



House of Commons
Committee of Public Accounts

Reducing brain damage: faster access to better stroke care

**Fifty-second Report of
Session 2005–06**

*Report, together with formal minutes,
oral and written evidence*

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The Committee of Public Accounts

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The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the Internet at <http://www.parliament.uk/pac>. A list of Reports of the Committee in the present Session is at the back of this volume.

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Summary

Stroke, the brain equivalent of heart attack, is one of the top three causes of death in England, and the leading cause of adult disability. There are around 110,000 strokes each year in England, a quarter of which occur in people under 65. Some 300,000 people in England are living with moderate to severe disabilities as a result of stroke. However many strokes are preventable; and developments over the last decade have shown that fast and effective acute treatment of stroke, and high quality rehabilitation, can significantly reduce death and disability.

Stroke costs the economy about £7 billion a year. The direct cost to the National Health Service is around £2.8 billion—more than the cost of treating coronary heart disease—yet stroke has not, to date, been given as high a priority by the Department of Health as coronary heart disease and cancer.

On the basis of a Report¹ by the Comptroller and Auditor General, the Committee took evidence from the Department of Health on the provision of stroke care in England.

We found that the cost of stroke, in both economic and human terms, could be reduced by re-organising services and using existing capacity more wisely to prevent more strokes from occurring, to provide more rapid and responsive acute stroke treatment, and to coordinate post-acute support and rehabilitation services more effectively.

Under the National Health Service's current approach to stroke care

- Stroke is not treated as a medical emergency in the same way as a suspected heart attack, though the shorter the time between the stroke and the treatment, the greater the chance of reducing damage to brain tissue.
- Brain scans for many stroke patients are being delayed, though a scan is vital for determining appropriate treatment.
- A significant proportion of stroke patients are not being treated on a specialist stroke unit, despite evidence that this is the most clinically effective model for acute care.
- There is considerable variation between hospitals as to what a specialised stroke service entails.
- Public awareness of the symptoms and impact of stroke, and how strokes can be prevented, is very low.
- There are insufficient nursing, therapist and other specialist staff with expertise in stroke care across the primary and secondary healthcare sectors, and there is scope to improve training for the existing stroke workforce in the National Health Service (for example, by training stroke consultants to interpret brain scan results).

1 C&AG's Report, *Reducing brain damage: faster access to better stroke care* (HC 452, Session 2005–06)

- The carers of stroke survivors, and stroke survivors living on their own, are often not accessing the social and care services they need.
- There is low awareness on the part of members of the public and general practitioners about the fact that a transient ischaemic attack ('mini stroke') is a strong indication of increased risk of major stroke, and requires immediate investigation and treatment.

The Department of Health has accepted that it needs to do more to raise public and professional awareness of the seriousness of stroke, improve rapid access to brain scanning and appropriate treatment for stroke patients, deliver stroke care through organised stroke units, and provide high quality rehabilitation and coordinated post-acute support for patients and carers, as recommended in the C&AG's Report. It has agreed that implementing these recommendations could save the NHS £20 million a year, and save as many as an extra ten lives each week. It has established a Vascular Programme Board which is now developing a stroke strategy drawing on the approaches it has taken to improve coronary care over the last five years.

Conclusions and recommendations

- 1. Stroke is the third biggest cause of death in England, after heart disease and cancer. It is also the leading cause of adult disability.** Although historically stroke has been seen as an inevitable risk of growing old, with little to be done for stroke patients other than trying to make them comfortable, a quarter of strokes occur in people under the age of 65. Fast and effective acute treatment, and high quality rehabilitation, can significantly reduce death and disability.
- 2. Stroke costs the economy £7 billion a year, including £2.8 billion in direct care costs to the NHS.** Stroke costs the NHS more than heart disease, and should receive the priority warranted by its impact and cost. To raise the profile of stroke with commissioners and clinicians, the Department of Health should work with the Healthcare Commission and the Royal College of Physicians to develop benchmarks for stroke care—for example the proportion of suspected stroke patients receiving a brain scan within three hours, or the proportion of stroke patients being treated on a stroke unit.
- 3. In most European countries stroke is regarded as a neurological condition first and foremost, rather than an older people's condition.** In Sweden on average patients take just three to five hours to arrive on a stroke unit with early assessment of and access to rehabilitation. In England the median time to arrival on a stroke unit is 2 days and access to rehabilitation is patchy within and between hospitals. In leading hospitals in Australia, thrombolytic (clot-busting) drugs are given to around nine percent of eligible patients compared to one per cent in England. The Department should benchmark performance on these key performance indicators with other leading countries to identify areas where further lessons may be learned.
- 4. The last clinical audit of stroke showed that only 22% of stroke patients had a scan on the same day as their stroke, and most waited more than two days.** Scans for stroke patients are being delayed, though 'time lost is brain lost', and research shows that scanning patients immediately costs less, and results in better patient outcomes than scanning later. All suspected stroke patients should be scanned as soon as possible after arrival at the acute hospital, ideally within three hours, and none should wait more than 24 hours for a scan. All Accident and Emergency and Radiology departments should have protocols in place for the rapid admittance and referral for scanning of stroke patients.
- 5. There are 640 patients per stroke consultant, compared with 360 patients per cardiac consultant.** The limited number of health professionals with training in stroke is a barrier to providing high quality acute care and rehabilitation. Future workforce planning targets should enable the NHS to move to a position where there are as many stroke consultants per patient as heart disease consultants per patient.
- 6. Hospital staff are not always sufficiently well informed on how to respond to stroke.** The education and training provided to new triage nurses and junior doctors should include awareness of stroke and the need for urgent brain scans for stroke patients. The Department should train stroke consultants to interpret scans and make immediate treatment decisions. It should also continue to develop its

telemedicine programme so that, by 2007, staff managing stroke patients can access neuro-radiological expertise remotely.

- 7. By increasing the proportion of stroke patients who spend the majority of their time in hospital on a stroke unit by 25%, around 550 deaths per year could be prevented.** Although most hospitals now have such a unit, only around two thirds of stroke patients spend time on one, and what constitutes a stroke unit varies considerably between hospitals. All stroke patients should be admitted to a specialist stroke unit as soon as possible following diagnoses of their stroke. The Department needs to communicate clear guidelines for an acceptable stroke unit and Primary Care Trusts should deliver acute stroke care through a stroke unit that meets these guidelines. The Department should set challenging targets to improve the proportion of patients treated on a stroke unit.
- 8. The risk of stroke in the four weeks following a transient ischaemic attack (TIA, 'mini stroke') is around 20%.** All providers of primary and secondary care should have protocols in place for the referral of suspected or confirmed TIA patients, reflecting the Royal College of Physicians' guidelines that all patients in whom a diagnosis is suspected should be assessed and investigated within seven days. The indicator in the Quality and Outcome Framework for assessing primary care practices performance in relation to suspected stroke patients and which simply states "referral for a scan" should be amended to reflect the time bound element in the above protocol.
- 9. By reducing to 14 days the maximum waiting time for surgery for patients with narrowing (stenosis) of the carotid arteries in the neck, around 250 strokes a year could be prevented, yielding savings to the NHS of around £4 million.** TIA patients with diagnosed stenosis should not have to wait longer than 14 days after their TIA for surgery.
- 10. Three times more women die of a stroke than of breast cancer each year, and stroke is the major cause of adult disability, but public awareness of stroke and how to prevent it is low.** The Department should run an awareness campaign for stroke, focussing on its symptoms and the fact that it is a medical emergency requiring a 999 response. In developing this campaign, it should consider particularly how to engage with groups at higher risk of stroke, such as people of Afro-Caribbean and South Asian ethnicity.
- 11. Stroke survivors and their carers need support from many different health and social services, but about 50% of carers are not receiving needs assessments.** The Department should improve the provision of information to stroke carers, so they become aware of the services available to support them. Community services should be improved so that patients in the community are not overlooked. The Department should take into account in particular the needs of stroke survivors who live on their own, and may be particularly vulnerable to being overlooked by health and social care services.
- 12. Most of the burden of stroke occurs after discharge but post-hospital support services for stroke patients are often difficult to access.** During their hospital stay patients have access to on call help and care but on discharge the transition from

hospital to home can be traumatic. Around half of stroke patients receive rehabilitation services that meet their needs in the six months following discharge falling to 25% 12 months after discharge. The Department should evaluate the merits of Early Supported Discharge initiatives and other ways of improving access to therapies, and promote the early adoption of those that can be shown to reduce hospital stay and improve patients' chance of recovery.

