

A Systematic Approach to Adopting Technology in Clinical Practice



KT – Equal
6th January 2011

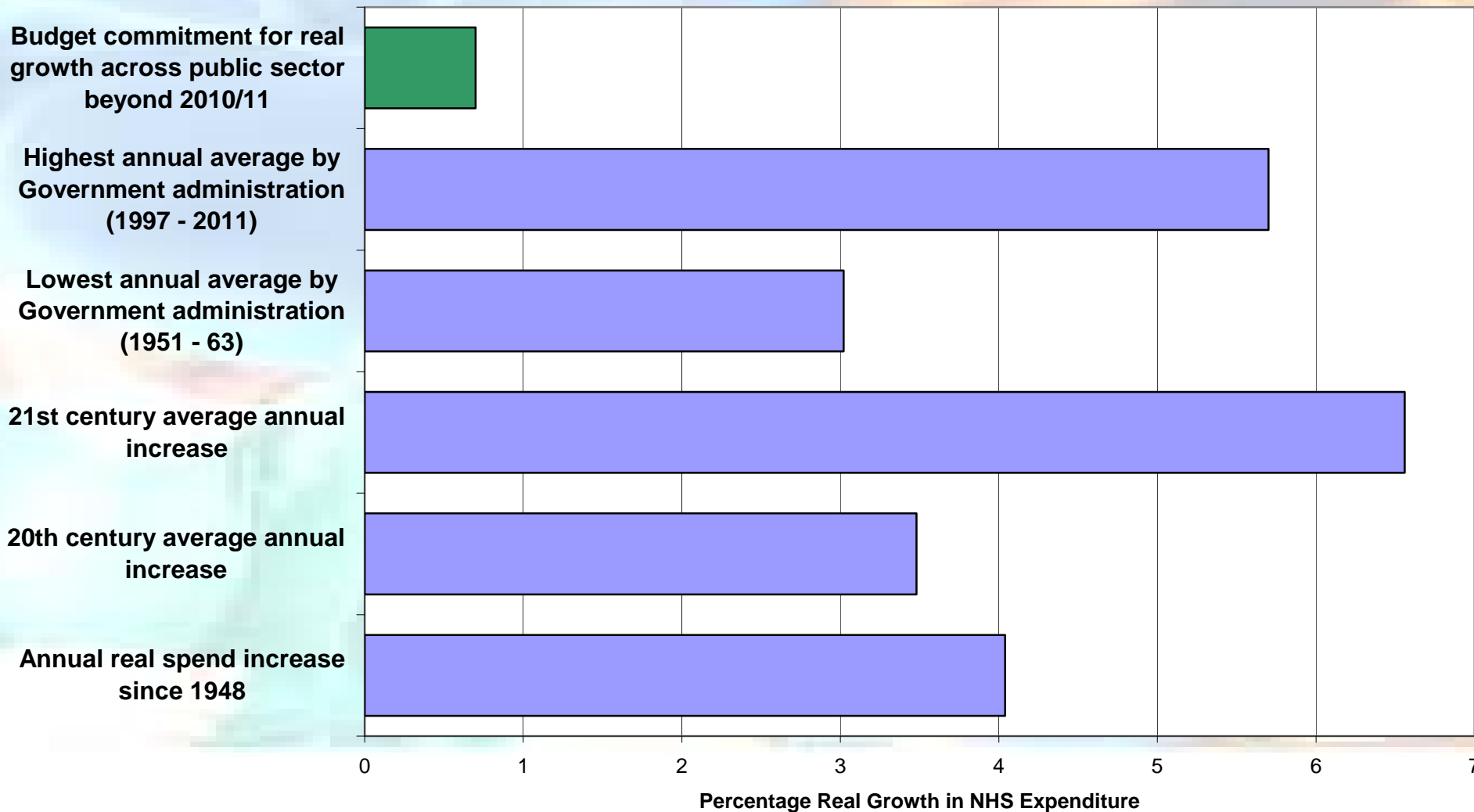
NHS
Technology Adoption Centre

Presentation Content

- Why NHS senior managers and clinical teams need to be at the forefront of pioneering new technologies ?
- Fundamental challenges facing the NHS in healthcare technology implementation
- New approaches to resolve old problems
 - Understanding and changing behaviours,
 - Developing robust programme leadership and a systematic management approach

Unprecedented challenge

Trends in NHS Expenditure (Source:- King's Fund & IFS "How Cold Will It Be?")



