The rise and fall of an empire: critical reflections on the National Programme for IT in England

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Overview

- Need for EHRs
- EHRs internationally
- National Programme for IT in England
- Our evaluation
    - Background
    - Aims
    - Methods
    - Preliminary findings
    - Conclusions
    - Lessons learned
    - Next steps

Major challenges facing healthcare systems internationally

- Changing demographics: ageing populations

- Increasing numbers of people living with long-term conditions

- Spiralling healthcare costs

- Ongoing concerns about the safety, quality and inefficiency of healthcare

# Drive to implement electronic health record systems (EHRs)

- EHRs are now considered central to the delivery of safe, high quality, efficient healthcare (IOM 2009)

- EHRs are now being introduced throughout the world: North America, Europe, Australasia, Middle East, etc

- Many of these initiatives have tended to be small-scale, but these are now increasingly national-scale endeavours (Canada & USA examples)

EHR

- A digital, longitudinal record of a patient's health and healthcare interventions that is available to healthcare providers across a range of clinical settings (Robertson *et al*. 2010)

- Overlaps EMR and EPR
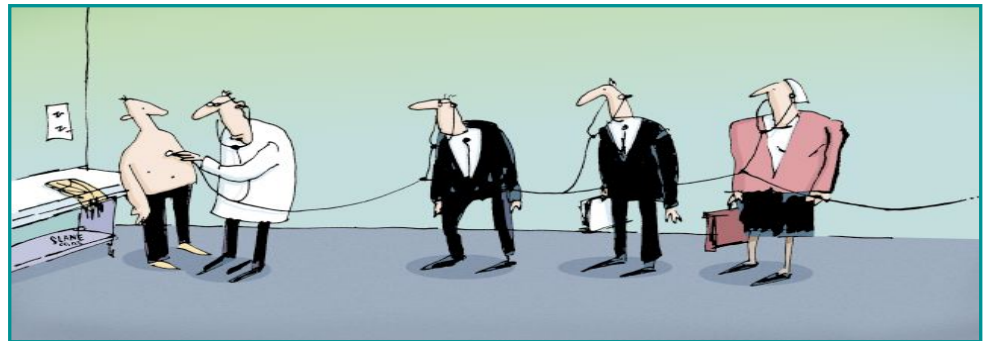
- NHS CRS in the context of England

Other countries

- Canada: A federal organisation: Canada Health Infoway; Infoway investment; each province & Territory its own suited EHR; a national jurisdiction approves and funds

- USA: ONC HIT; HITECH Act; achieving meaningful use of EHRs through incentives and REC (regional exchange centres); adopting certified EHR technology, 27 B$ over 10 years; educating 4000 experts; national standardisation vs local customisation

UK: In the late 1990's…
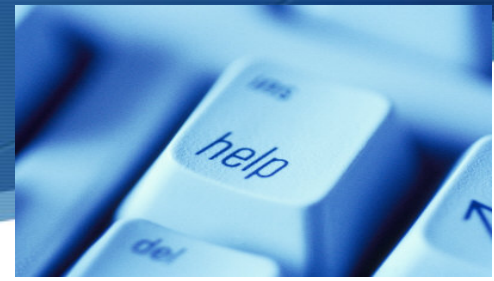
- Thousands of different, small-scale, NHS IT systems in use; *mostly not clinical*

- IT use and expertise in NHS England patchy - wide local variations

- No means of securely exchanging confidential healthcare information between NHS settings