1 The cost and impact of, and priority given to, stroke

1. Approximately 110,000 strokes, and a further 20,000 transient ischaemic attacks ('mini strokes') occur in England each year. There are around 300,000 people in England living with moderate to severe disabilities as a result of stroke. Stroke care costs the NHS and the wider economy about £7 billion a year. This figure is comprised of direct care costs to the NHS of £2.8 billion a year, informal care costs (e.g. costs of nursing homes borne by patients' families) of £2.4 billion a year, and a further £1.8 billion of wider economic costs (eg lost productivity due to mortality and morbidity).²

2. Stroke is more expensive for the NHS than coronary heart disease both because of longer hospital stays (an average of 28 days for stroke in comparison with 7 days for heart disease) and the greater burden of disability. The incidence of, and mortality rates for, stroke and coronary heart disease have decreased in recent years, probably due in part to better management of blood pressure, lower rates of smoking and greater awareness of the importance of a healthy diet and exercise. However, stroke mortality has decreased at a slower rate. Over the decade from 1992 to 2002 the chance that a stroke patient would die of their stroke remained constant (at around 24%), while for heart attack patients the chance of dying from their heart attack declined by about 1.5% each year.³

3. Despite the impact and cost of stroke, the Department of Health in setting priorities and allocating resources has up to now focussed on cancer and coronary heart disease, for each of which there is a dedicated published strategy and a national clinical director. The strategy for stroke has to date formed part of the National Service Framework for Older People, even though a quarter of strokes occur in people under the age of 65. **Figure 1** shows that stroke receives significantly less research funding than coronary heart disease, has far fewer registered specialist trainees, and attracts fewer points in the General Medical Services contract that determines GPs' pay. There are also 640 patients per stroke consultant, compared with 360 per cardiac consultant.⁴

2 C&AG's Report, para 1 and Figure 12

3 Qq 57, 86-87; C&AG's Report, Figures 2, 3

4 Qq 2-7; C&AG's Report, Figure 4

Figure 1: Costs and resources for stroke and coronary heart disease

	Stroke	Coronary heart disease
Annual direct healthcare costs	£2.8 billion	£1.9 billion
Number of in-patient hospital bed days annually	2.6 million	3 million
Average length of stay	28 days	7 days
Proportion of deaths caused by the condition in England and Wales in 2002	11%	19%
Department of Health research funding 2003–04	£9.4 million	£52 million
Number of research posts funded by charities and government agencies in the United Kingdom, 2000–01	7	455
Charity research funding in the United Kingdom, 2000–01	£2.6 million	£43 million
Percentage of hospitals with protocols with the ambulance service for managing patients (over and above the regular system)	16%	100%
Percentage of patients seen as an outpatient within 14 days	37%	95%
Percentage of patients treated at some time on a specialist unit	47%	100%
Number of patients per consultant	640	360
Status in the Joint Council for Higher Medical Training	As of 2004, a sub-specialty	A specialty
Number of trainees registered in England	6	430

Source: C&AG's Report, Figure 4

4. The Department has acknowledged that it is now time to give a great deal more attention to stroke, and in 2004 established a Vascular Programme Board to develop a stroke strategy that draws on the approaches it has taken to improve coronary care over the last five years. In responding to the C&AG's Report, Care Services Minister Liam Byrne, MP, said that 'we have already made good progress on stroke, as the NAO acknowledges, but we too believe there is more to be done. Over 2000 people suffer a stroke each week – implementing the NAO recommendations could save as many as an extra ten lives a week'.⁵

5. Professor Roger Boyle, the national clinical director for heart disease, has been given the leadership role for stroke. He will be supported by the clinical directors for older peoples' services and for emergency access. He has been charged with overall responsibility for delivering improvements in stroke care.⁶

5 Q 1

6 Qq 1–2, 5, 113

6. The message that stroke is a medical emergency requiring a 999 response and treatment on a specialist stroke unit by staff trained in the management of stroke has not yet fully filtered through to the public and to all healthcare professionals. Stroke has a higher profile in countries such as Australia, Sweden, Germany, the USA and Canada, which have been quicker to adopt new technologies such as thrombolysis (clot busting drugs for the treatment of strokes caused by a blood clot), and to provide more intensive rehabilitation for stroke patients sooner after their stroke. The National Audit Office's analysis shows that a greater focus on delivering clinical good practice in stroke care in England would save lives, reduce disability and result in savings for the health service.⁷

7. For example, less than half of stroke patients in 2004 spent the majority of their time on a specialist stroke unit. Increasing this proportion to 75% of patients would save about 550 deaths, and reduce the number of patients disabled and dependent on leaving hospital by over 200. Currently less than 1% of stroke patients in England receive thrombolysis. Increasing this rate to nine percent—a rate being achieved in leading hospitals in Australia—could result in more than 1,500 patients fully recovering from their strokes each year who would not otherwise have done so, generating net savings to the health service, in care costs avoided, of over £16 million a year.⁸

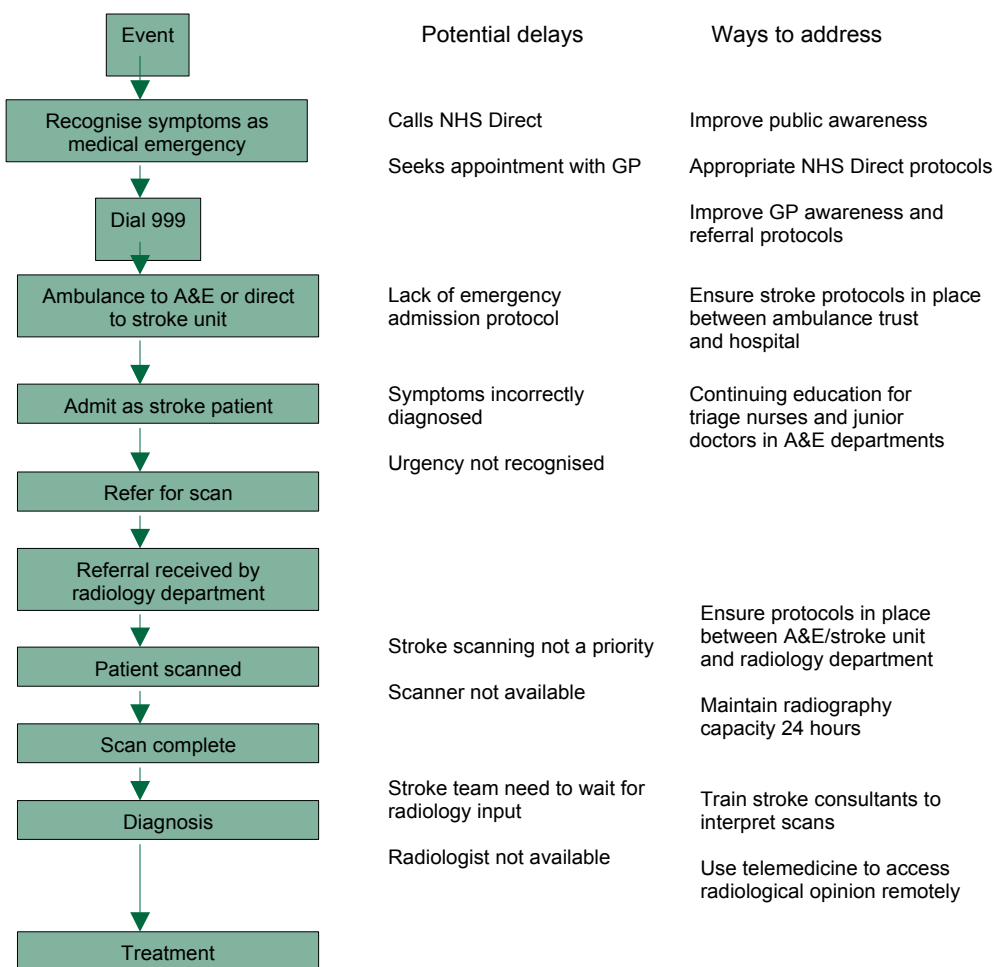
7 Qq 7, 101; C&AG's Report, paras 3, 5, 1.20