Clinical Staff & Managers at the forefront of technology implementation. Why?

- ‘simplistic’ cuts of previous difficult times, with their inevitable impact on waiting lists and waiting times, are not acceptable.
- Focus on sustaining quality, improving services and meeting rising demand, within a shrinking resource envelope
- This rapid and severe resource reduction provides one of the key opportunities for technology driven service transformation.

Clinical and Operational Management Imperative

- Use known and proven technologies and methodologies, to achieve the necessary savings whilst developing a step change in service and clinical quality
- Adoption of existing best practices rather than new inventions
- Explore opportunities to shift skill-mix, powered by the adoption of those best practice technologies and methodologies, which drive down unit labour costs

The recently published White Paper *Equity and Excellence: Liberating the NHS*, which makes 90 references to quality and productivity and 23 to efficiency, but makes only three mentions of technology





Cooksey Review 2007

Research knowledge in the NHS continues to be under-utilised

2 gaps exist :

- ‘translation of basic and clinical research into ideas and products’
- ‘introducing those ideas and products into clinical practice’

Recommendation : ‘a more systematic approach to adoption’

Wanless Report 2005 & 2007

Despite the potential of innovative healthcare technologies to improve both health outcomes, quality of care and productivity, the NHS is generally perceived to be slow to adopt technology in comparison with health care systems in other developed countries
(Wanless 2005 & 2007)

NHS Technology Adoption Centre

NTAC - Formed at the end of 2007

National remit, office located in Manchester

Funded by Department of Health

NHS Institute

&

NHSNW

NHS Technology Adoption Centre

- To understand and address implementation challenges
- To assist organisations to navigate the complex process of technology adoption
- Ensure implementation process is integrated within service and system change
- Identify changes to pathways and services to ensure the benefits are realised

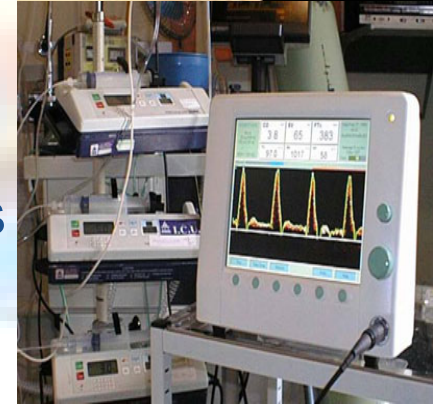
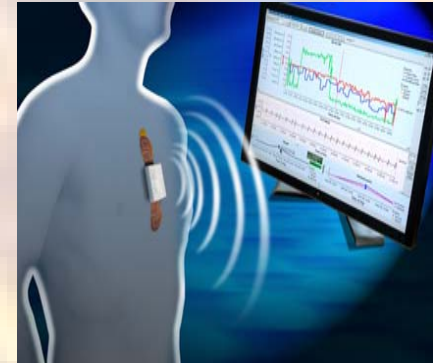
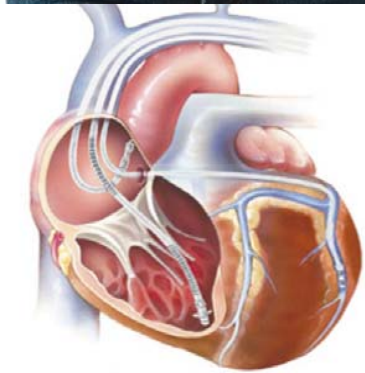


