Best Before?

An Investigation into the Crumbling State of NHS Hospitals and Equipment

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LIBERAL DEMOCRATS

Summary

The main findings of *'Best Before'* were:

- Essential diagnosis and treatment of diseases like cancer is being delayed because of a lack of working equipment
- Nearly 2 in 5 linear accelerators (used in cancer treatment) are out of date
- Nearly a third of MRI scanners (used in cancer diagnosis and treatment) in the NHS are past their 'best before date'
- 1 in 10 CT scanners are 'past their best before date'. These are used for the diagnosis of cancer, brain, organ and bone injuries, and the assessment of heart disease
- In 1 in 4 theatre units in UK hospitals, about half of the equipment has passed its 'generally agreed replacement age'
- Between September 2001 and June 2002, the National Patient Safety Agency received 2394 reports from trusts relating to lack of adequate facilities and equipment and 886 reports relating to medical devices
- The total backlog of hospital repairs is £3.4 billion. That is £117 per taxpayer
- It will cost over half a billion pounds to tackle even the backlog of repairs needed for the buildings to attain an acceptable standard of safety
- 10% of patient areas in the NHS are unsafe

Introduction

Funding in the NHS is streamed as 'capital' and 'revenue' so that large purchases can be dealt with separately. Capital funding covers building work and repairs and major pieces of equipment. Unfortunately this type of purchasing in the NHS is very haphazard and money can be diverted away from capital spending to pay off debts or spend on more immediate priorities. At the end of the financial year, trusts can ask permission from the Secretary of State to move funding from their capital budgets into revenue to balance the books. This is simply a way of using money that should be spent on repairs to hide other debts. Sometimes charitable funding is used to purchase large pieces of equipment, but then there is no money to pay for repairs and maintenance and often there is no long term planning for when equipment needs to be replaced. Problems like this in the past have led to a huge backlog of repairs and maintenance in the NHS and to high proportion of equipment being past its best before date. This report examines key examples of this problem.

Major Equipment

Parliamentary research has revealed a shocking backlog in replacing old equipment. The issue is particularly bad in radiotherapy (a part of cancer treatment). The President of the Royal College of Radiologists, Dr Ash said:

"Currently essential treatment for many patients is being delayed – and that is leading to unnecessary deaths – simply because we do not have sufficient equipment and staff … to deliver the life saving radiotherapy treatment for the cancer patients who need it".

Radiotherapy Equipment

The Royal College published a report which found that many pieces of equipment used for radiotherapy were very old[1]:

- In 1997, 25% of linear accelerators were aged 10 years or more compared with 38% in 2002. In 2002, 36% of simulators and 32% of planning computers were also aged 10 years or more
- Over the last 5 years waiting times for radiotherapy have increased. The number of out-of-date machines has risen and the inequalities of access and provision have not been tackled.

The report stated that *"It is just not possible to deliver modern radiotherapy with outdated equipment".*

MRI Scanners

One of the key pieces of capital equipment in any hospital is an MRI scanner. Magnetic Resonance Imaging (MRI) involves the use of strong magnetic fields. It is used to demonstrate the soft tissues of the body and imaging the brain, spinal canal and joints. Recent technological developments mean that MRI is being used increasingly in the assessment of cancer patients and when imaging the blood vessels of the body[2].

According to the Commission for Health Improvement, older scanners do not work efficiently. "This may be due to the… age of machines (older ones work less efficiently)[3]. According to the Royal College of Radiologists[4], The maximum recommended age is seven years for all equipment types, except for X-ray and some fluoroscopy which is ten years. Parliamentary questions revealed that many scanners within the NHS are older than this recommended seven years.

Nearly a third of MRI scanners in the NHS are past their 'best before date' with official figures showing that 64 MRI scanners are more than seven years old, which is the maximum recommended age.

The oldest scanner at North Middlesex University Hospital was more than twice that age, at 15 years old.

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[1] *Equipment, Workload and Staffing for Radiotherapy in the UK 1997-2002*, Royal College of Radiologists, October 2003

[2] Taken from a Department of Health press release: reference 2003/0209: Thursday 22nd May 2003

[3] CHI National Service Framework Assessments no.1: Nhs Cancer Care In England And Wales

[4] *Quality Specification for Purchasers* (Ref. 10). Suggested Replacement Ages of Equipment, Appendix 1.

