Achieving the Vision of Excellence in Quality:

Recommendations for the English NHS System of Quality Improvement

Submitted to the Department of Health by the Institute for Healthcare Improvement

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EXECUTIVE SUMMARY

At the request of Lord Darzi, a team of faculty and staff from the Institute for Healthcare Improvement undertook a review of the English National Health Service focusing on its recent performance, its trajectory of improvement between 1998 and 2008, factors that facilitate improvement, barriers to improvement, and suggestions for changes that could accelerate the pace of improvement in the decade ahead. In the course of this project, the team interviewed 58 individuals from a range of agencies, organisations, and roles related to the National Health Service, harvesting and summarising their opinions and observations about performance and quality improvement in the NHS. In addition, we reviewed published literature, official reports, and other documents bearing on these questions, as well as a sample of theoretical papers and case studies on approaches to improvement in large systems.

Overall, interviewees rated the current level of quality of care in the NHS as 3.0 on a scale of 1 to 5. They rated the trajectory of improvement of care somewhat less favourably, at 2.5. Many cited high performance on equity, and gains in waiting times, quality of facilities, and outcomes of cancer care and cardiac care as significant. Other dimensions showing less progress, or none, were thought to include personalised care, coordination of services for the chronically ill, mental health, and patient safety. Comparisons to other OECD countries in several dimensions were judged to be favourable for equity, efficiency, and some outcomes, but unfavourable on several important measures of avoidable disease and mortality. Interviewees believe that numerous specific examples of extraordinary performance ("islands of excellence") exist in the NHS now, but that overall, median performance is either ordinary or unknown. The trajectory of improvement was judged to be faster in areas "targeted" by government, but respondents cited negative effects of targets on morale, patient-centeredness, and balanced aims.

Favourable supports for improvement of care have included the infusion of resources, the existence of targets, evidence-based guidelines, technical supports to improvements, improvement collaboratives, abundant measurements, occasional examples of patient and family involvement in design, and a few "positive deviants,"[*1] whose achievements have far exceeded the mainstream.

Significant barriers to improvement, in the opinion of interviewees, included the absence of a coherent framework for improvement (leading to contradictory or inconsistent programmes or policies), failure consistently to involve patients and families in improvement activities and designs, absence of a clear and shared definition of "quality," gaps and conflicts between managers and clinicians, frequent restructuring and changes in leadership, a culture of fear and top-down control rather than shared learning and participative improvement, and lack of emphasis on acquiring and maintaining technical improvement skills among the NHS workforce, clinicians, and leaders.

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[*] In the work of Marsh *et al.*, positive deviance is defined as: An uncommon practice that confers advantage to the people who practise it compared with the rest of the community.

"Positive deviances," organisations that are performing at extremely high levels of excellence and achievement, exist. The few we studied exhibit characteristics different from those listed as "barriers," above. They typically have had more stable leadership teams.

Based on our findings, we present eight recommendations as plausible to help accelerate the rate of improvement of the NHS in the decade ahead:

- *Recommendation #1: Develop a Widely Shared View of the Overall System for Improvement in the NHS.* A more comprehensive and explicit approach to the improvement of the NHS would support more consistency and synergy among policies, agencies, and stakeholders, whose efforts and messages sometimes at present clash or interfere with each other.

- *Recommendation #2: Establish and Persist in the Expectation That Patients and Families Will Be Actively Involved in Design and Improvement at National, Local, and Microsystem Levels.* The more voice and participation patients and families have in defining quality, setting aims, assessing performance, and designing and redesigning the systems of care in their communities, the better and faster improvements will occur.

- *Recommendation #3: Develop a Comprehensive, Balanced Set of System-Level Measurements for Learning, Benchmarking, and Public Transparency.* As opposed to numerous, disaggregated targets, a small set of high-level systemic aims for improvement, paralleling agreed-upon definitions of the dimensions of quality in the NHS, will help focus energy and reveal appropriate priorities and opportunities for learning.

- *Recommendation #4: Heal and Rebuild Relationships Between Clinicians and Managers at All Levels, from National to Health Economies.* Mechanisms to support dialogue, shared vision, and cooperative experiences will help. Strong patient voice (as in Recommendation #2), will also be likely to encourage civility and mutually respectful relationships among those who serve them.

- *Recommendation #5: Foster Stability of Relationships and Leadership. Use the Structures Already in Place.* We strongly counsel avoiding additional restructuring of NHS agencies, regulators, or care system components. Any managerial and policy changes that can also stabilise leaders in position for periods longer than at present will also, overall, help improvement to accelerate and will foster more cooperative relationships among entities that should cooperate to serve patients.

- *Recommendation #6: Foster a Culture of Learning and Innovation, Balanced with Accountability.* Some top-down mandates and aims are likely necessary and appropriate, but NHS leaders should foster more confidence, risk-taking, learning, and cooperation among system elements and roles. Creating more will and capacity for NHS organisational leaders to look "out" toward patients and families for signals about their priorities and ideas for improvement, instead of "up" to please the NHS hierarchy, will accelerate improvement, foster local cooperation, and, probably, decrease waste.

- ***Recommendation #7: Build Capability for Improvement, Especially in Local Care Systems.*** Designing and redesigning processes and systems of care involves many skills not usually taught in professional and managerial training. The NHS should place a higher value on the acquisition and reinforcement of such skills, and should encourage and reward both clinicians and managers who foster and display them.

- ***Recommendation #8: Develop an Understanding of the Production of Health and Health Care as a System in the NHS.*** The potential for reliable, safer, patient-centred, seamless, low-waste, and highly effective care in the NHS is enormous. However, care of that quality requires execution by a system. The relevant system is neither as large as the NHS or a region as a whole, nor as small as a single primary care practice or even a PCT. Appropriately trained and supported, it is conceivable the PCTs as commissioners could help to orchestrate an effective, population-based system of care. More likely, some new forms of cooperation, planning, and conduct at the level of "health economies" could do so. No matter what level of aggregation NHS leaders prefer, an explicit understanding of health care as a system of production for the benefit of a defined population will help guide aims, investments, changes, and learning. Once so defined, a system of production can also adopt and use high-level metrics to monitor and improve its own care, and to report to those to whom it is accountable. At present, with the exception of a few innovative local settings, the NHS appears to lack clear designs or understanding of the production of care as a system in this sense.

The achievements of the NHS since its founding reveal consistent dedication to its organising vision of a universal service free at the point of care. Investments in improving that system in the past decade have been large and have borne fruit. Accelerating improvement is both feasible and important, and will require significant changes in approach within current structures. Our exploration and analysis leave little doubt that the NHS has the potential to become a system of care that leads the world not just in equity, but in all the dimensions of quality that patients, families, and communities want and deserve.

INTRODUCTION

The aim of this report is to make recommendations about how to improve the quality improvement system of the NHS, on the request of Professor the Lord Darzi, Parliamentary Under Secretary of State. Our report is one of a set of similarly commissioned papers on other aspects of quality in the NHS, and that set of reports is, in turn, part of an even more comprehensive review of the overall progress of the NHS as it approaches its 60th anniversary. Three important factors within that larger context of reviews have shaped our approach.

First, our aims and recommendations take a long-term perspective. While our report includes practical, short-term next steps for quality improvement, we were given a clear directive to set our sights on the next era of the NHS, looking ahead at least to the next decade. The vision articulated in Lord Darzi's Interim Report – "…a world class NHS that prevents ill health, saves lives, and improves the quality of people's lives" – will not be achieved in a few months, or even a year or two. It is a long-term vision, and will require constancy of purpose, consistent leadership, and skilled, sustained effort over time. In large corporations, this sort of transformation seldom happens in fewer than 10 or 15 years. We have therefore applied long-term thinking to our analysis and recommendations.

Second, we know that good leaders need to keep the short term in mind, even while they pursue a longer-term vision. They face ongoing political realities, and must plan steps toward a long-term goal that are practical, achievable, and politically feasible. We have tried to frame recommendations that include such shorter-term steps.

Third, Lord Darzi asked us both to report frankly what we heard from the field – to "call things as we see them" – and to frame our recommendations ambitiously. We have taken both requests seriously. We have attempted to provide a direct, unfiltered view of the current situation in quality improvement in the NHS, in the voices of those who work and live in that system. We have also aimed high, by describing ideas for a system of quality improvement that could ultimately drive large-scale transformational change in the NHS, rather than stopping with modest incremental improvements. In some instances, our recommendations are grounded in actual examples of successful quality improvement in large systems. But we believe that the level of ambition and scale involved in trying to improve a comprehensive health system for 40 million people is unprecedented, and therefore, that tried-and-true formulae for doing that are not to be found. There is no "randomised controlled trial" for this size of undertaking. Because of this, leading transformational improvement of the NHS requires courage, optimism, and a willingness to learn as we go.

Large-scale improvement will also require a steering system – a set of system-level measurements and feedback loops at local and national levels – that allows those who choose interventions and implement new designs to find out if they are moving in the right direction toward their aim. Choosing those system-level metrics is an important decision. What dimensions of quality are most critical, and how will they be measured? We encountered questions about measurement frequently in our interviews, and we realised early in the

process that any useful answer requires that the NHS embrace a clear definition of "quality of care," itself – a common, shared framework of aims. Such a framework would drive the creation of a set of metrics to help guide both national policy leaders and local actors. Common aims for improvement are a precondition to effective, cooperative action.

Our report culminates in recommendations about how to strengthen the NHS's system of quality improvement. In the several dozen interviews we conducted, we encountered hundreds of ideas for improvement, ranging from very specific, concrete steps to grand, sweeping initiatives. Some of these ideas applied to specific agencies and functions, while others were far more diffuse, relating to the entire culture and operating philosophy of the NHS. Our recommendations are neither a list nor a catalogue of these ideas. Instead, we have chosen to digest the interviews as inputs, to select the strongest ideas we know based on such evidence as exists, and to present those ideas in reference to a framework, *a picture of the NHS as a capable improvement system,* that we hope will give the recommendations more coherence.

This report has one particularly serious limitation: namely, that the IHI team that has prepared this report is made up "outsiders" to the NHS and the UK. Through the past decade, IHI leaders and faculty have worked closely with several NHS organisations and leaders and relevant non-governmental organisations (including several NHS Executive teams, the Modernisation Board, the Modernisation Agency, the National Patient Safety Agency, several government advisors to the Prime Minister and Secretary of State for Health, the Health Foundation, trusts involved in IHI's "Pursuing Perfection" programme, the NHS Institute for Innovation and Improvement, and others). Our report and recommendations should be read with this background in mind. That background may, of course, create potential prejudices and biases from our prior experiences, despite our best intentions. It also gives us a bit more prior understanding about the NHS than less experienced outsiders may have. Nonetheless, we are bound to have missed subtleties and contextual information of potentially great importance that only people who have grown up in the UK and been immersed in the NHS would know. For this, we apologise in advance.

However, we also believe that the value of our fresh eyes and ears as outsiders may at least partially offset that disadvantage. While our report undoubtedly reflects our own experiences in the US, Sweden, and elsewhere, we have also tried to be faithful interviewers and reporters, exploring and listening with open minds and a fresh perspective to dozens of stakeholders and observers within England. Our report passes on as accurately as we can (often through direct quotation) their views and advice, especially when those messages were consistent among many interviewees. What follows represents, therefore, both what we heard and what we think.

PROCESS AND METHODS

IHI convened a team of faculty to guide the inquiry and collect data between December 1, 2007, and January 31, 2008. Appendix A provides additional details about the faculty team and Appendix B describes its activities.

The team used two methods to gather information for this report:

- A scan of published literature, official reports, and other materials addressing performance, practices, and structures within the NHS and related organisations, and accounts of quality improvement in large-scale health care systems as well as non-health care settings.

- Semi-structured interviews with approximately 58 key participants in and observers of health care in the UK generally and the English NHS in particular, plus shorter interviews with approximately 40 others from the UK in attendance at the IHI's December, 2007, National Forum in Florida. The intent was to understand as accurately as possible the views among a wide array of stakeholders on the current level of quality and trajectory of quality improvement in the NHS, and to gather a range of views about how the system could and should be improved.

FINDINGS REGARDING QUALITY AND QUALITY IMPROVEMENT IN THE NHS

In interviews with dozens of stakeholders at every level in the NHS, and in reviews of published literature and other reports on quality in the NHS, we sought answers to the following questions:

1. What is the current state of quality of care in the NHS?

2. What is the current quality trajectory — the rate of improvement — in the NHS?

3. What approaches (methods, policies, programmes, agencies, etc.) seem to be working well to improve quality?

4. What approaches are not particularly helpful?

5. Looking forward over the next five to ten years, what would you recommend be done to improve the system of quality improvement in the NHS?

The first two questions are foundational to the rest of our findings.

The "current state of quality" question might be framed in two ways: "How good is the NHS in 2008 compared to five or ten years ago?" and "How good is the NHS in 2008 compared to other countries and large health systems?" These questions are in part answerable by

measurements and comparative studies of quality in England and other nations over the past five to ten years.

The "trajectory" question is far more difficult to answer with confidence, but is even more important if we are to make recommendations to *improve* the trajectory. After all, if many interviewees had said, "The rate of improvement is startlingly fast, and I couldn't imagine it being any faster," then this would be a very short report. We might simply recommend, "Steady as she goes."
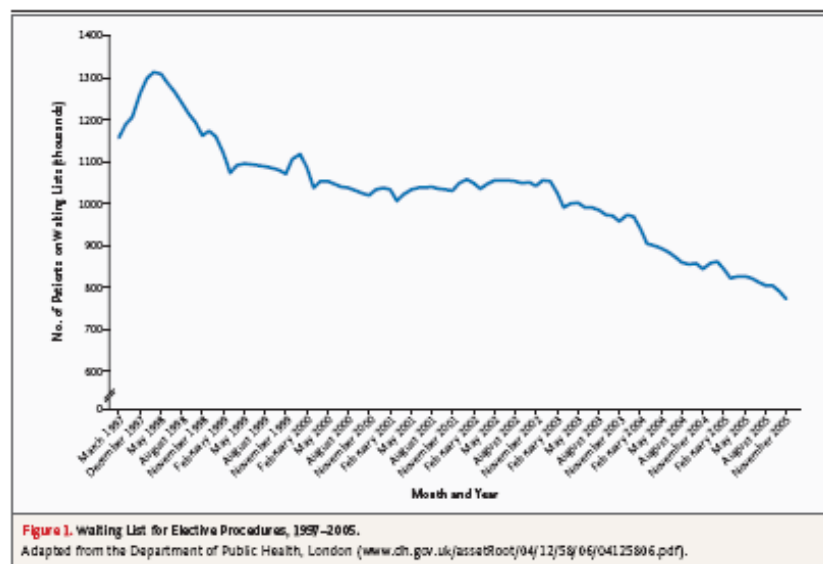
We did not hear that answer. What did we hear?

Question #1: What is the current state of quality in the NHS?

From our interviews and literature reviews, we draw the following conclusions about the current level of quality of care and service in the NHS:

1. Quality of care is considerably better than it was ten years ago, or even five years ago. This is a significant achievement, and, especially when placed alongside the enviable level of fairness (equity) in the NHS, it is a source of pride for many in the NHS.[2]

2. Quality has improved substantially in some dimensions (including timely access to care, quality of facilities, outcomes of some conditions) but not nearly as much in others (including personalised care, coordination of services for chronic disease, mental health services, and patient safety).[3] (See Figure 1.)

Figure 1:

Figure 1. Waiting List for Elective Procedures, 1997–2005.
Adapted from the Department of Public Health, London (www.dh.gov.uk/assetRoot/04/12/58/06/04125806.pdf).

Waiting List for Elective Procedures, 1997-2006

3. Despite strenuous efforts to ensure uniformity in standards, quality continues to be highly variable and "patchy" from one practice or community to another, and even

among departments and wards within a given organisation. (We heard many comments to this effect from many stakeholders.)

4. Compared to other nations, the English NHS does well in several quality dimensions (equity, efficiency, some outcomes) but is by no means the world leader or even the EU leader in every category.[4,5]

Figure 2:

NHS Comparative Health Statistics

| Health Indicator	Comparison to EU 15
Male life expectancy at birth	⬌
Female life expectancy at birth	⬇
Infant mortality	⬇
Male premature mortality from circulatory diseases	⬇
Female premature mortality from circulatory diseases	⬇
Male premature mortality from cancer	⬆
Female premature mortality from cancer	⬇
Smoking-related mortality	⬇
Male mortality from chronic liver disease and cirrhosis	⬌ (Increasing while EU 15 is decreasing)
Female mortality from chronic liver disease and cirrhosis	⬇ (Increasing while EU 15 is decreasing)
Adult obesity	⬇

Source: Health Profile of England 2007, Department of Health

5. In some important measures, such as mortality amenable to health care, the NHS still ranks poorly on the "league table of nations."[6] (See Figure 3.)

Figure 3:

Mortality Amenable to Health Care, 2002-03
Deaths per 100,000 population
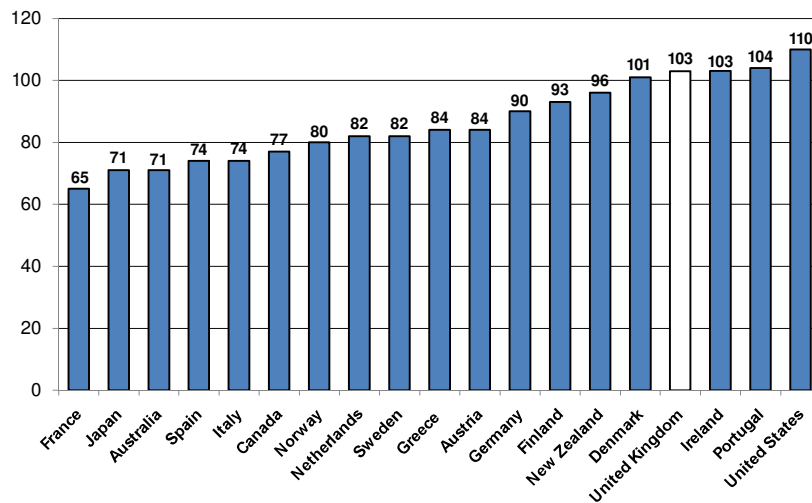
Source: Nolte E, McKee CM. Measuring the health of nations: Updating an earlier analysis. *Health Affairs* 2008;27(1):58-71

6. The overall (and extraordinarily consistent) rating of the current state of quality in the NHS by the stakeholders in our interview set was "average" (a rating of 3 on a 1-5 scale, with an occasional 2.5 or 3.5 rating). The description of the current state of quality that resonated most strongly with most of our stakeholders was: "The NHS has some islands of excellence, but they're set within a sea of ordinary performance."

7. For some stakeholders, an "island of excellence" is abstract – a dimension of quality, for example, such as fairness. For others, an "island" is performance across the NHS for a certain type of disease or condition, such as cancer care. Still other stakeholders see "islands" in geographical or organisational terms, and describe health economies or individual trusts with superb performance records. And in many cases, the "islands" are even more focal and specific: individual GP practices, or units within a hospital.

The most consistent finding on the current state of quality, however, is that even where excellent performance is found somewhere in the NHS, it is not consistent everywhere, whether across dimensions of quality, diseases and conditions, communities, trusts, individual practices, wards, or departments. It is patchy, and between the patches, or islands, is a fairly large sea of performance that is ordinary, or perhaps more often, uncharted and unknown.

8. Finally, some stakeholders took exception to the term "islands of excellence." These more critical interviewees expressed the view that, even though a fair number of highly celebrated areas such as waiting times and cancer care were, indeed, *improved,* they are not yet *excellent* when compared to the best systems in the world. These sceptics

therefore warned against the temptation to confuse "somewhat better than it once was, in some carefully selected measures" with "excellent."

Question #2: What is the current trajectory of improvement in quality in the NHS?

