Improving NHS efficiency

Can everyone match best performance?
Life expectancy is rising
Healthcare is biggest factor

NHS output is vast but could be bigger

Derived / from: ‘Health care systems, efficiency & policy settings’ OECD, 2010
High-level policy context

2008: ‘High Quality Care for All’
   (Lord Ara Darzi, June 2008)

2009: ‘QIPP’
   (Quality, Innovation, Productivity & Prevention)

2010: ‘Equity & Excellence’

...Cutting bureaucracy and improving efficiency

7. The NHS will need to achieve unprecedented efficiency gains, with savings reinvested in front-line services, to meet the current financial challenge and the future costs of demographic and technological change:

   v. The NHS will release up to £20 billion of efficiency savings by 2014, which will be reinvested to support improvements in quality and outcomes.

   [= 17.5% of NHS expenditure  ~ 3.25% year-on-year]
NHS financial context trend (need) v. fiscal reality

UK public expenditure on health 1988-2015
at constant 2010-11 prices

Source: http://www.hm-treasury.gov.uk/pespub_pesa11.htm
### Policies when money is tight

**A. Macro policies aimed at expenditure restraint**

<table>
<thead>
<tr>
<th></th>
<th>Policy Description</th>
<th>实施说明</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Wage controls</td>
<td>Freeze</td>
</tr>
<tr>
<td>A2</td>
<td>Price controls</td>
<td>Tariff, PPRS</td>
</tr>
<tr>
<td>A3</td>
<td>Input volume controls: labour &amp; capital</td>
<td>X</td>
</tr>
<tr>
<td>A4</td>
<td>Input volume controls: high tech &amp; drugs</td>
<td>X</td>
</tr>
<tr>
<td>A5</td>
<td>Budget caps (sector &amp; global)</td>
<td>0.1% real growth</td>
</tr>
<tr>
<td>A6</td>
<td>Shifting costs to private sector &amp; users</td>
<td>X</td>
</tr>
</tbody>
</table>

**B. Micro policies aimed at increasing efficiency**

#### Demand side

<table>
<thead>
<tr>
<th></th>
<th>Policy Description</th>
<th>Implementor</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Disease prevention and health promotion</td>
<td>QIPP</td>
</tr>
<tr>
<td>B2</td>
<td>Gate-keeping/triaging</td>
<td>CCGs</td>
</tr>
<tr>
<td>B3</td>
<td>Care co-ordination, integrated care/self-care</td>
<td>QIPP</td>
</tr>
<tr>
<td>B4</td>
<td>Better patient/doctor contact</td>
<td>QIPP</td>
</tr>
<tr>
<td>B5</td>
<td>Access to a PC doctor out-of-office hours</td>
<td>yes</td>
</tr>
</tbody>
</table>

#### Supply side

<table>
<thead>
<tr>
<th></th>
<th>Policy Description</th>
<th>Implementor</th>
</tr>
</thead>
<tbody>
<tr>
<td>B6</td>
<td>Further shift from hospital to ambulatory care</td>
<td>CCGs</td>
</tr>
<tr>
<td>B7</td>
<td>Enhancing the role of health-care purchasers</td>
<td>CCGs</td>
</tr>
<tr>
<td>B8</td>
<td>Improving hospital contracting/purchasing/payment systems</td>
<td>yes</td>
</tr>
<tr>
<td>B9</td>
<td>Increasing managerial independence</td>
<td>FTs</td>
</tr>
<tr>
<td>B10</td>
<td>Improving payment methods/incentives for hospitals</td>
<td>HRGs, QOF</td>
</tr>
<tr>
<td>B11</td>
<td>Overseeing technological change</td>
<td>NICE, QIPP</td>
</tr>
<tr>
<td>B12</td>
<td>Increased use of ICT for information transmission</td>
<td>NPfIT, QIPP</td>
</tr>
</tbody>
</table>
NHS reforms

A system focused on improving outcomes

Robust economic regulation and quality inspection

Enhanced local voice

Clinically-led commissioning & payment for results

Empowered professionals working in autonomous providers

Informed patients exercising choice
QIPP programme supports the NHS to meet future challenges

Areas covered by Quality, Innovation, Productivity & Prevention programme

**Supporting commissioners to commission for quality and efficiency** – improved clinical pathways, decommissioning poor value care