- increasing concerns about retaining a healthcare service that remained "free at the point of care"
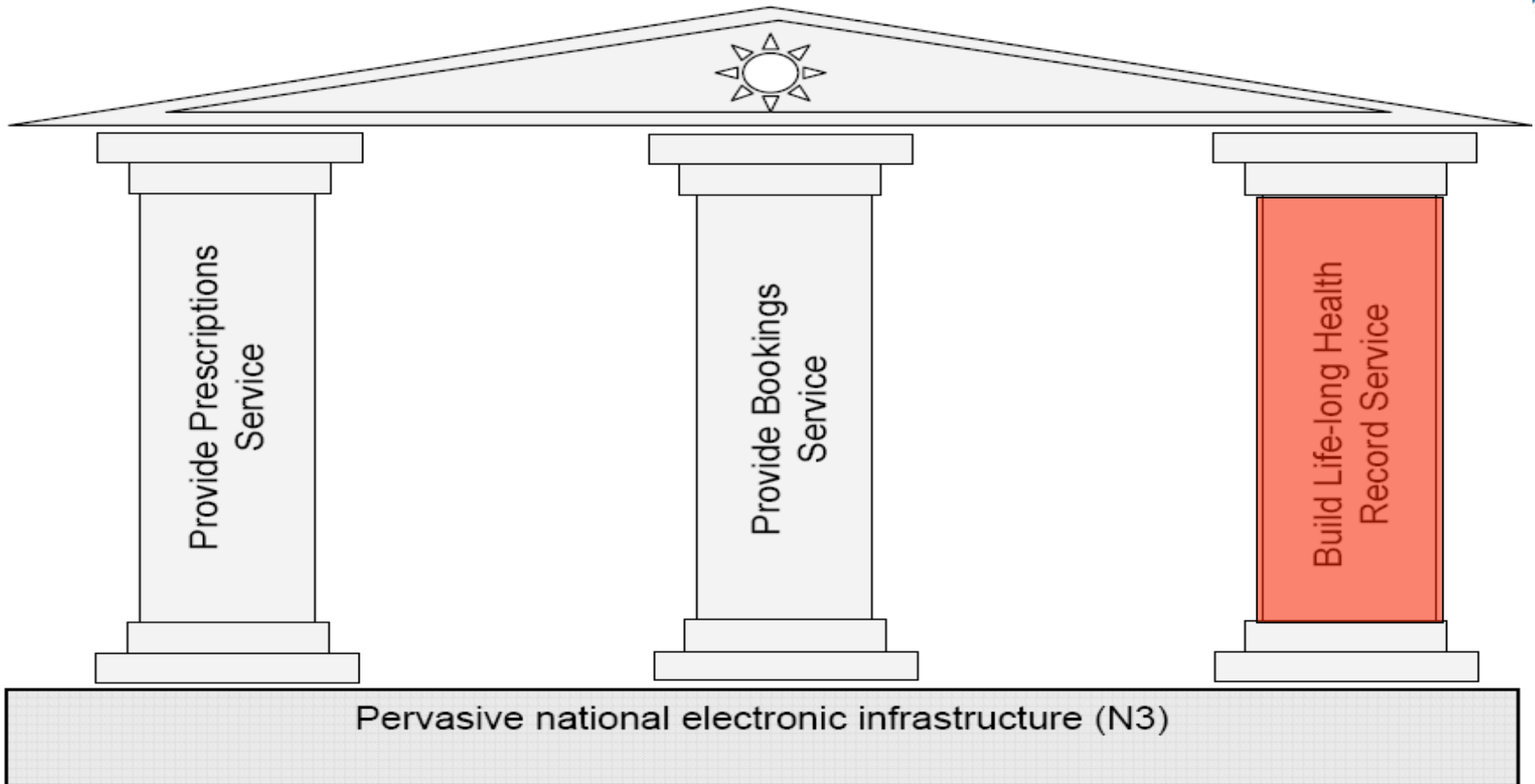
The history of NHS IT policy

1983   *Griffiths Report*
1993   Management Information Systems
1998   *Information for Health*
2000   *The NHS Plan*
2000   ERDIP (Electronic Record Demonstration Project)
2002   *Delivering 21st Century IT Support for the NHS*
2004   *Better Information, Better Choices, Better Health*
2004   National Programme for IT
2008   *NHS Informatics Review ('Swindells Report')*
2010   *Liberating the NHS: An Information Revolution*

Background to start of NPfIT – a political 'vision'

- 1998:   *"If I live in Bradford and fall ill in Birmingham then I want the doctor treating me to have access to the information he needs to treat me."* (Rt. Hon. Tony Blair, NHS Conference, London, July 2, 1998)