The trajectory question is far more subjective than the "current state" question, and we were therefore much more dependent on our stakeholders' opinions. Whereas the stakeholders rated current quality as 3 on a 1-5 scale, they rated trajectory of improvement in quality as 2.5 (i.e., slightly lower than the rating of current state). In this, they again demonstrated an unusual degree of uniformity in their ratings; a few scored the trajectory at 3.5, but almost all others were at 2 or 3. While individual views vary, the frequent answers to the question "Why do you rate the trajectory of improvement lower than the current state of quality?" were:

- *"Quality is continuing to improve, but primarily [some said 'exclusively'] in those areas that receive attention and resources [e.g., 18-week waiting target]."*

- *"We are improving in some areas, but we could go a lot faster [and in more areas[if..." [followed by specific recommendations, or descriptions of barriers to improvement, see the next section, below].*

- *"We improved rapidly for a while, but we seem to be slowing down."*

After examining the available NHS data and reports on quality and safety measures, and digesting the input from scores of stakeholders at multiple levels through the NHS family of agencies and organisations, we developed the following view of the improvement in the NHS over the past ten years: (Figure 4)

Figure 4:

The NHS Quality Journey
1998-2008
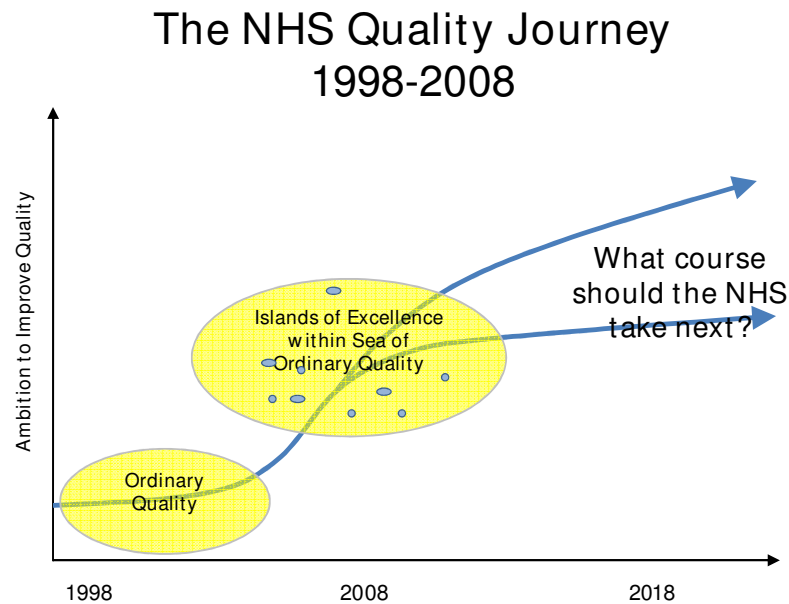
The NHS has made considerable progress over the past ten years, with real improvement in some dimensions of performance across the NHS, and also with local examples of superb performance at the departmental, service line, or practice level. There are also a handful of examples of "positive deviants": organisations and communities whose leaders have initiated what appears to be a deeper transformation of care and service. These "islands of excellence" are significant, but it appears that they are not widespread and have no apparent route for expansion. A large proportion of care remains just simply average: "a sea of ordinary performance."

This report asks, "Given the quality journey of the *past* ten years, how should the NHS chart the course of improvement over the *next* ten years?" To help generate some answers, we need to understand what is working so far, and perhaps what is not working well, in the current approaches to quality.

Question #3: What seems to be working to help support and propel quality improvement?

A number of different approaches have had a positive effect on measured and perceived quality in the NHS. We have no way to rank these approaches according to their impact, but our interviewees and we conclude that improvement has occurred in the past ten years, and that it has not been an accident. What are some of the possible causes of improvement?

1. *Resources:* From our stakeholders' reports, and our own perspective on the published reviews of the NHS over the past ten years, there is little question that the most powerful single reason for the improvement of quality during this period has been the addition of resources. While the stakeholders disagree on whether these additional resources have always been *well spent*, they generally agree that the tidal shift of financial support into the NHS since 2000 has had an overall positive effect. Tired, outdated facilities have

been refurbished. Clinicians have been trained and recruited, leading to a 22% increase in doctors and 21% increase in nurses between 1997 and 2004.[7] Technologies and pharmaceuticals have been purchased and used to improve diagnosis and therapy.

Not all resources have increased in capacity, concurrent with the overall increase in resources. Many beds have been taken out of commission during the past decade, and a few interviewees believe that this trend has hampered what could have been even more rapid improvement in timeliness of consultant care. (In reporting this view, we do not mean to endorse it as accurate. The appropriate migration of much care from hospital to home and the continual and favourable reductions in length of stay may well make reduction in hospital bed supply entirely appropriate and wise. Lengths of hospital stay in the UK remain long compared with the US, and we suspect that further improvements are achievable, and could continue to reduce the need for hospital beds in many communities.)

2. *Performance Targets:* Another approach that many claim to have had some effect on measured quality results has been the adoption of specific, highly publicised, national targets for improvement, accompanied by fairly vigorous "top down" methods for managing performance to those targets. Even the harshest critics of targets (and the critics were far more numerous than the supporters) reluctantly acknowledge that, when targets are set and performance is measured against those targets, they tend to be achieved, although sometimes with negative side effects.

3. *Evidence-Based Guidance:* During the past decade substantial effort has been devoted to "guidance" as to what should be done in clinical care, and how the care should be delivered. Our stakeholders give a positive review to that portion of guidance from national agencies (including, for example, National Service Frameworks and clinical guidelines) that focuses on what care should be delivered according to the best scientific evidence. Stakeholders are considerably less positive about guidance that goes beyond simply recommending *what* should be done, and prescribes in detail, at the process level, *how* it should be executed in every local community, especially when the *"how"* becomes a standard that must be delivered.

4. *Technical Assistance in Improvement:* When we asked those who have achieved substantial improvement in quality and safety "Where did you get help in making these breakthroughs?" a common answer was to name a statutory or non-statutory agency whose primary purpose was to develop quality improvement capability or to catalyse innovation, redesign, and application of sophisticated tools and methods for improvement. The Modernisation Agency and its successor, the NHS Institute for Innovation and Improvement, and the Health Foundation were commonly and spontaneously mentioned. This was particularly frequent in our conversations with "positive deviant" trusts and communities. The exceptions were the academic health centres that we visited, which appeared to be less receptive to, or less dependent on, the support, tools, and guidance of these "improvement support agencies."

5. *Collaborative Programmes:* Interviewees report that large-scale quality improvement collaboratives *on topics for which a solid evidence base exists* (i.e., a proven package of evidence-based changes) have had substantial impact on performance in a number of areas. Perhaps most prominent of these is the impact of the GP collaborative work to apply advanced access methods to primary care practices, to reduce the problem of "sleepless nights" whilst waiting to be squeezed into the schedule of one's GP. This example, while supported by strong data on reduced waiting times, at extraordinary scale (i.e., this is one of the approaches to improvement that has had profound impact) is also something of a lightning rod for criticism from various quarters. Perhaps this is not surprising with any change of this magnitude.

6. *Data on Performance:* A vast and impressive amount of data about performance is held in various places by different agencies. While data fragmentation and a relative lack of patient-level outcome data are concerns, the sheer amount of data available through the Department of Health, Dr. Foster, and other sources is the envy of other health care systems. It is possible in the NHS to know the MRSA rates by hospital, mortality rates by region, and waiting times for cancer care by community. This resource, while not yet used well, is perceived by stakeholders as a potential strength and something to build on.

7. *Patient and Family Involvement in Design:* We have been exceptionally impressed with the power of an improvement approach which we would cumbersomely label "local design of health and health delivery systems with extensive patient and family involvement." While examples are not widespread, one superb historical example of this approach is the work of Julian Tudor Hart in Wales.[8] A more recent and more focused example is the result achieved by Luton and Dunstable in reduction of stillbirths, with the direct and active involvement of their local community in the redesign of the system of care.[9]

8. *Local Mavericks:* One interesting approach that appears to be associated with unusual levels of improvement could be labelled "maverick local improvement." These "positive deviants," such as Birmingham, Luton and Dunstable, and Kings College Hospital, appear to have achieved breakthrough levels of improvement outside the usual channels and beyond usual standards, without seeking permission or without being required to do so. We believe that much might be learned from these and other examples of such outliers, and so we have devoted a section of this report to our findings in our (admittedly superficial) investigation of three positive deviants.

Question #4: What is not working? What seems to be slowing down improvement and otherwise getting in the way?

Since our stakeholder interviews focused primarily on the question "What might be done to improve the NHS system of quality improvement?" it was natural that impediments to improvement in the current system were often mentioned. We have grouped our findings from the interviews under seven main themes.

1. **Improvement policies and programmes are not designed with an overall system of improvement in mind.**

Our conversations attempted to home in on the processes and structures in the NHS that directly support or guide care improvement, such as the NHS Institute for Innovation and Improvement, NICE, and so forth. But stakeholders repeatedly steered the conversation away from such specific components, and toward the larger system context in which these improvement structures nest. They wanted us to recognise that recommendations about changes in structures would not be helpful unless we nested those recommendations within a whole system context. Many stakeholders believe that the current approach to quality and safety represents the historical accumulation of individual responses to particular issues and problems, without the benefit of a widely shared picture of the overall system of improvement. As a result, they believe, even well-intended interventions one part of the system can and sometimes do slow down quality or safety improvements in another part of the system, rather than reinforcing each other.

In sum, many of the interviewees appeared to long for a coherent picture of the NHS as a continually improving system of care. One such image, for example, is depicted in the system diagram in Figure 5, which we have adapted from work of Peter Knox and colleagues at Bellin Health System in the United States.[10]
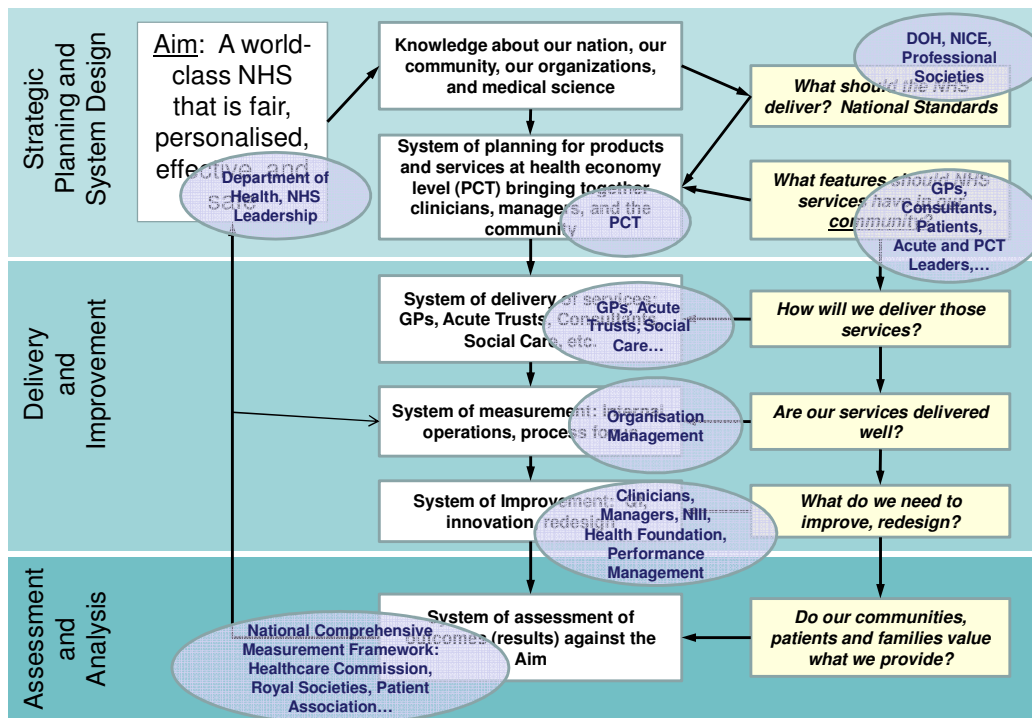
Figure 5:

The NHS as a System of Improvement
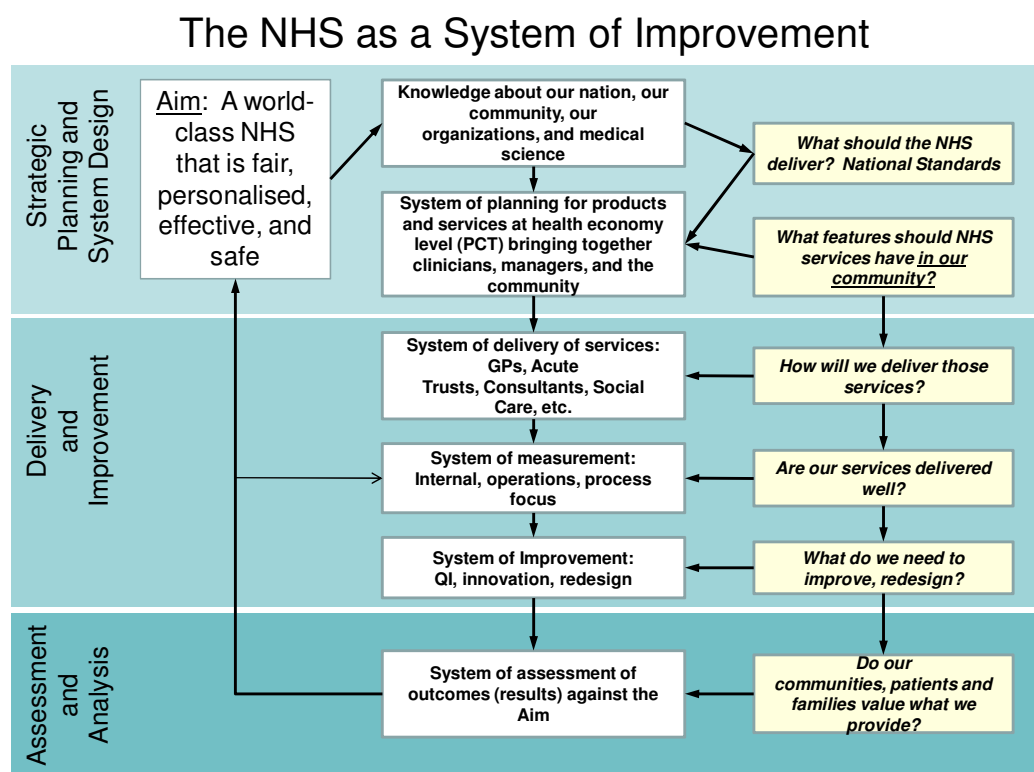
For clarification, in Figure 5a, we have placed some of the NHS agencies and organisations in the system diagram, according to our interpretation of the roles that each might play in the NHS, conceived of as a coordinated system of improvement.

Figure 5a:

The NHS as a System of Improvement (With Organizational Roles)

We will return to Figure 5 in our recommendations, but we quote here some stakeholder statements reflecting concern about the perceived lack of a "systemic" approach to quality improvement:

> "We have no overarching conceptual framework and common understanding of the NHS approach to improvement."

> "The NHS hasn't adopted a broad aim for quality, and instead aims at bits and pieces of the problem, such as waiting times."

> "We need to be constantly mindful of the effects of our policies on the culture of the NHS, and vice versa."

> "We put forward quality policies and programmes in one aspect of the system that conflict with another part of the system, without resolving the conflict. For example, QOF incents GPs to do certain things in certain ways in order to get paid bonuses, but NICE frameworks establish different standards for the same conditions, documented in different ways. Which should the GPs do?" (Note: As we understand it, such contradictions are, in fact, rare between NICE guidance and the QOF specifications.)

> "The system is heavily 'top down.' We establish numerous targets and manage performance to those targets, and those who set those targets don't seem to realise

how little energy and space remains for locally defined, badly needed improvements."

"Our measurement of quality is patchy. We measure what is being targeted, basically, without a sense of the overall outcomes that are being produced. For example, we measure certain parts of the waiting process, and they seem to be getting better, but we have little or no good information on whether overall waiting times are really getting better, or if the patients and families think that personalised care is improving."

"We don't seem to have a good way of resolving the tensions between national prescribed standards/targets and local community resources/needs. Commissioning is supposed to do this, but the main focus of that activity seems to be on building more muscular and enforceable contracts, which appear to me to be decreasing, rather than building, the cooperation needed to bring the community together to design a health system that works for the local economy."

"The new Operating Framework supposedly gives more latitude for local planning and prioritising, but really it's just a way to give the PCTs more sticks to beat up the acute trusts."

"We're introducing market forces in one part of the system, and they're detrimental to the cooperation needed for redesign and improvement in other parts of the system."

These statements, and others like them, illustrate the perceptions of stakeholders of a fundamental barrier to improvement: the absence of a widely understood and broadly adopted NHS-wide system perspective on improvement.

2. The patient doesn't seem to be in the picture.

This second theme reflects something we *didn't* hear in our interviews, more than something we did hear. We were struck by the virtual absence of mention of patients and families in the overwhelming majority of our conversations, whether we were discussing aims and ambition for improvement, ideas for improvement, measurement of progress, or any other topic relevant to quality. Perhaps this was due to a cultural difference between US/Swedish and the English perspectives, and we simply missed it. But it is our strong impression that the lack of a prominent focus on patients' interests and needs in the centre of these conversations represents a significant barrier to shifting the trajectory of quality improvement in the NHS.

Lord Darzi's statement of vision for the NHS is strongly centred on patients and families:[11]

- Fair – equally available to all, taking full account of personal circumstances and diversity;

- Personalised – tailored to the needs and wants of each individual, especially the most vulnerable and those in greatest need, providing access to services at the time and place of their choice;

- Effective – focused on delivering outcomes for patients that are among the best in the world; and

- Safe – as safe as it possibly can be, giving patients and the public the confidence they need in the care they receive.

We find, based on our interviews, that Lord Darzi's patient-centred vision has not yet been translated into action at all three levels of the NHS as a system (Figure 5). First, at the strategic planning level we heard that patients are typically not involved either in establishing overall NHS aims or in the more local process of "planning for products and services at health economy level." What we did hear suggested that some aims might be different or significantly more ambitious if patients and families voices were heard more clearly in the strategic planning process. For example, several interviewees pointedly remarked that even the much-lauded 18-week waiting time target, if and when it is accomplished, would not really represent world-class performance in timely access to care. Indeed, it probably would not fall within even the most generous standards for timeliness as defined by patient and family preferences. As one stakeholder summed it up, *"From a patient and family perspective, the 18-week access target is a confession of failure."*

Second, except for some notable exceptions among the "positive deviants," we did not hear that patients are prominently involved on the teams that are leading improvement at the service delivery level. One knowledgeable stakeholder commented, *"We've only been dabbling in direct patient and family involvement in improvement."*

Finally, many stakeholders felt that the methods of measurement and analysis of performance used in the NHS do not seem to be informed by actual measurement of patient-centred *outcomes* – i.e., the sorts of measures that would be required by Lord Darzi's vision above – but rather, by *process* measures of performance. Most targets and standards appear to be defined in professional, organisational, and political terms, not in terms of patients' experiences of care. Waiting times were a much-cited example. Interviewees thought that the measurement of waiting times was a good start, but that this process measure needs to be set within a widely adopted, regularly used, larger set of measures of personalised care – a set that is not in place. For example, measurement of patient satisfaction with waiting times would demonstrate a more personalised approach.

At all three of these levels, our interviews lead us to believe that the NHS is largely missing a powerful opportunity to re-centre its improvement work on what matters to patients, and to harness their ideas, energy, and ownership to drive the improvement and redesign processes more rapidly and in a way that more fully engages all participants.

3. The NHS does not have a comprehensive, balanced, widely agreed-upon definition of quality, and therefore defaults to the definition "quality means meeting the targets."

Any systematic approach to quality improvement depends on shared understanding about what is meant by "quality," and how it will be measured. Nearly universal themes in our interviews were that the NHS lacks an agreed-upon definition of "quality" and that the adoption and use of such a framework would be very helpful for the understanding of performance and the acceleration of improvement. This theme found expression in statements such as:

> "It's hard to answer your question about 'How good is our quality' because we don't have an overall quality measurement framework, and so we only see what's under the lamp posts. What's under those lamp posts seems to be getting better, but what about what's not under the lamp posts?"

Several of the interviewees indicated that the absence of a more comprehensive measurement system led to scepticism about those improvements that are reported:

> "In the case of waiting times, for instance, much has been made of the reduction in lists of those waiting for prolonged periods such as a year or more. But these excessively long waits were a very small percentage of the overall waiting list, and the median waiting time really hasn't moved much, if it has improved at all."

In part, this sceptical viewpoint might be seen as strength, in that the leaders of the NHS and its various agencies tend to be self-critical and not easily satisfied, and are therefore constantly striving for even better performance. But another aspect of the stakeholders' scepticism seems more troublesome. Many interviewees expressed considerable wariness about the data system that measures quality performance in the NHS. In particular, they doubt whether the available data reflects a balanced, comprehensive, and accurate picture of performance. Many stakeholders, as noted above, expressed concern about the paucity of performance measures on patient and family satisfaction with care, and of measures on whether care was being coordinated and delivered in a patient-centred, personalised manner. Others noted that measures of disease outcomes are very useful in those few conditions that happen to be selected each year for national "audits" within professional societies, but that widespread measures for outcomes of many other chronic diseases are not available. For whatever reason, for those aspects of quality not being consistently measured or reported, i.e., those issues that are not "under the lamp post," there is a tendency to believe that performance is not very good.

