



Centre for
**Health Service Economics
& Organisation**

Quality of NHS care and external pathway peer review

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Executive Summary

The Centre for Health Service Economics & Organisation was commissioned by the Health Foundation to consult forty health sector leaders concerning the challenges raised by the implementation of systematic 'peer review' into the NHS secondary sector and related care pathways, in order to help raise the quality of care. This paper is primarily concerned to present the outcome of the consultation. It also presents the arguments for developing peer review of NHS quality of care and how it may usefully complement the regulated system of markets that has been adopted in the NHS. The arguments are placed in the context of recent developments within the NHS in the application of peer review and accreditation. It is maintained that peer review can help address two of the critical problems confronting quality development in the NHS: how to resolve the critical challenges raised by the failure at the Mid Staffordshire NHS Foundation Trust, and how to develop quality of care along the new patient pathways that cut across both specialties and organisations. New evidence on the cost effectiveness of peer review in the NHS is provided, drawing from evidence derived from a randomised controlled trial concerning the peer review scheme for COPD, and other relevant applications in healthcare and higher education.

The primary findings of the consultation are:

1. The respondents were generally supportive of a more systematic adoption of peer review in the health system, provided the primary purpose is to support the development of service quality, with any additional inspection and measurement playing subordinated roles to existing regulatory and statutory statistical mechanisms.
2. Peer review should be aimed at securing patient focus and value in the performance of teams, organisations, or as in the case of care pathways, the coherence and effectiveness of working relationships between organisations such as hospitals and GP practices. It is not considered an appropriate instrument to address individual performance unless incidentally in considering teamwork.
3. Its assessment would be based on but not be limited to the work of a specialist clinical team in a hospital, assessing both the working of the team in delivering in-hospital treatment within and between teams, as well as considering the quality of care pathways developed by the hospital in conjunction with GPs and other elements of the primary sector, to treat and support patients with chronic illness.
4. The ground rules would be made clear to all parties at the outset of the review. These 'rules' would include both a core assessment applicable to all hospitals and their penumbra of institutions, but also a component designed to meet area needs in cooperation with local leaders.
5. The evidence used should as far as possible be routinely collected hard data (to maximise cost efficiency) and provided as background for the assessors. However, patient care should be the paramount consideration in determining information collection by reviewers; other sources of information would normally be used (at the reviewer's discretion) to explore evidence of local standards, processes, and patient experience and outcomes, and which may not be routinely collected.

6. The respondents considered that the organisation managing the reviews should probably be independent but co-hosted by one or two major organisations such as the DH, the NCB or the CQC. It was not thought appropriate that the CQC host this organisation by itself. Respondents considered that a separation is preferred between responsibility for enforcing minimum standards and that for providing a pathway towards improved quality. A small new organisation – that we might think of as a Peer Review Commission – reporting to the NCB or DH, but governed by representatives from the NCB, Royal Colleges, CQC, NQB, and professional regulators, might best organise the peer review process, capture the influence of the separate major bodies, and consider commissions from regulators and other bodies. If reviews are held on a six year cycle we estimate a budget of about £30m would cover operating expenses.
7. The respondents were divided on whether peer review should be voluntary, mandatory for all teams on a long (5-7 year) cycle, or undertaken more extensively but in a selective way where it is thought to be a priority.
8. The respondents weighed the arguments for total transparency of the findings of the review against those for discretion. Given a follow-up programme of quality improvement, transparent feedback is essential to hospital staff; the absence of feedback in some existing programmes has induced disillusionment in the usefulness of quality enhancement programmes in the minds of some. Respondents inclined to a model in which the content of the report would be public but that the follow-up plan could draw upon certain specific clinical supporting evidence that may not have been included in the published report. Some respondents felt strongly that the clinical profession had 'not earned confidentiality' and that after a review, the internal governance processes would not be strong enough to drive change without the reinforcement of 'transparency'. One respondent argued that only with strong national leadership to hold 'bruising conversations' would change regularly be likely to follow a review. Another argued that adding the threat of withholding an 'accreditation' by peers could give teeth to generate change and eradicate poor performance.
9. Peer review is not intended by respondents to be primarily concerned with identifying very poor or dangerous performance. However, if this were found, the respondents strongly argued that reviewers were duty-bound to report it to the relevant authorities.
10. The respondents argued that the review team required an appropriate skill-mix and level of competence.
11. The respondents thought that the review team should be almost all external, with these chosen not to be locally employed, although it was noted that adding a representative from the organisation under review could be useful to enable those being reviewed to more fully engaged in the process. The review teams should be sufficiently more competent to give insight and leadership but not so different as to be unable to provide a cogent and implementable future path.
12. The review of care pathways raised new issues for respondents; currently, assessment is almost always for single institutions and not local health systems.

13. One approach to pathway assessment considered by some respondents, to overcome the current shortage of relevant metrics, is to collect and review the perceptions of senior practice partners, senior social workers, and consultants, on the local degree of cooperation and quality of care, and to consider the local arrangements to facilitate cooperation regarding the chronic sick who require long term care. This strategy of mutual assessment could be supplemented by hard evidence concerning, for example, use of computer linkages, frequency of meetings, patient experience and outcomes.
14. There is a dearth of evidence from cost/benefit studies of peer review and accreditation. We provide fresh evidence of the favourable balance of benefits over costs of the COPD Peer Review and other peer review schemes.

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1. Introduction

This paper addresses three questions: Why might external peer review be a desirable policy to accompany a system of regulated markets in giving quality of care? Why might this be extended from the single speciality model to the patient pathway? How might this be implemented? The primary focus of the paper is this final question.

Measures to increase the quality of healthcare are central to the mission of the Department of Health, and in the past two decades, successive governments have addressed this mission with an overarching policy of shifting from a centralised administered model of service provision, towards a system of regulated markets. More than one Secretary of State has been attracted by the prospect, however distant, of a decentralised autonomous health system, with patient and provider incentives suitably aligned to provide steadily rising quality of care, and requiring only the occasional stroke of the political tiller. However, for several reasons this stage of system development remains elusive and further refinement of health markets is likely. In this study, we consider a mechanism to that aims to address two major problems in quality performance, but may also help with other weaknesses. First, there is a need to decide upon a policy to rectify the quality weaknesses illuminated by the long-term major failures of patient care at the Mid Staffordshire NHS Foundation Trust (Mid Staffs). Secondly, there is a need to develop policy to help assure and build quality along patient pathways, both within hospitals and into primary care.

One view of the crisis at Mid Staffs is that it is a one-off, that such cases are extremely rare, and that policy to drive quality improvement is effective: if policy is needed, it might strengthen regulatory detection. A second, more searching interpretation of the policy weakness revealed at Mid-Staffs is that hospitals give quality improvement a selective and low priority against other, often pressing, organisational objectives. This view is consistent with evaluations explaining the modest impact of clinical audit,¹ evaluations of leading quality initiatives², and the nature of underperformance at Mid Staffs. Perhaps the feature of Mid Staffs that most suggests the need to amend the present framework, is that failure was neither a single team, nor across the piece, but rather *selective* in a way to ensure that important regulatory objectives were met despite the appalling nature of care being offered. This raises the prospect that other hospitals have by design or negligence, 'ticked the boxes' but failed the patient, and remained undetected. This paper considers a policy to address this second diagnosis, arguing that an appealing way to assure and strengthen balanced quality improvement is to develop peer review, and to do so in a way that also helps resolve the complex challenges to building high quality patient pathways.

The proposal here is to introduce a form of self-regulation to support continuous quality improvement in a way that is complementary with the market model and existing regulation. Peer review works by incentivising professionals of all types – clinical and non-clinical – to work within organisations to establish best clinical practice. Such an approach is not, of course, novel. The Royal Commission on the NHS in 1979 observed that the medical professions did not regard the introduction of medical audit and peer review “with a proper sense of urgency”, and went on to propose the establishment of a special health authority to oversee this and related work^{3,4}.

The improvement of quality has historically been placed in the hands of clinicians, regulated by agencies concerned with safety and clinical competence, and informed by clinical guidelines. As we note in section 2.7, self-regulation has been heavily criticised by economists for allowing self-interested strategies to increase suppliers' welfare by limiting competition and creating barriers to entry. It may also waste resources by encouraging suppliers to invest effort to influence policy in a way that increases these gains. Nevertheless, economists have given little attention to explaining why self-regulation has persisted in many sectors, and how in certain contexts professional regulators may obtain information about the actions of those being regulated that other regulators cannot access, and why this may be sufficiently important for patient welfare, despite the risk of regulatory manipulation, to enable self-regulation to give higher patient welfare than either no regulation or the regulatory alternatives. If the net benefits for patients from a self-regulatory process are to be obtained it is crucial that the scheme is carefully implemented to obviate the risk of regulatory manipulation.

Peer review has developed in distinctly different traditions, but the core concept is the professional assessment against standards, of the organisation of health care processes and quality of work, with the objective of facilitating its improvement. This assessment would normally incorporate, but not be limited to, relevant material from statistical collections. Internationally, the term would also include an on-site visit and emphasise the 'organisation processes' to support clinicians, but is sometimes used in England to describe schemes of 'Peer Sharing'. These exclude visits and focus attention on outcome metrics and clinical procedures. Peer review is already a significant part of the working of healthcare in England, and has several forms. It may be part of an investigation by the CQC, or more commonly is either an invited remediation activity, or a standing quality improvement programme provided by one of the Royal Colleges or professional societies. Alternatively, it takes place in a formal process of 'accreditation' or 'certification' in which the standards against which the assessment was being made would be specified in detail. Accreditation has recently been, or is being, introduced, for example, by pathology services, and for specific treatments in both psychiatry and stroke care.

In common with many countries in which voluntary and statutory external assessment of various types occurs, policy makers in England have not adopted a consistent strategy towards its use (Shaw, 2001) or evaluated, and consulted on, its potential as a system-wide approach to quality improvement. The main attraction offered by external assessment is the *potential* to enhance healthcare quality to that matching the best providers. It does so by rewarding, and thereby reinforcing, the "professional ethic" – perhaps the most important influence on the capacity of a health system to deliver high quality of health services seamlessly across lines of clinical and financial accountability. Insofar as the balance and emphasis of quality improvement within a system of regulated markets may clash with, and even undermine, that regarded as in the patient's best interest, external peer review offers the prospect of mitigating the adverse effects of these powerful but coarse policies by reinforcing the balancing contribution of professional insight.

The development in the past two decades of policy towards quality has emphasised 'shifting the balance of power' and developing the influence on quality of regulated markets. More detailed policy consideration of these health market structures and regulatory models, as with the recent reform of NHS commissioning structures, comprise an approach that recognises awareness of the multiple 'market failures' that populate health systems, and the need to adapt institutions, regulations and markets, to address these failures. A more systematic peer review framework may be

regarded as in this tradition of developing self-regulation to fit the modern medical context.

This report focuses on the *implementation* of peer review, exploring with health sector leaders *how* the concept of peer review might be most likely to achieve its potential contribution in England. This reflects the variety of interpretations that 'peer review' has been given in practice, with each having different consequences and connotations. While this report does not consider at length the case *for* peer review, the nature of the case is presented since this understanding provides insight into *how* value is expected to be added, and hence how the review might best be implemented. The case for peer review is therefore briefly set out in the next section.

It is important that the design of any health sector policy integrates the implications of related policy measures. This is particularly critical for policy in the crowded and sometimes controversial 'quality assurance and enhancement' space, and requires a strategic approach to ensure coherence with other schemes. This report discusses how those interviewed would place peer review as one element within a coherent NHS policy-making and regulatory framework.

For this report, we have interviewed 40 senior workers in secondary care (for example, consultants and Chief Executives of Trusts), in primary care (for example, GPs), in community care (for example, consultants), in PCTs and in organisations involved in driving up the quality of healthcare (for example, in audit, in Royal Colleges, in the General Medical Council). A full list of interviewees is provided in Annex A.

We document the views of these interviewees, drawing on their expertise of the likely challenges and opportunities in implementing peer review. A briefing on the analytical case for peer review was provided prior to the interview to encourage informed and cogent responses. Open-ended questions were adopted to encourage interviewees to focus on those features of peer review that they considered most salient. Since peer review has been used to serve a number of different purposes and has been implemented in quite different ways, interviewees were able to draw on various experiences of peer review.

The structure of the report is as follows. Section 2 explores the case for peer review. Section 3 gives some recent history of peer review work in England. Section 4 gives a tentative outline of how peer review might take forward the improvement of the quality of care. Section 5 sets out the results of the consultation. Section 6 pulls together the messages from the literature and consultation, to propose two overarching models of peer review. Section 7 considers how these models of peer review might be applied across organisational boundaries along the patient pathway, and Section 8 estimates the cost of peer review.

Annex A contains the list of interviewees and Annex B describes key organisations that are linked with peer review. Annex C summarises how peer review is used in various forms within the health and social care sector. Annex D reviews the key messages from published evaluations of peer review schemes, Annex E estimates the costs and benefits of a specific peer review scheme, and Annex F sets out the Research Assessment Exercise in academia (which is also used to inform the costing section).

2. What is the case for introducing external pathway peer review?

Five arguments are offered for systematically introducing external peer review into the NHS. The first differs from the others in addressing the relationship between peer review and professional autonomy, and a potential criticism that peer reviews, in shaping service provision, may unreasonably intrude on 'professional autonomy'. The remaining four arguments recognise that the NHS is now delivered within a policy framework of regulated markets, and rather than explain the case for change without reference to this context, the arguments are developed mindful of the policy requirement that intervention be related to failures in these established regulated markets.

In Section 2.7 the concerns developed in legal and economic analysis concerning self-regulation are outlined.

2.1. Developing clinical self-regulation aligned to patient care

Peer review is primarily concerned with ensuring the highest levels of professional clinical conduct, and analysis of its value must begin with an understanding of how peer review may reshape and influence professional decisions given the value placed upon professional autonomy. The modern interpretation of this freedom is that professional autonomy is given on the basis of trust that is earned by the consistent application by a profession demonstrably practising within its standards, protocols, and guidelines. Medical innovations and the growth in capacity to improve conditions in the past century have increased the cost to patients of clinicians who fail to apply best practice. Similarly, the growth of teamwork has increased the value to patients of clinicians who act with due regard to other professionals' views, and do not autonomously depart from professionally established best practice without justifying decisions to colleagues who share patient responsibility.

Medical professionalism, and the consequent trust patients place in doctors, recognises the increasing value of moderating individual clinician autonomy towards the standards set in the broader professional group. Policies to moderate autonomy such as revalidation and external assessment are partly a response to the growing 'opportunity cost' of not providing best evidence-based care. In this way, clinicians also raise the standing of their profession. In modern medical practice, the contribution of peers to individual clinician quality is therefore already recognised and valued. The considered continuing development of this professional influence on autonomy is a critical component of "clinical" self-regulation, and as we suggest developed insufficiently to match modern NHS service provision. Self-regulation is presently applied unsystematically towards clinical specialty teams, and only rarely along 'pathways' both between primary and secondary care involving multi-disciplinary teams, and also between clinical specialties within hospitals. Furthermore, if self-regulation is to have a patient focus, it must capture the concerns of not only clinicians, but also patient representatives.

The systematic development of pathway peer review is likely to increase the prospect that standards, protocols and guidelines for complex patient pathways to meet major and growing facets of chronic care will be developed and applied.

2.2. Providing clinically informed information to patients and organisations

The 'patient value' arising from more systematic 'self-regulation', in part reflects how peer review may provide information offsetting the difficulties (i) *patients* experience when presented by extensive imperfect information concerning healthcare quality; and (ii) *organisation leaders* encounter when seeking to establish priorities, and to identify and justify change.

NHS policy emphasises the *transparency* of service quality as a key tool for informing patient choice and shaping managerial decisions. The success of this system depends on (i) all of the (very many) important areas of healthcare quality being captured in the statistical information collected and published; and (ii) patients and commissioners being able to interpret and use the extensive published data to make rational decisions. There is evidence that there are difficulties in measuring providers' performance^{5,6,7,8} and in users interpreting this information to make informed decisions⁹. Furthermore, in specialised clinical areas, hard data and inspection information (such as those conducted by the Care Quality Commission) may not be sufficient to accurately assess the quality of care provided.

Peer review requires that relevant information is viewed and assessed by informed clinicians and others, who will normally have a better understanding of the material than a typical patient. The availability of an overall informed assessment of provider performance to add to the raw data can have several consequences for both patients and organisations.

First, it gives patients a rich information base to support 'choice' and help to address the information shortfall. Patients are also assured that the information has been considered by clinicians with the authority to request improvements in the related service. By reducing misunderstandings arising from information 'overload' and shortcomings, peer review can build trust amongst all participants in health markets.

Secondly, by raising various issues and requesting data, peer review may provide information that enables host organisations to make better decisions towards understanding their weaknesses and achieving change in the context of potential inertia.

Thirdly, external peer review may provide information to help lever action within organisations to overcome frictions and inertia by providing informed advice within a *long term quality improvement plan* for the institution, and thereby helping to make quality a regular agenda item for Trust Boards. This may help give items such as employment policy a long, rather than short, term emphasis.

Finally, professionals given influence over the regulatory process may attempt to influence outcomes in a self-interested way. It is important therefore to bear this possibility in mind in the design of the scheme. Perhaps only senior clinicians can become sufficiently close to clinical decision taking to make informed decisions about quality and how the service might be organised.

2.3. Addressing the problem of the unbalanced scorecard

Since only certain dimensions of quality can be measured and the range of potential quality objectives is large, then markets may focus providers on the measured quality items, neglecting the unmeasured. This might be deliberate gaming, or an inadvertent side-product of an organisation willing to delegate local control to central

policy makers. One approach to this problem, which is generic to the public sector, is to combine the use of hard data with 'soft', more informal, information. This problem has been discussed by, for example, Goddard et.al. (2004).

The suggestion in this report is that peer review is an effective way to implement the weighing of hard and soft information, and hence to address the problem of the 'unbalanced scorecard'. External peers can be chosen to possess the authority to have accepted their views regarding the weighting of soft information, and the implications for patient health, so that future organisational decisions anticipate and reflect this counterbalancing effect. They would also have sufficient seniority to both recognise high quality care, and value their reputations more than any benefits from giving biased findings. In this way organisations that choose to game the system of regulated markets by addressing only measured quality outcomes, and under-serving unmeasured qualities, can be identified by peers who may publicise the finding.

The crisis at Mid-Staffordshire, which occurred despite the hospital meeting regulatory and inspection requirements, was a major blow to confidence in policy towards quality oversight of the health system, but is entirely what would be expected by those familiar with the 'unbalanced scorecard' argument and the over-reliance on a basket of metrics to assess a service. With a vast number of quality dimensions, healthcare is highly vulnerable to 'selective poor performance'.

The argument offered here is that peer review provides an instrument to address the problem of capturing and balancing hard and soft information, and thereby improve on the conventional distribution of metrics and emphasis on information transparency. Peer review can address these deficiencies within the current system and help to improve the quality of care in a balanced way. It aims to supplement the 'hard' but limited information available from surveys with 'softer' information from local clinicians, managers, other employees and patients. The 'authority' of reviewing peers is relied upon to ensure this 'soft' information is carefully interpreted and valued, together with the available 'hard' information, to give a balanced picture.