NTAC Implementation Projects



- **Doppler guided intraoperative fluid management**

- Supra-pubic catheter kit
- Cardiac telemedicine in primary care
- Non-invasive bladder analysis
- Cardiac resynchronisation therapy with remote patient monitoring
- Continuous SC insulin pump therapy
- Telestroke
- Intra-operative breast lymph node assay
- Photodynamic diagnostics for bladder cancer
- Ultrasound elastography for diagnosis and monitoring of liver fibrosis



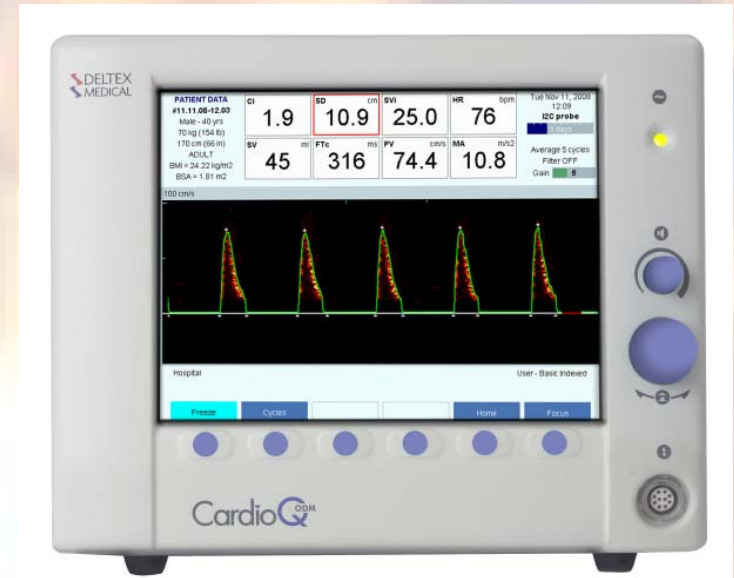
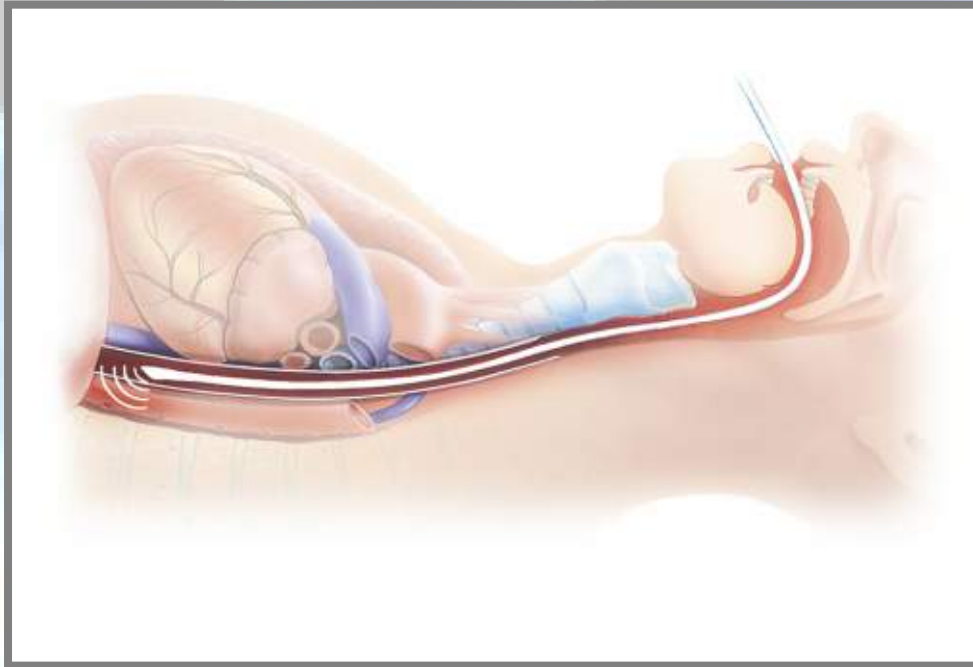
Oesophageal Doppler Monitoring to guide fluid management in major surgery