- 2002: NPfIT 'vision' approved by Tony Blair at an un-minuted 10-minute briefing in Downing Street
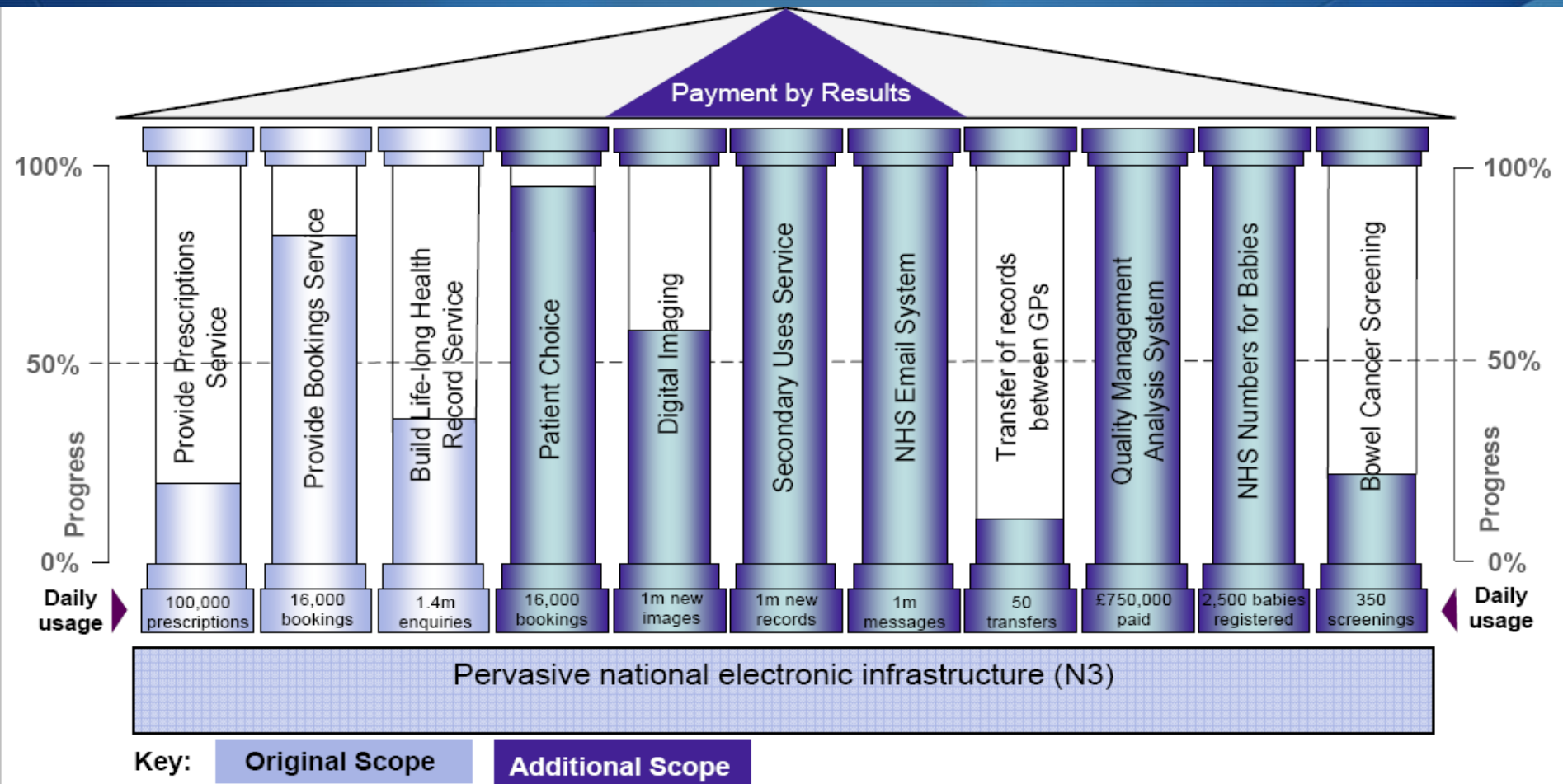
Original scope for NPfIT

Provide Prescriptions Service

Provide Bookings Service

Build Life-long Health Record Service

Pervasive national electronic infrastructure (N3)

