

*Evidence:*

# How do you get clinicians involved in quality improvement?



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*An evaluation of the Health Foundation's Engaging  
with Quality Initiative – a programme of work to  
support clinicians to drive forward quality*

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*August 2010*



*Identify Innovate Demonstrate Encourage*

# How do you get clinicians involved in quality improvement?

An evaluation of the Health Foundation's  
Engaging with Quality Initiative  
– a programme of work to support clinicians to  
drive forward quality

Final report

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EUROPE



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# Foreword

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The Health Foundation is an independent charity that aims to improve the quality of healthcare across the UK. We are here to inspire and create the space for people, teams, organisations and systems to make lasting improvements to health services. Working at every level of the healthcare system, we aim to develop the technical skills, leadership, capacity, knowledge, and the will for change that are essential for real and lasting improvement.

In 2004 we launched the Engaging with Quality Initiative (EwQI). It supported eight projects led by Royal Colleges to improve the quality of care in a range of conditions and diseases in acute and mental health care, including inflammatory bowel disease, chronic obstructive pulmonary disease and prescribing for serious mental illness. EwQI was inspired by evidence suggesting that clinicians are attentive to the need to improve quality but are often not sufficiently engaged in efforts to achieve this. It was designed to tap into the enthusiasm of clinical leaders operating in professional bodies and in multi-professional networks and was based on the premise that clinician led improvement work is critical to engaging clinical communities. Most projects ran audits as a core improvement intervention, supplemented by a range of other improvement methods.

We commissioned independent evaluation of all our major activities in order to generate robust and convincing evidence about improvements in care and provide learning for individual programmes of work. We seek to stimulate debate about the best methods to evaluate complex continuous improvement interventions and contribute to the science of improvement. In 2005 we appointed a consortium of RAND Europe and the Health Economics Research Group at Brunel University to undertake a four year evaluation of the initiative.

The evaluation reports that EwQI was successful in engaging clinicians and service users in effective processes of change. It also engaged policy makers and decision makers, promoted the capacity of the healthcare system to deliver improvement and contributed to the knowledge base about improving quality. Projects reported greater standardisation of professional practice, more equitable care, greater quality control and improved patient satisfaction. Improvements in clinical outcomes were reported to be real, but modest and patchy. Given the limited nature of the improvement interventions – with hindsight projects' strong focus on clinical audit coupled with limited change mechanisms was going to be unlikely to produce a step change in outcomes – it is very encouraging that the evaluation found improvements in structures, processes and cultures.

The evaluation concludes: 'professionally-led QI [quality improvement] in acute care can successfully mobilise large numbers of clinicians across a wide range of organisational settings. In acute settings it also appears that this engagement has more to do with the professional identity of clinicians than with any pecuniary gain.'

The evaluation provides powerful learning about the challenges of undertaking improvement work and makes important recommendations about delivering, supporting and evaluating improvement interventions. Crucially, it demonstrates that improving quality is part of clinicians' professional identity and that tapping into this can be a powerful motivator for change.

Dr. Dale Webb  
**Director of Evaluation & Strategy**  
**The Health Foundation**

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# Executive summary

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## The Engaging with Quality Initiative

In 2004, the Health Foundation invited national professional bodies and specialist societies in the UK to bid for funds for projects under the Engaging with Quality Initiative (EwQI). The three objectives of the EwQI were to:

- engage clinicians in leading quality improvement projects that would achieve measurable improvement in clinical quality
- identify effective strategies for clinical quality improvement that could be replicated and spread across the healthcare system
- increase capacity for clinical quality measurement and improvement in the UK by developing the infrastructure and skills within professional bodies.

Eight projects run by professional bodies or specialist societies were selected:

- 1. National Bowel Cancer Audit Programme;** lead organisations: Imperial College London, Association of Coloproctology of Great Britain and Ireland
- 2. The Use of Regional Collaboratives to Improve Services for People Who Have Self-harmed;** lead organisation: Royal College of Psychiatrists
- 3. The Prescribing Observatory for Mental Health;** lead organisation: Royal College of Psychiatrists
- 4. The National COPD Resources and Outcomes Project;** lead organisation: Royal College of Physicians
- 5. Peri-operative Fasting Implementation Study Evaluation;** lead organisation: Royal College of Nursing
- 6. Epilepsy and Community-acquired Pneumonia Scottish National Audit Project;** lead organisations: Royal College of Physicians of Edinburgh and Royal College of Physicians and Surgeons of Glasgow
- 7. UK Inflammatory Bowel Disease Audit;** lead organisation: Royal College of Physicians
- 8. Perineal Assessment Repair Longitudinal Study;** lead organisation: Royal College of Midwives.

## The evaluation

It was the Health Foundation's intention that evaluation should be conducted at the same time as, and be integral to, the EwQI, and that it should operate at two levels: evaluations of the individual projects (self-evaluation) and an evaluation of the overall initiative (external evaluation). The overall aims were to determine progress against the EwQI objectives, identify and measure outcomes, assess the processes adopted, and explore the thinking behind the projects in order to identify the factors associated with success.

A consortium led by RAND Europe with the Health Economic Research Group, Brunel

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University, was invited by the Health Foundation to provide the external evaluation, and this is the subject of this report. The external EwQI evaluation was intended to be both formative and summative, and the Evaluation Team worked closely with the project teams to help them develop their self-evaluations, upon which the external evaluation was built. Our further tasks were to:

- analyse and synthesise data from the projects' self-evaluations
- assess increases in clinical engagement in quality improvement
- explore the wider implications of the EwQI
- identify any related changes within the royal colleges and professional bodies
- assess the sustainability and cost consequences of the projects.

The EwQI had specific characteristics that should shape how our conclusions and recommendations are interpreted. First, the initiative was from the outset conceived as a demonstration of what could be achieved through clinician-led quality improvement (QI) activities, with active support from the royal colleges and professional bodies and with the engagement of patients and their representatives, rather than as a scientific exploration of QI. Both the Health Foundation and the project teams wanted to show the improvements that could be made. However, if the inspiration and our evaluation approach were pragmatic, our evaluation was also scientific in the sense that we were seeking systematic evidence to support or weaken causal claims. We evolved an evaluation protocol to reflect the challenge of doing 'pragmatic science'<sup>1</sup>.

The second issue is that the EwQI was one of two programmes funded by the Health Foundation, and was focused on acute care. The second programme, reporting in 2011, concerns primary care, and it will be important to combine the findings from both of these studies for an overall account of the contribution of clinician-led QI in the NHS. Third,

the model of QI being studied was about changing the behaviour of individual clinicians through the provision of information, peer review, training and other supports. Intended outcomes for patients included improved clinical outcomes, improved or more equal access to healthcare, improved patient experience, and a healthcare system that is more responsive to need.

The EwQI promoted one particular approach to QI. Other approaches include patient safety systems, accreditation schemes, a stronger role for commissioning, for management (through organisational quality management programmes), for (non clinician-led) standard setting, and so on<sup>2</sup>. These are all part of the potential mix of instruments for raising standards and improving quality, and the analysis here does not form a judgement about how to optimise this mix.

## What the evidence told us

The EwQI:

- **Demonstrates** that in acute care, clinician-led approaches to identifying standards, auditing against these, and developing improvement plans can successfully engage other clinicians in a process of change.
- **Demonstrates** that QI requires a complex mix of skills, including leadership, communication, management and a knowledge of how the activities pursued fit within the wider processes of the NHS.
- **Supports other findings** that clinicians have an appetite to collaborate with their peers to identify and implement improvements in healthcare delivery, but the effort required to implement successful improvements in the current UK healthcare system is considerable.
- **Supports other findings** that patient perspectives and user voices, when carefully integrated, can strengthen QI.
- **Demonstrates** that, within the timescales of this

initiative, even well-founded and well-conducted QI programmes may have patchy and limited impacts on measurable health outcomes.

- **Demonstrates** that professional bodies can play a supportive role in providing QI activities with legitimacy and visibility, should they choose to develop this role.
- **Underlines the need** for further work to understand the causal chain linking QI activities to healthcare and patient outcomes, and how, given more time and greater institutional support, QI activities such as those promoted through the initiative could represent better value for money in the mix of measures designed to create a healthcare system that is safe, fair, effective and efficient.

From this, we make seven recommendations:

## 1. A springboard for action

Any QI project should have a springboard, consisting of a team with sufficient capacity to manage the complexity of that project. This report demonstrates the considerable extent of this requirement in terms of project and people management, user engagement, data collection and analysis, communication, trust building, and understanding of the wider NHS environment.

*TARGET AUDIENCE: those planning and leading QI; NHS bodies hosting QI activities; funders.*

*TIMESCALE: immediate.*

*TASKS: develop a short 'capability check' that QI project teams could use to reflect on their capability for action.*

## 2. Sparking change and mobilising resources

QI activities typically require a change from routine practice and must overcome inertia to get started. Successful projects require leadership capable of sparking enthusiasm and maintaining a momentum suitable to the scale of that inertia and to the ambition of the aims to be realised. Patient voices can be an important support in this. Large, complex projects, such as those in the EwQI, require a range of leadership skills to facilitate action and organise multi-professional, multidisciplinary collaborations, using structures carefully adapted to local circumstances.

*TARGET AUDIENCE: healthcare leaders; clinical leadership educators; funders of leadership programmes; NHS Institute for Innovation and Improvement; professional bodies; funders of health service research.*

*TIMESCALE: medium-term development of leadership capacities in healthcare.*

*TASKS: build on existing literature on leadership and change to audit current skills against requisite skills; continue to use leadership support programmes as part of QI activities; continue to develop leadership courses and training.*

## 3. Sustaining change and aligning with the direction of change in the health system

QI activities cannot easily swim against the tide of wider changes in the healthcare system. To provide sustainable benefits, QI activities should, where possible, be aligned with the mainstream allocation of resources in healthcare, supported through professional training, and through commissioning and regulation, and be integrated into the management of services. This alignment is also likely to include engagement with service users.

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Should all this not be possible, alternative and sustainable supports should be identified.

*TARGET AUDIENCE: commissioners of care; managers in NHS bodies hosting QI activities; funders of QI; deliverers of QI.*

*TIMESCALE: immediate.*

*TASKS: QI projects should address sustainability at the outset rather than towards the end and should identify how changes in the healthcare system can be harnessed to achieve sustainable improvements.*

#### 4. Supporting QI: the role of healthcare institutions

A large-scale QI project should only be funded if the healthcare institution hosting that project has the necessary project management capacity, leadership, monitoring and evaluation skills to ensure that the project has the best chance of delivering and measuring improvements in the quality of healthcare, and of sharing positive results. However, a balance should be struck to ensure that this does not inhibit innovative approaches ‘bubbling up’ from below. Of particular importance is the support that service users, carers and their representatives can provide.

*TARGET AUDIENCE: funders of QI; healthcare bodies hosting QI activities.*

*TIMESCALE: medium term.*

*TASKS: develop a ‘capability check list’ to be used before arriving at any decisions about funding large-scale QI.*

#### 5. Supporting QI: the role of the royal colleges and professional bodies

Each royal college and professional body should consider how, if at all, it wishes to provide leadership, legitimacy, organisational support, and professional training in relation to QI.

*TARGET AUDIENCE: the royal colleges and professional bodies.*

*TIMESCALE: medium term.*

*TASKS: the royal colleges and professional bodies to use their inter-institutional networks to take forward the debate of what is possible and desirable in general and to develop an internal dialogue on what is appropriate for each institution. As guardians of professional standards, they could also solicit the views and expectations of service users and the wider public.*

#### 6. Supporting QI: the role of education and training

QI should be part of the education, training and appraisal of health professionals. This not only concerns ‘heroic’ leadership but also dispersed leadership and the ability to maintain effective dialogue with managers, service users and other clinicians.

*TARGET AUDIENCE: educators.*

*TIMESCALE: medium to long term.*

*TASKS: review the ongoing changes to the current curriculum and propose inclusion of knowledge about QI and skills in its delivery.*

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## 7. Strengthening learning

Professionals, funders, QI practitioners and evaluators should strengthen learning about the effectiveness and cost effectiveness of QI by developing a better and more widely shared understanding of the requirements for evaluation, and of its benefits and limitations.

*TARGET AUDIENCE: clinicians; QI planners; evaluators; funders.*

*TIMESCALE: medium term.*

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# List of abbreviations

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ACPGBI	Association of Coloproctology of Great Britain and Ireland	IBD	UK Inflammatory Bowel Disease Audit
BSAC	British Society for Antimicrobial Chemotherapy	IHI	Institute for Healthcare Improvement
BTS	British Thoracic Society	IOM	Institute of Medicine
CAP	Community acquired pneumonia	IT	Information Technology
CCQI	College Centre for Quality Improvement	ITT	Invitation to Tender
CEEU	Clinical Effectiveness and Evaluation Unit	LREC	Local Research Ethics Committees
CLAHRC	Collaborations for Leadership in Applied Health Research and Care	MINAP	Myocardial Infarction National Audit Project
CMO	Context-Mechanism-Outcome	MDT	Multidisciplinary team
Colorectal Cancer	National Bowel Cancer Audit Programme	LPT	Local project team
COREC	Central Office for Research Ethics Committees	NBOCAP	National Bowel Cancer Audit Programme
COPD	Chronic obstructive pulmonary disease	NCAP	National Clinical Audit Programme
CQC	Care Quality Commission	NCROP	The National COPD Resources and Outcomes Project
DH	UK Department of Health	NHS	National Health Service
EDIS	Emergency Department Information Service	NHS QIS	NHS Quality Improvement Scotland
EPI-SNAP and SNAP-CAP	Epilepsy and Community-acquired Pneumonia Scottish National Audit Project	NICE	National Institute for Health and Clinical Excellence
EwQI	Engaging with Quality Initiative	NSF	National Service Framework
EwQPCAS	Engaging with Quality in Primary Care Award Scheme	PARiHS	Promoting Action in Research Implementation in Health Services
HCC	Healthcare Commission	PDSA	Plan Do Study Act
HERG	Health Economic Research Group, Brunel University	PEARLS	Perineal Assessment Repair Longitudinal Study
HQIP	Healthcare Quality Improvement Partnership	PICU	Psychiatric Intensive Care Unit
		PLAN	Psychiatric liaison accreditation network
		PoISE	Peri-operative Fasting Implementation Study Evaluation
		POMH-UK	The Prescribing Observatory for Mental Health

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QI	Quality improvement	RSE	Record of Significant Event
QOF	Quality and Outcomes Framework	SAPG	Scottish Antimicrobial Prescribing Group
QQUIP	Quest for Quality and Improved Performance	Self-harm	The use of regional collaboratives to improve services for people who have self-harmed
RCN	Royal College of Nursing	SER	Self-evaluation report
RCP	Royal College of Physicians, London	SIGN	Scottish Intercollegiate Guidelines Network
RCPE	Royal College of Physicians of Edinburgh	SPICE	Scottish Programme for Improving Clinical Effectiveness
RCPSG	Royal College of Physicians and Surgeons of Glasgow	ToC	Theory of Change
RCPsych	Royal College of Psychiatrists	UCL	University College London
RCT	Randomised Controlled Trial	UKCRC	UK Clinical Research Collaboration
R&D	Research and development		

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# Acknowledgements

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We wish to thank the eight EwQI project teams for working not only collaboratively but also with considerable good will and responsiveness throughout the initiative, and for participating in and supporting the tasks of the external evaluation.

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We would also like to thank the EwQI team and all of those involved with the initiative at the Health Foundation for their support and interest in debating the ideas contained in this report as they evolved over the years. Finally, Jocelyn Cornwell and Diana Jakubowska ran the Support Programme with vision and efficiency, and also engaged constructively and collaboratively with us throughout the evaluation.

Any remaining errors, despite their best efforts, are ours alone.

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# Introduction

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In this chapter we first describe the aims and objectives of the Engaging with Quality Initiative (EwQI) and its evaluation. We then summarise the policy context into which the EwQI was launched and within which it was implemented, and discuss the problem that the initiative was seeking to address. We then turn to the external evaluation of the EwQI, describing the thinking that shaped our approach and outlining the methods we adopted. We finish with a description of the principles that underpinned our evaluation.

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## 1.1 The Engaging with Quality Initiative

In 2004, the Health Foundation invited national professional bodies and specialist societies in the UK to bid for funds for projects to engage clinicians in making measurable and sustainable improvements in the quality of clinical care under the EwQI. The three objectives of the EwQI are given in Table 1.

Eight projects, run by professional bodies or specialist societies, were commissioned in various areas of acute care and at the interface between

acute and primary care. These projects are listed below in the order in which they completed and with the lead organisation identified in each case. For brevity their shorter names (in parentheses) will be used throughout the rest of this report.

1. **National Bowel Cancer Audit Programme (Colorectal Cancer)**; lead organisations: Imperial College London, Association of Coloproctology of Great Britain and Ireland
2. **The Use of Regional Collaboratives to Improve Services for People Who Have Self-harmed (Self-harm)**; lead organisation: Royal College of Psychiatrists
3. **The Prescribing Observatory for Mental**

**Table 1: The EwQI objectives**

- To engage clinicians in leading quality improvement projects that will achieve measurable improvement in clinical quality
- To identify effective strategies for clinical quality improvement that can be replicated and spread across the healthcare system
- To increase capacity for clinical quality measurement and improvement in the UK by developing the infrastructure and skills within professional bodies

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- Health (POMH-UK); lead organisation: Royal College of Psychiatrists
  4. **The National COPD Resources and Outcomes Project (NCROP)**; lead organisation: Royal College of Physicians
  5. **Peri-operative Fasting Implementation Study Evaluation (PoISE)**; lead organisation: Royal College of Nursing
  6. **Epilepsy and Community-acquired Pneumonia Scottish National Audit Project (EPI-SNAP and SNAP-CAP)**; lead organisations: Royal College of Physicians of Edinburgh and Royal College of Physicians and Surgeons of Glasgow
  7. **UK Inflammatory Bowel Disease Audit (IBD)**; lead organisation: Royal College of Physicians
  8. **Perineal Assessment Repair Longitudinal Study (PEARLS)**; lead organisation: Royal College of Midwives.

An overview of the EwQI projects is provided in appendix A, and each project is described in more detail in chapter 2.

In total, the Health Foundation provided £4.6 million for the EwQI. In addition to the funds allocated to the projects, this figure includes funding for three external teams which were commissioned to support the project teams during the initiative. They were: an EwQI Support Team, whose brief was to help the project teams learn from each other and learn about quality improvement methods from independent experts; a team of leadership consultants to work with the project teams on team development and leadership skills; and a team from RAND Europe and the Health Economics Research Group (HERG) at Brunel University to undertake the external evaluation of the initiative as a whole. The project teams were expected to cooperate with all three external teams as they developed and implemented their projects. Underpinning this approach was the notion that the EwQI should be developmental in nature, and that project protocols should not be fixed and irrevocable from the start but should develop as each project was implemented through an iterative process of reflection and redesign.

This report describes the external evaluation of the EwQI, which includes an evaluation of the contribution of the Support Team but not of the leadership consultants.

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## 1.2 Aims and objectives of the EwQI evaluation

It was the Health Foundation's intention that the evaluation should be conducted at the same time as and be integral to the EwQI, and operate at two levels:

- evaluations of the individual projects (self-evaluation)
- evaluation of the overall initiative (external evaluation).

At project level, the aims of the evaluation were to:

- assess the extent to which individual projects achieve measurable improvements in patient care and identify the range of factors associated with success.

At initiative level, the aims were to:

- work with award holders on the development and implementation of their evaluation plans
- synthesise the data and findings from the project-level evaluations
- measure increases in professional engagement in clinical quality improvement
- measure the effectiveness of the award scheme (during its life) in leveraging external commitment to clinical leadership of quality improvement
- evaluate the increase in competency and infrastructure for quality improvement in the professional bodies involved
- assess the policy influence and cost consequences of the initiative.

The external evaluation and the project self-evaluations were both expected to determine progress against the EwQI objectives, identifying and measuring outcomes, assessing the processes adopted, and exploring the thinking behind the projects in order to identify the factors associated with success. But there was a difference in focus: the external evaluation was expected to address all three EwQI objectives, whereas the project self-evaluations were expected to concentrate mainly on the extent to which individual projects had achieved measurable improvements in patient care.

Our approach to the external evaluation was, therefore, shaped by three key factors: the developmental approach adopted by the Health

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Foundation, the need to work closely with the project teams on their emergent project designs in an iterative exchange that reflected their growing understanding of the EwQI and our growing understanding of their aims and environments, and the need to retain objectivity as we assessed the EwQI as a whole.

In the rest of this chapter we describe the context in which the EwQI developed and the problems it was seeking to address. We then outline our approach, the reasoning that underpinned that approach and the methods we adopted.

## 1.3 The evolving policy context of the EwQI

The EwQI was launched in April 2005 in an environment in which UK government policy explicitly acknowledged both variability in the quality of healthcare and the role of professionals in leading improvement<sup>3,4,5</sup>. Since then this policy and regulatory context has evolved, with an increasing emphasis on patient choice and the quality of healthcare.

In England the thrust of change established in the NHS Plan in 2000 and reiterated in 2004 has largely been continued subsequently<sup>6</sup>. The intentions (if not always the delivery) of these reforms were to give patients and users a stronger voice in choosing care, to strengthen effective commissioning to provide incentives to improve services, and to encourage a diversity of providers with more freedom to innovate. Among other things, this led to an expectation that NHS trusts would ensure that they audit their clinical performance. In Scotland (where one of the projects operated) the context differed in terms of scale, structure and culture. In particular, the use of incentives as a lever for change was less apparent and there was a more overtly whole-government approach to delivering improvement<sup>7</sup>.

In November 2006, the then Secretary of State for Health in England, Patricia Hewitt, wrote:

*In all public services, we are making a radical shift from top-down, target-driven performance management to a more bottom-up, self-improving system built around the individual needs of service*

*users and influenced by effective engagement with the public. Increasingly, improvement will be driven by the choices made by service users and healthy competition between different service providers. The NHS and adult social care services are no exception<sup>8</sup>.*

Since then there have been further developments. In January 2008, the Department of Health announced new arrangements for clinical audit with the management of the National Clinical Audit Programme (NCAP) awarded to a consortium involving the Royal College of Nursing (RCN), the Academy of Royal Medical Colleges and the Long Term Conditions Alliance. And, simultaneously, wider reforms continued in the NHS in England. Those particularly relevant to the EwQI included: the NHS *Next steps review*, which was published in June 2008 and aimed to put quality at the heart of the NHS – empowering staff and giving patients choice<sup>6</sup>; a heightened concern with patient safety, manifested in a continued emphasis on clinical governance; changes to medical training<sup>9</sup> and to healthcare commissioning<sup>10</sup>; re-organisation of primary care trusts; and an expanded role for foundation trusts.

The global economic downturn will, inevitably, impact on the NHS. It will become increasingly important to consider not only the efficacy and effectiveness of initiatives aiming to improve clinical care in the NHS but also their cost effectiveness.

## 1.4 The quality gap

Healthcare in high-income countries is in many ways a story of improving effectiveness. Based on an analysis of US data, Bunker estimated that life expectancy in the US had increased by some eight years in the past 50 years and that around half of this increase could be attributed to healthcare<sup>11</sup>. However, healthcare in high-income countries is also characterised by substantial gaps between recommended care and the actual care received. McGlynn and colleagues have produced compelling evidence that, in the US, care received matches recommended care in only some 55% of occasions<sup>12</sup>. A systematic review of quality of clinical care in general practice in Australia, New Zealand and the UK found that, even in the best-performing practices, only 49% of patients with diabetes had undergone routine foot examinations,

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and only 47% of eligible patients had been prescribed beta blockers after a heart attack<sup>13</sup>. In the UK, Steel and colleagues confirmed this finding and suggested that the situation is especially poor for those over fifty and in areas associated with disability and frailty<sup>14</sup>, with consequences for the health outcomes and quality of life of patients.

There is a link between health outcomes, quality of life and quality improvement. In 2001, the US Institute of Medicine (IOM) published *Crossing the quality chasm*<sup>15</sup>. In this seminal document the IOM stated that quality in healthcare concerns the extent to which the healthcare system is:

- safe
- effective
- patient-centred
- timely
- efficient
- equitable.

The IOM definition of quality is:

*The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge*<sup>16</sup>.

Quality improvement (QI) and related activities such as performance measurement and audit seek to consolidate performance around what is already known about best practice. By 2005 there was evidence of a very wide range of quality improvement initiatives with wide variation in terms of their impact and success<sup>17</sup>. Research conducted jointly by RAND, University College London and the Harvard Medical School suggested that there are important organisational and cultural foundations to sustaining quality improvement in healthcare, and that these are varied and complex<sup>18</sup>. The literature at that time also suggested that there was a very wide range of organisational settings within which a clinician-led micro system of quality improvement might thrive, and indicated how professional bodies might actively contribute<sup>19</sup>. The evaluation of the NHS R&D Implementation Methods Programme by HERG explored many of these ideas<sup>20</sup>, and noted that researchers in this field were increasingly moving from studying single interventions aimed at individual clinicians to looking at broader change strategies that paid more attention to structure, processes and culture<sup>21</sup>.

A review of the literature on the effectiveness and efficiency of different activities intended to improve clinical quality (such as guideline dissemination and implementation strategies) was undertaken by Grimshaw and colleagues in 2004<sup>22,23</sup>. While the quality of many of the studies identified was poor and the review acknowledged many unknowns, it was clear about the potential benefits to be gained from engaging clinicians in quality improvement and about the difficulties in delivering and evaluating this. The immediate inspiration for the EwQI came from work by Leatherman and Sutherland<sup>24</sup>, who concluded that clinicians in the UK are attentive to the need to improve quality, but are not fully engaged. The Health Foundation's decision to invest in projects run by professional bodies or specialist societies reflected Leatherman and Sutherland's findings that clinicians listen and learn best from their peers, and that these bodies have a legitimacy and authority that command clinicians' respect.

The propositions underpinning the EwQI were therefore: that QI initiatives are expected to improve clinical and therefore patient outcomes by engaging clinicians in QI activities; that this engagement can be facilitated by leadership from the royal colleges and professional bodies; and that the experience of doing so should influence policy and practice. This report explores what light our evaluation throws on these propositions.

## 1.5 Evaluation, causality and our approach

An evaluation aims to understand what difference a service, regulation or other activity makes, at what cost, and who bears the costs and receives the benefits. It is therefore concerned with the contribution made to achieving desirable outcomes and minimising undesirable costs and consequences. The realistic evaluation approach is that both mechanism and context need to be understood in order to interpret outcomes<sup>25</sup>. This requires consideration of attribution, contribution and causality, often in the context of complex interventions that may evolve over time. The methodological debate about how this can best be achieved is complex.

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The randomised controlled trial (RCT) is the standard approach for evaluating medical interventions and is generally acknowledged as the best way to get to the ‘truth’ about effective care. This approach is exemplified in many of the papers reviewed by Grimshaw and colleagues whose review used the methods proposed by the Cochrane Effective Practice and Organisation of Care Group<sup>22</sup>. In medicine, the development of RCTs has allowed evidence to become more important than belief, but RCTs have limitations, particularly for evaluating complex social changes such as healthcare quality improvement initiatives<sup>25,26</sup>. RCTs can be inconclusive about the benefits of a complex intervention due to problems in trial implementation and a methodologically deliberate lack of information about the context of the intervention being studied. This means that RCTs may fail to show benefits where they in fact exist<sup>26</sup>. Before a quality improvement initiative can be generalised to other settings, we need to know why the initiative works, as well as whether it works. The debate is about epistemology, about what type of evidence should be sought. Those suggesting alternative approaches argue that there should be a strong relationship between what is studied and how it is studied; and in the context of quality improvement Berwick talks about pragmatic science, by which he means methods of observation and reflection that are systematic, theoretically grounded, often quantitative, and powerful, but are not RCTs<sup>27,28</sup>.

Our evaluation included many ‘why’ questions inviting causal explanations. In the following chapter we will outline the ‘contribution stories’ of the EwQI projects, which imply that certain beneficial effects will follow from the project teams’ activities. We aimed to understand under what circumstances, if any, these propositions are likely to hold true. But our approach to this evaluation was, and had to be, pragmatic in the sense defined by Berwick. The eight projects were commissioned as separate studies with varying approaches to study design and to self-evaluation. Half the individual projects involved some form of controlled or quasi experimental design, but the overall design of the EwQI meant that such an approach was not available to us in the external evaluation. There were also differences in timing – project start dates ran from April 2005 to November of that year – and in duration, which

initially ranged from three to four years. In addition, there was heterogeneity within each project – all the project teams planned to recruit large cohorts of participants from different sites across the NHS to implement their selected improvement interventions.

We also had to take account of the fact that project teams learned, adapted and evolved their activities as the projects were implemented. We were sensitive to the warning of Bokhoven and colleagues:

*We know that most interventions are, in practice, heterogeneous and self-limiting and that long-term beneficial interventions require multifaceted and evolving strategies. This requires non-linear, complex and emergent evaluation strategies. Since most evaluation don't do this, most evaluation information is weak and fails to convincingly deal with attribution or accountability<sup>29</sup>.*

We have therefore pursued a ‘non-linear, complex and emergent evaluation strategy’, but have done so within a systematic framework shaped by the brief given to us and the project teams by the Health Foundation. The need to explore change at many levels and in many contexts, and to investigate the values, knowledge and roles of all those involved, shaped our methodological approach. The brief for the evaluation was not only to establish ‘what worked’ but also to understand why it worked (or failed to work), ie: what worked, in what contexts and for whom. We concluded that to capture information about why the projects were working (or not) the external evaluation had to be methodologically pluralistic; we therefore adopted an approach based on logic modelling within a framework informed by realist evaluation.

Realistic evaluation aims to establish clear and measurable relationships between a project and its outcome. It assumes that there is an underlying theory of change behind the project explaining how it brought about the measured change. It is also sensitive to the context in which the project is delivered, identifying a series of Context-Mechanism-Outcomes (CMOs) for each intervention. One difficulty with this approach is that any intervention can have a large number of CMOs<sup>30</sup>. We planned to use the professional, tacit and formal knowledge of the EwQI project teams to narrow this number, working with them to

develop illustrative logic models for each project and to identify those aspects of their projects that they regarded as important in achieving improvement in clinical care. Within this framework, we took the six aims of the external

evaluation and identified a series of tasks under each aim (table 2). There was some overlap between the six aims and this was reflected in links between the component tasks.

**Table 2: Aims of the EwQI external evaluation (with related tasks identified by the external Evaluation Team)<sup>28</sup>**

<b>Aim 1: To work with award holders on the development and implementation of their evaluation plans</b>
<b>Tasks</b>
<ul style="list-style-type: none"> <li>– Work with the project teams to support their self-evaluations, including data identification and validation.</li> <li>– Assess the experiences of the users as ‘active partners’ in the projects.</li> <li>– Consider how the counterfactual for each project can be addressed to assess how much change was attributable to the project, and how much to secular activity.</li> </ul>
<b>Aim 2: To synthesise the data and findings from project-level evaluations</b>
<b>Task</b>
<ul style="list-style-type: none"> <li>– Synthesise the data and findings from project-level evaluations.</li> </ul>
<b>Aim 3: To assess increases in clinical engagement in quality improvement</b>
<b>Tasks</b>
<ul style="list-style-type: none"> <li>– Gauge current clinical engagement through an examination of documentary evidence from the projects.</li> <li>– Assess the change achieved by supporting each project in designing, implementing and analysing a survey of relevant clinicians.</li> <li>– Conduct a web-based Delphi survey of clinicians participating in the EwQI.</li> </ul>
<b>Aim 4: To measure the effectiveness of the award scheme (during its life) in leveraging external commitment to clinical leadership of quality improvement</b>
<b>Task</b>
<ul style="list-style-type: none"> <li>– Support a workshop on leveraging external commitment, identifying barriers, facilitators, processes and outcomes.</li> </ul>
<b>Aim 5: To evaluate the increase in competency and infrastructure for quality improvement in the professional bodies involved in the EwQI</b>
<b>Tasks</b>
<ul style="list-style-type: none"> <li>– Carry out in-depth interviews with each relevant professional body.</li> <li>– Look at what the professional bodies involved in the EwQI have done.</li> </ul>
<b>Aim 6: To assess the policy influence and cost consequences of the initiative</b>
<b>Tasks</b>
<ul style="list-style-type: none"> <li>– Influence of the EwQI: evaluate the projects’ legacy plans.</li> <li>– Cost consequences: work with the projects to explore what data they can provide to estimate costs.</li> </ul>

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## 1.6 Methods adopted

### **Aim 1: Supporting the EwQI project teams and assessing service user involvement**

The first task was to support the project teams' self-evaluations, and this continued throughout the initiative. What we were trying to do was three-fold: ensure that the project teams understood what was required from the EwQI evaluations at both project and initiative level; develop our own understanding of the projects; and ensure that the data collected by the project teams supported both levels of evaluation.

At the start we used logic models, working with the project teams to track the unfolding aims, activities, outputs and outcomes of each project, and identify the assumptions on which project design had been based. The complete set of these initial logic models is given in appendix B. The logic models, however, enjoyed mixed success with the project teams. Subsequently, and in order to promote the project teams' understanding of the requirements of the self-evaluations and also to obtain data from them in a common format, we worked with the Health Foundation to develop a project 'self-evaluation report' (SER). This required the project teams to address nine key questions, and we asked them to use the SER as a form of project diary, updating it regularly throughout the project (see table 33 in appendix C). These documents became the foundation of our interactions with the project teams and formed the basis of yearly formal discussion between the Evaluation Team and each team. They achieved the same ends that we initially hoped to pursue through a systematic use of logic models. We also had other, more informal contact with the project teams at all the initiative-wide events organised by the Support Team (at which we ran occasional sessions on issues such as cost consequences) and visited teams to provide further support. This was a deep immersion, providing us with both formal and tacit knowledge.

To explore the experiences of EwQI service users, we built on the understanding gained through task 1 and conducted semi-structured interviews with eight service users (one from each project) to

explore their role in the projects. These were supplemented by four interviews with project managers to get their views on service users' involvement in the EwQI (see chapter 4 for more details).

### **Aim 2: Analysing and synthesising the data from the projects' self-evaluations**

Our initial agreement with the Health Foundation was that our evaluation would be based on data collected by the project teams, and that we would not replicate these collections. An important part of our interaction with the project teams was therefore to ensure that we understood their approaches to data collection, validation and analysis. We also needed to identify any significant changes to these approaches as the projects were implemented. For example, one project team moved from a double-audit cycle (baseline/audit-improvement/intervention-re-audit) to continuous data collection. In addition, we encouraged the project teams to address any significant gaps in the data that they were proposing to collect (for details, see aim 3 below). This detailed work enabled us to proceed on the basis that the final SERs received from the project teams were accurate and provided an honest account of the projects.

To enable us to analyse and, where possible, synthesise the data from the final SERs, these documents were imported into the software NVivo, where they were coded and analysed. The starting point for this analysis was two-fold. First, the Evaluation Team suggested a number of ideas and themes that might structure the analysis, based on their prior experience of the projects. Second, we initially and deliberately used experienced qualitative researchers who had had no previous experience of the initiative, and they took a 'grounded approach'. This meant that rather than having a list of analytical categories in advance, these were allowed to 'emerge' from the data, thus ensuring that ideas and thoughts of the clinicians operating the projects guided the identification of themes for analysis. A final list of categories was identified that included both the 'grounded' categories and those suggested by the Evaluation Team, and the SERs were then read and coded a final time to ensure consistency. This analysis attempted two tasks: to draw out lessons and themes that could be generalised beyond the

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specific QI projects, and to provide detailed analysis of individual projects. The analysis also sought to outline the theories of change behind each of the projects: why did the project teams think that their selected QI activities would lead to better outcomes for patients?

The categories identified in this SER analysis shaped the way we have reported in the following chapters on the project teams' achievements, the efforts that they made and the capacities available to them. The final SERs (with associated RSEs) formed the project teams' final reports to the Health Foundation. Many project teams also submitted other material, including audit reports with quantitative data on patient outcomes. These supplemented the understanding we gained from the SERs. Where appropriate, we performed statistical tests on key findings to allow for formal statistical comparison of achievements in relation to patient care across each project. (Details of all the sources of data from the projects are given in appendix E.)

### **Aim 3: Assessing increases in clinical engagement**

Another requirement of the EwQI evaluation was to measure increases in clinical engagement in QI. Originally only half the project teams planned to undertake surveys of, or interview, participating clinicians, and these exercises tended to focus on clinicians' confidence in managing a particular clinical condition or on their attitudes to audit. We encouraged three of the remaining projects to undertake a survey of participating clinicians and, with less success, asked all the project teams to widen the scope of their surveys to include attitudes to, and understanding of, QI. We suggested that the project teams ask participating teams to maintain project diaries to help to identify local contextual issues affecting QI activities, although this advice was systematically followed in only one project (NCROP). Towards the end of the initiative we also undertook our own Delphi survey of clinicians who had participated in the EwQI in order to explore their attitudes to quality improvement more generally. (Details of the Delphi study are provided in appendix F.)

### **Aim 4: Exploring the wider implications of the EwQI**

A roundtable discussion of the broader implications of the emerging findings from the EwQI evaluation was held in September 2009; it was attended by 11 senior NHS staff, policymakers and commentators, the Health Foundation staff and members of the Evaluation Team.

### **Aim 5: Identifying changes in the capacities of professional bodies**

To explore change in the capacities of professional bodies, we drew on three sources of data: the project teams' final SERs, which included reports on this issue; a series of eight semi-structured interviews which the Evaluation Team undertook with key individuals (mainly quality/standards leads) in each relevant professional body; and related work undertaken during the initiative by the EwQI Support Team (described in chapter 5).

### **Aim 6: Assessing the sustainability and cost consequences of the projects**

Part of our work under aim 1 was to support the project teams in developing legacy plans, and the EwQI Support Team also encouraged the project teams to think about sustainability at an early stage. Therefore, our main data source on the sustainability and spread of the project was the project teams' final SERs. We also worked, but with less success, with the EwQI Support Team to encourage the EwQI teams to identify the cost consequences of their projects (see chapter 3).

The various sources of our data are listed in appendix D. The sources of the data we received from the project teams, including the SERs, are listed in appendix E.

In summary, 'non-linear, complex and emergent' evaluations involve a number of data collecting and analytical activities leading to an exercise of judgement<sup>31</sup>. Our approach has been to develop arguments that aim to reduce uncertainty surrounding the 'contribution stories' of the EwQI projects, rather than aiming for certainty about what works and in what contexts. However, as will become apparent later in this report, our approach

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continued to be informed by the realist interest in understanding how contexts and mechanisms interact to produce outcomes, grounded in a specific theory of change.

## 1.7 Theory of change approaches and this evaluation

Our approach took as its starting point the argument of Weiss that:

*The concept of grounding evaluation in theories of change takes for granted that social programs are based on explicit or implicit theories about how and why the program will work ... The evaluation should surface those theories and lay them out in as fine detail as possible, identifying all the assumptions and sub-assumptions built into the program. The evaluators then construct methods for data collection and analysis to track the unfolding assumptions. The aim is to examine the extent to which program theories hold ... the evaluation should show which of the assumptions underlying the program are best supported by the evidence<sup>32</sup>.*

In this sense, theory of change is an approach rather than a methodology, and its successful delivery requires harnessing a range of methodologies such as those adopted by the EwQI projects. The importance of theories in healthcare and research has long been attested<sup>33</sup>, and there is growing appreciation of use of theories when developing and implementing improvement interventions and for understanding the underlying processes<sup>34,35,36</sup>.

Our theory of change approach in this evaluation followed five principles. Individually these principles are, in our view, neither controversial nor radical, but taken together they provide a pragmatic base for conducting complex evaluations.

1. The approach required us not only to look at the outcomes of the programme but to pay equal attention to processes. This contrasts with more classical evaluation approaches which tend to look at outcomes first and then to look for evidence to support attribution. As mentioned above, we spent considerable effort encouraging the project teams to make their activities explicit, to report on them, and to

identify their intended outcomes.

2. The approach required a more 'embedded' evaluator working closely with the project teams (and also with policy makers and end users) to understand and elaborate a sometimes changing theory of change. Without losing our independence, we sought to understand the world of the project teams, practitioners and service users, including what motivates their behaviour. As described above, this was done most formally through our regular meetings with the projects, focusing on the SER and associated documents, but we also participated in all the initiative-wide events organised by the Support Team and the Health Foundation.
3. The approach required an ability to reconstruct and represent the sequence of events as the projects were implemented and to explore how these contributed to the outcomes identified, identifying statistical co-variations and, where possible, the causal mechanisms at work. At the start we used logic models, later replaced by the SERs.
4. The approach was sensitive to the possibility that during the life of a programme or intervention, initial theories of change may change in response to learning or exogenous events, and that the evaluation should capture these changing understandings and actions.
5. The approach was also sensitive to the fact that different and potentially conflicting theories of change might be simultaneously pursued within any one project.

Collectively, these five principles describe an interest not only in **causal effects** (what happens when an independent variable changes) but also in **causal mechanisms** (what connects causes to their effects); not only what project teams and practitioners say they do, but also what the evidence shows they do; and not only what contribution stories practitioners tell themselves and others, but also what really contributes to patient benefit or healthcare improvement.

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## 1.8 Building the ‘contribution story’

In putting these rather abstract arguments into practice we followed what Mayne calls the ‘contribution story’<sup>37</sup> in order to understand why project teams and participating clinicians, managers and service users believed that their use of resources (money, authority, expertise, time and so on) would contribute to the intended health system and patient benefits, and why side effects and unintended outcomes would be manageable. We then checked to see how our data supported or weakened these stories. Pragmatically, we agree with Mayne that in ‘most cases what we are doing is measuring with the aim of reducing uncertainty about the contribution made, not proving the contribution made’<sup>38</sup>. In practice, we needed tools to develop and understand the contribution story and make sense of the (sometimes varying) claims made. These tools comprised the logic model to encourage a formal focus on cause and effect, the SER to develop narratives of change, and the face-to-face meetings with the project teams to explore the more informal aspects of these narratives. These were supported by the other interactions listed above. Clearly more resources, wider interviews, and more non-participant observations would have strengthened our understanding, but we are entirely confident that we have a strong understanding of the project teams’ contribution stories.

As discussed above, our initial approach was to collaborate with each project to develop a formal logic model (see appendix B), and our expectation was that we could track the evolving understanding of the project team, as the project teams regularly updated these models. This, we hoped, would then provide the basis for the theory of change for each project. However, while we had initial acceptance

of the logic models produced for each project by the Evaluation Team (and their engagement in modifying these), from early on there was some unhappiness about this approach. In short, the categories most relevant to evaluators (for example, inputs, processes, outputs and outcomes) often did not resonate with the experiences of clinicians, patients and managers delivering these projects. Consequently, there was always a sense that the contribution stories, which they were happy to tell, were being shoe-horned into a form that made less sense to them. At this stage we therefore moved away from using the logic models and depended more on the SERs. These provided more opportunity for the projects to describe (in their own words) what they were doing and discovering, and what they hoped to change, why, and how.

This did not mean leaving behind realist evaluation as an organising principle, but it did mean that our hoped-for, crisp hypotheses linking the sequential stages of the logic models were replaced by an understanding of what the projects were seeking to do. Reducing uncertainty around the likelihood of success became more important. To repeat, we were interested in testing these narratives against independent evidence that either supported or weakened the contribution stories. We believe that this approach has yielded considerable insights, but it has also made clearer the considerable task that remains in teasing out the effects and impacts of QI activities. This task will involve a range of methodologies, including the ones deployed here, but more besides. We have therefore remained aware of the need to be sensitive to context, reflecting the realistic evaluation mantra that ‘mechanism + context = outcomes’<sup>25</sup>. The importance of context encourages caution before believing that success achieved in one place can automatically be replicated elsewhere. We turn now to the project teams’ approaches to QI.

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## Chapter 2

# The project teams' approaches to quality improvement

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## 2.1 Contributing to improvement

To understand what the EwQI projects could tell us about the wider implications of doing, funding and analysing QI, we needed a clear sense of what the projects were seeking to do, of the contexts in which they were operating and of the outcomes they achieved. But in obtaining this it was important to avoid, on the one hand, the implication that because they were all 'branded' as QI they were all essentially similar; and, on the other hand, the risk of becoming so immersed in the detail of each project that it became hard to compare and contrast them with each other, with QI activities outside the initiative, and with other ways of delivering patient benefit and system improvement (such as payments or regulation).

We aimed to do this by developing 'thick' descriptions of what each project was trying to do and what they thought would bring about the hoped-for improvements – each project's theories of change. Essentially this is the implicit or explicit 'story' describing how the project teams connected what they were doing to their intended outcomes. In later chapters, we will examine the evidence that they and we have produced to support or weaken these theories. In this chapter, we describe the projects and explore what it was they believed they were contributing.

As described in chapter 1, we co-constructed these stories with the project teams using logic models initially, and later the teams' self evaluation reports (SERs). We were interested in what the teams chose

to focus on, how they described their activities, the evidence used of output and outcomes, how they hoped to achieve lasting benefits, and so on. It is important to note that the projects did not start with a clearly articulated account of a theory of change involving clear measurable goals, an evidence-based explanation about how these might be met, and tools to assess progress towards these goals. Patchy clarity about measurable goals, strategies to meet them, and tools to monitor progress has been associated with failed QI activities in industry as well as in healthcare<sup>39</sup>, and it was part of the deliberately 'emergent' approach of the EwQI that these theories of change should be clarified and developed in discussion with the Evaluation Team. This process of reviewing plans periodically with an external team is one of a number of features distinguishing the EwQI projects from other QI activities. Hence the SERs evolved over time as the teams' understanding of the EwQI and its objectives developed, and as the wider context changed. The SERs provided evidence supporting summative judgements but also helped to inform the development of each project. Given this evolution of thinking on the part of the projects, in this chapter we use their final SERs to identify their mature theories of change, using the analytic approach described in chapter 1.

The rationale for our overall approach can be found in our 'Evaluation Protocol' in appendix C and in Soper and colleagues<sup>28</sup>. In what follows, we outline the projects in turn, drawing out their explicit and implied theories of change and noting any significant modifications adopted during implementation.

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## 2.2 The projects

Eight projects were funded through the EwQI. An overview of the projects, including their duration and funding, is provided in appendix A.

### National Bowel Cancer Audit Project (Colorectal Cancer)

**Lead organisations:** Imperial College London and Association of Coloproctology of Great Britain and Ireland

**Partners:** Bowel Cancer Campaign

This project measured six aspects of performance in the management of patients with colorectal cancer and compared actual practice to National Institute for Health and Clinical Excellence (NICE) guidelines. The project was based on a self-reported voluntary audit (the National Bowel Cancer Audit Project, established in 2001), and therefore built on existing work which collected audit information from participating units and produced an annual report that allowed those units to see how they had performed relative to others.

*The key method of change for this project is probably the provision of information, for the individual consultants and trusts, for the professional bodies and also for government bodies<sup>40</sup>.*

The theory of change **implicit** in this is that when local surgeons and units are made aware of how they perform relative to others, they will realise the potential for improvement and thus be able to plan actions to make improvements.

*It was felt that increasing awareness of the standards required among surgeons would also help to improve the patient outcomes.*

This did happen in some participating units.

*Units are taking note of where they are failing to meet current NICE guidelines for quality, as highlighted by the NBOCAP [National Bowel Cancer Audit Programme] report. More importantly the units that had recognised this failing then performed a thorough analysis of their results, verifying the accuracy of NBOCAP data and identifying how they could change processes within their trust to improve results.*

But other than the audit and the annual feedback through the published audit report, no improvement intervention was offered. However, if we assume that clinicians and units have the motivation and capacity to change (a significant assumption), then the provision of information could in itself be an effective lever. The major focus of the project team was on the processes of audit and data collection, with much emphasis on producing high quality data. Changes to these processes during the project included:

- a growing understanding among the project team of the causal connections between the quality of care and the structures and processes within trusts (a key finding from their survey of participating trusts)
- a growing awareness of the need not just for prompt feedback of high quality data on performance but also for trusts to subsequently develop and implement action plans to address areas of underperformance
- adoption of online data submission
- consideration of a move towards open reporting (in part, in response to external pressure from, among others, the Healthcare Commission [now Care Quality Commission] and patient organisations)
- the adoption of a simplified ‘essential data set’ to reduce the burden of data collection on consultants, improve the quality of data collected and reduce difficulties of cleaning/merging data by the central team.

### Improving the quality of care for people who self-harm (Self-harm)

**Lead organisation:** Royal College of Psychiatrists

**Partners:** Intercollegiate Faculty of Accident and Emergency Medicine; Mind; Royal College of Nursing; and Royal College of Psychiatrists, Faculty of Liaison Psychiatry

This project aimed to assess the provision of care in ambulance and in acute and general mental health services against NICE standards. It was based on a double-audit cycle, with a baseline measurement of current care, the introduction of targeted improvement interventions supported by peer review, and a follow-up audit to assess whether change had occurred. Service users played a key role throughout. The inspiration for the

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project came from published NICE guidelines (2004) which ‘concluded that improving staff knowledge and attitudes is the key to better services and reduction in the substantial morbidity and mortality associated with self-harm’. Participating trusts chose from a range of improvement interventions developed by the central project team and designed to improve staff understanding of self-harm. These interventions included:

- educational material for staff, such as slide sets, information leaflets, online training exercises, a good practice checklist and assessment tools
- information for service users, such as a poster displays, helpline numbers, a booklet of local support groups/voluntary organisations and a list of alternatives to self-harm.

