rapid diagnostic clinic, procedures performed in rapid diagnostic clinic for breast cancer only

Key challenges

This was a very ambitious project. The scale of what they wanted to do, the complicated topic they chose and the complex systems they were working in meant that it was an enormous undertaking.

They wanted to develop and implement several different types of guidelines (operational and clinical) for two types of cancer (breast and colorectal), when most projects just concentrated on clinical guidelines for one condition. In addition, the topic of cancer is difficult as a cancer patient sees so many different specialists in secondary and tertiary care, as well as primary care. And they were working across several organisations. It reached across two trusts, primary and secondary care as well as the health authority and GP educationalists (EQUIP). The number of professionals involved was extraordinary.

Identifying the right people, securing involvement and keeping up communication was in itself a major piece of work. As one survey respondent said,

> *They got the right people in the same room at the end, but not enough in the beginning. GPs were in the dark and the consultants were not really happy.*

Several survey respondents (and the project worker) said that because there were so many people involved, and they were identified more by luck than judgement, a major difficulty was gaining consensus. There were many "hidden agendas" and differing viewpoints on how to take the project forward. As one survey respondent said,

> *It needed a much clearer set of objectives...No-one seemed to know what to do, least of all (the project worker).*

This confusion was heightened as there was no specific project lead, despite the interest of many consultants and managers within the trust. And the roles of the various organisations were also unclear (e.g. the project was supposed to be "purchaser led", yet changes in staff meant that three separate health authority individuals were involved over a period of a year and purchaser involvement was patchy.) In his final report, the project worker states that

> *[There was] a lack of cohesion in overseeing the project and I felt I was left very much to get on with it.*

In discussions with the senior colleagues who attended the external evaluation workshops, one said

> *X [the project worker] needed a lot more support than we could offer. He needed a lot of direction...It's not about apportioning blame, but for any successful postholder they have got to be motivated and they have got to have the support. I think there was an absence on both parts.*

Both those from the project team and other local participants had learnt from this with one saying,

> *The project was written up with lots of enthusiasm by Dr. Y, but he was not a key player when the project was running. A,B,C and D were all the key players, but none of them was really involved in setting it up. If Dr. Y had kept ownership, then it would have worked better... In the future, we'd identify the skills [of the project worker] more rigorously.*

One survey respondent said that monitoring was a difficult issue trust-wide,

> *We should be monitoring performance against guidelines, but this is not happening because no one is funding it and no one is responsible... No one within the hospital takes the initiative. They do what the doctors ask them for. So clinical effectiveness and performance is haphazard...Even if we do demonstrate that something is substandard, no one does anything about it unless it's political...We need an on-going system. Everyone is wrestling with this, but nobody has worked out how.*

As these comments were made in the spring of 1999, perhaps this situation has changed in light of clinical governance.

What worked?

Despite these difficulties, the enthusiasm of the clinicians was high. For example, three busy doctors took their valuable time to speak with us for over thirty minutes each. Their comments showed that they had given much thought to the project, what could be done differently and what they could do next. The professionals concerned no longer see "the problem" in the same light; they have clarified it, which is a major achievement in a project of this scope.

We were also impressed by how much thought the senior consultants and business manager had given. Perhaps this is because, as a clinician commented,

> *There is a great willingness and enthusiasm to get the best possible care for patients.*

Success and sustainability

Results of the audit are not very robust, but it could be argued that this early on the collection of "after" data is not appropriate.

Data were collected only at one site. They show that time from referral to appointment has decreased, however with national and other initiatives to reduce waiting times we cannot say this is due to the project. The type of referrals has remained constant, but there has been an increase in the proportion of patients seen at the rapid diagnostic clinic (up from 64% to 84%).

Although the project may have had limited success in changing referral patterns, it has been successful in breaking the work down into more manageable pieces. For example, the need for an adequate information system was highlighted. Using information generated from the project, the Business Manager was able to draw up a successful business plan and funding from charitable funds has been approved.