CT Scanners

Computerised tomography (CT) scanners[5] use X-rays to generate an image of parts of the body. While traditional X-rays use a single X-ray beam, CT scans provide more detail by sending multiple beams from different angles, and using a computer to interpret them.

CT is particularly useful for:

- Investigating suspected head injury or suspect neurological signs (symptoms of problems with the brain/central nervous system)
- Diagnosis and staging of cancers;
- Assessing organ and bone damage caused by trauma
- Screening for and assessing cardiac disease
- Assessing osteoporosis

1 in 10 CT scanners are 'past their best before date', in that they were installed over seven years ago.

Waiting Times

There is no published information on waiting times for CT scans, unless you are an urgent cancer referral under the two week wait:

Mr. Burstow: To ask the Secretary of State for Health if he will list the *(a)* average and *(b)* maximum waiting time in (i) England, (ii) each strategic health authority and (iii) each NHS trust for CT scans in each of the last six years. [132781]
Miss Melanie Johnson: Data is not collected centrally on waiting times for computed tomography (CT) scans. The length of time that a patient may have to wait for a scan is dependent on their clinical condition. Emergency cases need to be seen immediately. Other cases will be
carried out as quickly as possible, dependent on the clinical priority of all patients waiting to be scanned.
Where a CT scan forms part of the diagnostic process for a patient urgently referred with suspected cancer, this will be covered by the target of a maximum two months wait from urgent referral to first treatment, which will be in place for all cancers by the end of 2005.
The Cancer Capital Modernisation Fund and the NHS Cancer Plan has provided funding for 200 new and replacement CT scanners to increase the capacity of diagnostic services by 2004. *3 Nov 2003 : Column 530W*

This means that the Government have no idea how long patients are waiting for important scans, for example to detect dangerous head injuries or assess heart disease. Patients have to suffer very long waits before even finding out if they have a disease and one of the key reasons is the appalling state of some NHS equipment. But it is difficult to hold the Government to account when there are no published statistics[6].

[5] Information from Alison Coutts, lecturer in applied biological sciences, Nursing Times
[6] Parliamentary written answer: 4 Nov 2003 : Column 661

Other Equipment Issues

Nursing Times magazine has recently launched a campaign to highlight the dangers of nurses working without the right equipment. The campaign has highlighted the use of out of date, broken or inappropriate equipment, along with the re-use of products which should be single use.

Paul Burstow MP has tabled a motion in Parliament to support the campaign[7]:

That this House congratulates the Nursing Times for its campaign to improve the availability and quality of medical equipment used by nursing staff; notes that a survey carried out by the journal found that one in five nurses said they had been forced to re-use equipment intended for single use only, one in five said they have been expected to use broken equipment, one third said they had been expected to use equipment they had not been trained to use, and one in 10 said they could not access defibrillators; and calls on the government to take steps to ensure that nurses have the equipment they need to do their jobs, including ensuring that all equipment is maintained and in good working order, that appropriate training is provided, that single use equipment is not re-used, and that outdated equipment is replaced.

The magazine found that:

- In 25% of theatre units in UK hospitals, about 50% of the equipment has passed its generally agreed replacement age
- Between September 2001 and June 2002, the National Patient Safety Agency received 2394 reports from trusts relating to lack of adequate facilities and equipment and 886 reports relating to medical devices

The Nursing Times 'Equip us to Care' survey heard of a nurse told to use bin liners over her hands instead of gloves and of paediatric nurses told to buy their own thermometers.

Our Crumbling Hospitals

Years of under funding of the health service, combined with a lack of long term planning has led to a huge backlog of repairs. Many hospitals are suffering from an appalling neglect of maintenance. This is particularly true for some mental health trusts which are still based in old asylums. The total backlog of all repairs is £3.4 billion. That is £117 per taxpayer[8]. This has got significantly worse under Labour, as the cost in March 1997 was £2.8 billion. The Government's NHS Plan had a modest target for the backlog to be reduced by a quarter by 2004[9], but since the plan was published, the backlog has continued to increase.