- ~50 million patients
  - ~8.5 thousand GP practices
  - 167 acute hospital Trusts
  - 58 mental health Trusts
  - 129 NHS Foundation Trusts, which have greater autonomy from Department of Health control and may choose to opt-out of the NPfIT
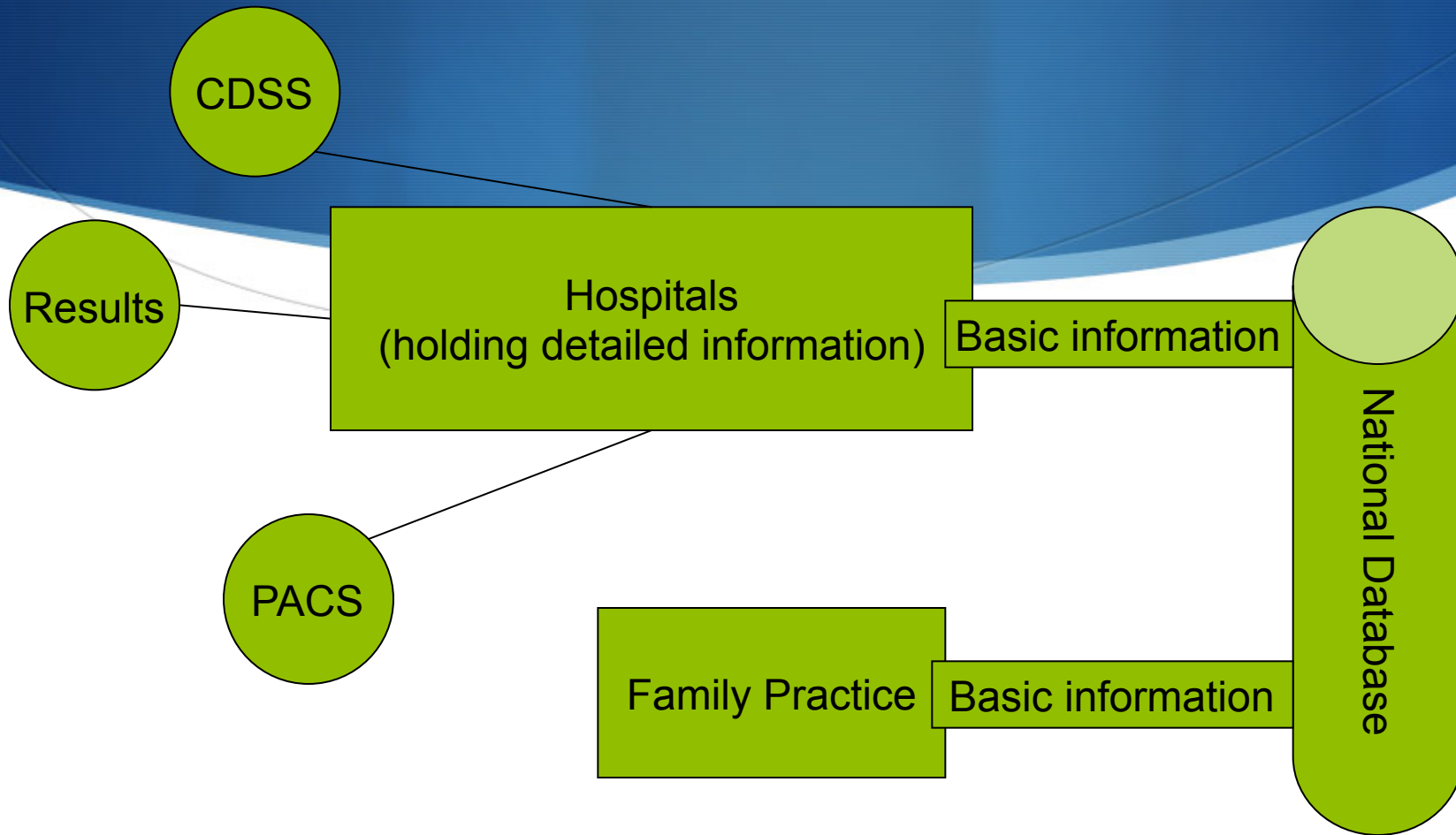
Time scales & initial cost estimates

- When the NPfIT started, it was hoped that this would result in universal electronic health records and secure data exchange throughout NHS England by 2010…

- This was a compromised time scale as the PM (reportedly), wanted EHRs in place before the 2005 General Election