The rationale behind this team’s approach was explicit, and it:

- built on established, evidence-based guidance
- brought staff and service users together to seek improvement
- shared best practice information locally and nationally to avoid teams re-inventing the wheel
- used peer review to enable local teams to learn from witnessing good practice first hand: ‘Teams are more likely to be open about shortcomings when talking to peers.’

In the long run this project was meant to become self-supporting through subscriptions from participating trusts, although in the first year participation was free. The main problem the Self-harm project encountered was recruiting participants once a charge was introduced. Discussing this, the team commented: ‘The main interest and energy came from mental health staff, but if they could not get their acute colleagues on board, they could not sign up. This may have been a factor, as may have been the slightly narrow focus on self-harm.’

## The Prescribing Observatory for Mental Health (POMH-UK)

**Lead organisation:** Royal College of Psychiatrists

**Partners:** British Association for Psychopharmacology; College of Mental Health Pharmacists and UK Psychiatric Pharmacists

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Group; Rethink; Royal College of Nursing; and the Royal Pharmaceutical Society of Great Britain

This project set up a prescribing observatory to improve pharmacotherapy in specialist mental health services across the UK. It is based on a double-audit cycle, with a baseline measurement of current care, the introduction of targeted improvement interventions, and a follow-up audit to assess whether change has occurred.

Participating mental health services pay a subscription for the service and work with service users to select topics. Seven topics in which prescribing practice has been compared with clinical guidelines have been covered to date. The selected topics were:

Topic 1: Prescribing of high dose and combined antipsychotics in acute adult inpatient settings

Topic 2: Monitoring the physical health of community patients receiving antipsychotics

Topic 3: Prescribing of high dose and combined antipsychotics for patients on forensic wards

Topic 4: Benchmarking prescribing of anti-dementia drugs

Topic 5a: Benchmarking the prescribing of high dose and combination antipsychotics on adult acute and PICU wards (time-series benchmarking)

Topic 5b: Continued benchmarking as topic 5a, using time-series charts

Topic 5c: Continued benchmarking as topic 5b, using time-series charts

Topic 6: Assessment of side effects of depot antipsychotics

Topic 7: Monitoring of patients prescribed lithium.

The starting point for this project was that known prescribing practices deviate from evidenced best practice. To get actual practice closer to best practice, POMH-UK uses a range of intervention tools, including rapid feedback of audit data to lead clinicians, educational activities and materials, and the encouragement of local champions in participating trusts.

The provision of benchmarked data was described by the project team as both an intervention and a method of data collection:

*POMH-UK taps into a strong desire by MDTs [multidisciplinary teams] to improve practice and supports their wish to meet the clinically credible and realistic standards against which we audit. For any change process, awareness of the issue and one's own practice in context is an essential first step, and this can be achieved with the benchmarked data reports.*

Speed of feedback is also important, as are access to feedback and its ability to be customised.

Within the interventions, there are slightly differing theories about how information is assimilated and acted upon. These are set out in table 3.

## The National COPD Resources and Outcomes Project (NCROP)

**Lead organisation:** Royal College of Physicians

**Partners:** British Thoracic Society (BTS) and British Lung Foundation

This project aimed to compare four key services for patients with chronic obstructive pulmonary disease

(COPD) in acute hospitals with BTS and NICE guidelines. It was a quasi-experimental study based on a double-audit cycle, with a baseline measurement of current practice, the introduction of targeted improvement interventions supported by peer review, and a follow-up audit to assess whether change had occurred. One hundred hospitals were paired according to whether they had more or less of a pre-specified list of organisational indicators (such as non-invasive ventilation, pulmonary rehabilitation and early discharge scheme). This information was obtained from data submitted to NCROP in 2005, and, where possible, pairings were arranged with differing indicators to maximise the potential for sites to learn from each other. The pairs were then randomised to a control arm (audit and feedback only) and an intervention arm (audit and feedback plus a day-long peer review visit). The hospitals in each pair reviewed each other – sending a multidisciplinary team (which included service users) to visit a team in their paired hospital, review their practice with them and agree an action plan for change.

The hypothesis underlying this approach was that sharing good practice through mutual peer-review visits between paired hospital units, combined with the production of agreed action plans, would result in improvements in care.

**Table 3: Theories of change underlying POMH-UK quality improvement activities**

Intervention	Underlying theories of change
Posters summarising information about a prescribing topic	Displaying these raises staff awareness, plugs knowledge gaps, thus improving practice.
Workbook for clinicians to review their own practice	Encourages reflection on the part of the clinician, improves knowledge of best practice.
Lifestyle management support pack which gives clinical staff materials to use in their day-to-day practice	These provide information about good practice and act as a tool which structures interactions with patients and prompts clinicians to conduct assessments in particular ways. The mechanism is both improving training and imposing a structure for clinicians to follow in day-to-day practice.
A change management workshop for local clinicians	This supplements the mechanism of improved knowledge of good practice with an additional element – encouragement to implement that knowledge. The assumption is that improved knowledge alone might not be enough.
Academic detailing to help pharmacists	This has similarities with the 'cascading' element of the PEARLS project (see below). The mechanism here is that pharmacists are able to 'influence other clinical team members and educate them about antipsychotic polypharmacy'. It is a different method of improving practice through better training of clinicians.

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The NCROP team emphasised that the provision of information on comparative performance is not a final goal itself and does not necessarily lead to improvements in patient outcomes. Rather, they saw the data as an essential starting point to enable understanding of where performance is poor. The team also cited lessons from previous audits, including the need for organisational buy-in.

*The results from the RCP Stroke audit attempted to facilitate change by running multidisciplinary regional feedback meetings but found that the rate of change was disappointingly slow ... This highlighted the results from the Action on Clinical Audit partnership ... [which] showed that change only occurs if it accords with the aims of the organisation and has the buy-in of all parties. ... This highlighted the need for the hospitals to take ownership of their data and to involve professionals from all areas on the NHS to drive forward improvement.*

This project was the only one to sponsor its own external qualitative evaluation of resources and outcomes at local level (by Queen Mary, University of London). The team stressed the importance of this exercise: ‘The re-audit will give some indication of the change but is currently viewed as less critical than the project evaluation’.

## **Peri-operative Fasting Implementation Study Evaluation (PoISE)**

**Lead organisation:** Royal College of Nursing

**Partners:** Royal College of Anaesthetists; Virtual Institute for Research in Health Care Practice; and the Peri-operative Fasting Guideline Development Group

This project aimed to improve implementation of national clinical guidelines on peri-operative fasting before and after elective surgery<sup>41</sup>. It was a pragmatic randomised trial based on a double-audit cycle, with a baseline measurement of current care, the introduction of targeted improvement interventions, and a follow-up audit to assess whether change had occurred. Nineteen acute hospitals in the UK were randomised between the three arms of the study: standard dissemination; a web-based educational package, championed by an opinion leader; and generation of ideas for change by staff using Plan Do Study Act (PDSA) cycles.

In the first arm, all the participating trusts received a pack of information, including the guidelines on fasting aimed at patients and clinicians. The mechanism implicitly at work in this intervention was that clinicians are unaware of the best practice in fasting and will fill knowledge gaps by accessing guidance online, and change their practice accordingly.

In the second arm, a web-based resource was created which included guidance on fasting, good practice examples, and so on. Locally appointed opinion leaders promoted the existence and use of this resource. The mechanism or theory of change here was similar to that used in the first arm but with the addition of promotion by the opinion leader to remind, encourage and persuade clinicians to use the information. The assumption was that clinicians need an extra incentive or push to read the guidelines from credible and respected experts.

In the third arm, PDSA was used as a framework for implementing quality improvement, and was employed through multi-professional meetings within the participating trusts. The key role for PDSA was in structuring the approach of the local teams, focusing, and therefore improving, the process of identifying and implementing change within each trust.

*PDSA is a framework to conduct and implement quality improvement initiatives. The purpose is to make a ‘change’, then test that change to see whether it brings about an improvement in the system or process. This then is ideally followed by further changes or revised changes in order to continue the improvement of the process or system.*

This project team also applied a general theory of change to the evaluation of their project; the Promoting Action on Research Implementation in Health Services (PARIHS) conceptual framework<sup>42</sup>. This is based upon the interplay of evidence, context and facilitation when implementing research.

## **Epilepsy and Community-acquired Pneumonia Scottish National Audit Project (EPI-SNAP & SNAP-CAP)**

**Lead organisation:** Royal College of Physicians of Edinburgh and Royal College of Physicians of Glasgow

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**Partners:** Epilepsy Scotland; and the Information Services Division, NHS National Services Scotland

These two projects compared current practice on the diagnosis and treatment of epilepsy in adults with Scottish Intercollegiate Guidelines Network (SIGN) guidelines, and current practice on the management of community-acquired pneumonia with British Thoracic Society (BTS) guidelines. The overall aim was to develop innovative data capture and feedback mechanisms in two very different clinical applications, and to explore the feasibility of a single universal model of clinical quality improvement for physicians. However, because they had not only two distinct sets of aims but also different mechanisms for achieving these aims, we have separated these two arms of the project in later discussions.

## EPI-SNAP

There were two separate EPI-SNAP sub-projects, focused on improving driving advice given to patients referred to first seizure services in Scotland and on improving the quality of annual review in primary care stipulated by the Quality and Outcomes Framework (QOF). As a whole, EPI-SNAP therefore focused largely on care at the primary/secondary care interface. Both sub-projects were based on a double audit cycle and the use of existing IT systems to put improvement interventions in place. The reason for the focus on driving advice is made explicit in the final SER:

*Reminding the referring doctor to issue appropriate driving advice (a patient should be advised not to drive following a suspected seizure) will in fact reduce the number of referrals to first seizure clinics of patients who are non-epileptics and improve the medico-legal position of the referrer.*

The reason given for identifying the annual review as a focus for change was that it could be improved by providing patients with more information and by giving clinicians greater guidance on how to conduct the review.

## SNAP-CAP

The community-acquired pneumonia project focused on improving the management of the disease in acute hospitals. The team identified the US Institute for Healthcare Improvement (IHI)

Breakthrough Collaboratives<sup>43</sup> as the basic model for improvement. Their approach involved monthly data collection and short cycle tests of change (PDSA), associated with the development and implementation of a community-acquired pneumonia (CAP) care bundle.

*The care bundle contains 'the essentials', clinical actions that are known to improve patient outcomes and contains only a few items. The BTS [British Thoracic Society] CAP guidelines contain over 100 recommendations, with varying levels of supporting evidence and covering a broad range of CAP treatment issues. The care bundle is a simplification, easier to impart to staff and leaving less room for oversight of key aspects of acute management. The care bundle can also be added to locally, incorporating local treatment protocols, giving it flexibility and allowing it to evolve.*

The original intention had been to base this project on a double audit cycle, like EPI-SNAP. However, developing the care bundle and the accompanying data set took much longer than anticipated, with knock-on delays in database development. Work on the database stalled when the developer moved on, and the team took the opportunity to review their whole approach. They subsequently commissioned the IHI extranet (which is not a database but produces run charts on process measures from data entered by project participants); these charts then informed the next PDSA cycle. The project team saw this change as beneficial, producing 'data for improvement, not judgement or research'.

*The project is about improvement, not data collection or analysis. Data for improvement should be just enough to drive improvement.*

In addition, to address participants' concerns about availability of outcomes data to prove that the CAP care bundle was having an effect, an outcomes analysis was also planned (using Information Services Division and General Register's Office data) to look at the effect of the care bundle on mortality within 30 days of admission.

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## UK Inflammatory Bowel Disease Audit (IBD)

**Lead organisation:** Royal College of Physicians

**Partners:** British Society of Gastroenterology; Association of Coloproctology of Great Britain and Ireland; and National Association for Colitis and Crohn's Disease

This project aimed to improve standards of care for IBD patients throughout the UK. It set up the first national clinical audit of inflammatory bowel disease, including the development of national standards with which to compare current practice.

*There has never been a national audit of the care pathways for patients with IBD. The guidelines are largely consensus-based and there is no way of knowing how compliant sites are with their standards. This project will raise the profile of gastroenterology via IBD care and we would expect this to benefit the field as a whole – perhaps by acting as a driver for NICE guidance or an NSF [National Service Framework].*

The IBD project was based on a double audit cycle, with a baseline measurement of current care, the introduction of targeted improvement interventions supported by a limited number of action planning visits, and a follow-up audit to assess whether change had occurred. As in NCROP, recognition that 'the provision of information on comparative performance is not a final goal itself and does not necessarily lead to improvements in patient outcomes' was one of the drivers of project design. Another was the desire to test the proposal that:

*Change may occur faster through bringing together the experience of those who have achieved change to services together with those who have not.*

Interventions for all sites comprised: dissemination to all hospital teams and chief executives of their results compared to national data; presentation of the data at local and national meetings where change implementation was discussed; the development of an action plan to facilitate local change; and a web-based document repository containing sample business cases and care protocols.

Project design changed during implementation.

The original three-part study design involved two-thirds of participating sites reviewing their results and preparing a 'local action plan' that identified five key points for change. Half of those sites (one-third of all participants) would then provide the central project team with monthly updates on progress towards the agreed local targets. But in 2007 the IBD steering group changed this design in order to 'provide a wider benefit to all IBD services and to make the intervention more manageable'. A 'model action plan' for IBD services was developed and made available to all IBD Services in the UK to adapt for their own service. In addition, supported action planning visits were undertaken at 23 sites by members of the steering group. These visits engaged directly with clinicians and raised the profile of IBD care with local management.

*The hypothesis was that a site review would improve the quality of the IBD service ... We were aware of the need to ensure 'buy-in' from all key stakeholders including managers of health bodies at various levels.*

Commenting on their final approach, the team said:

*The sharing of knowledge across hospital teams seems to be an extremely valuable exercise and can help to spread good practice, however it could be too ambitious to believe that a model action plan of itself can achieve change without a committed team taking responsibility for making a change locally that meets the needs of their individual situation.*

## Perineal Assessment Repair Longitudinal Study (PEARLS)

**Lead organisation:** Royal College of Midwives

**Partners:** Royal College of Obstetricians and Gynaecologists; National Childbirth Trust; Thames Valley University; University of Keele Medical School; and University Hospital of North Staffordshire NHS Trust

This project aimed to improve clinical care in line with evidence-based Royal College of Obstetricians and Gynaecologists (2004) guidelines in order to: enhance the assessment and management of perineal trauma, reduce maternal postpartum morbidity, and improve women's experiences of maternity care. It was a quasi-experimental study

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based on a double audit cycle, with baseline measurement of current care and training practices, a Delphi survey of patients' views on outcomes, the introduction of a targeted improvement intervention, and a follow-up audit to assess whether change had occurred.

Implementation was through a paired cluster design: eleven matched pairs of units were randomised to implement an early or late intervention.

The main improvement intervention was a standardised, evidence-based training package. The initial plan was for the project team to deliver training, but, on statistical advice and with the Health Foundation encouragement, the project grew in size. In each unit, it became necessary to cascade the training through facilitators, who were appointed and trained by the project team. This change was seen as beneficial in itself. Using local research facilitators enabled local ownership of the project: practitioners were more likely (for practical reasons) to attend locally delivered training, and it could be more responsive to local needs and circumstances. And, as was the case in all the EwQI projects, the existence of the PEARLS project itself raised awareness of the need for improvement and thus generated a more responsive context.

Implicitly, the theory of change in this project was that clinicians want to improve practice, and that providing appropriate training and audit data that allows them to see how they are doing will achieve this aim.

## 2.3 Locating the EwQI theories of change

The aim of the EwQI was to engage clinicians, through their professional organisations, in projects to improve the quality of clinical care in the UK. The immediate inspiration was Leatherman and Sutherland's finding that clinicians listen and learn best from their peers and that professional bodies have a legitimacy and authority that command clinicians' respect<sup>24</sup>. Other considerations that shaped the EwQI were well-supported by evidence and common sense. These included the need to base clinical

improvement on sound evidence of best practice; the wish to build, where possible, on existing high quality audits or other performance measurement and reporting systems; the desire to involve users (patients and carers) from start to finish<sup>44,45</sup>; and the importance of developing sustainable improvements in quality<sup>46,47</sup>.

All the projects were led by professional organisations, and all were expected to build on or develop high quality clinical audits or other performance measurement systems. All were expected to produce measurable patient benefits. The emphasis in the approaches reported in the SERs is therefore on professionally approved guidelines, professionally led audit and professionally led action plans. The SERs say very little about other potential mechanisms for improving the quality of care such as incentives, regulation and managerial control. And, perhaps surprisingly, they say little about the role of service users and their representatives in supporting QI (although we are aware that this is an important feature, and it is discussed in chapter 4). To this extent there were commonalities between the projects.

However, when it came to their roles in the EwQI, project teams saw these differently. Some saw themselves as researchers, others as clinicians developing clinical audit, others as members of established departments in professional bodies dedicated to improving the quality of care. Project design reflected these differing views<sup>28</sup>. Project design also reflected the varying circumstances of the projects (such as whether guidelines already existed, the role of specific groups of professionals, the role of user groups and the perceived nature of the problem) and the theoretical framework within which each project team was working (derived from the varying influences on the projects teams, such as visits overseas, reading, conferences, and local experience). Appreciating these initial differences, one of the aims of the EwQI Support Programme was to enable the project teams to share and develop their understanding of QI and its complexities.

The view that 'medical journals and research funders are mainly concerned with practical factual research, not with research that develops theories'<sup>48</sup> may not be as widely held today as it was ten years

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ago, but we still found that the concept of a theory of change was unfamiliar to some project teams. Some of the theories of change drawn out during our analyses are implicit in the SERs, rather than being stated explicitly. Other project teams were explicitly testing and refining theories that they had developed themselves (such as the PARIHS framework used by PoISE<sup>42</sup>, and the Royal College of Psychiatry Centre for Quality Improvement's approach used by POMH-UK and Self-harm) or testing theories developed elsewhere (such as the use of the Institute for Healthcare Improvement-inspired care bundle by SNAP-CAP).

In locating the EwQI in relation to wider efforts to improve services, it is also worth noting the particular dimension of 'quality' shared by the projects in the EwQI. The emphasis was on achieving improvements in measurable patient outcomes in the domain of clinical effectiveness. Other dimensions of quality – such as safety, patient-centredness, timeliness, efficiency and equity<sup>15</sup> – were not irrelevant to the project teams, but their focus on patient outcomes reflected the original call from the Health Foundation.

All the projects were complex. They involved large numbers of local sites (from 19 to over 100), and differed in terms of the complexity of their scope and the nature of the improvements sought. It was also possible to identify various levels of complexity in these improvements, ranging from a

specific change in suturing practices among midwives to a wide-ranging change in attitudes to self-harm among transient, multidisciplinary professional teams in the emergency services. Other than the generally adopted mechanism of audit and feedback, the improvement intervention(s) used also varied. Some project teams (such as POMH-UK and Self-harm) used a variety of mechanisms; others focused largely on one approach (such as the peer-review visits in NCROP and the training package in PEARLS); yet others, such as PoISE, tested one approach against another. Some projects were open to, or even encouraged, a variety of local responses (POMH-UK and Self-harm), while others hoped to encourage conformity to high standards through local activities (PEARLS).

By definition, complex interventions comprise a number of components, each of which may act independently and interdependently<sup>49</sup>. As described in chapter 1, we attempted to ensure that the evaluation methodology adopted by the project teams in their self-evaluations, and by ourselves in the external evaluation, matched this complexity.

This chapter has described what the project teams intended to achieve. In the next, we outline what the project self-evaluations tell us about what was implemented, what was actually achieved and what efforts this involved.

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## Chapter 3

# What was achieved by the projects and what effort did it require?

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The external evaluation and the project self-evaluations were both expected to determine progress against the EwQI objectives. They were intended to identify and measure outcomes, assessing the processes adopted and exploring the thinking behind the projects in order to identify ‘the factors associated with success’. In their SERs the project teams were asked to report on seven types of outcomes<sup>50</sup>:

1. Measurable improvements in patient care
2. Increase in the levels of professional engagement
3. Increase in the capacity and infrastructure of the professional bodies involved in the project
4. Increase in the knowledge base
5. Sustainable arrangements for improving quality of care in this field of medicine
6. A transferable system of quality improvement to other areas of medicine
7. Increase in knowledge and understanding of quality improvement in healthcare.

This chapter sets out and assesses the available evidence from the project teams about the achievements of the EwQI projects and about the efforts expended.

This involves the presentation of a lot of complex data. But these are the data made available by the projects, and, if we are to communicate effectively the different array of impacts and activities, it is necessary to engage with this level of detail. For ease, we have divided this long chapter into sections, arranging the data, wherever possible, in tabular form and maintaining a commentary throughout to clarify the key issues. Section 3.1 covers the data that were available from the projects, identifying the sources we have used to

assess the achievements and efforts associated with the projects. Section 3.2 outlines the extent to which each project was implemented in practice; we need this in order to understand how far the ‘contribution story’ of each project, outlined in the previous chapter, has progressed. Section 3.3 is the longest and focuses on patient outcomes, which were the project teams’ primary concern. In section 3.4, we look at the other outcomes in turn, bar the second (which is dealt with in chapter 4). Then we turn to the efforts expended, which are covered in section 3.5. While the overall outcomes from each project were the main focus of the project teams’ reports, they also reported on variation between participating sites within each project, and section 3.6 summarises these accounts. We conclude, in section 3.7, with some observations about costs and consequences in QI.

## 3.1 Data available about achievements

Tables 4 and 5 set out the data from the projects on which we draw in this chapter. In their SERs the project teams were asked to provide quantitative data, where possible, and they largely did so in relation to patient outcomes (based on interpretations of their audit data) and increases in knowledge (based on the number of papers produced and presentations given). Reports of the other outcomes were mainly descriptive, based on qualitative evidence from surveys and the teams’ own expert judgements. Table 4 shows the three sources of data relating to improvements in patient care. These data were not available for all the

**Table 4: Sources of data from the Engaging with Quality Initiative projects about improvements in patient care** (all data from 2009 reports unless otherwise indicated)

Project	Final self-evaluation report (SER)	Associated record of significant events (RSE)	Audit reports
Colorectal Cancer	3	3	3 (2006 and 2007)
Self-harm	3	3	3 (2007)
POMH-UK	3	7	3
NCROP	3	3	3 (2008)
PoISE	3	3	3
EPI-SNAP	3	3	3
SNAP-CAP	3	3	3
IBD	3	3 (2008)	3
PEARLS	Outcomes data and final report not available as at 30 September 2009		

3 = available  
7 = not available

**Table 5: Sources of data from the Engaging with Quality Initiative projects about outcomes other than patient outcomes attributed to or related to the projects** (dates vary – further details are available in appendix E)

Project	Final self-evaluation report (SER)	Associated record of significant events (RSE)	The Health Foundation reports	Audit reports	Clinician questionnaire undertaken by project team	Patient questionnaire undertaken by project team	Other surveys undertaken by project team and other data sources
Colorectal Cancer	3	3	3	3	3	7	7
Self Harm	3	3	3	3	3	3	7
POMH-UK	3	7	3	3	3	7	3
NCROP	3	3	3	3	3	3	3
PoISE	3	3	3	3	3	3	3
EPI-SNAP	3	3	3	3	7	7	7
SNAP-CAP	3	3	3	7	3	3	7
IBD	3	7	3	3	3	7	3
PEARLS	Interim report (final report not available as at 30 September 2009)	Interim report (final report not available as at 30 September 2009)	3	7	7	3	7

3 = available  
7 = not available

projects (a full breakdown of all the data sources received from the project teams is given in appendix E). The only final output which the

project teams were required to produce was an SER, with an associated RSE (see appendix C). But many projects also submitted other material, including

audit reports with quantitative data on patient outcomes. Where appropriate, we have performed statistical tests on key findings to allow for formal comparison of achievements in relation to patient care across each of the projects. Table 5 sets out the data sources for the other outcomes.

### 3.2 An overview of the extent of implementation of each project

Before looking at the evidence of achievements against the seven types of outcomes set out above,

we briefly review the extent to which each EwQI project was implemented on the ground. Looking at the extent of practical implementation is important. If the evidence from a project suggests that little has changed ‘on the ground’, we might doubt whether any changes in patient care that show up in an evaluation are really due to that project.

These assessments are based on what the project teams said they planned to do in their original proposals and what they report was implemented during the project. For each project an overall assessment is made and key milestones are highlighted.

**Table 6: Overview of the extent of implementation of the EwQI projects**

Colorectal Cancer	<p><b>Overall assessment:</b> this project was based on an existing, gradually expanding audit, but during the period in which the Health Foundation funded the audit (May 2005–Dec 2008) trust participation fluctuated. In 2006 there was ‘little increase in the recruitment of trusts, no increase in case ascertainment and no improvement in the completeness of collection of the essential data items’. This, the team commented, was undoubtedly partially due to clinicians not prioritising the time required.</p> <ul style="list-style-type: none"> <li>– The audit changed during the project with the introduction of online data collection and a new minimum data set, as well as a growing recognition among clinicians of the need for open reporting of findings, for formal action plans following feedback of audit data, and for an increased involvement of trust chief executives and managers.</li> <li>– Over half the participating trusts used the annual report as a basis for formal annual surgical outcome meetings, and surgeons used the data to benchmark their quality of care against the national average.</li> <li>– Individual trusts used audit data as a form of quality control, taking note of where they were failing to meet current NICE guidelines for quality and identifying how they could change processes.</li> </ul>
Self-harm	<p><b>Overall assessment:</b> the project was largely implemented as planned, with strong service user engagement. Despite considerable initial interest, there were some delays in recruitment to the first 18-month wave (which was free) and, in some trusts, subsequent problems with obtaining re-audit data. Recruiting to the next two waves (for which a charge was introduced) proved even more difficult, and it became apparent that the project would not be sustainable through subscription. A more broadly focused follow-on project (PLAN), based on Self-harm, has now been developed.</p> <ul style="list-style-type: none"> <li>– Planned regional collaboratives were not implemented, although there was a series of regional learning events.</li> <li>– Numerous improvement interventions were introduced, including mandatory peer-review visits.</li> <li>– Rapid feedback of audit results was achieved.</li> <li>– A number of teams claimed to have developed or improved their policies and working arrangements for the management of patients who self-harm.</li> <li>– A survey revealed that not all the interventions were widely used because of lack of time, their similarity to existing tools or late arrival for the re-audit.</li> </ul>

*continued*

**Table 6: Overview of the extent of implementation of the EwQI projects – continued**

POMH-UK	<p><b>Overall assessment:</b> the project was implemented as planned and membership of the observatory continues to grow despite the introduction of a membership fee. Trusts have regularly signed up to re-audits of earlier topics. There is every indication that the observatory will in future be sustainable without the Health Foundation funding.</p> <ul style="list-style-type: none"><li>– A large number of improvement interventions were introduced, and the team commented that 'all the interventions had been used by at least some trusts' but that, overall, more passive interventions were more likely to be implemented.</li><li>– One local team managed to achieve nearly 100% compliance with the standards in one topic.</li></ul>
NCROP	<p><b>Overall assessment:</b> the project was implemented to schedule as planned, national audits were successfully developed with high participation rates, peer-review visits between trusts carried out, and participants submitted information as requested.</p> <ul style="list-style-type: none"><li>– Fifty-four teams were randomised to carry out reciprocal peer-review visits (the largest ever voluntary review programme run in the UK) and action plans were received from the clinical lead at each site.</li><li>– Participants used audit data as evidence of local performance. For example, one participant risk-assessed the non-invasive ventilation (NIV) service at her trust using National COPD Audit data. As a result, NIV was on the trust risk register, meaning that it was reviewed at board meetings and an action plan was implemented to bring about change.</li><li>– One hundred teams were asked to complete change diaries and, while these were generally thought to be onerous, participants returned 93 completed diaries.</li><li>– A qualitative sub-study of process and context was completed.</li></ul>
PoISE	<p><b>Overall assessment:</b> the project was implemented to schedule as planned, despite initial concerns about trust recruitment and the resulting delays. It sometimes proved difficult at a local level to engage <b>all</b> the relevant members of the multidisciplinary teams involved in peri-operative care, but overall the engagement of clinical teams worked well. The importance of local facilitators emerged as a key issue.</p> <ul style="list-style-type: none"><li>– There is qualitative evidence that the standard dissemination package and web-based resource were well-used, but that the PDSA intervention was more difficult to implement.</li><li>– Seven trusts received the standard dissemination package.</li><li>– For the opinion leader/web-based resource, there were 1,278 hits on the website during the intervention period.</li><li>– Five out of six trusts implemented the PDSA intervention, although the model prescribed by the project was conducted in a limited way by trusts.</li></ul>
EPI-SNAP	<p><b>Overall assessment:</b> this two-part project was very considerably delayed, mainly due to difficulties in securing adoption of interventions within national IT systems. As a result some aspects of what was originally proposed, such as the planned surveys of clinicians and patients, were not implemented.</p> <p><i>First seizure clinic</i></p> <ul style="list-style-type: none"><li>– Baseline and follow-up audit were implemented as planned. All four first seizure clinics in Scotland participated in audit, including consultants, GPs with specialist interest in epilepsy and epilepsy specialist nurses.</li><li>– Referral form was developed and made available (after a delay) and was implemented (although at different times in different health boards).</li><li>– Different regions showed variation in progress.</li><li>– The project's aims will be realised through new NHS Quality Improvement Scotland (NHS QIS) standards for neurological services.</li></ul>

*continued*

**Table 6: Overview of the extent of implementation of the EwQI projects – continued**

EPI-SNAP – continued	<p><i>Annual review</i></p> <ul style="list-style-type: none"><li>– Unresolved problems blocked agreement to use the data set held by the Scottish Programme for Improving Clinical Effectiveness (this would have meant that data on information given to patients by GPs could have been collected automatically). The team commented that overall there was no clear way to realise this aspect of the EPI-SNAP project.</li></ul>
SNAP-CAP	<p><b>Overall assessment:</b> this project was also delayed by IT issues, and by a fundamental redesign of the project protocol. The double-audit cycle was replaced by continuous data collection and the US Institute for Healthcare Improvement's model of improvement based on short-cycle tests of change, associated with the introduction of a care bundle. There were delays in reaching a consensus on the items to be included in the care bundle.</p> <ul style="list-style-type: none"><li>– The aim was to get engagement from each health board. By the beginning of the fourth year of the project, at least one hospital in 50% of the health boards in Scotland had signed up to SNAP-CAP – feedback indicated that clinical teams felt overwhelmed by government-directed quality improvement projects, and SNAP-CAP was deemed of lower priority.</li><li>– In participating hospitals the care bundle was fully implemented, despite delays, and outcome measurement fully implemented to schedule, although there were some gaps in data collection in some participating hospitals.</li><li>– One hospital made permanent changes to its admission systems that embed the SNAP-CAP bundle.</li><li>– SNAP-CAP will continue under the Scottish Antimicrobial Prescribing Group.</li></ul>
IBD	<p><b>Overall assessment:</b> the project was implemented to schedule largely as planned, although with some modification to provide wider benefit and make the intervention more manageable. There was excellent participation in the national audit, and the action planning visits and follow-up audits were successfully conducted and generally well-received.</p> <ul style="list-style-type: none"><li>– Audit data collection, analysis and reporting were completed successfully and on time, and national reports were published following each of the two rounds of the audit.</li><li>– Model action plan was created and made available via a website.</li><li>– Supported action planning visits were carried out.</li><li>– At least one site indicated that the lack of adequate service resource highlighted in their first round report had a direct influence on the decision of trust management to fund an IBD nurse specialist post.</li><li>– Local teams sometimes found it difficult to identify concrete ideas on how to implement changes to IBD care, and it is not clear how successful local teams have been in implementing their action plans.</li></ul>
PEARLS	<p><b>Overall assessment:</b> the project is, largely, being implemented as planned. But there have been considerable delays as a result of difficulties in obtaining ethical approval for the project and in recruiting trusts.</p> <ul style="list-style-type: none"><li>– Surveys of training needs were carried out, although poor response rate from some practitioner groups meant the surveys had to be resent.</li><li>– Two Delphi surveys of patients (to identify outcome measures) were completed.</li><li>– A patient questionnaire was developed and implemented.</li><li>– Local research facilitators were trained, and training has been 'cascaded' rather than, as originally planned, being done entirely by the project team.</li></ul>

Sources: As identified in table 4

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### 3.3 Measurable improvements in patient care

It was a requirement of the Health Foundation funding that the EwQI project teams identify ‘a clinical problem or deficiency in care for which there is a scientific evidence base and/or consensual professional guidelines. The clinical area of interest must have reliable data as well as objective and credible measures of clinical process and/or outcome. The guidelines or standards may be selected from an authoritative national or international source – for example, a royal college, a specialist society, a National Service Framework, National Institute for Clinical Effectiveness (NICE) or the Scottish Inter-Collegiate Guideline Network (SIGN) – or the clinical/research literature<sup>51</sup>. Appendix G provides details of the guidelines underpinning the projects and of how the specific standards used in each project were identified. The development of these standards was, in itself, an important and lasting contribution to quality improvement in the clinical fields covered by the projects (see table 20 below).

In the context of the standards developed, all the project teams identified key clinical outcomes against which they intended to measure their performance. These were mainly measures of improvement in the processes of care – changes in practice, such as improved lymph node harvest (Colorectal Cancer), better staff attitudes

(Self-harm), better referral practice (EPI-SNAP) and prescribing practice (POMH-UK) – rather than end points, such as long-term improvement in mortality and morbidity levels. In this section we look at the evidence that the projects achieved improvements in patient care. We also consider the clinical and, where appropriate, the statistical significance of these findings. In some cases, improvement was an increased rate of a particular practice, such as an increase in the recording of circumferential margin involvement (Colorectal Cancer). In other cases, improvement was a decreased rate of practice, such as a decrease in the prescription of first and second generation antipsychotics in combination (POMH-UK). The percentage change from baseline to re-audit has therefore been assessed along two dimensions: whether change was an improvement (IP) or not (NI), and whether change was statistically significant (\*) or not. The tests of statistical significance were done by the external Evaluation Team unless otherwise indicated.

The data in the tables in this section comes from the project teams. The exact source of the data is given below each table. In some cases (NCROP and IBD) we have reproduced (and annotated) tables provided by the teams; otherwise we have tried to present the tables in a common format. The main concern in all cases was to identify whether there had been a statistically significant improvement in patient outcomes during the project. The standards in each table are the key indicators identified by the project teams.

## Colorectal Cancer

**Table 7: Achievement of audit standards for patients in the Colorectal Cancer project**

Audit standards	N (%) 2005	N (%) 2006	Percentage change	p-value (chi-square) baseline to re-audit
1. 30-day mortality rates	N=7471 441 (5.9%)	N=11287 560 (4.96%)	-0.94% (IP*)	0.005 Continues existing downward trend but 'at the moment there is no validation of the completeness of collection of post-operative deaths'. <i>NBOCAP report 2007</i>
2. Recording of circumferential margin involvement	N=3542 177 (5%)	N=2945 389 (13.2%)	+7.2% (IP – although rates are still very low)	Statistical significance not determined because 'the amount of missing data seriously compromises interpretation'. <i>NBOCAP report 2007</i>
3. Abdomino-perineal excision of rectum (APER) rate	N=2800 584 (19.6%)	N=2370 499 (21.1%)	+1.5% (NI)	Statistical significance not determined because 'It is ... very difficult to be confident in the numerators and denominators for this ... calculation.' <i>NBOCAP report 2007</i>
4. Length of stay	N=7471 Median = 11 days	N=11287 Median = 10 days	(IP)	Continues existing downward trend
5. No of lymph nodes harvested (NICE guidelines suggests 12)	N=7471 Median = 11.85	N=11287 Median = 12.2	(IP)	Continues existing upward trend
IP=improvement in care NI=no improvement in care *Statistically significant Sources: Data from <i>National Bowel Cancer Audit Project (NBOCAP) reports 2006 and 2007 (NBOCAP report 2008 not yet released)</i> . Table produced by the Evaluation Team and p-values calculated by Evaluation Team.				

**Comment:** The 2006 and 2007 NBOCAP reports note that the major difficulty with cancer surgery is that the real endpoints of interest are long-term, such as five-year survival, both cancer-specific and disease-free; but there is no mechanism by which high quality data from national audit can be linked to long-term outcomes. This, combined with the time lag involved, means that surrogate measures of surgical outcomes are required to drive and monitor quality improvement in the short term. Such markers are identified in table 7, and include some with an obvious short-term impact, such as 30-day mortality rates, and others linked to disease recurrence and long-term survival, such as circumferential resection margin involvement rates following rectal cancer excision. In four of the five measures identified there has been some small

improvement. But the caveats about the quality of these data are important: the project team warn against placing any weight on any analysis that looks at such a short interval of time<sup>52</sup>. Our difficulty here is that this is all we had: no analysable data were available to the Evaluation Team for years 2007 and 2008 because the NBOCAP report for 2008 had not yet been released. Furthermore, and as the team also acknowledge in their SER, it is 'difficult to separate the improvements in care attributable to this project from those due to other ongoing initiatives across the UK which aim to improve the access to services, diagnostics and treatment. There being no built-in 'control' group'.

## Self-harm

**Table 8: Number of respondents taking part in project team surveys about self-harm outcomes at baseline and re-audit**

Number of respondents	Baseline	Re-audit
Service users	206	87
Staff	964	568

**Table 9: Self-harm outcomes**

Outcomes	Baseline Jan–Mar 2006	Re-audit Feb–May 2007	Percentage change
Local project teams involving service users in the delivery of training	30%	40%	10% (IP)
Service users rate staff as 'excellent' or 'good'	48%	60%	12% (IP)
Staff felt that people who self-harm are given the same respect and understanding as patients with other injuries	52%	72%	20% (IP)
Staff feel that people who self-harm are offered the same quality of physical treatment as other patients	71%	85%	14% (IP)

Source: Palmer L, Strevens P, Blackwell H (2007). *Better services for people who self-harm. Wave 1 follow-up data: summary report*. Royal College of Psychiatrists, CCQI. Tables produced by the Evaluation Team.

**Comment:** The audit/intervention/re-audit cycle for Self-harm took 18 months, and there were three waves of recruitment to this project. Surveys of staff and service users before and after the intervention period suggested that for waves 1 and 2, moderate positive change took place. The figures in table 9 compare baseline audit data for wave 1 (which was free and involved 30 trusts) with re-audit data. But, as the team noted in their SER, even from this – the largest wave – the available

data on outcomes are limited because of poor response rates to re-audit: 'even though there are positive signs, it is hard for us to say that with great confidence.' In view of this comment, we have not applied a statistical test to these findings. Wave 2 (six trusts and the first wave for which a charge to trusts was made) was too small to yield meaningful data. The project team collected wave 3 baseline data (11 trusts) but has not yet produced final results.

**Table 10: POMH-UK measurable patient outcomes – topics with re-audit data**

Audit standards	N (%) 2006	N (%) 2007	N (%) 2008	Percentage change during years identified	p-value (chi-square) baseline to re-audit
<b>Topic 1 – acute wards</b>	N=3492 patients	N=3271 patients	N=1505 patients	2006–08	
1. Prescribed high dose antipsychotic	1265 (36%)	1120 (34%)	566 (38%)	+2% (NI)	0.35
2. Prescribed more than one antipsychotic	1503 (43%)	1287 (39%)	597 (40%)	–3% (IP*)	0.03
3. Prescribed 1st and 2nd generation antipsychotics in combination	N not given (31%)	N not given (29%)	N not given (30%)	–1% (IP)	
<b>Topic 2 – assertive outreach teams</b>	N=1966 patients	N=1516 patients	N=1035 patients	2006–08	
1. Patients prescribed antipsychotics who have their BP, BMI, blood glucose or HbA1c and lipids measured at least once per year	219 (11%)	350 (23%)	191 (18%)	+7% (IP*)	<0.001
<b>Topic 3 – forensic wards</b>		N=1848 patients	N=1997 patients	2007–08	
1. Prescribed high dose antipsychotic		624 (34%)	631 (32%)	–2% (IP)	0.15
2. Prescribed more than one antipsychotic		842 (46%)	805 (40%)	–6% (IP*)	<0.01
3. Prescribed 1st and 2nd generation antipsychotics in combination		578 (31%)	536 (27%)	–4% (IP*)	<0.01

IP=improvement in care, NI=no improvement in care  
 \*Statistically significant  
 Source: POMH-UK annual topic reports. Table produced by the Evaluation Team and p-values calculated by the Evaluation Team.

**Comment:** Seven topics have been covered to date by POMH-UK:

Topic 1: High dose and combined antipsychotics in acute adult inpatient settings

Topic 2: Monitoring the physical health of community patients receiving antipsychotics

Topic 3: Prescribing of high-dose and combined antipsychotics for patients on forensic wards

Topic 4: Benchmarking prescribing of anti-dementia drugs

Topic 5: Benchmarking the prescribing of high dose and combination antipsychotics on adult acute and PICU wards (time-series benchmarking)

Topic 6: Assessment of side effects of depot antipsychotics

Topic 7: Monitoring of patients prescribed lithium.

The SER provides re-audit data on the first three, some of which show statistically significant improvements, and the table above summarises those findings.

POMH-UK is an on-going programme with the capacity to review and revisit topics. This continuity has been beneficial in a number of ways, especially when there has been little change in the first year. In topic 1, some very ‘modest’ changes were shown in the first re-audit. But the project team concluded that the intervention had not had a demonstrable impact, at least in the short term and for the majority of wards, and identified PRN (*pro re nata* or ‘as required’ prescribing) as a major contributor to high prescribing rates. A supplementary audit,

undertaken a year later, confirmed that in some units change did occur over time, but that it took longer than the one-year audit cycle. POMH-UK is currently undertaking qualitative research that aims to understand PRN and may develop further

interventions on the back of this work. Topic 2 showed the value of identifying barriers to change prior to the study and tailoring improvement interventions accordingly, and POMH-UK has adopted this approach in subsequent topics.

## NCROP

**Table 11: NCROP measurable patient outcomes**

Quality standard scores in key COPD service areas							
Service	Intervention		Control				
	Median	IQR	N	Median	IQR	N	
2008 AUDIT							
Non-invasive ventilation	67	58–79	51	71	63–79	45	
Pulmonary rehabilitation	86	77–91	51	86	73–95	45	
Early discharge (if EDS)	89	83–89	25	89	72–94	35	
Oxygen provision	79	61–86	51	79	61–86	45	
CHANGE (2008 MINUS NCROP 2007 BASELINE)						Mann-Whitney test	
Non-invasive ventilation	0	–13 to +13	50	0	–13 to +8	44	P=0.80
Pulmonary rehabilitation	5	0 to +14	50	0	–5 to +9	44	P=0.14
Early discharge (if EDS)	0	–10 to +4	24	–6	–11 to +6	34	P=0.47
Oxygen provision	0	–4 to +11	50	0	–13 to +7	44	P=0.21
IQR=inter-quartile range EDS=early discharge schemes							
Source: <i>The National Chronic Obstructive Pulmonary Disease Resources and Outcomes Project (NCROP) final report</i> <sup>53</sup> . Table produced by the NCROP team and calculations undertaken by the project team <sup>54</sup> .							

**Comment:** The median scores are identical (2008 compared to 2007) in both groups for two of the scores (provision of non-invasive ventilation and oxygen provision). For pulmonary rehabilitation, the median score for the intervention group improved while the control group remained unchanged, and for early discharge, the median score for the control group worsened, while the

intervention remained the same. Thus, and as the team also confirmed, in two of the four areas the intervention appears to have some positive impact on the scores, but the slight improvement is not statistically significant. Commenting on these findings the team said: ‘It may be that NCROP and peer review has failed to influence service or it may be that more time is required for significant service

change to come about. There is evidence for both of these hypotheses from the change diaries and qualitative feedback from participants'. However, the team also noted that a more detailed analysis of individual standards within each of these four

categories did demonstrate some small and statistically significant changes, with some units changing from partially meeting or not meeting a standard in 2007 to meeting it in full in 2008. But other units changed in the opposite direction<sup>53</sup>.

## PoISE

**Table 12: PoISE measurable patient outcomes – overall**

	Total number of patients in sample pre intervention	Total number of patients in sample post intervention	Mean (SD) fasting time in hours pre intervention	Mean (SD) fasting time in hours post intervention	Median (quartiles) fasting time in hours pre intervention	Median (quartiles) fasting time in hours post intervention	Range in hours pre intervention	Range in hours post intervention
Food fast	1435	1777	13.97 (4.86)	14.17 (4.92)	13.75 (11.00, 16.50)	14.25 (11.00, 17.00)	From 1.00 to 57.75	From 2.50 to 56.25
Fluid fast	1440	1761	9.59 (5.19)	8.91 (4.84)	9.00 (5.25, 13.00)	8.00 (4.74, 12.75)	From 0.50 to 51.50	From 0.50 to 32.75

**Table 13: PoISE measurable patient outcomes from standard dissemination**

Site	Intervention	N (observation pre-intervention) for fluid (fl) and food (fd)	N (observation post-intervention) for fluid (fl) and food (fd)	Percentage change (shorter (IP) or longer (NI) in mean duration of fluid fast)	p-value (chi-square) baseline to fluid fast	Percentage change in mean duration of food fast	p-value (chi-square) baseline to food fast
A	1. SD not disseminated, feedback not disseminated	116 fd 114 fl	86 fd and fl	-14.3% (IP*)	0.027	+3.3%	0.438
B	2. SD not disseminated, feedback post-intervention	67 fd and fl	91 fd 92 fl	+8.1% (NI)	0.34	+5.2%	0.361
C	3. SD, disseminated by key contact, feedback unknown	140 fd 139 fl	109 fd 108 fl	+9.3% (NI)	0.163	+3.8%	0.382
F	4. SD, disseminated by key contact, feedback unknown	104 fd 105 fl	44 fd 43 fl	+0.2% (NI)	0.979	+3.2%	0.522
L	5. SD, disseminated, no feedback	41 fd and fl	7 fd and fl	-26.9% (IP)	0.461	-3.6%	0.522
Q	6. SD disseminated and feedback	57 fd 56 fl	51 fd and fl	-38.6% (IP*)	<0.001	+10.1%	0.051
P	7. SD not disseminated, feedback not disseminated	115 fd and fl	143 fd and fl	-13.46% (IP*)	0.041	+1.6%	0.816

IP=improvement in care  
NI=no improvement in care  
SD=standard dissemination  
\*Statistically significant

**Table 14: PoISE measurable patient outcomes from the opinion leader and web-based education tool intervention**

Site	Intervention	N (observation pre-intervention) for fluid (fl) and food (fd)	N (observation post-intervention) for fluid (fl) and food (fd)	Percentage change (shorter (IP) or longer (NI) in mean duration of fluid fast)	p-value (chi-square) baseline to fluid fast	Percentage change in mean duration of food fast	p-value (chi-square) baseline to food fast
D	1. OL disseminated and feedback	56 fd and fl	85 fd 81 fl	-16.0% (IP)	0.133	3.8%	0.629
E	2. OL disseminated and feedback	130 fd 128 fl	131 fd 129 fl	13.5% (NI)	0.062	10.3%	0.059
H	3. OL disseminated and feedback	66 fd and fl	58 fd 59 fl	12.7% (NI)	0.088	4.0%	0.447
J	4. OL disseminated, no feedback	115 fd and fl	143 fd and fl	-27.4% (IP*)	0.001	6.2%	0.123
M	5. OL disseminated, with feedback	37 fd and fl	71 fd and fl	-8.6% (IP)	0.488	12.2%	0.73
S	6. OL disseminated, no feedback	81 fd 80 fl	159 fd 156 fl	22.5% (NI*)	0.021	1.8%	0.637

IP=improvement in care  
NI=no improvement in care  
OL=opinion leader  
\*Statistically significant

**Table 15: PoISE measurable patient outcomes from the PDSA intervention**

Site	Intervention	N (observation pre-intervention) for fluid (fl) and food (fd)	N (observation post-intervention) for fluid (fl) and food (fd)	Percentage change (shorter (IP) or longer (NI) in mean duration of fluid fast)	p-value (chi-square) baseline to fluid fast	Percentage change in mean duration of food fast	p-value (chi-square) baseline to food fast
G	1. PDSA, no audit, no feedback	87 fd 100 fl	125 fd 127 fl	-14.6% (IP)	0.075	6.3%	0.243
I	2. PDSA, no audit, no feedback	55 fd and fl	73 fd and fl	11.8% (NP)	0.18	15.3% (longer)	0.011*
K	3. PDSA, with feedback	93fd 92 fl	96 fd and fl	-10.7% (IP*)	0.010	1.1%	0.808
N	4. PDSA, no audit, feedback	47 fd and fl	92 fd 99 fl	-23.7% (IP*)	0.001	-5.1%	0.309
O	5. PDSA, no audit, feedback	79 fd 78 fl	92 fd 91 fl	-3.1% (IP)	0.722	2.0%	0.664
R	6. PDSA, audit, feedback	34 fd and fl	97 fd 96 fl	-13.4% (IP)	0.180	-6.5%	0.324

IP=improvement in care  
NI=no improvement in care  
PDSA=Plan-Do-Study-Act  
\*Statistically significant  
Sources of data in all PoISE tables (tables 12 to 15): *PoISE data synthesis report and the PoISE duration of fasting findings report* (May 2009). Tables produced by Evaluation Team and p-values calculated by Evaluation Team.