**Provider efficiency** – supporting providers to respond to the commissioning changes and efficiency pressures by transforming their businesses

**Shaping national policy and using system levers** to support and drive change e.g. primary care contracting & commissioning

Characteristics of a sustainable system:

- Care closer to home
- Earlier intervention
- Fewer acute beds
- More standardisation
- Empowered patients
- Reduced unit costs
National QIPP workstreams

Commissioning and pathways
- Right Care (consistent, best value, shared decisions)
- Long Term Conditions (better outcomes & experiences)
- Urgent Care (right care at right place)
- End of Life Care (best setting; dignity, respect)

Provider efficiency
- Back Office Efficiency and Optimal Management
- Procurement
- Clinical Support Rationalisation (Pathology)
- Productive Care (reduce variation; efficient processes; maximum quality)
- Medicines Use and Procurement (safer; less waste; maximum benefit)
- Safe Care (reduce harm and associated expenditure)

System enablers
- Primary Care Contracting and Commissioning (less variation)
- Workforce (flexible & skilled for future needs)
QIPP products

online resources

Antibiotic stewardship

Southampton University Hospitals NHS Trust
At Southampton University Hospitals NHS Trust, pharmacists and medical microbiologists work together to support clinical teams’ treatment decisions. Consultant pharmacists for antibiotic prescribing help to reduce the rates of C. difficile infection, support effective and safer patient care and save money for the trust.

We created a pocket-sized version of the guidelines with information on the key treatment issues: salvage treatments for patients with life-threatening infection; which antibiotics to avoid so as not to predispose patients to C. difficile and MRSA, clear dosing instructions to avoid complications, such as kidney damage, and a clear guide to avoid allergic penicillin reactions – with penicillin-related antibiotics coded red.

We have used the pharmacy computer system to collate data on antibiotic use in the hospital and feed this back to doctors. When we started, the ratio of use of high-risk to low-risk antibiotics was approximately 50:50 – but over two and a half years, this has gone to something like 60% low risk and 35% high risk, thanks to clinician engagement and a change in prescribing behaviour.

Quality & Productivity Benefits
By helping antibiotic prescribing practice across the hospital, over time we have begun to reap the benefits. Over the last two and half years, the rate of C. difficile infection has gone from 60 to 10 cases a month. This has been the result of a multidisciplinary effort on infection control, but with antibiotic stewardship playing an important part. Each case of C. difficile prevented saves more than £4,000. And we have seen no adverse effects on either mortality rates or length of stay.

So the bottom line is, by pharmacists, medical microbiologists and clinicians working together, we have seen a safe and effective change in practice that reduces infections, lowers costs for the trust and benefits patients.

Prevention

Enhanced recovery programme
Yeovil District Hospital NHS Foundation Trust
The enhanced recovery programme in elective surgery is reducing patients’ return to normal from weeks to just days, and, if adopted nationally, has the potential to spare 200,000 bed days per year. Mr Nader Francis, consultant colorectal surgeon at Yeovil District Hospital, says it has transformed the way patients recover from major operations. The Yeovil team have experience of nearly three thousand cases for elective bowel surgery through this programme. The first day after major bowel surgery, you see most patients in excellent shape back on the ward, eating and drinking normally, mobilising and living pain free. That is the revolution of enhanced recovery.

“the programme works by involving the entire clinical team – from doctors and surgeons to anaesthetists and ward staff – to get the patient in the best possible condition, optimise their nutrition and minimise the stress of surgery, promoting faster healing and recovery.

Quality & Productivity Benefits
“At Yeovil, the average length of stay is now just five days, with only 5% readmission rates. The quality and speed of patients’ recovery is much better and that is our primary motivation, but it has also produced productivity improvements.

We do more surgery; we don’t have empty beds. In the three years from 2004, our cancer referral operations have increased, so we could not have done that without enhanced recovery.”

Innovation

Engineering simpler, safer and more efficient blood transfusion systems
Oxford Radcliffe Hospitals
Mike Murphy is Professor of Blood Transfusion Medicine at Oxford University and consultant haematologist. NHS Blood and Transplant at Oxford Radcliffe Hospitals. He pioneered the ‘re-engineering’ of hospital blood transfusion using an electronic system. It has made transfusion at the Oxford Radcliffe Hospitals safer for patients, simpler for staff and is reducing costs for the trust.