8 Qq 64–67; C&AG's Report, paras 1.15, 3.25; Ev 20

2 Improving the response to and treatment of stroke

8. Rapid access to a brain scan is vital for all stroke patients. A scan is required to determine whether the stroke is caused by a clot or a bleed, and hence to determine the appropriate treatment as soon as possible, to maximise the chance of preventing death and disability. For example, patients whose stroke is caused by a clot (around 85% of all stroke patients) can benefit from treatment with clot-busting drugs, provided that they are diagnosed and scanned within three hours of the stroke. Yet the National Sentinel Audit of stroke carried out by the Royal College of Physicians in 2004 showed that, for patients who were registered as requiring an urgent (within 30 minutes) CT scan, only 30% actually got the scan on the same day, and less than 1% of patients received clot-busting treatment. **Figure 2** shows the key points at which delays to treatment can occur. The shorter the time between the stroke and the treatment, the more chance there is of saving brain tissue at risk of damage.⁹

Figure 2: Delays that can prevent patients receiving urgent medical treatment



Source: National Audit Office

9. The key requirements for improving scanning capacity for stroke patients are the availability of sufficient staff, with the necessary skills to carry out, read and interpret scans, and that stroke has emergency priority with ambulance staff and triage nurses in accident and emergency departments. Nearly all hospitals have the necessary equipment to carry out scans, but at present the health service is not gaining the full benefit from its investment in this equipment because it is not being used to provide a scanning service for stroke patients that is available 24 hours a day, seven days a week. The volume of scans required for stroke patients is not sufficient to affect overall capacity significantly, but better prioritisation of stroke would ensure that existing capacity is used more wisely.¹⁰

10. The Department recognises this as a major concern. They told us that radiographers work at night and on weekends, and that in most hospitals it is possible to get an acute scan done out of hours. However the radiological expertise required to interpret the scan is not always available out of hours; and accessing this expertise can also build in delays to treatment even when the scan is carried out during normal working hours. To address this problem, the existing workforce involved in the management of acute stroke must be trained to enable them to interpret scans, and specialist radiological input must be made more accessible. Additionally, the Department is aiming to develop a telemedicine capacity by 2007, through its PACS picture archiving system, that will allow scans to be digitally transmitted to off-site neuro-radiologists for interpretation.¹¹

11. The National Audit Office was told by hospitals that, even without the use of telemedicine, over twice as many CT scans could be achieved without compromising necessary scans for other patients, by better planning and organisation. The Department accepts that it would not be unreasonable to aim to double the number of people receiving emergency scans within the required time period over a six month period.¹²

12. Once a patient has been diagnosed with stroke, the most effective model for acute care is care delivered through an acute stroke unit: a physically separate unit staffed by a multidisciplinary team of stroke specialists including consultants, therapists and nurses trained in the management of stroke. Treatment in a stroke unit has been shown to save lives and reduce disability. A key milestone in the National Service Framework for Older People was that by April 2004, 100% of all general hospitals should have a specialised stroke service. Although most hospitals do now have a stroke unit, a significant proportion of stroke patients do not spend the majority of their time in one. Although there has been some improvement in the proportion of stroke patients who spend more than half of their hospital stay on a stroke unit, from 41% in 2004 to around two-thirds in 2005, the Department accepted that its new stroke strategy needs to address the issue of improving stroke unit capacity.¹³

13. There is considerable variation between hospitals as to what a specialised stroke service actually entails, with, for example, only about a quarter of units providing continuous physiological monitoring, and only a third having access to scanning around the clock.

10 Qq 8–10, 26, 29–32, 44–53; Ev 18–19, 20

11 Qq 39–43; Ev 19–20

12 Qq 34–35; C&AG's Report, para 1.19

13 Qq 11, 19; C&AG's Report, para 1.11

Less than half of hospitals have agreed stroke protocols in place with primary care, despite the target in the National Service Framework for Older People that by 2004, every general practice should be able to identify people with stroke and to treat them according to protocols agreed with specialist services. While there are clear examples of good practice in delivering specialist stroke care in England, the challenge for the Department now is to move from a situation where local champions of stroke services are self-selected individuals with a strong interest in the area, to a position in which the stroke workforce has been built up so that there are champions throughout the country.¹⁴

14. Stroke patients require good rehabilitation, such as access to physiotherapy, as soon as possible after their stroke. The NAO found that access to professionals such as physiotherapists, occupational therapists, speech and language therapists, psychologists and dieticians was patchy across stroke units, even though such access is likely to result in fewer delayed discharges.¹⁵

15. Guidelines published by the Royal College of Physicians state that all patients in whom a diagnosis of transient ischaemic attack (TIA, 'minor stroke') is suspected should be assessed and investigated within seven days. The NAO found that in practice only around half of people with suspected TIA are assessed in a clinic within 14 days. 58% of TIA patients get their scans outside the most effective time window. This represents a resource cost of around £1.2 million that could be used more effectively. The Department needs to use its new stroke strategy to bring about improvements in the capacity and responsiveness of TIA clinics.¹⁶

16. Reducing the delays in providing preventative interventions to people who have had a TIA or a first stroke can lead to savings for the health service. For example, when stenosis (narrowing) of the carotid arteries in the neck is found to be the cause of a previous stroke or TIA, surgery to remove the deposits from the arteries should be performed preferably within two weeks of the stroke or TIA. After this time interval, the benefits of surgery decline rapidly. An ultrasound scan of the carotid arteries is needed to detect whether stenosis is present, and this forms part of the normal series of tests and investigations that would be provided in a TIA or vascular clinic. However in 2004 only half of patients had an ultrasound scan within 12 weeks of their stroke or TIA. The NAO's economic analysis showed that providing surgery within 14 days of their TIA for patients with stenosis could prevent about 250 strokes a year, and yield a net saving to the NHS in care costs avoided of around £4 million.¹⁷

17. Many stroke survivors need considerable levels of rehabilitation, support and nursing care, and need to access many different health and social care services. If these are not provided in a joined up manner, patients can feel abandoned on leaving hospital. The Department should ensure that patients in the community are not overlooked, and that community services improve. It accepts that there is scope for increased integration between health and social care. Hospitals estimated that around half of stroke patients were