Benchmarking posed another issue related to the need for a quality framework. Several stakeholders would welcome a good system for benchmarking PCTs, GP practices, acute trusts, and other parts of the system against one another. But if the benchmarked measures are patchy, and defined solely by what has been targeted, without reference to a more widely accepted, comprehensive, and balanced quality framework, interviewees would be concerned that most of the energy spent around a system of benchmarking would be devoted to proving

the measurements to be wrong, or unfair, rather than to using the measurements for learning and improvement.

In sum, many interviewees want the NHS to adopt and use a consistent quality framework, one that begins by defining the dimensions or attributes of what the NHS means by quality. Lord Darzi's "fair, effective, personalised, and safe" was seen as a good start. They want that framework then to translate into aims for improvement on these dimensions, and finally to link to a measurement system that can guide improvement of the whole system, based on widely accepted measures of each quality dimension. (In the Institute for Healthcare Improvement, we refer to such a measurement set as "Whole System Measures." See Table 1.)

4. *There appears to be a large, and growing, gulf between NHS clinicians **(doctors, mainly) and managers.***

Many interviewees believe that a significant rift exists between doctors and managers in the NHS and that this is a major barrier to improvement. As outsiders to the NHS, we probably do not fully understand the historical context, political nuances, and other factors that underlie this tension, nor do we minimise the difficulty of solution, but this appears to be a fairly important problem that must be alleviated if improvement is to move forward more rapidly over the next five to ten years. The expression of this gap between doctors and managers raises elements of political power, professional autonomy, strategic choices for the NHS, and even personal respect and trust. We heard statements like these:

> *"More robust commissioning is critical if we are to counterbalance the power of the doctors. They've had the power for too long."* (Note: A similar statement was made with respect to Foundation Trusts.)

> *"Far too many managers and policy leaders in the NHS are incompetent, unethical, or worse."* (This statement was made, as were others, with considerable anger.)

> *"The GP and consultant contracts are de-professionalising, and have had the peculiar effect of simultaneously demoralising and enriching doctors. Basically, we've lost the 'volitional work' of the doctors, and far too many of us are now just working to rule."* (We heard many comments to this effect.)

> *"It's good to set standards – to define what should be done, by the evidence. But it's unprofessional to be told in detail exactly how to get these things done, by people who don't understand our community or our resources. When doctors are told what colour knickers they should wear on Wednesdays, they just tell the system to bugger off, and they should."*

When we tried to probe this issue and to understand its effects on quality, most of the stories seem to focus on the commissioning process, introduction of detailed standards and "pay for performance," introduction of competitive forces among practices and organisations, the "MTAS debacle," and the process of working out and implementing the new GP and

consultant contracts. Whatever the stories or issues behind this rift, we believe that it is a significant problem for quality, simply because partnership and trust between clinicians and managers appears to be vital to improvement in other large systems. Each requires the skills of the other to make and sustain needed changes in the system. The current practice of finger-pointing and blaming, in either direction, is hurting efforts at redesign and improvement, and is one of the factors that is slowing the quality trajectory of the NHS.

5. *Organisational instability and transient leadership impair relationships and sustainability of the work.*

A second historical issue that emerged as a theme in our interviews was what stakeholders perceive as a tendency of the NHS to rely on restructuring to help accelerate improvements and solve system problems. The most common and by *far* the most passionately voiced theme in our interviews criticised this tendency:

> *"Please, whatever you do, don't recommend any new structures. Give us some time to use the structures we already have!!"*

> *"Stop the restructurings. The only thing they generate is redundancy payments."*

> *"Consultants last. Managers don't. Every time a new structure comes along, we just say, 'We've seen this film before. We'll just wait this lot out.'"*

These concerns do not appear to be hypothetical. In less than a decade there have been at least four major reorganisations of health service structures, each of which, whatever the benefits, entailed disruption and distraction for NHS leaders and often bewilderment amongst the clinicians with whom they worked. The average time in post of a Chief Executive level leader in the NHS is measured in months, and a five-year tenure is exceptional, not least because the organisations they run may have been dismantled. Within the improvement community, take as an example the NHS Institute for Innovation and Improvement (itself a product of successive reorganisations from the Modernisation Agency to the "New Modernisation Agency" and so forth), which has reported to five different Ministers and five different senior civil servants in its now-30 months of existence. Elsewhere, there have been a series of launches, mergers, and restructurings of the other statutory agencies working on quality. Sometimes these have resulted in resources to support quality improvement being devolved to the field, but very little of that resource has been protected. One observer suggested sarcastically:

> *"It would be interesting to speculate what the impact would have been if the bill for redundancies could instead have been invested in improvement."*

We would be unfaithful reporters if we did not convey the passion with which this theme was expressed over and over again in our interviews. And, the reasons behind the passion seemed compelling. Many stakeholders long for the opportunity to build relationships and to work with a reasonably stable group of other leaders over even a year or two, in order to build the trust needed for cooperation, to begin to establish better teamwork, and to execute

fully difficult redesigns of complex clinical services. At least some of the examples of "positive deviance" include remarkably long-lasting relationships, such as in the community health systems in Birmingham and Luton and Dunstable, and academic centres such as King's College Hospital, where the six most senior managers have a combined time in station of almost 100 years. (NB: The Chief Executive at Kings has recently announced his departure.) These positive deviants seem somehow to have escaped or ignored distractions from the constant cycle of restructurings.

6. The NHS has developed a widespread culture more of fear and compliance, than of learning, innovation, and enthusiastic participation in improvement.

Another very powerful theme in our interviews characterised the prevailing mindset about quality, quality measurement, and the behaviours that are rewarded (or punished) in the system. For example:

> *"The risk of consequences to managers is much greater for not meeting expectations from above than for not meeting expectations of patients and families."*

> *"Virtually everyone in the system is looking up [to satisfy an inspector or manager] rather than looking out [to satisfy patients and families]."*

> *"Isn't it telling that when the Department of Health drew up a landscape map showing four quadrants of quality work, three of the four quadrants are things done to people [standards, data, and regulation] and only one is about helping people to improve [support]?"*

> *"Because of the fear of what will happen if targets are not hit, it's not uncommon for managers and clinicians to hit the target and miss the point."*

In this context, stakeholders frequently commented on performance targets, but it is our view that the targets themselves are not so much the issue as they are a symbol of a more comprehensive a style of leadership and management in pursuit of quality improvement during the last decade. Broadly speaking, interviewees would, as a group, summarise the management approach as a collection of the following:

- Add resources. Since 2000, an extraordinary investment has been made in the NHS – a sustained annual increase of 7.3% above inflation.[2] This is an unprecedented infusion of resources, and has produced substantial increases in capacity for service delivery. This rate of increase is not thought to be sustainable much longer.

- Set targets and standards, and give ratings of performance against those targets.[12]

- Prescribe methods for meeting quality targets and standards (as in the National Service Frameworks).[13]

- Manage performance to targets and standards, through a fairly stern practice of executive accountability and, less formally, through the media and other forms of public embarrassment.

- Introduce competitive forces and tensions such as contestability and patient choice (including private service providers), Foundation Trusts, Payment by Results, Quality Outcomes Framework, and aggressive PCT commissioning.[14]

- If something goes wrong, or the newspapers get on the case, find someone to blame, and punish him or her.

- If all else fails, restructure something.

Overall, despite considerable rhetoric about decentralisation and local autonomy (e.g., Foundation Trusts, local priorities, World Class Commissioning), most interviewees share in common a strong sense that the overall style of management has been and continues to be based on a "command and control" model, reflected in the list above.

What have been the effects of this style of management on beliefs and behaviours in the NHS? One illustration is how performance data are gathered and used in the NHS. In interview after interview, we heard that data on quality and safety are virtually never gathered as a result of an internal improvement question; for example, data are rarely collected because clinicians are curious about how they are doing in caring for a particular condition, or because managers want to make care safer. Essentially all performance data appear to be gathered for one main purpose: to report performance *versus* standards. This creates a rather difficult problem for those who are trying to drive improvement, illustrated in Figure 6:

Figure 6:

Two Sides of Quality Data
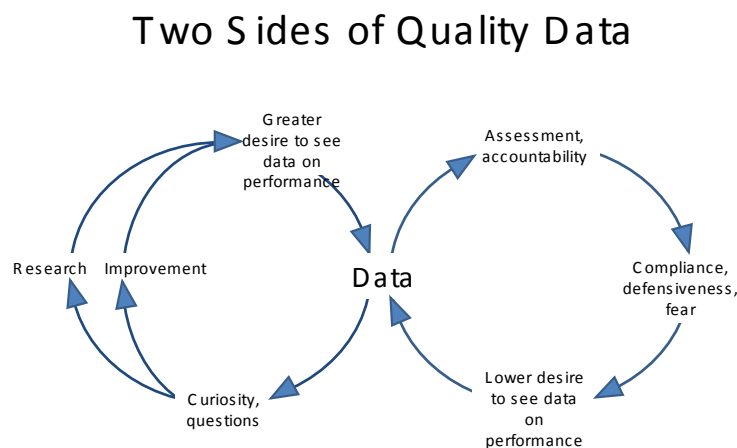
The vast majority of data on quality and safety in the NHS appear to flow through the cycle to the right, an accountability cycle that acts as a brake on the learning, innovation, and improvement cycle on the left. Many stakeholders, including those in the academic and research community and those in the "operations improvement" world, regard this as an important obstacle, because curiosity and the desire to see data on quality and safety are absolutely essential to a culture of improvement, whether the avenue of improvement is clinical research or operational "tests of change." Simply put, fear impedes learning.

Fear also dampens cooperation, particularly cooperation across boundaries between people or organisations who feel themselves to be in zero-sum games. Many interviewees expressed concern that cooperation, so vital to improvement in coordination of care for the chronically ill at the level of health economies, in total cost reduction, or for innovation and redesign of care pathways and services that cross organisational boundaries, is already being hurt by the introduction of competitive forces and tensions, all within a strict command and control structure of targets and performance standards.

Fear and compliance-oriented behaviours also lead to what is often called "sub-optimisation of the system." The target is hit, but at the expense of something else that may be more important, but not targeted. This mistake is perhaps best captured by the phrase, "Hitting the target and missing the point." Several interviewees cited the Maidstone and Tunbrige Wells situations as examples of this phenomenon, where, many stakeholders believe, managers crowded in patients in order to meet waiting time targets and, in the process, lost sight of the fundamental hygiene requirements for infection prevention. In other instances, as when A and E waiting time targets are hit without the benefit of technical improvement knowledge in flow management, the sub-optimisation is more subtle, inducing workarounds such as the creation of expensive buffering capacity in order to meet the required four-hour waits.

A culture of compliance tends to dampen local ownership of improvement goals. In part, this is because the targets and other goals have been chosen by others, often in distant settings. But another cause of diminished ownership is the cumulative effect of the targets on the available space in the work of managers and clinicians. If those at the "coal face" have insufficient time and energy left over to work on what appears to be important to them outside the targets, they will simply do what needs to be done to meet the targets and call it a day. This is costly, because the NHS loses the potentially immense power of the volitional improvement work that these professionals might do if they had the space to do it.

Perhaps the most problematic of fear and compliance-oriented work is the effect on ambition: the lowering of sights. If aims become top-down targets that must be achieved or else, clinicians, local managers, and staff tend to reduce the level of their own ambition in the aims, so as to make their aims safer. It takes a great deal of courage to aim high if the price of failure is losing one's job. Two examples were often cited by our interviewees as being too modest: the 18-week waiting time target, as noted above, and the new four-year goal for 30% reduction in *C. difficile* infection rates. In particular, the most capable improvers in the NHS, the positive deviants, see these aims as not ambitious enough.

7. Capability for improvement is not valued within either the clinical or the managerial professional ranks.

The final broad theme from stakeholders involved a lack of value placed on being a "capable improver" in both the clinical and the managerial professions:

> *"We seem to believe that if you have passion for patient care, and for quality, that's enough. Actually knowing how to improve quality is less important."*

> *"When we celebrate someone's quality efforts, it's usually for doing some sort of innovation or groundbreaking research. We value that sort of 'big bang' improvement. But we don't get gongs for the more boring, everyday, incremental improvement of clinical work."*

> *"We're always looking for the magic bullet as a solution, rather than getting a little bit better every day."*

> *"In the NHS, technical capability for improvement has little or nothing to do with whether you get promoted as a manager unless you're employed in an improvement agency."*

The effect of this is that it appears to our interviewees (and to us) that the supply of capable improvers within the ranks of both clinicians and managers is fairly thin. There have been serious efforts to build capability, particularly during the era of the Modernisation Agency, which functioned as a large internal consultancy with a mission to facilitate redesign, innovation, and improvement in health services delivery and to develop an infrastructure of capability for redesign and improvement. During its lifespan, the MA trained and equipped a substantial cadre of capable quality improvers in the NHS. For various reasons (primarily, we infer, because it was judged better to nest improvement capability in NHS organisations rather than in a central body more distant from the front line), this MA approach was shelved. While many of these capable improvers remain in the system distributed and scattered in various statutory and non-statutory agencies such as the NHS Institute, SHAs, Acute Trusts, PCTs, the Health Foundation, and others, the robustness of the infrastructure of improvement capability in the NHS at present is no longer clear. One knowledgeable interviewee estimates that perhaps 1000 to 2500 managers and clinicians remain in the NHS who are reasonably capable of using and teaching quality improvement methods such as PDSA, flow management, reliability, and other technical improvement knowledge. Even if this cadre of improvers were fully utilised (which they don't appear to be), they represent a fairly small improvement resource when one considers the enormous size and complexity of the NHS, with over a million employees and 40 million customers.

Question #5: What would improve the system of improvement in the NHS?

At a number of points in our review process, we heard comments such as this:

> *"That's true about the NHS as a whole, but you ought to talk to the people in this PCT, or that acute trust, or this other teaching hospital, because they seem to have*

been able to find a different way forward toward significant improvement, despite all these impediments and problems."

A few names came up repeatedly: Luton and Dunstable NHS Trust, Bolton Hospitals NHS Trust, Birmingham PCT (and all the organisations in that health economy), and King's College Hospital. According to the stories, these systems were exceptions to the rules. They were getting unusual results. They made efforts to improve things that *weren't* specified in targets. They worked cooperatively to achieve redesigns of service. They had consistent, long-term leadership continuity. We came to think of these places as "positive deviants" or perhaps more cheekily "maverick local improvers." We fully acknowledge that we made no systematic and objective effort to identify other high-performing organisations and health economies, nor did we do an exhaustive analysis to "prove" that these four designated "positive deviants" were in fact all that positive. But if there is any substance to their reputations among the stakeholders, we thought it would be worthwhile extracting a bit of learning from them.

We were able to interview leaders from all four systems, and to make site visits to two of them to talk directly with doctors, nurses, and managers in those systems. Based on this very limited study of some positive deviants, we would make the following observations, organised in relation to each of the seven barriers or impediments to improvement noted above.

- *System of Improvement:* Frequently, these positive deviants appear to embrace and use a whole systems approach to improvement. Luton has established specific, ambitious whole system strategic aims that go beyond meeting targets, across the health economy, in a strong partnership between the PCT and Acute Trusts, and developed specific design and improvement strategies to achieve those aims, guided by whole system measures. Bolton's Chief Executive, for example, has demonstrated a profound understanding of the value of a whole systems approach.[15] In all instances, executive leaders have made strong commitments to create alignment and engagement of the system to accomplish important system-wide aims for quality, and to engage the hearts of all staff in that effort.

- *Patient Voice:* Patient and family involvement in improvement and design was a prominent feature in three of the four systems. Luton, in particular, has included patients on improvement teams for some years, with profound impact on the managers and clinicians and on the processes and results for difficult problems such as stillbirths in East Asian women. Kings did some pioneering work on patient involvement in the area of chronic obstructive pulmonary disease. Individual leaders within these systems regard their direct contact with patients and families to have been a critical point in their own personal transformation as leaders, and an ongoing sustaining force in their will to improve.

- *Defining and Measuring "Quality":* Some of these positive deviants have adopted a comprehensive quality framework. Bolton uses the six Institute of Medicine dimensions – Safety, Effectiveness, Patient-Centeredness, Timeliness, Efficiency, and Equity – and

Luton uses an adaptation of that list. Equally important, they have developed system-level measures of performance against the dimension they have indentified, measures that staff and patients consider important (e.g., number of stillbirths) even if these measures are not part of the overall measurement-against-targets system of the NHS.

- *Positive Physician-Management Relationships:* While all is not sweetness and light, Birmingham, Kings, and Luton appear to be have far less contentious relationships between clinicians and managers than in the typical NHS setting. Leaders within these systems appear to regard a certain degree of trust and mutual respect as absolutely essential to improvement. They intentionally tend these relationships.

- *Stability of Leadership:* In three of the four settings, leaders have enjoyed an unusual degree of stability in roles and have had the opportunity to build long-term relationships. The combined tenure of the team of six top leaders at Kings is 100 years. The newest member of Luton's executive group has been a member of the team for six years.

- *Fear, Trust, and Learning:* Leadership plays a critical role in establishing a positive culture of improvement in these positive deviants. Several of the leaders of these systems spoke openly about the importance of creating some "protection" from the pressures of targets for those inside their organisations. In effect, the leaders themselves try to bear the top down pressure, but not transmit that pressure, along with its dysfunctional effects on quality improvement, further into their organisations. In Luton, there has been an active effort to choose projects for improvement that are *not* included in external targets, because they have noted a far stronger sense of ownership and engagement in the improvement work when the improvement work is chosen because it is Luton's problem, rather than just the NHS's problem. These systems appear to have found a way to harness intrinsic motivation for improvement. Figure 7, below, represents diagrammatically this shift of managerial tactics from reliance on extrinsically motivated and enforced standards to stronger use of norms, drivers, and aspirations intrinsic among clinicians and the NHS workforce as a whole.

Figure 7:

Motivation
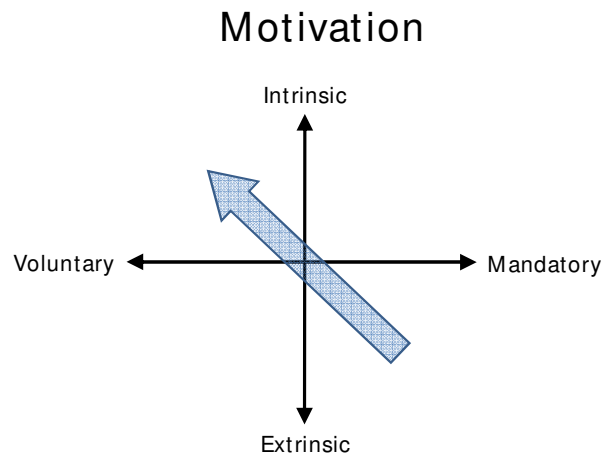
Source: Crump BJ. How can we make improvement happen? *Clinical Governance* (in Press)

- *Investing in Improvement Capability:* Three of the four systems have invested considerable effort in building and using improvement capability, through collaboratives sponsored by various agencies, internal development programmes, and other methods. They do not house this improvement capability in separate departments of improvement, but rather, make them part of the executive and line managers' responsibility. These systems appear to value the support of the NHS Institute for Innovation and Improvement, Health Foundation programmes, and other agencies as key resources in their ongoing development of improvement capability.

What Is Known about Improvement of Large Systems?

A second set of findings draws from a scan of international examples of improvement and large-scale change. As a foundation for our recommendations, we reviewed the literature and other source material from other countries and from organisations in health care and other industries. The sample includes organisations that have achieved successful transformational change on a scale approaching that of the NHS, including organisations such as the United States Veterans Health Administration (VHA) and Toyota. We also examined large-scale improvements addressing enormous problems like malnutrition and AIDS, which were not housed in an organization but occurred across communities and large regions such as Vietnam, Bangladesh, and others. We reviewed the health care improvement infrastructure in four countries: Australia, Canada, Denmark, and France. Finally, knowing that changes to improvement structures and processes in the NHS will be considered at the local level, we identified Jönköping County in Sweden and Bellin Health System as health care systems that are approximately the size of a primary care trust and that have consistently used quality improvement with positive results.

Due to the size of the scan, we will not present all of the findings here, but will focus on the high-level lessons. Interested readers should refer to details in Appendix C.

What did we learn?

Several patterns emerge from both the literature on improvement of large systems and our scan of large system transformation efforts.

- Leadership plays a pivotal role in setting aims and will-building.