“Blood transfusion is a complex and time-consuming process involving numerous steps that culminate in a series of bedside checks. Thankfully, errors resulting in the wrong blood being transfused are rare but, when they do occur, most are due to patient misidentification and they can be fatal.

The pre-transfusion safety checks have become so complex that they may be self-defeating. It has been observed in some clinical settings that only 30% of pre-transfusion bedside checks are carried out correctly. We needed to do something to make the process simpler and safer.

Quality & Productivity Benefits
“We have found many proven benefits to the system, including better use of blood, less wastage, a simpler process for staff and much-reduced staff time. The new system saved the trust £340,000 in 2000.

We have developed a national specification for an electronic transfusion management system so that others can benefit from our experience in Oxford.”

Proctority

Alcohol Care Teams:

to reduce acute hospital admissions and improve quality of care
Presented by: The British Society of Gastroenterology and the Royal Bolton Hospital NHS Foundation Trust
Publications figure: Example of GMP evidence

GMP evidence provides users with practical case studies that address the quality and productivity challenges in health and social care. As an example of the data evaluated by NICE, this evaluation is based on the argument above the medical meets the GMP standards of safety, quality, evidence and implementability, critical, given is a score, which is then combined to give an overall score. The overall score is used to identify the best examples, which will then score on NHS excellence awards in terms of quality of care.

Our assessment of the degree to which this particular case study meets the criteria to be included in the evidence summary group.

Figure 1: Impact of Nurse-led Alcohol Care Team compared with ‘conventional’ care on (a) self-reported alcohol intake and (b) the liver enzyme gamma GT, showing halving of alcohol intake and liver damage. Ryder et al, 2010

Figure 2: Impact of Nurse-led Alcohol Care Team on admissions to hospital for alcohol withdrawal. The service was introduced in Q2. (Q1 etc refer to 3-month periods from 2002). Ryder et al, 2010
NHS ‘Atlas of Variation’

eg: hip replacement rates, etc

Admission rate variations across 152 English PCTs: elective surgery spending for hips (£ per 1000 pop’n).

Source:

Admission rate variations across 152 English PCTs in elective surgery for:
- Hips
- Knees
- Cataracts
- PCI
- Cholecystectomy
- CABG

Source:
http://www.kingsfund.org.uk/publications/healthcare_variation.html
Eg: Reducing length of stay
National potential, Jan-Mar, 2011:
1.24m bed-days; £252m.
QIPP case study

Enhanced hip replacement pathway
Provided by: NHS South East Coast

Summary
An enhanced pathway for hip replacements has resulted in an average length of stay of 2.7 days, a 25% reduction in orthopaedic beds and estimated trust-level savings of £180,000 for one consultant’s practice.

Evidence summary
Yes The intervention has been successfully implemented
Yes An evaluation of the effects of the intervention has been carried out

Evidence of implementation

Organisations where the proposal has been implemented
- Conquest Hospital, East Sussex Hospitals NHS Trust, Hastings

Effect on quality of care
- Effectiveness: Re-admission rates are less than the SHA average (5.5% vs 7.1%).
- Safety: Mortality rates and complication rates are comparable with other orthopaedic surgeons.
- Experience: Patients experienced shorter lengths of stay and improved continuity of care. 99.5% patients like the service.

Effect on productivity
- As a result of this programme, Mr Apthorp has the lowest average length of stay for hip replacement patients of any consultant nationally (2.7 days; national range 2.7-3.7 days).
- Approximately 50% of Mr Apthorp’s patients have a length of stay of 1 day. During the previous year, 67% of Mr Apthorp’s patients had a 2 day length of stay – this compares with 3% nationally.
- Annual estimated savings for the Trust (for Mr Apthorp’s patients) are £180,000, plus a 25% reduction in orthopaedic beds.

The proposal
Proposal description
Mr Hugh Apthorp at the Conquest Hospital, East Sussex Hospitals NHS Trust has been running a short stay hip replacement programme for four years.