14 Qq 21–27, 91–94; C&AG's Report, Figures 6, 8

15 C&AG's Report, para 1.25 and Figure 10; Ev 21–23

16 C&AG's Report, paras 3.21, 3.24

17 Qq 108–109; C&AG's Report, para 3.26; Ev 20

receiving rehabilitation services that met their needs in the first six months after discharge. This proportion fell to about a fifth by 12 months after discharge, however, putting a heavy burden on carers. The Sentinel Audit found that 28% of carers had experienced problems with their jobs, 63% had problems with their physical health, and 56% had experienced problems with their mental health since becoming a carer of someone with a stroke.¹⁸

18. Although carers have a statutory right to a needs assessment, in over half the cases examined in the Sentinel Audit carers' needs were not assessed. The Department, through the White Paper *Our Health, Our Care, Our Say: A New Direction for Community Services* (Cm 6737, 30 January 2006), is aiming to improve three aspects of support for carers in particular: improving the information available to carers, so they become aware of the services that might support them; improving emergency respite, to ensure that care services are available for their loved one during times of crisis or emergency; and development of better training for carers to help them undertake their caring role. It is important that support is also available for stroke survivors who live on their own, and may be particularly vulnerable to being overlooked by health and social care services.¹⁹

18 C&AG's Report, paras 2.12, 2.15; Ev 23

19 Qq 85, 110, 115–116

3 Raising awareness of stroke

19. Public awareness of stroke is low. Only 21% of respondents to the NAO's public survey mentioned stroke as one of the top four causes of death, compared with 77% who mentioned heart disease and 89% who mentioned cancer. Over three times as many women died of stroke as died of breast cancer in England in 2002, but 40% more women mentioned breast cancer than stroke when asked what the top causes of death were.²⁰ Better public awareness is key to preventing more strokes. Preventing just 2% of the strokes that occur in England in a year would save care costs of more than £37 million, over and above the human benefits. The sorts of messages that could appear in a public awareness campaign for stroke are shown in **Figure 3**.²¹

20. A key risk factor for stroke is high blood pressure, yet this link is not generally being made by members of the public, and knowledge varies by socio-economic group. In the NAO's survey, 30% of respondents in the two highest socio-economic groups mentioned reducing blood pressure as a way of reducing risk of stroke, compared with 15% in the lowest group. The Department's anti-smoking campaign in 2004 had a significant effect in raising awareness of the dangers of smoking and encouraging people to quit, and campaigns to encourage healthy eating and exercise should have an impact in reducing vascular disease generally, but campaigns to date have only had modest success in raising awareness about stroke specifically and the devastation a stroke can cause.²²

21. People of Afro-Caribbean and South Asian origin have an increased risk of stroke, as they are more susceptible to high blood pressure, and more likely to have high blood pressure that is resistant to treatment, than other groups. As well as working to increase public awareness of stroke generally, the Department needs to focus specifically on how to get public health messages about stroke across to these groups.

20 Q 99; C&AG's Report, paras 3.1–3.2

21 Qq 79, 82, 95; C&AG's Report, para 24(a)

22 Qq 76–80, 96–98; C&AG's Report, para 3.6

Figure 3: Elements of a public awareness campaign for stroke

What is a stroke?	<ul style="list-style-type: none"> • The equivalent of a heart attack, but in the brain • Affects people of all ages: a quarter of strokes occur in under 65s
What is its impact?	<ul style="list-style-type: none"> • The biggest killer after heart disease and cancer • The biggest cause of adult disability • Three times as many women die of stroke than of breast cancer each year • Afro-Caribbean and South Asians are at higher risk
What causes stroke?	<ul style="list-style-type: none"> • High blood pressure • High blood cholesterol • Smoking • Unhealthy diet • People with atrial fibrillation (irregular heart rhythm), diabetes, or who have had a previous stroke or transient ischaemic attack are at higher risk
How can I prevent stroke?	<ul style="list-style-type: none"> • Know your blood pressure, and keep it under control • Monitor cholesterol levels • Eat healthily, including avoiding excess salt • Stop smoking • Take regular exercise
How do I recognise a stroke?	<p>Sudden onset of one or more of</p> <ul style="list-style-type: none"> • Weakness or numbness in face or leg, especially on one side of the body • Difficulty speaking or understanding • Loss of balance or coordination
What should I do if I think someone is having a stroke?	Dial 999. Stroke is a medical emergency. Rapid treatment can make a big difference to outcomes.

Source: National Audit Office

22. Healthcare professionals, including radiologists, ambulance paramedics, NHS Direct operators and emergency room nurses, also need to understand that stroke is a medical emergency, and should be treated as such. The Department is beginning to take action to get this message across to medical staff. For example, they have agreed with the Ambulance Service that stroke will be treated as a category A emergency, and have revised the NHS Direct protocols to increase the chance that a caller ringing and describing the symptoms of a transient ischaemic attack will get the correct advice, which is to go for an immediate assessment.²³

23. However there is still more to be done. The NAO's analysis of Sentinel Audit data for stroke patients showed that risk factors had not been treated in some cases. For example, one in five patients who were known to have had high blood pressure before their stroke were not on blood pressure lowering medication, and only 24% of patients with atrial fibrillation (irregular heart rhythm, a risk factor for stroke) were on warfarin, whereas clinical opinion suggests that at least 75% should have been.²⁴

23 Qq 8, 106

24 C&AG's Report, Figure 15

24. The General Medical Services contract for GPs, in place since April 2004, has introduced some elements to help provide better and more systematic prevention of stroke, although around four times as many points in the contract are allocated specifically to secondary prevention of coronary heart disease as are allocated to secondary prevention of stroke. The re-negotiated contract, which came into effect on 1 April 2006, includes new points for the management of atrial fibrillation. Between 2004 and 2005 more people on GP lists were having their blood pressure and cholesterol monitored and managed, and more smokers were being given cessation advice. However the NAO found that there was a very low referral rate from GPs for people who have had a stroke (47.5% in 2004, down to 45.5% in 2005, compared with a target of 80%).²⁵

25. The public, GPs and NHS Direct operators also need to be made more aware of the seriousness of transient ischaemic attack as a risk factor for major stroke. The risk of stroke in the seven days following a TIA can be up to 10%, or around 45 times the 'normal' risk, and the risk of stroke within four weeks of a TIA can be 20%. TIAs need to be treated as urgent cases by the ambulance service and NHS Direct, as it is impossible to tell, while they are occurring, whether they are transient attacks or the beginning of a major stroke.²⁶

25 Qq 2, 93; C&AG's Report, paras 3.11–3.12 and Figure 14

26 Qq 105–106; C&AG's Report, para 3.20

Formal minutes

Wednesday 14 June 2006

Members present:

Mr Edward Leigh, in the Chair

Mr Richard Bacon

Greg Clark

Mr David Curry

Helen Goodman

Dr John Pugh

Kitty Ussher

A draft Report (Reducing brain damage: faster access to better stroke care), proposed by the Chairman, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 25 read and agreed to.

Summary read and agreed to.

Conclusions and recommendations read and agreed to.

Resolved, That the Report be the Fifty-second Report of the Committee to the House.

Ordered, That the Chairman make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned until Monday 19 June at 4.30 pm.]