**Comment:** Overall, for both food fasting and fluid fasting, there was no statistically significant difference in the mean fasting time across the four time points at which data was collected. There was also no evidence of a trend across time<sup>55</sup>. However, in relation to fluid fasting, six sites (out of 19) did show a statistically significant improvement, and only one site had a statistically significantly worse mean fluid fasting time after the intervention<sup>56</sup>. Commenting on this finding, the team noted that within these six sites, there were no obvious

patterns or differences that could explain why they (as opposed to the other sites) achieved statistically significant changes. The team also pointed out that, even at these sites, the post-intervention mean still hugely exceeded the guideline recommendation of two hours for the fluid fast. More broadly, the team suggested that PoISE had an impact in other ways: the evidence for this is based on interview data that show that some participants believed that attitudes towards local fasting practice had shifted.

## EPI-SNAP

**Table 16: EPI-SNAP measurable outcomes**

First seizure clinic site and audit topic	N (%) baseline 2007	N (%) re-audit 2008–2009	Percentage change	p-value (chi-square) baseline to re-audit
<b>Ayrshire and Arran</b>				
<b>Primary care</b>	<b>N=45</b>	<b>N=34</b>		
Driving status not documented	29 (64)	21 (62)	2 (IP)	0.81
Driving advice not documented	25 (56)	19 (56)	0	0.98
Driving advice not recalled by patient	4 (9)	5 (15)	6 (NI)	0.49#
<b>Secondary care</b>	<b>N=46</b>	<b>N=30</b>		
Driving status not documented	31 (67)	18 (60)	7 (IP)	0.51
Driving advice not documented	30 (65)	18 (60)	5 (IP)	0.55
Driving advice not recalled by patient	7 (15)	4 (13)	2 (IP)	1.00#
<b>Fife</b>				
<b>Primary care</b>	<b>N=5</b>	<b>N=6</b>		
Driving status not documented	5 (100)	2 (33)	67 (IP)	0.06#
Driving advice not documented	1 (20)	1 (17)	3 (IP)	1.00*
<b>Secondary care</b>	<b>N=13</b>	<b>N=10</b>		
Driving status not documented	11 (84)	9 (90)	6 (IP)	0.70
Driving advice not documented	8 (62)	4 (40)	22 (IP)	0.41#
<b>Primary and secondary care</b>	<b>N=18</b>	<b>N=16</b>		
Driving advice not recalled by patient	2 (11)	9 (56)	45 (NI)	0.01*#

*continued*

**Table 16: EPI-SNAP measurable outcomes – continued**

First seizure clinic site and audit topic	N (%) baseline 2007	N (%) re-audit 2008–2009	Percentage change	p-value (chi-square) baseline to re-audit
<b>Grampian</b>				
<b>Primary care</b>	<b>N=19</b>	<b>N=17</b>		
Driving status not documented	10 (53)	12 (71)	18 (NI)	0.27
Driving advice not documented	10 (53)	11 (65)	12 (NI)	0.46
Driving advice not recalled by patient	3 (16)	6 (35)	3 (NI)	0.26#
<b>Secondary care</b>	<b>N=12</b>	<b>N=37</b>		
Driving status not documented	5 (42)	15 (41)	1 (NI)	0.95
Driving advice not documented	4 (33)	13 (35)	2 (NI)	1.00#
Driving advice not recalled by patient	0 (0)	8 (22)	22 (NI)	0.17#
<b>Tayside</b>				
<b>Primary care</b>	<b>N=42</b>	<b>N=40</b>		
Driving status not documented	33 (79)	24 (60)	19 (IP)	0.07
Driving advice not documented	34 (81)	19 (48)	33 (IP)	<0.01*
Driving advice not recalled by patient	19 (45)	4 (10)	35 (IP)	<0.01*#
<b>Secondary care</b>	<b>N=23</b>	<b>N=10</b>		
Driving status not documented	20 (87)	7 (70)	17 (IP)	0.25
Driving advice not documented	14 (61)	5 (50)	11 (IP)	0.56
Driving advice not recalled by patient	6 (26)	1 (10)	16 (IP)	0.40#
IP=improvement in care NI=no improvement in care *Statistically significant #Fisher's exact test used when small numbers (less than 5 per cell) Source: All data taken from EPI-SNAP first seizure clinic audit results. Table produced by Evaluation Team and p-values calculated by Evaluation Team.				

**Comment:** Documentation of whether appropriate driving advice had been given was used in EPI-SNAP as an indicator of good practice in referral to first seizure clinics<sup>57</sup>. This indicator has also been adopted within the national standards for neurological services, being developed by NHS Quality Improvement Scotland<sup>58</sup>.

These results indicate that statistically significant improvement was achieved in documented driving advice, and in patients' recollection of that advice, in one out of the four areas.

## SNAP-CAP

Detailed work on outcomes is still to be completed and will not be available until the end of September 2009. However, the SER does give some (limited) figures about bundle compliance and the measures recorded on the Extranet. The reported improvement in median scores from December 2006 – January 2009 was:

- CURB65 score recorded: 11%–85%
- Antibiotics in 4hrs: 85%
- Oxygen therapy: 78%–87%
- Bundle compliance: 5%–35%

Table 17: IBD selected measurable outcomes

Audit standards		Action planning sites				Non action planning sites				Overall			
		N 2006	N 2008	Percentage change	p-value (chi-square) baseline to re-audit	N 2006	N 2008	Percentage change	p-value (chi-square) baseline to re-audit	N 2006	N 2008	Percentage change	p-value (chi-square) baseline to re-audit
1. Dedicated GI wards		N=23 sites 11	N=23 sites 19	+35% (IP*)	0.0132	N=132 sites 97	N=127 sites 101	+7% (IP*)	<0.0001	N=155 sites 108	N=150 sites 120	+10% (IP*)	0.038
2a. IBD nurse on site		N=23 sites 8	N=23 sites 12	+17% (IP*)	<0.0001	N=131 sites 83	N=127 sites 88	+6% (IP*)	0.005	N=154 sites 91	N=150 sites 100	+8% (IP)	0.172
2b. Patient visited by IBD nurse		N=626 patients 80	N=617 patients 103	+4% (IP)	0.052	N=3,348 patients 763	N=3,070 patients 929	+7% (IP*)	<0.0001	N=3,974 patients 843	N=3,687 patients 1,032	+7% (IP*)	<0.0001
3. Patient given prophylactic heparin		N=626 patients 359	N=617 patients 453	+16% (IP*)	<0.0001	N=3,349 patients 1,866	N=3,070 patients 2,255	+17% (IP*)	<0.0001	N=3,975 patients 2,225	N=3,687 patients 2,708	+17% (IP*)	<0.0001
4a. Stool sample sent for standard stool culture		N=476 patients 246	N=476 patients 306	+12% (IP*)	<0.0001	N=2,546 patients 1,424	N=2,323 patients 1,459	+7% (IP*)	<0.0001	N=3,022 patients 1,670	N=2,799 patients 1,765	+8% (IP*)	<0.0001
4b. Stool sample sent for CDT		N=476 patients 177	N=476 patients 269	+20% (IP*)	<0.0001	N=2,547 patients 1,141	N=2,323 patients 1,275	+10% (IP*)	<0.0001	N=3,022 patients 1,318	N=2,799 patients 1,544	+11% (IP*)	<0.0001
5. Timetabled meetings (gastroenterologists and colorectal surgeons)		N=23 sites 15	N=23 sites 18	+13% (IP)	0.326	N=132 sites 103	N=127 sites 91	-6% (NI)	0.236	N=155 sites 118	N=150 sites 109	-3% (NI)	0.485

IP=improvement in care  
NI=no improvement in care  
\*Statistically significant  
Sources: Evaluation of the UK IBD audit action planning visits (2009) and the UK IBD audit, 2nd round (2008) report. (Table from IBD team, p-values calculated by Evaluation Team, using a chi-square test. The Evaluation Team used the chi-square test to facilitate comparison across all the EwQI projects. But we recognise that this may, in some cases, have stretched the usefulness of this test. The IBD project team do not believe that it is entirely appropriate for the data that they have generated.)

**Comment:** As reported in the *Evaluation of the UK IBD audit action planning visits* (September 2009), virtually all these indicators improved between the two audit rounds in the visited sites. Our analysis also indicates that the majority of these improvements were statistically significant. The team commented that most improvements were matched by similarly sized improvements in non-visited sites, though there are exceptions (mainly in organisation and structure) where improvements in visited sites were considerably more marked than for non-visited sites. But the team also noted that these improvements need to be balanced against the fact that the first-round performance of the visited sites was generally lower, probably because of an over-representative sample from more resource-poor areas in IBD. Their final conclusion was, however, cautiously positive, ‘there is a signal from these results that informal site visits may be beneficial in improving service quality above that of simple feedback of results and access to online quality improvement tools’<sup>59</sup>.

## PEARLS

At the time of writing, the PEARLS project was not complete and had not generated any quantitative

data on patient outcomes or any data about changes in practice.

## 3.4 Reported changes in other outcomes

In this section, we summarise what the project teams reported on outcomes other than measurable changes in patient care (and changes in clinical engagement which are covered in chapter 4). These other outcomes included:

1. Increase in the capacity and infrastructure for quality improvement of the professional bodies involved in the project (table 18)
2. Increase in the knowledge base (table 19)
3. Sustainable arrangements for improving quality of care in this field of medicine (table 20)
4. A transferable system of quality improvement to other areas of medicine (table 21)
5. An increase in knowledge and understanding of quality improvement in healthcare (table 22)
6. Clinicians’ opinions of the EwQI projects (table 23)

**Table 18: Increase in the capacity and infrastructure for quality improvement of the professional bodies involved in the project**

Colorectal Cancer	<ul style="list-style-type: none"> <li>– The Association of Coloproctology of Great Britain and Ireland (ACPGBI) has supported the audit since it began (in 2001) and continued this support during the the Health Foundation project. In that time, it has encouraged debates among its members that have led to changes in the audit, such as the introduction of electronic data collection and the essential data set, as well as a move to open reporting.</li> <li>– The ACPGBI has worked with the former Healthcare Commission to secure funding for continuation of the audit and the existing infrastructure on which it is based at Imperial College.</li> </ul>
Self-harm (see also in conjunction with POMH-UK)	<ul style="list-style-type: none"> <li>– The project made the Royal College of Psychiatrists’ Centre for Quality Improvement (CCQI) aware of the need to promote projects like Self-harm within the college as a whole. The project influenced the follow-up programme – the psychiatric liaison accreditation network (PLAN). To set this up CCQI approached the college’s Liaison Faculty from the outset and worked with it to develop PLAN. The faculty chair is the co-chair of the PLAN steering group and is very supportive of the work.</li> <li>– PLAN will work with the college’s policy unit to develop a position statement arguing for better funding for mental health services.</li> <li>– The project team provided an argument for the ‘Linking physical and mental health’ section of the Royal College of Psychiatrists’ Fair Deal Campaign manifesto – and also helped to write the section on service user involvement.</li> <li>– It also raised the profile of user involvement within the college.</li> </ul>

*continued*

**Table 18: Increase in the capacity and infrastructure for quality improvement of the professional bodies involved in the project – continued**

POMH-UK	<ul style="list-style-type: none"> <li>– The CCQI already provided a supportive environment that allowed POMH-UK and Self-harm to draw on in-house expertise and support from the peer network of QI projects. In turn, the project teams were able to influence others in the CCQI.</li> <li>– Within the CCQI, POMH-UK and the Self-harm project have led the way on service user involvement.</li> <li>– The understanding that clinical leads have been 'invaluable' to the success of POMH-UK may influence how future projects within the CCQI are set up.</li> <li>– The team gained expertise in developing audit and providing rapid and accurate feedback which was shared across CCQI.</li> </ul>
NCROP	<ul style="list-style-type: none"> <li>– The project built on and expanded the British Thoracic Society's (BTS) experience of peer review, and the Royal College of Physicians' experience of audit and benchmarking studies.</li> <li>– It provided opportunities, through BTS winter meetings, for junior colleagues to learn about QI and how to analyse data, submit abstracts, write for publication and present findings.</li> <li>– The project sits within the Clinical Standards Department at the Royal College of Physicians, which is headed by the Clinical Vice President. This demonstrates a commitment to support this work, and provides an infrastructure to do so.</li> </ul>
PoISE	<ul style="list-style-type: none"> <li>– The Royal College of Nursing (RCN) has been in a state of flux during the life of PoISE, which has impacted on how the project was perceived.</li> <li>– RCN staff attached to PoISE did, for a period, contribute to the infrastructure of the RCN with respect to implementation, but otherwise the project did not have a wider impact on the RCN's capacity and infrastructure for QI.</li> <li>– But the previously separate RCN QI programme recently merged with a learning and resource team, which includes an audit component. Following these changes, the PoISE team has been in discussions about how its findings can be disseminated through the college's networks, and whether the implications from PoISE are relevant to the new programme's work.</li> </ul>
SNAP (in general)	<ul style="list-style-type: none"> <li>– The direct involvement and support of the Royal College of Physicians, Edinburgh (RCPE) and the Royal College of Physicians and Surgeons of Glasgow was through an overarching strategic group, and project staff were recruited and employed by RCPE on behalf of the two colleges.</li> <li>– But there was a 'lack of a pre-existing infrastructure within the Colleges to support a project of this nature and scale'<sup>60</sup>. The SNAP projects did raise the profile of QI within the colleges: a meeting of the Bi-collegiate Physicians' Quality of Care Committee with the specialist societies in Scotland in October 2007 was devoted to promoting a culture of quality improvement within the medical profession, and specific proposals were developed.</li> <li>– Against this background the team made a series of recommendations about the need for the colleges to undertake further QI projects, to use professional networks to promote clinical standards and QI (as well as education and training), and to work with specialist societies to share knowledge and experience.</li> </ul>

*continued*

**Table 18: Increase in the capacity and infrastructure for quality improvement of the professional bodies involved in the project – continued**

SNAP-CAP	<ul style="list-style-type: none"> <li>– In addition to all the above, SNAP-CAP 'had an impact on the capacity and infrastructure' of the British Society for Antimicrobial Chemotherapy (BSAC) and the BTS.</li> <li>– BSAC adopted 'breakthrough collaborative' as its basic model for quality improvement, and has established an annual Quality Improvement Workshop to facilitate sharing of experience.</li> <li>– BTS invited a member of the project team to talk at one of its meetings and liaised with the project on developing the new CAP guidelines.</li> </ul>
IBD	<ul style="list-style-type: none"> <li>– There was already a strong infrastructure within the Clinical Standards department at the Royal College of Physicians, including the Clinical Effectiveness and Evaluation Unit (CEEU).</li> <li>– Beneficial links were developed with other college departments and units within the college, such as the Health Informatics Unit and the College Press Office.</li> <li>– The audit was a direct catalyst for the development of the National Service Standards for the healthcare of people with IBD.</li> <li>– Improved understanding of the role of patients in audit developed within the college.</li> <li>– Improved understanding about the need for a communications strategy in audit, and the importance of establishing this upfront, also developed within the college.</li> </ul>
PEARLS	<ul style="list-style-type: none"> <li>– There was a 'lack of infrastructure within the Royal College of Midwives to support a major project'.</li> <li>– Understanding of QI within the college has grown and informed the work which the Royal College of Midwives does with other organisations on quality and audit.</li> <li>– The lessons learned from supporting this project will be taken forward and used to advise others planning major large-scale studies.</li> </ul>

Sources: As identified in table 4

**Comment:** It is not possible to generalise about the positions of the royal colleges and professional bodies involved in the EwQI either before or after the initiative. They started with differing capacities to support QI, and some were better able to support

the EwQI projects than others and to learn from the process. There is some indication that understanding of QI has increased, but it is unclear how much this change can be attributed to the EwQI. These issues are discussed further in chapter 5.

**Table 19: Increase in the knowledge base**

Colorectal Cancer	<ul style="list-style-type: none"> <li>– Eight publications in professional journals</li> <li>– Three published abstracts</li> <li>– Seven presentations at conferences and meetings<sup>61</sup></li> </ul>
Self-harm	<ul style="list-style-type: none"> <li>– Publication of the <i>Better services for people who self-harm: quality standards for healthcare professionals</i> (2006). London: Royal College of Psychiatrists Centre for Quality Improvement.</li> <li>– Four articles in the <i>Emergency Nurse Journal</i></li> <li>– One magazine article in <i>Mental Health Today</i></li> <li>– Eight reports (including baseline audit and re-audit reports)</li> <li>– Eleven presentations at RCP Quarterly Meeting, national conferences and other meetings</li> <li>– Published seven types of materials for staff working with people who self-harm, including an information leaflet and online training exercise manuals.</li> <li>– Published four resources for service users</li> </ul>
POMH-UK	<ul style="list-style-type: none"> <li>– Five papers in peer-reviewed journals including <i>British Journal of Psychiatry</i>, <i>Schizophrenia Bulletin</i> and <i>Acta Psychiatrica Scandinavica</i></li> <li>– Thirteen conference presentations and posters, including talks at the ACNP, ECNP, the International Congress of Schizophrenia Research and the Maudsley Forum</li> </ul>
NCROP	<ul style="list-style-type: none"> <li>– Eight reports<sup>62</sup></li> <li>– Six papers in peer reviewed journals</li> <li>– Twenty-eight abstract presentations at nine conferences</li> </ul>
PoISE	<ul style="list-style-type: none"> <li>– Four presentations at national and international conferences (2006–08) such as the RCN International Research Conference and the International Guideline Implementation Network (GIN) conference.</li> <li>– Three posters presented on the PoISE project (2007–09) at the Getting evidence into practice: Quality and Safety in Healthcare conference in Berlin, first invitational Knowledge Translation Conference in Canada, and the Knowledge Utilisation Colloquium in Stockholm</li> </ul>
EPI-SNAP	<ul style="list-style-type: none"> <li>– Two posters at conferences</li> </ul>
SNAP-CAP	<ul style="list-style-type: none"> <li>– Three conference presentations</li> <li>– Six posters at conferences</li> <li>– Evidence synthesis publicly available on SNAP-CAP website at <a href="http://www.scottishmedicines.org.uk/smc/7280.221.245.html">www.scottishmedicines.org.uk/smc/7280.221.245.html</a> this includes considered judgements and evidence tables for items in the care bundle and justification for items not in the care bundle</li> </ul>
IBD	<ul style="list-style-type: none"> <li>– Six journal papers and articles</li> <li>– Nine conference presentations</li> <li>– Eleven publications in which the audit data was used for training or professional development</li> </ul>
PEARLS	<ul style="list-style-type: none"> <li>– No information was available about publications or conference presentations</li> <li>– Training DVD</li> </ul>

Sources: As identified in table 4

**Comment:** This table lists publications from the projects (other than audit and project reports), as well as presentations and posters, identified by the project teams as of September 2009. This is a

snapshot only, and it is reasonable to expect that this list will expand as the projects all complete and write up their findings. We have not attempted any further analysis at this point.

**Table 20: Sustainable arrangements for improving the quality of care**

The EwQI projects	Ongoing support for audit or measurement system	Follow-on programmes	Standards identified and further developed	Material/tools from project made widely available	Associated policy changes which team claim were influenced by project
Colorectal Cancer	Funding obtained from HCC (now the Care Quality Commission) until 2009		Yes – and an 'essential data set' of 40 data items developed to simplify data collection in future audits	Validated risk adjustment model NBOCAP database	
Self-harm	No	Psychiatric liaison accreditation network (PLAN)	Yes – and in <i>Self-harm quality standards for health professionals</i> , published on the web	Yes – through Self-harm website	The Academy of Medical Royal Colleges' report on meeting urgent mental health needs in the general hospital and forthcoming <i>No Health without mental health</i> report. The Royal College of Psychiatrists Fair Deal Campaign PLAN will work with the college's policy unit to develop a position statement arguing for better funding for mental health services.
POMH-UK	Yes – funded through annual trust subscription	Trust subscription	Yes – and an on-going system developed to support future POMH topics	Yes – through POMH-UK website	Mentioned in the Healthcare Commission's (Now the Care Quality Commission) report <i>Talking about medicines; the management of medicines in trusts providing mental health services</i> (2007). Mentioned in the national report <i>Risk, rights, recovery</i> (Mental Health Act Commission, twelfth Biennial Report 2005–07). Work with the Healthcare Commission (now the Care Quality Commission) on a self-assessment tool for mental health trusts for medicines management including a standard around participation in POMH programmes.

*continued*

**Table 20: Sustainable arrangements for improving the quality of care – continued**

The EwQI projects	Ongoing support for audit or measurement system	Follow-on programmes	Standards identified and further developed	Material/tools from project made widely available	Associated policy changes which team claim were influenced by project
NCROP	Not yet – failed to obtain funding from HQIP but pursuing this further		Yes – feeding into the National Strategy for COPD	Plan to make a COPD audit web-based data collection tool available for teams undertaking local audits in the intervals between the full National COPD Audit	Development of the National Clinical Strategy for COPD
PoISE	No		Yes – and details made available on the web	Plan to make products (eg: PDSA packages, data collection forms, guideline packages) available via the RCN Learning and Resource unit and other websites	
EPI-SNAP	No	Managed clinical networks for epilepsy will continue audit of driving advice.	Yes – feeding into NHS QIS neurological standards	Referral template available in SCI gateway to be used by all referrers in primary care. Stand alone referrals available for secondary care referrers.	NHS QIS neurological standards (re documentation of driving advice on referral) BPQCC work to promote QI
SNAP- CAP	No	Adopted by Scottish Anti-microbial Prescribing Group	Yes – SNAP-CAP care bundle adapted also at sites outside Scotland		SNAP-CAP model adopted by SAPG for other antimicrobial stewardship interventions
IBD	Yes – funding obtained from 2010 National Clinical Audit and Patient Outcomes Programme	Continuation of audit	Yes – feeding into ongoing plans for further use of standards	Plan to produce a self-assessment web-based tool for IBD services	IBD audit included in the 2009 Annual Health Check process Catalyst for the development of the National Service Standards for IBD (Feb 2009)
PEARLS	No		Yes – with plans for further use of standards	Plan to make training package available	Development of <i>Safer childbirth</i> (2008) which has led to inclusion of perineal repair in mandatory training

Sources: As identified in table 4

**Comments:** The EPI-SNAP team point out that sustainability depends on three favourable circumstances: ongoing supply of resources, influence on health policy, and measurable benefit. Table 20 illustrates what the teams told us about the projects' impact on the first two of these; measurable benefits were discussed in section 3.3. These findings draw on the project teams' reports of two audit cycles, usually over one or two years. Given this timescale, it is too early to make well-founded comments about the long-term sustainability of these changes. However, some appear to be promising. For example, POMH looks set to be self-sustaining through trust subscription by 2010. And in PoISE, trust participants

committed themselves to continuing with 35 activities beyond the life of the project: their plans to continue or extend activities included rolling out changes in fasting practice to other clinical areas, continuation of the web-based tool as an educational activity, and providing ongoing reminders to sustain change<sup>63</sup>.

Participating in the EwQI has also had wider benefits for project team members, including new skills in using data or developing communications, being given a platform to speak with national decision makers and developing training materials. These issues are discussed further in chapter 5.

**Table 21: A transferable system of quality improvement to other areas of medicine**

Colorectal Cancer	<ul style="list-style-type: none"> <li>– The NBOCAP risk adjustment model for predictive mortality has also been applied to upper gastrointestinal surgery.</li> <li>– The methods of data collection and the database have also been used to create a database of patients with inflammatory bowel disease undergoing restorative proctocolectomy.</li> </ul>
Self-harm	<ul style="list-style-type: none"> <li>– The QI methods adopted in Self-harm (service user involvement, self-reviews, peer reviews, accreditation, providing interventions) are not, in themselves, new, and are already used in other areas. But using all these together in one initiative is not that common.</li> </ul>
POMH-UK	<ul style="list-style-type: none"> <li>– The POMH-UK model could be transferred to acute secondary care, although it would be important to apply the lessons from POMH-UK (eg: focus on small manageable problems in prescribing for a particular condition, such as CAP or Parkinson's disease).</li> <li>– The potential for transferring the model to primary care is less certain because the 'relevant systems and drivers' are very different. For example, the development of audit methodologies that required tracking individual patients across the primary/secondary care would be challenging and resource-intensive.</li> <li>– However, the POMH-UK team had made contact with the Royal College of General Practitioners, with whom it was in discussion about how a joint programme with primary care might be taken forward in due course.</li> <li>– Formal links established with the National Patient Safety Agency.</li> </ul>
NCROP	<ul style="list-style-type: none"> <li>– NCROP methodology: lessons from the peer review process are of interest as a tool to support quality improvement in other teams (eg: the National Lung Cancer Audit team).</li> <li>– The National COPD Audit methodology, specifically with regard to engaging primary care and patients, is of interest to other national audit project teams, such as IBD.</li> <li>– There is interest in National COPD Audit in Europe: in Austria, to support its own National COPD Audit; and in relation to a wider European Audit (to be discussed at the European Respiratory Society Congress in Vienna, September 2009).</li> <li>– There is also interest in the COPD Audit from colleagues in New South Wales, Australia.</li> </ul>

*continued*

**Table 21: A transferable system of quality improvement to other areas of medicine – continued**

PoISE	<ul style="list-style-type: none"><li>– Planning to make the PDSA guide freely available through a website.</li><li>– The fasting data collection sheet could be used as an audit tool by trusts. This will also be made freely available.</li><li>– A web resource has been launched for all RCN members.</li><li>– The guideline pack (including implementation guidance) could be used by trusts.</li></ul>
EPI-SNAP	<ul style="list-style-type: none"><li>– The before and after double audit cycle, using a custom-built database could be used by other QI projects.</li></ul>
SNAP-CAP	<ul style="list-style-type: none"><li>– Two specialist groups (gastroenterologists and rheumatologists) are looking at the IHI Extranet as a possible model for data collection and feedback. However, it is not clear to what extent this is attributable to SNAP-CAP.</li><li>– The project team plans to publish a review of its experience developing a care bundle, which will include thoughts on the kind of disease areas or care settings where this might be an appropriate model for QI.</li><li>– SNAP-CAP methods are being transferred to other infection areas to support antimicrobial stewardship.</li></ul>
IBD	<ul style="list-style-type: none"><li>– Model action plan: the method can be transferred to other QI projects but would need to be supported by stronger mechanisms for supporting local action planning and implementation.</li><li>– Supported action planning visits: this might be a relevant mechanism for other projects to employ. It is cheaper, easier to organise and less time-consuming than formal peer review; and it embraces the concept of a 'clinical champion', which is critical to driving QI. It also enables/forces local teams to consider their action plan carefully and what they are going to do to implement it.</li></ul>
PEARLS	<ul style="list-style-type: none"><li>– The model of professional education and the use of standardised evidence-based material will be of interest to all of those engaged in professional education of midwives, doctors and other professional staff.</li></ul>
Sources: As identified in table 4	

**Comment:** This summary and the one in table 22 below suggest that there have been gains from the EwQI in terms of understanding of QI and the development of models for use in other settings. We have not at this stage been able to analyse these gains further.

**Table 22: An increase in knowledge and understanding of quality improvement in healthcare**

Colorectal Cancer	<ul style="list-style-type: none"> <li>– Data and published work on audit findings and the NBOCAP methodological approach.</li> </ul>
Self-harm	<ul style="list-style-type: none"> <li>– Online training exercises – focused largely on service user viewpoints.</li> </ul>
POMH-UK	<ul style="list-style-type: none"> <li>– Publications in scientific journals, and posters and presentations at national and international conferences.</li> <li>– Training workshops on 'Bringing about Change' in local teams and academic detailing for pharmacists – these aimed to educate clinical staff in the issues around high-dose and combination prescribing.</li> <li>– Presentation at RCP annual meeting (July 2009).</li> </ul>
NCROP	<ul style="list-style-type: none"> <li>– Publications in academic, peer-reviewed journals; presentations at national and international conferences.</li> </ul>
PoISE	<ul style="list-style-type: none"> <li>– Raising awareness of guidelines among the participating clinicians was an explicit part of the web-based/opinion leader arm of the project: the impact of this was assessed through participant interviews.</li> <li>– More generally, the project itself raised awareness.</li> </ul>
EPI-SNAP	<ul style="list-style-type: none"> <li>– Referrers were made more aware of importance of issuing driving advice<sup>64</sup>.</li> </ul>
SNAP-CAP	<ul style="list-style-type: none"> <li>– Evidence of measurable increases in knowledge and understanding of quality improvement by participants<sup>64</sup></li> <li>– Plan to work on measurable capacity building with NHS Education Scotland, ensuring that QI is an integral component of learning needs for antimicrobial management teams and continuing to work with the Doctors Online Training System.</li> </ul>
IBD	<p>Practical experience of:</p> <ul style="list-style-type: none"> <li>– Model action planning.</li> <li>– Supported action-planning visits.</li> <li>– Developing national standards.</li> </ul>
PEARLS	<ul style="list-style-type: none"> <li>– Training DVD.</li> </ul>
Sources: As identified in table 4	

**Table 23: Clinicians' opinions of the EwQI projects**

Colorectal Cancer	<ul style="list-style-type: none"> <li>– Feedback from surgeons suggests that they find the data useful and of 'personal and clinical advantage'.</li> <li>– Results of a survey (of 171 trusts and 549 consultants) that was undertaken by the project team showed that 82% of the 105 consultants who had read the annual audit (NBOCAP) thought that it was useful as a benchmark and to raise awareness within units about surgical outcomes.</li> </ul>
Self-harm	<ul style="list-style-type: none"> <li>– 'We believe that improvements were made by a number of the services that worked with us and we know that many people who used our change interventions found them to be useful.'</li> <li>– 19 of the 22 teams that answered the Wave 1 evaluation survey undertaken by the project team said that the programme has helped them make improvements to the care of people who self-harm.</li> <li>– At the end of online training, participants were asked whether the exercise was helpful and whether it might change the way they work with people who self-harm. The majority of respondents answered positively to these questions.</li> <li>– Additional anecdotal feedback was that people found these exercises easy to use, quick and informative.</li> </ul>
<i>continued</i>	

**Table 23: Clinicians' opinions of the EwQI projects – continued**

Self-harm <i>continued</i>	<ul style="list-style-type: none"><li>– Information leaflet 'Working with People Who Self-harm' received positive feedback.</li><li>– The aggregated report was rated as useful, but slightly less so than the local reports.</li></ul>
POMH-UK	<ul style="list-style-type: none"><li>– 'The general view given in telephone feedback events is that trusts are happy with the work that POMH-UK does. No major improvements were suggested.'</li><li>– Several interventions were listed by the POMH-UK teams as having received positive feedback from clinicians. These included the ready reckoner, workbook and lifestyle management support pack, and academic detailing training.</li><li>– The audit reports and feedback were found to be useful.</li></ul>
NCROP	<ul style="list-style-type: none"><li>– 'What is clear is that the majority of participants in the peer review group and a sizeable minority in the control group found benefit within NCROP. The former for a wide range of reasons that include the provision of a quality framework, sharing of good practice and the bringing together of commissioners and providers to the team focused outcomes of better morale and self-awareness that was achieved<sup>53</sup>.'</li><li>– Feedback on the National COPD Audit 2008 was 'overwhelmingly positive'. There was only one negative comment from a participating clinician who perceived the audit process to be 'disheartening'.</li><li>– The SER includes comments and quotations from several influential figures praising the audit. It is worth noting, however, that this praise is directed at the <b>audit</b> and acknowledges the effort that went into collecting and analysing such data, rather than talking about improvements in patient care.</li></ul>
PoISE	<ul style="list-style-type: none"><li>– The SER states that PDSA cycles, one of the three improvement interventions, were considered useful by participants.</li><li>– Of the local investigators, 44% felt that PoISE had improved fasting times.</li></ul>
EPI-SNAP	<ul style="list-style-type: none"><li>– The SER says that while there was good uptake of the first seizure referral intervention in some areas, in others there was resistance from both primary and secondary care clinicians, some of whom thought that issuing driving advice was 'not their job'.</li></ul>
SNAP-CAP	<ul style="list-style-type: none"><li>– BTS said that SNAP-CAP was 'an example to follow' – although the SER does not specify which parts of the programme were particularly praised.</li><li>– Seven participating local teams were asked to complete a 'Maturity Matrix', which included questions about whether the programme was being implemented as expected and whether it was having an effect on patient care. The project team concluded: 'responses from the Maturity Matrix indicate that we have achieved the basic level of progress, and for three hospitals that firm progress has been achieved'.</li><li>– Contributors believe that 'the programme is having an impact on clinical practice in Scotland'.</li><li>– When asked what difference the project made, the central project team comment that it is 'unlikely that changes in all bundle processes ... occurred for other reasons', although 'changes in outcome measures could have multiple causes, including bias and confounding ... from other measures introduced at the same time as CAP.'</li></ul>

*continued*

**Table 23: Clinicians' opinions of the EwQI projects – continued**

IBD	<ul style="list-style-type: none"><li>– 'We found that sites were keen and eager to become involved in the action planning process. They were happy to present to their peers on aspects of their service.'</li><li>– The SER reports feedback from a clinical lead at one hospital, 'I think the site visit process is certainly worthwhile'.</li><li>– The SER includes quotations from several clinicians praising the project. The focus of the praise is on the quality of the audit, but there is also recognition that it was an important first step in ensuring that services of appropriate quality are available to IBD patients throughout the UK: 'I am very impressed with the IBD community's engagement with the UK IBD Audit ... the audit has shown that there are huge opportunities to improve the care for people with IBD throughout the UK.'</li></ul>
PEARLS	<ul style="list-style-type: none"><li>– Facilitators 'demonstrated high levels of commitment and enthusiasm in the main'.</li><li>– Facilitators have stated that there had been a positive change in practice.</li><li>– 'There are early indicators and anecdotal evidence that PEARLS has been successful in providing training that changes practice.'</li></ul>

Sources: As identified in table 4

**Comment:** The participating clinicians' opinions of the EwQI projects are instructive. Many of those who were engaged in these projects are experienced and knowledgeable professionals in their fields, and their views on the usefulness and value of the projects are likely to carry weight with their peers and with policy makers more generally. These issues are considered further in chapter 4.

### 3.5 Effort expended by the project teams

In order to assess the total effort expended in each project we needed details of the time and effort expended by the central project team, as well as that expended by local participating teams. But it proved difficult to collect cost data or details of the time spent by those involved in the project from the project teams. The Evaluation Team ran sessions at initiative-wide 'away days' and visited project teams to provide support in obtaining data on cost consequences. But such is the paucity of cost information in the NHS, and so limited was the priority given by the teams to collecting data on the time spent, that we can offer only a partial insight into the effort required by the project teams, either centrally or locally in the participating sites. Nor is the data available in a way that facilitates contrast and comparison. However, the scale of the effort (if not the detail) is broadly apparent from the data presented below. The majority of these data are

about time commitments; only two project teams provided any cost data, and only one of them did so comprehensively.

#### Colorectal Cancer

No quantitative data were provided in the SER about the time spent by the central team, although the range and scope of the team's published papers indicate the effort and resource that went into developing the audit and ensuring that the data reported annually were of high quality. This commitment to producing high quality audit data was shared by other project teams – as the POMH-UK team said in their SER, 'the quality of data is paramount'.

At local trust level, the main activity was participation in the audit. There was no other improvement intervention in this project. Data collection for the audit moved from a paper-based to a web-based system during the course of this project. The *NBOCAP report 2005* provides accounts of both these approaches, and from these it is apparent that there was far less time-pressure once electronic data collection had been introduced.

*The first visit to the database for a new patient is following an operation for colorectal cancer. For those who, for whatever reason, do not have a surgical procedure, then data input follows the MDT [multidisciplinary team] discussion (vide infra). At present the database is separate from the PAS system and so demographic details are needed at this stage. For those unfamiliar with the system these are*

*minimal, hence the term ‘minimum dataset’. Demographic details, referral type, tumour characteristics, etc. are all entered and the audited time for such an activity is less than ten minutes. By the time the post-operative discussions are held at the MDT, the patient will have been discharged. Following the MDT meeting the dataset is visited for the second, and last, time. Details of the pathology are entered, the date of discharge or death is noted, post-operative complications entered, and decisions with regard to adjuvant therapy put into the relevant section. Again, this visit for an individual patient is never more than 10 minutes and can be done as the letters are dictated following the MDT meeting. Patients not undergoing surgery will have been discussed at these meetings and their data are similarly entered at this stage .... The time taken for this activity is as minimal as the dataset ...<sup>65</sup>*

In line with this the SER notes that the estimated cost impact per patient for the NBOCAP data collection is approximately £15–£20 (based on taking 15–20 minutes per patient to collect and enter data). The *NBOCAP report 2007* summarises the findings of a survey of colorectal surgeons, responses to which were received from 159 of 549 consultants contacted (29%) and 117 of 171 hospitals (66%). Of the 74 consultants (46.5%) who were not currently submitting data, the main reasons given were lack of IT support (23.6%) and lack of funding (19.6%): only a third said they lacked dedicated audit time (18.9%)<sup>66</sup>.

## Self-harm

No details are given in the SER about the time spent by the central project team, although we were told in interviews and meetings that the efforts involved were very considerable, and the SER confirms this when it talks about ‘three years of hard work, a substantial grant and a lot of planning and working across boundaries.’

However, the SER does contain some rough estimates of the time spent by service users and local participating teams on developing and implementing interventions and making changes, and the tables which summarised this information are reproduced below. The project team commented that the time spent varied a lot, depending on how much the local team decided to do. Many of the interventions provided to teams were ready to use, but some teams developed their own changes from scratch. Based on these rough estimates the project team estimated that time commitment for the entire team over an 18-month period was approximately 116 days.

Comment : These are figures per service user. But, as the project team noted, ‘Most teams should have had two service users who will share responsibilities, so the average time spent in total could be estimated as about 15 days’.

**Table 24: Guide to time commitment of service users in the Self-harm project**

Activity	Estimated number of days per user
Attend introductory workshop (June/July 2007)	1 day
Contact with a local user group or service to encourage responses to the service user survey (between July–Oct 2007) by telephone, email, writing or in person.	1 day
Meet with project team to discuss results of audit and prepare for peer reviews (Jan/Feb 2008)	0.5 day
Attend a peer review with team mates (Jan/Feb 2008)	1 day
Receive a peer review visit with team mates (Jan/Feb 2007)	1 day
Attend a feedback workshop (Apr 2008)	1 day
Attend additional project team meetings	1.5 days
Extra reading or preparation	1 day
<b>Total</b>	<b>8 days</b>

Source: Self-harm SER

**Table 25: Rough estimate of time commitment required for each local team member in the Self-harm project** (each team had about four clinical team members)

Activity	Estimated number of days per user
Attend introductory workshop (June/July 2007)	1 day
Help with data collection	2 days
Help with interventions and making changes	4 days
Project team meetings	3 days
Attend a peer review with team mates (Jan/Feb 2008)	1 day
Receive a peer review visit with team mates (Jan/Feb 2007)	1 day
Attend a feedback workshop (Apr 2008)	1 day
Admin (arranging travel, etc)	1 day
Additional reading, communication or preparation	1 day
<b>Total</b>	<b>15 days per team member</b>

Source: Self-harm SER

**Comment:** These are figures per team member. As the project team pointed out, some team members will be more active than others, but four team members spending 15 days each equals 60 days.

**Table 26: Rough estimate of time commitment required for each local team lead in the Self-harm project**

Activity	Estimated number of days per user
Complete joining form and secure funding (except for Wave 1 teams, which did not pay)	3 days
Get team together and get sign-up from chief executive	3 days
Attend introductory workshop (June/July 2007)	1 day
Communicate with the central project team	4 days
Communicate/meet with the local project team	5 days
Communicate with the local service users	3 days
Prepare for data collection period	2 days
Undertake data collection	4 days
Receive local report	1 day
Use of interventions and making changes	10 days
Meet with project team to discuss results of audit and prepare for peer reviews (Jan/Feb 2008)	1 day
Attend a peer review with team mates (Jan/Feb 2008)	1 day
Receive a peer review visit with team mates (Jan/Feb 2007)	1 day

*continued*

**Table 26: Rough estimate of time commitment required for each local team lead in the Self-harm project – continued**

Activity	Estimated number of days per user
Prepare presentation for feedback workshop (Apr 2008)	1 day
Attend a feedback workshop (Apr 2008)	1 day
Attend additional project team meetings (including preparation)	5 days
Additional reading, communication or preparation	2 days
<b>Total</b>	<b>48 days</b>

Source: Self-harm SER

## POMH-UK

The SER provides no quantified details about the effort and time required by the central team, but does say that POMH-UK recruited 43 members in 2008, each paying an annual membership fee of £3,500+VAT or £10,000+VAT for three years. It also reports that so far the project has cost £401,830 to run, and £141,944 has been collected in subscription fees. POMH-UK is on track to becoming self-sufficient by 2010. Fees for trusts were based on a long-term, ambitious target of continued engagement of 50 mental health trusts, which it was near to reaching.

In line with a similar finding in the Colorectal Cancer project, the SER notes: ‘We do not think that data collection is particularly onerous for trusts; particularly as it forms part of the audit work that needs to be done anyway.’ However, other aspects of the measurement and feedback processes were time-consuming. The development of data collection tools ‘required input from local teams at regional meetings, along with meetings with specialist advisers. If trusts were to do this on their own, the whole exercise would duplicate effort, be costly and of variable quality, and not allow for benchmarking.’ And with regard to the data analysis and cleaning undertaken by the central project team, the SER notes: ‘Careful examination of submitted data for data entry errors and data cleaning is extremely time-consuming but necessary to ensure high quality data ... the quality of data is paramount.’

Overall, the SER reports that local participation costs, other than the subscription fee, varied. While this variation was not quantified, the reasons for it

are given, ‘data collection methods and the data collection period vary, as do the team members that need to be involved. In addition, trusts generally choose their own sample size, which is often dependent upon trust capacity. While some trusts were expected by the project team to put in all eligible cases, others were expected to include just a sample.’

## NCROP

The SER provides no quantified details about the effort and time required at either central or local level. However, in the SER, and also in the *Final report of the qualitative sub-study (2008)*, there are detailed qualitative descriptions of the scope of the audit undertaken, of the efforts of the central project team to support data collection, and of the efforts of local teams to carry out peer review visits and fill in change diaries. We summarise these briefly below.

The SER notes that the audit achieved participation from all sectors – primary and secondary care NHS organisations, GPs and patients.

- 98% of acute NHS trusts participated in the audit of COPD resources and organisation of care element.
- 96% of acute NHS trusts participated in the clinical audit of COPD exacerbations.
- 73% of primary care organisations participated in the survey of COPD resources and organisation of care.
- 2,728 general practices returned a survey of COPD care (best estimate of participation is 43%).

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- 2,864 surveys were received from patients (best estimate of response rate is 45%).

There was regular contact by the central project team with all participating sites through weekly email updates during data collection, and these updates were also posted within the audit web-based data collection tool. The web-based data collection tool had an administrative facility that allowed the project team to monitor activity by participating sites and to deliver targeted support. The central project team supported trusts that had difficulty collecting and submitting data by:

- offering telephone support with web-tool queries
- talking callers step by step through the process of data submission, validating, locking or exporting data
- suggesting where data could be found
- sharing examples of how teams in other units organised themselves to identify patients and collect data
- developing a tool for teams to use locally when identifying patients to be included in the audit: the ‘log of patients entered to the audit’ was designed to assist teams keep track of the patients they entered into the audit and of when various components of the audit had been completed (eg: survey sent to GP, questionnaire given to patient).

All this involved close working with the two clinical associate directors connected with the project, who made themselves available at ‘any time’ to support the work.

At local level a lead clinician and a clinical audit lead were nominated at each site. Data collection and input to the web-based tool were completed by people in various posts – most frequently these were specialist registrar grade doctors, specialist respiratory nurses or respiratory consultants. The SER reports that there was an enthusiastic response to NCROP activities, ‘the tremendous participation in the audit and embracing the new, complex methodology is testament to the desire to improve – this was a lot of work for acute teams, speaking with the project team during conferences, attending meetings we have hosted, engaging in debate during abstract presentations, accepting invitations to join the project team at the Health Foundation related activities.’ Overall, intervention

site participants felt that the NCROP was a good use of time, but adverse comments about the time burden were frequent.

In addition to the timetabled day, each peer-review visit involved another half day in last-minute preparation time. On top of that, there was documentation to fill in both before and after each visit, as well as change diaries to complete. Despite considerable anxieties about the length of time taken (local teams felt that the day of the visits itself was rushed and depth of knowledge compromised by ‘cramming’ everything into one day), participants said that the RCP-recommended 10.00 to 16.00 one-day timetable enabled a sufficiently accurate appreciation of services at the reviewed site for the process to be useful. In summary, clinicians wished to engage but were anxious that time away from patient care was in some sense ‘lost time’.

The NCROP change diary was intended to help local teams monitor progress against action plans developed following peer review visits and to provide feedback to the project team. The SER notes that an average of 30% of returns was received each month and that twenty sites regularly submitted a completed diary. But the diaries were unpopular: participants found the monthly return onerous and poorly matched to the (slower) pace of change in trusts.

## PoISE

The SER comments: ‘It was not possible to do cost consequences analysis because no significant difference of effect could be shown by the time series data.’ However, the team does provide information on the time and costs of each improvement intervention (PDSA, opinion leader and web model, and standard dissemination) at national and trust level, and the tables in which they summarised this data are reproduced below. The team estimates that the cost to a national organisation of providing implementation support to all 170 acute trusts would be £153,700 for the PDSA model and £67,300 for the opinion leader + web model. The SER also provides an estimate of the total running costs of the project. This was over £550,000, a figure that includes the Health Foundation funding but does not include commitment of in-kind time by the RCN.

**Table 27: PoISE costs are estimated across whole PDSA intervention in all five trusts unless stated otherwise**

PDSA component	Staff	Hours	Cost of staff	Cost of materials	Cost of travel/expenses
<b>Costs associated with external implementation support activities</b>					
Developing and printing PDSA guidebook	RF	51	£2,835	£3.80 per trust	
	SRF	10			
Developing training event	RF	14	£611		
Running training event (per event)	RF	40	£1,744		£459
	Admin	3	£79		
Support for first meeting (per trust)	RF	12	£560		£157
	Admin	1.4			
Preparation of diagnostic report	RF	18	£785		
Analysis of ORC (per trust)	RF	1	£44		
<b>Costs associated with PDSA activities within the trusts (cost per trust assuming all activities took place according to the PDSA model)</b>					
Attending training event	Facilitators	7	£742	£567	
Recruitment of PDSA team	Facilitator	6	£636		
Distributing ORC	Facilitator	2	£212		
First meeting	Facilitator +PDSA team*	3	£1,575		£11
5 subsequent meetings**	Facilitator +PDSA team*	5 x 2	£5,250		£55
Communication and liaison between meetings	Facilitator	2 hours x 26 weeks	£5,512		
Implement change	Senior nurse	12	£372		
Study/audit change	Junior nurse	6	£144		
Records and reports	Facilitator	6	£636		
RF=Research Fellow SRF=Senior Research Fellow. *PDSA team consists of one nurse manager, two senior nurses, four junior nurses, one ward clerk, one consultant anaesthetist and one consultant surgeon. **Assumes all meetings held and fully attended. Source: PoISE SER					

**Table 28: PoISE costs (are estimated across opinion leader and web intervention in all five trusts unless stated otherwise)**

OL + web component	Staff	Hours	Cost of staff	Cost of materials	Cost of travel/expenses
<b>Costs associated with external Implementation support activities</b>					
Running the training event (two events)	SRF	28	£1,711		£419
	Admin	15	£397		
Developing materials for training event, web resources, publicity	SRF	42	£2,567		
	RF	10	£436		
	Admin	5	£132		
Producing and disseminating publicity materials (per trust)	Admin	2 (=13/6)	£57	£43	
Developing key questions	RF	70	£3,053		
	SRF	14	£856		
Liaising with key contact (per trust)	RF	2.3 ) (=14/6	£102		
Web tool development (in-house public sector team)	RF	100	£4,361		
<b>Costs associated with OL+web activities within the trusts (cost per trust using average activity data)</b>					
Attending training day	OL*	7.5	£560		£81
Identification of opinion leaders	Key contacts**	4	£124		
OL activities (excluding training)	OL*	26 (1 per week)	£1,944		
OL=opinion leader RF=Research Fellow SRF=Senior Research Fellow, * Opinion Leaders are mix of band-7 nurses and consultants **Key contacts: assumed band-7 nurse Source: PoISE SER					

**Table 29: PoISE costs associated with standard dissemination**

Standard dissemination	Total cost	Per copy	Per trust
<b>Costs associated with provision of standard dissemination materials</b>			
Short guideline (recommendations) 5,000 copies	Editing £300 Designing £575 Printing and delivery £2,868 Total: £3,743	£0.75	£3.74
Poster (editing and designing costs included within short guideline) 7,000 copies	Printing and delivery £844	£0.12	£0.60
Patient leaflet 850 copies	Designing: (RF x 28hrs) £1,221 Printing: £400	£1.91	£9.53
Implementation guide	Designing: (Admin x 4hrs, SRF x 8hrs, RF x 16hrs) £1,293	£1.52	£7.60
Materials and packaging		£2.24	£11.20
Posting		£1.15	£5.75
Source: PoISE SER			

## EPI-SNAP

The SER provides no quantified data about the time commitments of local participants, but a questionnaire sent to all steering group members offers some information about their commitments, which included the following:

- attending steering group meetings: 126 hours (excluding travel time)
- referral form development: 12 hours
- attending conferences: 13 hours
- attending external meetings as an EPI-SNAP representative: 80 hours
- preparing abstracts: four hours
- project promotion: 20 hours
- other work relating to the audit: 12 hours.