Changes have included:
- raising patient and carers expectations about their potential rate of recovery with improved information;
- the introduction of a new minimally invasive surgical (MIS) technique involving a smaller incision which has many benefits resulting in less damage to the tissue, less pain, less blood loss and faster recovery time;
- utilisation of innovative anaesthetic techniques;
- superb pre and post hospital planning;
- recognition of the value of team building in the delivery of patient focused care; and
- the development of an innovative, efficient, cost effective outreach model of care, which provides a seamless transition of care from the hospital into the community and increases continuity of care for patients.

The programme has led to sustained reductions in length of stay, with improved clinical outcomes, reduced the requirement for beds and resulted in financial savings.

http://arms.evidence.nhs.uk/resources/qipp/29457/attachment
Length of stay, for hips: shorter, but still varying

http://www.nao.org.uk/publications.aspx?psl=10&y=All&s=All&c=456&t=All

http://www.performance-healthcheck.co.uk/hip-replacement-los/london
Why can’t the poorer performers just copy the best?

- Why don’t important organizational capabilities diffuse more?
- A hypothesis:
  - Learning to cooperate may be as important as learning to coordinate in building organizational capabilities
  - Learning to cooperate requires the development of “relational contracts”
  - These kinds of relational contracts are hard to build
  - This hinders adoption of important organizational capabilities
  - Enterprise “values” and the ability to develop “trust” may be an important source of competitive advantage

“Relational contracts and organizational capabilities”
R Gibbons & R Henderson (2011)
IO economics

Productivity differences persist - eg car-making, airlines, etc


### Productivity: persistence, movement, entry & exit

**UK manufacturing**

<table>
<thead>
<tr>
<th>1997 productivity quintiles</th>
<th>Top</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>33.7</td>
<td>13.9</td>
<td>4.8</td>
<td>2.6</td>
<td>2.0</td>
</tr>
<tr>
<td>2nd</td>
<td>7.5</td>
<td>19.1</td>
<td>16.1</td>
<td>7.5</td>
<td>4.1</td>
</tr>
<tr>
<td>3rd</td>
<td>3.4</td>
<td>8.9</td>
<td>14.7</td>
<td>15.4</td>
<td>7.5</td>
</tr>
<tr>
<td>4th</td>
<td>1.6</td>
<td>3.5</td>
<td>8.2</td>
<td>15.5</td>
<td>14.1</td>
</tr>
<tr>
<td>Bottom</td>
<td>1.0</td>
<td>1.7</td>
<td>3.5</td>
<td>6.3</td>
<td>19.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exit from 1994 quintile</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>43.0</td>
<td>45.8</td>
<td>50.1</td>
<td>57.1</td>
<td>68.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entry to 1997 quintile</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>47.0</td>
<td>49.9</td>
<td>51.6</td>
<td>56.0</td>
<td>65.3</td>
</tr>
</tbody>
</table>

...about half of productivity growth was accounted for by entry and exit
...about half was due to productivity growth within enterprises

Productivity enhancers

Effect of skill mix: ratio of administrative workers to operatives

Skill mix by productivity quartile
Quality of management matters

THE LINK BETWEEN PRODUCTIVITY AND MANAGEMENT HOLDS TRUE ACROSS DIFFERENT COUNTRIES

Does competition improve management?

“Management quality - measured using a new survey tool - is strongly correlated with financial and clinical outcomes such as survival rates from emergency heart attack admissions.”

“Adding another rival hospital increases the index of management quality by \( \frac{1}{3} \) of a standard deviation and leads to a 10.7% reduction in heart-attack mortality rates.”

What determines productivity?

Within-business
- Managerial practice / talent
- Higher quality labour / capital
- IT and R&D
- Learning by doing / intangible capital
- Innovation
- Firm structure

External environment
- Productivity spillovers
- Competition
- Regulation
- Input market flexibility

Unanswered questions
- Which productivity drivers matter most?
- How can governments policies raise productivity?
- Can we predict innovation?
- Management or managers?

“What determines productivity?” Chad Syverson (2010) Journal of Economic Literature
Policies for efficiency – another perspective

NHS as a firm: “Head office policies”
- Assess
  - Comparisons
- Guide
  - Best practice
- Monitor
  - Data
- Motivate
  - Incentives

NHS as an industry: “Industrial policies”
- Consumer policy
  - Information (fair)
  - Intermediaries
- Competition policy
  - Level playing field
  - Power / incumbents
  - Entry & exit
- Innovation policy
  - Products
  - Processes
Conclusions?