2.4. The complementarity of peer review and the introduction of financial incentives

The introduction of a regulated set of markets supported by a national tariff may have substantially increased the strength of the case for peer review. This is because the tariff creates a financial reward for organisations supplying a subset of measured quality objectives – say for reducing waiting times – but places a relatively lower weight on other measured and unmeasured quality dimensions – say, long term outcomes – that prior to the market model may have been given appropriate relative resource support by the organisation. If there are reasons for supposing that the initial balance of qualities supplied was near to appropriate, the tariff may at the same time both reduce "waste", but also create a more unbalanced scorecard of quality in delivery. Since peer review is in part concerned to address the unbalanced scorecard, its task and value may have been increased by introducing the market model.

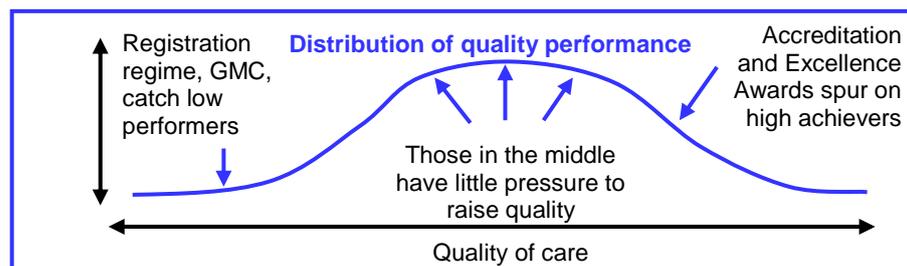
To explore this further, consider the illustrative model depicted in Figure 1. Suppose the organisation produces two service qualities, and that if fully efficient, it can produce any combination of the two qualities on the line AB. Points to the right of AB are not technologically obtainable. Prior to system reform the organisation receives a fixed income, and clinicians are able to allocate between activities as they see fit. However, we assume that it is initially inefficient and produces at a point on the

towards 'e' by reporting a high quality organisation if clinicians provide a high level of patient welfare which is likely to require a more balanced service. To reach this assessment, peers use soft information towards Quality 1 since it is not measured. Without the revelations provided by peers, local professionals may be unable to achieve service balance. Financial incentives may readily bring about 'change', and a desirable willingness to reduce inefficiency, but may also lead to subtle reductions in the appropriateness of the service. Peer review has an especially high value if its contribution is not only to develop capacity but also to incentivise clinical balance, building upon the tariff model in which efficiency gains can be achieved.

2.5. Providing incentives for middle-range performing institutions

At present most incremental resources supporting quality change are directed towards high and low performing institutions with only tariff pressures impacting on the mid-range organisations. Peer review is perhaps particularly suited to mid table performers where further development is desirable and not exceptionally challenging to define, but also where problems raised by minimum thresholds of performance do not require the statutory levers that are possessed by the CQC. However, peer review may play a useful role as one element of CQC analysis.

Figure 2: Distribution of Quality Performance



Peer review rewards with esteem to all of those delivering a high quality service, and withdraws esteem from those not doing so. It does so in two ways. Most obviously, by both allocating public esteem from distinguished reviewers to a local team. Secondly, the publication of the assessment draws to the attention of the profession as a whole the local achievements that if provided solely in the form of raw statistical information, might easily go without notice. Mediocrity becomes harder to obscure.

2.6. Encouraging integrated care

Conducting peer review along patient pathways, and the prospect of review conclusions, may help those working across the health and social care sectors to build relationships and reduce organisational barriers. This could be particularly important in circumstances where colleagues (as peers) review each other's work. However, peer review may also foster joint responsibility for the whole pathway of care, and provide both an incentive and an opportunity for clinicians in different sectors working across patient pathways to challenge each other's practice.

Given the different systems of performance management in general practice, community healthcare, hospitals and social care, each sector is at a different stage of accepting constructive criticism from colleagues in other parts of the health and

social care system. Although primary care trusts (and clinical commissioning groups in the new system) use contracts with hospitals to performance-manage them, there is no mechanism whereby hospitals might performance-manage GPs. Hospitals are therefore likely to be more used to being performance-managed by other players in the system.

Agreeing terms of reference for the peer reviews is likely to be difficult when each organisation working along the patient pathway must agree the terms and priorities.

However, these obligations to work together may themselves be a benefit of pathway peer review in terms of forcing different sectors to work together and encouraging integrated care.

2.7. Addressing reservations about self-regulation

Self-regulation has a long history and has been widely applied in many industries. However, it has also been the target of extensive criticism, and awareness of this is valuable in the design of NHS policy.

Lawyers view self-regulation as giving power to groups that are not politically accountable and, given the centrality of the quality of the NHS to politics in England, it is important that any major extension of self-regulation operates in a context that gives democratic legitimacy.

Economists emphasise how self-regulation may potentially limit competition by erecting barriers to entry and encouraging the development of standards that create benefits to suppliers, rather than to consumers/patients.¹⁰ There has been little analysis of why self-regulation has been accepted in many industries and why, despite its limitations, it may play a valuable role. However, more recent analysis has looked to identify circumstances in which self-regulation may contribute to efficiency, relative to direct government regulation^{11,12}.

The comparative efficiency gains from self-regulation usually arise in contexts where professionals have superior information of the matters to be regulated, and without their providing critical information the service may fail to be as efficient as it otherwise might. The potential gains from this information must be set against any losses incurred because regulated professionals may pursue their interests by influencing the regulatory process.

The models of peer review discussed below have a public-private mix and are not, strictly speaking, pure self-regulation: the framework is given by an arm of government, but is made concrete, and applied, by professionals. The risk that certain professionals pursue self-interest within the regulatory process is reduced by the structured nature of the regulation, and by appointing senior reviewers who are named by professional societies and royal colleges, and not employed by competing providers. Other facets of the implementation can also help reduce the risks of 'economies with the truth'.

3. The context: Some recent history of peer review work in England

There is no systematic national policy towards the role of external peer review to increase quality in healthcare, either to define a preferred structure or to reinforce and/or coordinate existing schemes. Nevertheless there is a wide and increasing variety of work that from different stand-points may be regarded as “peer review”. Without attempting to be exhaustive there appear to be three main categories of work, and within each of these, various approaches.

3.1. Remediation, service and team reviews

The **Medical Royal Colleges and Faculties** use peer review as part of their work on remediation for individual doctors, but more commonly in undertaking service or team reviews. At present these reviews are all voluntary and invited by providers, but some Colleges are reviewing the possibility of developing a more proactive involvement. The work of the review teams is uneven in both scale and nature of practice across the College and Faculties, with some institutions having no experience of reviews and remediation proceedings, whilst others have dedicated teams and regularly work on individual and service development plans. The scale of College intervention is on average quite low, with most Colleges averaging two department service reviews or less per annum, but 15 to 20 reviews over a five year period for two of the more busy Colleges, and between 15 and 20 invited reviews annually by the Royal College of Surgeons which may be the most active. The reviewer is typically an independent expert or team of experts, with specific training in peer review and remediation.

Outcomes range widely from the development of an action plan for the individual or service concerned, to referral to the GMC or CQC. Colleges view the use of independent experts with the ability to *identify and characterise* problems, as well as to offer recommendations, as critical to the strength of the process. Colleges have noted that recommendations from reviews were widely implemented and had far reaching effects. The distinction between the success of reviews conducted with a carefully established methodology, and the less satisfactory ad-hoc work on remediation has been made by one College. Amongst the future proposals under consideration to develop the remediation process are the identification of doctors who may require remediation, further involvement of patient representatives, and the enhancement of accreditation processes. In all, a proactive programme is under review to put in place evidence-based and defensible interventions.

3.2. Various information and practice sharing programmes

A number of **professional societies, regional teams and Royal Colleges** have individually and in partnership, developed a range of ‘peer review’ programmes which are not intended, as with the remediation Royal College programmes, to address a specific local problem, but rather to establish a continuing improvement in standards, to disseminate good practice, in some cases to advise where improvement might be made, and where necessary address dysfunctional service aspects. These schemes vary in structure and sometimes have evolved – as in the case of the Cardio-thoracic Society. All are voluntary, although participants may be asked to join, and have recorded that peer pressure has encouraged involvement. The intention is to share data, patient pathway information, and professional experience, and usually for a

review team to draw up an assessment. Amongst the leading programmes are (i) the Regional peer review in Rheumatology, (ii) the UK National COPD Resources and Outcomes project, (iii) the RCGP Quality Team Development Programme, (iv) the Paediatric Anaesthesia Interdepartmental peer review, and (v) the Cardio-thoracic Society peer review scheme.

The National Cancer Peer Review Programme is also in this category but is led by the National Cancer Action Team, and has placed stronger requirements to participate with almost 100% participation. The Cardio-thoracic Society work is different in an important way: it has the most advanced systematic collection of metrics describing patient outcomes, but in the latest version of their model, uses peer assessment and site-visits mostly as a marginal remediation activity rather than as an integral part of the core scheme to drive national quality. This raises a major issue regarding the role and effectiveness of on-site visits to which we give detailed discussion in the following sections, and is closely linked to the problem of the 'unbalanced scorecard'.

The evaluations of these programmes suggest overall support for peer review programmes despite criticism of aspects of the process, and provide useful insight into their strengths and weaknesses. Key points are described next with other points introduced into the analysis of specific aspects of the implementation of a national peer review programme in the following sections.

The strengths of the programmes include: the improved setting of organisational priorities within relevant managerial contexts (Rheumatology); improvements in the quality and standardisation of services, and acts as a catalyst for change; raising information levels with commissioners (COPD); prompting a breaking down of inter-professional barriers; and the involvement of patients on the review gives high profile to patient experience, and raises team awareness of patient requirements.

The weaknesses include: the cost of participation; the lack of transparency regarding the best process to undertake the review; the clear gains for the acute sector contrast with the failure to capture the benefits for the pathway into the community (noted by the evaluation of the Cancer Peer Review Programme); a concern that where poor practice is identified there is insufficient post-review corrective action – a critical matter that has been carefully documented in the accreditation literature.

3.3. Accreditation

Accreditation in healthcare began in 1918, led by the American College of Surgeons with thoroughly modern intentions: to grant recognition to hospitals with high standards and to incentivise improvements in those not recognised. After spreading gradually to Canada and Australia, the approach was adopted in various degrees post-1990, in most EU states. The US Joint Commission, which currently accredits almost 20,000 organisations in the USA, has provided a multi-national set of standards, as has the International Society for Quality of Healthcare. In each case the standards may be self-assessed, contrasted with practice, an externally assessed accreditation decision made, and a development plan provided.

The major schemes in the UK include those for clinical pathology, several specific schemes managed by the Royal College of Psychiatrists, stroke services accreditation which is being developed by the RCP, and primary medical care provider accreditation which has been piloted by the RCGP. A major challenge to accreditation is the paucity of evidence establishing a direct link between

accreditation and quality of outcomes. This may be partly due to the difficulty in defining and measuring potential benefits. A systematic review of accreditation research in the health sector (Greenfield and Braithwaite 2008¹³) examined the effectiveness of accreditation in 10 areas and found that accreditation provided consistently positive findings in prompting change and in professional development. Others areas including organisational impact, financial impact and quality metrics provided inconsistent findings. Scrivens' 2008¹⁴ extensive survey for the Department of Health maintains that "The failure of accreditation systems to engage clinicians is not a function of accreditation per se, but appears to have more to do with a reluctance on the part of clinicians to engage with nationally set qualitative standards which impact on medical administration and clinically relevant organisational processes and may also be a function of how quality assurance programmes are organised with hospitals." Anecdotally, respondents in this study viewed accreditation as working well in specific focussed areas such as training, pathology, and the specific psychiatric services, such as ECT clinical services.

Whilst it would be wrong to suppose that accreditation has not been successful in delivering significant patient gains, the case for the standardisation of services, in the way it has promoted, needs to be judged carefully in the absence of a clear evidence base. This is especially so given the risk of a potential excess burden from monitoring and assessment. It also raises the important question of how a systematic NHS peer review programme can deliver substantial patient gains when accreditation appears to have a modest track record. The explanation can only at this stage be a conjecture. It is reasonable to argue that the pressures from peers that follow the authority of a Royal College or professional society badged scheme supported by its most senior professionals, and reinforced with the latest clinical research, is likely to provide a more bespoke, incisive, and granular assessment. Furthermore, it may also provide a more coherent assessment and strategy for complex development along patient pathways and between specialties, together with a more cogent set of development proposals that will be successful in influencing organisational leaders at Board level. At specialty level, the work in Section 8 of this report suggests that the peer review Royal College programme in COPD, which was amenable to cost benefit analysis, provided a very substantial return on the investment.

3.4. A post-script on peer review in the Netherlands and the United States

The use of peer review in both the Netherlands and the United States provides instructive guidance in how peer review in England is most likely to flourish.

The pioneering model of systematic peer review developed in the Netherlands about 25 years ago has been extensively studied and used as a basis for comparative analysis. It provides the closest model to those that we explore in the following section, and as a consequence, is a useful source of lessons. In this we are supported by a number of valuable studies^{15,16,17}.

The Dutch form of systematic of peer review, the so-called *visitatie*, embraces all 28 scientific societies of medical specialists with programmes to inform quality of care at the hospital specialty team level. It is characterised by being a specialist led system that reviews each team every three to five years. This programme includes a site visit by selected peers. Each review team produces an assessment, but the response is made by those reviewed with the expectation of subsequent corrective action. However, although the societies report positive implementation outcomes, implementation overall has been sufficiently unconvincing that some specialties have developed a strategy to improve the implementation of *visitatie* recommendations.

The first lesson from *visitatie* would appear to ensure clear lines of accountability for the implementation of peer review recommendations and follow through by the organising body.

Visitatie has an emphasis on “clinical performance in terms of knowledge, skills and attitude”,¹⁵ but appears to have become increasingly focused on the managerial and organisational problems confronting clinicians. Medical opinion would appear to be that the value of *visitatie* would be increased were it to have a greater emphasis on clinical processes and outcomes. While *visitatie* may be the closest assessment programme to capture clinical performance, it appears not to focus as closely on clinical issues and patient outcomes as might be sought if it were redesigned at the present day. The second lesson for an NHS peer review scheme, if it is to avoid becoming bureaucratic, and narrowly focused on managerial challenges in the support of clinicians, would be to require it to focus on how well patients are treated, related patient outcomes and experience, and thus the quality of related clinical decision taking. To achieve this would appear to require a peer review model led by sufficiently senior external peers for their esteem and judgement to be highly valued by those being reviewed.

Although it is not widely discussed in Europe, the US Medicare programme has had a long and changing involvement with peer review, and the interested reader is referred to Walshe (2003).¹⁸ Initially used to set standards for hospitals contracting with Medicare, peer review in the US came to be seen as not adding value. Subsequently, the review work was redirected to provide analysis of the quality of hospital care given to Medicare patients, and where necessary, to challenge hospital clinical decision taking. This approach may have been well executed, but perhaps unsurprisingly, was unpopular with the hospitals being assessed who challenged the quality of the review process. The hospitals’ campaign against the peer review process was successful, and peer review was redirected towards working on collaborative quality improvement projects.

This section contains only a fragment of what can be gleaned from the thoughtful published analyses of international evidence regarding accreditation and peer review.

4. What is needed? A tentative outline peer review framework

To structure the discussion of how a systematic peer review process might be implemented, a framework with various alternative features is described, aspects of which discussants are invited to comment on in a sequence of questions. This proposed framework for discussion takes as given the current work of the CQC and its role in licensing and assuring minimum thresholds or performance. It is tempting to imagine a more empty set of quality regulation institutions and to question the value of inspection and the current major financial investment in 'threshold enforcement' but, following 'Mid-Staffs' and 'Winterborne View', the time may not be ripe for proposals of that nature. Nevertheless, aspects of the following will help buttress and inform the role of the CQC. Equally, further development of accreditation for specific services may also contribute to the assurance of good practice across all institutions. While much of this work will be driven by attention to local policy and process, the development of metrics to measure actual practice and outcomes are likely to be increasingly emphasised.

The respondents to this survey envisaged a role for an institution that would coordinate and lead peer review work to support the **development** of practice both in hospitals and down pathways for chronic care into the community. This body would be independent but work with the Royal Colleges and professional societies to systematise and expand peer review to address patient needs. It might be called the Peer Review Commission. In its intention to be systematic, the probable move towards multi-professional assessment, and the broadening of scope for professional reflection, it bears resemblance to the introduction of the structures of medical audit, following the White Paper, Working for Patients, (1999).

This proposed institution and its work would counterbalance the financial incentives to be 'unbalanced' in care delivery by peer reviews focussing on patient health gain and experience, and thereby rewarding 'balanced' health creating institutions with 'professional esteem' and perhaps advantage in commissioning bidding. In this way hospitals and pathway component providers are incentivised to deliver patient orientated and balanced care. This of course is not easy, but it is the only cogent mechanism available to address the problem of markets incentivising unbalanced care and prompting professional disaffection.

Hospitals and their partner providers would be encouraged or mandated to be visited by a multi-disciplinary peer review team every 4-6 years, and an in-depth quality assessment would be undertaken, drawing upon published and other material secured by an on-site visit, to produce a report and a development plan. Although based in the management and clinical structures of the hospital and its partners, the assessment would include both evidence of traditional clinical specialty performance and evidence of the degree of success in working along pathways cutting across hospital departments, and with GPs and other professionals in primary care for chronic patients. The focus would be on patient outcomes and experience, and in its eventual form would require the development of both (i) more clinical specialty outcome data, as pioneered by the Cardio-thoracic Society, and (ii) pathway data with the support of GPs, nurses, and social workers. The essence of the report would be published. These reports would contain proposals for continuing quality development, to which the Chief Executives of the hospital and link CCGs would be expected to publish a response and follow-up plan.

The new institution would be responsible for a cycle of systematic peer reviews, and be notified of, or perhaps coordinate similar work in remediation contexts. The agency would be notified of, and if requested provide bespoke work, for the CQC. It

would be governed by a council to include representation from the Royal Colleges, professional societies, the National Commissioning Board, the GMC, NMC, HPC, the CQC, and patient representatives. The Peer Review Commission might be 'accountable to' the National Commissioning Board, and provide reports to both the NCB and the National Quality Board. The visits would not intend to assess organisations under investigation by the CQC unless the latter saw a role for the agency. It would primarily aim to assist the 85% of mid-range organisations develop into becoming high performers.

To structure discussion of how a systematic peer review process might be implemented, three models of increasing scope and correspondence to patient pathways are described in the box below. These models take as given the current work of the CQC and Monitor in their roles in licensing and assuring minimum thresholds of performance.