The SER also notes that time and effort could have been saved by having better understanding of planned changes to NHS information systems and greater involvement of relevant external organisations.

## SNAP-CAP

The SER provides some data about the time commitments of steering group (SG) members and of local participants.

Estimates obtained from the questionnaire sent to all SG members:

- bundle development (SG meetings plus additional time): 167 hours of clinicians'/ pharmacists' time
- attending steering group meetings: 190 hours (excluding travel time)
- external database: 105 hours implementation time
- Extranet set-up: set up in two weeks by audit coordinator
- project promotion: 50 hours from all SG members
- preparing routine data: four hours
- preparing abstracts: 20 hours
- attending external meetings a SNAP-CAP representative: 34 hours
- attending conference related to SNAP-CAP: 118 hours.

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Estimates were obtained from the questionnaire sent to all participating sites – at least one response was requested from each site:

- data collection: between one and 10 hours per month by foundation year 1 doctors (FY1s), specialist registrars (SpRs), clinical effectiveness staff, audit staff, respiratory consultant and pharmacists
- data entry: between 15 and 30 minutes per month by respiratory consultant, SpRs, pharmacists, nursing staff and audit staff
- feedback: 15–60 minutes per month feeding back data via email, and verbally at antimicrobial team meetings and monthly medical team meetings between respiratory consultants, SpRs, acute physicians and nursing staff
- teleconferences: one hour per month attended by respiratory consultants, infectious disease (ID) consultants, acute physicians, SpRs, clinical audit staff, charge nurses and pharmacists
- learning sessions: one day per year (2007, 2008) attended by acute physicians, A&E consultants, ID consultants, respiratory consultants, audit staff, clinical effectiveness staff, SpRs, foundation year doctors, nursing staff and pharmacists.

The SER also notes: ‘significant time and some direct costs could have been saved if we had initially taken the IHI approach of using an Extranet, as opposed to trying to develop a relational database’.

## IBD

This project is being completed as this report is written. At our last meeting (July 2009) the project team told us that a questionnaire had been sent to all IBD sites to explore who had been involved in the audit and how many hours had been spent; 25–35% of the sites had responded. This data is currently being finalised, but was not available to us at the time of writing. The SER (June 2009) does note, however, that ‘the most common method seemed to be that sites would initially complete the data entry forms by hand and then transfer the data onto the website’, indicating that even web-based data entry can be a time-consuming process. The project team also noted that the Royal College of Physicians estimates that

the central costs of a national audit are £120,000–£150,000 per year.

## PEARLS

This project has not yet been completed and no cost or timing data are available.

Below are some of the common themes about the effort required that emerged from these accounts.

**Central costs of the projects:** We know what funding each project received from the Health Foundation. We had some estimates of steering group time from the two SNAP projects. We also had some qualitative accounts of the efforts made by the central project teams and of the commitment of central clinical leads and other project champions (see, for example, the NCROP account of the central support required for local data collection).

**Central costs of audit:** All the EwQI projects, bar one (SNAP-CAP), involved audit, and five of the projects were aiming at national coverage. Between them the projects provided a large volume of qualitative data (much of it from interviews and meetings, some from questionnaires) about the efforts involved centrally in developing audits, recruiting and retaining participants, and maintaining the quality of data collected, and in central data cleaning, analysis and feedback. But this was not supported by quantitative data, although IBD gave us an estimate of the central costs involved.

**Local costs of data collection for audit:** The effort and time involved in local web-based data collection for audit were **not** always thought to be onerous (for example, Colorectal Cancer, POMH-UK), and indeed were often regarded as an already-funded part of a clinician’s job (as is the case for mandatory national audits). Paper-based data collection from case notes (as in IBD) was much more time-consuming.

**Local costs of improvement interventions:** One project (PoISE) provided quantitative data of the time and costs of local trust involvement in specific improvement interventions. A second (Self-harm), provided estimates of the time involved by local trust teams and by service users in each 18-month

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wave of the project, and a third (SNAP-CAP) provided similar estimates, based on a questionnaire sent to participants. The POMH-UK team told us what they charged trusts for the central functions supplied through the observatory but provided no quantitative data on additional trust involvement. We had extensive qualitative evidence about local efforts from other project teams (eg: NCROP and IBD), which suggests a considerable commitment, particularly by clinical leads, but there was no quantitative data to support this. This is a very mixed picture, and we consider below why it was so difficult to obtain better quantitative data.

### 3.6 Variation within the EwQI projects

The aim of the EwQI was to reduce variation in clinical practice in relation to an agreed national standard. In response to this challenge, some project teams sought to introduce a common intervention (such as the PEARLS training package) across all participating trusts, others (such as POMH-UK) provided a package of different improvement interventions and let participating trusts select those that seemed most appropriate to their needs. Yet others (such as NCROP) encouraged trusts to develop their own tailored improvements through action plans developed following peer review.

The extent to which these variations in approach related to a measurable reduction in variation in local clinical practice is, of course, a key question. We can see from table 7 to table 17 above that some EwQI projects reported real but relatively modest impacts, despite evidence of considerable commitment. We have also identified wider outcomes. However, it is also the case that within the projects there was much variation in outcomes, and we review some of this variation in this section. Again, we draw on the project teams' own reporting here, as well as on the understanding we gained through interviews and meetings with project team members.

#### Colorectal Cancer

A survey sent by the project team to participating consultants showed that, on the whole, trusts with

more staff allocated to data entry and with the resources to fund dedicated time for audit were more willing to participate in the project. However, the project team also commented: 'it should not be assumed that smaller units do not participate, as often in these instances it is one or two dedicated individuals who continue to drive submission, using their own time to enter data'.

The SER also comes to an important conclusion about the reasons for variation in the quality of care:

*The results of the survey suggest that the differences in surgical outcomes may be due to differences in quality of care, through structure and processes within the trusts. Volume of cases per hospital, the number of consultants and specialist nurses per surgical unit and larger ITU [intensive care unit] and HDU [high dependency unit] facilities appear to play a role in 30-day mortality, adequate resection margins and adequate sampling of lymph nodes at the time of operation. Hospital trusts that use a fast track discharge scheme were more likely to discharge patients in less than 15 days. Although this data is not from a large sample population with outcomes taken over time, it does provide an indication that the organisational infrastructure and processes of the trust are also important in determining patient outcomes in addition to the more frequently cited volume of cases per hospital trust.*

#### POMH-UK

Trusts took different approaches to the implementation of change and preferred different interventions – this was not seen as a bad thing by the central team and, in fact, highlighted the need for those promoting QI to provide a range of interventions to allow trusts to choose the best for their local circumstances. Some of the interventions were used in slightly different ways than anticipated: 'for example, a workbook designed to be used by individual clinicians, has tended to be used by clinical teams to inform group training.' The team also commented: 'Some trusts left and re-joined the programme, and in these areas we can expect there to be variation in practice and possibly outcomes.'

The team reported that change in practice across participating trusts had been varied:

*There are a number of issues that need to be taken*

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*into account when interpreting POMH-UK data. Variation in the performance of individual teams might be accounted for by the different contexts in which they work and the particular group of patients treated. Where small sample sizes are entered by teams, this will also contribute to the variation seen.*

## Self-harm

Some local teams engaged well, others less so. The project team commented: ‘We are aware that our positive feedback about the project came from those teams which engaged well. We believe that we had much less impact with some teams, but the difficulty is knowing how many fall into each category.’

One local team lacked management support, and there was a poor response rate from some local teams to the staff surveys sent out by the central project team. Hinting at the importance of local factors such as the commitment of individual project teams and local funding arrangements, the central project team commented: ‘Some of the teams we worked with are now more poorly resourced than before they started, so they may increasingly struggle to find the time and space for QI. However, those that see a significant value in QI may actually try harder to build this into their work.’

## NCROP

The median scores for all participating units showed no statistically significant change in any of the key service areas, but the project team commented that this overall picture concealed some small but statistically significant changes within individual units. The participant change diaries were particularly informative about variation in service change:

*The service changes described varied enormously: from major service reforms, such as standardisation of COPD care pathways across a district or health sector, to much more specific and small-scale changes, such as revision of an NIV protocol. A number of achievements involved the appointment to new posts that included medical and nursing specialists but also administrative and other support workers. Many respondents reported that service improvements were either agreed but not yet implemented, or that negotiations were ongoing and,*

*in the majority of cases, but not all, appeared to be heading for a successful conclusion. The impression given is that service improvements may take much more than a year to fully implement from the point of inception.*

## PoISE

Each participating site started from a different position as regards its approach to fasting and its state of readiness to engage in the project. There were different levels of participation in the interventions between different sites. As far as it could, given the resources available, the team attempted to explore this pre-existing variation and its impact on implementation and outcome.

*While the interventions were standardised across sites – for example, by providing training and intervention packages – in fact, each site implemented its interventions differently (for example, particularised to site circumstances). This raises a question about methodology: if interventions are being implemented differently within and across sites and intervention arms, what is actually being measured/evaluated? Gathering information from sites about how they implemented interventions provides us with a picture of the extent of ‘fidelity’; however, there are methodological questions about the use of trial designs, which are aimed at measuring like for like.*

## EPI-SNAP

The processes differed between regions. In Ayrshire and Arran – despite the clinical lead’s own involvement locally and extensive contacts with clinicians, e-Health and medical management – the process went very slowly and encountered active opposition among some secondary care physicians. In Grampian and Tayside, as well as the involvement of consultants responsible for running the first seizure clinics, there were general practitioners with an interest in epilepsy who helped to run these clinics and liaised with the primary care community. In Grampian, however, the introduction of the form was as slow as in Ayrshire and Arran, and here too eventual uptake was very poor.

## SNAP-CAP

At the time of writing this report the SNAP-CAP project team was still analysing the outcome data.

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However, responses from practitioners to date indicate that the project achieved a basic level of progress and that for three hospitals, firm progress has been achieved. The four hospitals where the project worked best all had consultants involved with the steering group, whose members had significant leadership roles in their organisations.

The top-down approach in SNAP-CAP encountered problems when the care bundle was taken to potential sites. Some lead clinicians commented that the consultation on the bundle should have been wider and were reluctant to take part as they had not been involved earlier in the development process.

## IBD

The first round of audit revealed the differences between sites in terms of the level of service provision at the beginning of the programme. The participating trusts also undertook data collection and data entry differently: in some areas consultants were heavily involved in data submission, in others the task was delegated to junior medical staff or to clinical audit staff. Trusts also participated in the audit in different ways – some showed high levels of commitment, others did not.

On the variation in outcomes the team commented that ‘Sites will inevitably have responded to their participation in the audit with varying levels of commitment and success. Perhaps the more accurate statement might be that we have helped those who wished to make a change but did not know where, or with which evidence, to start to improve their service.’

## PEARLS

This project is not yet complete, so it is not possible to comment on variation between participating sites.

In summary: some common themes emerge from the project teams’ comments on local variation which confirm our findings elsewhere in this report:

- the wide variation in the starting points of participating trusts – not only in clinical

practice (the rationale for the QI project in the first case) but also in the degree to which trusts had the resources and the prior understanding to engage with the project

- the importance of the organisational context, of existing management structures and processes, and of management support
- the importance of well-motivated clinicians
- the need to allow enough time to capture all the relevant change.

It also seems likely that the same QI approach, even if it were implemented with complete fidelity in each participating unit, would have different outcomes according to the particular capacities and starting points of each unit. The projects were not able to capture data with enough granularity to allow us to understand what enables some units to be more successful than others. Two propositions are worth considering. The first is that some units might already be performing very highly in applying agreed standards and are unlikely to be improved by the QI activity, while others are performing poorly and lack the capacity to improve. Like Goldilocks’ porridge, other units might be ‘just right’ with both the need to improve and the capacity to do so. Equally plausibly, variation in outcomes might be unrelated to current performance but determined by other contextual factors such as morale, leadership and management. Exploring these questions would require a more detailed local study, possibly more ethnographic in nature, than has been possible here.

## 3.7 Conclusions

The consequences of the considerable effort required to deliver these projects were, in places, significant. However, they never produced an across-the-board step change to a new level of improved quality or efficiency. This conclusion is entirely in line with the systematic reviews of effective practice and organisation of care produced during the past decade – for example, by the Cochrane group<sup>67</sup>. The EwQI projects involved complex interventions into organisations and processes, which have many determinants in addition to the causal effect of the QI activity. As complex interventions, they cannot be easily controlled and their impact is constrained by the other determinants of organisational life.

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Recognising that the EwQI has produced no magic bullets (and judging by the wider evidence base, it was never likely to) is a first step towards learning from the evaluation<sup>68</sup>. However, many of the project teams were able to tell, and provide evidence to support, a convincing story about ongoing changes in practice and, perhaps more importantly, in attitudes. And some (such as NCROP, who studied these changes in detail through a qualitative evaluation) thought that these were the more important outcomes.

Our second conclusion is that if the effects were modest, so too were they variable. The evidence presented here strengthens the argument from the wider evidence that ‘the organisational context for quality improvement initiatives is a crucial determinant of their effectiveness, and differences in context from one organisation to another mean that, even if a quality improvement activity could be standardised, its effects would still be likely to vary considerably’<sup>68</sup>.

Third, the double audit cycle model of QI, used by many of the projects, demonstrated that comparative performance data can be employed successfully in promoting improvement. There are continuing and common pitfalls in using such data<sup>69</sup>, but these can be overcome with careful attention to the quality of the data and diplomacy around how, or if, it should be made public. This study does not cast much light on the question whether the public release of performance data will improve healthcare quality, but it does support the belief that, for many clinicians, engaging in clinical audit can support their participation in peer review and other improvement activities. However, the evaluation also suggests that clinical audit without action plans is unlikely to produce measurable benefit.

Fourth, the experiences of the projects confirm that it is difficult to establish the opportunity cost of these interventions. Detailed cost data is hard to come by in the NHS, but as important as the difficulties of collecting data were the difficulties the project teams had in conceptualising and

analysing what activities, if any, were forgone (despite considerable efforts by the Evaluation Team to support this effort). Indeed, ‘despite the importance of understanding the financial impact of such programmes, there are no established standard methods for empirically assessing QI programme costs and their consequences for small outpatient healthcare organisations’<sup>70</sup>, and – we would add – not only for small outpatient healthcare organisations. Without clearer cost data, the costs and benefits of QI activities will be hard to judge and therefore justify.

Nevertheless, while it is hard to be exact about costs, the feedback from the project teams (well-illustrated in the estimates provided by Self-harm (see section 3.5.2)) clearly shows that each team felt it was pushing at the very limits of the efforts that clinicians could make to QI activities without reducing their input to other aspects of their workloads.

Relative to the total costs of the healthcare system, the EwQI costs were tiny. However, they were in addition to the efforts routinely required, and there seemed to be very little opportunity to substitute routine work for QI activities. ‘Quality improvement can be costly, especially in services with little experience or infrastructure to support improvement’<sup>71</sup>. We have a healthcare system that appears unable to value QI: it does not know how much QI costs and it diverts its efforts into other things, often leaving QI to operate at the margins of routine NHS activity. Where QI was successfully pulled into these routine activities (through professional development, working to guidelines and so forth) it appeared to have more traction. We will see that clinicians and patients and user groups can also help to bring about change by consolidating QI within the package of activities that make up a progressive healthcare system. We move onto this issue in the following chapter.

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## Chapter 4

# Engaging with the initiative

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## 4.1 Introduction

As we noted in chapter 2, the aim of the EwQI was to engage clinicians, through their professional organisations, in projects to improve the quality of clinical care in the UK. In this chapter we outline why seeking the engagement of distinct groups in the EwQI was considered important, and discuss the engagement of clinicians, patients and managers in turn. We have already noted that QI activities are complex, context-dependent and emergent. They also depend upon a degree of coordination or alignment between different groups and in different organisational settings. These groups and organisations are not aligned through a single bureaucracy, nor do they respond to the same set of incentives and motivations. This makes them ill-suited to hierarchical control. In such complex systems, simple monetary rewards may encourage perverse behaviours or have unanticipated and unwelcome consequences. Therefore, the mix of mechanisms for delivering QI often includes ‘softer’ characteristics, such as professional commitment, public service ethos and altruism. One way of understanding this is to explore how these relationships can be organised and consolidated through the effective engagement of groups such as patients and carers, clinicians, managers, and policy makers.

However, although professional commitment, public service ethos and altruism can provide flexibility and collaboration for QI, these attributes can be hard to sustain in the face of growing demands on limited resources. The ‘soft values’ necessary may be displaced by a lack of suitably skilled staff, ill-considered regulation, shifting and confusing policy objectives. People may become disillusioned by the experience of achieving only

limited gains and a sense that ‘nothing works’. Successful engagement in the kind of QI under consideration in this report involves building shared goals and constantly re-energising commitment to them, developing agreed performance standards or guidelines that reflect these goals, willingly sharing information and building trust. It requires frameworks within which disputes and differences along the way can be resolved or at least managed. For this reason, collaboration is a key part of the mix of activities needed to underpin sustainable QI<sup>72</sup>. The EwQI was a testing ground for different ways of engaging key groups in QI, and important lessons were learned.

## 4.2 Engaging clinicians

The wider literature on healthcare professionals’ views on clinician engagement in QI has been summarised as follows:

- Healthcare professionals express strong support for the principles of quality patient care, but this may not reflect a clear understanding as to how quality might be defined, recognised or improved.
- Healthcare professionals’ espoused beliefs about quality may not translate into changes in everyday practice. Instead, clinicians have shown a variety of responses to quality initiatives, ranging from apathy to downright resistance<sup>73</sup>.

Our own early experience of the project teams confirmed the first of these conclusions<sup>28</sup>. Below we explore the balance between the two, drawing on what the project teams reported in their SERs, including the findings from the teams’ own surveys

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of participating clinicians (see appendix E). We also report on our Delphi survey of clinicians participating in the EwQI, which was undertaken towards the end of the initiative (see appendix F).

## The views of the project teams

In their SERs, the project teams describe a variety of engagement activities that were, in their opinion, successful.

### Widespread debate and influential advocates

The Colorectal Cancer team held debates for ‘clinicians with reservations and those who strongly supported the project to discuss their ideas in a public forum’. In order to make these debates attractive and encourage attendance, the project team encouraged ‘well-known figures connected to policy bodies . . . [to] take part’. Other projects, such as POMH-UK and NCROP, encouraged regional debates on the findings of their respective audits. In general, all the project teams took it as self-evident that the support of well-known or influential figures in the field would encourage clinicians to take part. The IBD team, for example, noted that the project had benefited from the involvement of respected steering group members who could encourage their colleagues within IBD care across different professions. There was a general view that ‘personalities’ – that is, project champions who were often drawn from senior, respected members of the profession – gave QI activities credibility.

But the project champions were not just drawn from well-known senior figures. The dedication of enthusiastic individuals at many levels was also important in securing wider engagement, and this group included members of local teams as well as members of the central project teams. When this input ended, the gap became apparent. For example, the Colorectal Cancer team noted that when a key professional who had been a strong advocate of the audit retired, the quality of the data collected in his trust reduced significantly. In the PoISE project, initial contact with trusts was often through an enthusiastic individual, and even once that role had formally passed to someone else, the original contact frequently maintained an interest. And when a key contact was not enthusiastic, ‘this did have an impact, with loss of support and

commitment ... Enthusiasm of key contacts and many local investigators has been crucial to the success of the project locally’.

The Self-harm team reported that the success of feedback events was ‘very dependent on the energy of the people taking part (and those running it)’. The IBD project team had a very committed clinical lead, who carried out 12 of the 25 local action planning visits and was able to motivate trust staff to take part in the project because he was ‘prepared to engage with them [local teams] directly and not just make pronouncements from a distance’. And at local level, clinical audit staff were often highly committed, taking on the responsibility for the IBD audit on top of their existing commitments and, in some trusts, managing the whole process.

### Incentives

The premise of the EwQI was that professional peer pressure works as an incentive. All the projects employed this incentive through a variety of approaches which included comparative audit, regional meetings to discuss findings and peer review visits. Some (such as NCROP) used all these approaches. The Colorectal Cancer team commented that busy consultants need incentives to prioritise the audit. Similarly, the EPI-SNAP team reported: ‘an incentive was needed to encourage GPs to complete all fields of the annual review screen. ‘Quality’ was not a big enough incentive for GPs to complete annual review fields that fall outside the QOF clinical indicators for epilepsy’, suggesting that financial incentives also work, at least in primary care. Being clinician-led was also sometimes sufficient on its own; as the Colorectal Cancer team put it:

*The fact that the project was started by consultants helps it to appeal to other colleagues, in that the goals of the group are common to the profession as a whole – to improve patient outcomes – and that the markers of quality are based on the experience and knowledge of the profession, rather than meaningless standards set by a bureaucrat with no knowledge of the system.*

But this was not always the case. When clinicians from different specialties need to be involved, conflicting views of quality improvement may prevail and impede engagement<sup>73</sup>. In these circumstances, professional pressure from

clinicians outside a clinician's own specialty will not necessarily be effective – as demonstrated by the lack of engagement of surgeons in the PoISE project.

### Fit with professional aims and identities

The IBD and NCROP teams commented that their experiences accorded with the results of a previously conducted audit, which showed that change only occurs when it is aligned with the aims

of the organisation and has the buy-in of all parties. This was also the experience of the EPI-SNAP team, who reported that some clinicians did not see it as part of their role to provide advice to patients about driving licences and therefore were reluctant to comply with this aspect of the project.

Further details of professional engagement in QI that were reported in project SERs are given in the table below.

**Table 30: Increase in levels of professional engagement in QI as a result of the EwQI**

Colorectal Cancer	<ul style="list-style-type: none"> <li>– Trust participation rose to 81% throughout England and Wales, with 18,504 patient records for the reporting period 2006–07.</li> <li>– The team added to their existing publications on the National Bowel Cancer audit (NBOCAP) during the project, and commented that this had 'meant that there is increased awareness of the work that NBOCAP is doing and also the results are available for review at an international and national level by clinicians'.</li> </ul>
Self-harm	<ul style="list-style-type: none"> <li>– Feedback from Wave 1 participants (through an evaluation survey undertaken by the project team) indicated that almost all respondents felt the programme had helped to improve both their understanding of self-harm and of services for patients. But, as the team commented, this threw little light on whether levels of engagement in QI had increased, 'Perhaps some of these respondents already held positive views on QI anyway (we didn't ask)'.</li> <li>– However, the project team also noted that some local teams were more poorly resourced than others, and in some there was little capacity for QI. The project team speculated that those teams that see a significant value in QI might actually try harder to build this into their work.</li> </ul>
POMH-UK	<ul style="list-style-type: none"> <li>– The POMH-UK team did not know the exact number of participating clinicians from all the trusts involved, but it was large: 209 adult acute and intensive care wards submitted data for topic 1; 35 assertive outreach teams entered data for topic 2; 155 wards submitted data for topic 3. Each ward/team would have had at least one consultant psychiatrist and one junior doctor, as well as nursing and pharmacy staff.</li> <li>– The team referred to the good reputation the POMH-UK project has established with participating trusts, demonstrated by their willingness to continue subscribing to the observatory. Numbers of trusts subscribing grew from 37 in the first year to 48 in 2009.</li> </ul>
NCROP	<ul style="list-style-type: none"> <li>– 'Our experience is that colleagues participating in the NCROP have been very keen to be involved in the project and to improve the quality of care for COPD patients.'</li> <li>– There were good levels of participation in the project: 100 hospitals took part.</li> <li>– 93 out of 100 teams fully completed baseline and final change diaries.</li> <li>– The 2008 national COPD audit included more organisations than the original BTS audit in 2003 (trust participation rate 95%). Participation rates were:               <ul style="list-style-type: none"> <li>– acute trusts: 98% for the resources and organisation of care audit, and 96% for the clinical audit</li> <li>– primary care organisation survey: 73%</li> <li>– GP survey: approximately 43%</li> <li>– patient survey: approximately 45%</li> </ul> </li> </ul>

*continued*

**Table 30: Increase in levels of professional engagement in QI as a result of the EwQI – continued**

NCROP <i>continued</i>	<ul style="list-style-type: none"><li>– The NCROP team reported their involvement in BTS meetings, publicity events and conferences.</li><li>– Summarising its qualitative findings from the participant change diaries the team commented, 'What is clear is that the majority of participants in the peer review group and a sizeable minority in the control group found benefit within NCROP. The former for a wide range of reasons that include the provision of a quality framework, sharing of good practice and the bringing together of commissioners and providers to the team'.</li></ul>
PoISE	<ul style="list-style-type: none"><li>– The team commented that local engagement in the project was strong, particularly on the part of the local investigators, and 'some key contacts benefited from personal development, greater knowledge of trust organisation and an increase in contacts.'</li><li>– But although nearly 200 NHS staff were directly involved in the PoISE project (and there was anecdotal evidence of the indirect involvement of many more), the team also reported problems with the engagement of some groups of clinicians (surgeons), and with some key individuals, such as some senior anaesthetists in some trusts. The team reported that some clinicians were risk-averse when adopting new practices.</li><li>– Inter-professional relations, for example between doctors and nurses, also posed difficulties; different professionals had different approaches to change, different leadership structures and so on. All this made engagement across groups difficult.</li><li>– There were also problems in coordinating practice across small sub-units within each trust.</li></ul>
EPI-SNAP	<ul style="list-style-type: none"><li>– All first seizure clinics in Scotland participated in the audit, including consultants, GPs with specialist interest in epilepsy, and epilepsy specialist nurses.</li><li>– But engagement was different in different areas and among different groups of clinicians.</li></ul>
SNAP-CAP	<ul style="list-style-type: none"><li>– Fifteen teams out of a possible 25 acute hospitals in Scotland had participated, as of March 2009.</li><li>– Participants were asked by the central project team if participation in SNAP-CAP had contributed to the development of individual contributors: out of the seven teams who responded, two said there had been firm progress, four said that a basic level of development had been achieved, and one said that no progress had been made.</li></ul>
IBD	<ul style="list-style-type: none"><li>– The team noted that there was 'a notable increase in participation across both rounds [of audit], driven – we believe – by the engagement of clinicians in the process. Hospital representation and feedback from the initial second round regional meetings indicate that clinicians are very much engaged in the process, and that they are very keen to lead the development of their services towards meeting the new IBD Standards. A number of clinicians present at the meetings have also expressed their interest in participating in the suggested change implementation pilot project that seeks to maximise the impact of the project.'</li><li>– All of the key professional groups represented on the steering group gave their full support to the development of the successful bid for further funding for the audit as part of the National Clinical Audit and Patient Outcomes Programme.</li></ul>
PEARLS	<ul style="list-style-type: none"><li>– This project is not yet complete. The team noted: 'QI [is] being discussed professionally as important markers of patient reported outcomes – this will be more measurable later'.</li></ul>

Sources: As identified in table 5

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## The view of clinicians participating in the EwQI

In chapter 3 we considered what the SERs say about participating clinicians' opinions of their projects (see table 23). In order to explore the views of clinicians participating in the EwQI on professional involvement in QI more generally, we also undertook an initiative-wide Delphi survey. This covered a small sample of clinicians participating in six EwQI projects (n=97 in the first round and n=53 in the second round). (Further details are given in appendix F, which reports our findings in full). In summary, we found that:

- Overall, clinicians in all six projects perceived the role of clinician engagement in successful QI to be fairly important, tending towards very important.
- The top activities identified as improving quality through clinicians' involvement were providing training for clinicians and managers and keeping clinicians up to date through the development and promulgation of clinical practice guidelines. Taking part in regular formal discussions with colleagues was ranked as one of the three most important activities for engaging clinicians by participants in three out of the six projects, but was not one of the six top priorities of the overall population.
- With regard to providing support for clinical engagement in QI, the three most effective ways were seen to be: securing good inter-professional relationships, communicating candidly and often about QI, and involving patient organisations. But there was also wide divergence of opinion. On the question of how best to support clinical engagement, most participants identified at least one effective approach that was not among those ranked as six highest by the overall population.
- The top barrier to engaging clinicians in QI was identified as the limited number of staff available for QI. Other 'small' obstacles include the lack of widely shared knowledge and lack of leadership. Lack of financial rewards, lack of performance targets, use of financial sanctions and poor protocols were ranked as 'minimal' obstacles.
- Greater standardisation of professional practice, more equitable care, greater quality control and improved patient satisfaction were

perceived as the most important consequences of engaging clinicians in quality improvement.

- The Delphi also sought clinicians' views about their attitudes toward the value of engaging clinicians in QI. Clinicians were asked to list the three most important activities they viewed as quality improvement. In total, they listed 64 activities, which can be found in appendix F. The four activities that were perceived by clinicians as the most important were clinical audit (cited 58 times), engaging with patients/service users (cited 23 times), communication (cited 21 times), and continuing medical education (cited 18 times).
- Clinicians in all six projects perceived clinicians' engagement as at least 'fairly important', tending towards 'very important'.
- Clinicians also rated the success of their EwQI project in engaging the respondents in QI on a five-point scale. The average rating was between 'neither unsuccessfully nor successfully' and 'fairly successfully'. Respondents gave various reasons for this, including already being engaged in QI projects and an excellent service already being provided before the EwQI. However, one respondent said, 'the EwQI has been a steep learning curve and leading the project had probably been the hardest project that I have ever undertaken but also the most rewarding'.
- Attitudes about the value of engaging clinicians in QI did not change dramatically as a result of involvement in the EwQI. Respondents from SNAP-CAP reported the biggest change in attitude: the mean response from that team was that they had changed their attitude 'moderately', whereas the mean response from other project teams was that attitudes had changed 'a little'. When respondents were invited to elaborate on their answers, one respondent pointed out that they had always valued involving clinicians and that their positive attitude had only increased slightly.

The Delphi therefore reinforced the argument discussed in chapter 1, that is, context matters greatly. In each project very different views were expressed about what works best to facilitate engagement. The Delphi also confirmed the conclusion of Davies and colleagues that clinicians support the principle of QI<sup>73</sup>.

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## Lessons learned

First, we can conclude that professionally led QI in acute care can successfully mobilise large numbers of clinicians across a wide range of organisational settings. It was relatively easy to count the numbers. Although – as the Colorectal Cancer and Self-harm projects demonstrate – even doing that meant accounting for considerable fluctuation over time. But it proved much harder to establish more detail, for example, about who was involved in each trust, what their professional background and motivation was, what they actually contributed, and whether these particular individuals or teams remained involved throughout the project. The clinician surveys undertaken by the projects might have helped here, but in practice they largely focused on issues of special relevance to each project, such as what the clinicians thought of the NBOCAP audit (Colorectal Cancer) or staff attitudes towards training (Self-harm). They therefore provided little information about clinicians' attitudes towards, or understanding of, QI per se.

Ideally, we could have supplemented the projects' clinician surveys with a more general initiative-wide before-and-after survey of all participating clinicians covering issues such as:

- the leadership behaviours that each team engaged in (that is, setting achievable goals, making concrete plans and establishing measurable milestones) and the frequency of that engagement
- the extent to which each trust supported innovation (along the seven dimensions of risk, resources, information, targets, tools, rewards and relationships)<sup>74</sup>
- the clinical teams' previous experience of QI methods, and the extent to which these had led to changes in practice<sup>75</sup>.

But the scale of the initiative and the large national audits associated with many of the projects created obstacles. The project teams, of necessity, focused their attention in the early stages of the EwQI on trying to recruit large numbers of participants. To have sought detailed information from participants about their attitudes to QI at that time might have deterred them from participating and would have therefore been counterproductive, as indeed some teams told us. There was a certain conflict of objectives here – the project teams' main concern

was to get on with their projects and get clinicians engaged. For them, evaluation came second. Nor would such an endeavour have been aided by the general lack of understanding of QI that then prevailed among clinicians, which might well have produced a low response rate to a general survey.

An alternative approach would have been for the projects to undertake detailed local qualitative studies to explore these questions. But it was clear from discussion with the project teams that the resources for this were not, in most cases, available. The project teams did, however, do what they could. PoISE, for example, undertook a series of qualitative interviews with some of their participants, and NCROP did find funds for a qualitative study which, among other things, looked at participants' experiences, beliefs, views and expectations of the intervention<sup>76</sup>. And this work provided some information about what the participating clinicians saw as benefits, and therefore what sort of things immediately motivated them. These included:

- opportunities for an exchange of ideas, giving insight into the workings of other teams
- a structured framework for a systematic critical appraisal
- time to reflect on their own services, providing an opportunity that the teams did not normally have because of work pressures
- 'food for thought', provided because a team with a fresh eye was evaluating the site's services and processes
- a validating and reassuring experience that left teams feeling that they were 'not alone'
- a networking opportunity in which mentoring relationships could be formed
- a chance for team working and team building, and for building bridges between clinicians, managers and commissioners
- a status-enhancer and a promoter of individual and departmental services to managers and commissioners
- an additional lever in business case arguments.

Resources for QI matter too, but nowhere in this list is monetary reward for individual clinicians mentioned. Our second general conclusion is that in acute settings, clinician engagement has more to do with the professional identity of clinicians than with any pecuniary gain. The POMH team, for example, noted that:

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*The drivers for change are varied. For some clinicians, the desire to improve the quality of care is a sufficient driver, for others the participation in audit, which can be used as evidence for engagement in CPD and revalidation, is an additional incentive. An example of the former is the strong support from clinicians for a recent programme on the monitoring of the side effects of depot anti-psychotic injections. Traditionally this has had been a relatively neglected area. But 500 clinical teams took part in this programme, submitting data on nearly 6,000 patients.*

Third, it was clear from the project teams' accounts of their work that they regarded raising clinicians' awareness as an essential first step in their engagement in QI. The POMH team put this succinctly:

*POMH taps into a strong desire by MDTs to improve practice and supports their wish to meet the clinically credible and realistic standards against which we audit. For any change process, awareness of the issue and one's own practice in context is an essential first step, and this can be achieved with the benchmarked data reports.*

But given that, our fourth finding must follow post-haste on the heels of our third. Raising awareness is an essential first step, but on its own it achieves little. All the project teams recognised this, some coming to appreciate the force of this conclusion more fully during the course of the initiative, although others, such as NCROP, were clear from the start.

*The results from the RCP Stroke audit attempted to facilitate change by running multidisciplinary regional feedback meetings but found that the rate of change was disappointingly slow ... This highlighted the results from the Action on Clinical Audit partnership ... [which] showed that change only occurs if it accords with the aims of the organisation and has the buy-in of all parties<sup>77</sup>.*

This recognition of the need for 'action on clinical audit' also proved stronger and more widespread among participating clinicians than some project teams had perhaps initially anticipated. As mentioned in chapter 2, the IBD steering group redesigned its project to give all participants earlier access to their 'Model Action Plan', and the Colorectal Cancer team commented on the 'growing awareness of colorectal surgeons of the need not just for prompt feedback of high quality data on performance but also for trusts to

subsequently develop and implement action plans to address areas of underperformance'. The implications for further QI work and for national audits are clear.

Our fifth and final finding is that the enthusiasm and commitment of a small number of central and local staff can be vital in motivating others to take part. The down side is that, unless a project is well-supported by the system in which it operates, too heavy a reliance on single individuals can pose a threat to sustainability. The key question, therefore, is: whose responsibility is it to mobilise the energy and enthusiasm of clinicians (and of service users and managers)? We return to this in our final chapter.

### 4.3 Engaging patients and their representatives

One of the specific requirements of the EwQI was that the projects should not only engage clinicians but also 'work with patients' representatives and expert patients, and encourage participating clinicians to work with patients<sup>78</sup>. The case for engaging patients in all aspects of healthcare, including research and QI work, has been made in the UK in the statutory requirement that NHS organisations involve and consult patients and the public about health service planning<sup>79</sup>, and through initiatives such as the NHS Institute for Innovation and Improvement's work on user involvement in QI projects, the Department of Health's Expert Patients programme, and The Health Foundation's own work through its Quest for Quality and Improved Performance (QQUIP).

The concept of 'patient involvement' includes two rather different things. First, it can refer to shared decision making between a patient and a practitioner. Second, it can imply a process of collaboration in some aspect of healthcare more widely – in this case, in QI activities. None of the projects explicitly had a focus on the former, but all of them intended to include 'patient involvement' in the second sense. As discussed in chapter 2, the project teams did not, on the whole, start with clearly articulated theories of change. Nor did they start with clearly developed theories of patient involvement. It would have been hard for them to have done so. The need to involve

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patients in activities such as QI, research and service development is widely accepted, but the evidence base for doing so is still weak<sup>80,81</sup>.

Moreover, the barriers to effective involvement are considerable. Discussing the involvement of patients in service development, Coulter and Ellins cite a list of constraints which include 'lack of clarity about aims and objectives; resource limitations and organisational constraints; professional or managerial resistance; problematic relationships between stakeholders; and concerns about representativeness'<sup>79</sup>. And in their paper on the use of patient survey data in QI, Davies and Cleary cite a wide range of organisational, professional and data-related barriers<sup>82</sup>.

The original EwQI proposals made it clear that patients and/or their representatives were present on the steering groups of all the projects and involved in project design and the development of outcome measures. But there were few further details. Given the interest of the EwQI evaluation in engagement (and the requirement to engage service users), members of the Evaluation Team therefore held semi-structured interviews with eight people involved in the EwQI project teams as service users or user representatives during the second year of the initiative. To explore experiences of user involvement, we also interviewed four of the EwQI project managers specifically about this issue. The aim was to identify what, in the EwQI context, had helped and/or hindered effective involvement, and what such involvement had, and in future **should**, entail. This section therefore covers not only what we found, but also some of the key questions that these findings raise.

## Who should be involved?

People from a wide variety of backgrounds were involved as service users in the EwQI projects. They included patients, carers, chief executives, and employees of charities. As a term, 'service user' is broad and encompasses many roles. It can be difficult to generalise about who should be involved in a particular project. For example, projects addressing the needs of service users with chronic conditions may need to involve a very different set of service users than, say, projects about elective surgery. The characteristics needed by service users also differ according to the nature of the improvement mechanisms

selected, requiring different kinds of background and experience.

At the start of their review of patient-focused interventions, Coulter and Ellins note, 'There is a growing belief among policy makers that patients/citizens can contribute to quality improvement at both an individual and a collective level'<sup>79</sup>. And, taking this further, Williamson compares the complexities of patients' and clinicians' views of various aspects of healthcare provision and its quality, and distinguishes the 'structure' of the patient side into patients, patient groups and patient representatives<sup>83</sup>.

In all the EwQI projects, service users were involved centrally as members of the project teams and on steering groups: sometimes as a lone voice, but in most cases with some support from at least one other service user. In five of the projects, considerable efforts were also made to encourage participants to involve service users locally, building on and/or developing local service-user networks.

## Selection of service users

All the interviewees had experience of involvement as service users or patient representatives before their involvement in the EwQI. Most were selected through personal contacts; others through advertisement. Many interviewees (five out of eight) had known some member(s) of the EwQI project team before the project (in some cases for a number of years). They stressed the importance of the mutual respect gained through such established relationships, although, as one interviewee pointed out, this respect was not a consequence simply of longevity but because 'there were good people involved'.

The fact that the selection of service users in the EwQI projects was clearly not random raises questions. Should involvement be accidental or occur through personal contacts? Is there an undue risk of bias in such circumstances? Is there a case for a formal recruitment process? Would there be any negative outcomes if there were formal recruitment, for example, limiting the pool of those involved? How were other members of the project team recruited? How much does experience matter, and what experience and skills are

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required? The EwQI projects recruited individuals to provide a service-user perspective on the basis of relevant experiential or professional expertise, and also on the understanding that their motivations were in some sense aligned with the aims of the project. But whose experience matters? A recent study on consumer involvement in research found that only three out of eight principal investigators had previously worked with service users/carers<sup>84</sup>. There may be a lack of relevant experience among **all** members of a project team. Specifically, we need to understand more about how to recruit, and subsequently motivate, individuals to bring a service-user perspective to a project team's decision making.

## Motivation (and payment)

Asked about their motivation, interviewees mentioned the same combination of 'reasons related to their personal situation, their experiences of health and/or social care services (often negative) as well as ... a more general commitment to getting involved and bringing about change'<sup>85</sup> that is found in studies of why people get involved in research. But, as one interviewee noted, time and resource constraints create a risk of bias: there is a tendency for those involved to be relatively financially secure (such as some retirees) or to be on benefits, or to be salaried patient representatives from medical charities. This raises the issue of payment. Interviewees' experiences differed, and so did their views. We were told that payment could be a 'double-edged sword': without it service users lack parity with others attending the same meetings and being reimbursed for their time, but paying people might attract them for the wrong reasons. Many interviewees mentioned the significant amounts of time they had given to the project. We found that where a fee had been paid – for example, for attendance at meetings – there had also sometimes been attempts to ensure parity with other professionals as a 'matter of principle'. Sometimes only expenses were paid. Some interviewees got nothing. Some sought nothing.

The interviews encouraged us to consider questions such as: how can an appropriate cross-section of people be attracted? Does payment help? If so, how should it be organised? Does payment reflect the true cost of patient involvement? Is it right that only patient representatives and not

patients are paid for their time? INVOLVE (a national advisory group funded by the National Institute for Health Research that aims to support and promote active public involvement in NHS public health and social care research) issued a detailed policy on payment of people involved in research in August 2006<sup>86</sup>. The policy covers all the issues raised above and has been used to guide subsequent the Health Foundation-funded QI projects.

## How and when should service users be introduced to the project and to the team?

All interviewees stressed how important it was that service users had an adequate and appropriate understanding of a project's aims and objectives. In part, this depends on timing. If service users are not involved early, they will be 'left in the dark about decisions already taken and about the rationale behind them'<sup>87</sup>. Interviewees involved in the design of their projects and in the application to the Health Foundation also told us what an important bonding experience this had been. If they are to contribute fully and effectively, service users working with the central project team need to be involved as early as possible in the design and planning of the project.

The issue, therefore, is not **when** users should be involved but, given early involvement, **how much** additional prior understanding is also required. Is a detailed understanding of QI methodology and/or research techniques required? Interviewees thought not. Is a detailed understanding of the relevant disease and current approaches to care, as well as current gaps in that care, also needed? Interviewees thought that this was something the service user or patient representative should be able to offer. But more important are trusting and open relationships within the project team that allow all its members, including service users, to ask questions when they don't understand something. And these relationships, in turn, depend on how service users are introduced to the project team and/or steering group. Interviewees emphasised how important it was for service users to be 'introduced early and as an equal member of the project team' if tokenism and tendencies to see users as 'fashion accessories' are to be avoided. One interviewee thought that this was so crucial that it

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might be necessary to offer training in presentational skills to potential service users to help them handle this initial step as well as possible. Service users need to be introduced as an equal member of the team.

But what of service users working with local participants who out of necessity are recruited after the early planning has been done? They too need to understand the project and work out what is needed. Explaining the project's aims and objectives and the potential contribution from service users in terms that they can understand is therefore a key aspect of the central project team's communication strategy. And there should also be a clear expectation that, as in the central team, local service users are seen, and see themselves, as equal members of participating teams. People's time is important, equal membership of a team (at any level) means members having equal opportunities to walk away from a project if involvement seems to them to have become purposeless.

## Service users' role in the projects

Interviewees described their roles in the projects by outlining what they had done. Activities included attending meetings, helping to design the project and its communication strategy, setting outcome measures, helping to design questionnaires, interviewing, interpreting data, discussing how findings should be reported, writing reports and giving presentations. Some had also played a large role in supporting other service users at a local level.

Most EwQI service users felt that their role in the project had been clear from the start and that all involved had understood it and supported them well. But this happy situation was not shared by all. In at least some cases there was confusion around key questions:

- How was the service user's role in the project defined, and by whom?
- Was the service user involved in this process?
- Was that role clear and explicit from the start?
- Was the service user able, if necessary, to adapt that role over time?
- Were the roles of other members of the project team clearly defined?

Avoiding potential confusion on these questions

was seen to be important in securing effective engagement. One study on patient involvement in research projects documents how service users were asked to describe their role using four categories: researcher, service user, carer and other<sup>84</sup>. Out of 61 respondents, 10 described themselves both as service users and as researchers. But, as the report of the study pointed out, this view of their role was not necessarily shared by others in the project, or even by the respondents themselves at the start of the project. In other words, roles can be unclear and therefore disputed, and can also change over time.

## Support for service users

The support provided to service users varied significantly between the projects, but all the project teams found it more time-consuming and resource-intensive than anticipated. Practical support included: provision of access to IT equipment and training; training in presentation skills; willingness to explain and discuss the more technical aspects of the project; help with transport to meetings and care in timing meetings to meet the needs of sick people; timely and understandable information about the project; and so on. Several interviewees also mentioned the crucial need for moral support for people who were often unwell themselves and were working in an unfamiliar setting with recognised experts in the field.

## Principles of service-user involvement in QI

As we have seen, all the interviewees commented on the need for service users to be treated as equals by other members of the project team and/or the steering group. They also mentioned the need for respect and trust among those members. In the absence of these characteristics, the effectiveness of the service user's interactions with the team was undermined. How this parity was achieved varied from project to project, and different approaches included:

- service users who already had good relations with members of the project team established before (in some cases, well before) the the Health Foundation-funded project and were able to build on these relations
- steering groups who recruited multiple service

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users/patient representatives in an attempt to ensure an appropriate balance on the group of professionals and users

- positive attempts by project team/steering group members to identify and utilise all the relevant skills and expertise of all their members, including service users
- chairing meetings in ways that recognised nuances of understanding among members, and people's possible contributions
- developing relations of trust and understanding among team members, so that people were not afraid to ask questions to clarify something
- providing external support to service users (including support from external mentors, such as a leadership development consultant or another external 'expert' service user, buddy systems and telephone help lines)
- providing training, both informally (through involvement in the project) or formally. (Several interviewees stressed the need to train service users alongside the professionals also engaged in QI<sup>88,89</sup>.)

It is possible, on the basis of this list and other work<sup>90,91,92</sup>, to develop a set of principles to cover this relation between project teams and service users at both central and local levels. One such list includes:

- varied and effective methods of communication (such as regular telephone contact and easily understandable language)
- respect for the knowledge and insights of service users
- strong personal commitment from everybody to ensure service user involvement improves the project and its outcomes
- willingness to accept additional time/resources required<sup>84</sup>.

## **Outcomes – the experience of the EwQI service users and the project teams**

The majority of interviewees were happy with their role in the projects and felt that they had had a positive impact. Their achievement met and, in one case at least, exceeded their expectations. We were not able to explore the views of other members of the team in all cases, but where we did, it was clear that they shared this view. The Self-harm team, for example, talked in its SER about:

*... striking gold by finding some excellent service user representatives who really took the project by storm. The service users worked with us to help us understand how best to involve them (and users nationally), and we worked hard to respond to this. The willingness to adapt to new ways of working and a commitment to joint working (on both parts) was key ... not only did this enhance our project and the work completed by local teams, it has also influenced the way in which we work at the CCQI [the Royal College of Psychiatrists' Centre for Quality Improvement].*

And the PoiSE team mentioned, 'It was a good experience to work closely with patients as partners in the research. Having their perspectives in all stages of the project has helped to prevent the balance shifting to what clinicians want/need or their views to dominate.'

The POMH team continues to build on its experience:

*POMH has endeavoured to support service user involvement at all levels (project team, steering group, topic groups, LPTs [local project teams]) from the very start ... some local project teams have been very successful in involving service users in their POMH work, others have found this challenging. The structure of LPTs varies widely depending on practical issues such as trust geography eg: some teams are virtual, communicating by email alone, where services are spread out and meeting in person is difficult to arrange. At the beginning it was expected that each LPT would involve core membership of a senior pharmacist, psychiatrist, clinical audit person, a service user representative and nursing. However, subsequently some trusts have found it more useful to co-opt service users and nurses onto the LPT for each particular programme so that relevant, specific expertise can be gained. For each programme, we aim to develop a change intervention for service users. For example, a patient-held card was developed for programme 2 which proved popular, and a service user information pack is being developed for programme 7 in collaboration with the NPSA [National Patient Safety Agency]. Service users are also invited to the regional meetings, where they can influence future development of programmes. The POMH service user strategy is currently being reviewed to reflect the evolving role of service user representatives at all levels within POMH.*

## **Evaluating service user involvement**

Barnard and colleagues suggest that the experience of service users covers the following parameters

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(which can be either positive or negative):

- empowerment – mutual respect, valuing different knowledge and experience, development, learning, growth, expressing a potential, and having a recognisable impact
- support – empathy, sensitivity and individual contact
- communication – need for clarity of roles and responsibilities, expectations and the use of appropriate language
- resources – time, skills and money
- motivation – enthusiasm, commitment and inspiration<sup>84</sup>.

This raises questions about how the impact of service users on future projects should be measured and evaluated. The following list of possible outputs against which service user involvement might be evaluated is adapted from Barnard and colleagues:

- changes to the design of the project
- new/revised questionnaires, interview designs, etc, created by service users/carers
- finding new ways of collecting data
- suggesting patient-relevant outcomes and ways of measuring them
- access to other service users to provide relevant data
- explanations of the data relating directly to how people experience the services
- access to service-user networks to tell people about the findings of the project
- use of findings – for example, suggesting ways to change services, based on the findings of the project.

And, in the context of the EwQI and our own findings from this set of interviews, we would concur with these and also add:

- developing a communication strategy for the project
- advising on the form in which findings should be released and, in particular, whether they should be anonymised
- exploring and developing links with policy makers.