There was also progress with clinical trials. Having the project worker demonstrated the value of having someone in post and so a Clinical Research Manager has been appointed. As one clinician said,

> *Before we had [the project worker], we wouldn't have had the manpower to do the donkey work in the clinical trials. It's been useful in that aspect.*

There is also some evidence that relationships and teamwork have improved. One project team member said,

> *One of the things that has come out of it is that it's got physicians in the two trusts talking to each other, with varying success. The chest physicians have developed a good relationship. It has drawn people together and there is a willingness for that to happen. There are a lot more joint clinics and joint management. For example, all the new colorectal patients are discussed by the oncologist, the surgeon and various others before a care plan is drawn up.*

Since the project worker has left, the project as it was no longer continues. But it has made a substantial impact in individual and organisational learning, which can only benefit them the next time they attempt to change clinical practice. As one said,

I think the organisation has learnt how not to do it again.

Methodology

Our brief from the region

We were asked to establish the effectiveness of the different approaches, in particular to look at:

- Outcomes planned, and to what extent they had been achieved
- Barriers identified and overcome
- Generalisability of approach in terms of topic and location

We took this one step further and looked at factors which helped clinicians to integrate research evidence into daily practice in a sustainable way.

We broke the evaluation down into three parts: (1) setting objectives and planning evaluation (2) barriers to change and strategies to overcome them and (3) sustainability. Our task was to identify the general lessons coming out of the projects in these three areas and feed them back to both the projects and the funders (the regional R&D directorate).

Timescale

The timescale for the projects and for the evaluation shifted considerably.

The region originally funded 17 projects for 18 months, but nine had already done some work prior to receiving this money. As the projects have taken longer than expected, so has the evaluation – originally planned for 18 months, it stretched to nearly three years.

Evaluation design

We selected a developmental evaluation model for four main reasons.

- It is especially helpful when the item for evaluation changes during the study period and/or when it is poorly defined

- It encourages participants to set their own objectives, reflect on what they have learnt and change course as necessary

- It allows for changes in the evaluation methodology as and when needed

- It allowed us to move from detached observation to action research [1]

Constructing a framework for analysis

We held a workshop in April 1997, at which we asked fifteen professionals with experience in implementation to a workshop to define "success". Eight attended including a medical director, GP, voluntary organisation director, health authority chief executive, senior nursing lecturer, academic, representative from the Centre for Reviews and Dissemination (CRD) and the Implementation Facilitator for North Thames R&D.

We asked them to tell the story of a "successful" implementation project to the other people in their group. Listeners wrote down key phrases or sentences that led to (or hindered)

implementation on post-it notes. We then analysed the post-it notes and came up with several broad headings. These headings were fed back to the group and adjustments made.

Subsequently, we wrote up a document entitled *Features likely to lead to success*, which we sent to all participants for comments. (A final version was included in reference [2].) We also presented this paper to the project teams at our first workshop and made changes according to their comments.

The external group defined "success" as either

- A project which meets all of its objectives. OR

- A project that does not fully meet its objectives, but in which individuals and the organisation analyse why and learn from it.

They also identified a set of nine elements of success against which the projects could be assessed.[2] They were:

- undertaking **ground work** thoroughly
- involving **users** (defined as local professionals as well as patients)
- **facilitating the change** before meeting resistance
- **avoiding hindrances** where possible
- choosing a good **leader**
- creating the right **environment** within the organisation
- **overcoming barriers** after meeting resistance
- incorporating **evaluation**
- encouraging **sustainability**

Sources of data on the projects

By the end of the evaluation (autumn 1999) we had several sources of data: workshop notes, telephone surveys, final reports or chapters in the book[3] edited by the regional facilitator and former director of R&D, and self-assessment questionnaires.