Witnesses

Wednesday 8 February 2006

Page

Sir Nigel Crisp KCB, Professor Ian Philp, and Professor Roger Boyle CBE,
Department of Health

Ev 1

List of written evidence

Department of Health
Different Strokes

Ev 18

Ev 23

List of Reports from the Committee of Public Accounts Session 2005–06

First Report	Managing National Lottery Distribution Fund balances	HC 408 (<i>Cm 6712</i>)
Second Report	The regeneration of the Millennium Dome and associated land	HC 409 (<i>Cm 6689</i>)
Third Report	Ministry of Defence: Major Projects Report 2004	HC 410 (<i>Cm 6712</i>)
Fourth Report	Fraud and error in benefit expenditure	HC 411 (<i>Cm 6728</i>)
Fifth Report	Inland Revenue: Tax Credits and deleted tax cases	HC 412 (<i>Cm 6689</i>)
Sixth Report	Department of Trade and Industry: Renewable energy	HC 413 (<i>Cm 6689</i>)
Seventh Report	The use of operating theatres in the Northern Ireland Health and Personal Social Services	HC 414 (<i>Cm 6699</i>)
Eighth Report	Navan Centre	HC 415 (<i>Cm 6699</i>)
Ninth Report	Foot and Mouth Disease: applying the lessons	HC 563 (<i>Cm 6728</i>)
Tenth Report	Jobskills	HC 564 (<i>Cm 6724</i>)
Eleventh Report	Local Management of Schools	HC 565 (<i>Cm 6724</i>)
Twelfth Report	Helping those in financial hardship: the running of the Social Fund	HC 601 (<i>Cm 6728</i>)
Thirteenth Report	The Office of the Deputy Prime Minister: Tackling homelessness	HC 653 (<i>Cm 6743</i>)
Fourteenth Report	Energywatch and Postwatch	HC 654 (<i>Cm 6743</i>)
Fifteenth Report	HM Customs and Excise Standard Report 2003–04	HC 695 (<i>Cm 6743</i>)
Sixteenth Report	Home Office: Reducing vehicle crime	HC 696 (<i>Cm 6743</i>)
Seventeenth Report	Achieving value for money in the delivery of public services	HC 742 (<i>Cm 6743</i>)
First Special Report	The BBC's investment in Freeview: The response of the BBC Governors to the Committee's Third Report of Session 2004–05	HC 750 (<i>N/A</i>)
Eighteenth Report	Department for Education and Skills: Improving school attendance in England	HC 789 (<i>Cm 6766</i>)
Nineteenth Report	Department of Health: Tackling cancer: improving the patient journey	HC 790 (<i>Cm 6766</i>)
Twentieth Report	The NHS Cancer Plan: a progress report	HC 791 (<i>Cm 6766</i>)
Twenty-first Report	Skills for Life: Improving adult literacy and numeracy	HC 792 (<i>Cm 6766</i>)
Twenty-second Report	Maintaining and improving Britain's railway stations	HC 535 (<i>Cm 6775</i>)
Twenty-third Report	Filing of income tax self assessment returns	HC 681 (<i>Cm 6775</i>)
Twenty-fourth Report	The BBC's White City 2 development	HC 652
Twenty-fifth Report	Securing strategic leadership in the learning and skills sector	HC 602 (<i>Cm 6775</i>)
Twenty-sixth Report	Assessing and reporting military readiness	HC 667 (<i>Cm 6775</i>)
Twenty-seventh Report	Lost in translation? Responding to the challenges of European law	HC 590 (<i>Cm 6775</i>)
Twenty-eighth Report	Extending access to learning through technology: Ufi and the learndirect service	HC 706 (<i>Cm 6775</i>)
Twenty-ninth Report	Excess Votes 2004–05	HC 916 (<i>N/A</i>)

Thirtieth Report	Excess Votes (Northern Ireland) 2004–05	HC 917 (N/A)
Thirty-first Report	Northern Ireland's Waste Management Strategy	HC 741
Thirty-second Report	Working with the voluntary sector	HC 717 (Cm 6789)
Thirty-third Report	The Royal Parks and the Diana, Princess of Wales Memorial Fountain	HC 644 (Cm 6789)
Thirty-fourth Report	Returning failed asylum applicants	HC 620
Thirty-fifth Report	The refinancing of the Norfolk and Norwich PFI Hospital	HC 694
Thirty-sixth Report	Tackling the complexity of the benefits system	HC 765
Thirty-seventh Report	Inland Revenue Standard Report: New Tax Credits	HC 782
Thirty-eighth Report	Channel Tunnel Rail Link	HC 727
Thirty-ninth Report	Consular services to British nationals	HC 813
Fortieth Report	Environment Agency: Efficiency in water resource management	HC 749
Forty-first Report	The South Eastern Passenger Rail Franchise	HC 770
Forty-second Report	Enforcing competition in markets	HC 841
Forty-third Report	Delivery chain analysis for bus services in England	HC 851
Forty-fourth Report	National Offender Management Service: dealing with increased numbers in custody	HC 788
Forty-fifth Report	Employers' perspectives on improving skills for employment	HC 862
Forty-sixth Report	Governance issues in the Department of Enterprise, Trade and Investment's former Local Enterprise Development Unit	HC 918
Second Special Report	The BBC's White City 2 development: The response of the BBC Governors to the Committee's Twenty-fourth Report of Session 2005–06	HC 1139 (N/A)
Forty-seventh Report	NHS Local Improvement Finance Trusts	HC 562
Forty-eighth Report	HM Customs and Excise: Standard Report 2004–05	HC 874
Forty-ninth Report	Corporation Tax: companies managed by HM Revenue and Customs' Area Offices	HC 967
Fiftieth Report	Ministry of Defence: Major Projects Report 2005	HC 889
Fifty-first Report	A safer place for patients: learning to improve patient safety	HC 831
Fifty-second Report	Reducing brain damage: faster access to better stroke care	HC 911

The reference number of the Treasury Minute to each Report is printed in brackets after the HC printing number

Oral evidence

Taken before the Committee of Public Accounts on Wednesday 8 February 2006

Members present:

Mr Edward Leigh, in the Chair

Mr Richard Bacon
Greg Clark
Mr David Curry
Mr Sadiq Khan

Sarah McCarthy-Fry
Jon Trickett
Kitty Ussher
Stephen Williams

Sir John Bourn, KCB, Comptroller and Auditor General was in attendance and gave oral evidence.

Ms Paula Diggle, Treasury Officer of Accounts, HM Treasury, was in attendance.

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL

Reducing Brain Damage: Faster Access to Better Stroke Care (HC 452)

Witnesses: **Sir Nigel Crisp, KCB**, Permanent Secretary and Chief Executive of the NHS, **Professor Roger Boyle**, National Director for Heart Disease, and **Professor Ian Philp**, National Director for Older People and Neurological Conditions, gave evidence.

Q1 Chairman: Good afternoon. Welcome to the Committee of Public Accounts. I should welcome also a parliamentary delegation from Rwanda sitting at the back of the room and representatives of the Auditor General's Office of Rwanda who I had the pleasure of meeting yesterday afternoon. They are very interested in our work and how they can improve auditing in Rwanda. You are very welcome to our meeting. Today we are considering the Comptroller and Auditor General's Report on reducing brain damage and faster access to better stroke care. We welcome back to our Committee Sir Nigel Crisp, who is the Chief Executive of the NHS and Permanent Secretary for the Department of Health, Professor Ian Philp, National Director for older people's services and Professor Roger Boyle, who is National Director for heart disease. It is a very interesting and important subject and the initial NAO Report generated a lot of interest. Indeed, it generated interest from your Minister, Sir Nigel, who said, "Implementing the NAO recommendations could save as many as 10 extra lives a week." I think he accepted all the recommendations, did he not?

Sir Nigel Crisp: Indeed.

Q2 Chairman: Why has it not been further up your agenda?