In summary, and given this range of potential contributions, we conclude that project teams (and steering groups) need to be clear from the start about the actual contributions they are seeking – not just from service users but from all the members of the team, including clinicians, project

managers, statisticians, and so on<sup>93</sup>. And project teams also need a good understanding of the potential contribution that service users **could** make to a QI project, given favourable circumstances, and of any specific limitations to that input. The evidence from the EwQI is that the project teams rose to the challenge posed by the obligation to include service users in a variety of ways. In almost all cases there was attention to the ‘softer’ aspects of ensuring that service users felt included and, for their part, service users felt able to participate in ways that at least facilitated the project and at best, made a distinct and significant contribution to its success.

## 4.4 The involvement of NHS managers

The project teams also report in their SERs on the involvement of NHS managers in the EwQI. This involvement was not a main focus of the initiative, although the project teams recognised its importance and some, such as IBD and EPI-SNAP, involved NHS managers in their steering groups. Others, such as POMH, deliberately and in this case successfully, tried to market their project to trust chief executives. The need ‘to engage the hospital management in the audit and to make them aware of the importance of the data collection as a quality improvement method’ was also increasingly recognised by the Colorectal Cancer team as that project progressed – it sought to involve managers in the field by sending annual audit reports to trust chief executives. And the NCROP team listed managers as intended users of audit findings, while the EPI-SNAP team included managers in their communication strategy.

The IBD team was clear from the start ‘of the need to ensure buy-in from all key stakeholders, including managers of health bodies at various levels’, and the project team encouraged local trusts to involve managers in its local action planning visits, although this did not always happen:

*It would have been beneficial to make more concerted efforts to support the local teams in inviting management to attend the meetings. The presence of trust staff at a management level at the meetings was the exception rather than the rule and where they were present there were signs that there was a greater recognition of the issues faced by local*

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*clinical teams and what would be required to address any issues highlighted through the audit.*

But this initiative was deliberately clinician-driven. A management voice on a steering group (when available) could have provided advice on influencing senior management in NHS trusts, but, in practice, this does not appear to have reliably affected the commitment and involvement of senior NHS management in the field. There were reports that clinicians failed to get access to management at the local level. The evidence we have from the SERs is patchy, but it does suggest that poor commitment and support from NHS managers hinders QI activities. For example, the Self-harm team reported that, although feedback from local teams about the project was generally positive, the one team that had not found the project helpful in improving patient care attributed lack of progress ‘largely to the lack of support from senior management within their trust’. Similarly, the SNAP-CAP team reflected, ‘In retrospect we should have ensured commitment from chief executives or medical directors to supporting SNAP-CAP and to ensuring that their hospital participated in measures for improvement.’ This team also said that clinical governance support and direction was needed to support the project.

Government policies and priorities are an important influence on QI strategies<sup>94</sup>. Interest from trust chief executives was more likely when a project accorded with a national or local priority; for example, the NCROP team found that congestive obstructive pulmonary disease was a local priority in many PCTs. But even this status does not guarantee systematic and sustained improvement.

## 4.5 Conclusions

We began this chapter by noting that the engagement of clinicians, service users and managers is often thought to be a key to successful QI. The evidence from the EwQI strengthens this view. We found that many clinicians were willing to become involved in QI but faced substantial barriers, including lack of time and, often, a failure among all concerned to understand QI and the effort needed to effect sustainable change. We also found that service users were, generally, well-

integrated into the project teams and felt that they had been able to make a positive contribution. But barriers exist here too, and we learned much about these and about the substantial commitment required to overcome them. While it was not the specific focus of the EwQI, we also learned something about the importance of the involvement of managers. Their potential contribution to QI requires further investigation. More generally, our study has confirmed that engagement activities need to be tailored to the circumstances of the QI activity. No one size fits all, but good information contributes positively (and this includes clinical audit and feedback), as does clear communication among all of those involved, whether they are clinicians, patients or managers. It is also clear that successful QI must attend to the softer aspects of aligning and motivating different groups, as well as to the technical aspects of achieving project aims. We go on to consider all this in the following chapter.

We conclude this chapter with a quote from POMH-UK team, which did, literally, succeed in selling its project to trust chief executives:

*We are aware of the need to appeal to people at different levels within trusts, both in marketing the project and in the service that we provide, ie: quality improvement programmes. Our experience in relation to this has included:*

- *Senior managers, such as trust chief executives or clinical audit managers who were impressed by the POMH-UK report sent to them directly, and encouraged others in the trust to participate and gave positive feedback to teams on their performance.*
- *Pharmacists have viewed POMH-UK work as raising awareness and the profile of medicines management, and a legitimate element of their professional role, as well as being an objective measure of their own effectiveness.*
- *The presence of a POMH-UK champion within a trust has been important for stimulating participation, both generally and for individual programmes. In the latter case, different staff members have emerged as champions, encouraging data collection and reflection on the results, and further implementation and changes in practice.*

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## Chapter 5

# Leadership and building the capacity to deliver lasting improvement

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In the previous chapter we discussed the issue of engagement. Here the focus is on leadership and building the capacity to deliver QI, including the management of the projects and the initiative, the role of information and communication, the contribution of the royal colleges and professional bodies, and the relevance of contingency and path dependency.

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## 5.1 Introduction

In this chapter we explore two closely related questions: what kind of leadership was needed to deliver the EwQI, and what capacity within the central teams and within participating units did the projects require?

For the Health Foundation, leadership has a key role to play in delivering QI. Since 2003, the Health Foundation has identified supporting leadership as a key strategic aim and has supported some eight separate leadership schemes at different times. In an evaluation of these leadership schemes for the Health Foundation, Walmsley and Miller comment that:

*The loose articulation of the links between leadership development and quality improvement is reflected in the Foundation's strategic plan 2004–09, approved by the board in 2004, which identified five strategic aims, of which one was 'developing leaders' ... The strategic aims acknowledge an interconnection between leadership and improving quality, but this remained very much an exploratory relationship, rather than a clearly articulated theory of change<sup>95</sup>.*

This 'exploratory relationship' characterised the role anticipated for leadership in the EwQI. The expectation that leadership would be important was associated with a willingness to work with the project teams to develop a tailored approach. Therefore, during the first year of the initiative, the project teams were offered a package of resources tailored to the particular needs of each project and delivered by a leadership development consultant. The thinking behind this approach is explained in Walmsley and Miller's evaluation:

*The Foundation's initial commitment to developing leaders acknowledged a potential interconnection between leadership and improving healthcare quality... Although, ... where the relevant literature is reviewed, the empirical evidence base is relatively weak, our evaluation indicated that unless leadership and a focus on improving quality were clearly articulated in schemes, participants tended to focus on personal development without a parallel drive to impact on patient care. Consideration of how to embed improvement in scheme aims was given additional impetus as the Foundation developed its theory of change during 2006–07. The contribution 'developing leaders' could make, in particular in 'building will, skills and capacity', sharpened our thinking about focus. This led the Foundation to seek to embed technical expertise in*

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*improving quality alongside development of leadership skills, with varying degrees of emphasis, and to articulate the idea of a 'leader in quality improvement', someone with the capability not only to personally address problems with quality, but to inspire and enable others to do likewise<sup>95</sup>.*

It was not part of our brief from the Health Foundation to formally evaluate the role that leadership development consultants played in the EwQI. But we were interested in the role played by leadership and how this articulated with the capacity of projects to deliver quality improvement.

## 5.2 The leadership in question

The wider literature identifies a range of ways in which leadership can be conceptualised. Lucas has summarised these as:

1. Great 'man' 'Leaders are born and not made'
2. Traits 'It is clear that there is a list of personal and professional skills/qualities which leaders have [or need to acquire]'
3. Behavioural 'There is an assumed and shared view of human behaviour (ie: people are inherently lazy or everyone has potential), and this influences the way leaders act'
4. Transformational 'Leaders are essentially there to inspire people to change and may well have an explicit theory of change'
5. Situational 'Different situations call for different skill sets/attributes'
6. Principle-centred 'Leadership assumes certain moral principles – for example, a need to serve others. Consequently, how it is exercised is as important as its outcomes'
7. Distributed 'Leadership is a shared activity and no longer the preserve of one person'

The approach taken by the Health Foundation, according to Lucas, is principally transformational

and distributed<sup>96</sup>. That is to say, leaders play an active role, often involving a theory of change, in changing the way others behave, and this function may be distributed rather than found in a small number of leaders at the top of a hierarchy.

But, following Ferlie and Shortell, it is also important to appreciate that:

*These initiatives are unlikely to achieve their objectives without explicit consideration of the multilevel approach to change that includes the individual, group/team, organisation, and larger environment/system level. Attention must be given to issues of leadership, culture, team development, and information technology at all levels<sup>97</sup>.*

Leadership in delivering QI activities in the health services can take place at all levels from the point of care to political leadership. Leadership for QI is concerned with influencing others to change their behaviour. The evidence of what leaders can do with respect to changing the behaviour of others in delivering QI is limited. Ovretveit poses the question 'Can leaders influence improvement?' and comments:

*They can certainly stop improvement, and there is evidence that their actions or failure to act is associated with harm to patients and poor quality care. There is some evidence that leaders can establish structures, systems and processes in their organisation for generating improvement, which, in turn, are thought to improve patient care and reduce waste<sup>98</sup>.*

However, neither on the impact of leadership, nor on the most effective style of leadership can Ovretveit identify a great deal of certainty in the research base.

## 5.3 The capacity in question: building a platform for change, motivating action, and sustaining improvements

The first task of the EwQI project teams was to build a capacity to manage the complex activities for which they had taken responsibility. These involved intervening in multidisciplinary contexts, with support from service users, and coordinating a national project with a range of local activities.

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These activities also involved sharing evidence, collaborative learning, and developing trust among all the participants in the project, centrally and locally. The skills required to deliver such projects went beyond the normally accepted skills of project management. A further task was to ensure that participant organisations and the teams that they recruited were supported to carry out their responsibilities, and within this, that individuals were suitably informed, equipped and motivated. Third, as part of the initiative, the project teams had an additional set of tasks relating to their responsibilities to operate within the terms of their contract with the Health Foundation, and this included meeting with, interacting with, and providing data for, the Evaluation Team.

Leading all these activities required a combination of organisation, diplomacy and energy. In Ferlie and Shortell's typology<sup>97</sup>, this was leadership at both team and organisation level. However, it also involved influencing the larger system/environment. Building a 'platform for change' is easier when powerful facilitators are available. In the EwQI this involved mobilising the weight of professional opinion and the authority of the royal college/professional body behind each project. Leading these activities was also about more than building a platform for action; in each project, leaders were required to not only inspire initial enthusiasm but also to maintain commitment and, ultimately, to spread the lessons beyond the project – into the future and into other areas of healthcare. At team and organisation level, this called for a different form of leadership – the ability to motivate others in many spheres and to sustain their motivation. We shall see from the evidence provided in their SERs that the project teams implicitly recognised the need for both these forms of leadership.

## Securing ethics approval

One early, and relatively prosaic, task facing the project teams was to secure ethics approval for their proposed activities. Meetings with the project teams revealed wide differences in their approach to formal ethics approval. Some teams were clear that they were undertaking research and therefore required ethics approval for their study in the usual way; others were equally clear that what they were doing was a service evaluation, which they believed did not need formal approval. A third group felt

that some aspects (research) of their project did need approval, other aspects (audit) did not. In the event, obtaining formal ethics approval proved to be a significant barrier to the smooth setup of some EwQI projects. For example, the PEARLS team experienced considerable delays and in hindsight said that it should have allocated more time: 'A major issue hindering the project has been getting MREC [Multi-centre Research Ethics Committee] approval (which took six months plus).'

The same team also commented on the length of time it took to go through local NHS R&D governance processes:

*The local R&D processes [have] ... taken one year three months ... R&D departments have proved more difficult and lengthy as all have required the completion of several forms; many have required additional copies of paperwork and information and waiting for committee meeting dates. However, the design of the study means that approval had to be achieved in all units before the formal cascade began.*

The PoISE team also commented on the delays caused by research governance procedures, which in turn caused delays in gaining access to the trusts.

These difficulties, and associated concerns that significant delay in securing ethics approval might delay data collection and so compromise the final evaluation, encouraged the Evaluation Team to look at this issue in more detail. At that time there was an ongoing re-organisation of the role of Local Research Ethics Committees (LRECs) and an associated debate about the scope of their activities. The Central Office for Research Ethics Committees (COREC, now the National Research Ethics Service) had made a helpful distinction between audit, service evaluation and research; and it was clear that LREC activity only applied to the latter<sup>99</sup>. But the position of QI projects in which there is a mix of activities was less clear. We therefore worked with COREC and with some of the project teams to facilitate a smoother application process for the EwQI applications. In the process we have also been able to contribute to the national debate on how best to ensure the ethical integrity of QI projects in the UK, and to the understanding of the ethical requirements of future the Health Foundation-funded QI projects.

## The wider skill set needed in the central project team

The project teams were specifically asked to comment in their SERs on the skills needed to design, implement and evaluate their projects. Their comments, summarised in table 31, show that the project teams thought that they generally had the necessary skills (although, arguably, they would tend to say this): PoISE commented that the central project team members had complementary skills; PEARLS thought the team had the necessary skills and experience to design, implement and evaluate the project; EPI-SNAP thought that the necessary key skills were to be found within its team; IBD stated, ‘the Implementation and Steering Group members provide a huge amount of expertise that has been harnessed for all aspects of the project’s work’.

The PoISE team recommended bringing in appropriate outside expertise, as needed, during the course of the project, and many of the project teams did this, particularly with regard to health economists or statisticians. In these specific areas of expertise, the PEARLS team also reported that it had benefited from the ‘technical seminars’ led by the Evaluation Team on cost benefit analysis.

The project teams may or may not have felt that it was in their interests to state that they had the necessary skills to deliver their projects, but they had no reason to be other than frank about the list of skills required to deliver QI and, as can be seen from table 31, these are considerable.

**Table 31: Skills needed in the central project team**

<p><b>Clinical/QI skills</b></p> <ul style="list-style-type: none"> <li>– Clinical expertise in the project’s specialist field</li> <li>– Skills in developing and quality assuring the tools, training materials, guidelines, and so on, which made up the QI activities (this also required clinical expertise)</li> <li>– Ability to train others in all the above</li> </ul>
<p><b>Day-to-day project management</b></p> <ul style="list-style-type: none"> <li>– Administration skills</li> <li>– Budgeting proficiency</li> </ul>
<p><b>Specific expertise</b></p> <ul style="list-style-type: none"> <li>– Expertise in seeking ethics approval and making ethics applications</li> <li>– Skills in health economics – some teams brought in outside experts</li> <li>– Skills in designing and developing web-based tools</li> <li>– Statistical analysis – teams brought in experts with these skills</li> <li>– Database design competence</li> <li>– Ability to understand the service users’ perspective and communicate it to others</li> </ul>
<p><b>Relationship building</b></p> <ul style="list-style-type: none"> <li>– Ability to build productive working relationships between members of the central project team – for example, between clinical and service user members</li> <li>– Ability to build relationships with collaborators, such as professional bodies and patient groups, and to maintain contact with them</li> <li>– Aptitude for successful recruitment of, and ongoing contact with, trusts (eg: trouble shooting, information seeking)</li> </ul>
<p><b>Audit, research and evaluation skills</b></p> <ul style="list-style-type: none"> <li>– Proficiency in designing and implementing large-scale audits</li> <li>– Ability to design, use and analyse research/QI instruments such as questionnaires and surveys</li> </ul>
<i>continued</i>

**Table 31: Skills needed in the central project team – continued**

**Data analysis and IT skills**

- Ability to identify and develop IT tools
- Expertise in collating/cleaning/sending out data
- Expertise in data validation and analysis

**Promotion and communication**

- Competence in developing and implementing a communications strategy
- Flair for writing up papers for publication
- Ability to present at conferences and meetings.

However, the term ‘skills’ can focus attention on a rather static ‘stockpile’ of competencies rather than the ‘flow’ of skilled actions that characterises successful QI. In each project, momentum was maintained not only by drawing upon a static reservoir of competencies, but also by the injection of enthusiasm and commitment, and through ongoing interactions between the central project team and local participants. This required leadership in a variety of the senses outlined above, including diplomatic but persistent input from project managers, intellectual leadership at conferences and workshops, and maintaining and building trusted relationships with the professions, with service users, and with key organisations (such as the royal colleges). Leading peer review visits also required a combination of authoritative input and a supportive approach. The royal colleges are especially well-placed to support these sorts of activities, especially those that involve building relationships within and across professions.

## **Other resources needed to lead and implement the projects**

### **The time needed to implement change**

As the PoISE team noted, ‘Our experience raises both practical and methodological implications; it may be unrealistic to implement a project like this with anything less than a five-year time frame.’

The evidence from the projects is that QI moves slowly and that effective leadership needs to be sustained over long periods (arguably longer than those allowed for in the initiative). Sustained leadership also needs to remain focused on delivering the project when personal interests, political priorities, and improvement fashion may

have moved on. For example, due to initial delays in the PEARLS project there was quite a long period between the training of local research facilitators and the time when they finally started to cascade that training to local teams. The PoISE team noted that some sites did not start implementing the initiative until three months into a six-month implementation period, ‘meaning that any changes and practice improvements had limited time to ... be instigated, be adopted, and subsequently show any impact’. The team suggested that six months was not long enough to implement the changes required.

The POMH-UK team commented that one of the key lessons from the first topics it covered was about the amount of time it took for QI to be implemented and to bring about changes in practice. It took longer than anticipated for information to pass from the central team to the trusts involved, then to individual clinicians, then for the changes to be considered and implemented. The team said that one year was ‘not long enough for an audit cycle and not long enough to make changes’. Trusts said that they needed time to discuss and approve changes. In later topics, POMH-UK extended the period of time between baseline and re-audit for this reason.

### **Leadership from NHS managers**

We discussed what the project SERs say about the involvement of NHS managers in chapter 4. Our findings can be interpreted in two different ways. On the one hand, the SERs generally report uneven leadership from management in support of the EwQI projects. Their efforts to get local senior managers to participate in the projects worked in some contexts, but not in others. This could be viewed as a failing on the part of management. On the other hand, unlike clinicians and patients (who

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had to be involved from the outset by the terms of the Health Foundation funding), managers were given very little opportunity to shape the form or conduct of the EwQI projects. On this basis, we could also argue that if leadership from managers is required to deliver QI, then at the very least managers should be invited to help shape these activities. We have too little evidence to make any firm judgements on this, but can speculate that lack of management input could explain some of the patchiness of impacts noted earlier in this report.

## Local clinical leadership

Several teams highlighted difficulties in leading behaviour change at the local level, attributing this to a lack of resources rather than a failure of local leadership:

- Colorectal Cancer: The majority of consultants who failed to submit data to the audit said that this was due to a lack of resources within the trust.
- Self-harm: Some of the trusts participating in this project were reported to have become less well resourced during the course of the project, and thus struggled to find ‘the time and space for QI’.
- POMH-UK: In topic 1, there was a lack of resources to provide all clinical staff on participating wards with copies of the workbook on combined antipsychotics. In topic 2, resource constraints meant that it was not possible to collect data about all the patients in the participating assertive outreach teams – a sample of patients was included instead.
- PoISE: ‘Human resources pressures’ were reported in the local teams. Local staff were sometimes too busy to undertake their EwQI tasks, and needed protected time away from their posts in order to participate. One trust was unable to commit resources to a PDSA facilitator.

*Most opinion leaders felt they did not have enough time to conduct their role and associated activities as well as they would have liked. In the most extreme case, one opinion leader had not been able to do anything other than raise awareness of the web tool by email. Other planned activities were prevented by having to prioritise other work responsibilities. This opinion leader had very limited clinical contact and felt that it would be better to have given the role to someone based in clinical*

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*practice who could combine [QI] activities with their usual role.*

- PEARLS: NHS funding difficulties may have reduced ‘motivation to complete questions and surveys’ and also had an adverse impact on midwives’ ability to attend updating sessions.

Some clinicians were suspicious of innovation. EPI-SNAP reported that, initially, two GP sub-committees had resisted adopting the protocol for referral to the first seizure clinic (although both were eventually persuaded). The PoISE team commented that surgeons were not involved in the programme, but should have been. In the IBD project, local teams often found it difficult to get the required people (multidisciplinary team members and management) together to hold local meetings for action planning. The project teams did not always have the traction to overcome these local resistances.

There is a sense of the fragility of support for QI at the local level. Any one of a number of unpredictable events could prevent progress. QI is often not regarded as a part of the core business of the NHS and has to be undertaken at the margins of mainstream activities.

## 5.4 Leading sustainable change

Just as delivering successful QI requires leadership at different levels within NHS organisations, so too does sustaining and spreading the benefits. This involves an ability to bridge from one organisation to another and to continue improvement into the future. We discussed this issue briefly in chapter 3 and provide a more detailed analysis below.

### Spreading improvement by influencing change in national initiatives

The efforts the teams put into influencing wider national changes have been considerable. The work of the two SNAP teams provides a good example. SNAP-CAP developed a primary care bundle which is similar to the secondary care bundle. It lists the antibiotics to be given in primary care and the clinical indicators that would indicate admission, and will help bridge the gap between

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primary and secondary care for patients with CAP. The secondary care bundle will be introduced to all hospitals within Scotland, not just acute hospitals, as part of the Scottish Antimicrobial Prescribing Group (SAPG) work plan, in which the care bundle becomes 'best practice'. The SNAP-CAP team has thus secured the continuation of the project under SAPG in response to a national agenda and framework that was not evident at the start of the project.

Similarly, the EPI-SNAP team attempted to embed its interventions in routine practice through alignment with existing audit and clinical management systems. Although this left the project vulnerable to changes in policy and IT infrastructure at national level, the project has now produced a result. The EPI-SNAP first seizure project has been instrumental in the inclusion of a standard on the giving of driving advice in the new Scottish National Standards for neurological services. It is also likely that the project's standardised referral form, or a form based on it, will become mandatory across Scotland.

Another example comes from the IBD project. The then Healthcare Commission included key (organisational) data items from the IBD audit in its annual health check. The team commented, 'This was a major achievement in healthcare in England, raising the profile of IBD within trust management'. The audit was also accepted into the National Clinical Audit and Patient Outcomes Programme, funded by the Department of Health.

What these examples illustrate is the need for acuity in change management if improvements are to be sustained. They also highlight the difficulties faced by individual projects operating against a background of shifting agendas and priorities.

### **Institutionalising change rather than depending upon the enthusiasm of individuals**

As already discussed, the EwQI projects have highlighted the importance of individuals as a catalyst for change, but they have also illustrated that an overdependence on individuals, rather than institutionalised processes, can be fragile. A preferred route within the EwQI to institutionalising change was to promote the adoption of standards and guidelines, building

local capacity to lead change through training and use of IT. For example, the idea of cascading training was central to the PEARLS project.

*[The] project is designed to create a system that encourages sustainable good practice. The research facilitators will be highly trained and supported, as they then cascade the training to the practitioners in their locality. Therefore the facilitators themselves and the colleagues that they have taught will be able to continue to practice the learning they have received.*

The PoISE team spoke in similar terms about developing the skills of people working within trusts to build capacity. The Self-harm team plans to make the training materials produced by the project permanently available on the internet, and commented that the programme had improved joint working in many local teams.

### **Securing sustainable funding**

From the start, the POMH-UK team intended that in the long term the prescribing observatory should be supported through a subscription fee from participating trusts (although the first topic was initially free). It changed its original fee structure and is now close to achieving this goal.

*Moving to an annual subscription fee has given the project greater financial stability and has been a response to the finding that changes in practice require lengthy timescales and continued commitment from trusts. Developing trust subscriptions has been crucial in ensuring the long-term viability of POMH-UK past the length of The Health Foundation grant.*

Both the EPI-SNAP and IBD teams recognised that, if they were to be sustainable, QI activities must use existing resources more efficiently or be resource-neutral, rather than demand extra funding.

*An important aspect of the [EPI-SNAP] project has been the attempt to promote sustainability by developing interventions that can be supported by existing practices and initiatives, in order to minimise the need for ongoing commitment of resources during and beyond the project.*

Successful programmes are more likely to be sustained if these successes can be backed up with evidence. Although project teams often struggled

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to fully quantify their successes, the point was generally well-understood. The EPI-SNAP team commented that:

*The likelihood of the topics chosen by the project being sustained beyond the end ... of the project will be greatly enhanced by the demonstration that they are delivering benefits, as defined by each arm of the project. As well as improving the quality of care for patients with epilepsy, there are potential benefits for health care providers, in terms of updating knowledge and skills and acting as a focus for developing a team approach, in circumstances which may not always be conducive to this (eg: acute medical receiving). Actions which promote these aspects are therefore also being addressed within the project, in order to maximise the benefits and promote sustainability.*

### **Promoting awareness of the problems and potential benefits**

One mechanism through which QI activities change practice is by raising awareness of a problem and its possible resolutions. The NCROP team noted that ‘The team will need to pro-actively seek opportunities to sustain the work by maintaining an awareness of both national and local healthcare agendas.’

Similarly, the PoISE team talked about dissemination of results and work to raise the profile of better fasting practice:

*Ensure that the resources developed will be more widely available after the project is completed – eg PDSA book, standard dissemination pack including patient resource and implementation presentation, web-based resource.*

And the Self-harm project team commented that the creation of the psychiatric liaison accreditation network (PLAN), which was developed ‘as an expansion of the self-harm project’, will offer participating teams further opportunities to improve and develop.

### **Aligning QI activities with national policies**

In chapter 1 we summarised the policy context into which the EwQI was launched and implemented. All the teams recognised the value of aligning their projects to national policy initiatives. For example:

*Both projects [EPI-SNAP and SNAP-CAP] have also*

*demonstrated the value of aligning and collaborating with other groups and initiatives at national level. This may be important for the success of the project operationally ... or methodologically, or politically.*

*With increasing public demand for accountability and the drive for greater transparency, both from the government and within the medical profession, it is vital that [colorectal] surgical units can demonstrate their outcomes to patients and the local community and be able to compare results with other trusts’ results.*

Some project teams were able to go further and become directly involved in relevant national initiatives. For example, members of the PEARLS project team were involved in the development of the Department of Health’s *Safer childbirth* document (2008), which is now used in mandatory training of midwives – a strong lever to get local units to take notice.

But although alignment with national changes can often help to promote a project and aid implementation, national changes may also pose a threat to QI activities. For example, the POHM-UK team commented that while a recently introduced requirement for trusts to develop quality improvement plans is a driver for participation in POMH-UK:

*...[they] would want to be assured that the parameters in the QI plans are the right ones. If these were based around participating in reflective practice, then this would be a positive step. However, we would not support the data being used to assess performance [if the QI plans were inappropriate].*

The PoISE team was attempting to recruit to posts for the project in May 2006, at which time there were budget deficits, and commented on the resulting obstacles, ‘This project has been conducted at the time of NHS trust deficits, re-configuration, re-organisation, staff shortages and role changes.’

The Self-harm team commented that changes to mental health teams in hospitals were ongoing during the EwQI, but the effect of change was mixed:

*Liaison teams we worked with no longer exist due to financial pressures, whilst in other areas liaison services are being established or expanded.*

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## 5.5 The role of the royal colleges and professional bodies

### ‘The quest for quality’

In chapter 1 we highlighted the importance for the EwQI of Leatherman and Sutherland’s finding that clinicians listen and learn best from their peers and that professional bodies have a legitimacy and authority that command clinicians’ respect<sup>24</sup>.

Leatherman and Sutherland argued:

*Given the extent of their influence and voice, it would seem incontestable that the royal colleges could and should play a critical role in the Quality Agenda. ... The key question here is not whether the royal colleges have a pivotal role in the Quality Agenda, but rather how to engage them most constructively in a set of critical tasks.*

However, they were also sceptical about what the royal colleges collectively had contributed to date, ‘a crucial role, unevenly adopted at the time of writing, is the development of routine data collection, analysis and reporting capability in order to monitor quality’. Leatherman and Sutherland clearly looked to them to play a more important role:

*As England’s Quality Agenda matures, it must increasingly move from the current, legitimate and vital emphasis on national capacity building, led largely by government, to professionally dominated initiatives of routine analyses of quality and the implementation of corrective actions to remediate deficiencies. It is in this body of work that the royal colleges should be close collaborators, if not leaders.*

One of Leatherman and Sutherland’s ‘Recommendations for the Quality Agenda’ is about the importance of engaging the professions:

*Getting the professions ‘on board’ is an essential factor that is currently deficient. ... A robust and professions-led initiative for standard setting, specification of quality measures and comparative peer review is essential.*

They note that resources may be an issue:

*Whilst the royal colleges clearly have an important role to play, the requisite skills and capacity are not*

*available in each royal college. There are exemplary capacities in several sites, such as in the Royal College of Physicians (demonstrated in the MINAP and Sentinel Stroke Audit Programmes), the Royal College of GPs (demonstrated in the quality-measure development) and in the Intensive Care National Audit and Research Centre.*

The report then makes the specific recommendation picked up by the Health Foundation in framing the EwQI:

*Develop a published strategy detailing how the major clinical professions, presumably through the royal colleges, will: a) set quality standards; b) develop quality measures; c) collect data and perform analyses; d) conduct peer review; and e) publish results and aim for improvement. The strategy must include resource requirements and provisions, as well as plans to leverage current capabilities (such as are present in several colleges). Possible funders to seed this activity include charitable foundations and the Modernisation Agency, as part of its intention to evolve and embed capabilities and functions in the health service and professions. Independent health foundations, in collaboration with interested royal colleges, should accept responsibility for convening the necessary meeting(s) to develop the strategy.*

The evidence for the Leatherman and Sutherland report came partly from a series of 47 interviews, although only two of these were with people primarily from royal colleges.

### Cornwell and Jakubowska’s review of the role of the royal colleges and professional bodies

The potential role for the royal colleges and professional bodies in supporting QI continued to be a matter of debate in the EwQI, and in December 2006, the Health Foundation published a working paper written by Cornwell and Jakubowska (the EwQI Support Team)<sup>100</sup>. Based on interviews with senior people from 12 of the 16 royal colleges and professional bodies involved in the EwQI projects, the paper explored the role of these organisations, and discussed the levers available to them, as well as the barriers and obstacles they face in supporting QI. The paper concluded:

- All the royal colleges/professional bodies have the potential to build the capability for clinical quality improvement in their membership.

- There are positive signs of leadership from a handful of bodies.
- There are fundamental questions about the ability of some bodies to realise the potential, and about the appetite for reform of governance arrangements.
- NHS reform and recent and ongoing changes in medical training, employment, careers and regulation make this a critical time for the medical bodies. Paradoxically, the crisis may provide the catalyst that is needed for them to learn from each other and to work together.
- The wide variation between the bodies reflected in survey findings is becoming the subject of a wider debate. In the not too distant future, it seems possible that the medical royal colleges will find themselves exposed to some measure of public scrutiny – low level, perhaps, but unfamiliar and therefore uncomfortable.

The number of royal colleges and professional bodies involved in the EwQI, and the timing, mean that clinicians involved in the EwQI may be in a position, individually and as a group, to challenge and support the host bodies to take a public stand on the need for improvement in the quality (and safety) of patient care and to use their influence with members to:

- further enhance clinical participation in quality measurement, clinical audit and improvement interventions
- further develop the technical knowledge and skill improvement methods of doctors, nurses and midwives
- adequately involve users in the development of the agenda<sup>100</sup>.

These are important conclusions and they resonate with our own conclusions in the following chapter. We also had an opportunity to discuss these issues further at a later date with people from a number of the royal colleges, and we report on these discussions in the following section.

## End-of-project interviews with the royal colleges and professional bodies

Towards the end of the evaluation, we interviewed eight senior figures (mainly quality/standards leads) from seven of the royal colleges and professional bodies involved in the EwQI. All the interviewees occupied senior managerial or

leadership roles, and all were aware of the initiative. They reported a range of engagement with QI activities within the royal colleges and professional bodies, including two institutions that had dedicated QI units or centres and at least one other that was seeking to clarify how to address QI in a more structured way. Most interviewees had had some involvement with QI activities in addition to the EwQI.

Interviewees reported that the EwQI had had a range of significant impacts on the royal colleges and professional bodies<sup>101</sup>. In one institution, the EwQI had encouraged a shift from data collection on its own to developing interventions based on these data and had also led to greater patient involvement in QI activities. In another, it had strengthened the patient focus and the communication of best practice. In a third, the EwQI had been a catalyst for change which had ‘arrived at the right moment’, and in yet another it had helped make QI a key strategy. At the time of the interviews, interviewees perceived QI to be a priority of the colleges and professional bodies – typically, somewhere near the top of the list. And while interviewees reported that the EwQI had not precipitated a ‘sea change’ in culture (and indeed this should not be surprising given the scale and scope of the initiative) it had allowed more time to be spent with clinical communities.

Interviewees identified a variety of roles for the royal colleges and professional bodies, including supporting research, coordinating national audits, using their reputation to boost clinician participation, and facilitating joint working between clinicians. Members were informed about these activities through a range of media, including websites, conferences, newsletters and (less commonly) departmental name changes. None of the royal colleges and professional bodies required members to participate, preferring incentives to compulsion, but all reported that they anticipated changes in the future – in particular, with regard to revalidation. There was no consensus over how these activities should be funded, and barriers identified included:

- lack of time
- ‘cultural divide’ between those engaged with audit and those involved with QI and research
- lack of funding for QI (meaning that, as subscription-based organisations, they were not

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funded to deliver improvements on behalf of the NHS)

- insufficient senior buy-in
- practitioners' apathy
- unsuitable IT systems
- short-term contracts (although creative efforts to maintain the skill base by extending temporary contracts were also reported).

However, the factors identified differed from one body to another.

Despite noting some resistance to QI in most royal colleges, interviewees also believed that most colleges were willing to support further progress, although several expressed the view that change would be gradual, and that accreditation and revalidation offered opportunities that could be used to support QI. More specifically, QI-related activities included:

- a dedicated research team
- practical support in administering audits
- coordinating responses from specialist societies
- facilitating joint working
- communications support.

Interviewees also discussed the potential role of other organisations. Most were very open to the idea of establishing partnerships with other organisations (although they reported different levels of current partnering). Examples of partners mentioned were:

- academic institutions
- SIGN
- HQIP
- the Health Foundation
- regulators
- government health departments in other countries
- NHS trusts
- charities
- patient groups
- lay advisory groups.

The various ways of working with these partners mentioned by interviewees included: strategic partnerships with academic partners, individual links to universities, agenda influencing and informal partnerships with charities. The interviewees saw the opportunity to work more effectively with commissioners, GPs, PCTs, patient groups, and (for the royal colleges) professional bodies.

Overall, the interviewees said that the initiative had had a direct, significant and positive impact on the royal colleges and professional bodies. More widely (and partly influenced by their own involvement with the EwQI) they identified a growing role for QI in the work of the royal colleges and professional bodies, and anticipated that this growth would continue. They identified a varied but often significant set of activities and organisational changes. There was a willingness to collaborate with others and no sense that the royal colleges and professional bodies would want to monopolise work in this area. Clinician engagement, already palpable, could be strengthened further through the leadership and authority of the royal colleges and professional bodies.

## **The future role of the royal colleges and professional bodies in supporting and leading QI**

The EwQI suggests that QI is strengthened by being given status, technical support, and the potential to be institutionalised in guidelines, protocols, standards, clinical audit, revalidation and training. The EwQI projects also show that, should they choose to, the royal colleges and professional bodies could play a helpful role in supporting and facilitating QI. Cornwell and Jakubowska's assessment – that willingness and capacity is variable across the colleges – appears to be right, but this should not prevent any royal college and professional body that so wishes from engaging with the QI agenda. Our end-of-project interviews give added weight to Cornwell and Jakubowska's conclusion and show what might be possible.

## **5.6 The role of information in delivering QI**

The EwQI model of QI is fuelled by information. Accurate, timely, relevant and easily interpreted data are a key component of the platform supporting the initiative. This is information not only to support monitoring and accountability but also, crucially, as part of a theory of change – by providing new information in a particular way, it is hoped that behaviour will be changed. This is

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wider than information technologies. However, IT problems did figure as a barrier in the projects' SERs. In the EPI-SNAP project, it was not possible to get the referral form for the first seizure clinic introduced on the new A&E Emergency Department Information System (EDIS) because of the development problems experienced by EDIS: additional projects like EPI-SNAP were not given priority with regard to system specification. 'IT access problems' also caused delays to the PoISE web resource going live.

Generally, however, information featured as a support to improvement. In particular, collecting performance data and feeding this back to hospitals, units and clinicians was central to all the project teams' activities.

## Web-based and electronic systems

At least six of the project teams (Colorectal Cancer, NCROP, Self-harm, POMH-UK, SNAP-CAP and IBD) mentioned online data submission or discussed project-generated audit reports that were available on the web. For example, the Colorectal Cancer team commented that the recently introduced 'web-based system of data entry is currently active and has allowed trusts to streamline data entry, entering only essential data items in the required format'. And the NCROP team noted: 'An electronic system of data collection has many advantages and is increasingly acceptable to busy colleagues in a variety of healthcare settings'. In contrast, local IBD teams achieved web-based data entry, but only as part of a more onerous process: data collection involved 'identifying the appropriate cases for inclusion, reviewing the individual case notes and interpreting the data to be entered', it was common for trust staff to initially complete the data entry forms by hand and then transfer the data onto the website.

An ongoing concern among the project teams was minimising the burden of data entry. The IBD team noted: 'Where possible, data sets will be trimmed down to the minimum questions required to gain the required data. Time frames will also be adapted in terms of case ascertainment and data entry'. In a similar vein, the NCROP team found that its initial plans for completing change diaries (submitted electronically) were too

onerous: it was 'not feasible for clinicians to collect data at such frequent intervals'.

## Feedback of audit data

The Colorectal Cancer project aimed to feed back data to clinicians on a one-year cycle. In fact, due to problems in harmonising data submission, data for 2007 and 2008 is not yet available at the time of writing this report. The other project teams stressed the importance of rapid feedback. IBD fed back data within three months of the end of the data entry period. POMH-UK tried 'to maintain a rapid response of six to eight weeks after last submission of data'. Producing detailed and individualised reports so rapidly was time-consuming for the central team, but the POMH team reported that the participating teams appreciated this quick feedback. The keys to such a quick turnaround were online data submission and advanced preparation to refine the audit tool, to ensure it worked and to plan data analysis. Similarly, the Self-harm team aimed to send local teams a report of their performance within four weeks of the end of the data collection period. In EPI-SNAP, the four first seizure clinics received an audit report one month after data collection finished.

The project teams provided unit-specific analyses. For example, IBD provided site-specific reports, and the acute trusts participating in NCROP received individualised reports from the clinical and organisational audits. PoISE produced an individual feedback report for each trust, detailing their food and fluid fasting time, benchmarked against all the trusts in the study. POMH-UK sent teams individualised reports of the audit data, with subsections reporting on national, trust and clinical team data. The Self-harm project provided each team with an individual report of their performance and an aggregated report describing trends across the project, allowing some comparison.

Some EwQI project teams also provided practical assistance in using the data. For example, the IBD project team made supported action planning visits to some local sites at which the audit data were reviewed:

*Teams were very open when reviewing their 1st-round data, highlighting areas where they felt they needed to make improvements. The fact that the visits had been arranged was, by the admission of*

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*sites themselves, often the catalyst for sites to undergo a more detailed analysis of their first-round results and to begin the process of identifying steps that would need to be taken to improve care.*

Similarly, the POMH-UK project team provided an executive summary of each trust's report, as well as slides to facilitate local dissemination. Self-harm held feedback events for local teams, asking each to share an area of achievement or an idea for improvement.

## 5.7 Conclusions

The evidence from the projects shows that delivering QI involves highly complex activities, and that the leadership, resources and support available for these are often fragile. The skill set required to provide leadership is extensive, and QI requires leadership at a variety of levels, such as national professional organisations, local professional (often multi-professional) teams, patient groups, and in management and policy

making. Furthermore, it is not certain that the interests and values of leaders at all these levels will coincide. Adding to this complexity, the required skill mix and leadership style might have to evolve over time. There is a sequence of the leadership and other skills required when launching, managing, evaluating, and sustaining and spreading the project.

The current model of leadership for the delivery of QI in the NHS is, arguably, unrealistically heroic, requiring exceptional efforts to mobilise and align the work of others because QI is not embedded in the routine systems of the NHS. However, even with a more embedded system, the demands of QI on leadership would be considerable<sup>102</sup>. In this context, the royal colleges and professional bodies can realistically claim the potential to provide an organisational setting for nurturing and promoting such leadership. But even with such support, there would be a need to develop and exploit leadership skills more widely.

# Conclusions and recommendations

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## 6.1 Introduction

In this final chapter we summarise and discuss our key conclusions. We consider what has been achieved, discuss whether the achievements justified the effort, and explain our conclusions about the reasons for success and failure. On this basis we then identify a set of recommendations concerning three aspects of QI: its delivery, support and evaluation.

Our aims are laid out in table 2 (chapter 1), and we believe that to a large extent we have achieved them. First, we have developed an innovative and effective way to engage with the projects in helping them develop their implementation and evaluation plans. The use of logic models had mixed success, but the use of self-evaluation reports (plus the records of significant events), combined with structured face-to-face meetings, has facilitated a deep understanding of the projects on our part, and a more informed approach to evaluation on their side. Second, we have brought together in this report the data and findings from the projects. However, the aspiration to synthesise these data has only partially been achieved because of the incommensurable nature of the input and outcome data provided by the projects. Third, we have shown significant increases in clinical engagement in QI as a result of the projects and documented both the extent and nature of this. Fourth, we have explored the wider influence of the EwQI in leveraging external commitment to standard setting, clinical audit and patient engagement, especially in relation to the royal colleges and professional bodies. Finally, we have attempted to gauge the costs and influence of the initiative.

When considering the conclusions and recommendations presented in this chapter, a

number of things should be kept firmly in mind. The first is that the EwQI has specific characteristics that limit the generalisation of any conclusions. From the outset the EwQI was conceived as a demonstration of what could be achieved through clinician-led QI activities, with active support from the royal colleges and professional bodies and the engagement of patients and their representatives. Both the Health Foundation and the project teams wanted to show the improvements that could be made (including improvements in patient outcomes and adherence to guidelines) by working within the spirit of the initiative. The initiative was not, therefore, conceived as a scientific exercise. However, our evaluation of it was not only pragmatic but also scientific – we were seeking systematic evidence to support or weaken causal claims. The evaluative evidence produced is therefore necessarily limited in two fundamental ways. First, it has a weakly developed counterfactual (while we can speculate about what might have happened in the absence of each project, neither the individual projects nor we were testing the EwQI approach against other approaches to improving particular aspects of healthcare). Second, the evidence from the projects has been produced by them primarily to support their QI activities. We had a number of fruitful discussions with projects about the difference between evidence for research and evidence for QI; we agreed that, while there is a significant overlap, the concerns of the former focus on reliability, validity and replicability, whereas the latter focus on more pragmatic concerns of relevance, usability and timeliness.

The second issue is that the EwQI was one of two programmes funded by the Health Foundation, and it focused on acute care. The other programme, reporting in 2011, concerns primary

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care, and the findings from both these studies should be combined for an overall account of the contribution of clinician-led QI in the NHS. This will be particularly relevant when considering different models of QI, such as whole system change, which do not feature in this evaluation. Therefore, our conclusions and recommendations here should be understood as relating particularly to acute care.

This brings us to the third issue. The model of QI being studied concerns changing the behaviour of individual clinicians through the provision of information, peer review, training and other supports. Delivering this change involves projects that are clinician-led, patient-involving and royal college-supported. Intended outcomes focus on adherence to guidelines and improved patient outcomes. Clearly, this is not the only model of QI in town. Other potential outcomes include improved or more equal access to healthcare, improved patient experience, and a healthcare system more responsive to the balance of health needs in society. Other mechanisms for change might include a stronger role for commissioning, management and (non clinician-led) standard setting. These are all part of the potential mix of instruments for raising standards and improving quality, and the evidence produced here does not help us form a judgement about how to optimise this mix.

That said, although it might be psychologically attractive for evaluators to hide behind the incompleteness of the evidence, there is also an obligation to make judgements based on the evidence available (while making the strength of the supporting evidence clear). We attempt such judgements in this chapter. On the basis of these findings, we make a number of recommendations at the end of the chapter.

## 6.2 What was achieved?

Among other achievements, the EwQI successfully secured clinician leadership in clinical audit. Properly understood, clinical audit involves a cycle, or process of change, with a sequence of activities including: selecting the audit topic, agreeing standards of best practice, defining the audit methodology, data collection, analysis and

reporting, making recommendations and an action plan, implementing change, and re-auditing. It also involves a complex sequence of challenges such as building an agreement around the guidelines, evidence or outcomes that should be the focus of the cycle, putting in place processes of data collection, validating and analysing data, agreeing what the data means, and developing action plans before subsequently re-auditing. The process is technically demanding and value-laden. It is likely to be challenging and it is not guaranteed that the process will be equally trusted by all stakeholders, nor is it certain that all the relevant parties will collaborate. A role for professionals is desirable and (probably) inevitable; clinicians in the NHS are expected to participate in clinical audits where appropriate. The peer-led, patient-informed approaches to this, which were adopted in the EwQI projects, are revealing about how the clinical audit cycle might be delivered.

Most of the EwQI projects conceived of the audit process as a whole cycle. But in the Colorectal Cancer project, the term 'clinical audit' referred only to the first stages of the audit cycle (that is, agreeing the topic, selecting standards, defining the methodology, data collection, analysis and reporting). It did not include developing an action plan and implementing changes which are subsequently re-audited. The project team argued that without a fully trusted and technically reliable first audit, any action plans would be flawed. Even so (at least in terms of relevant surrogate measures), small but real improvements were identified, suggesting that in some circumstances simply making relative performance data available might be sufficient to prompt change. However, the statistical significance of the measured improvement is low and furthermore, these improvements could have resulted from unrelated changes.

In the Colorectal Cancer project, the overall number of participating units has increased since 2000 (predating the EwQI funding). There is now a greater likelihood that a colorectal surgeon in the NHS will benchmark the quality of the care provided locally against the national average. Although further work may well be needed to ensure that these data are used to improve performance, simply establishing a trusted and rigorous audit of performance against agreed

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standards represents an important step. The results of a survey undertaken by the project team showed that 82% of the 105 consultants who had read the annual audit thought that it was useful as a benchmark and to raise awareness within units about surgical outcomes<sup>66</sup>. And perhaps without the audit, quality standards might have fallen in the context of competing demands on services.

Elsewhere in the initiative, the term 'clinical audit' was used in its more common sense of a full audit cycle. Professionally led clinical audits were achieved. In Self-harm, for example, the elements of the cycle were implemented as planned, and the reasons for some local units not participating were either linked to problems of resource and timing or because something similar was already happening in that unit. In POMH-UK, participation in audits continued to grow despite fees being introduced, and subsequent changes in behaviour, while patchy, were impressive in at least some instances. In NCROP, 96% of all acute trusts participated in the clinical audit and, of the 54 teams randomised to carry out reciprocal peer reviews, all participated, representing a significant shift in improvement activity in this field of medicine.

We have also seen that a variety of improvement interventions were adopted, with variable success in implementation. For example, in PoISE there is evidence that the standard dissemination package and web-based resources were used, but a more patchy response was reported for the use of PDSA. In EPI-SNAP the central project team successfully designed a referral protocol, but uptake on the ground varied. As in PoISE, this intervention was introduced into a particularly complex, multidisciplinary organisational setting. SNAP-CAP did not achieve the desired level of awareness among local teams, but despite this, the care bundle was implemented, the collection of outcome measures was widely adopted, and SNAP-CAP principles were embedded in the admission systems in at least two hospitals and in other standards. IBD achieved high levels of participation in the audit but more modest achievements in delivering change through supported action planning visits.

We therefore conclude that peer-led audit in the acute sector can achieve high participation with trusted results, and that such audits may lead to

successful action plans, but that delivering action plans may take longer and be more complex. To this extent peer-led processes can work.

We also conclude that the projects not only achieved effective clinician engagement but also that this was followed by measurable changes in clinicians' attitudes and practice (although such changes might have been influenced by factors outside the EwQI). These changes include improved lymph node harvest (Colorectal Cancer), better staff attitudes (Self-harm), better referral practice (EPI-SNAP) and better prescribing practice (POMH-UK). Furthermore, each project put forward evidence to support the expectation that these changes in behaviour would contribute to improved outcomes for patients. However, we should be careful not to assume that changes in clinicians' behaviour automatically lead to measurable improvements in patient outcomes.

To understand the achievements of the EwQI projects, it is important to understand that there are at least two 'layers' of factors, or two potential gaps, between successful participation in the early stages of the clinical audit cycle and improved patient outcomes.

The first is the development of credible and deliverable action plans in response to the first-round audit data. In NCROP and IBD considerable energy was devoted to supporting peer review and informal action planning visits, respectively, as a route to implementing change. POMH-UK had some success in supporting local improvement through local champions, academic training, change management workshops, work books and easy-to-use monitoring charts. PEARLS appears to have made significant steps towards achieving local change through the use of locally based trainers, who then spread good practice (although the evidence for this is still incomplete). Therefore, we can say with some confidence that in the acute sector, clinician-led approaches can, in the right circumstance, result in the successful development of action plans of one sort or another.