Model A: External peer review of clinical specialty teams on a systematic (5 or so) year cycle

An in-depth quality assessment against standards, drawing upon statistical collections, and evidence provided on-site, to produce a report and an agreed development plan, with a follow-up. The focus would be on clinical decision taking, patient outcomes and experience, but the review team would be widely briefed to inform its understanding of outcomes and experience. In certain specialties, reviews will require the development of more patient outcome data. The approach would resemble the Royal Colleges' team reviews but would include relevant non-medical professionals, and patient representatives.

Model B: The peer review of hospitals on a regular 5 (or so) year cycle

Many unresolved problems critical for patient welfare lie at the interface of the clinical specialties, and specialty peer reviews are unlikely to fully address these issues. Measurement of the integration of treatment along pathways that cut across hospital departments would be needed. The effectiveness of hospital organisation structures and processes that support clinical care, and the capacity of shared infrastructure would be reviewed once each cycle and not partially by each specialty review. This would imply review teams containing an appropriate range of clinical and non-clinical professionals.

Model C: Model B but also review down chronic patient pathways to assess the quality of integration with primary care

Although based in the management and clinical structures of the hospital and its partner providers, this assessment would move beyond current approaches, which focus on single specialties or organisations, to also consider performance quality along pathways which cut across hospital departments, General Practice, and other professionals in providing integrated care.

The policy could begin with Model A and then, over a four year horizon, add coverage to establish models B and C in sequence, as the resources and data to support the programme were put in place.

5. Results of consultation: what are the advantages and disadvantages of implementation approaches?

This section describes the central questions that this study aims to address with information from those consulted. We categorise the different implementation issues under:

- What is the overall purpose of the scheme?
- What should be reviewed and why?
- How the peer review process should be organised?
- Who the reviewers should be?

Below, we summarise what we believe to be some of the key issues to raise with respondents.

What is the overall purpose of the scheme? Reviewers discussed three broad categories of objectives for peer review towards quality – a developmental role, a measurement role, and an inspection role.

What should be reviewed and why? For accreditation and consistent peer reviews, the terms of reference for the review are fixed and consistent across all providers. By contrast, with invited and targeted peer reviews, the terms of reference are tailored to meet the developmental needs of those being reviewed. Questions to be addressed in this report therefore include:

- What should be the terms of reference for the review?
- How should the terms of reference be defined; for example, how much should those being reviewed decide the terms of reference for the review?
- Systems of appraisal, clinical professional meetings and clinical supervision focus on assessing and improving the performance of *individuals*. Invited service reviews and accreditation, on the other hand, focus more on the performance of *teams*. It is undecided what the most appropriate focus of peer review might be on individuals, teams or organisations as a whole.

How should the peer review process be organised? There are a number of potential hosts of a peer review programme. Royal Colleges might host peer review (as with many invited and tailored peer reviews, and often with accreditation), the provider themselves might host and run peer review (for example, with clinical professional meetings or appraisal), or CQC might host peer review (mirroring and supporting existing inspection regimes). Given the wide range of existing hosts of programmes using peer review, it remains unclear:

- What are the important characteristics of an attractive host organisation?
- How does the host affect how the programme of peer review is implemented?
- What organisation should best host peer review?

There are various tools used by existing programmes to encourage participation. For example, inspections carried out by CQC are mandated. For invited and standardised peer review schemes and accreditation, the results are made public, so as to encourage participation indirectly. It would be useful to get further clarification on the relative advantages and disadvantages of different degrees of voluntarism in peer review. Some potentially important questions in this regard might include:

- How can you ensure that all those who might benefit from peer review participate under a voluntary system?
- How can ensure that the peer review scheme does not impose an undue regulatory burden on participants?

Accreditation, invited and standardised peer review and inspection methods have at their core the transparency of the results of the review. Other mechanisms, however, are based quite fundamentally on the concept of confidentiality providing a protected space in which participants can improve their performance. Within the context of using peer review as a developmental tool, it must be decided what role transparency should play.

Who should the reviewers be? The identified approaches vary crucially in terms of who the reviewers are, particularly whether peers are colleagues within the same organisation (as with appraisal and clinical professional meetings) or whether they are external peers (as with invited service reviews). There is also variation concerning the reviewers' seniority relative to those being reviewed.

Annex D addresses these questions by reviewing the literature evaluating previous peer review schemes.

5.1. What is the overall purpose of introducing a peer review scheme?

There are three broad approaches to improving quality that might be adopted – a developmental role, a measurement role, and an inspection role.

Almost all interviewees agreed that peer review would add most value to existing policies by focusing on a development role – rather than measurement or inspection. This report is therefore primarily concerned with how peer review should be best implemented to drive up the quality of patient care, by aiding the development of those being reviewed. Peer review, interviewees suggested, might be particularly useful where the cause of poor performance is subtle and more difficult to diagnose. One interviewee in particular argued that there tends to be a lack of questioning and challenge from peers and colleagues in everyday practice, so that it can be relatively easy for clinicians to unintentionally become outdated in their practice and 'let standards slip'. Another interviewee argued that there is already a lot of regulatory control of performance (discussed in Annex C), and that peer review should add value to these tools by providing protected space in which those being reviewed can discuss and improve their performance. Respondents noted that patient protection was uppermost and that whilst measurement and inspection were not predominant that peers should report care failure to the relevant regulator and draw broadly upon soft information to access/assure quality performance.

Peer review has in various contexts been expected to simultaneously serve each of the three purposes – development, measurement and inspection, and by dissipating effort receiving criticism.

In circumstances where it is not possible to measure all that is important to high quality patient care using hard data, it is important that peer review would aim to assess the quality of care provided. The measurement of performance could then be used to hold providers to account. Through this approach, peer review would aim to prevent the adverse consequences that result when providers focus on improving the quality of measured healthcare, at the cost of areas that are not measured but are nonetheless important. Peers might reach balanced assessments and supply critical measurements without attempting to oversee many aspects of the measurements that are required. By reaching balanced assessments, suitable incentives are given to the organisations under review.

The use of soft data to measure the performance of providers was, however, questioned by a number of interviewees. They argued that hard data measurement is becoming more extensive and encompassing. For example, measurements are increasingly provided for post-operative outcomes alongside patient satisfaction and experience. The usefulness of on-site visits, in systematically adding to the measurement of healthcare quality, was therefore called into question, whilst recognising that in some cases this might be very important for patient care. In marked contrast, it might be pointed out that all of the four major international models of external assessment presently use on-site visits, albeit under different titles.¹⁹ The critical idea of using soft information to help address the problem of the unbalanced scorecard is not yet widely recognised in the health sector community.

Some interviewees also suggested that for peer review to result in robust measurement, there would need to be a sufficient number of peers involved in each review, and peer reviewers would need to have sufficient time to review hard data available, seek subjective views from a range of stakeholders and observe practice. One interviewee questioned whether such a system would be too costly to be rolled out across the health system. Since peer reviewers, by definition, have other existing commitments in their 'day job', a sufficient number of peers may not be available for the time that such a review of performance would require. These matters are addressed further in the cost-benefit analysis in Section 8.

5.2. What and who should be reviewed?

5.2.1. Terms of reference of the review

On the terms of reference for the review, the resounding message was that the 'ground rules' (concerning what will be reviewed) should be made very clear to both parties prior to the start of the review.

There remain some issues concerning the nature of 'tailor-made' reviews. One view is that each provider should be assessed against consistent standards (to allow a national picture of quality to be drawn and to facilitate benchmarking of performance). However, it has been suggested that applying consistent standards may drive out innovation, particularly if the measures are based on processes. Reviewing against consistent standards may also mean that the process of review is not very relevant for some (more unusual) players in the system. Another argument, therefore, is that those being reviewed should determine the focus of the review, so that they get as much as possible from the process.

A possible model to reconcile 'consistent standards' with the scope to focus locally would be to adopt a format with both common and local-specific/negotiated elements.

5.2.2. Information used to inform the review

There was general agreement among interviewees that the information used by the reviewers to inform the review should:

- Be evidence-based, transparent and peer-reviewed (in a publishing context);
- Be based on what is important to high quality patient care;
- Be as complete as possible;
- Be objective; and

- Make use of hard data that is routinely collected.

There is general agreement that the standards that are used by the reviewers to assess the performance should be **evidence-based, transparent and peer reviewed**. Since the evidence on which standards are based is often not complete or might be weak in some areas, developing standards often relies, at least to some extent, on building consensus within the profession. This consensus requires professional ownership of the standards.

There is broad agreement among interviewees that the evidence used to ensure that those being reviewed are meeting standards should ultimately be based on what is **important to high quality patient care**, not what is easily measurable and observed.

The information used to inform peer reviews should be as **complete** as possible. This means that peer review needs to have access to all the necessary information to make honest and robust judgements about the performance of the provider being reviewed. For example, feedback from patients and staff as well as objective data about the experience and outcome of treatment should be used to inform peer reviewers. Providers should not be able to choose what evidence they allow the reviewers to see. In self-assessment, providers may be able, to some extent self-select evidence that presents them in a good light, so that peer review is less able to distinguish good from poor performers (i.e. poor performers may be able to 'tick the same boxes' as good performers).

Interviewees also often maintained that peer review should make good (and better) use of the large amount of **hard data** on the performance of health and social care providers that is *already* collected. One interviewee argued that the data and information collected to inform a review should include *only* the data that clinicians and managers should wish to collect in the normal running of a good service, partly to minimise the paperwork burden the review might impose. Another interviewee commented that there would need to be strong analytical support for peer review programmes to ensure that existing data sources were used to maximum effect. A number of interviewees argued that once the data is better understood, and data from different sources are brought together, peer review can serve as a means to further triangulate the existing data by, for example, speaking with service users, staff and managers to get a better understanding of the service.

Interviewees wished to emphasise the value of using hard data in peer review. First, peer review may serve to explain the data: peer review can help to explain what well-performing teams are doing that makes them well-performing. Conversely, peer review can help to explain why some providers may be performing poorly. Secondly, hard data can help to ensure that those being reviewed by peers are "honest" (i.e. it should be more difficult for people to cover up poor performance in cases where the data has already shown this to be the case). Thirdly, if reviewers were to make better use of hard data, they may be less likely to be biased by any perceptions based on ambience, which whilst important, should be considered alongside patient outcomes. Finally, a number of interviewees argued that when hard data is used, it should be outcomes-based (or process-based where there is clear evidence that the processes lead to demonstrably better outcomes for patients). If there is a focus on poorly chosen process measures, this is likely to drive out innovation.

Some interviewees also argued that there should also be efforts to minimise the paperwork burden imposed through peer review. In this sense, the focus should be

on routinely collected data, rather than imposing new demands on those under review.

5.2.3. Should peer review focus on the actions of individuals, teams, organisations, or local systems?

The interviews identified a number of measures in place at the individual and organisational level to assess and increase the quality of patient care within the current framework. At the individual level, employees are subject to annual appraisals and (in the case of certain staff categories) will be subject to revalidation every five years. At the organisational level, the Care Quality Commission inspects against minimum standards, with the Trust Board held to account by the Department of Health for outcomes achieved.

This suggests that peer review might usefully plug the gap between measures by assessing and increasing the quality of teams. Indeed, this is the approach commonly taken to peer review under current practice, and was the approach recommended by the vast majority of interviewees.

Although the focus of peer review is therefore likely to be at the team level, in practice the assessment will take into account individual, team and organisational factors when reviewing team performance. Indeed, it is impossible not to look at the behaviour and performance of individuals when reviewing the performance of a team, particularly since it is quite often the case that only one or two individuals in a team may be causing problems within a service. In this sense, peer review of team performance might take a flexible approach to assessing individual or organisational issues, depending on the needs of the team. For example, in some services where patients are assigned to a specific individual who is responsible for their care (for example, a surgeon), peer review might very usefully focus on the performance of that individual. This could then create individual responsibility, which might drive those senior individuals to make changes to improve how their patients are treated throughout the service.

Whether peer review is focussed at the level of the individual, team or organisation, one interviewee recommended that care be taken to differentiate between the performance of the individual and how well the team or organisation operates. This interviewee highlighted the importance of ensuring that a poor clinician is not able to hide in a good organisation, and a good clinician is not inappropriately blamed for a poor organisation's performance.

5.3. How should the peer review process be organised?

5.3.1. What organisation would best host peer review?

A substantial number of interviewees suggested that, in practice, the hosting of a peer review programme would be best shared between a number of different organisations, each with their own responsibilities, including:

- The healthcare provider;
- The Care Quality Commission, Department of Health or National Commissioning Board;
- Royal Colleges; and/or

- Clinical Commissioning Groups.

See Annex B for a description of each of these organisations.

One interviewee suggested that the host of a peer review programme should be an organisation that (i) has an incentive to seek an accurate indication of performance, and (ii) has an incentive to act on that information. With reference to these criteria, this subsection will assess the possible role of each potential host listed.

5.3.1.1. The healthcare provider

Since the **provider** is ultimately responsible for their own performance, and therefore has an incentive to act on information and recommendations from a review, they should have an important role in hosting a peer review programme. Furthermore, if providers implement peer review themselves, or choose to be reviewed themselves and pay for the review, they are likely to respond differently than if it were forced upon them. The role that the provider takes may depend, in part, on the form that peer review takes. However, it might include the following:

- Ensuring that the form of peer review remains fit for purpose by adapting it to meet local needs.
- Ensuring participation through the appraisal process.
- Using a local coordinator to ensure that peer review has a positive reputation among staff, that those being reviewed find the process useful and that the programme maintains momentum.
- Ensuring that peer review does not impose additional regulatory burden on the Trust, by taking a systematic approach to the prioritisation of peer review – horizon scanning to ensure that all of the (specialist) services that they provide are peer reviewed, perhaps every 3 to 4 years.

However, a provider might not have an adequate incentive to seek an accurate indication of their performance, preferring to show themselves in a positive light rather than admitting to problems in the delivery of care (particularly if making changes to the service are associated with higher costs and more effort). If they have no incentive to seek an assessment of their performance, providers may also have little incentive to seek a peer review in the first place. Furthermore, the Trust Board might be reluctant to seek further external review, when there is such a heavy use of review in hospitals for so many different purposes and in so many different areas. Inertia may crowd out well-founded local intention.

5.3.1.2. The CQC or DH

To ensure that providers prioritise and make time for peer review, **the Care Quality Commission or the Department of Health** might therefore usefully mandate its use, perhaps tying implementation to a financial reward (discussed further below alongside how voluntary peer review should be).

There was general agreement among interviewees that the CQC should not directly host peer review schemes. It was felt that the regulatory organisations responsible for maintaining minimum standards should be distinct from those organisations responsible for helping providers to improve performance, but the reasoning for this was not fully articulated. One possibility is a potential moral hazard: a regulator tasked with improving quality might hesitate to give objective comment on threshold regulation if it were thought that the programme of quality improvement to the relevant provider did not meet best standards.

5.3.1.3. Royal Colleges

Royal Colleges have traditionally been associated heavily with peer review, and for good reasons. For example:

- Royal Colleges hold knowledge on best practice through their national and international oversight.
- Royal Colleges may be best placed to appoint the most appropriate peers to conduct external reviews.
- It is important that the host organisation spends time building the kudos of the programme in local, national and international spheres. For example, they might encourage research using the programme and present about the programme at conferences. Royal Colleges might be best placed to achieve this.
- Royal Colleges might also usefully play a role in describing the benefits of peer review to Trusts, to encourage them to make use of peer review where it is felt that they might benefit.

Despite the arguments for Royal Colleges having a role in hosting peer review programmes, there have been cases where reviews conducted by Royal Colleges have found evidence of poor practice but where no action has been taken to inform regulators. In this sense, Royal Colleges may lack sufficient incentives, or powers, to ensure that the changes recommended through peer review are implemented. This was considered not to be acceptable, and might be put forward as a reason for Royal Colleges not being hosts of peer review. However, with appropriate contracts on the terms of reference, transparency (see below) and dealing with poor performance (see below), Royal Colleges can remain suitable hosts of peer review. For example, the NCB or the Department of Health might have a role in linking with the host of peer review (for example, Royal Colleges) in cases where poor performance has been identified, to ensure that recommendations are implemented.

One interviewee suggested that Royal Colleges might be involved in developing peer review implementation best practice – similar to clinical best practice frameworks – which providers and local organisations might then adapt to meet their own needs and circumstances. This would have the benefit of appreciating that, quite often, one size does not fit all in respect of quality improvement programmes. In appreciating this, the interviewee argued, any peer review programme implemented is more likely to be sustainable.

5.3.1.4. Clinical Commissioning Groups

In the new structures, **clinical commissioning groups** might also have a financial incentive to implement a peer review of any institution from whom they commission services, to ensure that high quality care is being provided to patients for whom they are responsible. In this sense, clinical commissioning groups may have incentives to ensure both an accurate measurement of performance and that providers subsequently implement recommendations to improve patient care. However, insofar as markets in certain services are non-existent or poorly developed, the CCG may itself be accountable for part of what is assessed.

5.3.2. To what extent should participation be voluntary?

Interviewees discussed a number of options for how voluntary a peer review scheme might be:

- Participation might be voluntary, requested by the provider themselves on an ad hoc basis;
- Participation might be voluntary, but can be requested by commissioners, inspectors, the Department of Health, etc. as well as the provider themselves;
- Participation might be universally encouraged, unless there are exceptional circumstances; or
- Participation might be universally encouraged without exception.

A number of interviewees believed that peer review should be voluntary, and put forward a number of arguments to support this view. For example, some felt that, since there is already an inspection regime mandated on providers, peer review should not add to this, as it might then start doubling up on the inspection regime. In this sense, over-burdening providers with inspection can undermine the process of quality improvement, as they have no time left to make changes to their service. Furthermore, some interviewees argued that providers are likely to respond better to the peer review programme if they request it themselves (discussed above).

One interviewee recommended that the purpose and benefits of specific peer review programmes be made very clear to Trust Boards, especially when participation is voluntary. Trust Boards might be reluctant to actively seek further external review when there is use of review in hospitals for many different purposes and in various areas. Another interviewee added that Trusts may be reluctant to request peer review if they have had bad experiences of peer review in the past.

Despite the general consensus that participation in peer review should be voluntary, there were also some interviewees who felt that in certain circumstances (particularly where there was evidence to suggest that providers were performing less well than average in some areas, for example, from audit or inspection), there should be tools available to encourage providers to participate in peer review. This was felt to be important, since it is the poorest performers who are least likely to volunteer to be reviewed. The poorest performers tend to be those that lack clinical and managerial leadership and so show a lack of interest in how they are performing, even when external information shows them to be performing poorly. On the other hand, highly performing providers may have an incentive to participate, to prove that they are high performers.

Under such circumstances, interviewees suggested two organisations that might have an incentive to encourage participation in peer review programmes:

- Since **commissioners** hold contracts with providers, they can encourage participation in peer review without it being mandated. For example, commissioners might make participation in a peer review programme a condition of continuing to commission services from a certain provider in a particular area, particularly if they have concerns about the quality of care being provided. Alternatively, one interview respondent suggested that there be differential tariffs – one tariff for services that have been peer reviewed and have achieved some accredited status, and one for services found through the process of peer review not to be meeting a set of agreed standards.
- **Care Quality Commission** inspectors might recommend the use of peer review where poor performance has been detected.