• Variations seem ubiquitous and persistent – what do they tell us?
• Importance of process innovation
• Copying best performers is difficult
• Competition may enhance management, and so performance
• Need more information on which productivity drivers matter most
• And how to raise them
Length of stay - international trends

Average length of stay: acute care

Source: OECD Health Data 2011; selected European countries
## Measuring management quality

### (3) Continuous improvement
Tests process for and attitudes to continuous improvement and whether things learned are captured/documentned

<table>
<thead>
<tr>
<th>Score 1</th>
<th>Score 3</th>
<th>Score 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do problems typically get exposed and fixed?</td>
<td>Improvements are made irregular meetings involving all staff groups, to improve performance in their area of work (e.g., ward or theatre)</td>
<td>Exposing problems in a structured way is integral to individuals’ responsibilities and resolution involves all staff groups, along the entire patient pathway as a part of regular business processes rather than by extraordinary effort/teams</td>
</tr>
<tr>
<td>Talk me through the process for a recent problem that you faced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do the different staff groups get involved in this process? Can you give examples?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scoring grid:**
- No, process improvements are made when problems occur, or only involve one staff group
- Improvements are made irregular meetings involving all staff groups, to improve performance in their area of work (e.g., ward or theatre)
- Exposing problems in a structured way is integral to individuals’ responsibilities and resolution involves all staff groups, along the entire patient pathway as a part of regular business processes rather than by extraordinary effort/teams

### (4) Performance tracking
Tests whether performance is tracked using meaningful metrics and with appropriate regularity

<table>
<thead>
<tr>
<th>Score 1</th>
<th>Score 3</th>
<th>Score 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>What kind of performance indicators would you use for performance tracking?</td>
<td>Most important performance indicators are tracked formally; tracking is overseen by senior staff.</td>
<td>Performance is continuously tracked and communicated against most critical measures, both formally and informally, to all staff using a range of visual management tools</td>
</tr>
<tr>
<td>How frequently are these measured? Who gets to see these data?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I were to walk through your hospital wards and theatres, could I tell how you were doing against your performance goals?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scoring grid:**
- Measures tracked do not indicate directly if overall objectives are being met, e.g., only government targets tracked. Tracking is an ad-hoc process (certain processes aren’t tracked at all).
- Most important performance indicators are tracked formally; tracking is overseen by senior staff.
- Performance is continuously tracked and communicated against most critical measures, both formally and informally, to all staff using a range of visual management tools

### (5) Performance review
Tests whether performance is reviewed with appropriate frequency and communicated with staff

<table>
<thead>
<tr>
<th>Score 1</th>
<th>Score 3</th>
<th>Score 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do you review your KPI’s?</td>
<td>Performance is reviewed periodically with both successes and failures identified. Results are communicated to senior staff. No clear follow up plan is adopted.</td>
<td>Performance is continually reviewed, based on the indicators tracked. All aspects are followed up to ensure continuous improvement. Results are communicated to all staff</td>
</tr>
<tr>
<td>Tell me about a recent meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who is involved in these meetings? Who gets to see the results of this review?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is the follow-up plan?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scoring grid:**
- Performance is reviewed infrequently or in an un-meaningful way e.g. only success or failure is noted
- Performance is reviewed periodically with both successes and failures identified. Results are communicated to senior staff. No clear follow up plan is adopted.
- Performance is continually reviewed, based on the indicators tracked. All aspects are followed up to ensure continuous improvement. Results are communicated to all staff
Management matters…

Can Gerry Robinson Fix The NHS?

Gerry Robinson on… power struggles

Who do you think runs our hospitals, the chief executive, the medical staff or the government? What happens when different management styles meet? Find out in our interview with Gerry Robinson.

In this programme there seemed to be a real power struggle between the consultants and the managers. In your opinion, who is actually running our hospitals?

That’s a very good question, and I think the answer - and the programme I think pretty well points to it - is that there is no clear running of the hospitals. You have management lines and you have people reporting to your management lines, but you then have people reporting up through the individual specialties, clinical specialties, and other than the chief executive, there is no structure within which normal reporting, everyday occurrences can be dealt with, can be changed, can be altered. Nobody is running them. And for me the real lesson was to try and get that message very firmly and clearly into Brian’s head, that he had to run it, and he had to run it now. And I do think that out of all the stuff that we talked about, that was by far the most important, getting him to see that as a manager he had to do the right, he had the capacity, and he actually had the ability to manage, getting him to see that.