The second gap is that even agreed action plans do not necessarily deliver measurable improvements. POMH-UK showed modest but statistically significant improvements on a range of measures, and the team justifiably concluded that these were

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at least in part attributable to their activities. In NCROP, evidence of patient benefit was patchy, with measurable (although not statistically significant) improvement in two areas of intervention but not in another two. In PoISE, there were no statistically significant differences in the mean food and fluid fasting times across intervention strategies at the cluster (hospital site) level, although some statistically significant changes on individual wards were recorded. A reasonable explanation of this, in the case of PoISE, is that the local context for change was complex and multidisciplinary, and that improvement would require greater coordination and re-alignment of behaviour than could be achieved, given the resources and time available. EPI-SNAP was successful in securing some improvement in providing driving advice. But, although this measure is widely recognised as an appropriate indicator of good practice in referral, it is not known what impact it has on long-term patient outcomes. SNAP-CAP reported improvements in some measures, such as antibiotics in four hours, oxygen therapy and bundle compliance, which are (again, justifiably) believed to be associated with improved patient outcomes. IBD showed statistically significant improvements in a range of indicators at visited sites. However, non-visited sites also improved (with some exceptions).

On the basis of the evidence available, we come to the conclusion that improved outcomes – in terms of measurable improvements in adherence to guidelines or patient outcomes – have been modest and patchy during the study period of the evaluation. On this narrow definition of outcomes and against an implicit counterfactual that these quality standards would not have changed without such initiatives, it can be hard to justify the considerable effort put into the EwQI. However, in our view, this does not capture all of what was achieved, and there are considerable additional benefits to consider. These wider benefits include:

- engaging clinicians (and service users) in effective processes of change
- engaging policy makers and decision makers
- enhancing the capacity of the healthcare system to deliver QI
- contributing to the knowledge base on QI
- contributing to the design of evaluations for QI.

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We shall now briefly look at these wider impacts in turn. We have already noted that clinical leadership of QI activities was associated with significant engagement by clinicians. In addition, the EwQI sought to engage the royal colleges and professional bodies in QI. In Colorectal Cancer, the project team reported that the ACPGBI's active support of the project boosted participation. Self-harm and POMH-UK both successfully drew on, and in turn strengthened, resources within the Royal College of Psychiatrists. The NCROP team believed that commitment to the project was shown because it sat within the Clinical Standards Department of the Royal College of Physicians, which provided the infrastructure to support it. The PEARLS team also reported that the Royal College of Midwives now has a greater understanding of the issues around QI as a result of the initiative.

However, although we can state with confidence that the projects contributed to the engagement of the royal colleges and professional bodies in QI, and we can state that their active involvement facilitated change, there is also considerable variation among the royal colleges and professional bodies (see chapter 5) and it is important to avoid over-generalisation. Not only were they all starting from very different places, they are also accountable to different constituencies.

In addition the EwQI involved service users as members of the central project teams. As we report in chapter 4, both the service users and other team members were extremely positive about the contribution they had made and about the lessons learned in the process.

As a demonstration project, the EwQI had aspirations to promote learning and change among policy makers (broadly conceived). Senior figures within the royal colleges and professional bodies have been engaged from the outset. We have seen that the profile of QI has been raised within these organisations, and their capacity to support QI in more practical ways has been improved. In chapter 5 we outlined interview evidence showing that senior figures within the royal colleges and professional bodies believed that the EwQI had had positive, beneficial and timely effects in raising the profile of QI within these institutions. The EwQI project teams have

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produced a wide range of contributions to the knowledge base, as is demonstrated by a growing range of publications and conference presentations (see chapter 3). They have also influenced national decision makers and been involved in setting national clinical standards. For example, IBD and EPI-SNAP contributed to National Service Standards. Clinical audit is one plausible route to QI, and the EwQI not only provided additional resources through direct funding but also raised the awareness and profile of such audits.

The Health Foundation also hopes that the EwQI will have a wider influence among policy makers and senior decision makers. For the reasons suggested above, this has already been achieved with senior figures in some royal colleges and in the professions. Some senior managers, such as chief executives, at least have an awareness of the initiative (although in general, the impact on senior management seems to be muted). The contribution of the projects to guidelines and standards is further evidence of this wider influence. We will have to wait until the dissemination of this report and related activities to see whether the aim of influencing senior decision makers in and around the Department of Health has been achieved.

Finally, a report of the protocol for the external EwQI evaluation has already been published and was positively referred to in a Department of Health invitation to tender<sup>103</sup>. The protocol has also helped to shape several other studies, including: the evaluation protocol for the Health Foundation's 'Engaging with Quality in Primary Care' and 'Closing the Gap through Clinical Communities' schemes; the evaluation of the Department of Health's Integrated Care Pilot Programme; and the evaluation of the NIHR Collaborations for Leadership in Applied Health Research and Care (CLAHRCs). And the approach adopted in this evaluation has been transferred to multilevel, multi-agency emergent projects outside healthcare.

In judging the achievements of the EwQI we might go in one of two directions. The first would be to take stock of all that has been accomplished to date. Despite real changes in peer-led QI and in the behaviour of clinicians, there is limited evidence

that this has fed through to improvements in health outcomes. These achievements could be characterised as interesting but limited. An alternative approach would be to try to understand how the legacy of the EwQI might contribute to future improvements. This legacy will be felt by individual patients and by their various organisations, and by clinicians and their professional bodies. It can be considered along at least two dimensions. The first is that some activities will be carried on directly. POMH, for example, has used the investment in the infrastructure funded partly by the EwQI as 'sunk development costs', and will roll its approach forward. Elsewhere, national audits will be repeated. Second and, perhaps as interesting is the fact that many busy people continued to commit considerable amounts of time throughout the life of the initiative and beyond, and they appear strongly committed to continuing doing so in one way or another. These are also part of a larger group of people (including the Evaluation Team) who have learned a great deal from participating in the process. In the end, the consequences of the EwQI will depend upon the joint efforts of these, and many others, in taking the lessons forward. Table 32 summarises these benefits from the EwQI but leaves to one side any judgements about longer-term impacts.

In summary, we may therefore conclude that efforts to change clinicians' behaviour through clinician-led QI which engages patients were broadly successful. Wider benefits to the health system included:

- improved practical knowledge of QI among the many health professionals and service users involved in the initiative
- improved evaluation techniques
- the engagement of the royal colleges and professional bodies, associated in some instances with an enhanced capacity to deliver QI.

On the other hand, direct benefits in terms of measurable patient outcomes were more limited, and it is important for us to understand what facilitated and hindered such improvements, which we attempt to do in section 6.4.

We have summarised the impacts in Figure 1 opposite. This shows that the most visible and

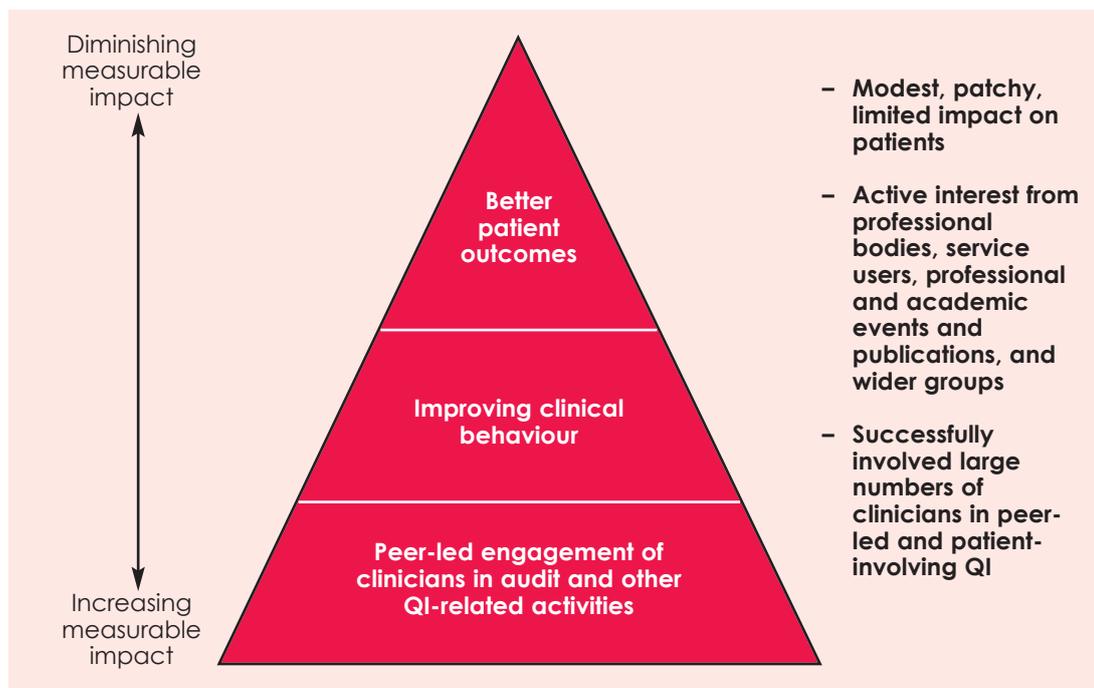
**Table 32: Summary of the benefits from the EwQI**

Direct benefits to patients arising from the work of the projects	Modest, patchy but real
Engaging clinicians and the professions in change	Peer-led QI processes secured effective clinician engagement. Very large numbers of clinicians engaged in the EwQI, mostly positively. Engagement was limited by time and resource rather than interest and enthusiasm.
Engaging service users	Service users were engaged in different but largely successful ways with benefits reported for both the quality of the project and the individuals involved.
Engaging policy makers and decision makers	The EwQI secured the attention of the royal colleges and professional bodies, and they reported immediate consequences in organisation and practice, and also that the EwQI had either 'catalysed' or supported longer-term trends towards involving them in QI. The royal colleges and professional bodies reported that through the EwQI, they had influenced guidelines, engaged senior champions within professions, and strengthened the patient voice within QI. Influence on wider policy makers is yet to be determined. There is only limited evidence of engagement of senior management in trusts and the healthcare system more widely.
Promoting the capacity of the health system to deliver QI	The EwQI has improved awareness of the practical challenge of delivering QI within the medical profession, improved technical skills such as delivering all parts of the clinical audit cycle (although this varied by project), strengthened the capacity of the royal colleges to support QI, and made some contributions to guidelines and standards development.
Contributing to knowledge usable in improving the quality of care	Findings from projects have been made available through professional conferences and publications, and through peer-reviewed journals. Further dissemination is planned by the project teams, and by the Health Foundation and the Evaluation Team (of which the publication of this Final Evaluation Report will be part).
Contributing to the design of evaluations	Development of evaluation approach to address emergent, multilevel and multi-agency interventions has been positively received more widely, and has directly contributed to recent evaluation designs for EwQPCAS, CLAHRCs and Integrated Care Pilots.

measurable achievements are in relation to engaging clinicians, as evidenced for example, in their leadership of, and participation in, clinical audit. Less visible are the impacts on the royal colleges and other influencers of improvement in clinical behaviour, and on the behaviour of participating clinicians. Finally, the impacts on patient outcomes are the least easy to identify.

Another way of interpreting this evaluation of the

EwQI 'contribution story' is that we have considerably reduced uncertainty surrounding when, why and how clinicians will engage in QI, and the effect this has on the healthcare system. We have shown that such an approach produces patchy and limited impacts on patient care (without reducing many uncertainties about why this happens). We will consider the wider implications of these achievements, but first, we pose the question 'Was it worth it?'



**Figure 1: The EwQI pyramid of impacts**

## 6.3 Was it worth it?

In this section, we first identify the effort required to achieve these results and then explore the question ‘Was it worth it?’ But before doing so, we should note an additional problem which is both obvious and easily overlooked. The effort required to deliver any given level of achievement varied for each project, partly because each had a different starting point. The capacity to deliver QI is not spread equally across either the professions or their professional organisations. For example, the two projects linked to the Royal College of Psychiatry were housed within a unit which already had considerable experience and understanding of delivering improvement activities. The team based in the Royal College of Nursing had a well-developed analytical approach to understanding improvement interventions. By contrast, the Royal College of Midwives had a commitment to developing such capacities but little prior experience.

Furthermore, there is no simple way to arrive at a monetary cost for the initiative. We know that the Health Foundation made available some £4.6 million for this initiative, and this directly funded much of the support structure to help deliver QI, including the Support Team, the work of the Leadership Programme and the Evaluation Team, in addition to the funding for each project.

However, this provided us with only a partial understanding of what was required by the central project teams and the local participating units. Despite constant prompting and support from the Evaluation Team, the projects often failed to obtain the necessary management and cost information needed to provide estimates of the costs involved. As shown in chapter 3, we were therefore compelled to take a broader view to reveal the amount of effort required to deliver the initiative. Although we were unable to cost these efforts, we could provide a sense of their scale.

We can conclude a number of things. As we saw in chapter 3, the resources required locally to participate in the first stage of the audit cycle were not regarded as excessive by clinicians. The Colorectal Cancer team provided an account by one participating clinician that made it clear that the time required was manageable and not excessive. In POMH-UK, the view of the central team was that local units did not find the data input too onerous – and this was confirmed by their willingness to participate and to pay for this opportunity. In NCROP, almost 100% of the target units were recruited to both the organisational and clinical audits; and the SNAP-CAP team provided an insight into the local resources required to participate in their project.

The resources required centrally to develop and deliver the audits were variable but sometimes

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considerable. The IBD team told us that the average annual central cost of conducting a clinical audit for the Royal College of Physicians was in the order of £120,000–£150,000, but we are also aware of the considerable energy and ‘pester power’ that was expended to achieve high levels of participation. The evidence from the EwQI, therefore, is that with support from a central unit, participation in clinical audit by local units in acute care is feasible but challenging. And although demanding, the costs of central support are not excessive.

The efforts required to develop and deliver improvement plans were also varied. At the local level, the Self-harm team estimated that the time commitment of each participating clinician was in the order of 15 days per team member (or 60 days for each team), with 15 service-user days and 48 days for each team leader. The NCROP team reported high levels of commitment and participation, but also high levels of anxiety about the time taken to prepare for and deliver visits.

Furthermore, the central support required for these local improvement activities can be considerable. The PoISE team estimated that the annual cost of supporting all 170 trusts with full implementation would be £153,700, and that the total running costs of the whole project were £550,000, excluding in-kind time from the RCN. The SNAP-CAP steering group estimated their commitment at a total of 43 days. PEARLS is yet to provide a final report, and the analysis of the time and effort spent on the IBD audit is being undertaken by an outside team. Though the final analyses are not yet available, it is clear from discussions that both project teams regarded the delivery of their respective improvement packages as expensive and time-consuming. Overall, it is impossible for us to demonstrate that the use of resources was cost-effective.

Given the scale of effort required, and the modest and patchy outcomes for patients, is the EwQI model sustainable? Will commissioners fund activities which may have long-term, system-wide benefits (for example, future cost savings, less demand for social care, more equitable services) that are unrelated to local targets or the patients routinely cared for by local clinicians? If participating in clinical audit is a professional obligation – and we have shown how a professionally led approach to collecting data on performance against agreed standards is feasible and

acceptable – then we anticipate that clinician-led measurement will continue, but the implementation of improvement plans may not. This is an important hiatus for policy makers to consider.

The greatest challenge to the model of QI underpinning the EwQI, therefore, involves not the production of trustworthy relative performance data but the delivery of sustainable change (and one without the other is of limited value). In part this is because such change is difficult (witness the outcomes for patients in the EwQI), and in part because it is time-consuming, and time is at a premium for clinicians and others. Clinically led audit produces important new evidence that allows professionals to assess the performance of their units and, on the back of this, consider how to improve the quality of their service. In our judgement, the approach to the first stages of the clinical audit cycle common to all but one of the EwQI projects represents good value for money<sup>104</sup>. The problem is that this stage cannot be considered in isolation: the clear understanding of the majority of the EwQI project teams was that audit and feedback on their own do not necessarily achieve change. And it is the second stage (the improvement intervention, the second ‘gap’ we identified earlier) that appears, on the evidence from the EwQI, to represent variable value for money. Given that, we believe that the opportunity costs of ‘doing’ QI need to be carefully considered when commissioning projects. As we have shown in chapter 4, these anxieties were widely shared by clinicians themselves. In order to understand more clearly what might represent good value for money from more targeted QI activities, it would be helpful to discuss what appears to have facilitated or inhibited change in the EwQI. We consider this in the following section.

## 6.4 Explaining success and failure: why is the return on effort greater for some QI activities than others?

As we noted in chapter 1, the variety of the projects’ starting points, methods and aims limits generalisations about what others can learn from the achievements of the EwQI. However, that diversity also allows us to understand how different

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mechanisms might be more or less successful in different settings.

To start with the more straightforward evidence of what works and why, we have seen that the first stages of the clinical audit cycle can be effectively delivered with widely accepted results when a small, technically skilled group is sanctioned by fellow professionals (either through a royal college, professional body or other means). In the EwQI projects, the gap between existing practice and guideline-compliant practice was widely acknowledged, and agreed standards for the clinical audit either existed or there was a basis for creating them. Under these circumstances, the first stage of clinical audit could successfully be delivered by a professionally led team of clinicians.

However, projects experienced more difficulty in deciding what to do with the data in order to achieve change. 'Difficulty' took different dimensions. On the one hand, POMH-UK had a complex model of change involving local champions, academic training, change management workshops, work books and monitoring charts. But it also had a relatively discrete and clear target audience, a clear problem definition, and a solution widely acceptable to clinicians, pharmacists and service users. Statistically significant improvements in practice were achieved in some topics. PoISE, on the other hand, appeared to have an equally clear problem-definition (unnecessary peri-operative fasting) and it sought an apparently simple change (adherence to evidence-based standards). It also had a sophisticated and clearly articulated theory of change (arguably more so than any other project), involving complex delivery of information concerning good practice. Yet in this case, there was no overall statistically significant change in practice. A plausible explanation is that the multi-professional context proved to be a barrier, requiring the alignment of anaesthetists, surgeons and nurses, and the management of resources both on the wards and in the operating theatre. The concept of professionally led processes as a unique and important driver of change may need to be modified where the leadership is perceived to come from just one profession and other professional interests are also involved. The consensus and trust that professionals have in processes led by their own professions (see chapter 4) are not necessarily extended to processes led by other professional groups.

Another contrast might be made with the IBD project, which succeeded in influencing both national standard setting and the capacity of the Royal College of Physicians to support QI. This team achieved high participation in the audit and managed well-received action planning visits. Successfully changing individual clinicians' practice here appeared to be associated with a clearly identified and consensually agreed problem, combined with a relatively small and coherent target audience. Their success in influencing national standards owed much to the persistence and influence of the chief executive of the main IBD patient support group (National Association for Colitis and Crohn's Disease), who was a member of the project implementation group. This ability to span the worlds of service users, QI and the professions might be important in achieving some of the wider influence which the EwQI sought.

The projects also experienced difficulties. Some faced problems with ethics and research governance arrangements (see chapter 5) – PoISE and PEARLS in particular experienced considerable delays. Some, such as EPI-SNAP and SNAP-CAP, had difficulty integrating their project's requirements with existing web-based electronic systems or developing suitable systems themselves. All found that communications skills were more important than they had expected at the outset. And initially none fully anticipated the extent of the obligation to collect monitoring data on the implementation of the project (whereas most models of QI recognise that measurement is a requirement in order to understand what is working). Most projects were able to recruit a high quality team (a condition of funding), and good managers had a palpable effect on the running of the projects. Some of the improvement interventions selected, such as supported peer review visits, made high demands on the central team. All the teams were stretched by the complexity of delivering change and some occasionally struggled; the change processes embodied in the EwQI model require a significant management capacity.

Other generic factors are time pressures and the unevenness of institutionalised support for QI. Participating clinicians in the central teams and in local units often commented that they were doing QI in addition to their 'day job'. Nor is QI perceived to be a route to advancement in the

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profession – it is not held in the same esteem as medical research.

There was also the problem of aligning activities at different levels. Centrally driven activities (such as audit) had to be aligned with the capacities of local trusts and with capacities at ward and individual clinician level. Absence of support at any level could jeopardise the whole project. For example, support from trust chief executives was seen by several project teams as critical, and was often sought, but not always obtained. The projects required staff resources, IT provision, clinical skills, project management, training, and access to patients and their representatives. They required communication and financial skills, as well as the technical skills of measuring and cost estimation, and knowledge of techniques such as PDSA. While every project had access to many of these skills and demonstrated a capacity to align activities across the levels of the NHS, they all had limitations, which the Support Team and leadership programme only partially overcame. We conclude that in less well-resourced approaches to QI, elsewhere in the NHS, there is a risk that the delivery platform will be too fragile to implement QI successfully.

## 6.5 What should be done differently in the future?

We have organised our recommendations into three broad areas: delivering, supporting and evaluating QI. Together these recommendations aim to achieve three things: to facilitate clinician engagement in effectively led QI, to amplify the impact of this engagement on clinical practice and patient outcomes, and to improve our understanding about what works and why.

### Delivering QI

#### A springboard for action

Delivering each EwQI project required a sophisticated platform – a springboard to facilitate action. In some instances, this platform built upon an existing capacity in a royal college (POMH-UK, Self-harm), while in others that capacity had to be built virtually from scratch (PEARLS). In some (IBD), existing relationships could be used to help

build the platform, others were seeking to build and develop new relationships as part of the model of delivery (SNAP-CAP). This delivery platform for QI included:

- project management
- data collecting and analysing
- communication
- trust building and diplomacy
- understanding of the wider NHS and its incentives and drivers.

The springboard might be conceived of as the ‘entry ticket’ for playing the ‘QI game’. In the case of the EwQI, there were additional supports available to the teams (not least funding) through the Health Foundation. This will not always be the case for other QI activities. Therefore, our first recommendation is as follows:

*Any QI project should have a springboard, consisting of a team with sufficient capacity to manage the complexity of that project. This report demonstrates the considerable extent of these requirements in terms of project and people management, user engagement, data collection and analysis, communication, trust building, and understanding of the wider NHS environment.*

*TARGET AUDIENCE: those planning and leading QI; NHS bodies hosting QI activities; funders*

*TIMESCALE: immediate*

*TASKS: develop a short ‘capability check’ that QI project teams could use to reflect on their capability for action*

### Sparkling change and mobilising resources

Professional awareness of a gap between the evidence and current practice changes little on its own – these gaps remain persistent. Even having a platform for delivery is insufficient. Each project also demonstrated the importance of leadership and mobilisation. Additionally, each project sought to structure and organise that leadership – a spark to ignite and maintain action.

Leadership took different forms. The role of trusted ‘names’ in encouraging others and giving the project legitimacy points to a more ‘heroic’ form of leadership, but the capacity to diplomatically and persistently maintain interest and momentum among clinicians and patient groups who had many competing interests was equally important. Those acting in these roles needed to be credible both among clinicians and in

the NHS more widely. These complex projects also needed robust project management.

Successful implementation of these projects depended on multi-professional and inter-organisational collaboration. Peer review, although time-consuming, proved to be an effective way to develop action plans at the local level, but it was resource-intensive. On the other hand, PDSA, which depends upon inter-disciplinary teams sharing an understanding of a problem and agreeing to act and measure any resulting changes, had mixed success. PDSA provides a basis for structuring local collaborations in multi-professional settings. This appears not to have always been deliverable. But the difficulties encountered do not suggest that it could not work well in other settings or over longer timescales. IHI thinking on collaboratives (SNAP-CAP) and action planning visits (NCROP and IBD), and NIH thinking on PDSA (SNAP-CAP, PoISE) all aim to help individuals and their teams learn from each other, engage with experts and develop the evidence base. These aims are fundamental to successful QI. Each project had to adapt these generic approaches to local circumstances, and that often required considerable effort. Even the most intellectually coherent approach can be confounded by the complexities of delivering change on the ground. There is a need for flexibility in planning and realism in expectations about likely achievements.

Our second recommendation is that:

*QI activities typically require a change from routine practice and must overcome inertia to get started. Successful projects require leadership capable of sparking enthusiasm and maintaining a momentum suitable to the scale of that inertia and to the ambition of the aims to be realised. Patient voices can be an important support in this. Large, complex projects, such as those in the EwQI, require a range of leadership skills to facilitate action and organise multi-professional, multidisciplinary collaborations, using structures carefully adapted to local circumstances.*

*TARGET AUDIENCE: healthcare leaders; clinical leadership educators; funders of leadership programmes; NHS Institute for Innovation and Improvement; professional bodies; funders of health service research.*

*TIMESCALE: medium-term development of leadership capacities in healthcare.*

*TASKS: build on existing literature on leadership and change to audit current skills against requisite skills; continue to use leadership support programmes as part of QI activities; continue to develop leadership courses and training.*

## **Sustaining change and aligning with the direction of change in the health system**

Throughout our interactions with the project teams we prompted them to outline and discuss their plans for sustaining and spreading the benefits they achieved beyond the life of the EwQI funding. This involved, in one way or another, institutionalising changes through, for example, contributing to guidelines or standards, altering admissions procedures in hospitals, securing funding for future audits through subscriptions or other sources, influencing professional training, and so forth – effectively, aligning the QI activities to the wider resources of the healthcare system.

The projects all struggled to protect clinicians' and service users' time. We have seen the considerable efforts required to engage in QI, and as the NHS faces increasing pressures to deliver, these efforts do not appear to be sustainable. Clinicians face new priorities and interests, and service users become exhausted. However, if QI were to become embedded in the wider mechanisms through which health resources are allocated, then the opportunities for sustainable benefits would be considerably greater. This would require some practical steps. For example, understanding of QI could be improved and participation in QI incentivised through pre-clinical education, professional training and revalidation. Commissioning could be used to support long-term streams of QI and to ensure that lessons learned in one place are absorbed elsewhere. Clinical audit and the use of guidelines and standards could continue to be promoted and spread.

Achieving this would require many things, but in particular, it would need to involve management. Trust chief executives were required by a number of the projects to make a paper commitment, but this was rarely an active involvement. The engagement of managers was not a focus of this initiative, and perhaps, in retrospect, it should have been given more attention.

Our third recommendation is therefore that:

*QI activities cannot easily swim against the tide of wider changes in the healthcare system. To provide sustainable benefits, QI activities should, where possible, be aligned with the mainstream allocation of resources in healthcare, supported through professional training, and through commissioning and regulation, and be integrated into the management of services. This alignment is also likely to include engagement with service users. Should all this not be possible, alternative and sustainable supports should be identified.*

*TARGET AUDIENCE: commissioners of care; managers in NHS bodies hosting QI activities; funders of QI; deliverers of QI.*

*TIMESCALE: immediate.*

*TASKS: QI projects should address sustainability at the outset rather than towards the end and should identify how changes in the healthcare system can be harnessed to achieve sustainable improvements.*

## Supporting QI

We have seen that formally funded, large-scale QI projects are complex and time-consuming, and that they are unlikely to generate quick step-change in patient outcomes. Equally, QI is just one of a number of approaches to improving healthcare, and if it is to earn its place in the mix of policies intended to make healthcare safe and effective, then advocates of QI need to be able to show long-term, sustainable benefits that justify the effort required. For these reasons we propose that the governance arrangements of QI be examined more carefully to ensure that QI activities that are inappropriate, insufficiently managed or lack traction with the wider NHS are not encouraged. However, this should be seen to apply specifically to large-scale and formally funded demonstration projects and not to local ‘own account’ initiatives that could provide fertile ground for new approaches, which could later be assessed more rigorously.

Consequently, our fourth recommendation is as follows:

*A large-scale QI project should only be funded if the healthcare institution hosting that project has the necessary project management capacity, leadership, monitoring and evaluation skills to ensure that the project has the best chance of delivering and measuring improvements in the quality of healthcare, and of sharing positive*

*results. However, a balance should be struck to ensure that this does not inhibit innovative approaches ‘bubbling up’ from below. Of particular importance is the support that service users, carers and their representatives can provide.*

*TARGET AUDIENCE: funders of QI; healthcare bodies hosting QI activities.*

*TIMESCALE: medium term.*

*TASKS: develop a ‘capability check list’ to be used before arriving at any decisions about funding large-scale QI*

In arriving at such protocols for good governance of QI, the royal colleges could play a key and leading role, should they choose to do so. More widely, it is clear from our evaluation that the engagement of the professions is both feasible and appropriate. Again, the royal colleges and professional bodies could, should they so wish, play a positive role in informing, supporting and legitimising QI. Therefore, our fifth recommendation is that:

*Each royal college and professional body should consider how, if at all, it wishes to provide leadership, legitimacy, organisational support and professional training in relation to QI.*

*TARGET AUDIENCE: the royal colleges and professional bodies.*

*TIMESCALE: medium term.*

*TASKS: the royal colleges and professional bodies to use their inter-institutional networks to take forward the debate of what is possible and desirable in general and to develop an internal dialogue on what is appropriate for each institution. As guardians of professional standards, they could also solicit the views and expectations of service users and the wider public.*

While the colleges and professional bodies might have a role to play in the understanding of QI through influencing clinical appraisal, revalidation and professional development, the universities teaching medicine could also incorporate this into their teaching and research. This would give QI greater status and equip clinicians to participate. The EwQI teams did not start with a well-developed skill set to deliver QI. Therefore, our sixth recommendation is that:

*QI should be part of the education, training and appraisal of health professionals. This not only concerns ‘heroic’ leadership but also dispersed leadership and the ability to maintain effective*

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*dialogue with managers, service users and other clinicians.*

*TARGET AUDIENCE: educators.*

*TIMESCALE: medium to long term.*

*TASKS: review the ongoing changes to the current curriculum and propose inclusion of knowledge about QI and skills in its delivery.*

## Evaluating QI and strengthening learning

We are therefore not advocating an explosion of large-scale centrally funded QI projects throughout the NHS. Instead, we are suggesting that such approaches to QI should earn their place in the mix of policies designed to make healthcare safe, effective, fair and responsive. But if they are to do so, we need to build a more systematic evidence base by setting up projects that have not only good governance but also good evaluation. Then, over time, it would be possible to make a judgement about the opportunity cost of the resources that might be put into QI, and about the types of QI that would be most likely to produce certain benefits.

Evaluating QI projects like those assessed in this report is complex. It requires an ability to understand how projects unfold as new information becomes available, new skills evolve, relationships mature and the environment changes. Among this emergence, effective evaluation requires an explicit theory of change

capable of being tested with data that is reliable, and information systems that can monitor outcomes and costs. These requirements should be available to project teams delivering change.

As the EwQI unfolded, it became increasingly clear that the capacity of the projects to generate appropriate cost and outcome data was limited. There was also considerable difficulty in conceptualising the differences and similarities between research, evaluation, evidence for QI and monitoring. As a team, we were treated with great courtesy and good humour, but we were aware that collecting data on processes, costs and consequences was often regarded as a distraction from the 'real' task of delivering QI. However, in our understanding, high quality data are absolutely integral to QI and not an optional extra. This is not simply about the technical capacity to conduct evaluations. Rather, it is about a deeper understanding of the overall relationships between QI and producing flows of evaluative evidence, both to steer future actions and to demonstrate to others that an approach might be worth spreading. Our seventh and final recommendation is therefore:

*Professionals, funders, QI practitioners and evaluators should strengthen learning about the effectiveness and cost effectiveness of QI by developing a better and more widely shared understanding of the requirements for evaluation, and of its benefits and limitations.*

*TARGET AUDIENCE: clinicians; QI planners; evaluators; funders.*

*TIMESCALE: medium term.*

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*Appendix A*

# Engaging with Quality Initiative projects

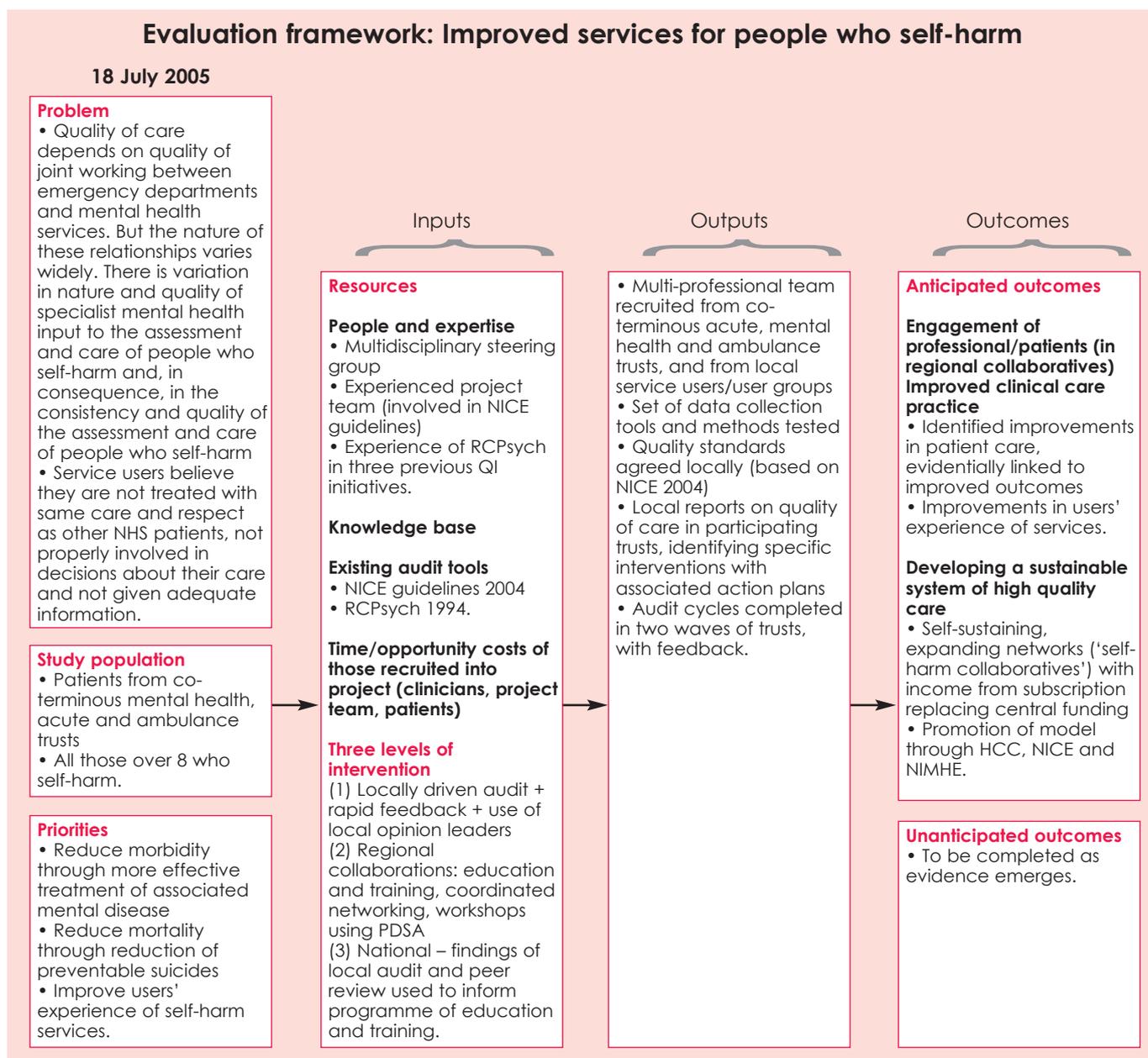
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Lead organisation	Project title and aim	Study design	Scope	Funding duration	Project extension to duration	Start date	End date (final report received)	Total funding amount
Imperial College and Association of Coloproctologists of Great Britain and Ireland	Colorectal Cancer To improve the quality of care for patients with cancer of the large bowel	Audit and feedback Time series analysis of repeat audits	Building on existing ongoing national audit, aiming for 100% participation. 105 contributing hospitals	3 years	9 months	May 2005	Dec 2008 (Apr 09)	£273,374
Royal College of Physicians of London	NCROP To improve the care of patients admitted to hospital with exacerbations of chronic obstructive pulmonary disease	Audit and feedback A complex randomised controlled intervention with multi-professional paired peer review	Building on a previous one-off national audit of 94% of UK acute hospitals. Aiming to recruit 100 participating sites	3 years	4 months	Oct 2005	Feb 2009 (June 09)	£583,485 (including £45,000 supplement)
Royal College of Physicians of London	IBD To assess and improve services for people with inflammatory bowel diseases	Audit and feedback Comparing three approaches, time-series but no control	Developing a national audit. Aiming to recruit 80% of all (approx. 240) acute trusts	4 years	-	Oct 2005	Oct 2009 (Sep 09)	£536,033
Royal College of Nursing	PolSE To improve the care of adult patients undergoing surgery across the UK by implementing national clinical guidelines on peri-operative fasting	Audit and feedback Randomised study of three modes of disseminating an educational package (passive, interactive web-based, PDSA) Time series analysis	19 participating trusts	3 years	6 months	Nov 2005	May 2009 (June 09)	£383,785 (including £38,800 supplement)
Royal College of Physicians of Edinburgh and Royal College of Physicians and Surgeons of Glasgow	SNAP-CAP and EPI-SNAP A two-armed project to improve the management of community acquired pneumonia and epilepsy	Double audit cycle with feedback (EPI-SNAP). Implementation of a care bundle approach (SNAP-CAP)	For SNAP-CAP – half the Scottish health boards For EPI-SNAP – over one-third of all Scottish practices and four clinics	4 years	1 month	May 2005	June 2009 (July 09)	£337,346 (including £3,000 supplement)

continued

Lead organisation	Project title and aim	Study design	Scope	Funding duration	Project extension to duration	Start date	End date (final report received)	Total funding amount
Royal College of Psychiatrists	Self-harm To improve services for people who have self-harmed	Time series analysis of repeat audits	34 selected teams	4 years	–	Apr 2005	Apr 2009 (May 09)	£369,884
Royal College of Psychiatrists	POMH-UK To improve prescribing practice for patients with severe mental illness	Audit and feedback, plus qualitative work informing interventions.	42 participating trust and one private healthcare organisation. Aiming to expand this number throughout the project	4 years	–	Apr 2005	Apr 2009 (May 09)	£456,288
Royal College of Midwives	PEARLS To improve the quality of clinical care in the assessment, repair and the short and longer-term management of second-degree perineal trauma	Audit and feedback Paired cluster randomised trial to establish effectiveness and persistence of training package	10 paired units	4 years	8 months	Oct 2005	June 2010 (n/a)	£563,172 (including £90,000 supplement)

# The projects' logic models



# Evaluation framework: Use of a prescribing observatory to improve pharmacotherapy in specialist mental health services (topics 1 and 2 cover prescribing of antipsychotic drugs)

21 July 2005

## Problem

- Majority of people with severe mental illness receiving care are prescribed one or more anti-psychotic drugs, often long-term
- Current prescribing practice varies greatly and frequently deviates from best practice guidance. 20% of inpatients prescribed dose above BNF recommended limits, 48% prescribed more than one drug concurrently. Most patients not told they have been given doses of medicine outside recommended range.
- Suboptimal prescribing results in: failure to relieve symptoms and prevent associated morbidity, unnecessary burden of disease and reduced quality of life, reduction in life expectancy in long-term patients, raised level of mortality (inc from overdoses) and in severe morbidity.

## Study population

- Patients of Observatory members.
- T1: patients currently occupying beds in nominated psychiatric inpatient wards in participating units (observatory members)
  - T2: outpatients prescribed antipsychotic drugs.

## Priorities

- Identify and quantify suboptimal prescribing practice, and allow comparison of practice
- Measure impact of interventions designed to change practice
- Monitor changes in prescribing practice over time
- Act as educational resource.

## Inputs

### Resources

#### People and expertise

- Multi-professional steering group
- Multi-professional teams in each member trust
- Experience of RCPsych in managing QI initiatives.

#### Knowledge base

- Cochrane systematic reviews
- Partnership organisations.

#### Existing audit tools

- NICE guidelines, BNF consensus based recommendations.

#### Time/opportunity costs of those recruited into project (clinicians, project team, patients)

#### Primary intervention

- Measure baseline prescribing practice performances for pilot topics 1 and 2.

#### Secondary intervention

- Develop multifaceted interventions to address deficiencies (eg: rapid feedback, education activities)
- Measure effectiveness and efficiency of these interventions
- Disseminate results for each topic and promote application to other topics and at other sites.

## Outputs

- A list of agreed criteria for selecting future topics
- A cohort of identified member trusts and associated multi-professional teams
- Arrangements agreed for local data collection
- Feedback on the quantitative and qualitative findings of two completed audit cycles
- Lessons identified from the process (available to further recruits to the Observatory and for use in other topic areas).

## Outcomes

### Anticipated outcomes

#### Engagement of professionals/patients

- Engagement of multi-professional interest in quality improvement.

#### Improved clinical care practice

- Detailed information on prescribing as a process, evidentially linked to specific patient outcomes.

#### Develop a sustainable (flexible) system of high quality care

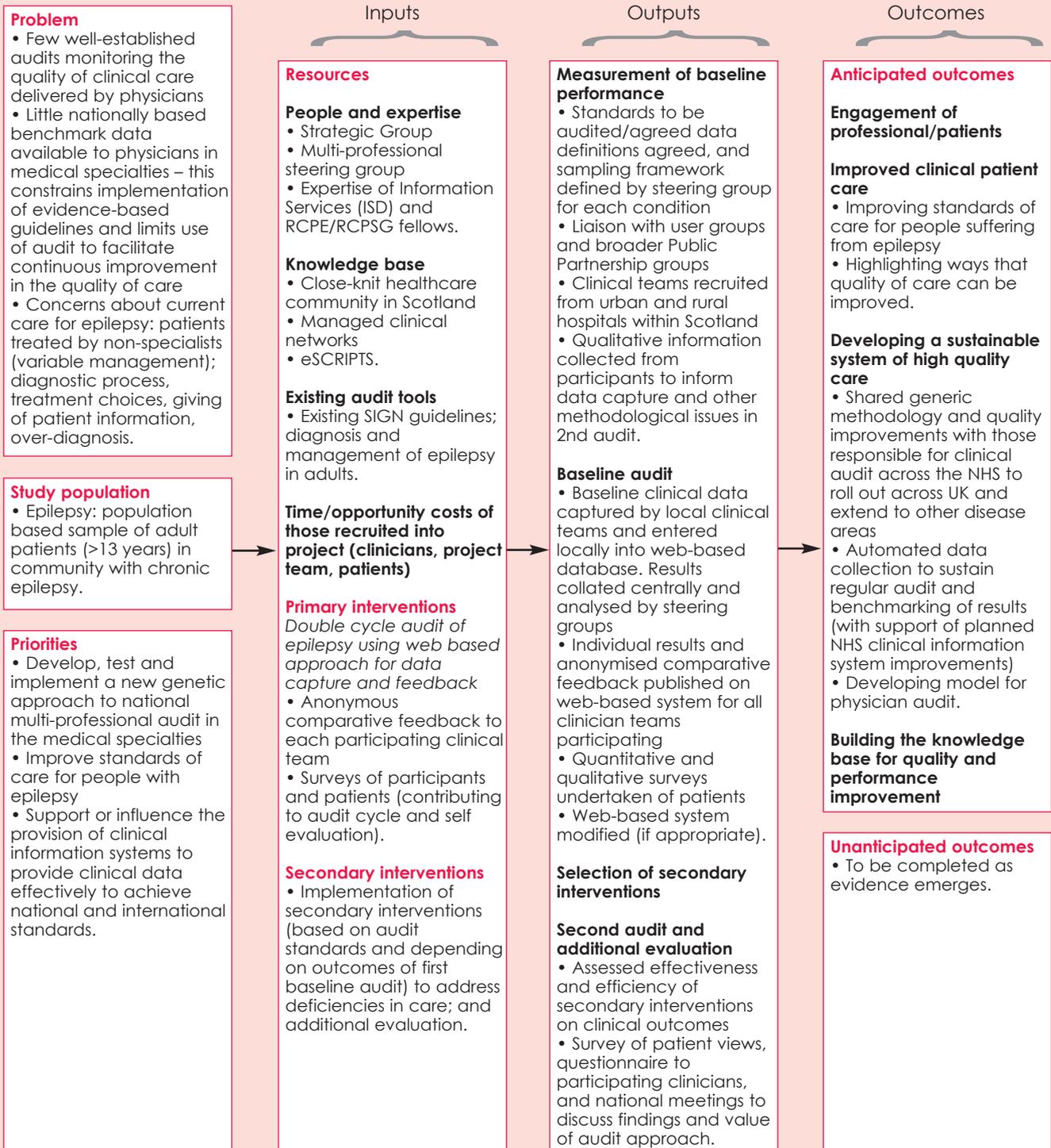
- Central hub linked to partner organisations and to clinical governance teams in member trusts.

### Unanticipated outcomes

- To be completed as evidence emerges.

# Evaluation framework: Web-based audit of evidence based medical interventions – epilepsy

20 July 2005



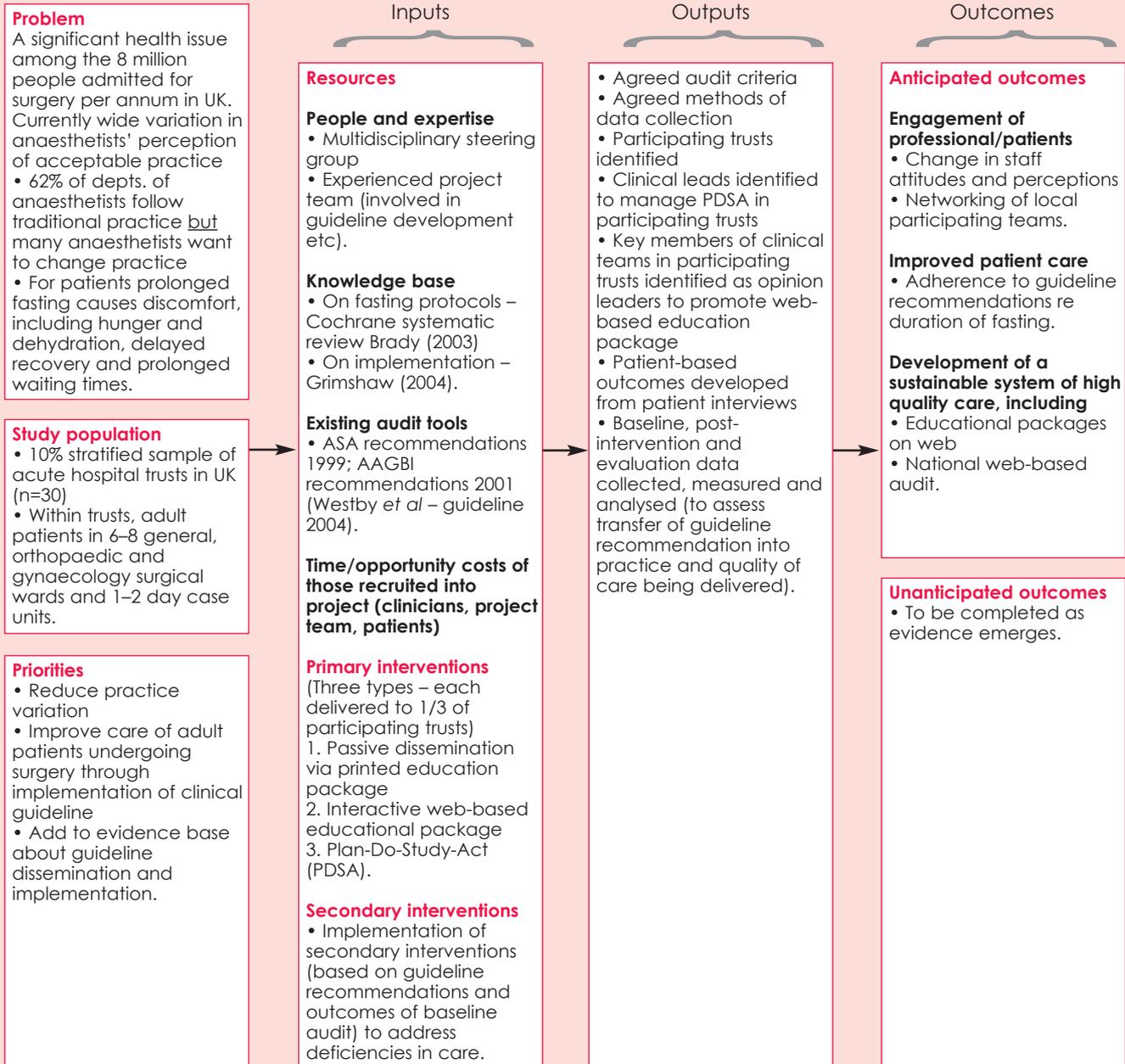
# Evaluation framework: Web-based audit of evidence based medical interventions – community acquired pneumonia (CAP)

20 July 2005



# Evaluation framework: Implementation of peri-operative fasting guideline

22 August 2005



## Evaluation framework: Improved services for people with Chronic Obstructive Pulmonary Disease (COPD)

30 September 2005

### Problem

- COPD is a common chronic disorder affecting older people. It accounts for 23,500 deaths pa in UK. Cost to economy – £492 million
- Active management can improve QLYS
- But there is strong evidence of unacceptable variations in practice and outcomes – leading to increased number of emergency admissions and associated increased mortality, reduced life expectancy, and reduced quality of life.

### Study population

- Intervention sites n=54 (27 pairs)
- Control sites n=46 (23 pairs).

### Priorities

- Improve quality and effectiveness of hospital care for patients admitted with COPD
- Reduce unacceptable inequalities by bringing the experience of high achievers to those with lower achievements
- Identify mechanisms that spread good practice
- Generalise findings to wider healthcare system.

### Inputs

#### Resources

##### People and expertise

- Multi-disciplinary steering group (incl. patient rep).

##### Knowledge base

(provides composite performance score of hospitals)

- 2003 national clinical audit
- HES outcome data
- Updated BTS data.