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[7] EDM 1683: NHS MEDICAL EQUIPMENT 15.09.03

[8] There are 29,400,000 income taxpayers in 2002/03, according to the Inland Revenue (http://www.inlandrevenue.gov.uk/stats/tax_receipts/g_t04_1.htm). £3,447,479,000 divided by the number of taxpayers equals £117.

[9] The NHS will have cleared at least a quarter of its £3.1 billion maintenance backlog, accumulated through two decades of under-investment, by 2004 (NHS Plan, Department of Health, July 2000).

According to NHS Estates, the backlog cost means the amount of money it would take to make the building 'sound, operationally safe and exhibiting only minor deterioration'.

There are many reasons for this huge backlog. The situation got off to a bad start, with the legacy of poor hospital design meaning a number of buildings that won't last. Continual under-funding under the Conservatives and under Labour in the last Parliament led to many insubstantial short-term repairs because of a lack of cash to replace or renovate properly.

Funding has also often been re-allocated onto day-to-day expediencies. Some of the key Government targets on waiting times have caused overspending as they are considered so essential by hospital managers, in fear of losing their jobs. Money is then diverted from capital funds to 'balance the books' at the end of the year. The interference from Ministers forcing hospitals to meet their targets has meant that hospitals have neglected more long-term local planning.

Safety

A large proportion of the backlog cost covers the cost of repairs simply to meet safety standards. England's hospitals are in such a shocking state that it will cost over half a billion pounds to tackle even the backlog of repairs needed for the buildings to attain an acceptable standard of safety. The Government is spending this kind of money in setting up foundation hospitals – so why is it not available for urgent safety repairs?

While our hospitals are dilapidated, the Government are going around with buckets and mops, trying to meet cleanliness targets. The repairs are needed for fire safety regulations, but also crumbling hospitals make it harder to stop infections.

The situation is so bad that 10% of patient areas in the NHS are unsafe. The Government collects information from NHS trusts on the:

"*gross internal floor area of all hospital departments which provide patient care and where patients are exposed to risk and the percentage of it (if any) that is not compliant with statutory health and safety and fire safety requirements*" (Source Parliamentary answer 20 Nov 2003)

10% of patient occupied floor space in the NHS in England does not comply with legal health and safety or fire safety regulations. London had the worst problem. The worst strategic health authority was South West London, with over a quarter (28%) of areas below compliance. Surrey and Sussex and the West Midlands South had a fifth of areas below compliance.

False Economy

Hospitals attempting to save money by re-using equipment and putting off repairs may be causing themselves huge bills in the long-term. The cliché of a stich in time saves nine is applicable here. Dilapidated hospitals cost a lot more to fix if they are left for longer. Old or cheap mattresses can cause a rise in pressure ulcers which cost more to treat and mean that patients stay in hospital for longer. A nurse consultant at United Lincolnshire Hospitals NHS Trust estimated the cost of a pressure ulcer as £1500 compared to £200 for a new pressure mattress. The re-use of equipment can lead to accidents or infections which can even endanger patients' lives. Lessons must be learned from the death of Tony Clowes, a nine-year-old boy who died because his oxygen pipe became blocked. The pipe, which was meant for single use only, had been stored in a draw and become blocked with another piece of equipment. When asked why it was reused, the head of clinical quality for the region said: *"I think it's probably become custom over the years".* Practices endangering patient safety should not become custom. A parliamentary question from Paul Burstow MP uncovered a survey which had shown that ten per cent of responding hospitals were re-using single use devices[10].

Recommendations

- Years of under funding under the Tories and Labour have led to this situation. This is unacceptable in the NHS of the 21st Century. We have argued for the extra resources for the NHS. They now need to be spent wisely, avoiding the false economies of cheap and out of date equipment

- Hospitals, forced to focus simply on Labour's targets, are failing to plan for when equipment needs replacing. Money gets diverted from new equipment into paying off debts. Ministers must stop interfering and let frontline staff take a long term view, and get on with the job

- Clinicians (doctors, nurses, therapists) should be able to be involved in the purchasing of equipment. They should be able to advise on where savings can be made without compromising patient care.