Sir Nigel Crisp: As you will know from the many subjects that have been discussed in health, there are many priorities in health. The position is that we identify every patient with a disease as a priority and from time to time the government takes a view about where to place its priorities. Over the last five years, we have paid particular attention to coronary heart disease and cancer. That does not

mean to say that stroke has been totally neglected and you have seen some improvements under the leadership of Professor Philp with the introduction of stroke specialist services and so on. Now that we have seen significant improvements in heart disease and cancer, we are now paying much more attention to stroke. We set up a vascular programme two years ago. Since then we have asked Professor Boyle to take on the leadership as clinical director for stroke as well as heart diseases, supported by Professor Philp and two of our other clinical directors. You will also have seen that we are now giving it priority within the GP contract. Now is the time to give a great deal more attention to stroke, as Mr Byrne said.

Q3 Chairman: The object of this hearing is to help you in your efforts. We know you have had record increases in funding. The number of staff in the NHS grew by an average of 3.9% each year between 1999 and 2004 but if we look at this Report, page 24, paragraph 1.23, you will see, "In England there are currently 86 whole-time equivalent stroke consultants. This is only 20% of the requirement recommended by the British Association for Stroke Physicians . . .". This is one of the top three killers in England, is it not?

Sir Nigel Crisp: Indeed it is. There is a table here which shows comparisons between what we have done on coronary heart disease and stroke. That draws out the fact that coronary heart disease and cancer are the two biggest killers, which are the ones we concentrated on first. Why it is timely that we should be concentrating on stroke. As you say, the number of specialists is low.

 Department of Health

Q4 Chairman: If we look at figure four on page 14, to make the comparison—I am sorry to keep asking much the same question but it is very important that we establish this in this hearing so that we can really highlight this issue—the number of patients per consultant, for stroke, is 640 and, for coronary heart disease, is 360.

Sir Nigel Crisp: Yes. This is the table I was referring to. If you look at the fourth item on it, “Proportion of deaths in England and Wales it caused in 2002”, you will see coronary heart disease, 19%, and stroke, 11%. That is the prime reason why we took coronary heart disease as an initial priority.

Q5 Chairman: Although stroke often causes severe disablement?

Sir Nigel Crisp: I absolutely agree but these were the two biggest killers. It was a decision the government made at the time. None of that is the reason for why we should not now be spending much more effort—and indeed we are. The encouraging point is that as a result of concentrating on coronary heart disease we now have by many measures the best heart service in the world in terms of the services provided to patients. We know what works in coronary heart disease. Professor Boyle has led that. He is now going to be leading stroke. We are going to be using the same methodology and many of the same direct approaches as we have used there and therefore in a few years’ time I would hope, with the exception perhaps of that proportion of deaths title, you will see a much greater similarity between those two columns.

Q6 Chairman: We also see that apparently our efforts on treatment for stroke patients are lagging behind what is available in Australia and Sweden according to this Report. If you look at case study four on page 22, you will see that the stroke teams in Australia are organised for a fast-stream disease, “Stroke being classified as a medical emergency”. This is the point about stroke, is it not? The important thing is to deal with it quickly.

Sir Nigel Crisp: That is absolutely right.

Q7 Chairman: It is a lesson they appear to have followed in Australia and Sweden.

Sir Nigel Crisp: International comparisons are quite difficult in this area but it is clear that in Australia in particular they have put much more input into dealing with strokes in the way that is being talked about here and we can learn from that as well.

Q8 Chairman: Look at page 20, figure nine. It says, “Several delays can prevent patients receiving urgent medical treatment.” Perhaps one of your colleagues could give us a feel for how, now that you are going to make this more of a priority, we can overcome these delays so that patients can be treated quickly.

Professor Boyle: Firstly, we have agreed with the Ambulance Service that stroke will be treated as a category A matter so that urgent calls will be the norm. We then need to improve the way in which hospitals respond to these emergencies and triage them quickly, as we do for patients presenting with chest pain, so that they can be rapidly investigated. One of the bottlenecks we have at the moment is to get the urgent scan which can determine whether or not the patient would be eligible for thrombolytic or clot busting treatment to restore flow through the occluded artery.

Q9 Chairman: While you are on the subject of scanning, this is dealt with in paragraphs 1.18 and 1.19 on page 22 where it says, “. . . only 22% of stroke patients in the Sentinel Audit received a scan on the same day as their stroke.” What commitment can you now give me about a far higher percentage of stroke patients receiving a scan on the same day as their stroke? If this hearing achieves nothing else, if we try and get a commitment out of you on that subject, we could save many lives in the future. Do you want to give a commitment to this hearing?

Professor Boyle: Already there have been over 200 new replacement scanners put in place to make sure this is not a physical bottleneck that is a problem. The bottleneck is more about having people to interpret the scans and act on the results. That needs a whole change in attitude within the hospital to make sure that these patients are dealt with urgently. It is a real test of the quality of care in those units that, if they can respond quickly in that way and get other simple things done such as a swallowing assessment, we know the outcome—

Q10 Chairman: We know that but you are not going to give me any sort of commitment then?

Professor Boyle: This will form part of the strategy which we now have agreement to proceed with and develop a process that allows this to happen. We know that we cannot do it overnight. We found this lesson from the coronary heart disease National Service Framework where we gradually improved the percentage of patients being given clot busting drugs within half an hour of arrival. We have doubled the number from 44% to 85% being treated within that half an hour period. We would need to do a similar approach for stroke. It has taken us five years to do it for heart disease and I would hope that we could go quicker with stroke but there are real issues in terms of getting the scans interpreted. We need to train staff up to be able to do that more rapidly.

Q11 Chairman: Perhaps you can give me a commitment on spending time in a stroke unit. Please look at paragraph 1.11 on page 17: “In 2004, around half of eligible patients were treated on a stroke unit at some point and only 41% spent more than half of their stay there.” What commitment can you give me to ensure that people spend much more of a proportion of their stay in a dedicated stroke unit?

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Sir Nigel Crisp: We cannot give you a figure. In both of these cases, particularly this last one that you are asking about, you can see that there is a very clear trend. This has gone from 40% in 2004 to two-thirds in 2005. The stroke strategy which Professor Boyle is leading will no doubt bring out these figures and produce a strategy which we need to go on for the next period, but we cannot give you figures for that at the moment, other than saying that they will continue upwards.

Q12 Greg Clark: Chairman, can I through you congratulate Sir John and his team on what I think is a superb Report? The comprehensiveness of the information, the data and the analysis that has been done and the exposure of some of the issues make it a very important Report and I think, if these recommendations are acted upon, even an historic Report.

Sir John Bourn: Thank you very much.

Q13 Greg Clark: It is also for those reasons I think the most shameful Report I have ever seen since I joined this Committee. The scale of lost opportunity and lost lives it indicates have genuinely shocked me. So far today in Britain, 270 people have suffered a stroke. If we operated according to Australian practices, about 35 of those would have died. As it is, under the procedure we operate under, 76 people would have died. 40 people have lost their lives unnecessarily because of the difference in practice between our two countries. What is your reaction to that?

Sir Nigel Crisp: Firstly, that is terrible. This is extremely important. That is why I agree with you. I think this is both a useful and very timely Report. The reason it is timely is that the government regrettably has to make priorities between things which it is almost impossible to prioritise between. That is why you have seen in this Committee previously the very good progress which has been made on coronary heart disease because government chose to make it a priority. We now need to make this a priority for exactly the reasons that you are talking about. Even so, there have been some improvements in stroke care over the last five years that have been quite significant.

Q14 Greg Clark: One of the things that is ingenious about the NAO analysis is it shows that these lives have been wasted. Treating people properly would have saved the NHS money, so the question of prioritisation does not arise.

Sir Nigel Crisp: With respect, prioritisation is not just about money. It is about people's time and how you put effort into things. Professor Boyle has made the point that the problem with scans is as much—in fact now even more—to do with availability of the appropriate staff. It is wider than that, but I accept the point about value for money.