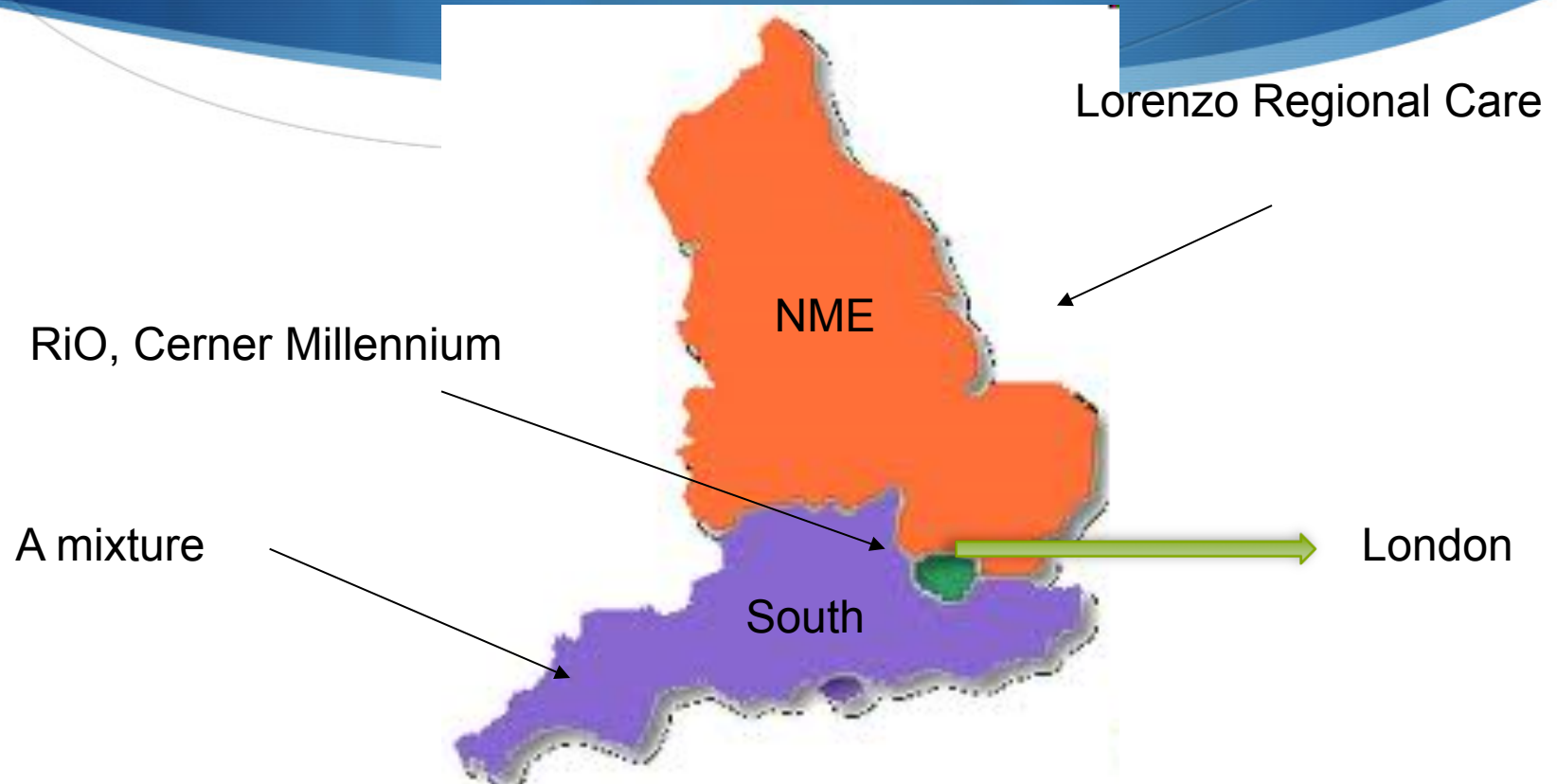- Cost estimates were: ~£6.2 billion; then raised to £ 12.7 b
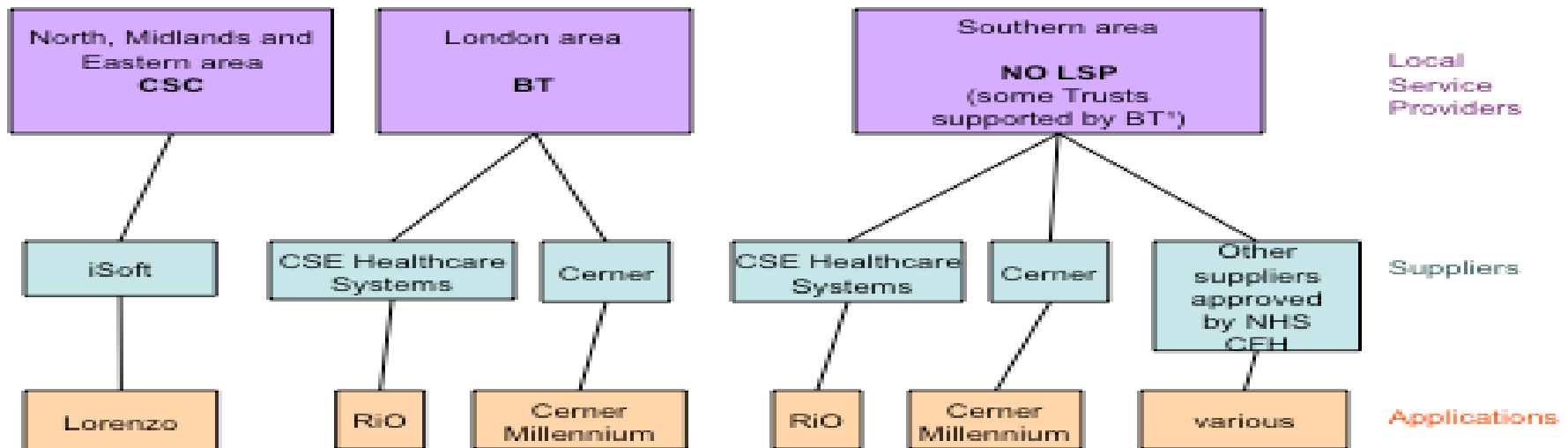
Continuing expansion of NPfIT