- Clear aims and measurement are pillars of improvement on a large scale.

- Once the aim is articulated, improvement efforts are carefully focused.

- Providing time and space to create, innovate, and build capability appears as a persistent theme.

- Constancy of purpose is intentionally maintained.

- Skilled execution of key changes is apparent.

- Success relies on a deep understanding of the way desired results can be achieved (the system of production).

These attributes appeared repeatedly in our scan of large system improvement, and in fact can already be seen in the best changes in play in the NHS. Together with the findings from interviews with stakeholders, they add to our confidence in the recommendations that follow.

RECOMMENDATIONS FOR NHS LEADERSHIP FOR THE NEXT TEN YEARS OF IMPROVEMENT

Based on our interviews, literature reviews, discussions, and experience, we suggest that, if the general approach to improving care in the NHS remains more or less the same in the period 2008-2018 as it has been between 1998 and 2008, the results and pace of improvement will likely remain as they have been. No "tipping point" or accelerating curve of accomplishment is evident. Without change, we predict good, slow progress, especially in specific areas the Government and Department choose, from time to time, to target. We predict that high-performing deviants will continue to exist, and grow slowly in number. We also assume that the affective distance between physicians (and perhaps nurses) on the one hand, and managers and executives, on the other, will not decrease much. As the era of plenty in new resources comes to a close, indeed, that distance may grow. We hope that the planned focus on PCTs and commissioning will strengthen the hand of primary care, but we do not yet see the skill base there for the development and execution of truly better care processes. In most communities, we see no reason to expect deeper cooperation at the health economy level among the organisations that co-exist there, and upon whose systemic behaviours the fate and experiences of many patients depend, although the new information systems of the NHS may help.

In contrast, the sort of aim implied by Lord Darzi's vision of "*…a world-class NHS that prevents ill health, saves lives, and improves the quality of people's lives"* is bolder, and not likely to be realised by the 1998-2008 methods. Taken literally, this would mean that the NHS excels (is "world class") in *every* dimension of quality, not just in a few islands of excellence. This is a very high aim. Such a major acceleration of the rate of improvement will, we suspect, require some significant adjustments in strategy at the centre and in capabilities and opportunities in local care systems. Whether it seems wise and necessary for the NHS as whole to invest in those changes or, instead, to remain satisfied with the current trajectory depends, of course, on competing priorities, political will, and tolerance for the conflicts that inevitably follow on change. In what follows below, we assumed that NHS leaders and Government opted to accelerate the pace of improvement, and our recommendations speak to how we believe that could best be supported.

We have developed eight recommendations for improving the quality improvement system in the NHS. Our recommendations parallel the seven "barriers" to improvement that emerged as themes of our conversations with stakeholders, and are summarised in Figure 5b. For each recommendation, we have described an overall long-term concept, and we have also attempted to describe specific ideas and possible next steps to move that concept forward in the next year.

In crafting our recommendations, we take note of the many good things happening in the current NHS system of improvement. Our recommendations are meant to support and enhance, not to displace, those well-functioning systems of standard-setting, measurement, design, and improvement.

Figure 5b:

The NHS as a System of Improvement: Recommendations
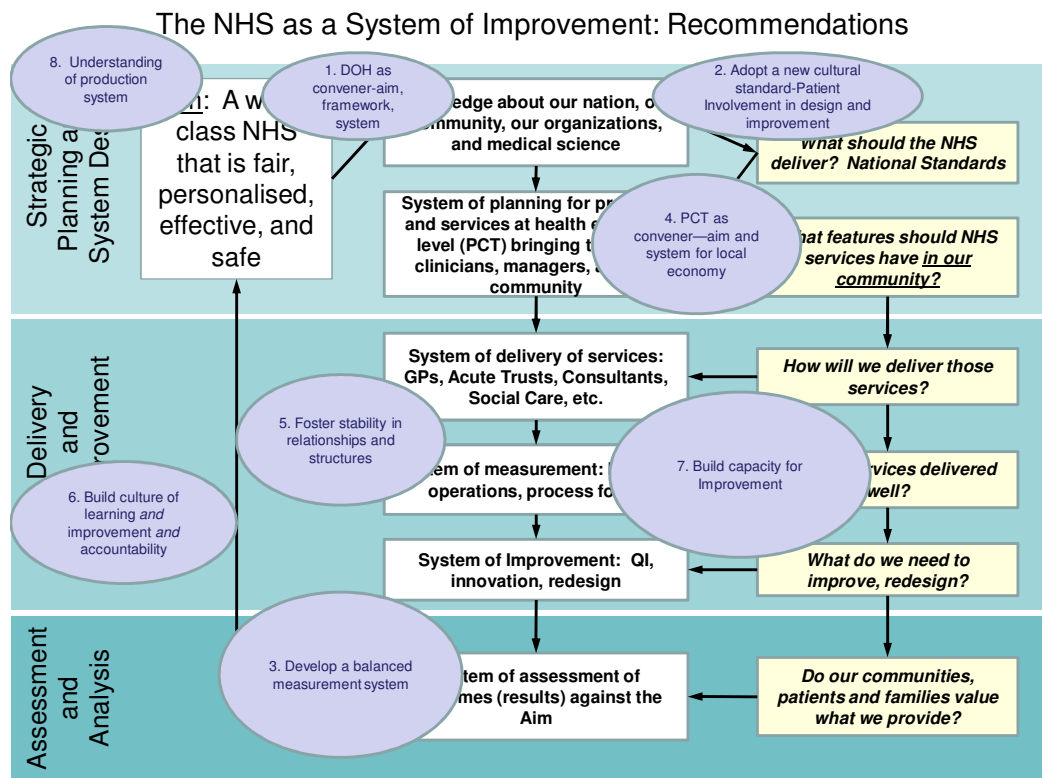
Recommendation #1: Develop a Widely Shared View of the Overall System for Improvement of the NHS.

It is our view that quality of health, and health care, in the NHS would improve at a more rapid pace if all stakeholders shared a common picture of how the NHS approaches improvement as a system, including most crucially an overall framework that defines the dimensions of quality. A shared system picture would:

- Stabilise a multi-dimensional definition of quality;

- Help establish shared improvement aims at national and local levels;

- Provide guidance to develop a measurement system against these aims;

- Clarify roles and relationships;

- Make visible the many complex system and cultural interactions that need to be better understood when designing policies and programmes;

- Foster cooperation and working partnerships; and

- Support improved communication about quality with and among all stakeholders: clinicians, managers, patients, public, and policy-makers.

As a practical first step, one idea would be for the Department of Health to convene a broad group of stakeholders from the public, clinical, managerial, and improvement communities, perhaps as part of the NHS 60th Anniversary, to develop a more detailed, specific picture of the NHS as a system, and to adopt long-term aims for the improvement of the system. (Note: We have placed Lord Darzi's vision for the NHS as described in his interim report as a placeholder aim statement in Figure 5b, and believe that it would be healthy to develop a very public process to establish and adopt this or some other widely supported aim for the quality of the NHS.)

With caution, we note that, in the United States, the Institute of Medicine's 2001 report, *Crossing the Quality Chasm*, created a turning point in understanding and approach to improving American health care. Even in the highly disaggregated, chaotic context of US health care, the *Chasm* report's articulation of six "Aims for Improvement" now provides a shared vocabulary and, in many organisations, an orderly system of goals. We suspect that such a shared set of aims, embraced by all, has far more potential for translation into effective action in the NHS, if that set could be clarified.

Another early step for reinforcing a picture of the NHS as a system would be for the Department of Health to use the newly developed system model as part of a specific, focused national "campaign" to drive dramatic improvement in one chosen dimensions of quality, e.g., safety. This process might provide practical, working experience with using a system of improvement and a shared quality framework.

Recommendation #2: Establish and Persist in the Expectation That Patients and Families Will Be Actively Involved in Design and Improvement at National, Local, and Microsystem Levels.

One of the strengths of the NHS is that it is a public system. This recommendation is consonant with that property: it is to strengthen the voice of the lay public in the ongoing improvement of the design and delivery of health systems and health services. From our experience of improvement in large systems, and from some of the learning from exceptional improvement in the NHS, we can say with conviction that we know of no more powerful transformational force than "having the patient in the room" when making decisions about how health care should be organised and delivered. In other large systems showing dramatic improvement outside health care (Toyota, Southwest) and inside health care (Jönköping County in Sweden), the voice of the customer has been a pillar of improvement and a regular part of the design process.

As next steps, we propose that:

- The Department of Health convene a national meeting to refresh and clarify the long-term quality aims of the NHS to draft a system picture of the NHS in pursuit of those aims. Include patients and families in this project.

- As the commissioning process moves forward into its next rounds, particularly as the process of local system design focuses on aim-setting, ask and support PCTs to have prominent involvement of the lay public, including current patients with health prevention, chronic disease, mental health, social care, and other needs. The only aims that should be adopted should be those aims that patients and their families find compelling.

- With appropriate guidance, tools, and training provided by the NHS Institute for Innovation and Improvement and other support agencies, establish an expectation that patients and families must be active members of redesign and improvement teams.

Recommendation #3: Develop a Comprehensive, Balanced Set of System-Level Measurements for Learning, Benchmarking, and Public Transparency.

The NHS has many elements of an enviable quality measurement system, with extensive data on a number of conditions and quality elements such as hospital-acquired infections, waiting, and cancer care. It would be helpful to bring the existing elements together, and to develop or strengthen some other elements (such as measures of clinical outcomes, and timely measures of the patient experience) into a comprehensive measurement system. The core set of measurements should be defined, not by what happens to be targeted, but by the long-term aims of the system, and the dimensions of quality that are adopted in an NHS-wide quality framework. (See Recommendation #1, above.)

A set of system-level measures of performance would provide useful, balanced guidance over the long-term to policy makers, NHS managers, and clinical leaders as to whether the NHS's strategies were effective at both the local health economy and the national levels. It could also be helpful in benchmarking and learning across trusts and health economies and in guiding the development of new strategies for improvement. Finally, the most powerful form of accountability is public transparency, and a balanced, comprehensive set of measures that reflect a widely agreed-upon framework for quality would be a better starting point for this sort of public conversation about performance than the current reactive, "crisis of the moment" approach often driven by media.

System-level aims and measurements, if well chosen and well used, could act as powerful supports to a culture of cooperation. For example, many important measurements of performance in a local economy could not be attributed to any one part of the delivery system. If the local economy were to establish aims for improvement of such measures, achievement of the aim would depend on cooperation, rather than competition. One example might be a measure of "the quality and coordination of care for chronic disease."

Agreement on a comprehensive, balanced measurement system across all quality dimensions would not be easy to achieve in few months, or even a year or two. A first step toward it could be for the Prime Minister or the Department of Health to convene stakeholder groups in a format perhaps similar to that used by the Institute of Medicine in the US, or similar to the Modernisation Board in its original incarnation. The key to success lies in the generation of a shared definition of "quality" and its dimensions.[16]

One example of a set of system-level metrics is that used by the Institute for Healthcare Improvement in its research and development activities. (See Table 1.) We offer these not as a solution to the NHS endeavour, but rather as an illustration and to prompt further thinking.

Table 1:

Whole System Measures	IOM Dimension of Quality	Outpatient Care	Inpatient Care
1. Rate of adverse events	Safe	X	X
2. Incidence of non-fatal occupational injuries and illnesses	Safe	X	X
3. Hospital standardised mortality ratio (HSMR)	Effective		X
4. Unadjusted raw mortality percentage	Effective		X
5. Functional health outcomes score	Effective	X	X
6. Hospital readmission percentage	Effective	X	X
7. Reliability of core measures	Effective	X	X
8. Patient satisfaction with care score	Patient-centred	X	X
9. Patient experience score	Patient-centred	X	
10. Days to third next available appointment	Timely	X	
11. Hospital days per decedent during the last six months of life	Efficient	X	
12. Health care cost per capita	Efficient	X	X
13. Equity (Stratification of whole system measures)	Equitable	X	X

Source: Martin LA, Nelson EC, Lloyd RC, Nolan TW. *Whole System Measures*. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2007.

Recommendation #4: Heal and Rebuild Relationships Between Clinicians and Managers at All Levels, from National to Health Economies.

It is difficult to make specific recommendations for how to rebuild trust and respect across the divide between clinicians and managers, but we cannot predict an era of more rapid improvement without that. In considering practical ways to approach the issue, it appears to us that the handhold on better relationships is far stronger at the level of health economies than at larger levels. For at least two reasons, renewed cooperation at the local level may be easier. First, doctors, nurses, and managers in the same area and the same city share social connections that support civility and common purpose. They root for the same football team and their children play together. Second, the presence of patients and families in the processes of design, assessment, and redesign (see Recommendation #2, above) also increases the odds of civility and common aim. Patients, once powerful, vocal, and inside

the system, may prove intolerant of time-honoured habits of conflict among the people who, together, serve them.

Other steps that could be taken to support such a healing and rebuilding process might include:

▪ Adopt an operating principle at the Department level, that any new initiatives or programmes will be put "into register with each other" before being implemented (e.g., QOF payment policy and NICE guidelines). This would reduce the "noise" in the health delivery environment, and would be greatly appreciated by all clinicians.

▪ Adopt a new policy on the nature of public conversation when something goes wrong, as it inevitably will. (Make every effort not to "blame and shame" as a first response.)

▪ When establishing standards and guidelines, take care to specify *what* should be done rather than *how* it should be done (leave the *how* to the clinicians and managers in the local care delivery system).

▪ Adopt aims and measures of performance whose achievement requires require cooperation and collaboration, rather than competition, across professional and organisational boundaries.

Recommendation #5: Foster Stability of Relationships and Leadership. Use the Structures Already in Place.

Constant restructuring has been a feature of the NHS for a number of years, and it is easy to understand why. In an intensely political system, creating a new structure appears to demonstrate responsiveness and action. But the strongest message we heard in all of our stakeholder interviews is that the NHS should find some way to place a moratorium on restructurings, so that those in the system can build lasting relationships both within and across organisations, and begin to fully utilise the structures that are already in place. We are well aware that some changes in structure are already mid-stream and impending, such as a redesign of certain regulatory and oversight systems involving The Health Commission and others. Once those changes are in place, we strongly urge the cessation of further significant structural changes. No structure will be optimal for all problems, and we believe that the current structures are good enough to build on.

Therefore, the first step along this pathway of stabilisation is no step at all: it is simply to avoid changing the landscape of agencies and programmes, at least for the next several years. A stronger step might be for the Department of Health to send a signal that it has adopted some sort of a moratorium on restructurings of improvement agencies, oversight bodies, major programmes, and NHS tiers and organisations, although we believe that the stakeholders might believe in "action more than words" in this case.

Recommendation #6: Foster a Culture of Learning and Innovation, Balanced with Accountability.

The NHS will best achieve major long-term improvements if it can unleash the intrinsic motivation for improvement that is latent within most clinicians, staff, managers, and executives. Our interviewees told us that the NHS today stresses accountability to those above one in the hierarchy far more than accountability to patients, families, and local communities. Managers "look up, not out." How can that sense of accountability be better balanced with one that also values local learning, innovation, and a focus on listening to patients and families for signals about priorities and direction?

We do not have a "magic bullet" answer. One useful, short-term idea is to commission an intense study of the NHS's "positive deviants," so as to understand better what makes it possible to for them to balance accountability, learning, and innovation, and maybe then to translate those lessons into policies and programmes to foster similar emphases in other micro-systems and macro-systems across the NHS.

A small, but important, detail in shifting away from fear and purely "upward" accountability is a difficult task: to try to emphasise the value of learning from failures, rather than mainly criticising or punishing failure. Healthy improvement always involves failure; it is necessary for learning. We encourage NHS leaders to nurture a new and more generous attitude toward risk-taking in the search for better care systems, asking, "How can we encourage learning from failure, risk-taking, and innovation in the health service, and yet maintain accountability to the public?"

As part of this cultural shift, we would also strongly endorse the idea of devolving the setting of specific improvement aims (subject to broad-scale national guidance on whole-system aims and whole-system measurements and an agreed-upon definition of "quality" as in Recommendation #1), and deciding how to deliver improved services to the local economy and delivery system level, perhaps even more strongly than is envisioned in the new "World Class Commissioning" approach. We believe that local ownership of improvement aims and approaches would free up a great deal of intrinsic motivation.

Recommendation #7: Build Capability for Improvement, Especially in Local Care Systems.

No one is born automatically knowing how to improve as a leader or a participant in a complex system. To be mastered, methods of management and improvement must somehow be taught and learned. If that capability is being effectively used in a systematic way to achieve system-wide aims, ensuring it can be an investment with very high returns. We recommend that the NHS should systematically develop capability for improvement among clinicians and managers within each health economy. Without that, we doubt that PCTs can succeed as commissioners, planners, or integrators of care for the populations they serve. Specifically, the NHS can:

- Make learning about how to improve the system of care as important a part of clinical professional training as how to deliver care. It could even become a licensure or

certification requirement. (This effort can likely build upon the work of the Academy of Medical Royal Colleges and the NHS Institute for Innovation and Improvement, which has developed a competency framework for management leadership and improvement for clinicians.)

- Make learning about how to manage flow, improve reliability, and other technical operations knowledge as important a part of managerial professional training as how to manage finances.

- Develop a system of recognition and esteem for those who effectively use operations improvement methods, similar to more familiar forms of recognition for brilliant research, redesigns, and other "big bang" types of improvement.

- Require that managers demonstrate serious capability for improvement as one precondition for appointment to senior leadership positions in any organisations within the NHS.

Recommendation #8: Develop an Understanding of the Production of Health and Health Care as a System in the NHS.

Recommendations #1 through #7, above, trace quite directly from our research – what we heard from interviews and what we read. Recommendation #8 differs somewhat, in that it comes to a greater degree from our experience and our overarching interpretations of the current state of the NHS. No single interviewee stated the opportunity precisely as we explain it below, but we believe that progress on Recommendation #8 could be catalytic. In that sense, it may potentially be the most important of all of our recommendations.

When someone needs health care in England, that care is produced neither by the Department of Health nor by the NHS Executive, nor by a Strategic Health Authority. But neither is it produced, usually, by a single physician, nurse, or therapist. Somewhere "in the middle," between the policy-makers, funders, and overseers, on the one hand, and the individual clinician, on the other hand, almost always lies a mainstay collection of people, organisations, technologies, and other resources that all together, cooperating with common aim, meet the need. Almost all the excellence, or all defects, that the patient experiences can be traced to that collection – let's call it the "system of care," whether it is managed competently or chaotically. For the most part, the agencies and leaders of the NHS cannot help make a patient better or worse except through that route, and, for the most part, no individual clinician can begin or complete his or her work to relieve suffering except through interacting with that system of care.

As abstract as that concept may be, we feel that it is essential to exploring how the NHS can realise its full potential in improvement. We seek an answer to this question: "What is the system through which the NHS produces care for the people it serves?" "Improving the NHS" must mean "improving the system of production of care." There is no other way.

The answer is not obvious. In a romantic view, the "production of health care" perhaps once rested with the General Practitioner who, in a golden era, took care of everything and

arranged what was needed. Maybe once the GP *was* the system, but not now. Patients traverse complex journeys through a medical technocracy today, seeing many doctors, visiting many places, and hearing many voices. Moreover, if they are chronically ill, or frail, or socially disadvantaged, their health depends not just on hospitals, therapists, doctors, and medicines, but also perhaps on social service agencies, transport, public health programmes, schools, the police, and many more.

Most western nations struggle today with defining sensibly the unit of production and accountability for health care. Their financing systems, social histories, and fragmentation make it difficult to see the whole.

In principle, the NHS need not struggle. It has all the necessary assets and vision to understand health care as a system where it counts – at the level of care for defined populations. The term we most often hear in England for the conceptually proper unit of production of care is "the health economy," by which most people seem to refer to the collection of PCTs, hospitals, ambulance services, mental health services, and so on that serves a population of, say, 100,000 to 1,000,000 people who share in common geography and community. "Birmingham," more or less, is a "health economy." So, maybe, is "Cornwall," "Devon and Exeter," and "Manchester."   SHAs are larger than health economies. PCTs are smaller than health economies.

History and current structures make the nature and existence of health economies in England somewhat opaque. Therefore, neither leaders nor NHS staff tend easily to see them as proper units of production of care. In a few instances, such as Bolton and Birmingham, for example, coalitions have come to exist, usually under the leadership of a trust Chief Executive, which has broadened the vision of production of care, and, using high levels of cooperation, has sought to optimise performance at that level of production, instead of sub-optimising elements.