There was some call from a number of interviewees for the CQC (or some other similar body, such as the Department of Health or National Commissioning Board) to mandate participation within all providers, without getting directly involved in hosting

the peer review themselves. This is intended to ensure that all those that might benefit from peer review take part, and would ensure that Chief Executives continue to prioritise peer review. In this way it would survive, for example, staff shortages. However, with such a route to encouraging participation in peer review, it was noted that the process and objective of peer review would need very clear presentation to be marketed quite differently from inspection, to make this link to CQC acceptable and warranted.

5.3.3. What should be the time spent on reviews and frequency of reviews?

There were certain features that many interviewees agreed were important with respect to the **time spent** on reviews and the **frequency** of reviews:

- For external reviewers to really get into an organisation and understand how it works and where it might be failing, a review might take a substantial amount of time. Two interviewees suggested that this could take as much as 6 weeks field work, plus time for understanding the data, profiling the organisation, and writing the report.
- It is important that the host organisation can continue to monitor, provide advice, and hold to account for implementation, those that they have reviewed, ensuring that they fulfil the improving commitments that have been made.²⁰ Having a regular cycle of reviews may also help to ensure that having work reviewed becomes a part of the culture of the NHS, as opposed to being something that people comply with on a one-off basis.

However, to achieve these two features, a peer review programme could be costly. Indeed, one interviewee argued that peer review is a very intensive process and, as such, not something that organisations can be involved in very frequently. Furthermore, if reviews are very frequent, senior (and influential) players are unlikely to participate, which will limit the usefulness of peer review.

A number of interviewees also argued that in determining the frequency of, and time spent on, peer reviews, there should be a greater appreciation of the extent to which external reviews are conducted for different specialties. Many interviewees therefore discussed ways in which peer reviews might be prioritised or targeted so that maximum benefit might be gained for minimum cost. The options included:

- Targeting specific providers;
- Targeting specific services;
- Targeting peer activity in areas that are most productive; and/or
- Reducing other areas of performance measurement and inspection by noting the overlap, and using the information from, the peer review programme.

With regards targeting peer review at specific providers, peer review might, for example, be targeted (by its governing council) at poorer performing providers, possibly with self-assessment and audit between reviews. This may allow peer reviews to be less regular. Alternatively, peer review might be requested by providers, so that those providers who feel like they are most likely to benefit are prioritised. However, to recognise the need for peer review, there needs to be self-awareness of performance, which is often associated with better performing providers, and so the invited form of peer review might not ultimately be targeted towards those providers who most need to improve.

Peer review might be targeted at specific services and/or clinical areas. For example, it could be targeted at an area where national performance lags international

standards, or where a provider has been shown to be performing poorly in an audit. This may allow in-depth reviews to be conducted in this one geographic area.

One interviewee argued that it should be the Trust Board themselves who are responsible for targeting peer review towards specific services within the Trust, and horizon scanning their services regularly to ensure that each specialist service receives a peer assessment of their quality every 3 to 4 years.

The time spent on each review might be reduced by targeting peers' time in activities that are most useful. One interviewee suggested that the most burdensome and costly part of peer review are often the visits and observation of practice. This interviewee suggested that to reduce the burden of peer review, the review might therefore be done more remotely. Under such a system, peers might assess the data and information collected routinely (for example, outcomes measures, process measures, patient experience measures, patient survey results, staff feedback through 360-degree review etc.) to build up a profile of a provider's performance and to make recommendations for improvement, based on their expertise and experience in the field. This might however, frustrate the ability to collect 'soft data'.

A number of interviewees highlighted the extensive use made of external review and inspection in the health service. To ensure that the frequency and time spent on reviews is proportionate and does not unduly pull frontline staff away from patients, it is therefore important to consider any one peer review scheme in relation to the multitude of other measures and tools already in place. For example:

- The processes by which Trusts are reviewed in different areas could be aligned so that the burden of collecting data, filling in paper work, complying with the review etc. is reduced. Although it was acknowledged that there are benefits of testing different approaches and having some flexibility of approach within different areas, there is likely to come a point where these benefits are outweighed by the costs to Trusts.
- Accreditation could feed into revalidation because, in part, accreditation will assure the competence of consultants' work.
- CQC might use the data and knowledge gleaned from accreditation to feed into their assessment of services.
- CQC might also use some assessors from peer review in their inspections if they suspect that a service is providing inadequate care and they require further specialist support.

5.3.4. How transparent should the results of the review be made?

This subsection considers the arguments for, and then against, making the results of peer review transparent.

There are a number of reasons why peers considered that transparency is inappropriate when peer review is used as a developmental tool. Transparency can undermine the willingness to reveal information required for quality improvement.²³ When results of peer review are fed back only to those being reviewed, participants may feel more able to develop aspects of their service whilst not having the stigma of failing.²¹ As a result, transparency may result in peer review being treated in a purely mechanistic way²². Transparency can encourage the use of explicit and narrowly defined standards in review so that the results are reliable and valid. This might reduce the value of peer interpretation and soft data collection.

Furthermore, it was noted by some interviewees that transparency may add to the administrative burden since transparency requires paperwork. Also, when the results are not made transparent, approaches to peer review might be cheaper to implement, since the data can be more provisional and partial, since it can be interpreted in light of local circumstances and be used to facilitate further discussion.²³

However, numerous other interviewees argued powerfully for transparency. Some of the arguments included the following:

- Transparency can encourage the use and refinement of hard data on processes and outcomes, such that participants respect the results.
- Withholding the results of peer review, for whatever reason, is likely to be criticised, particularly when the review uncovered the provision of very poor care.
- One interviewee argued that the NHS is, generally speaking, made up of very competitive individuals who want to be shown to be performing well. Publishing performance data can therefore be very powerful in driving improvements.
- One interviewee argued that the healthcare profession have not sufficiently earned the right to confidentiality. Indeed, existing variation in the quality of health and social care²⁴ suggests that professional motivation alone may not be enough to improve quality in all cases.
- It was also argued that without transparency, internal leadership/governance processes (such as appraisal) may not be strong enough to ensure that change is brought about through peer review (this view would appear consistent with aspects of the Dutch experience of the *visitatie* scheme).

If the results of peer review were to be made transparent, some interviewees had some suggestions for how this might be done. For example, one interviewee recommended that the organisation being reviewed should be informed before any information is released so that they have time to respond to the information in a controlled way. Another interviewee argued that the way in which information is presented is important, as it can have important implications for how transparency is seen by those who have been reviewed. The interviewee argued that the results can be presented in a more sensitive way that it is often done at present (for example, highlighting good practice, as well as areas that need to be improved). Feedback following reviews was mentioned by several interviewees – particularly the frontline staff interviewed, who felt that feedback following performance measurement and review programmes is often poor or completely lacking. There is a general sense that this aspect of peer review should be undertaken in a collaborative way.

Whatever the policy on transparency, interviewees tended to agree that prior to the review taking place, there need to be clear rules and boundaries about what happens to the information obtained.

5.3.5. How should follow-through be ensured after a peer review?

This subsection considers how to ensure that the recommendations made during or after a peer review are promptly implemented. The previous subsection on transparency began to consider these issues with the idea being that transparency would create a pressure to incentivise providers to implement the recommendations. This subsection considers other tools that might be used to ensure that valid and helpful changes are made following a review.

One interviewee argued that although clinicians may identify areas for improvement through peer review, making the changes following review is very difficult. Although people may have good intentions to change practice, other pressures on their time and resources may mean that the recommended changes are seen as ‘too difficult to do’. Peer review therefore needs strong leadership, both amongst those being reviewed and on the review panel, responsible for stubbornly prompting quality-improving change.

This ‘leadership’ role may take a number of forms. One interviewee suggested that local leaders within a hospital may be useful in ensuring that feedback from the peer review process is communicated to those on the front line of patient care delivery, in a suitable and useful way that does not unnecessarily distress employees. For example, a local coordinator and champion of peer review may be responsible for arranging workshops for teams potentially affected by changes following a peer review. It is suggested that a lack of open feedback from programmes such as clinical audit has meant that some staff have become disillusioned in such external quality improvement programmes. Having a champion on the ground within organisations might therefore help to build a positive reputation among participants.

Another interviewee suggested that strong national leadership for peer review is required to ensure that the programme continues to be prioritised and to be a strong influence on the quality of patient care. This national leadership, supported by the secretariat of the Peer Review Commission, could also be involved in the ‘bruising’ conversations that might be required at a local level, if poor practice is identified but those being reviewed are hostile to the recommendations for change.

5.3.6. How should reviewers deal with poor performance?

There was consensus among many interviewees that peer review should not have as its primary purpose the identification of *very poor* performance. This is the responsibility of statutory regulatory schemes. In this sense, peer review should *primarily* be a developmental tool, not an inspection or measurement tool. However, some poor performers may get through the cracks of the regulatory system (as in Bristol and Mid Staffordshire), but could be identifiable through the soft evidence within peer review.

There was also consensus among interviewees that where peer review does identify very poor performance, the reviewers have a duty to report this to the appropriate authorities (for example, the Care Quality Commission or the General Medical Council). In this sense, although many developmental peer review schemes have as their focus helping the provider to improve, their ultimate duty is to patients. This means that the scheme is at its core developmental, but has ‘teeth’ to provide assurance, where necessary. To facilitate this process, a number of interviewees recommended making it very clear at the outset (in the review’s terms of reference) that the reviewers reserve the right to report the provider to regulators in cases where very poor or dangerous care is found. To this extent, one interviewee argued that peer review is no different to other cases where patient safety issues are identified. Peer reviewers can therefore follow procedures in place for ‘whistleblowing’.

One interviewee had a quite different view to the majority of interviewees, arguing that peer review programmes should take a much more proactive approach to reducing the number of poor performers providing care in the system. This interviewee argued that for the concept of peer review to really drive change, it needs to ‘close the loop’ on poor performers. This interviewee argued that assessing a

service's performance and feeding back is a positive step, but ensuring that they improve to meet good standards of care will take more than just feeding back recommendations. The interviewee therefore argued that accrediting services against standards following peer review is more likely to mean that the process of peer review is sufficiently powerful to eradicate poor performers from the market.

However, one interviewee felt quite strongly that peer review is unlikely to identify major failures. The interviewee argued that it would take a very good peer – with a lot of political backing and not much to lose – to inform another provider that they are failing their patients and/or users (particularly in cases where the jobs of senior staff could be at risk). The view that 'good' peers are rare and that most would be unwilling to draw attention to poor care was a minority one, but it emphasises the importance of ensuring that peers are placed in a context that is designed to encourage unbiased assessment.

5.4. Who should the reviewers be?

5.4.1. What should be the composition of the peer review team?

Peer review can be defined as being “the review of an individual's, team's or organisation's performance by those with similar qualifications and experiences”. The degree to which reviewers are required to have 'similar qualifications and experiences' was a subject of some contention during the interviews conducted for this project.

On the one hand, many interviewees suggested that for a robust and useful peer review, members of the peer team should have a range of perspectives and expertise, reflecting the topic of review. However, some interviewees argued that it is not always necessary to have reviewers with the same expertise and experience as those under review – depending on the terms of reference of the review. They argued that the reviewers nonetheless need to have a good understanding of the area that they are reviewing, how it works, and the barriers that those working there face.

Having recent patients' perspectives in the peer team was important for a number of interviewees. However, it was noted that it might be difficult and expensive to recruit and train recent patients to review teams, since patients will either get better or will become more ill and unable to participate. One interviewee also suggested that it is useful to have a pool of experienced 'lay' reviewers with a range of expertise and experiences from which 'patient' reviewers might be chosen for any particular review. The chair of a peer panel might be chosen from these senior lay members.

5.4.2. The competence of peers

The level of competence of peer reviewers is an area of some contention, with interviewees discussing three broad options for how the competence of the reviewers could be determined:

- Reviewers should be of a high calibre – top experts in the field;
- Reviewers can be any peer with similar qualifications and experience; or
- The competence of reviewers is determined at a local level, so that those being reviewed have some input into who will review them.

The majority view appeared to be that reviewers should be of a high calibre, with a number of potential reasons put forward for this:

- Peers would need to be insightful to see through any dishonest portrayal of performance;
- Peers need to have the authority to be able to challenge poor performance and not be willing to collude on poor practice – one interviewee argued that where services are not providing adequate care, reviewers need to be willing to hold ‘bruising’ reviews and prove resilient where necessary to ensure that changes are made;
- Peers need to be respected and trusted by those they are reviewing; and
- Peers need to be able to explain findings in a sensitive manner.

The failure to use peers who are regarded as able is a *common criticism* of existing uses of peer review – some of which are voluntary models. For example, one interviewee commented that if peers are not selected carefully, so that they are known to be performing as well as those that they are reviewing, then they may be unlikely to provide valuable recommendations to those they review, and the peer review process may well lose repute.

Some interviewees argued that the credibility of a review could be increased by ensuring that the top experts in the field provide the design of the peer review, so that the programme’s purpose and methodology is credible.

An alternative suggestion was made: those being reviewed might be given limited choice of those that review them, depending on what they wish to get out of the review and the experience that they are looking for in a reviewer.

There were two areas regarding the competence of peers that received broad support by all interviewees who commented on this aspect:

- Almost all interviewees mentioned the importance of **training reviewers**. Even distinguished peers should be trained so that they are up to date with both appraisal methods and the standards being adopted. Training might also encourage reviewers to challenge poor performance. It was also noted that if this training, if widespread, might help to shift the culture in the NHS to one that is more open about mistakes. One interviewee, however, argued that the best way to learn how to be a good reviewer is ‘by doing’. In this sense, reviewing should be regarded as part of professional development and to help learn and build up a reputation as a ‘good’ reviewer.
- There was broad consensus that those being reviewed should have the opportunity to **feed back** about the usefulness of the reviewing peers. One interviewee also suggested that each reviewer might usefully evaluate the other reviewers following a review. Because reviewers each know what the others should be doing, they are likely to be best placed to review their practice.

The factors influencing reviewer *supply* were discussed. One interviewee suggested that securing well-respected and expert reviewers may be particularly problematic where reviews are carried out frequently, or for areas where the process of review was seen as tedious. Another interviewee argued that it is more difficult to source and train reviewers when ad hoc reviews are requested at short deadlines. This interviewee argued that while there is a lot of enthusiasm within the profession for becoming reviewers, the major barrier to recruiting is in getting ‘time off’ to participate.

5.4.3. Should peers be internal to the organisation, neighbouring peers or external peers?

The majority of interviewees recommended that peer reviews use external peers, with several arguments being advanced:

- External peers can bring new ideas and a different perspective, so be more challenging;
- Those being reviewed might be more honest with an external reviewer since there is less chance of immediate ramifications (for example, people are often more willing to open up to an unknown psychiatrist than to friends and family);
- External reviewers are less likely collude on poor performance – this is also an argument for ensuring that the same reviewer does not review the same provider more than once;
- Having external peers assess performance allows management to maintain a good relationship with clinicians since any criticisms are from external, independent sources; and
- Independent external reviewers are likely to have less incentive to use the process for their own, or their team's, gain (other than to learn).

It was noted that having external peers who are the near neighbours of those being reviewed is problematic, and in one view, 'inconsistent' with competition in the NHS. However, there were also arguments for having internal (or local) peers:

- Some interviewees argued that external reviewers can make the process seem like an assessment or inspection.
- One interviewee argued that it might be useful to have at least one internal peer on the review team, so that they are able to ensure that the process of peer review is closely integrated to the experience of those being reviewed. This can enable those being reviewed to better engage in the process.

6. System level models of peer review implementation

This section begins by setting out the main options for the implementation of peer review, summarising the ideas described above. It then proposes two different peer review strategies that are structured and potentially workable, to give a sense of how the various elements of peer review organisation that must be decided might fit together.

6.1. Identifying the main options for implementation of peer review

In this report, we have identified various aspects of the implementation of peer review. The following diagram takes ten areas of implementation that appear to be important, and then considers the options for implementation in each of these areas to give two broad approaches, one more transparent and mandated than the other.

Table 1: Table of main options for the implementation of peer review

| | | | | |
|--|---|--|--|--|
| 1. Terms of reference | Standardised terms of reference | | Tailored terms of reference | |
| 2. Information use | Objective, routinely collected data (to minimise paper work), triangulated during visit, and supplemented with soft information | | Objective, routinely collected data (to minimise paper work), triangulated during group discussion, and supplemented with soft information | |
| 3. Host of the programme | Programme hosted by royal college | Programme hosted by CCG/NCB | Programme hosted by CQC | Programme hosted by provider |
| 4. How voluntary? | Review mandated by CQC/NCB | Review recommended by CQC inspectors | Review recommended by commissioner | Review requested by provider |
| 5. Deciding who the peers are | External peers chosen by royal college/NCB, with input from provider | | Internal peers chosen by provider, and external peers chosen by Royal Colleges | |
| 6. Training the peers | Peers are trained | | Peers may be trained | |
| 7. Review | Reviewers review the service by interviewing staff and patients and observing practice | | Reviewers review the service by discussing problems in protected space | |
| 8. Transparency of results | Results kept internal | Results fed back to the provider and CQC | | Results published |
| 9. Formative/summative nature of feedback | Improvement plan drawn up and fed back to those being reviewed | Some attempt made to assess current standards of care provided | | Provider either accredited or not accredited given current standards |
| 10. Development programme agreed with reviewers | Yes | | No | |

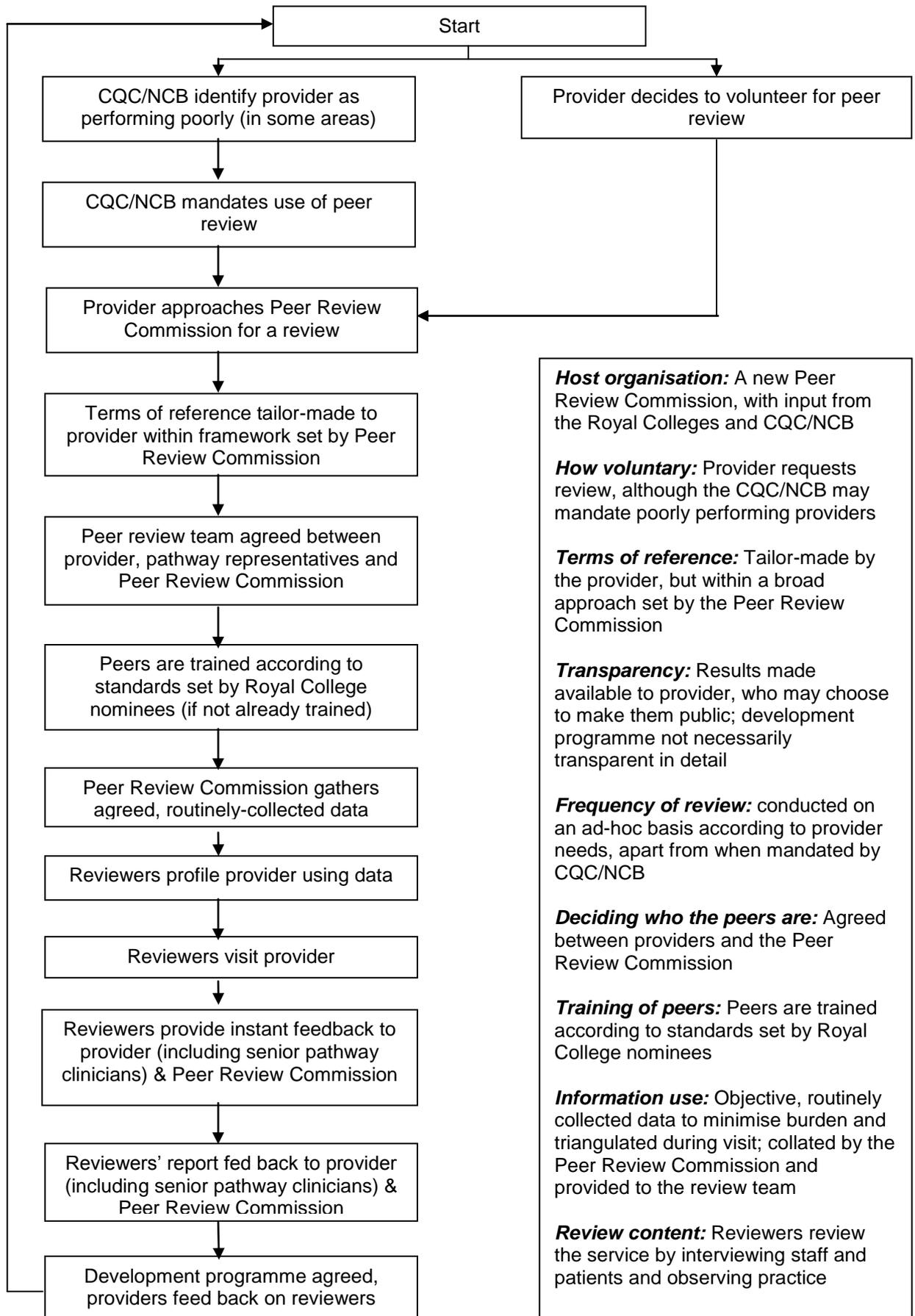
These features might work together to build a programme of peer review in different ways. However, some features might fit better together within a programme of peer review than others; for example:

- Publishing the results of peer review might fit better with standardised terms of reference, since standardised terms of reference would allow some comparison of providers on a consistent basis;
- Publishing the results might fit better with a review that is requested or recommended by CQC/NCB or the commissioner. If the provider has requested the review, it might be more appropriate to feedback results only to the provider.