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[10] **Mr. Burstow:** To ask the Secretary of State for Health pursuant to his answer of 2 October 2003, ref 130877, regarding re-use of single use medical equipment, if he will set out the results of the previous research; and what action was taken in response to its findings. [132217]
Mr. Hutton: The Patients Association, in collaboration with the Infection Control Nurses Association, the Institute of Sterile Services Management and the National Association of Theatre Nurses, reported from a survey in 2000 ("Hospital Acquired Infection and the Reuse of Medical Devices: The Patient's Association") that ten per cent. of responding hospitals were re-using single use devices. The Medical Devices Agency issued a revised Bulletin in August 2000 ("Single-use Medical Devices:
23 Oct 2003 : Column 732W
Implications and Consequences of Reuse") and further guidance was issued by the Department in circular HSC 2000/32 "The Decontamination of Medical Devices".

- Hospitals could set up equipment libraries (some already do) to keep all equipment that is not needed every day. This way equipment could be effectively shared (rather than kept unnecessarily by one department). It would avoid waste and repairs would be arranged quickly, not put off because it is no one's job to organise it.

Appendix A: MRI Scanners

MRI scanners which are seven years and older[11]

Hospital Trust	Year installed
North Middlesex University Hospital	1988
Walton Centre for Neurology & Neurosurgery	1991
United Bristol Healthcare (2 out of 3)	1992 1996
Brighton and Sussex	1993
Christie Hospital	1993
Countess of Chester Hospital	1993
Guys and St Thomas' Hospital	1993
Maidstone & Tunbridge Wells	1993
Royal Liverpool & Broadgreen University Hospitals	1993
Salford Royal Hospitals	1993
South Tees Acute Hospitals	1993
University College London Hospitals	1993
Barts and the London (2)	1993 1994
St Georges Healthcare (2)	1993 1996
Bedford Hospital	1994
Buckinghamshire	1994
East Kent	1994

[11] Parliamentary answer, 25 September 2003, PQ08477

Epsom & St Helier	1994
North Bristol	1994
Nottingham City Hospital	1994
Oxford Radcliffe Hospitals	1994
Princess Alexandra Hospital	1994
Robert Jones & Agnes Hunt Orthopaedic Hospital	1994
Royal Liverpool Children's	1994
Southport & Ormskirk Hospital	1994
The Ipswich Hospital	1994
The Luton and Dunstable Hospital	1994
The Newcastle Upon Tyne Hospitals	1994
University Hospital Birmingham	1994
University Hospital of North Staffordshire	1994
Whipps Cross University Hospital	1994
The Leeds Teaching Hospitals (2 out of 4)	1994 1995
Central Manchester & Manchester Children's University Hospitals (2)	1995 1995
East & North Hertfordshire	1995
East Cheshire	1995
East Somerset	1995
Northampton General Hospital	1995
Northern Lincolnshire & Goole Hospitals	1995
Pennine Acute Hospitals	1995
Princess Royal Hospital	1995
Queens Medical Centre Nottingham University Hospital	1995
Royal Devon & Exeter Healthcare	1995
Southend Hospital	1995
The Royal Marsden	1995
Whittington Hospital	1995
Aintree Hospitals	1996
Great Ormond Street Hospital for Children	1996
Hammersmith Hospitals	1996
James Paget Hospital	1996
Kings College Hospital	1996
North Cheshire Hospitals	1996
North West London Hospitals	1996
Poole Hospital (2)	1996 1996
Royal Bournemouth & Christchurch Hospitals	1996
Royal Free Hampstead	1996
Royal Surrey Country Hospital	1996

Royal United Hospital Bath	1996
St Mary's Hospital	1996

That is a total of 64 MRI scanners. There are, in total 206 MRI scanners in the NHS. This means that 31% of all the MRI scanners in the NHS are older than the recommended maximum age.