At the policy level, the NHS currently seems headed to trying to forge PCTs into effective actors for defining and managing the production of care as a system for health communities. Since they do not own or operate many of the components of care, PCTs can do this only through wise and effective agreements and purchasing – "World Class Commissioning," in the prevailing terms. That may be possible, but as the authors of recent explanations of "world class commissioning"[17] see, to know, the job of making sense of a system of care is much, much bigger than a restrictive definition of "commissioning."   A PCT capable of making care better and better over time will have to be very good at far more tasks than just purchasing well. It will have to be an "integrator" of care across many boundaries, and it will have to be able to measure and lead the improvement of care for its entire population as stated in the World Class Commissioning Vision Summary Document:

> *World class commissioners will have a number of important roles to play: they will be local NHS leaders, community partners, knowledge experts, strategic planners, market innovators, and process managers.*[18]

Whether improving care for defined populations is sought through capable PCTs in the more expansive world class commissioning role, or through other forms of cooperation and action at the health economy level, we regard the first and ineluctable step to be *understanding the production of health care as a system for defined populations.* In our interviews and reviews of information, we found this conceptual frame missing in the NHS. Unless someone has a "picture" of, say, "The system through which the health and health care needs of the people of Birmingham will be met," it will be difficult to organise, measure, assess, or improve the care of the people of Birmingham.

On the other hand, if the system of production is understood, then it becomes far more possible to agree upon aims, to measure progress, to propose and test improvements, and, most important, to organise (through purchase, commissioning, management, or simple agreement) the efforts of disparate actors to achieve the common aims.

We recommend that NHS and Department of Health leaders undertake to define the systems of care through which they hope and intend that the people of England, subpopulation by subpopulation, will have their needs for health and health care met. That process of definition need not be central or top-down; it would be relatively simple to imagine how to convene and support stakeholders at the level of health economies to design their own preferred answers to that question, including aims for improvement and possible even definitions of "quality" itself, subject, perhaps, to suggestions from the NHS as a whole.

It is important to define the desirable size and boundaries of the local care system, a role suitable for NHS leadership. Health economies of, say, 100,000 to 1,000,000 people seem to us a promising size to support the range of services needed while keeping control and accountability for improvement at the local level. The leaders of the system locally would have the authority and opportunity to optimise the system to meet local needs.

The NHS as a whole has several important jobs concerning improvement of quality overall. The first role is to set some general parameters for quality. Since the NHS is, after all, a *National* Health Service, when some dimensions of quality seem particularly crucial to national leaders, they should have the opportunity and the duty to insist upon them, but mindful that the hearts and minds of the local communities will always be the more reliable sources of energy and inventiveness, compared with command and control. The second major role is to secure certain support resources that are hard to secure locally, such as actuarial expertise, financial management expertise, improvement training and skills, data and information systems, the opportunity to learn from other health economies, and more. The third job is to ensure that any nationally mandated policies and procedures foster cooperation among the entities in the local system.

If the leaders of the NHS feel strongly, as they appear to, that world class commissioning by PCTs will be a strong enough mechanism to lead to proper definition of and improvement of the system of care for populations, so be it. We welcome and encourage that experiment, so long as the test of success lies in the experience of the population served. This will demand much from PCTs and will require extensive development of their skills.[19] Whatever strategies for system-level improvement they try, they should seek ways *within current*

structures to encourage cooperative planning and action for the improvement of care as a total system for defined populations.

Importantly, we believe that more deeply understanding the production of care as a system for a defined population can help to heal or overcome some of the loudest worries we heard from our many interviewees. Three complaints in particular may illustrate the potential for progress. Imagine, for example, that a coherent, shared framework existed for understanding the production of health care for the people of, say, Manchester, and that it were connected to an agreed-upon definition of "quality" of care and to associated whole-system measurements to be used locally, as well as by the NHS Executive and the Department of Health. What might be the effect on three current complaints from our interviewees?

- *"Too Many Targets":* The agreed-upon framework would include shared, whole system aims for the health services in Manchester, such as "care without patient injuries," "continual reduction in avoidable mortality," and "increasing patient satisfaction with responsiveness," for example. More specific "targets" would come and go, mostly under the choice and discretion of the local participants – PCTs, acute trusts, involved patient groups, and others in the local community. These benchmarks become "our targets," not "their targets," and their pursuit is more volitional and internalised. Accountability to the NHS Executive remains, but in the form of a few whole system measures, not micro-managed details.

- *"Too Much Restructuring":* A commitment to stabilizing structures and leadership for at least a few years would facilitate joint planning and higher degrees of cooperation, as participants became more familiar with each other and share common histories. Local structures and even financial relationships in the Manchester health economy might well change, to foster better cooperation and shared resource, but, like targets and measurements, would be local initiated, locally owned, and continually improved. Cooperation as a norm would, ideally, replace restructuring as the better route to effective processes of care.

- *"Clinicians and Managers Relate Poorly to Each Other":* We suspect that healing relationships is easier at a local level than a national level, especially as clinicians and managers become clearer and more explicit about their shared aims and intentions to improve. The locally enabled "voice of the patient" can also help, as patients and families are likely to be less tolerant of squabbling among the people upon whose mutual respect and cooperation they depend. Everybody, we assume, roots for the same football team, and that's not a bad start.

CONCLUSION

The Americans on our IHI team confess readily to envy. We wish that our nation had the commitment, coherence, and history of investment that England does in a values-driven, equitable, population-minded, and potentially integrated health care system, with deep roots in primary care, like the NHS. The potential for connection between the NHS and other health-determining forces in England is even more enviable.

In that context, we hear the frequent sounds of distress and criticism, however heartfelt, as indicators of loyalty, hopefulness, and caring every bit as much as of discomfort and unfulfilled promises. Our investigation confirms that the past ten years have seen progress in the NHS, achieved through long-term vision and strong execution. Accelerated progress is possible, but it will depend on effective changes in strategy.

The most important of these changes would place in the hands of locally organised systems of care the opportunity and encouragement to develop locally owned plans for improvement and the execution thereof. It would place more trust in intrinsic motivation and communitarian intent. From the centre can and should come resources and guidance that local health economies cannot easily arrange for themselves: information systems; a shared vision of the nature of "quality," itself, linked with large-scale system-level aims and measurement capacity; help in training and learning how to improve among managers, clinicians, and local leaders; technical assistance in financial management, actuarial prediction, and knowledge management; assistance in learning from like-minded efforts in other parts of England and the world; assistance, through measurement, in reflection about what is working and what is not; and continual awareness of the values and philosophy that should infuse the NHS at its core, even while interpreted and adapted, as they should be, in local settings.

APPENDIX A: IHI TEAM MEMBERS

Donald M. Berwick, MD, MPP, FRCP (London), KBE, President and CEO, Institute for Healthcare Improvement, is also Clinical Professor of Pediatrics and Health Care Policy at the Harvard Medical School and Professor of Health Policy and Management at the Harvard School of Public Health. Dr. Berwick was chair of the Health Services Research Review Study Section of the Agency for Health Care Policy and Research from 1995 through 1999, and Chair of that agency's National Advisory Council from 1999 to 2001. He served from 1989 through 1991 as a member of the Panel of Judges for the Malcolm Baldrige National Quality Award programme. Dr. Berwick was appointed by President Clinton to serve on the Advisory Commission on Consumer Protection and Quality in the Healthcare Industry in 1997 and 1998. In 2005, he was named Honorary Knight Commander of the Most Excellent Order of the British Empire by the Queen for his work with the National Health Service. He is an elected member of the Institute of Medicine (IOM) of the National Academy of Sciences, and served from 2001 to 2007 on the IOM Governing Council.

James L. Reinertsen, MD, President, The Reinertsen Group, is also Senior Fellow at the Institute for Healthcare Improvement (IHI), leading IHI's Executive Quality Academy, The Role of the Board in Safety and Quality, and Engaging Physicians programmes, among other projects. Dr. Reinertsen has 15 years of experience as a CEO and 20 years as a practicing physician. His leadership work has focused on quality improvement, leadership development, and innovative market design. Among other roles, he has been CEO of Park Nicollet Health Services, CEO of CareGroup, Chairman of the Institute for Clinical Systems Improvement, a member of the IOM Committees that produced *To Err Is Human* and *Crossing the Quality Chasm*, and a member of the American Board of Internal Medicine.

George F. Kerwin, FACHE, President and Chief Executive Officer at Bellin Health, has served in his present capacity since 1992. Prior to this, he served as Senior Vice President/Chief Operating Officer for six years. Mr. Kerwin is a fellow of the American College of Healthcare Executives, and a board member of the Green Bay Packers and Wisconsin Hospital Association. He has served as Chairman of the Board of Directors of the Green Bay Area Chamber of Commerce. Mr. Kerwin earned his MBA from the University of Wisconsin-Oshkosh and his Bachelor of Business Administration from the University of Notre Dame.

Sven-Olof Karlsson, CEO, Jönköping County Council, Sweden, has been with the Council since 1972, holding the posts of CFO and CEO for the last 19 years. Previously, he was Chairman for the National Investigation on Drugs and Medication Costs in Sweden, and the National Investigator and Project Director to the Swedish Government for developing the system of tax equalization. In 2000, Mr. Karlsson was appointed Chairman of Carelink, a national organisation dedicated to homogeneous and integrated IT-infrastructure in health care. In 2005 he became a member of The Swedish Council on Technology Assessment in Health Care. He has much experience at the managerial level, and is a Senior Fellow of the Institute for Healthcare Improvement.

Sheila Ryan, PhD, is Professor and the Charlotte Peck Lienemann and Distinguished Alumni Chair and Director of International Programs in nursing at the University of Nebraska Medical Center College of Nursing in Omaha. She recently completed board service for the Institute for Healthcare Improvement and the Robert Wood Johnson Institute of Medicine Health Policy Fellow Selection Committee. She is a Fellow of the Academy of Nursing and an elected member of the Institute of Medicine of the National Academies. Dr. Ryan's career includes 22 years of experience as dean of two nursing schools: the University of Rochester School of Nursing and Creighton University in Omaha, Nebraska. Dr. Ryan earned her BSN from the University of Nebraska (1969), her MSN in Psychiatric Nursing from the University of California, San Francisco (1971), and her PhD in clinical nursing research from the University of Arizona (1981). Dr. Ryan joined the American International Health Alliance (AIHA) Board of Directors in 2000 and has served as treasurer of the board and chair of the AIHA Finance and Audit Committee since 2004.

Andrea Kabcenell, RN, MPH, Vice President, Institute for Healthcare Improvement (IHI), is on the research and demonstration team and leads the initiative to improve performance in IHI programmes. Since 1995, she has directed Breakthrough Series Collaboratives and other improvement programmes, including Pursuing Perfection, a national demonstration funded by The Robert Wood Johnson Foundation designed to show that near perfect, leading-edge performance is possible in health care. Prior to joining IHI, Ms. Kabcenell was a senior research associate in Cornell University's Department of Policy, Analysis, and Management focusing on chronic illness care, quality, and diffusion of innovation. She also served for four years as Program Officer at The Robert Wood Johnson Foundation.

Anna Roth, RN, MS, is a 2007-2008 George W. Merck Family Foundation Fellow at the Institute for Healthcare Improvement (IHI) in Cambridge, Massachusetts. Ms. Roth comes to IHI from Contra Costa Regional Medical Center where she served as the Assistant Director of System Redesign. She has more than 20 years of health care experience, working in various capacities in both ambulatory and acute care settings. Ms. Roth's focus and experience are in leadership, system redesign, and large-scale change. She is a member of Sigma Theta Tau International Honor Society of Nursing, a graduate of the University of California at San Francisco, and has completed the Program in Clinical Effectiveness at the Harvard University School of Public Health.

Carol Beasley, MBA, is responsible for directing strategic projects for the Institute for Healthcare Improvement (IHI). Her projects have included health information systems in primary care, and the "Triple Aim" of improving population health and individuals' experience of health care, while stabilizing or reducing per capita cost. Previously she led the IMPACT network, IHI's membership programme. Her non-health care experience includes management and leadership consulting for industries in the financial services, telecommunications, computer, pharmaceutical, and automotive industries. She is trained in management, strategy, leadership, and organizational change and holds a Masters in Business Administration from Yale University.

APPENDIX B: METHODS

The principal methods used to complete this report were a literature scan and a series of interviews with a wide range of stakeholders within the NHS-England and other organizations related to health and health care in England.

Literature Scan

The literature scan focused on two broad areas: the structure and performance of the NHS in the last ten years, and theories and case studies of large system improvement.

The literature scan on the current state of the NHS focused on three main categories of publications: (1) government reports; (2) independent reports; and (3) scientific journal articles. The search identified major governmental bodies, located their websites, and identified recent publications, including progress reports and strategic plans for future improvement. References in these reports were further explored to locate independent assessments and the identification of independent assessment bodies led to published reports. The scan also accepted personal communications referring further literature to explore.

In order to locate scientific journal articles for both the scan of current state information as well as large-scale change, the literature scan utilised broad scan search engines such as EBSCO host, Academic Search Premier, PubMed, and OmniFile.

The following search engine keywords were used: National Health Service, NHS, large-scale change, quality improvement, large system change, organisational change, business process reengineering, Toyota, Toyota Production System, TPS, Southwest, General Electric, Six Sigma, organisational restructuring, total quality management, Veterans Health Administration, VHA, organisational improvement, theory of constraints, social change theory, process improvement, diffusion of innovation, positive deviance.

Interviews

Interviews were conducted by phone and in person. Selection of interview subjects aimed for broad representation from as many stakeholder groups as possible. The Department of Health provided substantial support in identifying interviewees and scheduling conversations. In addition, IHI drew upon other contacts in the NHS and related organizations to augment the list provided by the Department of Health. The organizations represented in the review process are listed below, followed by a list of the individuals interviewed.

Category	Organisation or Role
Department of Health	Research and Development
	Commissioning and System Management
	Independent Reconfiguration Panel
NHS	Medical Director
	NHS Institute for Innovation and Improvement
▪ Strategic Health Authorities	NHS Southwest

▪ NHS Primary Care Trusts	Birmingham East and North Primary Care Trust
	Bolton Primary Care Trust
	Hampshire Primary Care Trust
	Kingston Primary Care Trust
	Luton Primary Care Trust
	Westminster Primary Care Trust
▪ NHS Acute Trusts	Bolton Hospitals NHS Trust
	Mayday NHS Trust
	North Bristol NHS Trust
	Royal Free Hospital and Great Ormond Street Hospital Partnership
	Royal Hospital NHS Trust
▪ NHS Foundation Trusts	King's College Hospital NHS Foundation Trust
	Luton and Dunstable Hospital NHS Foundation Trust
	Heart of England NHS Foundation Trust
Regulatory and Standards Bodies	Healthcare Commission
	National Institute for Health and Clinical Excellence (NICE)
	National Patient Safety Agency
	Heart Improvement Programme
	Cancer Services Collaborative
Professional Associations	Association of Surgeons of Great Britain and Ireland
	British Medical Association
	Royal College of Physicians
	Royal College of Surgeons
Academic Institutions	Imperial College, London
Independent Consultancies	McKinsey and Company, London
Independent Quality-Related Organisations	Dr. Foster
	The Health Foundation
	Health Protection Agency
	Improvement Foundation
	King's Fund
	Medical Research Council
	Patient's Association
	Several independent quality consultants

Individuals Interviewed

Phillip Barnes, Clinical Director, King's Neurosciences Centre, King's College Hospital NHS Foundation Trust

Helen Bevan, Director of Service Transformation, NHS Institute for Innovation and Improvement

Jo Bibby, Director of Improvement Programmes, The Health Foundation

Sir Leszek Borysiewicz, Chief Executive, Medical Research Council

Mark Britnell, Director-General for Commissioning and System Management, Department of Health

Lord Nigel Crisp, Chief Executive, Retired, Department of Health and NHS

Gareth Cruddace, Chief Executive, Hampshire Primary Care Trust

Bernard Crump, Chief Executive, NHS Institute for Innovation and Improvement

Sally Davies, Director of Research and Development, Department of Health

John Dean, Medical Director, Bolton Primary Care Trust; former IHI Fellow

Niall Dickson, Chief Executive, King's Fund

Andrew Dillon, Chief Executive, National Institute for Health and Clinical Excellence (NICE)

David Fillingham, Chief Executive, Bolton Hospitals NHS Trust

Martin Fletcher, Chief Executive, National Patient Safety Agency, NHS

Danielle Freedman, Medical Director, Luton and Dunstable NHS Foundation Trust

Sir Ian Gilmore, President, Royal College of Physicians

Mark Goldman, Chief Executive, Heart of England NHS Foundation Trust

Carol Haraden, Vice President, Institute for Healthcare Improvement

Chris Howgrave-Graham, Consultant, Independent Reconfiguration Panel, Department of Health

Sir Brian Jarman, Emeritus Professor, Faculty of Medicine, Imperial College, London

Tim Kelsey, Chair of the Management Board, Dr. Foster

Sir Ian Kennedy, Chair of the Board of Commissioners, Healthcare Commission

Ruth Kennedy, Chief Executive, Improvement Foundation

Sir Bruce Keogh, Medical Director, NHS

Peter Lachman, Consultant Paediatrician and Consultant for Service Redesign and Transformation, Great Ormond Street Hospital for Children NHS Trust and Royal Free Hospital Hampstead NHS Trust

Melanie Lawless, Director of Policy, Improvement Foundation

Andrew Leather, Clinical Director, General Surgery, King's College Hospital NHS Foundation Trust

Sheila Leatherman, Research Professor, School of Public Health, University of North Carolina at Chapel Hill

Malcolm Lowe-Lauri, Chief Executive, King's College Hospital NHS Foundation Trust

David Lyon, GP and Associate Clinical Director, Improvement Foundation

Jacqueline McLeod, General Practitioner, The Vale Medical Center, Westminster Primary Care Trust; IHI Fellow

Hamish Meldrum, Chairman of Council, British Medical Association

James Mountford, McKinsey and Company, London; former IHI Fellow

John Moxham, Director of Respiratory Medicine, King's College Hospital NHS Foundation Trust

Katherine Murphy, Director of Communications, Patient's Association

Sir John Oldham, Head of Quest4Quality

Tony Pagliuca, Clinical Director, Specialist Medicine, King's College Hospital NHS Foundation Trust

Anthony Palmer, Director of Nursing and Clinical Services, Luton and Dunstable Hospital NHS Foundation Trust

Paul Plsek, Private Consultant

Maxine Power, Associate Director of Quality Improvement, Salford Royal NHS Foundation Trust

Stephen Ramsden, Chief Executive, Luton and Dunstable Hospital NHS Foundation Trust

Bernard Ribeiro, President, Royal College of Surgeons

Professor Brian Rowlands, Council President, Association of Surgeons of Great Britain and Ireland

Richard Samuel, Director of Corporate Affairs, Hampshire Primary Care Trust

Gabriel Scally, Director of Public Health, NHS South West

Gina Shakespeare, Former Chief Executive Officer, Luton Primary Care Trust

Julian Simcox, Director of Performance and Organisational Development, Birmingham East and North Primary Care Trust

Roland Sinker, Director of Strategic Development, King's College Hospital NHS Foundation Trust

David Smith, Chief Executive, Kingston Primary Care Trust

Peter Thebridge, Professional Executive Committee Chairman, Birmingham East and North Primary Care Trust

Stephen Thornton, Chief Executive, The Health Foundation

Charlie Tomson, Consultant Nephrologist, Southmead Hospital, North Bristol NHS Trust; former IHI Fellow

Pat Troop, Chief Executive, Health Protection Agency

Hellen Walley, Chief Executive, Mayday Healthcare NHS Trust

Yvonne Weldon, Sister, Ward 17 (Stroke Care), Luton and Dunstable Hospital NHS Foundation Trust

Julie Wells, Director of Service Development, Luton and Dunstable Hospital NHS Foundation Trust

Susan Went, Director, Joint Modernisation Programme, Kingston Primary Care Trust; IHI Fellow

Janet Williamson, National Director, Heart Improvement Programme, and National Director Cancer Services Collaborative "Improvement Partnership," NHS

Group Meeting

In addition to individual and small group interviews, we convened a group of approximately 40 NHS participants and others involved in health care quality in England during IHI's National Forum in December 2007. This group provided input and advice for improving the NHS improvement system. This was not a random sample, but rather a convenience sample which we would expect to be biased toward individuals with a strong interest in quality improvement. For this reason we felt they would be a good source of innovative recommendations for improvement. A profile of the members of this group is provided below. It is important to note that some of the group meeting participants were interviewed individually as well.