6.2. Proposing two potential complete models of peer review

We have suggested above that a small new organisation – the Peer Review Commission – reporting to the NCB or DH, but governed by representatives from the Royal Colleges/CQC/NCB, might best organise the peer review process, and capture the influence of the separate major bodies. This organisation is featured in both models. The following two diagrams illustrate how the Commission might organise a flow of work to execute the peer review under more or less transparent and mandated arrangements.

6.2.1. Peer Review Model A (less mandatory, less transparency)



Host organisation: A new Peer Review Commission, with input from the Royal Colleges and CQC/NCB

How voluntary: Provider requests review, although the CQC/NCB may mandate poorly performing providers

Terms of reference: Tailor-made by the provider, but within a broad approach set by the Peer Review Commission

Transparency: Results made available to provider, who may choose to make them public; development programme not necessarily transparent in detail

Frequency of review: conducted on an ad-hoc basis according to provider needs, apart from when mandated by CQC/NCB

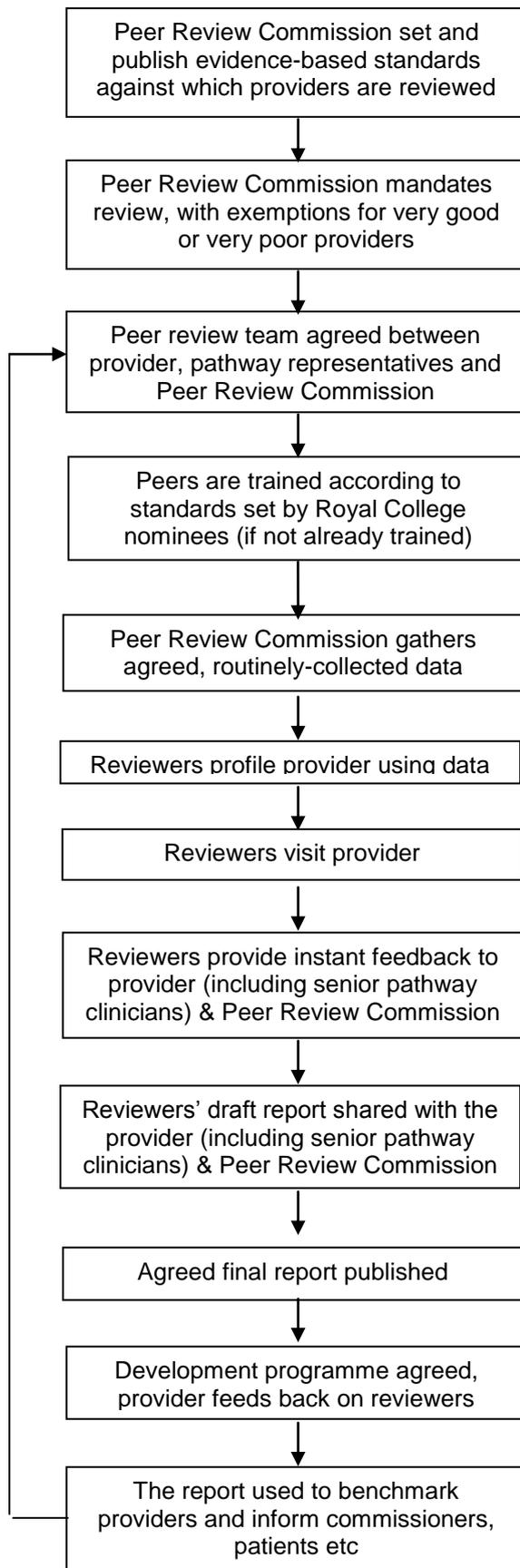
Deciding who the peers are: Agreed between providers and the Peer Review Commission

Training of peers: Peers are trained according to standards set by Royal College nominees

Information use: Objective, routinely collected data to minimise burden and triangulated during visit; collated by the Peer Review Commission and provided to the review team

Review content: Reviewers review the service by interviewing staff and patients and observing practice

6.2.2. Peer Review Model B (more mandatory, more transparency)



Host organisation: A new Peer Review Commission, with input from the Royal Colleges and CQC/NCB

How voluntary: Mandated, with exemption for very good or very poor providers (e.g. when being managed in other ways)

Terms of reference: Standardised to facilitate comparison

Transparency: Report and development programme is transparent, although the provider has first sight

Frequency of review: vast majority of providers on a regular cycle between 5-7 years

Deciding who the peers are: Agreed between providers and the Peer Review Commission

Training of peers: Peers are trained according to standards set by Royal College nominees

Information use: Objective, routinely collected data to minimise burden and triangulated during visit; collated by the Peer Review Commission and provided to the review team

Review content: Reviewers review the service by interviewing staff and patients and observing practice

7. Applying the models of peer review to the patient pathway

Self-regulation in the NHS does not currently take into account multi-specialty teams or the increasingly important patient pathways between both primary and secondary care and clinical specialties within hospitals. This section considers how peer review considered above might work across patient pathways, and discusses some of the adaptations that are likely to be required to make peer review effective in this context.

7.1. Opportunities and Challenges

The majority of interviewees agreed that it would be valuable if peer review (also) considered patient pathways, as opposed to assessing the performance of individuals or teams working within their employing organisation. Various interview respondents suggested reasons for this:

- Patients with chronic, or long-term conditions, are likely to care about the whole experience of care, rather than the quality of care provided by any one team in any one organisation.
- The National Institute for Health and Clinical Excellence are setting standards for care across patient pathways, so that peer reviews assessing against such standards will also need to assess performance across patient pathways.
- Conducting peer review across patient pathways may help those working across the health and social care sector to build relationships and reduce organisational barriers. For example:
 - Peer review across the patient pathway may be useful in helping different players in the health and social care sector to understand each other's work and the challenges that others face, as well as understand how care is provided in different areas of the system.
 - Conducting peer review across patient pathways may also provide an opportunity for clinicians working across patient pathways to challenge each other's practice. For example, consultants in the community may be able to see that a GP is not following best practice in a particular area, and vice versa.
- Funding is likely to shift from hospitals as more care is provided in the community, particularly for long-term and chronic conditions, and peer review should follow in order that assessment is linked to high expenditure activity.
- Pathway peer review can provide high-quality information that supports patient decisions and helps organisation leaders to establish priorities and identify and justify change. Information about patient outcomes is positioned as the key tool for informing patient choice, shaping managerial decisions and raising quality of care; whilst the review of performance information by informed, expert clinicians provides an objective assessment of performance data which takes into account the usefulness of the given dimensions of quality. It also adds 'softer' information from local clinicians, managers, other employees and patients. This might include, for example, analysis of patient complaints data.

However, although there is a strong case for introducing pathway peer review, there is little sense of how this might be undertaken. Many interviewees were unsure how peer review might be used to increase quality along patient pathways, and therefore had some difficulty commenting on this area. Amongst the possible reasons for this:

- Few interviewees had any experience of working with peers to review patient pathways (which might suggest that this is something that is currently not

occurring); current NHS quality assessment programmes are limited to evaluating a single institution or specialty;

- Patient pathways are not homogenous, but will depend on the clinical specialty being considered, and, at the extreme, each individual patient; and
- Many different actors contribute to patient pathways, which make the assessment of performance along patient pathways difficult to scope out.

7.2. Measurement issues

Advances are being made in both the measurement of integrated care²⁵ and the development of patient experience metrics across the care pathway. The Department of Health (DH) has recently responded to these developments by issuing interim guidance²⁶ on measuring patient experience of integration in the NHS. This includes the identification of seven core questions that are included in current patient surveys, to develop a sense of how patients feel about integration.

A range of methods for measuring integration have been identified in the literature, including:²⁷

- Questionnaire survey data, for example surveys of patient experience along pathways, which have been the focus of DH policy officials in responding to calls from the NHS Future Forum²⁸ and the King's Fund/Nuffield Trust;²⁹
- Automated register data, for example the number of skilled nursing care beds within hospitals and the number of home health visits;³⁰
- Emergency hospital admissions and discharges from hospital directly to residential or nursing care; and³¹
- Mixed data sources, for example the indicators used in Hebert and Veil's³² mixed measurement tool.

There is also a shortage of relevant, conventional metrics for the quality of care along pathways. One strategic approach that may help overcome this is to collect the perceptions of senior participants on the degree of cooperation and local pathway care quality. The results would be analysed and benchmarked, along with the available hard evidence, to provide a basis for a peer review.

Given these difficulties, interviewees focussed on the potential challenges that might be faced in adapting the form of peer review commonly applied in a hospital setting to the patient pathway, offering thoughts and recommendations on how these challenges might be overcome. The respondents' difficulty in addressing patient pathway design perhaps reflects a more general feature: quality assessment programmes in the NHS (apart from data collections) are limited to evaluating a single institution or a segment of an institution, and there are few accounts of quality assurance in cross-institutional dimensions to draw upon. An exception we can point to is the ad hoc programme introduced by DH in 2010 to assess Strategic Health Authorities, which examined various dimensions of the working within each SHA of the relationships between the separate component bodies and the health economy.

7.3. What or who should be reviewed?

The determination of what to give priority attention in pathway peer review, given the various segments, is likely to be more important and is likely to be done differently than when reviewing just one provider or one clinical specialty. This is because each GP or social care provider is likely to provide care along many different 'patient

pathways' in a number of different clinical specialty areas, due to the general nature of the care they provide (as compared to hospital teams which mostly provide specialised care). Furthermore, there are many more GP practices than hospitals, which poses a challenge of scale to the review. Indeed, one interviewee claimed that Primary Care Trusts (PCTs) struggle under the current system to performance-manage GPs closely due to the sheer number of GPs in any one PCT. This may mean that while the focus of peer reviews have been expected to be of a clinical specialty area, peer review conducted across patient pathways should probably not be focussed on clinical specialties (at least not in all cases).

Peer review across a patient pathway might instead focus on, for example, aspects of care for older people, children or those with end of life needs. Indeed, since patients increasingly have a number of co-morbidities, condition-specific peer review is unlikely to fully consider any patient pathway in any case. This would also ensure that enough patients with a given condition were seen in each general practice for peer review at that level to be meaningful.

However, one interviewee argued that the necessarily broad remit of reviews across patient pathways may mean that the concept of 'peer review' does not hold in the same way as when peer review is conducted within a clinical specialty area. Peer review is often used where the specialist nature of the service provided makes it difficult for non-specialists to make a judgement on the quality of care provided. Where the remit of the review is wider, the service is likely to be less specialised so the case for, and use of, review along the patient pathway is likely to be different.

Some interviewees suggested that peer review might be targeted at the poorer performers within a patient pathway, with prioritisation driven by CQC or commissioners. Since national clinical audits for long term conditions are increasingly focussing on patients rather than organisations (therefore incorporating data on, for example, general practice and social care) it might soon be possible to drill down in the audit data to see where there might be weak areas of performance along the patient pathway.

One interviewee suggested a very different approach to prioritisation. It was argued that the high volume of primary sector providers would prevent a situation where every GP and/or social care provider is a reviewer or is reviewed. However, one approach would be for those most interested and motivated by peer review to be drawn into the process and feed back to their colleagues and to commissioners, ensuring that lessons from peer review can be spread. Alternatively a sample of senior practice partners might be asked to provide evidence of (or comment upon) the extent and quality of cooperative arrangements towards some major chronic care areas of work.

7.4. What organisation should host peer review programmes across patient pathways?

Since peer review at the patient pathway level is likely to be more broadly based than peer review conducted in hospitals, Royal Colleges may not be the most appropriate host of the programme. A couple of interviewees suggested that PCTs (or clinical commissioning groups) might usefully host that part of peer review concerned with patient pathways since they have a broader oversight, and also a local economy-wide responsibility of ensuring that care is of a high standard.

7.5. Terms of reference for the review

In pathway peer review it is particularly important for providers to carefully consider and agree with the terms of reference for the review, and the assessment standards against which provider quality is being assessed. This seemed primarily to be the case because social care and health care have very different cultures, and relationships between the two partners are frequently uncomfortable. Given this relationship, three interviewees considered that there may be a risk that those in primary, secondary or social care draw on anecdotal evidence to appraise their local peers. One interviewee suggested that this is already being done informally and can lead to a 'mud slinging match' between the parties. Another considered that the opening up of relationships between GPs and consultants, and a mutual sharing of views about working relationships and the weaknesses perceived, might be explosive but valuable for patients.

Agreeing terms of reference for the reviews may be particularly difficult in models where the terms of reference are agreed internally by the organisations working along the patient pathway. Although a strength of these models is that they allow reviews to be focussed on local needs, agreeing among local partners on what the local needs are may be difficult.

7.6. Agreeing actions following a review

Respondents emphasised the importance of making very clear in the final reviewers' report which individual within each organisation along the pathway is responsible for implementing actions. One interviewee suggested that this may be more difficult in primary care since there tend to be clearer lines of accountability in hospitals (for example, responsibility for stroke care is in the hands of fewer people in hospitals than in primary care).

7.7. Changing attitudes and culture

A few interviewees suggested that there might need to be a shift in the attitudes of some staff to accept constructive criticism from peers across the health and social care sector. This might be particularly important in models where colleagues (as peers) review each other's work.

There are very different systems of performance management in general practice, community healthcare, hospitals and social care, so that each sector is at a different stage of accepting constructive criticism from colleagues in other parts of the health and social care system. Although PCTs (and CCGs in the new system) are able to use contracts in place with hospitals to performance-manage them, there is no instrument that hospitals might use to performance-manage GPs. Hospitals are therefore likely to be more used to being performance-managed by other players in the system.

It was argued by one respondent that GPs have tended to be an "accountability free zone", with fairly poor performance management by PCTs. Although this is set to change with the introduction of revalidation and clinical commissioning groups, the traditionally poor performance management of GPs may mean that a substantial step change in attitudes will be required for GPs to accept peer challenge from colleagues in secondary and social care. Equally, the concerns of GPs about the cooperation of

hospital consultants in managing chronic care may also require a step-change in some consultants' openness to challenge.

By establishing a long-term quality improvement plan for the organisation, pathway peer reviews can also encourage quality to become a regular item for trust boards, and help give items such as employment policy a long-term emphasis, rather than a short-term one.

7.8. Geographical barriers

It was pointed out that reviewing a patient pathway might be more challenging in areas where local partners are not geographically aligned. For example, while local councils and PCTs tend to be geographically aligned and work together, each council/PCT might contract with a number of different hospitals (particularly in London).

7.9. Lessons for specialty peer review

Peer review of clinical specialty teams already exists in some areas of the NHS. However, there are lessons from the analysis of pathway peer review that can help make specialty peer review more effective, even if the organisation is not ready or equipped to move to a pathway model just yet.

The focus of regular, in-depth quality assessment of specialties should be on clinical decision making, patient outcomes and experience. The review team should be fully briefed to inform its understanding of outcomes and experience. In certain specialties, reviews will require the development of more patient outcome data. The approach would resemble that of the Royal College team reviews referred to earlier, but would include relevant non-medical professionals and patient representatives.

8. Costs, benefits and value for money

The most common criticism against peer review schemes is their potential expense. However, value for money has not been a focus of research on peer review; there is some evidence on its costs, but less on the monetary benefits to compare with those costs. To this end, this section draws data from several sources to estimate monetary costs and benefits for a particular peer review scheme in Chronic Obstructive Pulmonary Disease (COPD). Further evidence is then presented on the cost of a separate peer review scheme in rheumatology. Lastly, potential costs are compared with the Research Assessment Exercise (RAE), a large and well-analysed scheme which provides peer review of university research. This evidence highlights the value of quantifying costs and benefits in future studies of peer review.

8.1. The costs and benefits of the National Chronic Obstructive Pulmonary Disease Resources and Outcomes Project (NCROP)

While it is not possible to say whether the benefits of peer review generally outweigh the costs, it has been possible to estimate the monetary costs and benefits of a specific peer review initiative: the UK National Chronic Obstructive Pulmonary Disease Resources and Outcomes Project (NCROP). Other initiatives were also considered for analysis (such as the National Cancer Peer Review Scheme and interdepartmental review of paediatric anaesthesia) but NCROP provided both a clear description of the team involved and could most clearly be linked to benefits in terms of life-years saved and reduced cost.