Workshop notes

In the summer of 1997, we met with project teams in the first of a series of workshops. The topic was setting objectives and evaluation. Fifteen projects were represented. By this time, one of the projects had been cancelled (schizophrenia) and so we were now evaluating 16 rather than 17 projects.

The second series, covering levers, barriers and strategies for change, took place in the winter of 1997/8. We also looked at local professionals' acceptance of the evidence. Again, all but one of the sixteen projects were represented.

The third series took place a year later in the winter of 1998/9 when North Thames funding had officially finished for all of the projects. Using a self-assessment questionnaire based on *Features likely to lead to success* drawn up from the workshop with the expert group. We asked project teams to rate their own strengths and weaknesses, and to assess the extent to which the project was meeting its objectives. The resulting discussion was the focus for this workshop series.

We met with teams from ten of the projects at the workshops, and had individual meetings with another three project teams. Two of the projects dropped out from the evaluation (East London & the City cardiac and Brent & Harrow cardiac) after we contacted them numerous times and they

did not respond. One further project (Kensington, Chelsea and Westminster dyspepsia) had been cancelled between the second and third series of workshops.

Telephone surveys

In the second workshop, we asked project teams to draw stakeholder maps. They identified local people who might have some perspective on the project's success, whether as colleagues of the project team or as practitioners in the wider world. We wanted to talk with a sample of them to confirm our impressions from the workshops.

Project teams supplied anywhere from three to nine names. We do not know if project teams picked only those who they thought would be positive. Nonetheless, even the most positive respondents gave some information about their concerns.

We chose three to six names for each project. Our selection of whom to include depended a great deal on what we knew of each project. For projects with a primary and secondary care interface, we contacted both hospital staff and community specialists. For community based projects we talked with primary care staff and one or two health authority colleagues. For hospital projects, we talked to staff from a range of disciplines and levels within the trust.

Four projects were excluded; two because it was too early to get information, one because contact names and numbers arrived too late and one because no candidate responded after numerous attempts to contact.

Our questions for this survey were:

1. What do you hope the project will achieve?
2. What do you think are its strengths?
3. What could be improved? Do you have any concerns?
4. What do you think has been learnt?
5. Will it achieve its goals?
6. Do you think it'll be around in some form or another a year from now?

Forty nine potential candidates made up the sample. We got information on 12 projects from 36 people while the survey was conducted from January to March 1998. Abridged versions of the survey summaries appear in the second interim report.[4]

We carried out a second survey of local participants from February to June 1999. The aim of this survey was to see how the project had changed in the intervening year, and its current prognosis. The questions for this survey were:

1. In your view, was the project a success? In what ways?
2. What made the project possible?
3. What were its weaknesses?
4. What should be done differently next time?
5. What is still going on now that North Thames funding is finished?
6. Has the project made any difference to your clinical practice? To your organisation?
7. Could it go back to the way it was before?

Fifty six candidates were invited to take part. We got information on 11 projects from 48 people. Fourteen of the second survey respondents had participated in the previous survey. Four projects were not included; two because they were dormant at the time we wanted contact names and two others because they had dropped out of the evaluation.

Final and interim reports

Eleven of the teams wrote a chapter for a forthcoming book[3] which were submitted instead of a final report. Four other teams wrote final reports. Wherever possible, project teams included quantitative data.

Self-assessment questionnaires

At the final workshop, project teams were asked to complete a self-assessment questionnaire. The questions were:

1. Please list the final objectives for your project and comment on how far you and your colleagues were able to go in meeting them.
2. The two definitions of success were (1) meeting objectives or (2) learning from the experience. Do you consider your project a "success"? Please indicate why or why not.
3. Re-reading the document *Features likely to lead to success*, which three elements were the strongest and which three were the weakest?
4. In looking at the sub-section for each of the strongest elements you chose, what aspects in particular were strengths?
5. In looking at the sub-section for each one of the weakest elements you chose, what aspects in particular were weaknesses?