Participant Information:

Organization or Type of Organization	Number of participants
Foundation Trusts	11
NHS Institute for Innovation and Improvement	7
Improvement Foundation	5
NHS Heart Improvement Program	3
Department of Health	2
Association of Chartered Certified Accountants	2
Modernisation Initiative, London	2
Hospital Trusts	2
Primary Care Trusts	2
Strategic Health Authorities	1
Cancer Services Collaborative	1
Independent Consultancy	1
Independent Training Company	1

Role	Number of Participants
Program Leader	14
Senior Executive	8
Quality Improvement Leader	5
Clinical Leader	4
Clinician	3
Administrative leader	2
Advisor	2
Mid-level Manager	1
Fellow	1

Development of Interview Findings

In most cases two or three members of the IHI team participated in the interviews. Many, though not all, were tape-recorded. After the interview, one of the participants summarised the main findings of the review, and this account was reviewed and augmented by the other interviewers. Through a series of conversations the IHI team identified recurrent themes and these were then shaped into our findings and recommendations.

APPENDIX C: IMPROVEMENT OF LARGE SYSTEMS

What Is Known about Improvement of Large Systems?

Moving quality of care in the NHS to the next level will require the type of planning and execution that is well-informed by the experiences of others. Although there are no other systems exactly like the NHS, we can learn from the experience of other large systems which have made substantial improvements and other countries which have enhanced their health services.

Therefore, we examined studies and stories from organisations that have achieved successful transformational change on a scale approaching that of the NHS, including examples from health care, industry, and social change movements. We began by seeking an international evidence base for improvement strategies and then broadened our view to include examples from geographical regions, large health systems, and other non-health care organisations. This inquiry included reviews of the literature and examination of reports, press coverage, and other materials on large system improvements.

What Did We Learn?

Several patterns emerge from our review. We have highlighted the main ideas with illustrations from multiple sources.

1. Leadership plays a pivotal role in setting aims and will-building.

- In each country and in each organisation, we found a dedicated department or departments responsible for quality and safety. Each of these departments takes responsibility for setting aims with respect to improvement, and the leaders publicly support the improvement efforts.

- In our observations of large systems that have made substantial improvements, the tenure of the chief executive is often greater than ten years.

- The leaders in the VHA[20,21,22,23] and Toyota[24,25] made the quality system's performance the central measure of success. At meetings, in communication, and in practice, they filled their days attending to and supporting efforts to improve quality.

- Leaders in large systems and local systems (Bellin Health, a health care system in Green Bay, Wisconsin, and Jönköping County, an integrated, county level health care system in Sweden) use quality improvement methods in their daily work. Here too, reviewing quality improvement initiatives is part of the daily agenda.[26]

- The leadership activities, including setting aims and will-building, that occur at the top of the organisation or at the ministry level have corresponding leadership units at the local level in departments, regions, states, and communities. The counties in Denmark and the provinces in Canada are typical examples.[27,28] These local leaders are charged

with translating and, more importantly, customizing the aims and the incentives for improvement to the local setting.

- Across Vietnam, change agents helped to amplify efforts of local leaders who were engaged in positive deviance.[29]

2. Clear aims and measurement are pillars of improvement on a large scale.

Successful transformation entails development and articulation of a broad vision for the desired outcome — aims for improvement. Specific targets generally were not emphasised at the top of the organisation, but rather approximations of the overall aim were sought using a variety of locally developed or locally "owned" measures.

- Australia has clearly stated aims of equity, efficiency and quality, tying quality directly to the overall strategy of the health service.[30]

- At the local level, leaders in Jönköping County, Sweden, described their overall, system-level aims in simple terms and have articulated goals related to access, safety, effectiveness, low costs, and a systematic approach to operations. These goals were transmitted throughout the county.[31]

- In the case of the US Veterans Health Administration (VHA), the overall aim was to ensure predictable and high-quality care everywhere in the system and to optimise the value of care. In one regional centre at the VHA, positive deviance techniques were utilised to reduce MRSA rates. No specific approach was prescribed, but instead the initiative allowed for the specific aims and measurements to be developed locally.[32]

- In France, monitoring is accomplished by a national data collection, processing and feedback unit, with capacity built into each provider unit to share data and participate in reviewing the information.[33,34,35]

- In Denmark, the Board of Health and the Association of County Counsellors together sponsor national measurement strategies, building on shared information.[36,37]

3. Once the aim is articulated, improvement efforts are carefully focused.

Successful transformation is associated with a finite set of strategies that are executed by the local units, customised to local circumstances.

- Australia has identified equity as central target for improvement, and structures exist to measure equity across all dimensions of care (for example, safety, access, and effectiveness).[38]

- Denmark has systems to share resources in the form of guidelines and improvement tools. This is a voluntary, county level programme, with the central government offering resources and expecting uptake in the local area. The counties are the units that move to action.[39]

- In the case of the VHA, the focus initially was on expanding access and managing performance. The work was carried out by the 22 regionally based Veterans Integrated Service Networks (VISNs).[40]

- For Toyota, every manager and every worker in every part of the production process participates actively and continually in the improvement of their own work processes.[41,42]

- At a local level, Bellin Health uses a leadership process to identify the strategic priorities for the entire system (hospital, primary and secondary care, health plan, and community health). They also manage all components of the system to these priorities each year.[43]

4. *Providing time and space to create, innovate, and build capability appears as a persistent theme.*

This is described by some as "slack;" that is, resources — especially time — that can be allocated to the processes of innovation and learning. The time and space are provided over and above the time and resources need to operate on a day-to-day basis. Creating space or slack involves not only empowering the front line to test changes, but also providing the time to do so. In the literature, we found very little emphasis on setting a brisk pace. Instead, we found a focus on assuring local adaptation.

- In Canada, numerous hospitals, health care centres, and collaborations of health care providers have engaged their staffs by forming quality improvement teams. The combination of a team approach, leaders who can provide guidance, and the engagement of front-line staff creates a space for improvement to emerge.[44,45]

- In Australia, the national initiatives have supported collaborative improvement and "challenge" programmes on specific topics such as medication safety.[46]

- Some countries have not-for-profit organisations such as Canada's Quality Health Network, which is using a campaign-like collaborative initiative to model after the IHI 100,000 Lives Campaign. The Network provides resources and tools, and then relies on the local provider units to set up the improvement structures and space to use them.[47,48]

- The VHA in the US leverages their links to professional training and research institutions as a way to add resources to local and national improvement efforts.[49]

- Many successful large-scale improvement programmes, including those in the United Kingdom, seek out, learn from, and spread methods gleaned from the "positive deviants."[50]

- Some large-scale improvement programmes utilise insights from other industries or academic disciplines to solve health system challenges, such as the implementation of "advanced access" approaches in the VHA.[51]

- Across Vietnam "living universities" were formed to help pass on local learning to neighbouring communities.[52]

5. Constancy of purpose is intentionally maintained.

Large-scale transformation appears to require multiple years of steady attention under the guidance of a fairly stable leadership team. In each case, some initial success was seen in a year or two; however, many of the deeper cultural changes took root over several years, in some cases a decade or more, as in the development of Toyota's "Toyota Production System."

- The VHA's initial effort to raise the system to higher performance levels in access, safety, and effectiveness required five years of steady work under one senior leader and led to significant improvement in care and reduction of costs. Even with such positive results, after five years system leaders stated publicly that there was still much to do to attain full transformation.[53]

- A project to reduce childhood malnutrition in Vietnam took more than eight years of intervention and evaluation.[54]

- Some of the most successful users of systematic quality approaches (for example, Toyota and Honda) have devoted decades to the continual pursuit of improvement, rather than the two years more common among Western organisations.[55] Notable exceptions in our experience include Bellin Health and Jönköping County, which have employed the same focused approach for more than eight years.

6. Skilled execution of key changes is apparent.

Successful large-scale change efforts have used a range of approaches to execution. In most cases, improvement occurs when execution of the strategy is well planned and not left to chance.

- At the VHA, execution of key changes throughout the system is very carefully planned and executed. In addition, the success relies on encouraging competition, professionalism, and passion in pursuing results at the local level.[56]

- Toyota develops deep expertise about work processes within the workforce and among leaders. They use structured improvement methods to execute strategy and to continuously improve.[57]

- Clinical guidelines and frameworks are common tools for standardising care and translating medical and scientific knowledge into practice. Each country we examined, the VHA, and industries outside of health care all use standard approaches to production to improve performance. One thing that distinguishes the organisations that improved more quickly is the mechanism established in the local units to assure that guidelines are adapted and used. In the VHA, guidelines were built into their computerised patient order entry system.[58] At Toyota, the TPS has execution strategies built into the system.[59]

- Canada's use of a campaign approach is a means for executing on their plan to spread safer practices throughout the country.[60,61]

- At a local level, Bellin Health establishes a small set of high priority items each year. The leaders use 120-day cycles for improvement and review to keep a brisk pace for improvement.[62]

7. Success relies on a deep understanding of the way desired results can be achieved (the system of production).

- Most of the improvement efforts focus on acute care in each of the countries. However, in Canada and Denmark[63,64] there are very visible improvement programmes which cut across organisational boundaries and include ambulatory care and various social care sectors. This reflects an understanding that better health and health care will more likely be achieved by addressing all the inputs to care.

- At Toyota, most improvement occurs at the front line, the location where workers have an intimate understanding of the production system.[65]

A final note on what we did not see in this scan. We believe that even at the scale of countries and large systems, hearing the voice of the customer — the patients and families — will greatly enhance improvement efforts. Although our scan was brief, that perspective was not highly visible in the health care settings. Australia and Denmark had aims directly related to engaging patients and the community, but the actual roles patients and their families play was not clear during this review. Further inquiry would likely reveal deeper patient engagement at local levels.

Literature Scan: Large-System Change

Author/Title	Purpose/Design	Key Findings	Summary
Armstrong B. Reinventing Veterans' Health Administration: Focus on primary care. *J Healthc Manag.* 2005;50(6):399-408.	<u>Purpose:</u> To investigate whether the introduction of advanced access care can reduce care delay in large organisations while simultaneously maintaining and/or improving the quality of care. <u>Design:</u> Qualitative review.	▪ Introduced advanced access, open access, or same-day scheduling to reduce care delays using collaborative model. ▪ Set performance measure targets and tracked them over time. ▪ System redesign accomplished without significant increase in resources. ▪ Introduction of performance measures led to improvements in primary care access. ▪ Clear objectives were linked to quantifiable measures, which led to significant improvement.	By using the advanced clinical access collaborative model, the VHA drastically improved access to primary care.
Australian Commission on Safety and Quality in Health Care. Available at: http://www.safetyandquality.org/. Accessed January 29, 2008.			Website source: This website provides information about the Australian Commission on Safety and Quality in Health Care and its activities.
Australian Institute of Health and Welfare. Available at: http://www.aihw.gov.au/index.cfm. Accessed January 29, 2008.			Website source: The Australian Institute of Health and Welfare is Australia's government-run agency for health and welfare statistics and information.
Bate P, Robert G, Bevan H. The next phase of healthcare improvement: What can we learn from social movements? *Qual Saf Health Care.* 2004;13:62-66.	<u>Purpose:</u> To describe how themes in social change movements can be applied to health care improvement. <u>Design:</u> Discussion of social change theory.	▪ Strong similarities between mechanisms for social and organisational change. ▪ Organisational and social change are not mutually exclusive. Social change can confer added transformative value.	Organisational change has been heavily reliant upon top-down programme implementation. However, social networking strategies that rely on bottom-up, grassroots mobilisation may create a new, internal driver for organisational change.

Author/Title	Purpose/Design	Key Findings	Summary
Brynjolfsson E, Hitt L. Beyond computation: Information technology, organizational transformation and business performance. *J Econ Perspect*. 2000;4:23-48.	Purpose: To review how investments in IT affect productivity and organisational transformation. Design: Case study and empirical analysis.	▪ Economic contributions of computers are larger than can be captured in data because of organisational complements. ▪ Computers allow organisations to increase output quality.	Benefits of computers include intangible assets like "new products, new services, quality, variety, timeliness, and convenience" that can't be captured in experimental data.
Canadian Patient Safety Institute. *Safer Healthcare Now! Program Review*. 2007.	Purpose: To provide an update on the status of the campaign after phase 1 of implementation. Design: Qualitative program review.	▪ Support provided between campaign participants and nodes. ▪ Ability to sustain involvement in campaign is achieved by re-allocating funds within organisations. ▪ Campaign participants view the initiative as successful, increasing knowledge transfer about patient safety, capacity for change.	The programme report describes the programme structure, the key interventions, methodology, evaluation, and conclusions to inform phase 2 of the campaign.
Australian Council for Safety and Quality in Health Care. *Charting the Safety and Quality of Health Care in Australia.* Commonwealth of Australia; 2004.	Purpose: To assess the current status of the safety and quality of health care in Australia. Design: Synthesis of sources from published studies, government reports, or reports of other organisations. Some analyses of the National Hospital Morbidity Data Collection were undertaken by the Australian Institute of Health and Welfare.	▪ Shows improvement in several areas. ▪ Reveal disparities with process and outcomes across domains. ▪ Provides recommendations for the future, including building capacity.	This framework assesses health system performance across nine domains: *Effective, Appropriate, Safe, Responsive, Accessible, Continuous, Capable, Efficient and Sustainable*. Each domain begins with a section about significance, and equity is measured across all domains as a central focus.
Christensen C, Craig T, Hart S. The great disruption.	Purpose: To investigate the relationship between	▪ Every market tracks a performance trajectory and the pace of technological innovation.	Every market encompasses two performance trajectories: one which

Author/Title	Purpose/Design	Key Findings	Summary
Foreign Affairs. 2001;80(2):80-95.	disruptive technologies and economic development. <u>Design</u>: Theory.	▪ Disruptive technologies can lead to new innovation. ▪ Disruptive capitalism could fuel economic growth in developing countries.	sustains innovations, and the other which introduces innovations that cater to the low end of the market. Economic growth is tied to these disruptive technologies.
Green D, Irvine B. *Health Care in France and Germany: Lessons for the UK*. London: Civitas, Institute for the Study of Civil Society; 2001.	<u>Purpose</u>: To explore health care in France and Germany from the perspective of the individual consumer, focusing on elements from which the NHS might learn. <u>Design</u>: Descriptive report based on interviews and literature scan.	Lessons Learned from France and Germany ▪ Government shouldn't be the single payer, and there shouldn't be a single provider ▪ Utilise collective purchasing of insurance by groups ▪ Ensure that the poor, working, and middle class receive the same standard of care. ▪ NHS has weak connection between flow of funds and individual expectations.	This report describes the French and German health care systems and from these, extracts the components that it believes should be applied to the NHS to improve the UK's health care system.
Danish Ministry of Health and Prevention. Available at: http://www.sst.dk/default.aspx?lang=en. Accessed January 29, 2008.			Website source: The Danish National Board of Health offering information about health services, education, statistical information, and health prevention.
Daucourt V, Michel P. Results of the first 100 accreditation procedures in France. *International Journal for Quality in Health Care.* 2003;15:463-471.	<u>Purpose</u>: To identify areas of needed improvement as discovered by the French Accreditation College (FAC). <u>Design</u>: Analysis of the first 100 accreditation report summaries available from the Agence Nationale d'Accreditation et d'Evaluation en Sante	▪ Larger hospitals received more numerous and serious decisions from the French Accreditation College. ▪ Easy access to patient information and signing for prescriptions were top priority for FAC.	This study identifies common quality defects present in French hospitals by analysing summary reports by the Agence Nationale d'Accreditation et d'Evaluation en Sante (ANAES).

Author/Title	Purpose/Design	Key Findings	Summary
	(ANAES).		
Budget 1999: Strengthening Health Care for Canadians. Department of Finance Canada; 1999.	<u>Purpose</u>: To describe how an increase in budget will be allocated. <u>Design</u>: Annual budget report.	▪ Government will invest additional $11.5 billion to health care reform over the next five years (1999-2004). ▪ Money will be transferred through Canada Health and Social Transfer (CHST). ▪ Invest in health information systems. ▪ Promote health research. ▪ Improve preventative initiatives.	The 1999 budget describes how an increase of $11.5 billion in funds will be allocated to different initiatives over a five-year period of time.

Edes T, Shreve S, Casarett D. Increasing access and quality in Department of Veterans Affairs care at the end of life: A lesson in change. *J Am Geriatric Soc.* 2007;55:1646-1649.	<u>Purpose</u>: To explore how the VA rapidly transformed its palliative care services as a model for other health care systems.
	<u>Design</u>: Qualitative review.
		▪ The VA transformed using five methods: "policy, clinical program and staff development, community collaboration, quality measurement, and proving value to the organization."
		▪ Established palliative care teams.
		▪ Built partnerships with community organizations.
		▪ Quality performance measures.
		▪ Strategic alignment within organization.
			▪ The review presents challenges, actions, outcomes, and lessons in creating change at all levels of a complex health care organisation.
			▪ In less than three years, the VA tripled the number of veterans provided with home hospice care, enhanced access to inpatient palliative care.
			▪ Key success factors:
			  – Participation of all levels of the organization, from top leadership to front-line staff
			  – A national or hierarchical office and position with responsibility and accountability
			  – Identification of major barriers to access and quality; a comprehensive,

Author/Title	Purpose/Design	Key Findings	Summary
			- multifaceted, and synchronous approach to resolving these barriers - Division of tasks, each charged with making recommendations for organisational change
Edmondson A, Golden B, Young G. *Turnaround at the Veterans Health Administration*. HBS Case No. 608-061. Boston, MA: Harvard Business School; 2007.	<u>Purpose</u>: To describe the process behind radical transformation in the VHA. <u>Design</u>: Qualitative review.	Change was established through: ▪ New leadership. ▪ Clear statement of vision and aims. ▪ Several lines of communication to deliver message to employees. ▪ Accountability in directors. ▪ Improved IT system. ▪ Room for managers to make innovative and entrepreneurial decisions – exposed flaws in the system. ▪ Lower level managers developed "pulse points" or "vital signs" that worked as data sets for managing performance.	This case study presents an overall history of the VHA starting with its formation. It then describes the process by which a need for change was identified and how the VHA went about enacting that change. The overall emphasis within the organisation shifted from inputs to outputs, collecting performance results and fulfilling the spirit of transformation.

Ferlie E, Aggarwal K, McGivern G. *Assessing the Impact of Large-Scale Quality-Led Change Programmes.* Report for the Department of Health Strategy Unit. London: The Centre for Public Services Organisations, Imperial College Management School; 2002.	<u>Purpose</u>: To identify large-scale improvement programmes and assess methodologies used to measure impact of the programmes.
	<u>Design</u>: Literature review and case studies.
		▪ Five change strategies:
		  – Total Quality Management (TQM)
		  – Business Process Re-engineering (BPR)
		  – Six Sigma
		  – Balanced Scorecard
		  – Theory of Constraints
		▪ Different approaches to quality-shared focus on quality are important as opposed to cost focus.
		▪ Consistent themes:
		  – Historical development of quality approaches.
		  – Customer focus, outcome and process measures.
			Case studies that utilise the different approaches:
			▪ GE – Six Sigma
			▪ Motorola – Six Sigma and Balanced Scorecard
			▪ Honda – TQM
			▪ British Petroleum – not a change programme but a programme of change
			▪ Lloyds Trustees Savings Bank (TSB), EFQM, TQM, excellence model/Six Sigma/process

Author/Title	Purpose/Design	Key Findings	Summary
		– Culture of learning and change, no blame, trust and leadership. ▪ In all five examples quality programmes are accepted as central to long-term organisational survival.	excellence
Giraud A. Accreditation and the quality movement in France. *Qual Health Care.* 2001;10(2):111-116.	<u>Purpose</u>: To describe the history of accreditation in France and how it ties into the quality movement. <u>Design</u>: Qualitative review.	▪ Instruments of accreditation: agency, manual, surveyors. ▪ Agency: Agence Nationale pour l'Accreditation et l'Evaluation en Sante (ANAES). ▪ Accreditation College examines survey reports, assigns accreditation, makes improvement recommendations, publishes annual report. ▪ Accreditation is now compulsory for public and private hospitals.	This article describes the process for accreditation in France, how it came to be, and the role it plays in the quality movement.
Greenhalgh T, Robert G, Macfarlane F, Bate P, Kyriankidou, O. Diffusion of innovations in service organization: systematic review and recommendations. *Milbank Q.* 2004;82(4):581-629.	<u>Purpose</u>: To develop a unified model for the diffusion of innovation in health care organisations. <u>Design</u>: Literature review.	▪ Organisations are more apt to innovate if they are large, specialised by department, have slack resources and de-centralised decision making. ▪ Social networks are the prominent mechanism for diffusion. ▪ Adoption of innovation is an active process and dependent on other decisions. ▪ Innovations that confer a relative advantage, perceived as simple, compatible with existing norms, able to be refined, trial-able, and are clearly visible are more readily adopted.	The review proposes an evidence-based model for diffusion of innovations in health service organisations, identifies where further research is needed, and outlines methodology for a systematic review of research.
Harrigan M. *Quest for Quality in Canadian Health Care: Continuous Quality Improvement.* Her Majesty the Queen in Right of Canada, represented by the Minister of Public Works and Government Services Canada; 2000.	<u>Purpose</u>: To serve as a guide for implementing continuous quality improvement initiatives and provide examples. <u>Design</u>: Qualitative review with focused examples.	Continuous Quality Improvement (CQI).	This document provides a description of continuous quality improvement methods and best practice examples of Canadian innovations and initiatives that have achieved successful results.