NCROP incorporated a randomised trial of peer review over three years, with around 40 hospitals allocated to the peer review group and a similar number to the control group. Roberts (2011) demonstrates that relative to the control group between 2007 and 2010, the peer review group saw a larger increase in its median quality score for three particular interventions/technologies:

- Non-Invasive Ventilation (NIV)
- Pulmonary Rehabilitation (PR)
- Home Oxygen provision

These improvements in median quality scores can be attributed to peer review, and can be further interpreted as an increase in availability of these interventions within the peer-reviewed hospital units. Additional details of the quality score and of the statistical significance of the improvements are presented in Annex E. It is acknowledged that only the NIV score improvement was statistically significant from zero at the 5% level, with the other two interventions significant around the 10% level. Qualitative data nonetheless supports the existence of an effect.

The authors did not attempt to quantify the direct cost of the scheme, nor the impact of the increased availability of these three interventions on resource usage and on patients' length and quality of life. Nonetheless, by combining information from the report with data from other sources, it has been possible to estimate the scheme's costs and benefits, thereby evaluating its value for money. Costs can be estimated using the staff time taken up by each peer review visit; the report clearly cites the staff composition of the peer review team. The benefits associated with each of the above three interventions can be calculated using data on:

- The number of patients who could benefit;
- The increase in coverage as a result of peer review (using the median quality scores discussed above); and

- The resource cost or saving and quality-adjusted life expectancy benefit per patient covered.

Using the approach outlined above, Annex E contains a full calculation of costs and annual benefits for a typical hospital. The benefits largely consist of additional Quality Adjusted Life Years (QALYs) which have been assigned a monetary value of £30,000, following the threshold used by the National Institute for Clinical Excellence (NICE). QALYs are a metric for measuring changes in the length and quality of patients' lives. For Non-Invasive Ventilation, there is also a saving (negative cost) from a reduction in bed days per patient. The results are summarised in the following table and show benefits that noticeably exceed the scheme's costs.

Table of identified costs and benefits of the National Chronic Obstructive Pulmonary Disease Resources and Outcomes Project

| | |
|--|----------------|
| Cost of peer review visiting and receiving teams per hospital | £11,840 |
|--|----------------|

| Calculation of benefits | Per typical hospital, per annum | | | | |
|---------------------------------|--|------------------------------|-----------------------------|-----------------------------------|----------------|
| | Number of additional patients receiving intervention | Total number of QALYs gained | Total value of QALYs gained | Total cost impact of intervention | Net benefit |
| Non-Invasive Ventilation | 9.36 | 1.12 | £33,480 | -£9,098 | £42,578 |
| Pulmonary Rehabilitation | 33.30 | 1.00 | £29,970 | £0 | £29,970 |
| Home Oxygen provision | 2.92 | 0.29 | £8,773 | £3,518 | £5,255 |
| Total of 3 interventions | | | | | £77,803 |

| | |
|---|----------------|
| Total benefit per typical hospital net of peer review cost | £65,963 |
|---|----------------|

The benefits amount to 2.4 life years per hospital, per annum. If these life years were valued at just £2,750, the benefits would still exceed the costs; this compares very favourably with alternative healthcare interventions and the NICE benchmark of £30,000. Nonetheless, these extra life years do come at some cost; the savings from Non-Invasive Ventilation are not sufficient to totally offset the costs of the scheme.

Whilst some analytical judgment has been needed in the calculations and they are specific to the COPD context, the return is sufficiently high for peer review to be promising in other areas. The estimated overall benefits for COPD treatment in the hospital system are estimated to be of the order of £10m per annum. Furthermore, this estimate is conservative in that the benefits (in terms of improved patient health and reduced length of stay) could persist for several years following a peer review visit.

8.1.1. Additional costs and benefits of extending COPD peer review along the patient pathway

The additional costs and benefits of extending peer review along the patient pathway are also of interest. The NCROP scheme does have some connections with the broader patient pathway, although these are unfortunately not sufficient to quantify the additional cost and benefits of pathway-focused peer review. Specifically, the three interventions encouraged by NCROP all form part of the current NICE pathway for COPD³³. Furthermore, each NCROP visit also included a manager and primary

care representative as well as nurses and consultants, so although the intervention was focussed in secondary care, it did have some broader involvement.

There is some qualitative evidence to suggest that broader-based NCROP collaborations were more successful than others. An analysis by Rivas et al. (2010)³⁴ found that successful NCROP collaborations were more likely to work with government and commissioner agendas (e.g. the increased use of community care) rather than against them. Given that the previous section finds an overall cost-benefit, it may therefore be the case that the cost-benefit for these broader-based collaborations is stronger than the average. Rivas et al. (2010) nonetheless note that "primary care, PCT and patient representation at the peer review visits themselves had been problematic", so not every NCROP collaboration was well-integrated with other agents in the patient pathway.

In general, an extension to the whole NICE pathway has the potential to create additional benefits, albeit at additional cost. For example, peer review could stimulate increased use of proven interventions in primary care, including home oxygen and pulmonary rehabilitation (which need not only be prescribed by secondary care), as well as suitable drugs, smoking cessation, vaccinations and so on. All of these interventions are recommended in the NICE pathway and have the potential to reduce the number of COPD exacerbations and their associated cost, morbidity and mortality³⁵. Wider coverage of the pathway could also induce better feedback between primary and secondary care; for example, secondary care consultants may be able to identify when a GP is not following best practice. There is however limited evidence on the effectiveness of COPD peer review in primary care, which is discussed in Annex F.

8.1.2. The value of quantifying costs and benefits in future peer review trials

The above findings highlight the value of incorporating cost-benefit analysis into future trials of peer review, particularly for pathway peer review where there is less existing evidence. This is most easily achieved if it is considered at the trial design stage. At a minimum, the financial and time costs (hours spent broken down by staff type) associated with their scheme should be reported. Time costs can then be easily calculated using the hourly staff costs presented in PSSRU (2011)³⁶, enabling an overall cost of the peer review scheme to be identified. The calculation of benefits is more dependent on each scheme's context, although the above analysis demonstrates the insights that this can bring.

8.2. The cost of rheumatology peer review in the West Midlands

Because of the specificity of the above calculations to COPD, it is helpful to consider a separate example of peer review in rheumatology. Here, only data on costs (not benefits) is available, although it is possible to perform a high-level extrapolation of the costs across the hospital sector. Piper et al. (2006)⁷⁴ describe a peer review scheme between 14 rheumatology units in the West Midlands. The article sets out the different staff involved as well as the amount of time that they spent on each task – information that can be used to cost the time taken up by the scheme.

Piper et al. (2006) explain that each peer review team consisted of two consultants (one of whom was chairman) alongside two Allied Health Professionals (consisting of Clinical Nurse Specialists, occupational therapists, physiotherapists, senior ward nurses and chiropodists). By combining the stated time taken to gather necessary

information, review that information, conduct the peer review visit and produce a report, it is possible to calculate the overall time taken by staff category.

Taking account of all of these tasks for the visiting team, each visit requires between 25 and 55.5 consultant hours, and between 18 and 33 AHP hours. Additional time will be needed from the team being visited, so that they can prepare data, speak with the peer review team and read and digest written reports. The overall time cost can be calculated using the hourly rates set out in PSSRU (2011). It is noted that the rheumatology peer review scheme involved more analysis of data and writing of reports than the NCROP scheme analysed earlier.

Ultimately, if it is assumed that the costs to the unit being reviewed are similar to those of the visiting team, the estimated cost is between £9,600 and £20,740 per unit in 2011 prices.

8.2.1. Scaling the rheumatology costings up across the hospital sector

It is difficult to scale the results up to the hospital sector more widely, as this involves extrapolating the estimate across other specialties. Nonetheless, an illustrative calculation is possible. The numbers given in the paper imply that an average of 2.3 consultants work in each rheumatology unit that was assessed. There are 37,750 consultants working within the English NHS³⁷, yielding 16,400 equivalent 'units'.

The total cost of assessing all of these equivalent 'units' within the English NHS would therefore be between £158m to £340m, which would be spread across multiple years. If all units were reviewed on a six year cycle this would amount to between £26m and £57m per annum. It is likely that the actual cost would be lower, as some hospital activity will be so specialist that peer review cannot be carried out effectively. It is also likely that some reviews that are currently commissioned voluntarily could be cancelled and resources saved given a cycle of regular reviews. The estimated outside envelope annual cost of funding a peer review agency would be £13m-£28.5m, assuming that it did not fund internal compliance costs, which can be contrasted to the CQC budget for 2010/11 of £164m.

Relative to the £45.2bn annual budget of the health secondary sector (as shown by Programme Budgeting data for 2010/11³⁸), and assuming a five year cycle of peer review, the costs including internal compliance costs equal 0.07% to 0.15% of the total funds being allocated.

8.3. How do the scaled-up costs compare with the Research Assessment Exercise?

Evidence on the cost of peer review from other sectors can provide a useful point of comparison with the £26m-£57m annual cost estimate from above. The Research Assessment Exercise (RAE), to be known in future as the Research Excellence Framework (REF), has been held within UK universities at roughly five-year intervals, beginning in 1986. Peer review is a central component of this scheme, with academics' views on the quality of their peers' published/public output being used to classify the quality of institutions' research. These classifications ultimately determine future research funding. Further detail on the scheme is set out in Annex F.

Although the RAE is applied in the university sector rather than in healthcare, we consider it here for several reasons. As with healthcare peer review, it involves the

assessment of a complex and collaborative activity conducted by public sector professionals, with a focus on hard data and outcomes to inform the judgments made in the peer review process. The large number of universities involved is broadly comparable with the number of English hospitals, and the number of researchers is larger than the number of NHS consultants.

Whilst the meetings of peer review panels and sub-panels are an important component of the RAE process, it does not involve site visits (unlike many healthcare peer review schemes). By itself this may not be a crucial difference since costs are likely to relate to total professional time spent. (The RAE is closer to a measurement exercise, with a direct link to funding allocations and less of a focus on integrating soft and hard information, as a healthcare peer review scheme would naturally undertake). However, hospital teams are more extensive, with a wide range of staff from cleaners to consultants being important for achieving high quality outcomes. The RAE's universal and compulsory nature also means that it may be better able to exploit economies of scale than if peer review were voluntary. Despite these limitations, published estimates provide a useful illustration of the cost for this longstanding scheme.

To estimate the cost of the RAE, it is important to consider (i) the cost of academics' time in complying with the process as well as (ii) the operational costs of running the process itself. Both are considered because of the wide range of information requested from participants and the administrative burden that this may impose.

For (i), PA Consulting (2008)³⁹ identify a £47.3m compliance cost of the 2008 RAE to higher education institutions in England. Around half of this survey-based estimate was driven by the cost of validating staff publication information and writing the submission, with other costs including project management and IT. The cost is based on average salaries for five different grades of staff.

For (ii), the annual accounts of the Higher Education Funding Council for England⁴⁰ show central costs attributed to the RAE of £10.6m in total between 2004-5 and 2009-10 inclusive, with £7.1m of this incurred in 2008/9.

Similar costs have also been estimated for earlier years of the RAE; further details are presented in Annex F. Adding the above two cost estimates, the 2008 RAE in England cost £57.9m (spread over seven years). This amounts to a total of either £1,380 per researcher, £364,000 per institution, 0.5% of the total funds allocated over a seven year period, or 0.75% over a five year period. *This is between three or four times the costs per pound spent from the above extrapolation of the rheumatology peer review scheme.*

8.4. Concluding comments

Although the costs and benefits of peer review are dependent on the clinical context, the National Chronic Obstructive Pulmonary Disease Resources and Outcomes Project (NCROP) shows that its benefits can substantially exceed its costs, in this case through increased adoption of particular technologies and techniques. This analysis also highlights the value of quantifying costs and benefits in future studies of peer review, particularly of pathway peer review where there is currently limited evidence.

The cost of peer review has been considered more broadly, including a high-level, extrapolated estimate across the hospital sector. This extrapolated cost of peer

review (£158m to £340m spread over multiple years) is higher than the estimated cost of the well-established RAE scheme in the university sector (£57.9m). It is to be expected that peer review would cost more in the hospital sector because of its larger spend and higher staff numbers, although the increase in cost appears small relative to the substantially higher budget of the hospital sector. Put another way, peer review in the hospital sector benefits from economies of scale. To illustrate the impact of this effect, the hospital-based estimate is only 0.07% to 0.15% of the total funds being allocated over five years, compared with 0.75% for a 5-yearly Research Assessment Exercise.

The total annual cost of funding a peer review agency has been estimated to be not more than £28.5m per annum, on a six year cycle, assuming that it did not fund internal compliance costs. There are several factors that would reduce the cost of extending peer review in healthcare relative to the estimates presented above. Firstly, some activity is already occurring, so would not need to be paid for again. For example, the National Cancer Peer Review Programme reviewed a large fraction of cancer services (1,163 Multi-Disciplinary Teams were reviewed in 2010/11, covering eight different tumour groups, with a mix of self-assessment and targeted visits⁴¹). Furthermore, the above calculations implicitly assume 100% participation, which may not be required.

Annex A. Interview respondents

- Dr Fiona Adshead, Director, Director, Health Advisory, Consulting Government and Public Sector, Price Waterhouse Coopers (PwC) UK
- Professor Julian Bion, Professor of Intensive Care Medicine, Queen Elizabeth Hospital
- Dame Carol Black, National Director for Health and Work, Chair of the Academy of Medical Royal Colleges and Chair of the Nuffield Trust
- Professor Nick Black, Professor of Health Services Research at London School of Hygiene and Tropical Medicine and Chair of the National Clinical Audit Advisory Group
- John Bolton, Strategic Director for Adult and Community Services at City of Westminster
- Professor Sir Roger Boyle, [former] National Director for Heart Disease and Stroke
- Ben Bridgewater, Chair of the Database Committee of the Society for Cardiothoracic Surgery and cardiac surgeon at Department of Cardiothoracic Surgery, University Hospital of South Manchester NHS Foundation Trust
- Professor Tony Butterworth, Professor Emeritus of Healthcare Workforce Innovation, Non-Executive Director at NHS Institute for Innovation & Improvement, Specialist Advisor on Nursing & Professions at NHS Employers
- Sir Graeme Catto, former President of the General Medical Council
- Dr Adi Cooper, Strategic Director of Adult Social Services and Housing at Sutton
- Niall Dickson, Chief Executive at the General Medical Council
- Robert Greatorex, Former Consultant to the Queen Elizabeth Hospital (1988-2011), Council Member of Royal College of Surgeons of England, and member of the Patient Liaison Group and Delivery of Surgical Services Group
- Professor Stephen Green, Director at QHA Trent Accreditation for Hospitals & Clinics UK, Consultant Physician in Infectious Diseases & Tropical Medicine at the Royal Hallamshire Hospital, Sheffield, Honorary Professor of International Health at Sheffield Hallam University, WHO Consultant (medical tourism and accreditation), Associate at the Health and Safety Laboratory, UK
- Alistair Henderson, Chief Executive at the Academy of Medical Royal Colleges
- Dr Nicholas Hicks, jointly-appointed Director of Public Health for Milton Keynes
- Dr Martin James, Associate Director of the stroke peer review programme at the Royal College of Physicians
- Professor Brian Jarman, Head of Dr Foster Unit at Imperial College
- Professor Ray Jones, chair of Bristol's Safeguarding Children's Board and the chair of Salford's Safeguarding Children Improvement Board
- Dr Janice Kohler, Paediatric Cancer Consultant, University of Southampton
- Dr Monica Lakhanpaul, Consultant Paediatrician at Leicester City Community Health Services
- Dr Daniel Lasserson, GP and Clinical Lecturer at Oxford University
- Professor Helen Lester, Professor of Primary Care at the University of Birmingham and Chair of the Society for Academic Primary Care and of the Royal College of General Practitioners Clinical Innovation and Research Centre
- David Mant, Professor of General Practice at Oxford University
- Claire Martin, Senior Nurse Practice Development and Clinical Education, Brighton and Sussex University Hospitals NHS Trust

- Julie Moore, Chief Executive at University Hospitals Birmingham NHS Foundation Trust
- Dr Ian Mungall, Director for Invited Service Reviews at the Royal College of Physicians
- Sally Mussellwhite, Invited Service Review & Regional Coordinator at Royal College of Physicians
- Paul Najsarek, Corporate Director of Adults and Housing at Harrow Council
- Stephen Parsons, Director for the National Cancer Action Team
- Miss Narciss Okhravi, Consultant Surgeon and Director of Undergraduate Education at Moorfields Eye Hospital NHS Foundation Trust, Honorary Senior Lecturer at UCL Institute of Ophthalmology, Honorary Clinical Senior Lecturer at Centre for Medical Education, Institute of Health Sciences Education, Barts and the London School of Medicine and Dentistry at Queen Mary, University of London
- Dr Tony Rudd, Chair of the Royal College of Physicians Intercollegiate Stroke Working Party, responsible for the three editions of the National Clinical Guidelines for Stroke, the National Sentinel Audit of Stroke, the acute stroke audit (SINAP) and the UK Carotid Interventions Audit
- Duncan Selbie, Chief Executive of Brighton and Sussex University Hospitals NHS Trust
- Dr Charles Shaw, Visiting Professor, Centre for Clinical Governance Research in Health, Australian Institute of Health Innovation, University of New South Wales
- Roz Stanley, Audit Project Manager, Lung Cancer Audit
- Sir Hugh Taylor, Chairman of Guy's and St Thomas' NHS Foundation Trust
- Dr Roland Valori, Royal College of Physicians' Director of the accreditation unit
- Dr Adrian Worrall, Head of the College Centre for Quality Improvement, Royal College of Psychiatrists
- Rob Webster, Chief Executive at Leeds Community Healthcare NHS Trust
- Dr Tony Whitehouse, Intensive Care Consultant, University Hospitals Birmingham NHS Foundation Trust

Annex B. Institutions relevant to peer review

- *The National Commissioning Board* will be nationally accountable for the outcomes achieved by the NHS, and provide leadership for the new commissioning system (under the system proposed in the White Paper 'Equity and Excellence: Liberating the NHS').
- *Clinical commissioning groups (or Primary Care Trusts)* are local commissioners of health services.
- *The Care Quality Commission* is an independent, statutory body, protecting patients' interests by ensuring, through a process of self-assessment, audit and inspection, that organisations providing patient care meet some minimum standards of quality of care.
- *The professional regulators* are independent, statutory bodies, protecting patient interests by ensuring, through a process of self-assessment and audit, that individual professionals meet some minimum standards of competency.
- *The Royal Colleges* are independent charities, serving the interests of the professional groups by developing their skills and ability to provide high quality patient care, through developing guidance, hosting education programmes, etc.
- *Professional bodies, associations and societies* are usually non-profit organisations seeking to further a particular profession, the interests of individuals engaged in that profession and the public interest. Many professional bodies are involved in the development and monitoring of professional educational programmes and the updating of skills, and thus may perform professional certification to indicate that a person possesses particular qualifications in the subject area. They often provide support to a smaller and more concentrated group of professionals than is the case for Royal Colleges.
- *The NHS Institute for Innovation and Improvement* is an independent organisation, serving the interests of organisations providing patient care, by, for example, helping providers to deal with common challenges, identifying best practice and hosting training programmes.

Annex C. How has peer assessment been implemented in different areas of health and social care?