##### Existing audit tools

- NICE guidelines (2004)
- BTS guidelines (1997).

##### Time/opportunity costs of those recruited into project (clinicians, project team, patients)

##### Primary intervention (1)

(A system of peer review received by half of pairs of hospitals)

- Team from paired unit visits matched unit and reports
- Visited unit prepares action plan outlining 3 important changes
- Paired hospitals divided into 2 groups: 1. Action plan discussed with patient reps; 2. Patient reps not involved.

##### Secondary intervention

(Applies to half of pairs of hospitals)

- Strategy for change – based on unit report – implemented and monitored monthly.

##### Primary intervention (2)

(Applies to all hospitals)

- Repeat of national audit.

### Outputs

#### Achieved in intervention group

- Successful facilitation of exchange visit system
- Development of unit action plans, outlining 3 important changes
- Individual unit strategies for change shared across intervention group
- Change diaries – documenting service developments
- Analysis of factors facilitating and hindering change.

#### Generally

- Results of survey on organisational and process changes in participating trusts
- Results of national audit
- Comparison of outcomes between two arms of the study.

### Outcomes

#### Anticipated outcomes

##### Engagement of professionals/managers/patients

- Improved clinical outcomes and processes of care (demonstrated in national audit)
- Development of a sustainable system of continued improvement in patient care applicable to other areas of medicine.

#### Unanticipated outcomes

- To be completed as evidence emerges.

## Evaluation framework: Improved services for women with second degree perineal tears

8 July 2005

### Situation

#### Epidemiology

- Incidence for 2nd degree tears unclear – 90%+ (?) of 400,000 pa (85% of vaginal deliveries).

#### Knowledge base

- RCOG guidelines 2004
- Bick *et al* 2002.

#### Current practice and training

- Varies widely.

#### Priorities

- Improve clinical care in line with evidence-based guidelines
- reduce immediate and longer term post-partum morbidity
- Improve women's experience of maternity care (especially perineal care) and enhance their perception of their health and well-being.

### Inputs

#### Resources

- Multi-disciplinary steering group
- Experienced project team (involved in developing RCOG guidelines)
- Local clinicians from participating units to be training facilitators in cluster study.

#### Interventions

- Electronic survey of practice
- Electronic survey of training
- Delphi survey of patients' views on outcomes
- Paired cluster study (10 aired units) to assess impact of training intervention, including 3 staged prospective clinical audits and surveys of patients' perceptions.

### Outputs

- Feedback from electronic surveys and Delphi process
- Final list of clinical and psychological outcome measures covering: pain and the use of analgesia, incidence of wound infection, uptake and duration of breast feeding, well-being
- Feedback from audits – providing data to support the development of the training intervention [and (not mentioned) organisational change?]
- Tested audit tools
- Tested training intervention.

### Outcomes

#### Intended outcomes

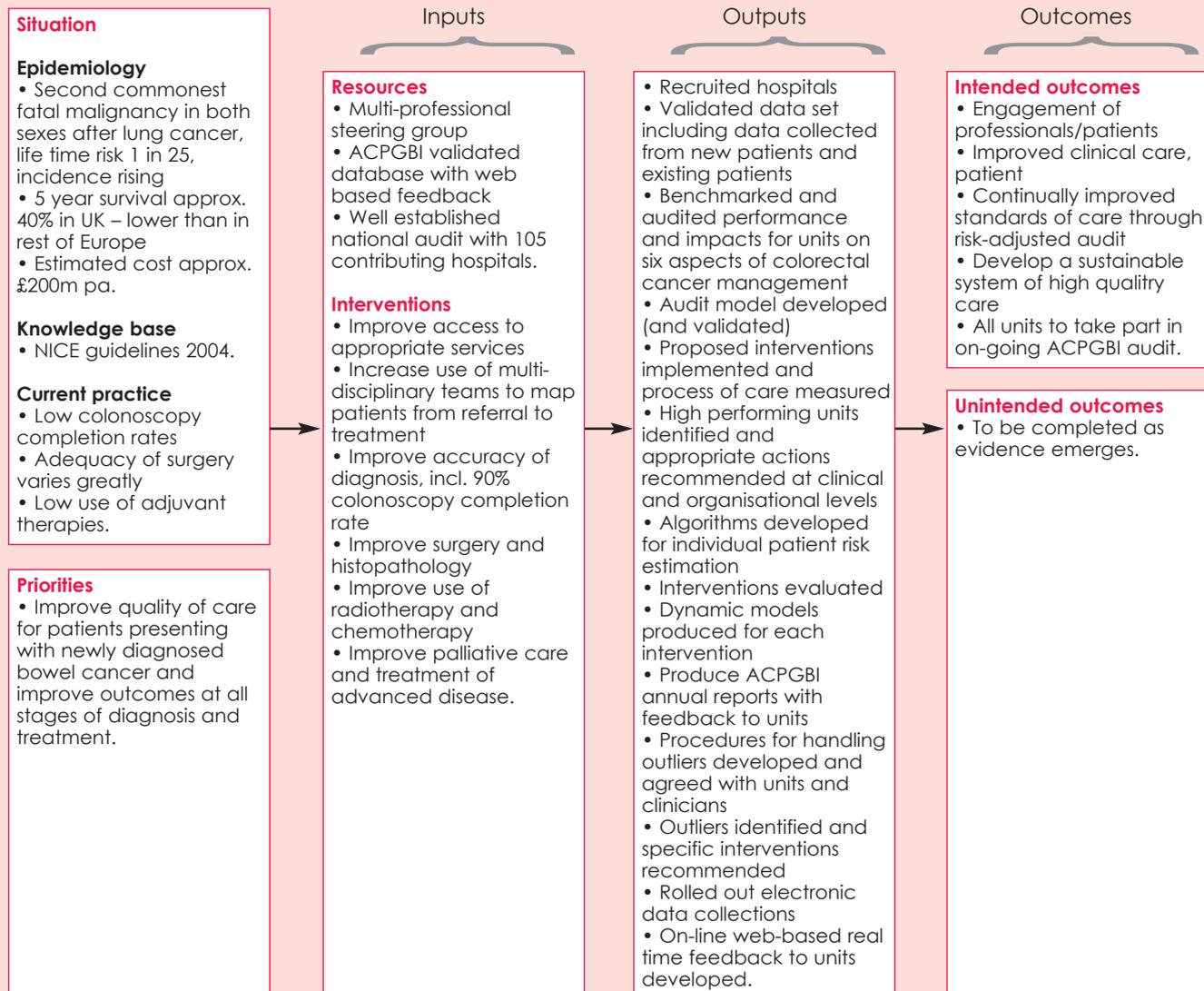
- Engagement of clinicians, patient groups and other stakeholders in quality initiative
- Improved clinical care, reduction in morbidity and better patient experiences
- National standard for perineal assessment and management (A NICE guideline)
- Intervention package and audit tools on RCM/RCOG websites in an interactive learning format as basis for continued local audits
- Development of DipEx website to share women's views.

#### Unintended outcomes

- To be completed as evidence emerges.

## Evaluation framework: To improve the quality of care and outcomes of treatment for colorectal (large bowel) cancer

11 July 2005



# Evaluation framework: Improved services for people with inflammatory bowel disease

15 July 2005

## Situation

- IBD third most common cause of medical emergency admission
- 80% Crohn's patients require surgery. Low quality of life
- Ignored by NSF
- Affects 1 per 100 of population and accounts for 0.3% of absences from work.

## Priorities

- Improve quality of care by:
- Earlier diagnosis
  - Optimal treatment
  - Improved monitoring
  - Improved management of side effects
  - Collecting better clinical audit data.

## Inputs

### Resources

- Multi-disciplinary steering group
- Web-based tool for data collection.

### Interventions

- 1/3 units receive only feedback; 1/3 develop local action plan; 1/3 develop augmented action plan.

## Outputs

- Recruited lead IBD clinicians from 80% of trusts
- Impact assessed through second audit
- Collected and analysed data on the relative successes of different approaches against benchmarked standards
- Identified evidence-based improvement plans which are accepted and taken up by stakeholders.

## Outcomes

### Intended outcomes

- Engagement of professionals/patients Inc. other stakeholders, eg: RC's)
- Improved clinical patient care
- Local plans lead to earlier and more accurate diagnosis, more timely and appropriate treatment, improved monitoring of patients, and better management of side effects
- Develop a sustainable system of high quality care
- Data able to support clinical and organisational decision making
- Development of action plans leading to organisational change.

### Unintended outcomes

- To be completed as evidence emerges.

# The evaluation protocol

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(The protocol for the external evaluation of the EwQI was deliberately ‘emergent’, it was developed during the first year of the initiative, and finalised and agreed with the Health Foundation in March 2006)

## An Evaluation of the Health Foundation’s Engaging with Quality Initiative

Evaluation Protocol

First Draft March 2005

Final Draft March 2006

Prepared for The Health Foundation

(Abridged for this final report Sep 2009)

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### Introduction

RAND Europe and the Health Economic Research Group at Brunel University (HERG) began work on the evaluation of the Health Foundation’s Engaging with Quality Initiative (EwQI) in July 2005. The contract stated that the final research protocol would be agreed after a round of familiarisation with the initiative in general, and the work of the projects in particular. The early stages of the evaluation were seen as ‘emergent’ in this sense. Having completed this first round, it is desirable to specify in more detail the research protocol to be used to structure the evaluation. The purpose of this protocol is to provide a focus for what has been learned during the first months, to define the steps to be taken through to the completion of the evaluation, and to meet contractual requirements.

As outlined in the original proposal, RAND Europe and HERG will undertake a mixed methodology

evaluation. This includes a modified logic model method and realist evaluation designed to identify mechanisms (or interventions), contexts and outcomes for each project. This will get inside the ‘black box’ of the projects to achieve an understanding of clinical and organisational processes, and of users’ experiences. We will also use Delphi surveys, interviews and workshops. In addition, we will collate qualitative and quantitative data produced by the projects in their self-evaluations (the format of these is listed in annex 1).

We have achieved a preliminary understanding of the aims, processes and intended outcomes of each project through discussions with them (initially focused on logic models but ranging more widely). Working closely with the projects to support their self-evaluation plans has proved to be more important than anticipated and this additional work has been resourced with extra money from the Health Foundation. We will continue to work

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closely with the projects to maintain a strong mutual understanding of our respective evaluation activities and to coordinate our effort to maximum benefit. We will also act as a broker, communicating quality lessons from the various projects to each other, identifying common information needs and engaging proactively. This will not mean doing the projects' work for them, but providing expertise, information and legitimacy for their self-assessments. From an external viewpoint, but with inside access, we will provide objective evaluative assistance.

During the life of the initiative, we will also work with the projects to refine their logic models and encourage a reflexive approach through which evaluation contributes to learning and innovation. We have a clear sense of the activities of each project and, through discussions with the projects, we have become more aware of the need to identify the counterfactual (ie: to identify what would have happened had there been no EwQI) in order to measure the additional value contributed by each project. We are also more aware of the need to calculate the full cost of each project (including the opportunity costs of clinicians engaging with the project) if we are to undertake a meaningful cost-consequence analysis. Throughout the life of the initiative we will reflect on what we learn as evaluators, and communicate this to the projects, the Support Team and the Health Foundation itself. At the same time, we will capture lessons learned by the projects through working with the external Evaluation Team. This will both support learning during the initiative and provide a robust summative evaluation at the end.

The following sections summarise the key aims and methods, identify the context and background, the main tasks, the methods and the risks. They are shown in a linear manner for ease of presentation, but they overlap both conceptually and chronologically. The timing of these activities is also outlined.

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## Summary of key aims and methods

### **Aim 1: To work with award holders in developing and implementing their evaluation plans by helping projects to:**

- Collect reliable and valid data and to identify mechanisms, contexts and outcomes, including overall costs and key measures of effect (including the presentation of a counterfactual)
- Overcome the practical and methodological difficulties associated with measuring outcomes, including clinical data, non-clinical measurable improvements users' views, and process improvements<sup>105</sup>, as agreed with the Health Foundation and projects.

### **Aim 2: To synthesise the data and findings from project level evaluations by:**

- Supporting the projects to identify and analyse the evidence base for the impact of their inputs and processes on outputs and outcomes in a form that can be aggregated, where possible, at initiative level
- Analysing initiative-wide data to establish which improvement interventions, associated with which contexts, produce which improvements in clinical outcomes, which process improvements and which changes in users' views of the care they receive.

### **Aim 3: To gauge increases in clinical engagement in clinical quality improvement and assess the consequences by:**

- Determining the current state of clinical engagement in clinical quality improvement in each of the areas covered in two ways. First, by examining the documentary evidence (including the original proposal) made available to us by the projects. Second, by subsequently interviewing project team members and key informants. This will include consideration of current organisational culture.

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- Assessing the change achieved during the life of the initiative through support in designing, implementing and analysing a survey of relevant participants towards the end of each project. This support will include guidance on content and on managing the survey itself. Some of these questions will be initiative-wide (and the same for all projects) and others will be project-specific. They will include questions on the role of the professional bodies, patient engagement and cultural change. They will be anonymised but will allow us to identify respondents by function and clinical area.

#### **Aim 4: To measure the effectiveness of the award scheme (during its life) in leveraging external commitment to quality improvement by:**

- Identifying project-based evidence of the influence of the EwQI on public policies and on professional bodies seeking to engage clinicians in quality improvement. This could mean, for example: standard setting (such as NICE guidelines and NSFs), development of quality measures, data collection and analysis, peer review and the evidence-based design of improvement strategies<sup>106</sup>. This evidence will be followed by a workshop identifying barriers, facilitators, processes and illustrations of externally supported, clinically led quality improvement that will require ongoing monitoring by the projects. We will also encourage the collection of vignettes and illustrations by the projects to add force and vitality to the final report

#### **Aim 5: To evaluate the increase in competency and infrastructure for quality improvement in the professional bodies involved in the EwQI by:**

- Including questions in the end of project surveys (under aim 3) – alongside the outcomes of aim 4 – to establish how professional bodies have supported quality improvement. This will be aided by in-depth interviews with each of the relevant professional bodies focusing on their contribution to the quality agenda including

standard setting, development of quality measures, data collection and analysis, peer review, and quality interventions.

#### **Aim 6: To assess the influence and cost consequences of the initiative by:**

- Assessing the likely legacy of the projects through an appraisal of the suitability, feasibility, sustainability and acceptability of the legacy plans, and through a wider assessment of their impact on the environment of quality improvement. This will lead to a summative assessment of the overall cost of the initiative and its consequences, and will necessarily include our interpretation and assessment of the projects' self-evaluations. We will invite feedback from the projects for factual accuracy, but we will arrive at our own judgement about their interpretations.

## **Context and background**

(updated and abridged from the proposal, repeated here for ease of reference)

Government policy explicitly acknowledges both the variability in the quality of healthcare and the role of professionals in leading improvement<sup>107</sup>. Current research also indicates a very wide range of quality improvement initiatives and a wide variation in their impact and success<sup>108</sup>. Research conducted jointly by RAND, UCL and the Harvard Medical School suggests that there are important organisational and cultural foundations to sustaining quality improvement in healthcare and that these are varied and complex<sup>109</sup>. The same research also suggests that there are macro-level supports within which micro-systems of quality improvement might flourish, and that they are mediated and managed by what might be termed, following House and colleagues<sup>110</sup>, a meso-paradigm for quality. We will assess in this evaluation the initiative's likely claim that these micro-systems might be effectively supported by engaging professionals and their organisations at meso and macro levels. The potential impact of clinicians engaged with quality improvement is suggested by Leatherman and Sutherland (L&S) in *The quest for quality in the NHS*. Some of the relevant themes from their analysis are:

- clinicians work in the NHS as members of clinical teams, not as isolated individuals (pp 169, 177)
- the work of these teams is, in turn, strongly influenced by the (local) organisational culture (pp 172, 173)
- the royal colleges are important in supporting quality initiatives in the NHS (p 44)
- measuring cultural change is very difficult, especially when there are multiple cultures and sub-cultures, hence the inadequacy of the current evidence base and the need for rigorous evaluation (pp 177, 178)
- user involvement in clinical audit is important (see below)
- sustaining quality improvements is also important, hence participative rather than top-down approaches (p 178).

The richness and variety of this analysis reflects the multiple mechanisms available to improve the quality of healthcare – and the multiple barriers to delivering and evaluating such improvements. There has also been a growing interest in recent years in the cost effectiveness of different activities intended to improve clinical quality (such as guideline dissemination and implementation strategies) and these have been systematically reviewed by Grimshaw and colleagues (2004)<sup>111</sup>. Another important document is *Principles for best practice in clinical audit* produced by NICE and others in 2002. This captures much previous work on assessment of audit and on the implementation of research. In its summary it notes:

*A key finding is that the issues identified in relation to implementing change in audit, the organisation of audit projects and audit programmes, and the findings of the systematic reviews of studies of implementation methods indicate similar conclusions. The successful implementation of improvements in healthcare depends in large measure on a conducive environment within healthcare organisations that includes the promotion of positive attitudes and the provision of the time and resources required. Leadership and effective teamwork are important organisational attributes ... There is adequate evidence about the methods of audit, including projects that should encourage greater involvement of users, the use of more systematic methods of selecting criteria and collecting data, and the use of a variety of approaches to suit the setting and the topic concerned<sup>112</sup>.*

The HERG evaluation of the Implementation Methods Programme also explored many of these

ideas, noting that researchers in this field are increasingly moving from studying single interventions aimed at individual clinicians, to looking at broader change strategies that pay more attention to structure, processes and culture<sup>113</sup>.

Other UK work relevant to this evaluation includes: the *Directory of Clinical Databases*, which has developed a set of criteria for assessing clinical audits<sup>114</sup>; papers which describe the limitations of current performance ratings in the NHS – providing gloomy news about the current availability and validity of routine data on clinical outcomes<sup>115</sup>; and the Healthcare Commission website – which reports on participation in audits in acute trusts.

Synthesising in-depth, holistic case studies of the sort proposed here means giving attention to the organisational context at both the macro level (for example, the level of the hospital) and the micro level (the unit). The literature suggests a very wide range of organisational settings within which a clinician-led micro-system of quality improvement might thrive. Professional bodies can actively contribute to this in a wide variety of ways depending on the local context. The table opposite indicates the key themes around ‘organising for quality’, examples of the relevant literature, and the related issues for evaluating the EwQI.

## Summary of tasks

The evidence base for exploring the issues outlined above is challenging and often contestable. It focuses on certain practices, such as the use of audit, guidelines, pathways and protocols, quality improvement and quality assurance systems, clinical governance, service design, risk management, patient safety initiatives and capacities for collaboration/partnership. Professional bodies, should they so wish, have the capacity to influence all these in different ways.

## Aims and activities

We are not, therefore, starting from a position where there are a small number of evidence-supported, testable hypotheses concerning the potential for engaging clinicians in delivering improvements in the quality of healthcare.

## Evaluation issues concerning organisational settings raised by the EwQI<sup>116</sup>

Key themes 'organising for quality'	Examples of literature	Issues for EwQI
Organisational citizenship	Smith, Organ and Near (1983); Manville and Ober (2003)	Rights and obligations of organisational members
Organisational identity	Dutton and Dukevich (1991); Whetton and Godfrey (1998)	Content and understanding of, and commitment to, organisational identity
Relevance and fit of evidence with existing patterns of organisation and practice	Rycroft-Malone et al (2004); Dopson et al (1999)	Importance of organisational context as a mediator of successful implementation
Empowerment	Conger and Kanungo, (1988); Conger (1989)	Capacity of individuals and groups to do what they think is right
Bottom-up organisational change; diffusion of innovations	Barley and Tolbert (1997); Strang and Soule (1998); Rogers (1995)	Spread of socio-technical activities through the organisation
Organisational learning, communities of practice	Argyris (1982); Levitt and March (1988); Wenger and Snyder (2000)	Learning from past behaviour, sharing knowledge
Mindfulness, cultural leadership, social commitment	Weick and Sutcliffe; Bate (1994, 2004)	Commitment to the public good
Socio-technical systems design	Trist (1981); Pugh and Hickson (1976)	Consequences of deliberately designed systems such as ICT
Cooperative communities, whole systems change	Barnard (1968); Williamson (1990)	Capacity to respond system-wide to systemic challenges
Distributed leadership	Denis, Lamothe and Langley (2001); Gron (2002)	Role of leadership at every level of organisation

A variety of patterns of engagement are possible, facilitated or hindered by a range of factors, which correlate in different ways with improvements in the quality of healthcare in the UK.

Synthesising findings from the projects will therefore require attention to local variation, sensitivity to local contexts, and a conceptual framework capable of providing some order to the emerging evidence. Assessing the contribution of professional bodies to quality improvement concerns will require an understanding of their current capacities and of their contribution to local systems. We have balanced these requirements within the resource constraints of the evaluation in the ways laid out below.

### **Aim 1: To work with award holders in the development and implementation of their evaluation plans**

#### **Task 1**

The first task has been to work with the project teams to support their self-evaluations, including data identification and validation. In the first six months we allocated considerable resources to this task. Discussions to date with the project teams have been based on their own proposals, and have involved:

- defining the objectives of the project self-evaluations and, therefore, identifying all the relevant data, including data related to the experiences of users (see annex 1 for the agreed end-of-project self-assessment format)

- encouraging systematic data collection on costs and on anticipated key effects
- establishing what project teams think are the context, mechanisms, and anticipated outcomes of their project
- working with each project team to help them develop, and agree with us, a ‘counterfactual’. The counterfactual would allow the teams to assess how much change during the life of the initiative was attributable to the initiative and how much to ‘secular’ activity
- supporting projects’ understanding of the broad conceptual model for building systemic capacity that was outlined in L&S<sup>117</sup> and discussed with the project teams at the residential meeting in November 2005
- supporting projects’ understanding of the layers of organisational culture outlined in L&S<sup>118</sup>, which demonstrate what needs to be changed if quality is to be improved, ie: beliefs, values, behaviour, etc.
- ensuring projects’ understanding of factors associated with success as identified in the Health Foundation tender<sup>119</sup>
- discussing projects’ understanding of where professional bodies fit into the above.

The aim has been to support the projects in developing logic models for their improvement interventions.

Further activities include:

1. Continuing to work with project teams to identify inputs, processes, outputs and outcomes in order to specify more precisely which inputs, associated with which processes, and in which contexts produced the intended outputs and outcomes. The model will be particularly sensitive to the role of professional bodies in influencing quality improvements through engaging professionals.
2. Continuing to discuss detailed data requirements with the projects.
3. Ensuring that the data collected by the projects can be effectively brought together in our final report and that all projects collect some categories of data (on costs, for example).
4. Supporting the project-level evaluations throughout the life of the initiative
5. Maintaining a ‘diary’ showing what has been learned from the external Evaluation Team’s involvement with the projects.

## Outputs

We have developed, and gained agreement for, an outline of the end-of-project self-assessments (see annex 1). The project teams were asked to produce self-evaluation plans by February 2006. We will produce updated logic models for each project every six months.

### Task 2

‘The proposition that users should be involved in all stages of the audit process is clear ... there is a growing number of studies to support particular methods of involving them in audit which result in success in achieving health gain<sup>120</sup>.’ All the projects are encouraging the involvement of users, both centrally and locally. We will assess the experiences of the users as ‘active partners’<sup>121</sup> in the projects, seeking to establish, for example, their role in defining outcome measures, and their contribution to the design and implementation of improvement interventions and to governance arrangements. Several projects are planning surveys of users. Where this is the case we will discuss these surveys with the project team to ensure that they meet the requirements of both levels of evaluation.

### Output

A paper on user involvement across the EwQI, covering users’ roles, responsibilities and perceptions, discussed with the project teams and produced at the end of the initiative.

### Task 3

Discussions with project teams will also consider how the counterfactual can be addressed. In the context of other simultaneous efforts to improve quality in healthcare, we need as far as possible to identify the confounding effect of such developments on our data.

1. There is no single approach to this problem that is right for every healthcare context. One approach is to benchmark not just the work of clinicians to whom the EwQ improvement interventions apply (for example, those in receipt of specific training initiatives), but also the work of comparable groups outside the initiative. Another approach is to use existing historic trend data to support assessment of the impact of the intervention. We will explore planned approaches with each project team.

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- To set the context, we will also provide an ongoing list of key quality initiatives in the UK over the four years of the EwQI. We will ask the project teams to consider what impact, if any, each quality initiative has had on their project.

## Outputs

- An agreed approach on addressing the counterfactual with each project team, developed as part of their work on their end-of-project self-assessments.
- A discussion paper on the counterfactual for the EwQI as a whole.

## Timing

On balance, the tasks under aim 1 will occupy more time in the first nine months of the initiative, but a support function will continue to operate until the projects' final reports are completed. The reflexive approach described above will continue throughout the evaluation.

## **Aim 2: To synthesise the data and findings from project level evaluations**

### Task

We will synthesise the data and findings from project level evaluations using a modified form of logic modelling<sup>122</sup> within an overall framework informed by realist evaluation<sup>123</sup> and develop a logic model for the initiative as a whole. This generic model will seek to illustrate how – at each level within the health system (which might be labelled macro, meso and micro), and within the broad context described above – initiatives such as the EwQI influence prior determinants such as beliefs, values, and patterns of behaviour to produce changes in clinical and non-clinical outputs. This will be an iterative and reflexive process, developed collaboratively with the Health Foundation and the projects, and will provide an important tool for informing and influencing others. The Evaluation Team anticipates that the data generated by the projects will be sufficient and accurate enough to allow conclusions to be drawn. It is not able to quality-assure these data and nor can it provide a data-collecting function. Should the Evaluation Team become anxious about the extent or quality of the data they will make the Health Foundation aware of this and

discuss ways of addressing this. If the data collection on the projects has slipped, we suggest a review, in or around June 2007 where we either push back the activities of years 3–4, or we find some other way to ensure the availability and completeness of the evidence. June 2007 would also be an appropriate time to review the level of support to be made available to the projects. During the first nine months of the project the Evaluation Team provided more input than had originally been proposed with consequences for that team's budget. Given the benefits that came from this, a similar level of input might be desirable in year three but this would need to be funded above the current budget.

## Outputs

A regularly updated logic model (six monthly) for the EwQI as a whole, which will form the basis for work on subsequent aims and for later papers and reports.

## Timing

More time will be taken on activities under aim 2 during the first year as this involves working with the projects to ensure that data collected are relevant to the aims of the initiative and, where possible, collected in a way that facilitates comparison and contrast. However, as with aim 1, this function will continue, probably in a less time-consuming way, until the end of the projects.

## **Aim 3: To assess increases in clinical engagement in quality improvement**

### Task 1

Our first task is to gauge current clinical engagement through an examination of the documentary evidence, using the projects' original proposals and other evidence made available to us by the projects.

### Task 2

Following this we will conduct interviews with project team members and key informants, who will be identified following advice from the projects. Through these interviews we will explore the state of affairs in the quality improvement context of each project before it has a chance to influence that setting. This will include exploring

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the influence of factors such as organisational culture, team building, team support, organisational support, patient involvement, professional body involvement, and so forth, on clinical engagement in quality improvement. We envisage interviewing some two to three people with an understanding of the context of each project. Typically these should be selected from clinicians, royal colleges and patient groups but might also include academic experts working in this area.

### Task 3

We will assess the change achieved during the life of the initiative by supporting each project in designing, implementing and analysing a survey of relevant clinicians towards the end of the project. This will be sent to a population selected by each project to ensure that the views of all clinicians involved are represented. Our support for this survey will include guidance on content and on managing the survey itself. Some of these questions will be initiative-wide (and will be the same for all projects) and others will be project-specific. They will include questions on the role of the professional bodies, patient engagement, and cultural change. Although anonymised the survey will allow us to identify respondents by function and clinical area. Both the initiative-wide and project-specific questions will attempt to identify how far credit for change can be attributed to the activities of EwQI, as opposed to other pressures (in the medical profession in general at their institution, or in their specialty/profession). This will take place around year 3 of the life of each project to allow the impact of the initiative to be felt.

### Task 4

In the final year of the initiative, we will conduct a web-based Delphi survey to identify: how clinicians can best be engaged in quality improvement initiatives; what impact this is thought to have on clinical outcomes; and how this work best interfaces with the engagement of patients, other professionals and health services managers to leverage external commitment to clinical leadership of quality improvement. We will approach COREC for a view on whether this requires ethics approval and, if so, obtain the

necessary approval. There appear to be no overwhelming problems with securing approval.

### Outputs

To enhance the impact of any findings, these data will be presented in a series of before-and-after spidergrams showing our summary of the situation at the start of the initiative and the subjective views of clinicians in each project area at the end of the initiative. These are intended to facilitate communication of findings (rather than being an analytical tool to create findings).

We will also produce a short briefing paper to inform aim 4.

### Timing

The documentary assessment and interviews will take place between February and July 2006. The surveys will take place in year 3 of each project and the Delphi in year 4.

## **Aim 4: To measure the effectiveness of the award scheme (during its life) in leveraging external commitment to clinical leadership of quality improvement**

### Task 1

The web-based Delphi survey described under aim 3 will be used to deepen our understanding of this question.

### Task 2

The results of the Delphi, and the short briefing paper produced on the basis of the project surveys under aim 3, will be used in a workshop on leveraging external commitment. At this workshop, representatives from each project will identify barriers, facilitators, processes, outcomes and illustrations.

### Output

The output of this workshop will be a paper on facilitators, barriers, processes, outcomes and illustrations drawing upon the experience of

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project teams throughout the initiative. This output will directly feed into the delivery of aims 5 and 6, which consider the long-term sustainability of the aims of the EwQI and the initiative's contribution to the infrastructure for quality improvement in professional bodies.

### Timing

The initial aspects of this aim will be delivered through delivering aims 2 and 3. The briefing paper and workshop will be produced in the final year of the initiative.

## **Aim 5: To evaluate the increase in competency and infrastructure for quality improvement in the professional bodies involved in the EwQI**

‘The key question here is not whether the royal colleges have a pivotal role in the Quality Agenda, but rather how to engage them most constructively in a set of critical tasks including standard setting, development of quality measures, data collection and analysis, peer review and the design, based on evidence, of interventions to predictably improve patient care<sup>124</sup>. It is against this set of tasks that increases in competency and changes in the infrastructure of the relevant professional bodies will be measured.

### Task 1

In the process of achieving aim 4, we will find out which supports by professional bodies are considered the most relevant to clinician-led QI by the clinicians participating in the EwQI projects. In addition we will conduct in-depth interviews with each relevant professional body focusing on the issues identified by L&S in the quotation above. Interviewees (one or two from each professional body) will be selected following discussions with the projects.

### Task 2

We will also know how the projects think professional bodies might more effectively support clinician-led quality improvement. Here we intend to identify how changes in the competency and infrastructure of relevant professional bodies

during the course of the EwQI have enhanced clinician-led quality improvement. We therefore propose to look in detail at what the professional bodies involved in the EwQI have done. How effectively have they involved users? Have they promoted more effective use of audit and of audit data? We expect that the surveys and Delphi will also cast further light on this.

### Output

A briefing paper to inform the appraisal workshop in aim 6.

### Timing

The main activities under aim 5 will be carried out in the final 18 months of the initiative.

## **Aim 6: To assess the influence and cost consequences of the initiative**

### Task 1

Influence of the EwQI

1. We will systematically evaluate the projects' legacy plans, using the evidence collected during the evaluation to identify the acceptability, suitability, feasibility and sustainability of the plans. This would provide an opportunity both to evaluate likely impact and, in the reflexive spirit of both levels of evaluation, to enable the project teams to adjust their legacy plans for a more sustainable influence. ('Sustainability' refers to the extent to which the aims and objectives of the project are likely to be sustained into the future. The 'legacy plan' concerns the specific steps taken by each project to secure this. Thus, a legacy plan can be minimal, because sustainability was being delivered through other means such as changes in the royal colleges. Conversely, there might be very extensive legacy plans but limited sustainability.)
2. We will also ask the project teams to identify the impact of their work on the development and implementation of other quality initiatives, such as the development of a relevant NSF.
3. We will then take the finalised legacy plans and combine them with the key findings of the initiative in a brief report.
4. Using this as background and the workshop findings delivered under aim 4, we will run an

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appraisal workshop with stakeholders (professional bodies, NHS Confederation, Healthcare Commission, audit bodies, etc) and with policy makers (Department of Health, HM Treasury, etc).

5. Conceptually, we intend to consider different levels of quality improvement and their interactions. These levels are: specialism, local/institutional, national and international.

## Task 2

### Cost consequences

1. We will work with the projects to explore what data they can provide to estimate costs. This will involve records/estimates of the time resources (by classes/levels of staff) devoted to the project (that would not otherwise have been incurred) by those most directly involved/affected. This takes time regardless of who is paying for it. Project teams will also need to set out all the (main) consequences: describing them, measuring them and valuing where possible/easy. These consequences might include improved patient satisfaction (using an index); reduced serious events (estimated number, possibly costed); fewer formal complaints (number only); increased demands on specialist advice (frequency and numbers, possibly costed); and reduced risk of subsequent serious events (expressed as a reduction in a risk score).
2. We will provide further advice on these requirements to the project teams and, in particular, we will work in the early months of the EwQI to ensure that the projects establish mechanisms to collect suitable data.
3. We will also collect data throughout the EwQI on the 'central' costs of the initiative, ie: the costs to the Health Foundation, including the costs of the contracts with the Support Team and the external evaluators.

### Outputs

The outputs of this aim will feed directly into the final report for wider dissemination. However, we would also like to reflect on the findings in a more academic setting (as yet to be determined).

### Timing

Much of this work will be ongoing throughout the initiative.

The appraisal workshop will be planned at the end of the initiative.

The final reports and papers will be produced at the end of the initiative.

## Evaluation of the support programme

The support programme is expected, among other things, to 'provide the opportunity to share learning among the award holders with national and international experts', and to build capacity and to strengthen project leaders' ability to influence policy. In the original proposal we envisaged doing this alongside the pursuit of the aims listed above. However, because it would be helpful for the Health Foundation to have information to help them form a view of the desirability of this approach before inviting more projects to join the initiative, we propose to evaluate this separately.

## Dissemination

We will work actively with the Health Foundation and the projects to maximise the impact of the evaluation. In addition to publication in academic and practitioner journals we will publicise findings through RAND Europe's own mechanisms and participate in wider activities in collaboration with the Health Foundation. We acknowledge that the dissemination strategy will be led by the Health Foundation and we will work to support this strategy.

## Ethics approval

We are satisfied that the work of the Evaluation Team does not require separate ethical approval with the possible exception of the web-based Delphi detailed in aim 3 task 4. We will seek advice from COREC on this and act on it. However, we identify the need for the projects to secure ethics approval as an important risk facing the initiative as a whole.

## Quality assurance

RAND Europe has a strong and well-established quality assurance process. This starts with the assumption of responsibility for quality lying with individual researchers and their managers, but it is reinforced through an internal quality assurance process led by senior researchers within the organisation. Given the complexity of this evaluation, we propose to engage with Quality Assurance throughout the life of the evaluation (rather than the more typical quality assurance of the final report). We have identified this as eleven days work throughout the project. More can be found about RAND's quality assurance system at [www.rand.org/randeurope/about/quality.html](http://www.rand.org/randeurope/about/quality.html)

## Methods

The proposed evaluation is methodologically pluralistic. There is disagreement in the literature concerning whether evaluation should have the primary purpose of proving that standards have been achieved or improved (Peryer<sup>125</sup>) or of improving delivery or policy (Weiss<sup>126</sup>). Our evaluation is concerned with both so there will be a summative element intended to measure delivery (as far as possible) and formative element intended to assist learning and improvement. In this section we clarify how we propose to use logic modelling, realist evaluation and appraisal workshops.

The methodological approach used to 'get inside the black box' in the projects combines a form of logic modelling<sup>127</sup> in an over arching framework informed by 'realist evaluation'<sup>128</sup>. There are a

number of reasons for (and some limitations resulting from) this choice. Realist evaluation is particularly appropriate in this context for a number of reasons. First, it aims to establish clear relationships between the project and outcome. Secondly, it assumes that there is an underlying theory of change behind the programme explaining how it brought about the measured change. Finally, it is sensitive to the context in which the programme is to be delivered. These are persuasive claims on behalf of this approach and they immediately address some of the limitations of experimental and quasi-experimental methods (such as identifying control groups that are both cooperative and sufficiently similar and understanding causal mechanisms). However, there are risks and limitations and we guard against these in our proposal.

First, the underlying theory, according to realist evaluation, is identified through the use of a series of Context-Mechanism-Outcomes (CMO) for each intervention. In improving clinical quality the context might be higher than normal re-admission rates and the mechanism might be a new approach to professional training. Behind the apparent simplicity of this, however, there are methodological and practical difficulties. Any intervention could have many CMOs, each of which, in theory, could form the basis of a 'mini-experiment'. Logically, only when all of these experiments have been completed can absolutely unequivocal transferable lessons be learned.

At a methodological level, there are also difficulties in establishing how local and how global the CMOs should be. To address these limitations we

### Indicative timing of evaluation activities (size of X reflects anticipated intensity of work)

	June 2005				June 2006				June 2007				June 2008			
	Year 1				Year 2				Year 3				Year 4			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Aim 1	X	X	X	X	X	x	X	x	x	x	x	x	x	x	x	x
Aim 2		X	X	X	X	X	X	x	x	x	x	x	x	x	x	x
Aim 3		X	X											X		
Aim 4				x	x		X	x				X	X	X		
Aim 5							X	x		X	X	X	X	X	X	
Aim 6		x	x		x		X		x	X			X	X	X	X

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propose working with the projects and the Health Foundation to construct logic models where they can use their professional, tacit and formal knowledge to identify the inputs, processes, outputs and outcomes associated with particular interventions to improve the quality of clinical interventions. In effect we are narrowing down the possible range of CMOs by drawing upon practitioner and other expertise. Consequently, only a manageable number of mechanisms will be considered in each project after discussions with the project participants and the Health Foundation. This introduces a quasi-experimental element into the methodology and guards against the challenge that realist evaluation approaches can lead to a large and unmanageable number of CMOs. It also draws upon the skills and expertise of clinicians in understanding the logic connecting programmes with outcomes. This guards against the risk that any external researchers will have only a limited knowledge of the local context. In addition, it guards against the danger that realist evaluation might be unable to distinguish between a failed theory and a failed implementation. By focusing on the logic model, as we propose, it should be possible to identify and explain more easily failures and successes. Thirdly, it brings experienced clinical judgement into the data collection processes of the project.

The appraisal workshop builds on a process we have developed during recent years, particularly with work at the Medical Research Council, the Department of Health and Breakthrough Breast Cancer. It involves working with a group of informed people to identify suitability (ie: is it the right tool for the job), acceptability (will key stakeholders support it), feasibility (how easy is it to implement) and sustainability (will it be more than a short-term solution).

We will provide an evidence base to support judgments about the overall cost-consequence of the initiative. We do not propose to arrive at a single economic ratio but we will provide a strong evidential base to allow others to make a judgment.

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## **Risk assessment**

### **Data availability and time risk**

There is a significant risk that projects will collect incomplete data, and/or that they will not be able to collect and analyse the completed data set to agreed timetables. Following from this, there is a risk that meaningful data will not be readily available to make comparisons across the EwQI as a whole. This risk would be managed by RAND Europe providing substantial early support to the projects as they devise their evaluations. Both through the expertise we have assembled, and in the time allocated, we have ensured that these risks will be minimised. We would also be aware of the quality of data being produced by the projects and we would alert the Health Foundation as soon as potential problems were identified. We will have a review meeting with the Health Foundation in or around June 2007 to review the accuracy and completeness of data coming from the projects. The Health Foundation would also have an important role in ensuring that the projects met their contractual obligations and, if necessary, responding flexibly to support failing projects.

### **Biases in information**

There is a risk of a ‘conspiracy of optimism’, where all involved wish to make the initiative succeed and this may encourage a reporting bias. Similarly, there is the danger of a ‘Hawthorn effect’, where the act of measuring would itself create turbulence in the data. This risk will be minimised by relying wherever possible on objective data and by communicating the danger of this risk to the projects, thereby encouraging a reflexive management of the risk within the projects.

### **Non-cooperation by projects**

Some of the data required to make initiative-wide comparisons will involve self-reporting by healthcare professionals. As busy people, they may not complete this or, perhaps under pressure of time, produce a less than accurate picture of their engagement with quality. This risk cannot be removed but we can be aware of it and where emerging findings differ radically from other projects, then we may need to go back to the

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projects concerned for further reassurance. We do not believe that the demands on the time of professionals and others are unreasonable and we will minimise this risk by ensuring at a very early stage that all involved are aware of the information needs of both levels of evaluation, and the data they are expected to provide. By March 2006, relationships between the projects and Evaluation Team were very good and this suggests that this risk will be manageable.

### **Ethics approval for projects**

The Evaluation Team has indicated from the outset that the project teams need to apply for ethics approval at the earliest opportunity. Delays in this could significantly compromise the ability of the projects to carry out their work. This risk may need to be actively managed by the Health Foundation. Members of the Evaluation Team have worked hard to ensure that COREC understands, and is supportive of, the initiative and this has eased some of these risks.

### **Management**

This is a complex project involving internal and external players and different disciplines from within RAND Europe and HERG. However, we have a long track record of working to tight timescales and in close collaboration. To manage the relationship with the projects, we have already spent time making ourselves known and accessible to the project teams. We have also sought to establish a close relationship with the Health Foundation, with Tom Ling as the key contact

point. In addition, we have developed a good working relationship with the Support Team. The management of the project has been fully resourced.

### **Dissemination**

Perhaps the greatest risk of all is that the EwQI has no impact or legacy. The proposed methods outlined above are intended to be engaging and to some degree, the dissemination will be achieved through the evaluation. However, we would want to work with the Health Foundation early on to devise a dissemination strategy aimed at key policy makers, in the first instance, and then at the practitioner and professional community.

## Annex 1

# The projects' self-evaluation returns

### Self-evaluation report (SER)

Project self evaluations should cover all the objectives outlined in the Health Foundation brief.

The questions the end-of-project self-evaluation will need to address are identified below. This proforma was agreed with the project teams in November 2005.

**Table 33: Key questions to be answered in the EwQI self-evaluations**

<b>Q 1. Background</b>	<ul style="list-style-type: none"><li>– Why was this project needed?</li><li>– Why did you think that your approach would be effective?</li><li>– Did you consider other approaches? If so, why were these rejected?</li><li>– What was the project team's understanding of the self-evaluation and its purpose? Did this change during the project?</li></ul>
<b>Q 2. Process – what improvement intervention was introduced, to whom and how?</b>	<ul style="list-style-type: none"><li>– What did the project team do?</li><li>– Who did it involve?</li><li>– How were these activities evaluated?</li></ul>
<b>Q 3. Outputs</b>	<ul style="list-style-type: none"><li>– What did these activities produce?</li><li>– How were these outputs evaluated?</li></ul>
<b>Q 4. Who did what</b>	<ul style="list-style-type: none"><li>– Who was involved in designing, implementing and evaluating the project?</li><li>– What was their contribution?</li></ul>
<b>Q 5. Outcomes – did the project work?</b>	<ul style="list-style-type: none"><li>– What did these activities achieve in terms of:<ul style="list-style-type: none"><li>- measurable improvements in patient care</li><li>- increase in the levels of professional engagement in QI</li><li>- increase in the capacity and infrastructure for QI in the professional bodies involved in the project</li><li>- increase in the knowledge base</li><li>- sustainable arrangements for improving quality of care in this field of medicine?</li></ul></li><li>– How were these changes measured?</li></ul>
<b>Q 6. What difference did the project make?</b>	<ul style="list-style-type: none"><li>– The EwQI is only one of a number of initiatives currently addressing quality improvement in the UK health system generally, and in particular specialties. How much difference was really made by the project in the context of all this other work?</li></ul>

*continued*

**Table 33: Key questions to be answered in the EwQI self-evaluations – continued**

<b>Q 7. What are the cost consequences of the project?</b>	<ul style="list-style-type: none"> <li>– Without attempting to provide a monetary value to the outcomes of the project, how much did the project cost in real terms and with what benefits? Could this have been achieved more easily in other ways?</li> </ul>
<b>Q 8. Why did the project work?</b>	<ul style="list-style-type: none"> <li>– List factors that helped/hindered.</li> <li>– How were clinicians and patient groups engaged and with what consequences?</li> <li>– What were the key ways of bringing about change (eg: repeat audit, training, information provision) and how well did these work?</li> <li>– Could the project be seen to have worked for some people but not for others?</li> </ul>
<b>Q 9. What arrangements are in place to ensure the sustainability of the project's work?</b>	<ul style="list-style-type: none"> <li>– How might the result of the project 'fit' with wider changes (eg: in the professions, funding, training, organisational context)?</li> </ul>

**Record of significant events (RSE)**

In addition the project teams were asked to supplement the SERs with a record of significant events (RSE) in a (small) number of areas where the

project had made significant achievements and/or faced particular difficulties. These brief accounts were to be presented in the form of a grid for each area covering 'achievements' and 'key factors', and 'challenges' and 'action taken', as below.

<b>Achievements</b>	<b>Key Factors</b>
<b>Challenges</b>	<b>Action taken</b>

## Appendix D

# Data collection for external evaluation

Data collection mechanism	Date collection period	Participants
Meetings with eight projects to discuss self-evaluation reports and logic models	Summer 2005 Spring 2007 Winter 2008/09	Eight EwQI projects
Interviews with service users	Summer 2007	Eight service users from 8 EwQI projects
Interviews with the royal colleges and professional bodies	Spring 2009	Eight key informants from participating royal colleges and professional bodies aware of the EwQI projects
Interviews with eight projects to gauge status of quality improvement when the EwQI projects began	May–July 2006	17 key informants, including clinicians, project managers and researchers.
Two round Delphi survey involving six EwQI projects	Round 1: Sep–Oct 2008 Round 2: Feb–Mar 2009	Participating clinicians in EwQI (Round 1: n=150; Round 2: n=54)
Submission of self-evaluation documents	July 2006 May 2007 Winter 2008/09	Eight EwQI projects
Evaluation of the support programme interviews	Summer 2005	13 interviews with EwQI projects, the Health Foundation and the Support Team
'Putting the evaluation findings into policy and practice: the implications of the EwQI' – a roundtable discussion	Sep 2009	11 policy/decision makers.

# EwQI evidence base

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This appendix outlines the data sources from the projects used for the external evaluation of the EwQI. Comments about the status of these data are shown in italics; any comments made by the teams are also shown. Sources of outcome data used in our analyses of patient outcomes per project are highlighted in red.

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### Colorectal Cancer

#### Self-evaluation report April 2009

##### RSE April 2009, covering:

- results of survey of trusts and relation between (clinical) processes and outcomes
- comparison of outcomes between those consultants who claimed to have read the Silver Book but had not participated in the audit versus those who had done both
- reasoning behind the original six categories of outcome
- recruitment
- publishing trust-identifiable data and the move to open reporting
- online data submission
- maintenance of patient confidentiality and data security
- MDT discussion
- specialist colorectal nurse involvement
- pre-operative staging
- pre-operative radiotherapy
- emergency surgery
- post-operative mortality
- post-operative mortality
- laparoscopic surgery
- lymph node analysis
- abdomino-perineal excision rates (APER)

- circumferential resection margins in rectal cancer
- main recommendations for 2009 from the audit.

##### RSE May 2008, covering:

- development of a communication strategy
- recruitment of hospital trusts
- sustainability
- data collection and analysis
- feedback to service users.

**Audit reports** (NBOCAP 2004–07) – time series quantitative data on performance against standards.

*Status: detailed yearly report but no data yet available beyond 2007 report (which covered 2006). Team expressed considerable concerns about the accuracy of some of the data.*

**Questionnaire to trusts (2007)** (Sent to 171 trusts, 549 consultants; responses received from 117 trusts (66%) and from 159 consultants (29%)) covering:

- organisational structures of respondents' trusts
- feedback from clinicians about the National Bowel Cancer Audit (NBOCAP).

*Status: relatively weak quantitative data which is suggestive only.*

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## Self-harm

SER May 2009

RSE February 2006, covering:

- development of a communication strategy
- marketing the project and the recruitment of participating trusts
- development of quality standards
- finalising data collection tools
- service user involvement.

**Key findings from two baseline audits, September 2007** (sent to 50 trusts; responses received from 38 UK emergency departments and their associated mental health and ambulance services)

Baseline data from:

- A case flow audit that records time of arrival, waiting times and patient outcome.
- A service user survey that invites respondents to reflect on each aspect of their journey, from arrival by ambulance, receiving physical treatment, psychosocial assessment and discharge from the emergency department. Of 682 service user questionnaires received, around 60% related to emergency departments that participated in the 'Better Services' programme. The remainder refer to non-participating hospitals.
- Staff surveys to elicit feedback about training, support and supervision relating to self-harm, as well as staff attitudes towards people who self-harm (2006–07):
  - **the training needs of 562 emergency department staff**  
Respondents: 55% qualified nursing staff, 30% doctors, 15% others
  - **the training, support and supervision needs of 152 ambulance staff**  
Respondents: 64% paramedics, 26% technicians, 3% managers, 7% others
  - **the training, support and supervision needs of 436 mental health staff.**  
Respondents: 45% qualified mental health nurses, 13% mental health practitioners, 9% consultant psychiatrist/staff grade, 9% training grade doctors, 24% others.
- A policy checklist that assesses the working arrangements each team has in place.