We received back 15 self-assessment questionnaires. We had two submitted for two projects. Eleven other teams submitted one. Two projects (East London & City cardiac and Brent & Harrow cardiac) did not submit any.

Data quality

Information at the 12 workshops was recorded by hand by two researchers, then written up and sent back to participants to check for accuracy. We also sent back notes to three project teams who attended one to one meetings rather than workshops. For one workshop, we took notes and used a tape recorder because one researcher was ill. The record of this workshop was written up from notes, then checked with the tape. Interestingly, the tape and researcher's notes concurred well, the only difference being that the tape offered further clarification.

Information from the telephone interviews was harder to validate. If one or more interviewees brought up the same point, or mentioned something that had been discussed in the workshops by the project teams, we believed the point was valid. If something major was brought up by one of the interviewees which was not confirmed by other respondents, we would discuss it with the project teams in informal telephone conversations. A collated sheet of A4 with anonymised results from both surveys was sent back to all project teams.

Analysis

Outcomes analysis

Using information from the project teams (workshop notes & reports or book chapters) and local professionals (two surveys), we listed all of the perceived outcomes. We also gained an understanding of the level of importance attached to them by the frequency and emphasis by which they were mentioned.

We devised a wheel based on the top twelve items. Each item was defined and we rated each project's progress as none, low, medium or high (represented on the wheel by shading one or more of the inner, middle, and outer rings). These ratings were made on the basis of information we had as of the last contact with the projects.

Did it make a difference?
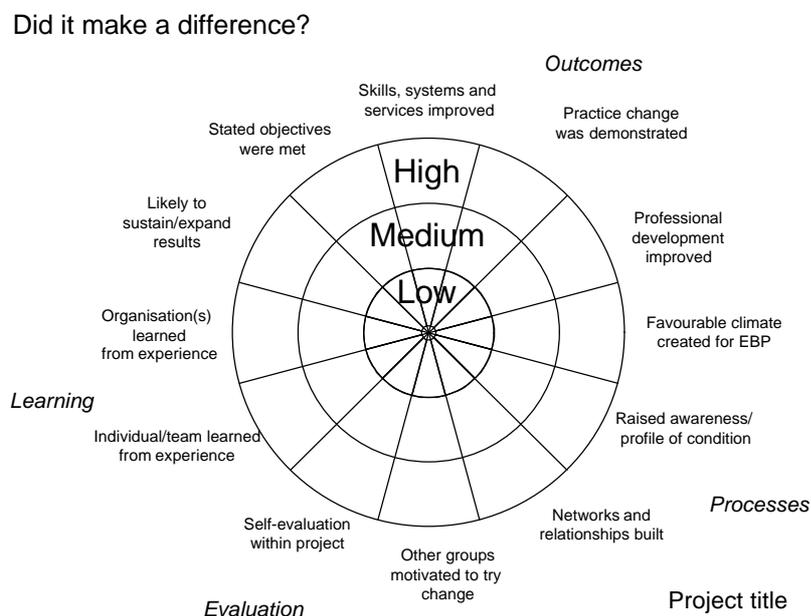
Comparing data with an external team

In recognising the subjectivity of our approach and potential criticisms of a lack of rigour, we set up a data exchange with another team engaged in evaluating 16 clinical effectiveness projects across England.

We passed on our workshop notes and survey responses for four of our projects. We defined each of the terms on the outcomes wheel and asked the external team to complete a wheel for each project. They rated level of progress as: low, low to medium, medium, medium to high, high, or "can't tell".

A statistician at the London School of Hygiene and Tropical Medicine used Cohen's Kappa to test for agreement. An exact match was given a rating of 1. If the scores were within one point (e.g. medium compared to medium to high), then the item was weighted at 0.8. If the scores were within two points (e.g. medium compared to high), then it was weighted at 0.4. Anything else was given zero weight.

The observed agreement was 69 % and expected was 53%. This was statistically significant (p< 0.0034). This leads us to believe that there was validity and reliability in our approach.