Author/Title	Purpose/Design	Key Findings	Summary
Health Canada. Available at: http://www.hc-sc.gc.ca. Accessed January 29, 2008.			Website source: Information about Health Canada for patients.

Healy J, Sharman E, Lokuge B. Australia: Health system review. *Health Systems in Transition*. Copenhagen: World Health Organization, on behalf of the European Observatory on Health Systems and Policies. 2006;8(5):1-158.	Purpose: To provide information for policy makers and analysts in order to develop health systems in Europe. Design: Country-based profiles.	▪ Australia's health care system
		  – Tax-funded health care system
		  – Public and private funders and providers
		▪ Main changes in the last decade
		  – Public support for private insurance
		  – Rise in Medicare schedule fee for GPs
		  – Efforts to form national policies
		  – Increased funding for coordinated care
		  – Greater attention to quality and safety of care
		▪ Three main goals
		  – Equity
		  – Efficiency
		  – Quality
			This report provides country profiles that describe health care policy and initiatives, financing, delivery, institutional framework, process, and possible challenges.

Hodgetts RA. Conversation with Steve Kerr. *Organ Dyn.* 1996;68-79.	Purpose: To investigate the managerial processes to streamline activity, improve operational processes. Design: Interview.	▪ There are barriers to information flow both top-down and bottom-up. ▪ There are also global barriers but not global-domestic activities. ▪ General Electric (GE) uses "workout" strategy to reduce unnecessary work and streamline activity. ▪ Emphasis on shared services.	Interview about General Electric COO Steve Kerr's book that describes GE's "boundaryless" ideal and how they aim to improve their business.
Immelt J. Growth as a process. *Harv Bus Rev.* 2006;(6):60-70.	Purpose: To present GE's strategies on focused growth. Design: Interview.	▪ Leadership set goal of 8% growth rate. ▪ Support and increase R&D. ▪ Important to "wallow" in process – process took two years of trial. ▪ Organisations will tolerate iterating but they will not tolerate "*permanent*" iterating.	▪ Interview of Jeff Immelt, CEO of General Electric (GE). ▪ Presentation of six-part process for growth as well as toolkits for productivity and growth. ▪ Issues and challenges moving into

Author/Title	Purpose/Design	Key Findings	Summary
		▪ Imagination breakthroughs are a protected class of ideas.	organic growth (green/clean). ▪ Identifies traits for growth leaders – clear thinking, decisive, inclusive, deep domain expertise. ▪ Importance of stable leadership to develop deep domain expertise.
Ionescu C. France's president faces backlash over health-care reforms. *Lancet*. 2007;370:209-210.	Purpose: To report on the public response to the tax reform proposed by Nicholas Sarkozy. Design: Commentary.	▪ Sarkozy vowed to reform hospitals and rethink social insurance budget. ▪ Sarkozy proposed non-reimbursable charges for those seeking medical care to counteract large deficit. ▪ Average French person would pay 40 additional Euros per year. ▪ 40,000 have petitioned the new tax.	This article reports on the response by the public and health care professionals to Sarkozy's proposed tax reform. These tariffs would make the cost of public and private hospitals comparable by 2012.
Kizer KW, Demakis JG, Feussner JR. Reinventing VA health care: Systematizing quality improvement and quality innovation. *Med Care*. 2000;38(6 Suppl 1):I7-16. VA QUERI Supplement: VA's Quality Enhancement Research Initiative.	Purpose: To provide an overview of the VHA as well as an understanding of the system's reorganisation and steps to improve quality performance within the organisation. Design: Supplemental review.	▪ In 1995, the Veterans Integrated Service Network (VISN) became the unit of care. ▪ Universal primary care implemented. ▪ Entire patient became eligible for service, not just service-related disability. ▪ New system for allocating Congressional funds. ▪ Shift to ambulatory care. ▪ Close monitoring of performance. ▪ Utilization of QUERI to link scientific evidence to performance-based outcomes.	This article outlines the steps taken by the VHA to support their radical transformation from 1995 to 1999. It identifies measures taken to monitor quality improvement as a reflection of performance indicators.

Author/Title	Purpose/Design	Key Findings	Summary
Laszlo G. Southwest Airlines: Living total quality in a service organization. *Managing Service Quality*. 1999;9:90-94.	Purpose: To illustrate how a major customer service organisation was built. Design: Case study.	▪ Southwest Airlines is built on the principles of customer service and staff satisfaction. ▪ Bases its service on a quality management philosophy. ▪ Plans "what if…?" scenarios for strategic planning, annual business plans, and QI plans. ▪ Improvement plans are based on past problems. ▪ Focuses on process optimisation and the balance between techniques and people. ▪ Hires people that fit the Southwest attitude, but may not necessarily have the skills ▪ Solid financial viability.	This case study uses the framework of the Canada Awards for Excellence (leadership, planning, processes, people, customers, suppliers, and results) in order to analyse the operational and administrative success of Southwest Airlines.
LeBrassuer R, Whissell R, Ojha A. Organisational learning, transformational leadership and implementation of continuous quality improvement in Canadian hospitals. *Australian Journal of Management*. 2002;27(2):141-162.	Purpose: To study the paradigm shift and organisational learning involved with continuous quality improvement (CQI) via acute care general hospitals. Design: Two contextual case studies and a survey of hospitals.	▪ Proactive leadership led to more successful implementation of CQI. ▪ Attainment of complete paradigm shift within organisation is a long process. ▪ Internal context has more bearing on CQI success than external pressures.	This study utilises two hospitals to compare and contrast under what circumstances CQI can be most successful.

Mainz J, Krog BR, Bjørnshave B, Bartels P. Nationwide continuous quality improvement using clinical indicators: The Danish National Indicator Project. *Int J Qual Health Care*. 2004 Apr;16(Suppl 1):i45-50.	Purpose: To describe a project that aims to document and improve the quality of care nationwide, and how it is possible to organise nationwide monitoring using clinical indicators.
	 Design: Qualitative review.
		▪ The surveillance of health care quality is greatly aided by the use of relevant quantitative indicators.
		 ▪ Criteria for success:
		   – Providers participating in the health care system must take responsibility for development of the project and accept its implementation.
		   – Countries must be active in the project regarding the financial framework, prioritizing, and practical back-up when the project is implemented locally.
			The experiences of the Danish National Indicator Project have demonstrated that it is possible to implement continuous quality improvement nationwide using clinical indicators.

Author/Title	Purpose/Design	Key Findings	Summary
Marsh DR, Schroeder DG, Dearden KA, Sternin J, Sternin M. The power of positive deviance. *BMJ*. 2004;329:1177-1179.	Purpose: To describe how positive deviance works through description and examples from the field. Design: Commentary.	- Positive deviance approach requires three main processes: - Social mobilisation - Information gathering - Behaviour change - Approach has been used mainly to improve child health. - Success relies on role models to promote it. - Benefits: - Serves equity - Generic approach to problem solving - Enhances local research capacity - Disadvantages: - Rare examples are difficult and costly to identify - Approach may not be relevant in situations with limited capacity and resources	This article describes the model of positive deviance, describes the relative advantages and disadvantages, and describes evidence of positive deviance from the field.
McCannon CJ, Berwick DM, Massoud MR. The science of large-scale change in global health. *JAMA*. 2007;298:1937-1939.	Purpose: To discuss what is known and what is not known about dissemination and spread at a large scale. Design: Commentary.	- Leaders should consider context when developing spread methods and remove barriers not use as supports for inaction (execution). - Will-Ideas-Execution. - Draws on Deming: clear, quantifiable, and ambitious aims; consistent attention to aims; celebration of success; and expressions of confidence in the creative potential and good will of the workforce; space (slack) to innovate.	This commentary provides background on spread and large-scale change. It identifies and presents examples of common barriers and strategies to overcome them by a mixed presentation of science/theory and specific examples.
National Council on Quality Improvement in Health Care, Denmark. *National Strategy on Quality Improvement in Health Care.* National Board of Health; 2002.	Purpose: To describe Denmark's newest national strategy in combining quality and continuity of care. Design: Report.	- Overall goal directed by: - High degree of professional excellence - Efficiency - Minimal risk - Patient satisfaction - Overall health - Strategies will focus on: - Patient influence	This national report describes a strategy for improving quality and continuity of care, outlining themes to advance the clinical pathway and activities with which to advance them.

Author/Title	Purpose/Design	Key Findings	Summary
		– Patient safety – Communication of knowledge and system transparency – Competence development	
National Steering Committee on Patient Safety. *Building a Safer System: A National Integrated Strategy for Improving Patient Safety in Canadian Health Care.* 2002.	Purpose: To provide recommendations to improve patient safety in Canada. Design: Descriptive report outlining future improvements.	▪ Nineteen recommendations based on the following: – Establishment of a Canadian Patient Safety Institute – Improve legal and regulatory processes – Improve measurement and evaluation – Establish educational and professional development programs – Improve information and communication processes – There's a lack of definitive information about adverse events in patient health care	This publication reports on the findings of a national collaborative programme to identify actions that will help prevent adverse events. It also proposes a strategy for highlighting patient safety as a national priority as outlined in 19 recommendations.
NHS Institute for Innovation and Improvement. *Thinking differently: Mission impossible? Or just another mountain to climb! Learning from Luton and Dunstable.* Available at http://www.institute.nhs.uk/images//documents/BuildingCapability/NewModels/ThinkingDifferently/sample%20chapters/TD_CS_LUTON.pdf Accessed January 10, 2008.	Purpose: To describe the national pilot program run in 2003 to test creative thinking tools in health care settings. Design: Case study.	▪ Used creative brainstorming techniques. ▪ Used a "funneling" technique to filter innovation techniques. ▪ Problem solving is not a linear process.	This case study of the Luton and Dunstable NHS Trust describes the process by which they used creative, outside-the-box thinking to devise new strategies for delivering better care and continuous improvement.
Nutbeam D. Achieving population health goals: Perspectives on measurement and implementation from	Purpose: To describe Australia's experience in using health targets and how it may be applicable to Canada. Design: Commentary.	▪ Medicare Agreement between Commonwealth Government and States and Territories tied release of funds to articulated targets and goals. ▪ *Better Health Outcomes for Australians,* which outlined targets, failed to account for social and environmental	This article describes the push to develop national health goals and targets. It also describes barriers to change and how these lessons learned can be applied to Canada.

Author/Title	Purpose/Design	Key Findings	Summary
Australia. *Canadian Journal of Public Health.* 1999; 90 Suppl 1:S43-46.		determinants. ▪ Poor collaboration between government sectors acted as a barrier. ▪ There should be a balance between ensuring technical measurement and ensuring that action moves forward.	
Office of Human Resources and Administration. *Department of Veterans Affairs: 2007 Organizational Briefing Book.* May 2007.	Purpose: To report on the yearly activity of the Veterans Administration's staff and line organisations. Design: Annual report.	▪ VHA made a shift in management philosophy over the past seven years, replacing a top-down strategy with decentralised decision making. ▪ Implementation of Veterans Integrated Service Networks. ▪ Redesigned systems for resources, information management, and strategic planning. ▪ New strategic goals.	This annual briefing describes the Veterans Administration's line and staff organisations and identifies activities and responsibilities.
O'Hare D, McElroy L. Collaboration model leads to improved patient: How a large health care system used a collaborative model to share knowledge and spread information. *Patient Safety and Quality Healthcare.* 2007;47-54.	Purpose: To investigate the relative success of an internal collaborative model as measured by improvement indicators. Design: Qualitative review and case study.	▪ Developed a internal collaborative to promote system-wide improvements in access and "flow." ▪ Large system: 11 hospitals and 42 clinics. ▪ Allina Health Care systems: – Adjusted bed turns from 103.66 to 108.22 – Direct admission diversions – ED diversions 10.3 to 8.92 – Left without being seen (LWBS) rates from 2.33% to 2.17%	▪ The review discusses the importance of allowing time to reach agreements when involving multiple stakeholders and large multi-location organisations. ▪ There was agreement on global measures but allowed for local measures as well. ▪ Freedom to choose strategies empowered teams to PDSA. ▪ Progress visuals are important as well as dedicated time.

Author/Title	Purpose/Design	Key Findings	Summary

Oliver A. The Veterans Health Administration: An American success story? *Milbank Q.* 2007;85:5-35.	Purpose: To analyse how the VHA transformed its health care system.
	 Design: Qualitative research.
		▪ The VHA, who was previously trailing the US health care system significantly in process quality measures, is now outperforming it.
		 ▪ Improvements were based on the following:
		   – Leadership
		   – Transformation from hospital-based to broad health system
		   – Performance management
		   – Electronic health record
		   – Health service research
			This article provides a historical snapshot of the VHA, its major performance improvements, and the change agent that sparked this improvement.

Pascale R, Sternin J. Your company's secret change agents. *Harv Bus Rev.* 2005;83(5):72-81.	Purpose: To advocate for a new change approach based on positive deviance.
	 Design: Change theory.
		▪ Change is enacted bottom-up.
		 ▪ Six-step positive deviance model:
		   – Group is the unit of change
		   – Reframe the problem in new terms
		   – Encourage new learning
		   – Identify the problem clearly
		   – Leverage social proof
		   – Introduce change internally
			This model of change based on positive deviance requires leaders to assume a new role as followers, accepting new change. The positive deviance approach should not be used in every setting.

Plsek P. Redesigning health care with insights from the science of complex adaptive systems. In: *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: Institute of Medicine, National Academies Press. 2001;309-322.	Purpose: To offer a theoretical framework for system design. Design: Qualitative research and theory.	▪ Simple rules allow for wide boundaries in self-organisation. ▪ Complex system design does not need to be complex.	▪ System design can be guided by complexity science. ▪ The report discusses Complex Adaptive Systems and strategies to influence and manage change.

Author/Title	Purpose/Design	Key Findings	Summary
Pomey M-P, Francois P, Contandriopoulos A-P, Tosh A, Bertrand D. Paradoxes of French accreditation. *Qual. Saf Health Care.* 2005;14:51-55.	Purpose: To describe the accreditation process in France, the paradoxes it potentially presents, and how it differs from other countries. Design: Commentary.	▪ Accreditation process in France more closely resembles an inspection. ▪ Increases engagement of professionals to develop social capital and increase sense of belonging. ▪ Making accreditation mandatory makes it less effective in improving quality. ▪ All stakeholder levels should be involved in accreditation. ▪ Final use of report results should be clearly outlined.	This article describes the accreditation process in France, comments on the effectiveness of the mandatory accreditation, and presents lessons learned from this style of accreditation implementation.
Pronovost P, Needham D, Berenholtz S, Sinopoli D, et al. An intervention to decrease catheter-related bloodstream infections in the ICU. *N Engl J Med.* 2006;355(26):2725-2732.	Purpose: To examine the effects of a patient safety intervention on catheter-related bloodstream infections over an 18-month period in ICUs. Design: Empirical study including: 103 ICUs in Michigan, Five hospitals out-of-state with corporate headquarters in Michigan Five evidence-based procedures Rate of catheter-related bloodstream infection	▪ Large-scale project like this *can be executed.* ▪ M&E of patient safety interventions is difficult, but existing infrastructure makes it more doable. ▪ Causal connection between DV and IV cannot be made, but strong association can be inferred.	The Keystone project demonstrates how a large-scale patient safety intervention can be implemented and sustained over a long period of time.
Rogers E. *Diffusion of Innovations*, 4th edition. New York: The Free Press; 1995.	Purpose: To examine what factors influence change, from the buy-in of like-minded individuals to technological advances like the Internet that facilitate innovation diffusion. Design: Change theory.	▪ Innovations must demonstrate observable local value. ▪ Individuals adopt innovation at different rates: innovator, early adopters, early majority, late majority and laggards ("never adopters"). ▪ Culture plays a large role.	This text discusses elements of diffusion, history, change agents, and consequences of innovations. It also examines the social, technological, and political influences on the diffusion of innovations.

Author/Title	Purpose/Design	Key Findings	Summary
Safer Healthcare Now! Available at: www.saferhealthcarenow.ca/ Accessed January 29, 2008.			Website source: Describes the Safer Healthcare Now! Campaign, providing descriptive information as well as tools and other reports.
Spear S. Fixing health care from the inside, today. *Harv Bus Rev.* 2005;78-91.	Purpose: To describe how the process of learning while you work can contribute to quality improvement in health care. Design: Commentary.	▪ Coupling the process of doing work with learning to improve the process at the same time greatly improves operations. ▪ Small process improvements can lead to large change. ▪ Simulation experimentation can provide answers to process flaws. ▪ Applying the Toyota Production System (TPS) to health care requires leaders to embrace the approach.	This article identifies process difficulties in health care organizations and describes how the TPS model of processing can be applied to the health care setting.
Spear S. Learning to lead at Toyota. *Harv Bus Rev.* 2004;78-86.	Purpose: To investigate the Toyota Production System (TPS). Design: Commentary.	▪ Toyota's work is an ongoing series of experiments: *work is tested as it is done*. ▪ TPS relies on the application of principles, not tools.	TPS functions on four main premises: improvement comes from direct observation, experimental changes, frequent experimentation, and leadership that enables innovation and experimentation.
Wagar T, Rondeau K. Total quality commitment and performance in Canadian health care organisations. *Leadership in Health Services.* 1998;11(4):1-5.	Purpose: To investigate why Total Quality Management (TQM) has floundered in many Canadian health care organisations. Design: Questionnaire sent to company executives regarding TQI activities.	▪ Survey results indicated that 73.2% of respondents had instituted a formal TQ initiative. However, 37.3% of respondents were in the TQ program/lower quality commitment category, and 35.9 % were in the TQ program/higher quality commitment group. ▪ Results also showed that 26.8% of respondents were in the no TQ program/lower quality commitment group.	Initial findings seem to suggest that most health care organizations will be unlikely to achieve significant performance enhancements with its formal expression unless its leadership is also fully committed to both quality, quality improvement, and to fostering an appropriate and supportive organisational culture that will allow TQ to become firmly established and grow.

Author/Title	Purpose/Design	Key Findings	Summary
Young G, Charns M, Barbour G. Quality improvement in the US Veterans Health Administration. *Int J Qual Health Care*. 1997:9(3):185-188.	Purpose: To provide an overview of three quality improvement initiatives in the VHA. Design: Qualitative review.	▪ QI initiatives are not restricted to the private sector. ▪ VHA wanted to empower quality initiatives at the system and facility level.	The majority of the VHA's quality improvement initiatives are focused on tertiary care. The question moving forward is whether or not the VHA can apply what it has learned to quality improvement in primary care settings.

Literature Scan: Current State of the NHS

Author/Title	Purpose/Design	Key Findings	Summary
Bibby J, Bate P, Robert G, Bevan H. *The Power of One the Power of Many: Bringing Social Movements Thinking to Health Care Improvement.* [Working Draft]. NHS Institute for Innovation and Improvement; 2007.	Purpose: To share new approaches of thinking about and implementing change. Design: Description and examples of change enacted through social movement.	New approaches involve: ▪ Individual courage ▪ Driving change ▪ Unleashing energy and mobilising people ▪ Translation of energy into purposeful action ▪ Deep sense of community and shared commitment	This report seeks to describe new strategies for implementing change. It does so through real-life case studies and draws on these themes ("commitment, passion, energy, mass, and forward momentum") in thinking about how they can be applied to the NHS.
Blendon RJ. Confronting competing demands to improve quality: A five-country hospital survey. *Health Aff (Millwood).* 2004;23(3):119-135.	Purpose: To compare views on quality, resources, and waiting times. Design: Comparative survey of hospital executives in Australia, Canada, New Zealand, the UK, and the US based on Commonwealth Fund International Health Policy Survey.	▪ Strong concern over financial stability and staffing shortages across the board. ▪ Enthusiasm and support of EMR. ▪ US, Australia opposed public disclosure of error (high malpractice). ▪ Top priority for QI were IT (EMR) and EDs.	National policy efforts are needed to overcome QI issues. Most executives feel the burden of financial problems and staffing shortages and look to the creation of standards, the implementation of better IT, and most supported public disclosure of quality information.
British Medical Association. *A rational way forward for the NHS in England.* London: British Medical Association; 2007.	Purpose: To provide a roadmap for the future of the NHS. Design: Descriptive nine-month review.	▪ Supports an integrated system funded by taxes. ▪ There is a need to create a constitution for the NHS. ▪ NHS should be free from everyday politics. ▪ Independent board of governors should be established.	This report provides an outline of the BMA's vision for health service reform in England. It identifies where and why the system is going wrong and provides recommendations for success.