Q15 Greg Clark: Were you surprised by the NAO's findings when they first shared this Report with you at the draft stage?

Sir Nigel Crisp: No, because in 2004 we set up this Vascular Board. We recognised that this was an area we needed to do more work on and therefore we had done an amount of analysis already. Obviously the particular detail may be different from the analysis that we did but I think we share this analysis.

Q16 Greg Clark: You were both appointed in 2000, yourself and Professor Philp.

Professor Philp: 2001.

Q17 Greg Clark: The target is that 100% of acute hospitals should have stroke units. That is correct, is it?

Sir Nigel Crisp: Yes.¹

Q18 Greg Clark: Explain to me why it says on page 48, table 19, that despite the fact that we are pretty near or at the target of 100% less than half of stroke victims are treated at all in a stroke unit during their hospital stay. How do these two things marry up?

Professor Philp: I would like to put on record that in 2001 when I was appointed and when we published the National Service Framework for Older People in March, we were starting from a very low base in stroke services and a low evidence base. The evidence at that time was that having a stroke service or a stroke unit in a hospital made the difference to people's lives and levels of independence. At that time the evidence—we took best advice at the time—was unanimous.

Q19 Greg Clark: On this point about how you can have a stroke unit in every hospital but less than half people get treated—?

Professor Philp: Our latest figures are that 64% of people in 2005 are spending the majority of their time in a stroke unit compared with 27% in 2001 and 41% in 2004. That trajectory is a very strong improvement and contrasts with trajectories in other countries in the United Kingdom and abroad where there has not been a National Service Framework to drive up standards for stroke.

Q20 Greg Clark: We know that in Australia, for example, immediate access to scanning is something that is very important in preventing death and disablement. Indeed, there is a memorable phrase in the Report that time lost is brain lost. One of the figures that truly astonished me in the Report is on page 22, paragraph 1.18: "For patients who were registered as requiring an urgent CT scan (within 30 minutes), only 30% actually got the scan on the same day." That is the most shocking statistic I have seen in these Reports.

Professor Philp: In 2001, there was not evidence that an emergency response to stroke made a difference compared to people getting access to a

¹ *Note by witness:* The Older People's NSF contained a milestone for 100% of all general hospitals which care for people with stroke to have a specialised stroke service. This may involve a specialised stroke team visiting stroke patients on other wards. This milestone has been met.

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multidisciplinary stroke service. There was a leading article published in *The British Medical Journal* at that time that said as long as you had an organised stroke service that had a multidisciplinary team there were benefits but it was not clear whether the service should focus on acute care or rehabilitation or both. The evidence for the need for the emergency response to stroke emerged in 2004. At that time, we established the Stroke Strategy Group whose principal aim was to define what needed to be done to ensure that people got rapid access to stroke services.

Q21 Greg Clark: In 2001 you had NSF standards for strokes and standard five for stroke care was that by April 2004 every general practice can identify people who have had a stroke and is treating them according to protocols agreed with specialist services. Yet, at page 16, table six of the Report, despite this standard imposed in 2001 to be achieved by 2004, agreed stroke protocols between acute and primary care were in place in less than half of the cases. There is no excuse there for not having had the best available medical evidence. It was targeted. It was seen as important that GPs had good links with acute hospitals and yet less than half of them had these protocols in place.

Professor Philp: In the National Service Framework there was a difference placed between the target date which we wanted PCTs and local government to achieve, but there was latitude to deliver the standards within the 10 year programme of NSF implementation. Compared to what was a very complex and detailed National Service Framework with a lot of recommendations, those were seen as the absolute key priority.²

Q22 Greg Clark: Some are more important than others?

Professor Philp: Yes. Some became public service targets which were requirements therefore.

Q23 Greg Clark: Can I give you an example of the effect of these targets on ordinary people? We have had a publication sent to us by the Stroke Association and there is a case study that is relayed in it, where there is a lack of agreed protocols between primary and acute care. A lady takes her husband to hospital. He has had a major stroke. It was obviously a struggle as he was showing weakness down one side of his body. After a wait in A&E, she was told his symptoms were probably caused by drunkenness and sent home. Can you imagine the distress caused to that patient by a target that was there, designed to be a treatment, and it was decided unilaterally that it was less important than some of the other targets?

Professor Philp: The evidence was clear. The most important two targets were risk factor modification around smoking and blood pressure control and on

establishing stroke services in all our acute hospitals, which we have now achieved. It gives us the foundation upon which we can build the effective emergency response. Furthermore, in terms of the staff skills and knowledge, stroke as a medical sub-specialty was only created in 2004, so we were starting from a low base.

Q24 Greg Clark: You had a target that was set in 2001. Accepting that things did not happen as they should have done, the Chairman referred to the Minister's response to the NAO Report when it was published. Mr Byrne said on the day of publication, 16 November, "We will take action immediately by spreading examples of best practice." Here is an example of best practice, protocols between primary care and acute hospitals. Are protocols now in place in 100% of cases between acute hospitals and primary care?

Sir Nigel Crisp: Part of doing that was to appoint somebody to lead it.

Q25 Greg Clark: You knew what needed to be done. That was identified in 2001. It had not been done by 2004. The Minister said in November last year that immediately this best practice would be spread. Has it happened immediately?

Professor Boyle: We have in our stroke community the best centres in the world.

Q26 Greg Clark: Have those protocols been established? It is a very clear question based on a very clear figure in the NAO Report. It says that 49% of acute hospitals had protocols agreed with primary care. This is identified as important. The Minister said he would respond immediately. Is that now something approaching 100% or has it not much changed?

Sir Nigel Crisp: To be fair, we have appointed somebody to take the lead. We have a lot of people engaged in working forward with this. We have a big conference in two weeks' time to bring people together, including patients and carers in particular, in order to make sure that we understand exactly what the key issues are.

Q27 Greg Clark: I do not think it is a question of understanding. It is very clear. My understanding of immediate response to spreading best practice is not to convene a conference but to make sure that those hospitals that do not have those protocols in place put them in place. It is an example of the sluggishness here that sometimes we make points that might seem pedantic, but I think in this context, when people are dying as a result of this, this is very serious. This is a shameful situation in which targets and protocols have not been established and ministers and officials said they would be established. During the five years, Sir Nigel, that you have been the chief executive of the NHS over 112,000 extra people have died as a result of our practice being behind the Australian practice. At the same time, it has cost us money. That gives me the utmost alarm.

² *Note by witness:* Figure 4 of the NAO Report shows that 73% of GPs had local protocols in place for rapid referral and management of acute cases and 71% of GPs had local protocols in place for rapid referral and management of minor cases.

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Sir Nigel Crisp: I regard it as extremely serious and an extremely important set of issues. I also know that in those areas where we have given priority you cannot give priority to everything at once, however much you may wish to. You can imagine that we have patients' groups from all kinds of different disease groups at our doors every day asking to be given priority. The government has to make decisions. We have made decisions; we have given priority; we have made real improvements, saving lives that would not otherwise have been saved because of the work of colleagues here. In terms of spreading good practice, it is not a question of clicking one's fingers and saying that you send a protocol out and tell people to do things. The experience of getting good practice takes time because it is about persuading professionals that this is the right way to do it. Professionals need to be trained. It is about involving huge numbers of people. It is not a simple exercise and we are going about it in a way that we have proven works so that we now have the best heart service in the world. We would expect to see the improvements that the Chairman asked for in stroke over the next few years as well.