Process analysis

With the wheel, we now had a visual picture for each project. We were able to classified projects by level of progress but still did not know what factors had led to that progress.

We selected the wheels for the projects which had made the most progress. We applied the broad themes identified by the external expert group in a case study approach. We also noted anything

which surprised or refuted our own beliefs. After identifying key factors which helped progress for each, we summarised them. We now had a preliminary list.

Using the same case study approach, we then looked at:

- the three projects which had made the least progress

- the three projects with data which directly measured a change in clinical behaviour

- the remaining eight projects

We now had a list of nine items that helped projects make progress. Several of our items could be grouped together. With this revised, shorter list, we went back to all of the projects and re-analysed to see if our findings were sound.

Inconclusive evidence

We found conflicting, incomplete or inconclusive evidence in a number of areas which other researchers evaluating projects of this type have been able to comment on more confidently.

Involving patients

Only one North Thames project involved users in the form of a series of discussion groups. Several other teams mentioned they would have like to have incorporated patients' views more, if only to get a clearer picture of what happens from the patient's perspective. The team which did involve users was one of the more successful projects, but we are not convinced that one of the factors which prevented others from being successful was the lack of patient input.

Opinion leaders

Identifying just who an "opinion leader" is and what they are supposed to be doing can be difficult. As stated before, we found two of the secondary care projects were led and one denounced by well-respected senior consultants within the department that needed to make the changes. Their support (or opposition) had a demonstrable effect.

Within primary care and interface projects, it was less clear. In some cases, asking opinion leaders from secondary and primary care (i.e. outside the organisation which is targeted for change) to discuss details of the evidence with colleagues was useful. But expecting much more (i.e. convincing colleagues to actually apply it) was not so successful. One primary care project worker wrote,

> *We think rather than involving specific individuals (i.e. supposed opinion leaders), the key to the successful implementation of guidelines in UK primary care may lie in recruiting sufficient practices to give a project the necessary momentum in its early stages.*

Quality of the evidence

Project teams found (for the most part) that practitioners did not challenge the evidence *per se*, but they may still have a number of legitimate concerns about putting it into practice, despite "gold standard" evidence. For example, the evidence on high compression bandaging is very good in terms of showing a reduction in healing times, but one project team found nurses were reluctant to use it as patients complained. Rather than defend the evidence in terms of proving the quality of the trials, project teams had to address these other concerns to get practitioners on board.

Senior management support

One project worker was very clear from the start that she needed to raise the profile of clinical effectiveness within her organisation before she could make headway. She was successful in this and both of her projects are still on-going.

However, a member of one of the most successful teams commented that even though they can show a number of improvements in patient waiting times, quality of care and cost reduction (out-patient and in-patient costs), their senior management is still somewhat lukewarm. This suggests that although senior management support is welcome, change may come about despite it.

Local ownership of guidelines

Some of the projects generated their own guidelines from scratch and others adapted guidelines from elsewhere. We do not have clear evidence to support either approach. Both were useful in being vehicles to create necessary networks and help get practitioners on board, but those who started from scratch often found it time-consuming and it distracted them from the really difficult task of changing clinical behaviour. One project lead commented

> *I've decided next time just to write it up and slap it on the wall.*

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[1] Øvretveit J (1998) *Evaluating Health Interventions: An Introduction to the Evaluation of Health Treatments, Services, Policies and Organisational Interventions.* Open University Press, Buckingham.

[2] Smith L & McClenahan JW (1997) *Putting Practitioners through the Paces: Initial Findings in our Evaluation of Putting Evidence into Practice*. King's Fund, London.

[3] Evans D and Haines A (editors) (forthcoming April 2000). *Voices of Experience* (working title). Radcliffe Medical Press, Oxford.

[4] Smith L & McClenahan JW (1998) *Snakes and Ladders: Levers, Obstacles and Solutions to Putting Evidence into Practice*. King's Fund, London.