Case Study

NHS
Technology Adoption Centre

Oesophageal Doppler monitoring



Implementation of Oesophageal Doppler Monitoring (ODM) to guide fluid replacement in major surgery

Unmet Need



- 20,000 UK patients die a year following major surgery, with the NHS reporting higher mortality rates than comparable healthcare systems.
- Research shows that optimised fluid therapy using monitoring systems reduces the risk of serious complications and length of stay.
- Despite these findings, the acute surgical patient has continued to receive 'standard' care with pulse, blood pressure and central venous pressure (CVP) monitors which are inadequate in detecting hypovolaemia

Implementation



- Three NHS hospitals across England implemented the technique into their routine clinical practice with the aim of improving surgical outcomes and reducing hospital stay for patients undergoing major surgery.
- Following a structured implementation programme, patient outcomes were measured in over 1200 patients.

Impact Summary


- **3.5 Day Reduction in Length of Stay**
- **23% Decrease in CVC Insertion Rate**
- **With non-statistically significant reduction in re-admissions, re-operations, mortality and reduced LOS in ITU.**

Implementation Project Outputs

“How to Why to Guides”

- Introduction to technology
- Clinical evidence
- Benefits / Barriers
- Lessons learnt during implementation
- Implementation Road Map
- Integrated Business Case
- Costing Model
- On line resources / tools

<http://www.howtowhyto.nhs.uk>



The screenshot shows a web browser displaying the NHS 'How to Why to Guides' page for 'Doppler Guided Intraoperative Fluid Management'. The page features a navigation menu on the left with items like 'Executive Summary', 'Introduction to the Technology', 'Evidence Base', 'Benefits 'V' Barriers', 'Implementation Project', 'Procurement', 'Policy', 'Business Case', 'Roadmap', 'Contacts & Links', and 'Feedback'. The main content area includes a blue header with the NHS logo and the title 'Doppler Guided Intraoperative Fluid Management'. Below the header, there is a sub-header '“Improving surgical outcomes, reducing hospital stay”' and a paragraph of text describing the technology. A small image of a surgeon in an operating room is also visible. The browser's address bar shows the URL 'http://www.howtowhyto.nhs.uk'.

Potential benefits to the NHS

Based on the national patient population

- Overall financial savings of between £166.8m and £369.6m realised by accruing these benefits;
- This equates to financial savings of between £316 and £699 per patient; OR
- The released hospital beds could provide the capacity to undertake up to an additional 140,400 major surgical procedures per annum (if the financial savings were not realised)

NICE guidance

- ODM now considered by NICE – Medical Technology Assessment Committee: 16th September 2010
 - Draft provisional guidance open for consultation: 4th October 2010
- “The case for adopting ODM in the NHS is supported when it is used in patients undergoing surgical procedures who would otherwise require invasive cardiac monitoring is indicated. There is evidence of patient and system benefits compared with standard care”
- “Estimated average cost saving per patient is £1062 based on a typical 7.5 day hospital stay”

Implementation Challenges.....