The NHS CRS

Delivery structure

Lorenzo Regional Care

NME

RiO, Cerner Millennium

A mixture

South

London

The NHS CRS delivery structure in 2010
(Robertson et al. 2010)

Our evaluation

- First independent multi-facet evaluation of the NHS programme to implement EHR systems into secondary care Trusts throughout England

- **Overall aim:** To conduct a formative and summative evaluation of the implementation and adoption of the NHS' (Detailed) Care Record Service into secondary care in England to inform policy & practice

- **Interim aim:** To identify early lessons from implementation in early adopter sites

Work Package 1 (qualitative, longitudinal)
Implementation, deployment and organisational learning
LSP roll-out teams, software suppliers, members of the NHS Trust implementation team and trainers/support staff. Relevant documents

Work Package 2 (qualitative, longitudinal)
Attitudes, expectations and experiences of NHS stakeholders
Interviews with patients, carers, healthcare professionals, managers, IT service providers, IT support personnel, administrative staff

Work Package 3 (mixed methods, longitudinal)
Organisational consequences: organisational workflow, professional roles and data quality
Record review; interviews with healthcare professionals and administrative staff involved in patient pathways; relevant documents; survey

Coordinated recruitment of participants for interviews

Work Package 4 (mixed methods)
Assessment of costs of NHS CRS implementation
Estimating local implementation costs; NHS CRS cost categories. Relevant documents; interviews

Work Package 5 (quantitative, pre-post)
Assessing error, safety and quality of care
Quantitative measures of missing information in outpatient clinic records

Work Package 6
Organisational consequences and implications for future IT deployments and evaluations
Integration and summary of case study findings/conclusions; interviews with additional NHS CRS stakeholders; conclusions and recommendations for NHS policy and practice and future evaluations

Feed into

08/12/2011

PfIT, T, Brunel
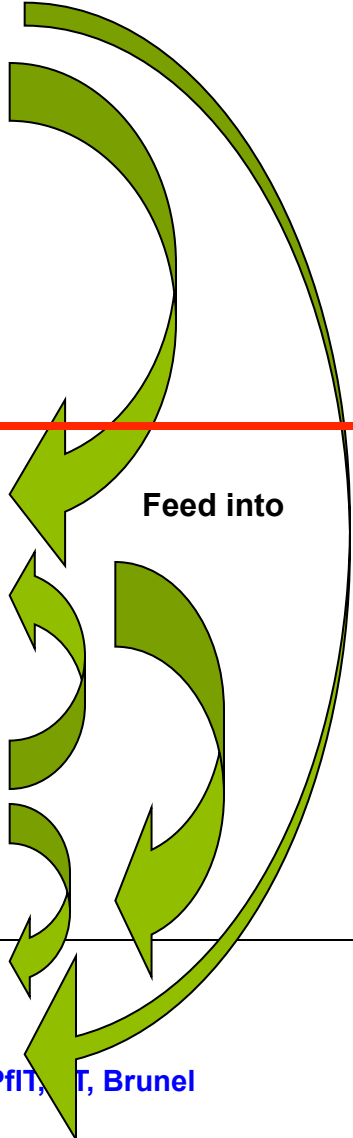
Methods

- **Design:** Prospective, longitudinal, multi-site case study evaluation

- **Sampling of cases:** Purposive sampling to recruit a

 diverse range of secondary care NHS Trusts in England and to include sites implementing all three applications

- **Settings:** 12 secondary care NHS Trusts (9 acute, 3 MH)

The Sociotechnical Framework (Cornford et al. 1994)

	System Functions	Human Perspectives	Organizational Context
Structure	**Technical detail**	**Work conditions and implied requirements**	**Sustainability, opportunity costs, management needs, skill requirements**
Process	**Information processing; correct and valid**	**Human participation in tasks; social interaction**	**Altered delivery and practice**
Outcome	**Relevant, applicable, reliable**	**Quality of service, and outcomes**	**Effect in the world**

Overview of complete dataset
(Takian et al. 2011)

Total no. of site interviews (by WP)	Hours of on-site observations	No. of site other documents	Other data collected (e.g. field notes; outpatient surveys; CLICS surveys)
Total: 498 WPs1-3: 310 WP4: 36 WP5: 60 WP6: 37	**590**	**498**	**38** sets of field notes; **130** CLICS surveys; **4,684** outpatient surveys

Current deployment of NHS CRS

- Relative successes in some aspects of NPfIT(e.g. N3 & PACS), the implementation of the NHS CRS far more complex than anticipated.