In the health and social care sectors, there are already a number of processes where individuals, teams or organisations are reviewed by peers; peer review is not a new or single concept. This annex describes some of the peer review schemes already in place along with other existing interventions that may be considered to be related to peer review.

While the clear view from the consultation is that peer review might be best used as a developmental tool, for completeness, the following section also considers those interventions that may be classed as measurement or inspection tools. Figure C1 provides a summary of the interventions discussed below and how they might be classified.

Measurement tools

Accreditation

“Accreditation is a self-assessment and external peer assessment evaluation process used to assess accurately a service’s level of performance in relation to established standards. Accreditation is seen as a ‘badge of quality’ for a healthcare provider and is important to commissioners and patients alike.”⁴²

The focus of accreditation is therefore on reliable measurement of performance, to provide a consistent message of providers’ performance: a “badge of quality”.

Accreditation is a growing phenomenon in the health service, with schemes accrediting endoscopy units⁴³, the provision of occupation health⁴⁴, psychiatric wards⁴⁵ and elder friendly wards⁴⁶, to name but a few.

Clinical audit

“Clinical audit is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change. Aspects of the structure, process and outcome of care are selected and systematically evaluated against explicit criteria. Where indicated changes are implemented at an individual, team, or service level and further monitoring is used to confirm improvement in healthcare delivery”.⁴⁷

All healthcare professionals are now expected to participate in clinical audit work, for example, there are now many established National Clinical Audits that Trusts are expected to take part in⁴⁸.

Measurement and developmental tools

Standardised self-assessment and invited peer review

In this type of peer review scheme, peers assess all participating providers' self-assessments against a set of evidence based standards. Peer review is instigated based upon the results of an audit with reviews carried out for those providers that are deemed to be low performing (based upon the self-assessment). Some high performing providers may also be peer reviewed in order to identify good practice. Since the collection of evidence is standardised, the results tend to be made publicly available, with a benchmarking of the results. Since there is transparency of results, this puts an indirect pressure on providers to participate. This is similar to accreditation, in that the standards against which providers are assessed are consistent and the results are published. However, the review is usually done in a more formative way under this programme than in accreditation (it is this differentiation that has resulted in its classification as a 'measurement and developmental tool').

An example of such a programme is the National Cancer Action Team Peer Review.⁴⁹

Performance appraisal

In performance appraisal, an employee's work behaviour is evaluated, usually by someone of the same profession (although not always the same specialty), by comparing it to pre-set standards, with feedback provided to the employee to show where improvements are needed and why. The outcomes of appraisals may determine training needs and who will be promoted, demoted, retained or fired. The appraisal is usually conducted in a confidential manner, with only dangerous care being reported outside of the appraisal space.

All staff in health and social care are appraised (for GPs, the appraisal process is run by the Primary Care Trust). In future the appraisal of professional health and social care staff will be linked to revalidation under the professional regulators (see inspection tools below).

Developmental tools

Clinical advice from colleagues

In different areas of the health service, there are a number of forums in which clinicians meet (either one-to-one or in groups) to discuss any problems that they might be facing. Colleagues then provide advice to help the clinician to improve their work and overcome problems.

Two specific programmes were identified through the consultation that provide good examples of this type of 'peer review'.

Firstly, **clinical supervision** is "a formal process of professional support and learning which enables individual practitioners to develop knowledge and competence, assume responsibility for their own practice and enhance consumer protection and

safety of care in complex clinical situations”.⁵⁰ Clinical supervision is used frequently for registered nursing staff, and is recommended by the Nursing and Midwifery Council (although the NMC “believes that [clinical supervision] is best developed at a local level in accordance with local needs...[and] do not, therefore, advocate any particular model of clinical supervision”)⁵¹.

Secondly, a number of interviewees described **clinical professional meetings** as a tool for offering and receiving peer support, advice and challenge. They provide a protected space in which colleagues can come together to share problems on organisational or clinical issues, seek guidance from peers and improve. Clinical professional meetings are based on the concept of ‘confidential inquiry’ – the forums are for developmental, not regulatory, purposes. Clinical professional meetings seem to be frequently used by community consultants and GPs.

Observation of clinical practice by colleagues

By observing colleagues, reviewers gather objective information on the performance of those being reviewed, which they can then feed back. It is a tool that might be used to identify barriers to individuals and teams implementing best practice (for example, why individuals may be failing to comply with hand washing standards). The reviewers can be colleagues from within the organisation, with the programme run by lead clinicians or managers within the organisation.

Observation by colleagues is often used for staff who work independently; for example, community consultants and GPs, but is also sometimes used in hospitals. It is one tool recommended by the National Institute for Health and Clinical Excellence for identifying barriers to changing practice.⁵²

Invited and tailored service reviews

Invited and tailored service reviews can be requested by an organisation’s management when they require independent advice on issues of concern. The review will be tailored to the organisation’s area of concern – this may involve, for example, service delivery, patient safety, team functionality, clinical governance or workload issues. The primary purpose of this process is to support clinicians and management when they feel that good practice is being compromised.

Invited and tailored reviews can be seen in practice for clinical specialties within hospitals (for example, often hosted by the Royal Colleges^{53,54}, professional bodies and societies and local quality programmes⁵⁵) and local government (hosted by the Local Government Group⁵⁶).

Inspection tools

Statutory inspections

The focus of inspections is often about ensuring that providers are meeting minimum standards. They involve visits by trained inspectors (some of whom are likely to be individuals with previous experience in the area being inspected) to visually identify failures in the delivery of safe care to patients.

A number of bodies carry out inspections within the health and social care sector. For example, the Care Quality Commission conducts inspections to ensure that minimum standards of care are provided to patients.⁵⁷ The General Medical Council inspects medical schools and deaneries to ensure that there are sufficient standards being followed in the teaching and training of medical students.⁵⁸ The Medicines and Healthcare products Regulatory Agency inspects hospitals to ensure the adequate manufacturing and distribution of drugs.⁵⁹ Lastly, the Human Tissue Authority inspects licensed establishments that store and use human tissue.⁶⁰

Inquiries

Inquiries are usually carried out when exceptionally poor or dangerous practice has been identified. In such circumstances, inquiries facilitate a close examination of a matter in a search for information or truth. Such inquiries often include on the team those with current and/or past experience of working in the area being reviewed.

Examples of such inquiries include The Bristol Royal Infirmary Inquiry⁶¹ and The Mid Staffordshire NHS Foundation Trust Inquiry.⁶²

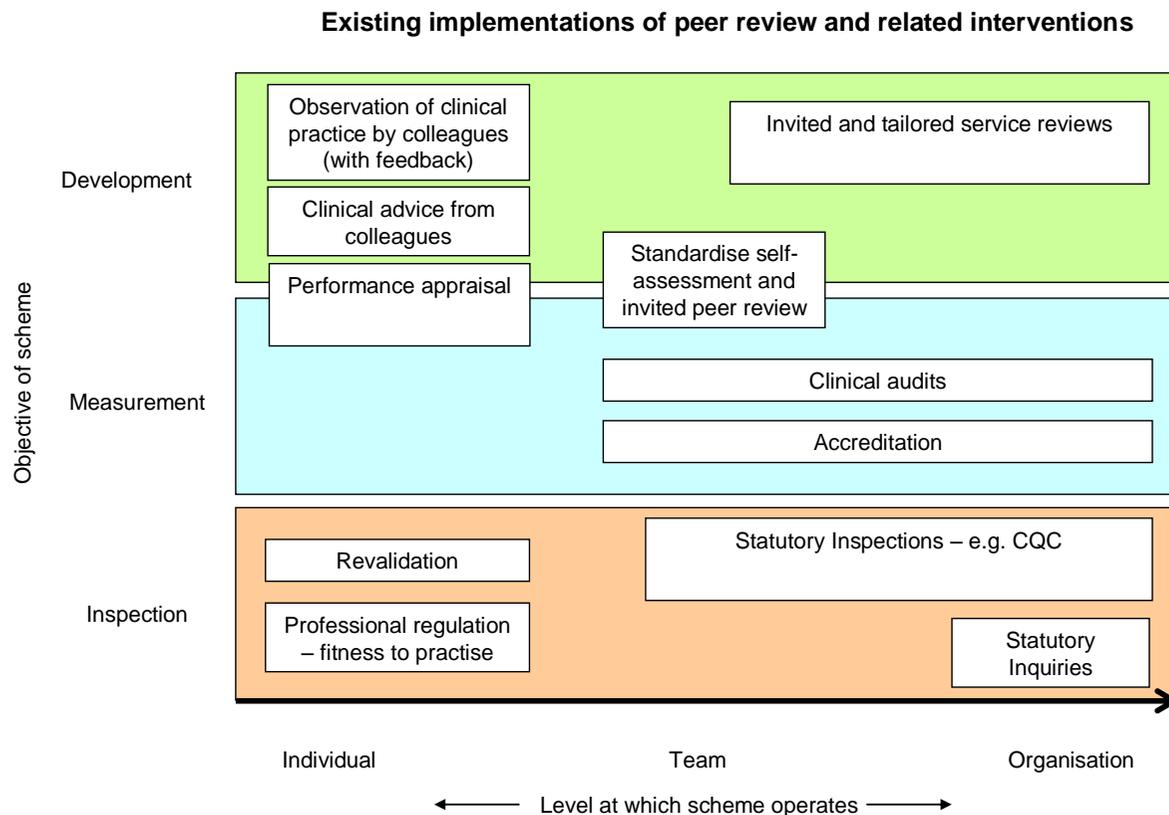
Revalidation

Revalidation imposes a regulatory framework on top of the appraisal process (currently for doctors only), to ensure 100% participation in appraisal and to quality assure the process of appraisal, through the requirement to revalidate every 5 years. The 'Responsible Officer' conducting revalidation then has the ability to sanction any individual not meeting the standards against which they are assessed.

Fitness to practise

The nine professional regulators (including the GMC and NMC) use peer assessment of individual performance to decide upon unsafe or poor practice in a process which may result in a loss of license.

Figure C1: a summary of existing implementations of peer review and related interventions



Inspection tools: visual inspection against national minimum standards
 Measurement tools: measure or assess quality or performance against criteria
 Development tools: aim to drive up quality

Annex D. Literature review: what are the advantages and disadvantages of implementation approaches?

The following annex summarises the wide range of literature that might be potentially relevant to the implementation of peer review. This draws, for example, from the areas of psychology (for example, why do people respond to complements/criticism in the way they do) and from the area of sociology (for example, how do individuals function within teams and within professional clubs).

In the evaluation literature, it is recognised that a programme of peer review has often accompanied other reforms.⁶³ In these cases, quantitative analysis cannot readily identify the outcomes due to reform, given the “highly volatile state of service change in the NHS”⁷². Evaluations of peer review are therefore mostly qualitative. Most published qualitative evaluations appraise peer review programmes by relying on the perceptions of those taking part. Because schemes driven by internal values tend to be more popular among those being reviewed²¹, this is likely to bias the results with regards to how peer review might best be implemented. This may not necessarily be consistent with best patient outcomes.

The literature review in this annex has focussed primarily on evaluations of past and existing peer review schemes, in order to explore which implementation features used in peer review programmes have worked well in the past, which may have worked less well, and why.

The review focuses on six peer review programmes that have been evaluated (although there may be more, these examples are argued to provide sufficient messages to summarise the main arguments):

- National Cancer Peer Review Programme⁶⁴
- UK National COPD Resource and Outcomes Project^{72, 65}
- RCGP Quality Team Development programme²¹
- Regional peer review in rheumatology⁷⁴
- British Thoracic Society interdepartmental peer reviews⁶⁶
- Paediatric anaesthesia interdepartmental peer review⁶⁷

In order to reflect those areas of implementation found to be important in the consultation, this annex briefly summarises the key messages from these evaluations in terms of (i) what should be reviewed; (ii) how the peer review process should be organised; and (iii) who the reviewers should be.

What and who should be reviewed?

A review of the determinants of high quality healthcare identified that “when asked about what contributes to quality healthcare, both doctors and nurses focused on the personal and professional qualities of practitioners”.⁶⁸ However, there is growing evidence that many of the determinants of healthcare quality lie at the organisational rather than individual level^{21,69}, which has led to a growing emphasis on the team or organisation as the unit of analysis in quality improvement programmes.^{21,70}

In line with this, most peer review schemes implemented and evaluated appear to focus on the level of the clinical specialty team (for example, the British Thoracic Society Peer Review Scheme, the COPD Peer Review Scheme and the West Midlands Rheumatology Service and Training Committee Peer Review Scheme).

How should the peer review process be organised?

Four of the evaluated schemes identified are owned and run by players in the local area, while two are national programmes. From the evaluations conducted, there appear to be advantages and disadvantages associated with each of these approaches.

One evaluation argued that while schemes driven by external values tend to be more structured, with changes more easy to document against pre-defined criteria, they are often resented by those taking part and do not lead to sustainable changes. They argued that, on the other hand, while schemes driven by internal values are more popular with those taking part and tend to produce changes that are seen as useful, their impact is difficult to measure objectively⁷¹, and may be modest. Another evaluation added to the arguments for peer review driven by internal values, by showing qualitative research indicating that having developmental standards which allow for customisation to suit local needs was considered more useful than the benefits of having a formal 'accreditation' attached to the peer review process.²¹

However, while having a scheme driven by internal values tends to be valued by those taking part, there is some concern that such schemes will be of little use to weaker or less motivated providers.²¹ Furthermore, it was suggested that for locally driven schemes, a formal system to manage the visits might be of use, in order to provide assurance that the visits and feedback from reviews conform to some minimum standard.²¹

All of the evaluated peer review schemes identified above are based on specific clinical specialties. One potential reason for this is that it allows peer review to be targeted at services which are in the best state to benefit from the process of peer review, ensuring that the intervention is focussed where it can be most cost-effective⁷². For example, peer review might be targeted in areas where there are important differences in the quality of care provided.⁷³ Additionally, peer review might be targeted in areas where peers are able to reliably assess the differences in the quality of care provided. This might in part depend, for example, on how much of an evidence base there is for defining high quality care.⁷³

Only one of the schemes identified makes the results of the review transparent (the National Cancer Peer Review scheme). Although there may be valid reasons for not making the results of peer review transparent, these reasons do not appear to have been addressed at any great length in the evaluations. Instead, there is emphasis on the unpopularity of transparency among those taking part. For example, in the evaluation of the West Midlands Rheumatology Service and Training Committee Peer Review Scheme, only eight of the 48 people who replied to the question on who should have access to the final report of the reviewers felt that the results of peer review should be made freely available to the public.⁷⁴ Furthermore, support for the RCGP Quality Team Development programme was thought to be, in part, because of a strict confidentiality policy in which the assessment report was shared on a need-to-know-basis.²¹ Such findings support views expressed in documents outside of the literature on the evaluations of peer review. For example, when, in the early 1990s, the government tried to introduce medical audit as a contractual condition, "the initiative was welcomed by organised medicine provided that it was purely educational, for improvement, with no regulatory consequences for any serious deficiencies that may be revealed".⁷⁵

In one evaluation, research suggested that those taking part in the peer review programme wished to repeat peer review every 5 years (this was the median

response)⁷⁴. Another evaluation suggested that reassessment visits might be helpful to confirm the sustainability of any improvements made, although it was recognised that frequent visits would be resource intensive and could be overly disruptive.²¹

In one of the evaluations, there was no clear consensus among reviewers on whether the process of peer review (consisting of a 1 day visit, with some time spent prior to the visit interpreting previously submitted, self-assessed data) was sufficient to accurately assess the quality of care provided.⁷⁴

Who should the reviewers be?

Three of the evaluated peer review schemes are interdepartmental, with a clinical specialty department from Institution A reviewing the same clinical specialty department in Institution B, and the department in Institution B reviewing the department in Institution C, etc. The reviewing peers were therefore known by those being reviewed. The evaluation of the peer review scheme hosted by the British Society for Rheumatology found that those being reviewed felt most comfortable being reviewed by people they knew well; similarly, the reviewers felt that knowing those they were reviewing did not affect the objectivity of the report.⁷⁴

Within the context of COPD (a chronic condition), those taking part largely felt that it is important to have multidisciplinary review teams. In this way, they felt that peer review might help to break down inter-professional barriers, build better mutual understanding of different roles and improve team working and team relations.⁷²

One evaluation concluded that while having a small number of high quality assessors can cause delays in written feedback and lead to assessor burnout, the wider recruitment of assessors without a rigorous quality control procedure might damage the credibility of the programme.²¹

Annex E. Estimating the costs and benefits of peer review for COPD

There is some existing evidence as to the cost of peer review but very little on the benefit in money terms to compare with the cost. While it is not possible to say whether the benefits of peer review generally outweigh the costs, there is enough evidence to illustrate the costs and benefits of a specific peer review initiative: the UK National Chronic Obstructive Pulmonary Disease Resources and Outcomes Project (NCROP).

This project has a number of desirable features: it is a randomised trial with three-year follow up, has good monitoring, a focus on four interventions with good evidence of (a) effectiveness and (b) variable coverage judged by audit evidence, and a reasonably sized sample. While the project report does not offer a cost-benefit analysis, it nevertheless presents enough data to allow such an assessment to be made, as it links peer review with higher rates of implementation for interventions of known clinical and cost-benefit. The drawbacks of this analysis relate to its specificity to Chronic Obstructive Pulmonary Disease, and the fact it is driven by trial results that were not all highly statistically significant (so may possibly have been driven by chance).

The results ultimately show benefits that are substantially higher than the costs, although they should be considered in the context of the above comments and that some analytical judgment has been necessary in the calculations.

This annex first identifies the direct¹ cost of NCROP to each participating unit. The impact of peer review on the availability of four outcomes-enhancing interventions is then discussed, followed by a monetised calculation of health gain for three of these interventions. Additional indirect costs² associated with these interventions are also considered. Lastly, a summary is presented of the overall costs and benefits.

Identifying the direct cost of NCROP to each participating hospital unit

The final NCROP report⁷⁶ cites the staff composition of the visiting team for a one-day peer review visit. By applying an eight-hour day and the full hourly staff costs reported in PSSRU (2011)⁷⁷, it is possible to estimate the direct cost of a visiting NCROP peer review team. The composition (and associated direct cost) of the receiving team is assumed to be similar.

The cost are taken as the full staff costs for an eight hour day for each member of the visiting team, including the annuitised costs of training³, using the unit costs presented in PSSRU (2011).

The NCROP report only cites the time taken during the visit itself, and does not quantify any pre- or post-visit activity (such as studying data or writing reports). A 100% mark-up is added to the visit time to take account of this. This is towards the lower range of the mark-up suggested by the rheumatology peer review scheme in

¹ Direct costs are defined as the costs of the peer review process itself. Indirect costs (discussed later in the above paragraph) are defined as where peer review has induced hospitals to adopt new interventions that consume additional resources.

² These costs can potentially be negative, i.e. represent resource savings.

³ Essentially long run marginal cost.

Section 8 of this report (for which preparation and report-writing time is quantified). This assumption is argued to be reasonable, as relative to the rheumatology scheme, the NCROP scheme was less focused on the assessment of data and the writing of reports.