Clinical Resistance

Missed Targets

Training Issues

Reduction in Income

Staff Issues

Increased costs

Disruption

Integration Issues

Reduction in patient throughput

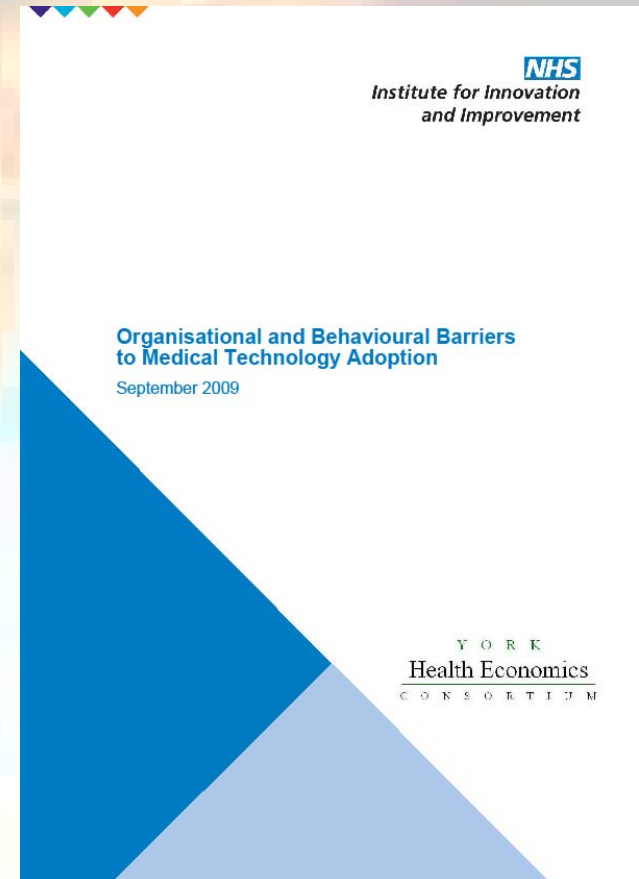


Understanding and Changing Behaviours

- NHS Institute and NTAC commissioned an analysis of the challenges facing senior managers in the adoption of innovative healthcare technologies.
- Objective:
 - Develop evidence-based recommendations to
 - Develop a systematic and practical management approach to innovation implementation
 - Improve innovation management capability

Main findings

- **Budget Silos**
- **Prioritisation**
- **Local reimbursement strategies**
- **Decommissioning**
- **Innovation Culture**
- **Evidence**
- **Communication**
- **Processes**
- **Implementation planning**



Key Finding : Innovation Culture

- Effective engagement with clinicians and other key stakeholders through the adoption of the philosophy of co-production
- An ability to challenge established thinking and current practice
- The application of knowledge of national and international best practice
- A drive to share knowledge and learning
- Clear and honest communication at all stages of change
- Focus on benefits measurement and realisation
- Application of robust programmes
- Management and assurance arrangements.



Key Finding : Evidence

- Many new devices/techniques enter the market with a lack of “utility” evidence
- Few technologies currently subject to NICE appraisal process
- Even in the presence of NICE recommendations:
 - Uptake on therapeutics is good
 - Uptake on devices and procedures is poor

Getting research into practice

- Changing the way that both managers and researchers think and act - and getting them working together.
- Managers need to take research seriously and equip themselves with the skills to make sense of the findings
- Managers need to hold their own with clinicians and be able to deal with evidence confidently and effectively
- Clinicians must be to communicate research findings clearly and imaginatively

Potential Solutions

Clinicians 'taking managers' information needs seriously'

- Journal clubs
- Seminars
- Critical appraisal skills training
- Research briefings, toolkits, guidelines
- Assessment tools
- Template business plans

**‘New solutions to old
problems ‘**

**NTAC Next Stage
Programmes**



Technology Implementation programme

- Expanded implementation programme including mental health and prevention
- Health economics analysis
- Dissemination and adoption methodologies
- Knowledge transfer , facilitation and capability development

Navigating the complexities of the Implementation Process

- Mapping the critical stages
- Identifying key stakeholders
- Evidence based solutions
- Systematic approach to implementation
- Generic tools and resources
- Professional Development
- Metrics Programme

Developing Innovation Management Capability

- Lead and facilitate innovation implementation
- Drive value from innovation implementation
- Recognise the need for setting priorities
- Understand what makes a good culture for innovation implementation
- Improve their communication awareness and skills
- Have confidence to lead tough innovation
- Have confidence to support risk
- Better evaluate innovation in their organisations

NTAC Contacts

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