What was your reaction to what you were facing?

My initial reaction was that actually things could very definitely be done. There was no question about that that you could very definitely do things if you got people on board to do them, and in fact in a number of areas we did have some quite early successes with very little, well no money involvement, and just getting people to look very slightly differently at the way that they did things. But to get the whole group of people, you know, the medical side and the management side plus all the other ancillary services on board, that was the frustratingly difficult part, and there was one stage in particular where I thought God, this is all so simple, but it ain’t going to happen, and it ain’t going to happen because people aren’t going to see it and they’re not going to be prepared to change. Very, very frustrating because the answers were very simple, they were very obvious, and I don’t even think anyone argued that they weren’t right answers. It’s just that there’s a kind of sense of them may be the right answers, but it’s very difficult to make it happen.

Can you give an example of where you encountered this?

Well it was in particular around children’s health, where just getting a group of consultants simply to agree that they were going to take on a couple of extra patients every time they opened a clinic, which was twice a week on average, and that there was space and time to do that, nobody argued, but just getting it to happen, getting people to make the bookings, get the thing underway, just take away the idea that it had to be discussed another 427 times, just getting it to happen was very difficult. And it’s often the way in management, the answers nearly always are relatively straightforward. It’s getting people to do it time after time after time...

Well it was in particular around children’s health, where just getting a group of consultants simply to agree that they were going to take on a couple of extra patients every time they opened a clinic, which was twice a week on average, and that there was space and time...
What causes variations across hospitals?

“Variations in health care: the good, the bad, and the inexplicable”
The King’s Fund (2011)
**How much could we save?**

“If every organisation (provider and commissioner) improved its performance to match that of the top quartile in each Better Care, Better Value (BCBV) indicator, NHS England could realise £2.4 billion in productivity benefits.”

<table>
<thead>
<tr>
<th>BCBV indicator description</th>
<th>Primary target</th>
<th>Potential benefits for provider and commissioner</th>
<th>Productivity Opportunity range for individual organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reduce costs</td>
<td>Improve patient experience</td>
</tr>
<tr>
<td>Reducing length of stay</td>
<td>Provider</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Increasing day case surgery rates</td>
<td>Provider</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reducing pre-operative stay (elective)</td>
<td>Provider</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reducing Did Not Attend (DNA) appointments</td>
<td>Provider</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reducing new to follow-up appointments ratio</td>
<td>Provider</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reducing emergency re-admissions at 14 days</td>
<td>Provider</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Managing variation in surgical thresholds</td>
<td>Commissioner</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Managing variation in emergency admissions</td>
<td>Commissioner</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Managing variation in outpatient attendances</td>
<td>Commissioner</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Increasing low cost prescribing for lipid modification</td>
<td>Commissioner</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Increasing low cost proton pump inhibitor prescribing</td>
<td>Commissioner</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Increasing low cost prescribing for drugs affecting the renin-angiotensin system</td>
<td>Commissioner</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

* the Productivity Opportunity gives a monetary estimate of potential savings achievable if a health system improved that indicator performance by achieving top quartile performance. The figures show the range of potential savings obtained for that indicator. Note that managing variations in emergency admissions and outpatient attendances are potential shifts in spending into primary care (rather than savings).

[http://www.institute.nhs.uk/quality_and_value/high_volume_care/better_care_better_value_indicators.html](http://www.institute.nhs.uk/quality_and_value/high_volume_care/better_care_better_value_indicators.html)
### Why do efficiency variations persist?