- As of November 2011:

- NME: 8/219 Trusts (4%) live with limited Lorenzo functionality

- The South: 17/45 (38%) Community and Mental Health Trusts live with RiO and 9/40 Acute Trusts (23%) live with Cerner Millennium

- London: 6/32 Acute Trusts (19%) live with Cerner Millennium, and 8/10 (80%) Mental Health 30/31 Primary Care Trusts (97%) live with RIO.

Key findings

1. Local consequences of implementation

3. Assessing error, safety and quality of care

4. Wider contextual considerations

1. Local consequences of implementation

- **Multiple local visions**:

  ? data-centric, ? business-centric, ? policy-centric

- **Complex supply chains:**

  hospitals-LSPs-software suppliers-government

- **Lack of local control**: budgetary, contractual arrangements, customising software

Complex supply chains and convoluted communication processes

"…it takes much longer to do anything than you think it's going to take and there's so many people involved, so many committees involved to get anything done at the supply side that it takes a long time to get things sorted and that's unfortunate"
(Interview, IT Manager, Site H).

Usability problems

"Two fundamental criticisms remain that the system is not, and what you see on the screen is not intuitive…the other criticism of it is the speed of the system that you don't, when you expect to move from one field to another it is not instant and that is a big concern in a system where one feels instinctively that it ought to be"
(Interview, Healthcare Professional).

User work practices

"What they [referring to healthcare professionals] usually do while they are in with the patient is, they make the notes as they go along and they are the record. They've raised concerns that they will be in with the patient and they are then going to have to come and type those notes up."
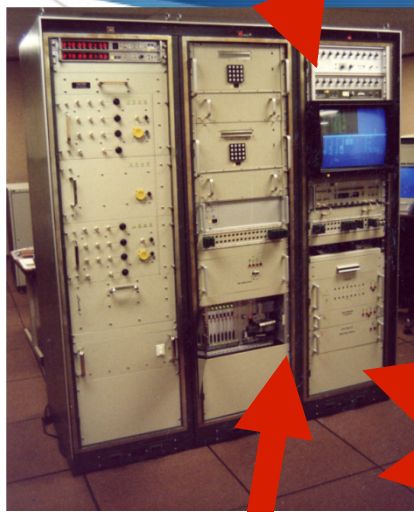(Interview, Healthcare Professional, Site M).

Doctors and allied health professionals

GPs

Hospital

Patients

BT

NHS Connecting for Health

CERNER

2. Assessing error, safety and quality of care

- Controlled before-and-after study

  - outpatient management software

- No improvements in availability of clinically important information.

3. Wider contextual considerations

- **Progress slower than anticipated:** clinically-rich functionality limited, of 377 sites 78 (21%) had begun the process of implementing.

- **Gradual move from the initial top-down implementation model** to increase local involvement in decision making, coherent approach to interoperability still lacking.

- Significant **turnover amongst the senior staff** within the government coordinating the strategy.
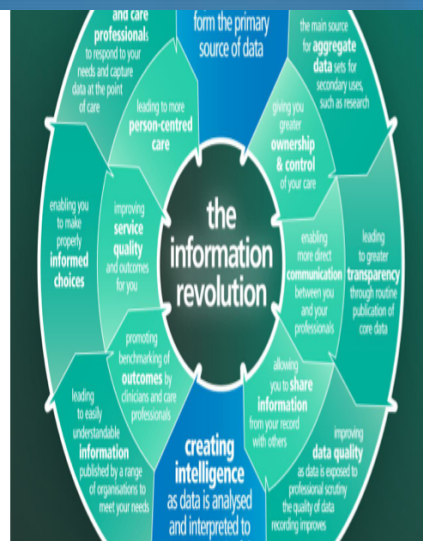
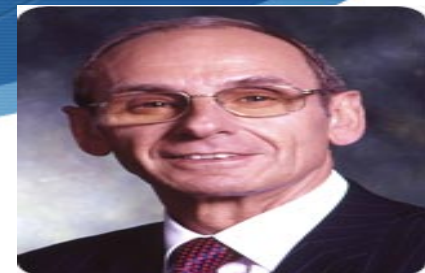- **Highly political and public** nature of the project; govt change

Progress

"… you've got bits of functionality implemented in very small areas….but you're not seeing the rollout of that functionality to the rest of an organisation and how on earth are you going to progress if they're not doing that…"

(Interview, Independent Sector)