Author/Title	Purpose/Design	Key Findings	Summary
Cylus J, Anderson GF. *Multinational Comparisons of Health Systems Data 2006.* New York: The Commonwealth Fund; 2007.			Slide source.
Darzi A. *A Framework for Action.* London: Department of Health; 2007.	Purpose: To make recommendations for improvement in London health care. Design: Report based on phone survey of 7,000 Londoners, the findings of clinical working groups, 70 written consultation submissions, literature searches, and modelling techniques.	Darzi's framework found five themes for change: (1) service based on individual need, (2) localise and centralise care where necessary, (3) integrated care, (4) engage local authorities in prevention, and (5) equitable care.	This document is an extensive presentation of performance issues and community needs utilising case study examples and a multidimensional framework.
Darzi A. *Our NHS Our Future: NHS Next Stage Review Interim Report*. London: Department of Health Publications; 2007.	Purpose: To set out a ten-year vision for the NHS. Design: Mixed method review consisting of available evidence from both internal and external reports and interviews.	- Vision for NHS: fair, personalised, effective, safe. - NHS is two-thirds of the way through improvement process outlined in 2000/2002. - Vision can be achieved by: - Renewing focus on quality of patient care - Responding to expectation with a more personalised service - Leading with the patient in mind - Supporting local change from the center - Maximising resources - Reduction in mortality in cancer and cardiovascular disease saved between 50,000 and 150,000 lives through prevention, early detection, and better treatment.	This document presents an overview of the current state and current concerns of the NHS. It articulates a framework for the future of the NHS operations, advocating for transparency, collaboration, and empowerment of front-line staff. It also calls for the creation of an NHS constitution.

Author/Title	Purpose/Design	Key Findings	Summary
Davis K, Schoen C, Schoenbaum S, et al. *Mirror, Mirror on the Wall: An International Update on the Comparative Performance of American Healthcare*. New York: The Commonwealth Fund; 2006.	Purpose: To rank countries in terms of patients' reports on care experiences and ratings on various dimensions of care. Design: Review of two cross-national telephone surveys. Countries: Australia, Canada, New Zealand, United Kingdom, United States (plus Germany in survey 2).	• UK ranked first in safety and equity which considered several factors such as medication errors and delays in abnormal laboratory results. Equity focused on effect of income on the ability to access care. • UK ranked second to last in effectiveness and timeliness. • Indicators of effectiveness: prevention-chronic care-primary care-hospital care and coordination. • Indicators of timeliness: wait times to see a specialist, wait times to have elective or non-emergency surgery. • None of the five countries were consistently best or worst in the measures of clinical effectiveness.	The survey is focused on a limited slice of the health care quality, but nonetheless offers valuable insights into cross-national trends.
Department of Health. *Creating a Patient Led NHS: Delivering the NHS Improvement Plan.* London: Department of Health Publications; 2005.	Purpose: To describe major changes underway since *The NHS Improvement Plan* and how changes will be carried forth. Design: Descriptive report detailing progress to date and next steps.	• NHS will build new services and procedures to give patients more control and choice. • NHS will offer integrated networks. • PCTs will offer more provider choice. • NHS needs a change of culture. • There is a need for development of foundation trusts and PCTs.	Aimed for NHS leaders, this report describes the improvements that the NHS has made since *The NHS Improvement Plan* and outlines steps for implementing larger change in the future.
Department of Health. *Delivering the HR in the NHS Plan 2003*. London: Department of Health Publications; 2003.	Purpose: To explore current workforce status, restate key priorities, and make recommendations for improvement. Design: Descriptive report detailing progress to date and next steps.	• Targets for staff increases are on track for medical personnel. • Important to continue to recruit more staff. • Work around the needs of the patient, in line with the Modernisation Agency's guidelines (more team-based approach). • Work towards improving the working life of its staff. • Staff must have access to childcare. • Focus on personal and professional development.	This report examines workforce predictions, results of recruitment strategies and future recruitment, and addresses the vitality and professional development of the current and future workforce.

Author/Title	Purpose/Design	Key Findings	Summary
Department of Health. *Departmental Report 2007*. London: The Stationery Office; 2007.	Purpose: To report to Parliament on the Department of Health's management and expenditure of funds for health and social care, system reforms accompanying investment programs, and plans for future years. Design: Department updates on system, reforms, improvements, and financials.	▪ Lists key improvements (faster access to services, greater patient choice, more staff). ▪ Identifies plans for the future. ▪ Single budget should be created to fund research and development work. ▪ NHS aims to improve capacity of the system, deliver quality care for patients, lead improvements in public health, improve overall workforce health, deliver cost-effective value in health care, and provide quality social care for adults. ▪ Outlines priorities within investments.	This report outlines policies and programmes to deliver improved care and system reform, measures towards improvement, research, and the breakdown of spending within programmes to deliver health care.
Department of Health. *NHS Plan*. London: Department of Health Publications; 2000.	Purpose: To set out a framework for modernising and reforming the NHS around the needs of the patient. Design: Analysis by the Modernisation Action Teams and consultations with front-line staff, patients, public and other representative groups.	▪ Commitment to set national standards around: – Universal, comprehensive care – A patient and family focus – Reduction in inequalities – Quality improvement – Support for staff – Direction of public funds solely to NHS patients – Preventative health – Patient confidentiality	The NHS plan describes how increases in funding will improve "partnership; performance; professions and the wider NHS workforce; patient care; and prevention." It announces the commitment to establish a Patient Advice and Liaison Service (PALS) in every trust by April 2002 in an effort to achieve substantial improvement in line with the Modernisation Agency's framework.
Department of Health. *The NHS Improvement Plan: Putting People at the Heart of Public Services*. London: Crown Publications; 2004.	Purpose: To outline the major priorities in the NHS between 2004 and 2008 building on the consistent reform first mapped out in *The NHS Plan* (2000). Design: Descriptive report detailing progress to date and next steps.	▪ Average spending per person has almost doubled over the past seven years. ▪ Patients will have a wider choice of services including involvement by private sector practices. ▪ PCTs can commission a wider range of providers. ▪ An electronic booking service will be installed by 2005.	This document outlines the progress made since the enactment of *The NHS Plan* and identifies commitments to better the patient experience in the NHS.

Author/Title	Purpose/Design	Key Findings	Summary
		▪ Payment by results.	
Department of Health. *The Operating Framework for the NHS England 2008/2009*. London: Department of Health Publications; 2007.	Purpose: To outline priorities for the year, including local stretch targets alongside national priorities-payment policies and world class commissioning and plan to assess NHS performance. Design: Operational plan.	▪ PCTs can set their own ambitions that are chosen from a published set of "vital signs." ▪ Performance will be published annually as measured by these vital signs. ▪ Clinicians and managers should be given more freedom and choice in their decision making. ▪ Care should be personalised. ▪ National goals will be set for PCTs.	This document describes the health and service priorities for the year ahead, including freeing up the front line, moving towards local stretch targets, and focusing on improving services. There is a focus on a world class commissioning as the key agent for change on behalf of patients and the public, support for transformational incentives in services, ensuring a business-like and transparent approach to planning, and an emphasis on partnership working at a local level.
Dixon J, Chantler C, Billings J. Competition on outcomes and physician leadership are not enough to reform health care. *JAMA*. 2007;298:1445-1447.	Purpose: To discuss why the "false solutions" identified by Porter and Teisberg are necessary reforms for the NHS. Design: Descriptive commentary via secondary review.	▪ NHS system incentives must be redesigned to emphasise delivery system integration. ▪ PCTs should be given more purchasing power.	NHS should be redesigned around the Porter and Teisberg "false solutions." It is already a single-payer system, but should test an integrated payer-provider system and continue with consumer-driven health care and pay-for-performance.

Author/Title	Purpose/Design	Key Findings	Summary
Dr. Foster Intelligence. Intelligent commissioning: The free thinkers leading the information revolution in the NHS. *Intelligence.* 2007;2:1-26.	Purpose: To demonstrate the need to provide intelligence – data and analysis – to commissioners to help inform their planning process. Design: Informational report.	▪ Data should be made readily available to commissioners to help inform their design and monitoring of processes. ▪ Important first step is to identify potential efficiencies. ▪ Shift care closer to home. ▪ Availability of data at the patient level enables actual understanding of the trends. ▪ PCTs should reconcile activity with spending. ▪ PCTs and practices need to collaborate and share data.	This article outlines the necessary tools for a "world class commissioner." It describes how commissioner should rely on data and analyses to inform the planning process and encourages the use of The Dr. Foster Tool that allows PCTs, GPs, and hospitals to drill down this data.
Enthoven A. In pursuit of an improving National Health Service. *Health Aff (Millwood).* 2000;29(4):102-119.	Purpose: To assess the NHS's most recent attempt at reform in 2000. Design: Descriptive study focusing on secondary research through literature review and analyses.	▪ Health care systems should find a balance between introducing market incentives while also correcting for market failures. ▪ Internal market led to accountability for quality. ▪ Correct and form a consumer-driven market.	This study analyses the criteria necessary for market improvement. Attempts to correct market inefficiencies should not come from the top down, but should instead come from the bottom up and should be market-driven by consumer choice.
Flory D. *The Quarter.* London: Department of Health; 2007/2008.	Purpose: To report on progress made on the priorities established in the *Operating Framework* (Dec 2007) as well performance in other areas. Design: An analysis of progress made towards each of the targets laid out in the Operating Framework.	▪ Wait times for diagnostic tests have fallen consistently since January 2007. ▪ Rates of MRSA infection have decreased steadily, but *C. Difficile* is not yet under control. ▪ An almost 60% increase in number of NHS organisations forecasting a surplus compared to 2006.	Reports on the progress made towards the targets made in the Operating Framework in the first quarter of 2007/2008.
Hart J. *The Political Economy of Health Care: A Clinical Perspective.* Bristol: The Policy	Purpose: To provide a broad view of how the NHS functions. Design: An economic analysis of the	▪ There was a historical shift from public service to an industrial model. ▪ Argues that the NHS should not be based on	Hart provides a political and economic analysis of the NHS by reviewing its history, current state,

Author/Title	Purpose/Design	Key Findings	Summary
Press; 2006.	history, design, and state of the NHS.	private profit, but should be based on health gain. ▪ Presentation of "economies" of care.	and vision for the future.

Healthcare Commission. *The Annual Health Check 2006/2007: A National Overview of the Performance of the NHS Trusts in England*. Healthcare Commission; 2007.	Purpose: To analyze performance against existing standards and national targets.
	Design: Analysis of 394 trusts based on the 4-point Likert scale (excellent, good, fair, weak).
		▪ Foundation trusts have performed better than non-foundation trusts.
		▪ Even though there is overall improvement, some weak trusts have stayed weak, and must be focused on to improve in the coming year.
		▪ Areas to study:
		  – Overall use of resource
		  – Overall quality of services
			Improvement seen in trusts as a whole compared to last year, but uniform improvement will be stressed in the coming year. Challenge for next year is for the majority of trusts to fall in the "good" category by following new national targets and maintaining performance to existing ones.

Klein R. Britain's National Health Service revisited. *New Engl J Med.* 2004;350(9):937-942.	Purpose: To investigate why increased spending has not resulted in increased satisfaction. Design: Secondary research through literature review and analyses.	▪ Spending does not correlate with level of satisfaction. ▪ Improvements are not always visible. ▪ Health system is overloaded with change. ▪ If funding is increased, not only must capacity be expanded, but the dynamics of the system must be changed.	This review analyses the NHS system in the past and identifies structural changes from internal markets and competition to cooperation.
Klein R. The troubled transformation of Britain's National Health Service. *N Engl J Med.* 2006;355(4):409-415.	Purpose: To analyse whether the fiscal "crisis" associated with early NHS transformation signified a transitional "blip" or inherent weaknesses in government policies. Design: Analysis of programme and pace of NHS England transformation.	▪ In the past NHS has let trusts in deficit borrow from trusts in surplus. This must stop for the new model of the NHS to work (capacity increase, power to PCTs, national standards, patient choice, and payment by results). ▪ Rate of improvement is not consistent with rate of increase in funds (money goes towards increase in NHS costs). ▪ If GPs given fund holding, PCTs can't manage demand. ▪ Government didn't anticipate difficulties with	The British government introduced a new model – competition, patients' choice, and payment by results – that co-exists with command and control structures with implications of having to modify the plan to fit existing structures. Initial backlash should be balanced with efficiency improvements and should happen by 2007 in order to decrease spending.

Author/Title	Purpose/Design	Key Findings	Summary
		payment by results.	
Lister J. *The Darzi Report: The Critical Gaps*. London Health Emergency; 2007.	Purpose: To identify gaps in the London Darzi report and provide ideas for system improvements. Design: Analysis of Lord Darzi's London report, *A Framework for Action*.	▪ There is no mention of transport as an issue to be addressed. ▪ Organisational partners of the NHS are left out. ▪ Estimated costs of staff to support polyclinics are too low.	This response to Lord Darzi's recent London report views the report as a mask for NHS managers to implement cutbacks in services. The major proposal set forth is for a pilot test of a polyclinic as Darzi moves along in his nationwide proposals.
Martin S, Smith P, Leatherman S. *Value for Money in the English NHS*. London: The Health Foundation; 2006.	Purpose: To analyse where money has been allocated within the NHS and what improvements have been made. Design: Descriptive study based on extensive review of financial data.	▪ There has been considerable growth in volume and productivity of the NHS. ▪ NHS has had lower spending on health care relative to other European countries.	The report outlines trends in NHS spending. Under-investment in years past must be counteracted by large increases in expenditure that must also account for additional cost pressures from NICE.
McGlynn E. The quality of health care delivered to adults in the United States. *N Engl J Med.* 2004;348(26):2635-2645.	Purpose: To determine which standard processes of care are delivered in the US by evaluating 439 indicators of quality of care for 30 acute and chronic conditions and chronic care. Design: Telephone survey of selected health care experiences and data drawn from a two-year period of medical records of 6,712 adults in 12 metropolitan areas in the US.	▪ Components that would be key in transformation and evaluation of quality improvement. ▪ National baseline for performance. ▪ Ability to track and understand performance at multiple levels: local, national, microsystem.	Information must be readily available about performance and there must be a baseline since failing to follow performance guidelines results in lack of appropriate care.

Author/Title	Purpose/Design	Key Findings	Summary
NHS Confederation. *The Bureaucratic Burden in the NHS*. London: NHS Confederation Publications; 2007	Purpose: To better understand the nature and participants' perception of production of large amounts of information for reporting purposes. Design: Interview format to obtain qualitative information about participants' perception of regulatory bodies and process.	There is a large number of regulatory and inspection bodies which have been set up (56 according to a recent review).	Requirements to meet a large number of inspections and standards make it difficult to extract value. Information sharing among regulatory bodies could reduce duplication.
NHS Modernisation Agency. *10 High Impact Changes for Service Improvement and Delivery*. Department of Health Publications; 2004.	Purpose: To outline procedural changes that health care and social organisations can make to improve their care. Design: Descriptive report detailing progress to date and next steps.	Ten changes: 1. Treat day surgery. 2. Improve flow by improving access to diagnostic tests. 3. Reduce length of stay by varying patient discharge. 4. Manage variation in the admission process. 5. Avoid unnecessary follow-ups for patients. 6. Use a care bundle approach. 7. Use a systematic approach for patients with chronic conditions. 8. Reduce the number of queues. 9. Use process templates to optimise flow. 10. Redesign roles to extend staff lifetime.	This tool, provided by the Modernisation Agency, outlines ten major changes that health and social organizations can make to improve their care. These changes underlie new ways of thinking about performance improvement.
Organization for Economic Cooperation and Development (OECD). OECD Data; 2006.			Slide source.

Author/Title	Purpose/Design	Key Findings	Summary
Pearson SD, Rawlins MD. Quality, innovation, and value for money: NICE and the British National Health Service. *JAMA*. 2005;294:2618-2622.	Purpose: To describe how the National Institute for Health and Clinical Excellence (NICE) has balanced health care innovations in quality with associated costs. Design: Literature review of government reports and secondary analyses.	▪ NICE's key measure is the additional cost per quality-adjusted life-year (QALY) gained. ▪ NICE use of cost-effectiveness as its prime indicator has resulted in rapid market entry for health care innovations (too relaxed). ▪ NICE recommendations are often not put into place.	US health care could model a system after NICE by charging an independent body (NIH) with creating a NICE-like organization or increasing independence and scope of the Medicare Coverage Advisory Committee within the Center for Medicare and Medicaid Services.
Stevens S. Reform strategies for the English NHS. *Health Aff (Millwood)*. 2004;23:37-44.	Purpose: To analyse the NHS's reform strategies and the assumptions underlying them. Design: Review of NHS supply-side reforms based on NHS Plan (2000).	▪ To generate health care improvement, NHS has had to develop policy to overcome sector inertia (must generate tensions). ▪ Strategies from each dimension have been running in parallel. ▪ There must be professional accountability not just regulations.	12 Strategies from NHS Plan: (A) One-dimensional: Provider Support 1. Increasing supply of doctors 2. Modernise infrastructure 3. Supported learning and improvement (B) Two-dimensional: Hierarchical Challenge 4. Set national standards and targets 5. Inspection and regulation 6. Published performance info 7. Direct intervention (C) Three-dimensional: Localist Challenge 8. Active purchasing 9. Patient choice 10. Aligned provider incentives 11. New entrants and plural supply 12. Local democratic accountability

Author/Title	Purpose/Design	Key Findings	Summary
The Joint Medical Consultative Report. NHS Confederation. *A Clinical Vision of a Reformed NHS*. London: NHS Confederation; 2007.	Purpose: To articulate a positive vision for a reformed NHS based on qualitative data obtained from doctors and Picker data from patients. Design: Qualitative design with use of interviews and Picker report.	▪ Doctors want to work in teams, to network, measures with meaning and clinical importance. ▪ Doctors want integrated systems where the culture of care is as important as clinical care.	This report proposes a set of design rules or "simple rules" and asks for room to innovate. In addition, it calls for local improvers to follow the lead of other best practice programme leaders and to not rely on the NHS to provide all solutions.
Tooke J. *Aspiring to Excellence: Final Report of the Independent Inquiry into Modernizing Medical Careers*. MMC Inquiry. London: Aldridge Press; 2008.	Purpose: To reflect on the feedback of the interim report and present the panel's final recommendations. Design: Official inquiry.	A six-week consultation period elicited 39,850 email responses, of which 87% agreed or strongly agreed with the interim report's recommendations.	The report recommended that the General Medical Council take over the work of the Postgraduate Medical Education Training Board and called for better definition of the roles of doctors at different stages of their careers, both of which are retained in the final report.
Wanless D. *Securing Good Health for the Whole Population: Final Report*. London: Her Majesty's Treasury; 2004.	Purpose: To provide recommendations for cost-effective means for improving population health and to gain support from other government agencies. Design: Consultation report.	▪ The government must increase spending dramatically. ▪ Evidence must be gathered for the cost-effectiveness of certain public health interventions. ▪ Productivity should be assessed by health outcome as well as patient experience.	The report follows up the previous report, "Securing Our Future Health." It provides an analysis of how to achieve the "fully engaged" scenario.
Wanless D. *Securing Our Future Health: Taking the Long Term View: Final Report*. London: Public Inquiry Unit, Her Majesty's Treasury; 2002.	Purpose: To contribute to the transparency of costs in the NHS as well as provide a recommendation for an effective use of resources. Design: Systematic review utilising academic research, interview and analysis of other countries.	▪ Shifting social norms is a legitimate activity for the government where it has set national objectives for behaviour change. ▪ NHS must devote a large amount of resources to improving the health system and use the resources wisely so that it's an efficient use.	This review provides an independent assessment of the future resource requirements of the NHS. It sets forth the scenario in five-year blocks describing solid progress, slow uptake, and a fully engaged scenario with spending forecasts.

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