Table E1: Calculation of the direct cost of peer review to each participating hospital

| Team member on visit | PSSRU equivalent | Cost per hour | Cost of making visit (8 hours) | Cost of receiving visit (8 hours) |
|--|--------------------|---------------|--------------------------------|-----------------------------------|
| COPD physician | Consultant | £162 | £1,296 | £1,296 |
| Departmental manager | Nurse team manager | £58 | £464 | £464 |
| Primary Care representative | GP | £100 | £800 | £800 |
| COPD specialist nurse | Senior staff nurse | £50 | £400 | £400 |
| Patient representative | - | Not costed | Not costed | Not costed |
| Sub-total | | | £2,960 | £2,960 |
| Additional 100% overhead for preparation, reporting and organisation | | | £2,960 | £2,960 |
| Combined total per hospital (includes making and receiving visit) | | | £11,840 | |

The total direct cost per hospital is therefore calculated as £11,840.

Identifying increased adoption of interventions as a result of NCROP

Roberts (2011)⁷⁸ studies the extent to which the NCROP peer review scheme increased the availability of four outcomes-enhancing (and in some cases cost-neutral or even cost-saving) interventions for patients with Chronic Obstructive Pulmonary Disease (COPD):

- Non-Invasive Ventilation (NIV)
- Pulmonary Rehabilitation (PR)
- The Early Discharge Scheme (EDS)
- Home Oxygen provision (Long Term Oxygen Therapy, LTOT)

The interventions encouraged by NCROP all form part of the current NICE pathway for COPD. NIV forms one of the recommendations for managing patients in hospital, pulmonary rehabilitation is recommended to be considered following exacerbation, and home oxygen is also featured.

If (for each of the above interventions) the benefits exceed the costs, and the NCROP peer review group shows a larger increase in adoption of these interventions than the control group, there is potential for NCROP's overall benefits to be judged larger than its costs.

For each of the above interventions, each hospital was given a quality score that shows the extent to which the intervention has been implemented. For example, NIV is divided into 12 component indicators, i.e. 12 criteria that, if met, imply a high quality and effective NIV service. Each indicator is scored either 0 (not implemented), 1 (partially implemented) or 2 (fully implemented). The highest possible NIV score in a given hospital is therefore $12 \times 2 = 24$. The quality score is calculated as:

Quality score for NIV in a given hospital

$$= 100 * \frac{\text{Sum of actual scores for the 12 component NIV indicators}}{\text{Highest possible total score for the 12 component NIV indicators}}$$

Table 2 of Roberts (2011) summarises the median score (across hospitals) for each of the four interventions listed above, for both the peer review and control groups, both before and after the peer review scheme. From this table, for each intervention:

Net improvement in median quality score

$$= (\text{Change in peer review median score}) - (\text{Change in control median score})$$

By assumption, an x-point net improvement in an intervention's median quality score can be interpreted as a x% increase in the availability of that intervention. This implicitly assumes that each intervention's component indicators are of equal importance.

The following table shows the net improvement in quality score for all four interventions, alongside a Mann-Whitney test to indicate whether this improvement is statistically significantly different from zero (from Roberts, 2011). Relative to the control group, three interventions show an improvement in the median quality score.

Table E2: Improvements in median quality score by intervention

| | Change in median score between 2007 and 2010 | | Assumed % improvement in coverage (c=a-b) | Mann-Whitney test (significantly different from 0?) |
|--------------------------|--|---------------------------------------|---|---|
| | Peer review group (41 hospital units) (a) | Control group (39 hospital units) (b) | | |
| Non-Invasive Ventilation | +13 | 0 | +13% | p=0.11 |
| Pulmonary Rehabilitation | +9 | 0 | +9% | p=0.001 |
| Early Discharge | 0 | 0 | 0% | p=0.28 |
| Home Oxygen provision | +11 | +7 | +4% | p=0.10 |

It is acknowledged that not all of the improvements are statistically significantly different from zero using traditional thresholds (e.g. a 5% statistical significance threshold, implying a p-value of 0.05 or less⁴). Nonetheless, the improvement in 'quality score' for Pulmonary Rehabilitation was highly statistically significant (p-value 0.001). The improvements in quality score for oxygen provision and Non-Invasive Ventilation were borderline statistically significant (p-values 0.10 and 0.11 respectively) and the improvement for early discharge was notably less significant. Elsewhere in the paper, qualitative evidence (including the analysis of 'change diaries') suggests that the intervention units exhibited a greater number of positive changes, and they highlight specific changes that intervention units have linked to the peer review scheme. There is therefore reason to suggest that the limited statistical significance is driven by the sample size rather than by a lack of underlying effect.

⁴ Here, a p-value of less than 0.05 implies a less-than-5% probability that the stated improvement differs from zero solely due to random chance (rather than a genuine effect).

Linking increased intervention adoption to cost impacts and health benefits

The above improvements in coverage need to be combined with other data in order to estimate the overall cost and health impact (in terms of Quality Adjusted Life Years, QALYs⁵) within each hospital. For a given hospital, to estimate the benefit of improved coverage for a particular intervention, the following items are needed:

1. The number of patients who could benefit.
2. The increase in coverage as a result of peer review.
3. The resource cost or saving and QALY benefit per patient covered.

The following sections collect and apply this data and, for each of the three interventions with an increase in coverage, estimate the cost impacts and health benefits of improved adoption. In all cases, a monetary value of £30,000⁶ is assigned to each QALY gained.

Identifying the benefit (net of intervention cost) for increased adoption of Non-Invasive Ventilation

In a typical hospital, it is estimated that 72 patients per annum⁷⁹ are eligible for Non-Invasive Ventilation.

Non-Invasive Ventilation (NIV) is an alternative to Invasive Ventilation (IV). Relative to IV, evidence suggests that NIV is associated with shorter inpatient stays (a saving of 3.24 days⁸⁰) as well as an increase in life expectancy (of around two months⁸¹). The resources saved through shorter inpatient stays are pure benefit because NIV costs no more to implement than IV. In the following table, a QALY health state weight of 0.42⁸² is used for NIV patients.

⁵ The benefit of health interventions can be measured in QALYs. In perfect health, an additional year of life equals one QALY; in imperfect health, an additional year of life equals less than one QALY. Various techniques (such as the EQ-5D questionnaire) exist for translating states of illness into 'health state weights', which are numbers typically lying between zero and one (where zero represents death, and one represents full health). In the NIV benefit calculation, COPD patients are assigned a health state weight of 0.42; an additional year of life in this health state is worth 1 year * 0.42 = 0.42 QALYs.

⁶ Technologies costing more than £30,000 per QALY are not normally approved by the National Institute for Clinical Excellence for use in the NHS. This approval process therefore implicitly values additional QALYs at around £30,000.

Table E3: Estimation of benefits per hospital from increased use of NIV

| | | |
|--------------|--|----------------|
| a | Number of patients eligible for NIV | 72 |
| b | Increased coverage from peer review | 13% |
| c=a*b | Additional patients receiving NIV | 9.36 |
| d | Increase in NIV patient life expectancy (years) | 0.28 |
| e | Average QALY status of COPD (i.e. NIV) patients | 0.42 |
| f=d*e | Additional QALYs per NIV patient | 0.12 |
| g | Monetary value of a QALY | £30,000 |
| h | Reduced length of stay per NIV episode (days) | 3.24 |
| i | Cost per inpatient day | £300 |
| j=h*i | Reduced cost per NIV inpatient episode | £972 |
| k=j | Net resource saving per NIV inpatient episode | £972 |
| l=f*g | Value of additional QALYs per NIV patient | £3,577 |
| m=k+l | Total benefit per NIV patient | £4,549 |
| n=c*k | Annual net resource saving across 9.36 additional NIV patients | £9,098 |
| o=c*l | Annual value of QALY gain across 9.36 additional NIV patients | £33,480 |
| p=n+o | Annual benefit (net of intervention cost) across 9.36 additional NIV patients | £42,578 |

The annual net benefit is about £42,000 per peer-reviewed hospital, of which one fifth to one quarter represents a saving in resources; the remaining benefit is accounted for by a total of over 1.1 QALYs divided between 9.36 patients.

Identifying the benefit (net of intervention cost) for increased adoption of Pulmonary Rehabilitation

Firstly, the average hospital reported in NCROP (2009) had 740 COPD admissions per annum.

Pulmonary Rehabilitation recovers its outlay in the form of reduced use of health service resources within one year⁸³. The QALY gain per person over this period is 0.03. The analysis below illustrates the one-year effect, but some benefit is likely to persist beyond this period.

Numbers eligible for an offer of rehabilitation can be estimated as follows. Readmission is a common feature in acute COPD. About one in every three patients is re-admitted within three months; one in seven dies within this period⁸⁴. A once-ever offer of rehabilitation is allowed for. This forces a need to estimate the proportion of the year's admissions which are first admissions. It is assumed that the 34% readmission rate persists in subsequent three-month periods. The admission rate is net of the death rate, which can therefore be neglected. The readmission rate within a year is then 49%, to judge by the sum of a geometric progression with the appropriate number of terms. If this rate, in its turn, persists indefinitely, then half of each year's admissions are first admissions and qualify for an offer of rehabilitation⁷.

⁷based on the sum to infinity of a geometric progression with $r \sim 0.5$.

This approach may not be wholly realistic but it does make allowance for the high readmission rate.

Table E4: Estimation of benefits per hospital from increased use of PR

| | | |
|--------------|---|----------------|
| a | Annual COPD admissions | 740 |
| b | Proportion eligible for Pulmonary Rehabilitation (PR) | 50% |
| c | Increase in PR coverage due to peer review | 9.00% |
| d=a*b*c | Extra patients receiving PR | 33.3 |
| e | Additional QALYs per PR patient | 0.03 |
| f | Monetary value of a QALY | £30,000 |
| g | Net cost per PR patient | - |
| h=e*f | Value of additional QALYs per PR patient | £900 |
| i | Total per PR patient | £900 |
| j | Annual net intervention cost across 33.3 additional PR patients | - |
| k=i*d | Annual QALY gain across 33.3 additional PR patients | £29,970 |
| l=k-j | Annual benefit (net of intervention cost) across 33.3 additional PR patients | £29,970 |

The annual net benefit is just under £30,000 per year per peer-reviewed hospital, all of it in the form of monetised health gain (just under one QALY, divided between 33.3 patients). The cost of rehabilitation is recouped within a year, so there is neither an additional cost nor a resource saving.

Identifying the benefit (net of intervention cost) for increased provision of Home Oxygen

Home Oxygen provision is suitable for approximately 40% of the COPD patients who are at GOLD Stage IV (the most serious stage of COPD, representing 25% of all COPD patients). Using the estimate of 740 annual COPD admissions from the Pulmonary Rehabilitation analysis, it is possible to calculate the fraction of each hospital's COPD admissions who are eligible for Home Oxygen, and then, for a typical hospital, identify the increase in the number of patients in receipt of Home Oxygen.

Oba (2009) finds that, relative to a control group, users of Long Term Oxygen Therapy (LTOT) had an incremental QALY gain of 0.28 QALYs (total) over three years, and 0.59 QALYs (total) over five years, i.e. around 0.1 QALY per annum. Evidence from NERA (2007) suggests that LTOT costs £535 per annum, or £1,662 per annum if the patient is also supplied with ambulatory oxygen⁸. Because a majority of patients do receive ambulatory oxygen, a weighted average of patients with and without the ambulatory service results in a cost of £1,202 per annum.

⁸ Long Term Oxygen Therapy involves the patient using Home Oxygen equipment for a large part of the day (e.g. 16 hours or even longer). Because this might severely constrain the patient's lifestyle, portable oxygen cylinders are often supplied so that the patient can still receive the therapy when away from their home.

It is possibly the case that Home Oxygen provision creates savings to the health service, e.g. in the form of fewer inpatient days due to fewer COPD exacerbations. However, Oba (2009) does not quantify this effect (perhaps due to limited evidence), and it is not quantified in the calculations below. Therefore, unlike the other interventions, Home Oxygen is treated as a net cost to the hospital.

Table E5: Estimation of benefits per hospital from increased use of Home Oxygen

| | | |
|--------------|---|---------------|
| a | Annual COPD admissions | 740 |
| b | Proportion of patients at GOLD Stage IV | 25% |
| c | Proportion of GOLD Stage IV eligible for Home Oxygen | 40% |
| d=a*b*c | Number eligible for Home Oxygen | 73 |
| e | Increase in Home Oxygen coverage due to peer review | 4% |
| f=d*e | Extra patients in receipt of Home Oxygen | 2.9 |
| | | |
| g | Additional QALYs per Home Oxygen patient per annum | 0.1 |
| h | Monetary value of a QALY | £30,000 |
| | | |
| i | Annual net cost of Home Oxygen per patient | £1,203 |
| j=g*h | Value of additional annual QALYs per Home Oxygen patient | £3,000 |
| k=j-i | Net annual benefit per Home Oxygen patient | £1,797 |
| | | |
| l=i*f | Annual net intervention cost for 2.9 additional Home Oxygen patients | £3,518 |
| m=j*f | Annual QALY gain across 2.9 additional Home Oxygen patients | £8,773 |
| | | |
| o=m-l | Annual benefit (net of intervention cost) across 2.9 additional Home Oxygen patients | £5,255 |

Overall, it is calculated that a typical peer-reviewed hospital would face an additional net cost of £3,518 per annum for additional Home Oxygen patients, for a benefit of 0.29 Quality Adjusted Life Years per annum divided between 2.9 patients (and valued at £8,773 using the NICE benchmark of £30,000 per QALY). Assuming that each patient lives for one year, the annual net benefit per peer-reviewed hospital is therefore £5,225.

Overall costs and benefits

The costs and benefits for each peer-reviewed hospital are set out in the following table. Clearly, in this case, peer review helped drive the adoption of particular cost-beneficial interventions, bringing significant net benefits.

Table E6: Overall benefits per peer-reviewed hospital arising from NCROP

| | | |
|--------------|--|----------------|
| a | Benefits (net of intervention's cost) for Non-Invasive Ventilation | £42,578 |
| b | Benefits (net of intervention's cost) for Pulmonary Rehabilitation | £29,970 |
| c | Benefits (net of intervention's cost) for Home Oxygen provision | £5,255 |
| <hr/> | | |
| d=a+b+c | Benefits (net of intervention costs) for the three interventions | £77,803 |
| e | Direct costs of peer review (includes giving and receiving visit) | £11,840 |
| <hr/> | | |
| f=d-e | Overall benefits, net of intervention costs and direct costs of peer review | £65,963 |

It is noted that the above benefits of the peer review scheme are annually recurring, whereas peer review visits operate on a far lower frequency. If the peer review group's use of these interventions exceeds the control group's use by several years, the benefits will exceed the costs by an even greater margin.

Annex F. Further details on value for money

Evidence on COPD peer review in primary care

There is limited existing evidence on the effectiveness of peer review in the primary care context. Jans et al. (2001)⁸⁵ describe the results of implementing guidelines for COPD in primary care, with peer review used to “*share experiences, to gain support from colleagues, and to discuss the discrepancies between the recommendations given in the guidelines and the actual care provided*”. Whilst significant improvements were noted after one year in lung function, respiratory symptoms and the pain score of the Nottingham Health Profile, only the lung function improvement was significantly greater when compared to the control group. The study has several limitations, including that the lung function measures and health profile scores are not specific to COPD. Smeele et al (1999)⁸⁶ describes a randomised trial, again of implementing COPD guidelines using a “*group education and peer review programme*”. No significant changes were seen in patient outcomes (including the exacerbation ratio), although relative to the control group, the intervention group shows a statistically significant increase in GPs’ self-reported skills and the presence of peak-flow meters in GP practices.

The costing of rheumatology peer review

Piper et al. (2006) explain that each rheumatology peer review team consisted of two consultants (one of whom was chairman) alongside two Allied Health Professionals (consisting of Clinical Nurse Specialists, occupational therapists, physiotherapists, senior ward nurses and chiropodists). The following bullets discuss the steps of the peer review scheme and the assumptions that we have applied to cost each step.

- The initial gathering of information is described as ‘almost always carried out by a consultant’, taking between 4 and 12 hours. For the costing below, it is assumed that only one consultant is involved.
- The peer review team then review the information, taking between 1 and 6 hours. For the costing, the whole peer review team is taken to be involved.
- The visit to the reviewed site takes one day. Again, for the costing, the whole peer review team is taken to be involved.
- A report is then produced by the chairman (a consultant) with input from the other team members, taking between 4 and 14 hours. For the costing, it is assumed that the contribution from the AHPs and the other consultant is one quarter of the chairman’s time.

The time described above is costed using the unit costs set out in PSSRU (2011). Specifically, a rate of £162 per hour is applied to consultant time, with a rate of £42 per hour applied to AHP time (using an average of the different AHP categories presented in PSSRU 2011).

Ultimately, it is estimated that the cost of the visiting team for a rheumatology unit is between £4,800 and £10,370 in 2011 prices. If it is assumed that the costs to the unit being reviewed are similar to those of the visiting team, the result is £9,600 and £20,740 per unit. (For example, the unit being reviewed will need to prepare data, make time to speak with the peer review team, and read and digest written reports).

A summary of the processes of the Research Assessment Exercise

The broad processes of the Research Assessment Exercise (RAE) are set out as follows.^{87,88} For each subject, each institution is asked to provide details on:

- Active research staff;
- Research outputs (e.g. publications, usually four per staff member produced over the assessment period);
- Research students and studentships;
- External research income;
- Research structure and strategies; and
- Indicators of esteem (such as prizes and honours awarded to individual members of staff).

The information is provided to a sub-panel (one for each subject, with 67 in total) comprised of academics and users of research. The sub-panel use their professional judgment to decide the proportion of each submission that has met each quality category. There are 15 main panels (groups of subjects that have a broadly similar approach to research) to promote consistency amongst their constituent sub-panels. The overall process is coordinated by the Higher Education Funding Councils.

The process is highly outcome-focused, with a 70% weight given to the quality of research outputs, followed by a 20% weight on the research environment and a 10% weight on esteem indicators.

In England, the 2008 exercise covered 42,000 staff in 126 higher education institutions. There were approximately 1,000 panel members in total and the RAE is being used to allocate a Quality Related (QR) budget of £1.56bn in England for 2011/12⁸⁹. This amounts to £10.92bn when extrapolated across seven years (the amount of time between the 2008 RAE and its 2001 predecessor), or £7.8bn when extrapolated across 5 years (a more typical time period between different RAEs). Additional staff, institutions and budget were also covered in Scotland, Wales and Northern Ireland, although those are not considered here.

Older estimates of the cost of the Research Assessment Exercise

Roberts (2003)⁹⁰ cites a cost estimate of between £27m and £37m, including £3m of direct costs and the remainder for compliance costs. This review notes that its recommendations are likely to increase administrative costs considerably, which is reflected in the 2008 figures. Separately, a 2004 Select Committee report⁹¹ cites the funding councils' central cost estimate of £5.6m for the 2001 RAE and at least £10m for the 2008 RAE. These earlier figures are therefore fairly consistent with the latest estimates presented in the main report.

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