<table>
<thead>
<tr>
<th>Information problems?</th>
<th>Structural problems?</th>
<th>Incentive problems?</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Plenty of detailed guidance</td>
<td>• Local monopoly suppliers?</td>
<td>✓ Pressure from payers</td>
</tr>
<tr>
<td>✓ It’s not ‘rocket science’ – the instructions are straightforward</td>
<td>• Greater plurality of supply – eg ‘treatment centres’</td>
<td>✓ Fixed price gives incentives for hospitals</td>
</tr>
<tr>
<td>✓ Plenty of advisers</td>
<td>• Networks, alliances, collusion?</td>
<td>• Sufficient incentives within the organisation (eg team level)?</td>
</tr>
<tr>
<td>• Enough tacit knowledge and ‘know-how’ for delivering change and improvement?</td>
<td></td>
<td>• Cooperative effort difficult to build and requires trust relationship?</td>
</tr>
<tr>
<td>• Quality of management?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**DH Department of Health**
NHS productivity trends

OUTPUT HAS BEEN GROWING WHILE QUALITY OF CARE HAS BEEN IMPROVING

Graph 1: Productivity growth calculated by comparing ratio of output growth with input growth

Graph 2: Fall in waiting times

Graph 3: Hospital survival rate improvement

Graph 4: Reduction in blood pressure for CHD patients

Source: Andrew Street (York University)
http://www.hsj.co.uk/5001059.article
## Productivity differences
### UK manufacturing

<table>
<thead>
<tr>
<th>UK SIC 92</th>
<th>Sector</th>
<th>Average Productivity (£ 1995 per worker)</th>
<th>Dispersion (p90/p10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-37</td>
<td>All Manufacturing</td>
<td>28,005</td>
<td>5.5</td>
</tr>
<tr>
<td>15</td>
<td>Food &amp; beverages</td>
<td>28,797</td>
<td>9.0</td>
</tr>
<tr>
<td>17</td>
<td>Textiles</td>
<td>20,736</td>
<td>4.0</td>
</tr>
<tr>
<td>18</td>
<td>Wearing apparel</td>
<td>15,302</td>
<td>4.9</td>
</tr>
<tr>
<td>19</td>
<td>Leather</td>
<td>17,528</td>
<td>4.2</td>
</tr>
<tr>
<td>20</td>
<td>Wood &amp; wood products</td>
<td>21,651</td>
<td>5.8</td>
</tr>
<tr>
<td>21</td>
<td>Pulp, paper &amp; paper products</td>
<td>31,611</td>
<td>4.9</td>
</tr>
<tr>
<td>22</td>
<td>Publishing, printing &amp; reproduction of recorded media</td>
<td>30,078</td>
<td>5.8</td>
</tr>
<tr>
<td>24</td>
<td>Chemicals &amp; chemical products</td>
<td>49,004</td>
<td>8.1</td>
</tr>
<tr>
<td>25</td>
<td>Rubber &amp; plastic products</td>
<td>25,782</td>
<td>3.9</td>
</tr>
<tr>
<td>26</td>
<td>Other non-metallic mineral products</td>
<td>27,818</td>
<td>5.8</td>
</tr>
<tr>
<td>27</td>
<td>Basic metals</td>
<td>31,486</td>
<td>4.1</td>
</tr>
<tr>
<td>28</td>
<td>Fabricated metals</td>
<td>23,334</td>
<td>3.6</td>
</tr>
<tr>
<td>29</td>
<td>Machinery and equipment nec</td>
<td>27,422</td>
<td>3.9</td>
</tr>
<tr>
<td>30</td>
<td>Office machinery and computers</td>
<td>32,964</td>
<td>6.0</td>
</tr>
<tr>
<td>31</td>
<td>Electrical machinery and apparatus nec</td>
<td>26,316</td>
<td>4.1</td>
</tr>
<tr>
<td>32</td>
<td>Radio, television &amp; communication equipment and apparatus</td>
<td>30,388</td>
<td>5.1</td>
</tr>
<tr>
<td>33</td>
<td>Medical, precision &amp; optical instruments, watches &amp; clocks</td>
<td>27,228</td>
<td>4.5</td>
</tr>
<tr>
<td>34</td>
<td>Motor vehicles, trailers &amp; semi-trailers</td>
<td>26,998</td>
<td>3.4</td>
</tr>
<tr>
<td>35</td>
<td>Other transport equipment</td>
<td>25,258</td>
<td>6.1</td>
</tr>
<tr>
<td>36</td>
<td>Furniture, manufacturing nec</td>
<td>20,818</td>
<td>5.1</td>
</tr>
<tr>
<td>37</td>
<td>Recycling</td>
<td>41,207</td>
<td>15.1</td>
</tr>
</tbody>
</table>