Government responses

- Reorganisation

- Re-branding

- Expansion of remit

- Independent evaluations

NHS IT programmes: competing narratives

The policy story

Central procurement

Standardisation

Tight governance

State-of-the-art security

Transparency

Patients at the centre

The critical story

State domination

Loss of contingency

Loss of local control

Loss of workability

Data overload

Technology at the centre

INFORMATION TECHNOLOGY, CONTROL AND POWER: THE CENTRALIZATION AND DECENTRALIZATION DEBATE REVISITED*

BRIAN P. BLOOMFIELD

ROD COOMBS

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ABSTRACT

This article addresses the conceptualization of power in relation to the use of computers in organizations. Commonly held views that the application of computer based information systems leads to either a centralization or a decentralization of power and control, or that computers are merely information

The troubled NPfIT

REPORT BY THE
COMPTROLLER AND
AUDITOR GENERAL
HC 888
SESSION 2010–2012
18 MAY 2011

Department of Health

The National Programme for IT
in the NHS: an update on the delivery
of detailed care records systems

National Audit Office

18th May 2011

£2.7 billion spent to date on Care Records Service "does not represent value for money"

"no grounds for confidence that the remaining planned spending of £4.3bn will be any different"

The Empire falls?

EDITORIAL

The rise and fall of England's National Programme for IT

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DECLARATIONS

peting interests
None declared

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AS

Contributorship

During nine turbule...
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£12bn NHS computer system is scrapped... and it's all YOUR money that Labour poured dow the drain

- Sum would pay 60,000 nurses' salaries for a decade
- Scheme replaced with cheaper regional alternatives
- Decision comes after report said IT system was not fit for the NHS

By DANIEL MARTIN

Last updated at 6:08 PM on 22nd September 2011

SYSTEM FAILURE!

A Private Eye special report by RICHARD BROOKS

How this government is blowing £12.4bn on useless IT for the NHS
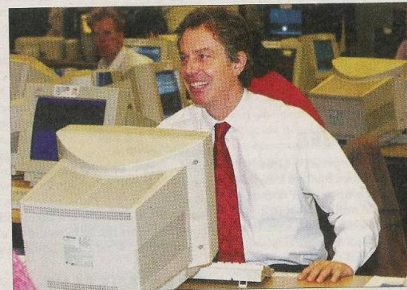
CLUELESS: Tony Blair, who can barely use a computer himself, naively believed that a grandiose IT project could transform the NHS

"Waste and inefficiency in the NHS is intolerable", declared Health Secretary Patricia Hewitt one year ago amid mounting deficits. "A penny wasted is a penny stolen from a patient." This is the story of the theft of 1,240,000,000,000 pennies from patients through an IT

such was the development of the healthcare IT market that by March 2003 McKinsey's Bennett reported that there were 27 "entirely viable and interesting vendors" with suitable software packages to sell.
Yet in February 2002 when Pattison crossed

NHS CRS & NPfIT, AT, Brunel

Conclusions

- A top-down, centrally driven policy to deliver standardised electronic health record systems to diverse, local NHS organisations contributed to deployment delays and frustrations

- The standardised approach has needed to evolve to permit greater flexibility and local choice in EHR systems and their delivery

- There is a need to clarify the type and scale of detailed EHRs that are now wanted and affordable

- A realistic timescale for achieving detailed EHRs must recognise that it is an incremental and iterative process, requiring active engagement from hospital clinicians and managers

- *This timescale for adoption and realisation of benefits is likely to be years, if not decades…*

Heading back to the 1990s?

- 2011 IT review addresses some concerns about the future for the improved national NHS IT infrastructure already delivered by the NPfIT, and addresses NHS concerns about local NHS

- For example, how will NHS organisations afford to pay for new IT systems delivered outside existing NPfIT contracts and when those contracts end altogether in 2015

- How will the NHS hand back local responsibility for healthcare IT when most hospitals have low or no appropriate informatics experience and expertise

- What structures and mechanisms are to be in place to ensure the quality and safety of future NHS IT systems and how will interoperability be ensured

NHS plans £20bn emergency budget cuts

Mary Bowers

💬 15 COMMENTS | ✔ RECOMMEND? (10)

The NHS is planning emergency budget cuts that could result in the loss of thousands of beds and tens of thousands of jobs, it has been reported.

According to documents obtained by *The Daily Telegraph*, the health service is planning £20 billion of cuts to cover the black hole left by the Government's spending freeze.

The plans, released by ten Strategic Health Authorities, draw proposals for swingeing cuts across hospitals and health clinics. These could include the sacking of up to 10 per cent of staff in some areas of the country, cutbacks to ambulance services and

NUTRITION ADVICE

08/12/2011

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OPEN ACCESS

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