Appendix B: CT Scanners

CT Scanners currently installed in the NHS, aged over seven years[12]:

Hospital Trust	Year installed
St George's Healthcare	1992
Wirral Hospital	1993
Stockport	1994
Trafford Healthcare	1994
Barts and the London	1995
Bolton Hospitals	1995
Central Manchester & Manchester Children's University Hospitals	1995
Dartford and Gravesham	1995
Epsom and St Helier	1995
George Eliot Hospital	1995
Kings College	1995
Lancashire Teaching Hospitals	1995
Mid Essex Hospital Services	1995
North Cumbria Acute Hospitals	1995
Oxford Radcliffe Hospitals	1995
Peterborough Hospitals	1995
Royal Free Hampstead	1995
West Suffolk Hospitals	1995
Southampton University Hospitals	1995 1996
Addenbrookes	1996
Essex Rivers Healthcare	1996
Guys and St Thomas' Hospital	1996 1996
Hammersmith Hospitals	1996
Hull & East Yorkshire Hospitals	1996
James Paget Healthcare	1996
Northumbria Healthcare	1996
Poole Hospital	1996
Royal Cornwall Hospitals	1996
The Royal Marsden	1996
University Hospital of North Staffordshire	1996
University Hospitals of Leicester	1996
West Hertfordshire Hospitals	1996
Worcestershire Acute Hospitals	1996

[12] Parliamentary Answer 3 November 2003 : Column 516W

That is a total of 35 CT scanners. There are, in total 322 CT scanners in the NHS. This means that 11% of all the CT scanners in the NHS are older than the recommended maximum age.

Appendix C: Hospital Maintenance Explained

The physical condition of NHS estates are assessed on three categories:

a) Buildings (internal and external)
b) Mechanical systems
c) Electrical systems

The estate is scored out of 10 for each category. The aggregate score of the three elements can be used to produce an overall ranking of the physical condition of the estate:

A 25+ as new and can be expected to perform adequately over its expected shelf life

B 20-24 sound, operationally safe, and exhibits only minor deterioration

C 14-19 operational, but major repair or replacement will be needed soon, that is, within three years for building elements and one year for engineering elements

D under 14 runs a serious risk of imminent breakdown

X added to C or D impossible to improve without replacement

Following appraisal, the cost to improve a C or D condition building to a B condition, should be recorded. Condition B is to be considered an operationally acceptable standard for all building and engineering elements.

A parliamentary question from Dr Evan Harris MP found[13]:

2000-01	**£000**	**£000**	**£000**	**£000**
Region	**Cost to achieve fire safety estate code condition B**	**Cost to achieve health and safety estate code condition B**	**Cost to achieve physical condition B**	**Total backlog cost**
Northern and Yorkshire	22,540	27,279	408,689	458,507
Trent	51,315	43,496	199,643	294,454
Eastern	21,607	17,779	269,018	308,404
London	62,937	97,676	687,774	848,387

[13] 28 January 2003, Commons Hansard Column Reference 814W.

South Eastern	25,113	56,954	375,483	457,551
South West	10,270	26,285	212,008	248,564
West Midlands	23,632	33,834	401,518	458,983
North West	23,130	38,105	311,394	372,629
Total for England	240,544	341,409	2,865,526	3,447,479

Total cost for England is £3,447,479,000
Total cost to make hospitals safe (fire safety plus health and safety) is £581,953,000

Backlog maintenance is defined as "the amount of money required to bring the physical condition of the estate, the statutory safety condition and the fire safety condition, up to Condition B. Condition B is broadly defined as 'sound, operationally safe, and exhibits only minor deterioration'.

A written answer prompted by Simon Hughes MP, then Liberal Democrat Health Spokesman, in 1998 shows the costs have risen under Labour.

Mr. Simon Hughes: To ask the Secretary of State for Health if he will list by NHS region the hospital maintenance backlog on 1 July. [53295]
Mr. Milburn: Information about backlog maintenance as at 1 July 1998 is not available. The latest available figures relate to the year ended March 1997, and are as follows:

Cost to upgrade to Condition B £000	***Total***
Northern and Yorkshire	389,804
Trent	207,031
Anglia and Oxford	241,965
North Thames	774,657
South Thames	369,546
South and West	234,293
West Midlands	361,041
North West	276,627
Total	2,854,964

Notes:
1. Backlog maintenance is defined as "the amount of money required to bring the physical condition of the estate, the statutory safety condition and the fire safety condition, up to Condition B
2. Condition B is broadly defined as 'sound, operationally safe, and exhibits only minor deterioration'
3. The figures for the year 1997-98 will be available in November 1998

Appendix D: Hospital Safety

Parliamentary Written Answer 10 November 2003, column 137W:

Mr. Burstow: To ask the Secretary of State for Health pursuant to his answer of 14 October 2003, *Official Report*, column 52W, on the NHS Estate (Health and Safety), what percentage of patient-occupied floor area was below *(a)* health and safety compliance and *(b)* fire safety standards in (i) England, (ii) each strategic health authority and (iii) each NHS trust in each year since 1997. [133430]

Mr. Hutton: Nationally, figures for the proportion of patient occupied floor area that is not compliant with statutory health and safety and statutory fire safety regulations, including compliance with the National Health Service Firecode Standards, are 9.71 per cent. and 7.31 per cent. in 2002–03, a reduction from the 2001–02 figures.

Data collection began in 2001–02 and the information requested has been placed in the Library. Owing to trust mergers in 2002–03, direct comparison with data for 2001–02 is not possible in all cases.

These figures reflect the proportion of the estate that is not fully compliant. Non-compliance covers a wide variety of conditions, including that which is just below standard. Therefore, the figures do not indicate levels of risk. Trusts make every effort to remedy any concerns from local enforcement bodies as quickly as possible. This is reflected in the very small numbers of injuries and deaths arising as a result of fires and reportable health and safety incidents in NHS hospitals in England, despite the very high numbers of people who use healthcare premises.

Percentage of patient occupied floor area not in Statutory Health and Safety Compliance		
Strategic Health Authority	2001/2 %	2002/3 %
Avon, Gloucestershire & Wiltshire	14.94	1.88
Bedfordshire and Hertfordshire	14.80	12.13
Birmingham and the Black Country	15.83	6.33
Cheshire and Merseyside	1.70	1.21
County Durham & Tees	0.55	2.29

Valley		
Cumbria and Lancashire	15.83	11.37
Dorset and Somerset	1.73	2.84
Essex	8.70	10.65
Greater Manchester	9.11	11.13
Hampshire and Isle of Wight	1.79	4.55
Kent and Medway	8.81	5.00
Leicestershire, Northamptonshire and Rutland	13.70	12.15
Norfolk, Suffolk and Cambridgeshire	4.20	12.10
North and East Yorkshire and North Lincolnshire	19.05	18.02
North Central London	15.64	27.24
North East London	6.37	12.19
North West London	9.54	6.27
Northumberland, Tyne and Wear	9.87	2.04
Shropshire and Staffordshire	10.65	16.29
South East London	3.40	6.59
South West London	15.20	27.98
South West Peninsular	2.39	2.75
South Yorkshire	3.94	3.47
Surrey and Sussex	21.96	21.89
Thames Valley	20.99	10.96
Trent	1.96	4.68
West Midlands South	40.84	20.45
West Yorkshire	14.09	13.26
England Total	**10.55**	**9.71**

Percentage of patient occupied floor area not in Statutory Fire Safety Compliance		
Strategic Health Authority	2001/2 %	2002/3 %
Avon, Gloucestershire & Wiltshire	9.33	2.86
Bedfordshire and Hertfordshire	17.60	15.04
Birmingham and the Black Country	4.62	3.27

Cheshire and Merseyside	1.40	0.47
County Durham & Tees Valley	0.24	0.90
Cumbria and Lancashire	10.85	7.02
Dorset and Somerset	2.03	2.64
Essex	8.54	9.07
Greater Manchester	9.24	7.72
Hampshire and Isle of Wight	0.98	1.72
Kent and Medway	6.14	2.40
Leicestershire, Northamptonshire and Rutland	10.87	17.13
Norfolk, Suffolk and Cambridgeshire	2.67	9.72
North and East Yorkshire and North Lincolnshire	13.76	13.69
North Central London	10.70	18.46
North East London	6.69	10.34
North West London	7.17	4.63
Northumberland, Tyne and Wear	21.61	3.26
Shropshire and Staffordshire	6.56	15.05
South East London	1.08	2.56
South West London	25.08	28.80
South West Peninsular	3.30	3.66
South Yorkshire	2.56	2.84
Surrey and Sussex	16.41	7.94
Thames Valley	13.96	11.15
Trent	3.12	3.67
West Midlands South	29.88	19.92
West Yorkshire	8.92	6.86
England Total	**8.57**	**7.31**