**Wave 1 follow-up data, summary report, July 2007**  
*Status: some (limited) quantitative data on outcomes but team notes that even from Wave 1, the largest*

*wave, the available data on outcomes is limited because of poor response rates to re-audit: 'even though there are positive signs, it is hard for us to say that with great confidence.'*

**Evaluation survey of Wave 1:** 'Evaluating the benefits and challenges of the 'Better Services for People who Self-Harm' Programme', October 2007

Between January 2006 and March 2006, 30 teams took part in the first audit cycle. Participants were asked to complete an evaluation survey on each aspect of the programme and reflect on what factors had helped or hindered quality improvement. Over two-thirds (22 teams) completed the survey.

**Wave 3 baseline data September–December 2007**  
(Also includes Key Findings document above)

395 members of staff and 81 service users from 11 UK hospitals completed separate questionnaires relating to emergency care for people who self-harm. Service user respondents were invited to comment on all aspects of care, from initial contact with ambulance staff, through triage or initial assessment, physical treatment, psychosocial assessment and discharge. Staff were also asked their opinion on these aspects of care, as well their views on the training and support they receive.

*Respondents:* Three-quarters of the service users responding to the survey were female and 90% were of white British origin. For 17% of respondents, this was the first use of emergency services following self-harm. Forty-nine per cent of staff respondents work in mental health, 35% in the emergency department, 7% in the ambulance service, and 9% work in other services.

*Comment: no details of re-audit following the intervention.*

## POMH-UK

SER May 2009

This also contained sections on lessons learned as follows:

- Q1: local support; communications
- Q2a: change interventions; developing interventions; barriers questionnaire

- Q2c: service user involvement
- Q3: timing
- Q5: clinical engagement; understanding variation in results; data collection, analysis and validation
- Q7: trust subscription, sustainability and spread; levers; transferability of model; cost consequences.

#### Accompanying appendices:

- A: list of topics
- B: launch event attendance
- C: feedback from the launch events
- D: trust presentations
- E: rationale for selecting and developing the interventions used in topic 1
- F: barriers to screening for metabolic side effects
- G: change interventions
- H: service user involvement – discussion document
- I: specialist advisers involved in each topic
- J: trust subscription over the length of the project
- K: number of cases entered for each topic
- L: summaries of results, topics 1 – 5
- M: list of publications

*Status: detailed quantitative data on change between baseline and re-audit.*

RSE January 2009 (very brief), covering:

- rapid data feedback
- ongoing interest in single topics
- increased portfolio of QI programmes
- self-financing
- generation of publications and conference presentations
- multidisciplinary nature of steering group, topic groups, project team and most local project teams, including service users
- sharing good practice
- team capacity.

## NCROP

SER June 2009

RSE June 2007, covering:

- recruitment of sites to participate with the NCROP
- the ‘peer review’ process

- patient involvement
- change diaries
- the project.

RSE 2009, covering:

- communications
- change diaries
- National COPD Audit.

The National Chronic Obstructive Pulmonary Disease Resources and Outcomes Project (NCROP) Final Report, June 2009

*Status: detailed quantitative data on change between baseline (2007) and audit following intervention (2008).*

Change diaries (report on these in Final Report)

Ninety-three fully completed pairs of baseline and final change diaries were received. Forty-one (89% return rate) of these came from the control group and 52 (96% return rate) from the intervention units.

*Status: qualitative data on participants’ reflections on service change and value of NCROP.*

Audit reports on:

- Patient survey, December 2008
- Resources and organisation of care in acute NHS units across the UK, September 2008
- Survey of COPD care within UK general practices, December 2008
- UK primary care organisations: resources and organisation of care, November 2008
- Clinical audit of COPD exacerbations admitted to acute NHS units across the UK, November 2008.

*Status: detailed qualitative and quantitative data.*

The Final Report on the Qualitative Sub-study of the National COPD Resources and Outcomes Project, Oct 2008

*Status: an external qualitative evaluation of the NCROP project undertaken by QMUL.*

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## PoISE

### SER May 2009 and supporting documentation, covering:

- duration of fasting
- patient experience questionnaires
- local investigator audit
- key contact interviews
- change agent interviews
- combined key contact and change agent interviews
- patient interviews
- learning organisation survey
- focus groups
- economic evaluation.

*Status: detailed qualitative and quantitative analysis of the project.*

### RSE April 2009, covering:

- role of clinicians
- communications
- data collection
- PDSA
- opinion leader and website.

### EVIDENCE CONTEXT FACILITATION Data Synthesis Report June 2009

*Status: quantitative data on change between baseline and re-audit and detailed qualitative/quantitative analysis of other aspects of the project.*

## RCPE SNAP

### Engaging with Quality Scottish National Audit project (SNAP) Final Report, June 2009

*Status: detailed qualitative account and comparison of both SNAP projects.*

## EPI-SNAP

### SER June 2009

#### RSE June 2009, covering:

- the (changing) focus of the project and the development of the two main improvement interventions
- interactions with other agencies, particularly in relation to the development of the two main improvement interventions – the referral protocol and annual review.

Four audit reports from first seizure clinics, 2009

*Status: quantitative data on change between baseline and re-audit.*

## SNAP-CAP

### SER June 2009

#### RSE June 2009, covering:

- the (changing) focus of the project and the development of the two main improvement interventions
- interactions with other agencies in relation to spreading SNAP-CAP to at least one acute hospital in each health board in Scotland.

### IBD (completing September 2009)

### UK IBD Audit 2nd Round (2008) Report, March 2009

### SER July 2009

*Status: quantitative data on change between baseline and re-audit.*

### Evaluation of the UK IBD Audit Action Planning Visits, September 2009

*Status: quantitative data on change between baseline and re-audit.*

### UK IBD Audit Action Planning Visits – Site Feedback, September 2009

## PEARLS (not yet complete)

### SER (interim) June 2009

#### RSE June 2009, covering:

- communications strategy
- survey of midwives, obstetricians and educationalists
- ethics and governance processes
- Delphi study.

### Draft self-evaluation report, June 2009



# Delphi survey analysis

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## Introduction

We used the Delphi method for conducting a two-round web-based survey of participating clinicians in the EwQI. The survey enabled us to understand how best to engage clinicians in a process of quality improvement and what consequences this engagement has had.

The Delphi method was developed at RAND in the late 1950s as a way to collect and synthesise expert judgements<sup>129</sup>. The Delphi method differs from a conventional survey in that participants are invited to reassess (in several rounds) their initial judgements in the light of the overall pattern of results, including the average or median of responses and reasons of participants for holding extreme positions<sup>130</sup>. By keeping the process of surveys and feedback anonymous, Delphi is intended to avoid undesirable group effects (for example, socially desirable answers, assertive individuals are often leading the discussion and so on)<sup>131</sup>. Although the process tends to move to consensus, this is not necessarily the objective of the Delphi method.

## Delphi survey

A conventional Delphi was designed to collect opinions from clinicians involved in the EwQI regarding:

- barriers and facilitators to engage clinicians in a process of quality improvement (QI)
- consequences of engaging clinicians in QI on clinical outcomes
- use of external influences to leverage clinical engagement in QI at trust level.

To design the survey questions, we used:

- results from surveys or questions that EwQI projects have asked their clinicians about their role in QI
- previous survey by RAND on a similar topic and the results from interviews undertaken with the projects over the course of the evaluation
- literature review on QI.

The draft survey was reviewed by all members of the Evaluation Team. The survey was piloted via cognitive interviewing with four clinicians, selected by the project manager of the Self-harm project. It was sent to 12 participating clinicians in this project to ensure that it functioned technically, as well as to confirm that the questions were clear and relevant to the task. The final web-based survey took around 10 to 12 minutes to complete.

The second-round survey differed from first-round survey in that we asked the respondents of the first-round survey to fill in the survey again, taking into account average scores. This means, that for each question we showed the initial score and the average score of all respondents associated with the same EwQI project.

## Identifying and approaching participants

There is no agreement on the panel size for Delphi studies, and there exists no recommendation/definition of a small or large sample<sup>132</sup>. Many published Delphi studies use panels consisting of 10 to 100 or more panellists. These are often convenience samples, dependent on availability of experts and resources.

In this study, the population to which the survey is targeted was the clinicians involved in EwQI. To help improve the response rate, each project manager of the eight EwQI projects was asked to forward by email a letter to participating clinicians inviting them to complete the online survey. Two projects (PoISE and Colorectal Cancer) decided not to be involved.

In April 2008, we asked project managers of each project to give an indication of the potential number of respondents; it was as follows:

- IBD: 210 clinicians
- PEARLS: About 40 facilitators in 24 units. Each unit probably has about 30–40 staff involved in their project
- NCROP: 100 study sites participating in NCROP audit
- EPI-SNAP and SNAP-CAP: Total about 40–50 (combined). However, this would be multidisciplinary teams (consultants, junior doctors, pharmacists, nurses, etc)
- Self-harm: Includes previous and participating teams. There were 30 participating emergency departments and associated trusts
- POMH-UK: Probably 40 current trusts (80–240 people) and 48 previous participating trusts (96–288 people).

Overall, project managers were happy to forward the survey to their participating clinicians but two important issues came up: (1) facilitators might not know all their staff's email address and (2) not all staff in the NHS have a trust email address. We discussed the possibility of doing hard copies of the Delphi too, but decided not to proceed with this due to the workload of computing scores

during the two-round exercise. In most cases, project managers forwarded the survey to clinical leads, who then forwarded it to participating staff.

The survey was in the field for one month (17 September–17 October 2008 for round 1, and 28 January–1 March 2009 for round 2). During this time we sent two reminders, the first after one week of the survey going live and the second after two weeks. From previous surveys we have found that sending reminders increases the response rate.

## Response rate of the survey (round 1 and 2)

By 17 October 2008 (closing date of the first round survey), a total of 150 answers were recorded. Those respondents who provided us with an email address and who could be linked to one of the eight EwQI projects received an invitation to fill in the second-round survey (n=97). This panel also received two reminder emails, resulting in a final response rate of 54 (see Table G1).

## Data analysis

Data analysis comprises the following activities:

- collecting survey data, including narrative comments for the first-round survey
- analysing data. The data of the first-round survey was analysed using descriptive statistics (average scores). In the second-round survey, we presented per respondent (n=97) their initial answer and the average score of all respondents involved in the same quality

**Table G1: Delphi survey respondents**

First round		Second round	
NCROP	24	NCROP	12
SNAP	6	SNAP	5
IBD	26	IBD	12
PEARLS	18	PEARLS	12
POMH-UK	13	POMH-UK	7
Self-harm	10	Self-harm	6
<b>Total</b>	<b>97</b>	<b>Total</b>	<b>54</b>
<i>Not linked to the EwQI project<sup>133</sup></i>			53

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improvement project. If the respondent decided to change his/her initial answer, we also asked the respondent to provide the reason(s) for doing so.

We included partially completed surveys in the analysis. This means that the composition of respondents' groups may vary slightly from question to question. The numbers of respondents per question are provided in the final analysis. Please note that the number of respondents per EwQI project is too small to perform a statistically meaningful analysis for all projects.

- Participants were asked to fill out the rating forms again (round 2), and we collected the survey data in a similar way to the first round (by an online survey).

## Findings

The following sub-sections and tables summarise the views of project participants on improving the quality of care through engagement of clinicians. We present the overall results, project mean importance ranking (used to determine the most important issues), and standard deviation as indicator of the variability of importance ranking among participants. The activities are ranked according to highest mean scores and the smallest standard deviations in round 2.

## Activities to engage clinicians in quality improvement

Clinicians were provided with a list of activities to engage clinicians in quality improvement that were identified in the literature. They were asked to express their views on how important each activity is in improving quality through their involvement in their EwQI project by using a 1 to 5 scale (where 1=unimportant, 2=fairly unimportant, 3=neither unimportant nor important, 4=fairly important, and 5=very important).

### Overall results

The top activities in improving quality through clinicians' involvement in their EwQI are

providing training for clinicians and managers (B2) and keeping up-to-date with clinical practice guidelines (B3).

### Project results

The table below presents the three most important activities for engaging clinicians within the projects. The activities are ranked according to highest mean scores and the smallest standard deviations in round 2. Activities that lay outside the top six of the overall activities are shaded. The majority of the activities of the Self-harm project (in round 2, n=6) did not reflect the overall activities for engaging clinicians. This is likely due to a small sample size. PEARLS, with a sample size of twice the size of the Self-harm project, unanimously identified B2 and B3 as being very important ( $x=5.0$ ).

Clinicians were invited to comment on the average score on activities to engage clinicians in QI. Eleven respondents provided comments. Three respondents changed their scores admitting they had incorrectly used the scoring system in the first round. Another respondent changed their opinion as they felt differently at the time of completing the survey. Two respondents said they changed their scoring to reflect the average view, since they had no experience of the QI activity concerned. Two respondents said they were unlikely to change their opinion. Another respondent perceived the QI activity as more important than the 'average' (ie: performing peer review of practice with the aim to improve quality) since this was being used in their EwQI project.

## Effective ways of supporting clinical engagement in quality improvement

Clinicians were provided with a list of ways of offering support for clinical engagement in QI which were identified in the literature. They were asked to rate the effectiveness of these methods on a scale of 1 to 5 (where 1=very ineffective, 2=fairly ineffective, 3=neither effective nor ineffective, 4=fairly effective, and 5=very effective).

**Table G2: Overall results – activities to engage clinicians in quality improvement**

	Overall rank	Mean, round 1 (n=97)	Mean, round 2 (n=54)	Standard deviation	Mean/SD, round 2
B2. Providing training for clinicians and managers (eg: continuous medical education)	1	4.33	4.58	0.71	6.45
B3. Keeping up to date with clinical practice guidelines	2	4.30	4.52	0.71	6.36
B1. Undertaking clinical audit	3	4.14	4.35	0.73	5.95
B10. Keeping up to date with providing best care to each patient (eg: reading journals)	4	4.06	4.29	0.74	5.79
B7. Performing peer review of practice with the aim of improving quality	5	3.87	4.19	0.82	5.10
B13. Helping patients and service users to participate in improving healthcare quality	6	3.89	4.15	0.83	5.00
B4. Taking part in regular formal discussions with colleagues about improving healthcare quality (eg: gaining formal feedback and advice from colleagues or attending clinical review meetings)	7	4.06	4.25	0.96	4.42
B11. Using appropriate IT support systems to support healthcare quality improvements	8	3.83	3.88	0.89	4.35
B5. Taking part in regular informal discussions with colleagues about improving healthcare quality (eg: discussing how patient plans can be improved)	9	4.00	4.29	1.01	4.24
B8. Participating in clinical networks	10	3.68	3.85	0.97	3.96
B12. Writing about how to improve healthcare quality (in peer or non-peer reviewed literature)	11	3.39	3.54	0.90	3.93
B9. Being a member of clinical governance committee(s)	12	3.23	3.35	0.97	3.45
B6. Doing rapid learning cycles (eg: Plan-Do-Study-Act)	13	3.46	3.36	1.19	2.82

**Table G3: Overall results – priorities within projects – activities to engage clinicians in quality improvement**

Projects (round 2)	1	2	3
NCROP (n=12)	B2, B3, B4		
SNAP (n=5)	B4	B1	B2
IBD (n=12)	B1	B10	B3
PEARLS (n=12)	B2, B3		B4
POMH-UK (n=7)	B10	B2, B1, B13	
Self-harm (n=6)	B10	B9	B12

## Overall results

The results indicate that of all the ways of providing support for clinical engagement in QI, securing good inter-professional relationships (C3), and communicating candidly and often about quality improvement (C7) are the most effective (4.0<x<5.0). The standard deviation increased in six of the results in round 2, which provides slightly concerning overall results. This is likely due to the small sample size of the total population. We have taken into account the wide disparity of views in the rank order; however, the divergence in opinion should be noted.

## Project results

The table below presents the three most effective ways of supporting clinical engagement within the projects. These were ranked according to highest mean scores and the smallest standard deviations in round 2. Priorities that lay outside the top six of the overall priorities are shaded. The priorities varied widely between projects and within projects. Two-thirds of the SNAP and Self-harm projects'

results were not in the top six overall priorities. However, this is likely due to these two projects' small sample sizes (round 2: n=5 SNAP; n=6 Self-harm).

The standard deviation within the project results increased in round 2 in this section. The IBD project (round 2, n=12) had an increase in the variability of scoring for all but three questions. It is unclear why this is the case, since this project had a relatively high sample size (compared with other projects). The Self-harm project (Round 2, n=6) had an increase in the variability of scoring in Round 2 for all but one question. This indicates a wide spread of views on the priorities and is most likely due to the low sample size in the Self-harm project. Every project increased the variability in scoring in Round 2 on question C9 (applying rewards systems), with the exception of POMH-UK.

Respondents were asked to comment on the average scores on effective ways of supporting clinical engagement in QI. Seven respondents provided comments. One respondent changed the answers owing to having misread the scoring system in the first round. Another respondent

**Table G4: Overall results – effective ways of supporting clinical engagement in quality improvement**

	Rank order	Mean, round 1 (n=97)	Mean, round 2 (n=54)	Standard deviation	Mean/SD, round 2
C3. Securing good inter-professional relationships	1	4.46	4.46	0.77	5.79
C7. Communicating candidly and often about quality improvement	2	4.33	4.26	0.83	5.13
C2. Involving patient organisations	3	3.83	3.98	0.87	4.57
C5. Allocating time to quality improvement activities	4	4.39	4.31	0.99	4.35
C8. Securing interest of trust/board	5	4.40	4.57	1.06	4.31
C10. Committing the trust/board to engaging healthcare professionals to improve the quality of healthcare	6	4.29	4.39	1.15	3.81
C4. Allocating budget to QI activities	7	4.42	4.87	1.44	3.38
C6. Availability of champions (ie: leaders in quality improvement)	8	4.10	3.98	1.18	3.37
C1. Involving the royal colleges	9	3.90	4.15	1.38	3.00
C9. Applying reward systems	10	3.57	4.13	2.07	1.99

**Table G5: Overall results – priorities within projects – effective ways of supporting clinical engagement in QI**

Projects (round 2)	1	2	3
NCROP (n=12)	C8, C10	C3	
SNAP (n=5)	C4, C6, C8		
IBD (n=12)	C3, C13	C2, C12	
PEARLS (n=12)	C8	C5	C2, C12
POMH-UK (n=7)	C8	C5	C3, C10, C13
Self-harm (n=6)	C1, C11	C2, C12	

changed the answers to reflect the average view on account of no personal experience in the particular area concerned. One respondent was averse to ‘applying reward systems’ as an effective way of supporting clinical engagement, disagreeing with payment by results versus other approaches, such as career promotion and career development.

## Barriers to engaging clinicians in QI

Clinicians were provided with a list of factors that may serve as an obstacle to engaging clinicians in QI, as described in the literature. They were asked to rate the extent to which each factor is an obstacle to improving quality in their EwQI project by using a scale of 1 to 5 (where 1=not an obstacle, 2=minimal obstacle, 3=small obstacle, 4=considerable obstacle, and 5=large obstacle).

### Overall results

The top barrier to engaging clinicians in QI is the limited number of staff available for quality improvement (D1). This was considered to be a considerable obstacle ( $x=4.0$ ). Other ‘small’ obstacles ( $3.0 < x < 4.0$ ) include: lack of widely shared knowledge (D3), lack of leadership (D2), poor handover from other staff (D4), lack of continuity of the care pathway (D9) and lack of patient or service user involvement (D10). Financial rewards, performance targets, and protocols were ranked as minimal obstacles to engaging clinicians.

Respondents were asked to comment on the average scores on the barriers to engaging clinicians in quality improvement. Eight respondents provided comments. One respondent amended the scores, having misread them in the first round. Another respondent changed the response to reflect the ‘average’ since on account of no experience of the barrier concerned. Another respondent was not sure why they rated ‘lack of financial rewards’ so highly in the first round. One respondent justified why scoring ‘lack of performance targets’ was difficult – it was hard to engage organisations in improvement work unless it was linked to national targets. However, there are too many national targets that deal with the detail of processes of care, which prevent clinical staff or organisation from engaging in wider improvement work.

### Project results

The table below presents the three highest barriers to engaging clinicians in quality improvement within the projects. The results are ranked according to highest mean scores and the smallest standard deviations in round 2. Priorities that lay outside the top six of the overall priorities are shaded.

NCROP, in particular, prioritised D7 and D6, which were not in the top six project priorities. All projects, with the exception of SNAP, indicated that D1 was a barrier. Finally, all projects, with the exception of NCROP, indicated that D2 was a barrier.

**Table G6: Overall results – barriers to engaging clinicians in quality improvement**

	Rank order	Mean, round 1 (n=97)	Mean, round 2 (n=54)	Standard deviation	Mean/SD, round 2
D1. Limited number of staff available for quality improvement	1	4.07	4.00	0.86	4.65
D3. Lack of widely shared knowledge (eg: access to performance data)	2	3.74	3.55	1.02	3.48
D2. Lack of leadership	3	3.64	3.76	1.13	3.33
D4. Poor handover from other staff	4	3.74	3.31	1.00	3.31
D9. Lack of continuity of the care pathway	5	3.74	3.27	1.04	3.14
D10. Lack of patient or service user involvement	6	3.74	3.26	1.07	3.05
D7. Lack of non-financial rewards	7	3.74	2.94	1.03	2.85
D8. Lack of performance targets	8	3.74	2.88	1.06	2.72
D6. Use of financial sanctions	9	3.74	3.07	1.24	2.48
D11. Poor protocols	10	3.74	3.02	1.23	2.46
D5. Lack of financial rewards	11	3.74	2.47	1.12	2.21

**Table G7: Overall results – priorities within projects – barriers to engaging clinicians in quality improvement**

Projects (round 2)	1	2	3
NCROP (n=12)	D1, D7	D6	
SNAP (n=5)	D2	D3	D4, D11
IBD (n=12)	D1	D10	D2
PEARLS (n=12)	D1	D4	D2
POMH-UK (n=7)	D2	D1	D9
Self-harm (n=6)	D1, D4	D2	

## Consequences of engaging clinicians

Clinicians were provided with a list of possible consequences of engaging clinicians in quality improvement that were identified in the literature. Clinicians were asked to rate on a scale of 1 to 5 (where 1=very unlikely, 2=fairly unlikely, 3=neither unlikely nor likely, 4=fairly likely, and 5=very likely) the extent to which each consequence results from their EwQI project.

The top consequences of engaging clinicians in quality improvement (all ranking above fairly likely ( $x > 4.0$ )) are: greater standardisation of professional practice (E2), more equitable care (E4), greater quality control (E6) and improved patient satisfaction (E1). Patient waiting times and costs were seen to be very unlikely to be affected by engaging clinicians in QI.

## Overall results

**Table G8: Overall results – consequences of engaging clinicians in quality improvement**

	Rank order	Mean, round 1 (n=97)	Mean, round 2 (n=54)	Standard deviation	Mean/SD, round 2
E2. Greater standardisation of professional practice	1	4.18	4.13	0.67	6.16
E4. More equitable care	2	4.13	4.17	0.78	5.35
E6. Greater quality control (ie: safe care)	3	4.27	4.19	0.80	5.24
E1. Improved patient satisfaction/experience	4	4.29	4.28	0.85	5.04
E5. Uniform patient reports (eg: standardised discharge letter)	5	4.19	3.87	0.99	3.91
E3. Cost-effective services	6	3.70	3.62	1.07	3.38
E11. Cost savings for the organisation	7	3.30	3.26	1.00	3.26
E7. Improved rules, regulations and legislation	8	3.5	3.25	1.02	3.19
E8. Decreased patient waiting times	9	3.22	3.26	1.07	3.05
E10. Increase in costs to the organisation	10	2.87	2.68	1.03	2.60
E9. Increased patient waiting times	11	2.38	2.22	.94	2.36

## Project results

The table below presents the three highest consequences to engaging clinicians in quality improvement within the projects. The results are ranked according to highest mean scores and the smallest standard deviations in round 2. Priorities that lay outside the top six of the overall priorities are shaded.

E2 is ranked as a consequence of engaging physicians in every project. E4 is ranked as a priority in every project except NCROP; however, this is likely partly due to the high standard deviation in the scores of the NCROP project. Within projects, SNAP and PEARLS also identified

E7 as a consequence of engaging clinicians. It should be noted that there was high standard deviation in round 2 for every project, but especially in the SNAP project. In this particular project, the standard deviation increased in round 2 with all questions except for one (E3). This is likely due to the small sample size (n=5).

Respondents were invited to comment on their answers on consequences of engaging clinicians or if they had any comments on the average scores. One respondent commented that they did not think there had been any improvements – the things that had worked well were in place beforehand. Another respondent felt there had been short-term costs but long-term savings.

**Table G9: Overall results – priorities within projects – consequences of engaging clinicians in QI**

Projects (round 2)	1	2	3
NCROP (n=12)	E2	E1	E6
SNAP (n=5)	E2	E4	E7
IBD (n=12)	E4	E6	E2
PEARLS (n=12)	E7	E6	E2
POMH-UK (n=7)	E1	E4,E2	
Self-harm (n=6)	E1	E4	E6

## Attitudes towards the value of engaging clinicians in quality improvement

Clinicians were asked to list the three most important activities they view as quality

improvement (F1). In total clinicians listed 64 activities, which are shown in Box G1. The four activities that were perceived by clinicians as the most important were clinical audit (cited 58 times); engaging with patients/service users (cited 23 times); communication (cited 21 times) and continuing education (cited 18 times).

**Box G1. The most important activities viewed as QI among participating clinicians in the EwQI**

Activity	No. times cited	Activity	No. times cited
Clinical audit	58	Reduction in waiting times	2
Engaging with patients/service users	23	Actioning results	1
Communication	21	Applauding success	1
Continuing education	18	Benchmarking	1
Clinical engagement	14	Better educational standards	1
Guidelines/standards	14	Clinical networking	1
Training	14	Clinician attitudes	1
Allocated money and/or time for QI	8	Consensus	1
Leadership	8	Culture	1
Team working	8	Dissemination	1
Care pathways	7	Home care	1
Protocols	7	Hygiene/minimise patient movement	1
Clinical governance	6	Increased breastfeeding rates	1
Continuity/delivery/equality of care	6	Interventions	1
Feedback	5	Involvement of primary care/nursing teams	1
Administrative systems	4	Learning	1
Change management	4	Letting clinicians lead management decisions	1
Clinical outcomes	4	Maintaining high standard	1
Engaging managers	4	Midwifery supervision	1
Engaging trust	4	More control for clinicians	1
Keeping up to date with knowledge/literature	4	Ownership of improvement	1
Awareness	3	Peer support	1
Clinical research	3	Pilot	1
Management and clinical commitment	3	Preventing risk	1
Meetings	3	Process mapping	1
Peer review	3	Quality measures	1
Remove system inefficiencies	3	Reflective practice	1
Review and management of clinical risk	3	Resource efficiency	1
Service development	3	Royal colleges	1
Evaluation	2	Shared vision	1
Evidence-based practice	2	Sharing good practice	1
PDSA	2	Workforce	1

## Perceived engagement of clinicians in QI

Clinicians were asked to rate on a scale of 1 to 5 how they perceive engagement of clinicians in QI (where 1=very unimportant, 2=fairly unimportant, 3=neither unimportant nor important, 4=fairly important, and 5=very important).

Clinicians in all the projects perceived clinician engagement in QI as at least fairly important (more than 4.0), trending towards very important.

Mean, round 1 (n=97)	Standard deviation 1
4.5	1.06
Mean, round 2 (n=54)	Standard deviation 2
4.77	.43

The following table summarises the means for how each project perceives engagement of clinicians in QI.

	Mean, round 2
NCROP (n=12)	4.73
SNAP (n=5)	4.80
IBD (n=12)	4.75
PEARLS (n=12)	4.82
POMH-UK (n=7)	4.71
Self-harm (n=6)	4.83

Respondents were invited to elaborate on their answers and comment on the average score on how they perceive engagement of clinicians in QI. One respondent felt that engaging clinicians in QI was important, but was not necessarily happening. Another respondent felt that the implementation of new processes and recognition of the need to change were vital – otherwise, an attitude of ‘business as usual’ or ‘passive resistance’ was likely. Another respondent felt that financial problems or restructuring of regional services can act as a barrier for clinicians striving to improve services

and, in some cases, providing high quality care. Another respondent felt that while clinicians would like to improve quality, often they feel they cannot do so owing to time pressures and low staffing ratios. Another respondent felt that involving clinicians helps support and continue good practice and helps the backing and support of further studies trying to change and improve practice.

## Success of the EwQI in engaging clinicians in QI

Clinicians were asked to rate on a scale of 1 to 5 how successfully the EwQI project had engaged them in QI (where 1=very unsuccessfully, 2=fairly unsuccessfully, 3=neither unsuccessfully nor successfully, 4=fairly successfully, and 5=very successfully).

The average rating was  $3.0 < x < 4.0$  or between neither unsuccessfully nor successfully and fairly successfully.

Mean, round 1 (n=97)	Standard deviation 1
3.74	1.11
Mean, round 2 (n=54)	Standard deviation 2
3.75	0.94

The following table summarises the project means for the above question. Within the projects, only Self-harm clinicians indicated that they felt ‘fairly successfully’ engaged in quality improvement with the EwQI in both round 1 and round 2 ( $x > 4.0$ ).

	Mean, round 2
NCROP (n=12)	3.64
SNAP (n=5)	4.00
IBD (n=12)	3.50
PEARLS (n=12)	3.83
POMH-UK (n=7)	3.71
Self-harm (n=6)	4.17

Respondents were invited to elaborate on their answers on whether they felt their EwQI project successfully engaged them in quality improvement to comment on the average score. One respondent felt that they were already engaged in a number of projects and did not find the question valid. Another respondent felt that an excellent service was already being provided before the EwQI project. Another respondent stated ‘the passage of time has reduced my feeling of engagement in this quality improvement programme.’ Another respondent stated:

*The EwQI has been a steep learning curve, and leading the project had probably been the hardest project that I have ever undertaken – but also the most rewarding. I have 30 years of experience on research and have been a principal investigator on laboratory and clinical projects, including RCTs. The challenges presented by a quality improvement project are quite different and, I think, much greater. It is therefore baffling that quality improvement projects still have such low regard in academic circles.*

## Change of attitudes towards the value of engaging clinicians in QI

Clinicians were asked to rate on a scale of 1 to 5 whether their attitude towards the value of engaging clinicians in QI had changed due to their involvement in their EwQI project (where 1=not at all, 2=a little, 3=moderately, 4=considerably, and 5=extremely).

The average rating was  $2.0 < x < 3.0$ , or between a little and moderately.

The following table summarises the project means for the

Mean, round 1 (n=97)	Standard deviation 1
2.37	1.28
Mean, round 2 (n=54)	Standard deviation 2
2.36	1.06

above question. Within the projects, the most significant change was the SNAP project with a mean change of 3.20, or moderately.

	Mean, round 2
NCROP (n=12)	1.91
SNAP (n=5)	3.20
IBD (n=12)	2.58
PEARLS (n=12)	2.17
POMH-UK (n=7)	2.71
Self-harm (n=6)	2.00

Respondents were invited to elaborate on their answers on whether their attitude towards the value of engaging clinicians in QI had changed owing to their involvement in their EwQI project or to comment on the average score. One respondent said they have always valued involving clinicians and so, from that point of view, their attitude had become slightly more positive. Another respondent felt that the EwQI project had not changed their view on the importance of engaging clinicians, but it had ‘certainly provided solid evidence’ to support their pre-existing beliefs. One respondent said they did not understand the question.

## Conclusions

In order to explore the views of clinicians participating in the EwQI on professional involvement in QI, we undertook a Delphi survey. This covered a small sample of clinicians from six EwQI projects (n=97 in round 1 and n=53 in the round 2). In summary, we found that:

- Overall, clinicians in all six projects perceived the role of clinician engagement in successful QI to be fairly important, tending towards very important.
- The top activities identified as improving quality through clinicians’ involvement were: providing training for clinicians and managers, and keeping clinicians up to date through the development and promulgation of clinical practice guidelines. Participants in three out of the six projects ranked taking part in regular formal discussions with colleagues as one of the three most important activities for engaging clinicians, but this was not one of the six top priorities of the overall population.
- With regard to providing support for clinical engagement in QI, the three most effective ways

- 
- were seen to be: securing good inter-professional relationships, communicating candidly and often about QI, and involving patient organisations. But there was also wide divergence of opinion. On the question of how best to support clinical engagement, most participants identified at least one effective approach, which was not among those ranked as six highest by the overall population.
- The top barrier to engaging clinicians in QI was identified as the limited number of staff available for QI. Other ‘small’ obstacles included the lack of widely shared knowledge and leadership. Lack of financial rewards, lack of performance targets, use of financial sanctions and poor protocols were ranked as ‘minimal’ obstacles to engaging clinicians.
  - Greater standardisation of professional practice, more equitable care, greater quality control and improved patient satisfaction were perceived as the most important consequences of engaging clinicians in QI.
  - The Delphi also sought clinicians’ views about their attitudes towards the value of engaging clinicians in QI. Clinicians were asked to list the three most important activities they viewed as QI. In total, clinicians listed 64 activities. The four activities that were perceived as the most important were clinical audit (cited 58 times), engaging with patients/service users (cited 23 times), communication (cited 21 times) and continuing medical education (cited 18 times).
  - Clinicians in all six projects perceived clinicians’ engagement as at least ‘fairly important’, trending towards ‘very important’.
  - Clinicians also rated the success of their EwQI project in engaging the respondent in QI on a five-point scale. The average rating was between ‘neither successfully, nor successfully’ and ‘fairly successfully’. Various reasons for this were reported by respondents, including already being engaged in QI projects, and that an excellent service was already being provided before the EwQI. However, one respondent said, ‘EwQI has been a steep learning curve, and leading the project had probably been the hardest project that I have ever undertaken – but also the most rewarding’.
  - Attitudes to the value of engaging clinicians in QI did not change dramatically as a result of involvement in the EwQI. Within the projects, the most significant change was in EPI-CAP, where the mean score was ‘moderately’. When respondents were invited to elaborate on their answers, one respondent pointed out that they have always valued involving clinicians and that, from that point of view, their positive attitude had only increased slightly.

# Measures of clinical quality

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It was a requirement of the Health Foundation funding that the teams:

*Identify a clinical problem or deficiency in care, for which there is a scientific evidence base and/or consensual professional guidelines. The clinical area of interest must have reliable data, as well as objective and credible measures of clinical process and/or outcome. The guidelines or standards may be selected from an authoritative national or international source – for example, a royal college, specialist society, National Service Framework, National Institute for Clinical Effectiveness (NICE) or the Scottish Inter-Collegiate Guideline Network (SIGN) or the clinical/research literature.*

This appendix describes the specific bases on which the measures of clinical quality used in the EwQI projects were selected by each project team. The appendix also explains how these were used by the teams to develop the standards used in each project. It supports tables 7–17 in chapter 3, which summarise each project's achievements in terms of measurable patient outcomes.

## Colorectal cancer

**Evidence base:** 2004 NICE *Guidelines for cancer services on improving outcomes in colorectal cancer*.

**What the proposal said:** The original proposal (2004) noted that these guidelines would be used to benchmark performance across institutions on six aspects of colorectal cancer management, endpoints of the process of care or outcomes:

- access to appropriate services
- evidence that all patients found to have colorectal cancer are referred to the colorectal cancer multidisciplinary team meeting (MDT)
- accuracy of diagnosis

- surgery and histopathology
- palliative therapy and advanced disease.

**Subsequent thoughts and developments:** In 2006, the team noted that:

*The major difficulty with cancer surgery is that the real endpoints of interest are long-term: namely 5-year overall, cancer-specific, and disease-free survival. A newly appointed consultant surgeon would, quite evidently, have to wait at least five years before being able to quote any 5 year survival figures, but when considering procedure specific results, a surgeon performing 20 rectal cancer excisions per year would have to wait 10 years before reporting long-term outcomes on a sample of 100 patients ... As yet there is no mechanism by which high quality data from national audit can be linked to long-term outcomes, and this, combined with the significant time-lag involved, means that proxy, or surrogate, measures of surgical outcomes are required to drive and monitor quality improvement in the short to medium term. Such markers have previously been identified by agencies such as NICE (National Institute of Clinical Excellence), and many have been previously evaluated by NBOCAP. Markers include those with an obvious short-term impact, such as 30-day mortality rates, or effects on patients' quality of life (including permanent colostomy rates following rectal cancer excision), while others are more closely linked to disease recurrence and long-term survival, such as circumferential resection margin involvement (CRMI) rates following rectal cancer excision<sup>134</sup>.*

This list coincides with the measures in table 7 which all fall within the fourth of the broad categories identified above, that is, surgery and histopathology. The team told us that they had found it hard to obtain robust data in the other areas.

## Self-harm

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**Evidence base:** 2004 guidelines *Self harm: The short-term physical and psychological management and secondary prevention of self harm in primary and secondary care*, produced by NICE and the National Collaborating Centre for Mental Health (managed by the Royal College of Psychiatry's Research Unit, in which the Self-harm project was also based).

**What the proposal said:** The original proposal (2004) noted that these guidelines ('the most rigorously developed body of evidence-based knowledge about the care of people who self-harm') would be the main source of quality standards for the project, and that they included standards related to:

- factors that impact directly on the user experience of services
- service planning and provision: standards in this area are supplemented by the recommendations of the Royal College of Psychiatrists and the British Association for Accident and Emergency Medicine (Royal College of Psychiatrists, 1994)
- staff training
- the immediate medical management of self-poisoning and self-cutting by both ambulance and emergency department staff
- the assessment of people who self-harm, including triage assessment in the emergency department, risk assessment and psychosocial assessment
- referral, admission and discharge following self-harm
- special issues relating to young people and older people who have self-harmed.

The project team noted that it is the testimony of service users that provides the most compelling evidence for the deficit in the quality of services for people who self-harm, and the guidelines concluded that improving staff knowledge and attitudes is the key to better services.

**Subsequent thoughts and developments:** In 2006, the team produced a set of quality standards for health professionals<sup>135</sup> that drew on a wide range of sources in addition to the NICE guidelines. These sources included:

- a review of documents from relevant professional bodies, such as the Royal College of Nursing, the Royal College of Psychiatrists,

the Faculty of Accident and Emergency Medicine and the Joint Royal Colleges Ambulance Liaison Committee

- a review of Department of Health policy and recommendations, including the Emergency Care Checklists
- a written consultation exercise with key stakeholder groups (these included healthcare professionals from emergency care, mental health and ambulance, service users, voluntary organisations and other experts in the field)
- the ideas and discussions of a teleconference on standards held with service users, researchers and carers
- consultation with experts from other QI programmes.

## POMH

**Evidence base/what the proposal said:** The original proposal noted that there were a number of sources of authoritative guidance about prescribing of psychotropic medication, including:

- the British National Formulary, which lists the indications for use of these drugs, recommends dose ranges and precautions to be taken when prescribing – including their use in pregnancy – and lists adverse interactions with other drugs
- systematic reviews of the effectiveness of psychotropic medications – more than 100 reviews of pharmacotherapy of psychiatric disorders completed by the Cochrane Collaboration national evidence-based clinical guidelines – six published or draft NICE guidelines and four technology appraisal guidance documents containing recommendations about prescribing of psychotropic medication
- consensus-based recommendations produced by professional bodies in the UK and other English-speaking countries.

**Subsequent thoughts and developments:** Current practice is described on the POMH website, which points out that observatory members can propose topics for consideration by the POMH-UK steering group who then use the eight criteria below (in no particular order) to prioritise nominated topics. Those shortlisted are then voted on by members for further development:

- relevant to implementation of particular NICE guideline(s)

- fulfils criterion of high cost, high volume or high risk
- seen as a clinical priority for trusts nationally by clinicians
- seen as a clinical priority for trusts nationally by service users
- likely variation in practice across UK trusts
- clear standards can be formulated that relate to prescribing practice
- practical and feasible to collect relevant audit data
- change in practice that achieves the standards is likely to have a positive impact on clinical care and clinical outcomes.

## NCROP

**Evidence base:** 2004 NICE guidelines *Management of chronic obstructive pulmonary disease in adults in primary and secondary care*

**What the proposal said:** The original proposal (2004) noted that these guidelines would be used as the basis for the standards used in the project.

**Subsequent thoughts and developments:** In early 2007, the online *NCROP News* reported that:

*When the NCROP was initially conceived, it was agreed that the study would focus on three key indicators of quality in the provision of services for people with COPD – namely: non-invasive ventilation, pulmonary rehabilitation and early discharge schemes. However anecdotal evidence, along with lessons learned during the pilot phase of the study, suggests that many hospitals are now providing these services and in order to measure changes in practice, a fourth indicator could be added. After much debate within the NCROP Implementation Group, the provision of oxygen services was identified as the extra indicator and in addition, the project team will collect information about the provision of palliative care services for people with COPD. As a number of guidelines already exist in relation to the 4 indicators, these have been used, along with expert advice from the NCROP Steering Group members, to develop the standards by which practice will be measured under the auspices of the NCROP.*

The 2009 *NCROP final report* described this process as follows:

*The Steering Group selected four particular aspects of*

*COPD care to be examined by each review, based on the strength of the literature, the variability shown in the 2003 audit and the likely importance to chronic disease management (group consensus).*

These were:

- non-invasive ventilation (NIV)
- oxygen provision out of hospital
- early discharge schemes
- pulmonary rehabilitation.

## PoISE

**Evidence base:**

- The Association of Anaesthetists of Great Britain and Ireland adopted the American Society of Anaesthesiologists' recommendations (1999) and published a brief chapter on fasting policies (2001) recommending that each trust should develop its own written policies.
- A Cochrane systematic review on 'Pre-operative fasting for adults to prevent peri-operative complications' was published in 2003. This used accepted NICE methodology, framed around AGREE principles and was supported by a multidisciplinary peri-operative fasting guideline group, with representation from the Royal Colleges of Anaesthetists, Midwifery, and Paediatrics and Child Health.

**What the proposal said:** The proposal identified seven outcomes to be evaluated. The main measure was on:

- duration of fasting pre- and post-operatively. The key recommendations in the guideline related to reducing time of eating and drinking pre- and post-surgery

The other six related to:

- guideline recommendations
- patients
- practitioners
- process
- organisational issues
- economic issues.

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## RCPE (EPI-SNAP and SNAP-CAP)

### Evidence base:

- Scottish Intercollegiate Guidelines Network (2003). *Diagnosis and management of epilepsy in adults* [www.sign.ac.uk/guidelines/fulltext/70/index.html](http://www.sign.ac.uk/guidelines/fulltext/70/index.html)
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**What the proposal said:** The original proposal (2004) noted that a multi-professional steering group for each condition (epilepsy and CAP) would be set up to confirm the standards to be audited, agree data definitions and define the sampling framework. Audit standards developed by the steering groups would be presented for agreement to two national meetings, one for each condition.

## EPI-SNAP

**What the proposal said:** The original proposal said that the standards would include:

- time from first seizure to first secondary care appointment
- proportion of patients seeing a neurologist or other recognised epilepsy specialist at their first secondary care appointment
- time from first seizure to establishing working diagnosis
- time from first seizure to decision on long-term treatment
- proportion of patients undergoing cranial MR imaging (segregated data for primary generalised and focal epilepsies)
- provision of patient information while waiting to see a specialist and on diagnosis.

**Subsequent thoughts and developments:** A July 2007 report to the Health Foundation confirmed that EPI-SNAP began with the following main aims:

- Reduce waiting times for first seizure clinics, and that under this aim there would be one main indicator – giving driving advice:
  - The project team aimed to improve diagnosis in order to reduce waiting times.
  - The team identified giving driving advice is the means to encourage better and more targeted referral, and therefore more considered diagnosis. DVLA advice was that if a driver is referred to a first seizure clinic and the diagnosis was epilepsy, then the advice should be not to drive.
  - Doctors were unwilling to do this due to the impact on the lives of their patients; driving advice was rarely given, so there was plenty of room for improvement.
- Introduce standardised elements of the GP-led annual review, and under this aim, the main indicator would be the provision of information generally:
  - The project team aimed to audit the provision of information using a group of information domains from the SIGN guidelines and an online package that allowed GPs to conduct review more efficiently.

## SNAP-CAP

**What the proposal said:** The original proposal said that the standards would include:

- the time between admission and the administration of the first dose of antibiotics (The guidelines suggest that the first dose should be administered within four hours of admission)
- assessment of severity using the CURB 65 score (confusion, blood urea, respiratory rate, low diastolic and/or systolic blood pressure, and age). (This relates to outcome and the guidelines have suggested a need for increased intensity of therapy and monitoring in patients with higher severity scores.)
- the time to senior review and whether a decision on further treatment (specifically, ITU referral/care) in the event of deterioration has been made prospectively
- use of antibiotic regimens according to BTS guidelines and the use of IV antibiotics for severe CAP
- oxygen usage
- provision of patient information on the process of care.

**Subsequent thoughts and developments:** A July 2007 report to the Health Foundation confirmed that the SNAP-CAP steering group had formalised the following aims and planned to deliver them using a care-bundle approach:

- to increase the survival rate of patients diagnosed with CAP
- to equalise mortality rates between weekday and weekend admissions
- to reduce related illness/infection
- to increase equality of service from centre to centre across Scotland
- to ensure timely and accurate treatment (as defined by BTS guidelines)
- to reduce number of days spent in hospital by CAP patients
- to provide appropriate information to patients and family/carers at the appropriate time
- to ‘join up’ care between primary and acute care
- to improve appropriateness of antibiotic prescription.

There was extensive debate within the project steering group and with pilot sites about the scope of the care bundle and the standards to be adopted. The latter finally included:

- oxygenation to be assessed during first four hours of care
- CURB65 score to be derived and measured
- mild cases to be treated at home with antibiotics
- severe cases to be admitted
- antibiotics to be given within four hours of admission.

## IBD

**Evidence base:** The British Society of Gastroenterology produced national evidence-based guidelines covering all the clinical aspects of management of IBD in 2004. This was accompanied (from the same source) by a ‘Service and Standards of Care’ document that set out the requirements that should be in place to deliver a first class service.

**What the proposal said:** The project team noted that the latter standards were largely consensus-based because, as for most chronic conditions (including those covered by NICE guidelines), the evidence on care delivery was scanty.

The original proposal noted that:

*The management of IBD is complex and there are many opportunities for errors that can result in increased morbidity or even mortality. These include delayed diagnosis – eg: median of 5–12 weeks for Crohn’s disease with 5% taking more than two years – delay to institution of optimal high dose corticosteroid therapy in severe colitis, delay to colectomy in non-responding severe colitis, failure to recognise presence of serious intra-abdominal sepsis in steroid-treated patients with Crohn’s disease, failure to monitor blood count in patients treated with the immunosuppressives azathioprine or mercaptopurine, and failure to monitor bone density (osteoporosis) in steroid-treated patients. There is evidence that practice falls short of both clinical and organisational standards. ... Issues that are likely to be amenable to intervention include delays in medical treatment and colectomy in Ulcerative Colitis (UC), delayed surgical treatment and post-op mortality in UC both of which are associated with increased mortality in younger patients. The availability of an appropriate multidisciplinary team that is working effectively would be a potential intervention. The audit would hope to highlight those patients on inappropriate steroid therapy and encourage strategies to stop the steroids. It will also address monitoring of and prevention of iatrogenic complications such as osteoporosis and immunosuppression-related bone-marrow toxicity. Whereas the audit of ulcerative colitis will be confined to issues relevant to in-patient episodes, the audit of Crohn’s disease patients will also include assessment of outcomes and process relating to previous out-patient management. For both conditions, death within 30 days of admission will be a primary outcome measure, but various secondary outcome measures, 20 for ulcerative colitis and 24 for Crohn’s disease, will be used to cover a range of issues, including provision of service and standard of care. The reproducibility of these measures will be assessed during the first six months of the audit and those shown to have good reproducibility will be used for the main audit. This would be by some margin the largest study of IBD and it is hoped that it would shed useful additional observational insights into the causation and treatment options.*

Since there were limited local audit data and no history of large national audit, the original intention was that the first stage of the project would define the elements of the organisation and clinical care to be measured:

- The clinical indicators for the process and outcome of care for people with IBD would be defined from the published guidelines augmented by consensus methods.
- The key ‘organisational’ indicators for assessing the IBD service would be defined from:

- 
- the recently published BSG guidelines and statement on service provision
  - experience from previous RCP national audits.

## PEARLS

### Evidence base:

- Royal College of Obstetrics and Gynaecology guidance 2004 (written by the applicants)
- a Cochrane systematic review on the use of absorbable synthetic material (1999)
- a Cochrane systematic review on the use of a continuous subcuticular techniques for suturing (1998).

**What the proposal said:** ‘Studies of maternal morbidity have identified several outcomes associated with perineal trauma, some of which will be used to measure improvements in maternal health following implementation of the intervention. However, to ensure outcomes of the proposed study also reflect women’s perspectives

on improvements in the quality and experience of their care, consumer representatives will be surveyed using a Delphi process.’

**Subsequent thoughts and developments:** The project team reported to the evaluation team in April 2007 that a Delphi study of patients undertaken in 2006 identified the following outcomes:

- fear of infection
- failure of wound healing
- pain as a result of perineal tearing and repair (although this was expected)
- the importance of being free from pain three months after birth.

These results were later confirmed by further Delphi studies in the UK and in Brazil.

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The Health Foundation is an independent charity working to continuously improve the quality of healthcare in the UK.

We want the UK to have a healthcare system of the highest possible quality – safe, effective, person-centred, timely, efficient and equitable. We believe that in order to achieve this, health services need to continually improve the way they work.

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