Q28 Chairman: You will not have seen the brief to Members from the National Audit Office. It tells us in the fourth paragraph, "The Report demonstrates that stroke has not received the attention that other major killers have . . .". You made the point that you concentrated on coronary heart disease but they tell us, ". . . there is scope for considerably greater effectiveness even within the resources available. In particular, value for money improvements should come from reducing hospital stays (the average length of stay in England is 28 days, compared with 11 days in Australia) . . ." This is a value for money Committee. It seems that even with the resources available to you, because you are not getting people into stroke units quickly enough, giving them a scan, getting them the drugs, it is costing you more money in the long run than if you did it properly. Is that a fair point?

Sir Nigel Crisp: I take the point. We did not publish this precisely in November. I think it was October but this is a best practice document about acute stroke. It compares length of stay between various different hospitals. It shows that that length of stay has come down four days in the last year and a half. It shows the characteristics of a high performing stroke system. I have not quite followed the logic of what you were saying earlier, Mr Clark. I think this is probably what you were talking about. This describes the characteristics that we expect to see in a good stroke service and incidentally on hip replacements, Caesarean sections and so on. The institute we use is the NHS Institute for Innovation and Improvement, which is precisely about spreading good practice around the NHS. I am happy to provide copies of this to the Committee if that would be useful but I totally recognise the value for money issues and I am pleased to see that we have had a four day reduction in length of stay.

Q29 Jon Trickett: I want to go back to the issue of scanners. We are investing as a country quite heavily in scanners but when do you think most stroke incidents take place during the 24 hour period?

Professor Boyle: They occur at all times of the day and night. One of the problems is the patient suffering the event recognising that that is happening. There is an issue about raising awareness amongst the public about what the symptoms are, which is why we are supporting the Stroke Association in their vast campaign to recognise the symptoms.

Q30 Jon Trickett: When, during the week, do you think they take place? Are they concentrated on the five working days or do they occur at weekends as well?

Professor Boyle: Patients do not choose the days.

Q31 Jon Trickett: There are seven days in a week and 24 hours in a day. Strokes occur at night and at weekends. That is a fairly obvious statement of fact and yet the majority of the scanners only operate for nine hours a day or less for five days a week and 80% of all scanners only operate for nine hours or less on week days. What does a scanner cost?

Professor Boyle: A full installation would cost about £1 million. That is not the issue. The physical capacity is there. It is possible to get a scan in virtually every hospital at any time of the day or night with a radiographer. The point is how it is interpreted.

Q32 Jon Trickett: I only asked you what it cost. I did not ask for a thesis on it. No other business would invest £1 million in a piece of plant and only have it operate for 40 hours a week when business really runs throughout the whole of the week, does it not? There are 168 hours in a week if my maths are correct. Why is it that they are only operating for such a short period of time when there is a difference between some kind of early diagnosis and effective action and not if one is not put in front of a scanner very quickly?

Sir Nigel Crisp: Your point is an entirely good one. The point that Professor Boyle is making is that the equipment is there but we do not always have the staff. What is hopeful for the future is the PAC system, the picture archiving system, which means you can digitally do scans and send them to the home of the radiologist who can then interpret them. You may be aware that we are putting in such digital X-ray systems around the country at the moment which will help unlock part of that bottleneck, which is basically a people bottleneck.

Q33 Jon Trickett: Before we get on to people who seem to be operating inside some sort of box rather than in a way which is joined up and holistic, I want to ask you about the management of the service. Paragraph 1.19 says that the NAO were told that five times as many MRI scans and over twice as many CT and Doppler scans could be

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achieved without compromising necessary scans for other patients, simply by managerial change. How can that be?

Professor Philp: I presume by “managerial change” we mean organising the workforce for reading the scans, because we know that the block is the 24/7 availability of appropriate staff to interpret the scans, which is why we have been working with the diagnostics team and the relevant colleges of physicians, radiologists and radiographers to define what are the critical scans. It is a little bit complicated because a scan done within three hours to exclude haemorrhage and to get the absolute gold standard for door to needle time, if you like, for thrombolysis will not produce a diagnosis of an infarct and will miss some other things.

Q34 Jon Trickett: It is clear in paragraph 1.17 that an early scan will distinguish between a clot causing a stroke and a haemorrhage, which is an entirely different thing and much more serious. I believe you must have assented to this statement. What you are saying is, if managerial change was brought about, including staffing and timing changes, you could double immediately the number of scans which are available. That is twice as many human beings getting in front of a scan more rapidly than otherwise. Surely immediate action could be taken in relation to that. There is no reason for delay at all.

Sir Nigel Crisp: I accept that point about a reorganisation by management. It is about how you run the whole process. You can do that which is why we did produce these programmes which were about both quality and value for money in five of the most important areas, including stroke, in order to do the best practice stuff that we were talking about before.

Q35 Jon Trickett: It is a very complex system in the NHS and decision making is devolved into all kinds of different centres of management. Is there something you can do to bring about immediate change in the management of the scanners and the staff who support the scanners so that we can double the number of people being scanned within the next six months?

Sir Nigel Crisp: I think that is in these guidelines, is it not? I think the answer is probably, yes.

Q36 Jon Trickett: I do not want to be unfair to you because it is a complicated issue but can you give us a note as to your objective to increase the productivity of each scanner?

Sir Nigel Crisp: Yes, let me produce a note.³

Q37 Jon Trickett: I was told in my local hospital that there is a scanner being produced under the PFI scheme. It is for ever breaking down because it is ancient now. The contract which was signed by the PFI and the NHS precludes other scanners being utilised or even other staff being employed. Is that one of the problems, that we have a series of

contracts which are perversely precluding scanning episodes from taking place and thereby slowing the system down? I was also told by a senior consultant that this scanner is only available for eight hours a day under the PFI contract.

Sir Nigel Crisp: Let me look at that. If that is the case—and I find it a bit surprising—it is certainly not widespread. Most scanners are NHS scanners within NHS institutions in any case.⁴

Q38 Jon Trickett: The Committee would be interested if there are such contracts. It has been around for a long time.

Sir Nigel Crisp: Let me look at it.

Q39 Jon Trickett: On clinical specialisation, the difference between radiologists, consultants dealing with strokes and radiographers, it appears to be the case that anybody who is reasonably trained can interpret the results of a scan; yet that seems to be one of the issues, the shortage of radiographers and the fact that they do not work overnight and at weekends and so on. Is that an issue and, if so, how can it be tackled?

Professor Boyle: Radiographers do work at night and on weekends. In most hospitals, it will be possible to get an acute scan done out of hours. The difficulty is then having the person to interpret the scan. Also, it makes the big assumption that the whole system is ready to respond to the scan because only about 10% of patients maximum would be eligible for the clot busting treatment which is the one that the Australian system seems to be able to deliver.

Q40 Jon Trickett: That answer is saying that it is not simply the urgency of the scanning process. I am asking about the scanning and whether it is possible to skill people up in different professions to allow them to interpret the results of the scans, because that does appear to be an issue and there is the out of hours problem.

Professor Boyle: It is a major issue and it is why we are trying to build up the workforce capable of managing stroke in these acute situations and also train up our existing workforce to enable them to make those sorts of interpretations, in advance of us being able to get a network Reporting system with a neuro-radiologist being able to do it for a large population.

Q41 Jon Trickett: If you could provide us with a note on how you are going to skill up more people to interpret those scans, that would be helpful.⁵ Given telemedicine, which Sir Nigel mentioned, why is it not possible to have a central, 24/7 operation somewhere which is capable of interpreting the results of scans down a telephone line, given the extent to which technology has advanced now, so that there can be immediate interaction between the person interpreting the scan and the local clinical staff?

³ Ev 18–19

⁴ Ev 19

⁵ Ev 19

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Professor Boyle: That is exactly what the PAC system will deliver.

Q42 Jon Trickett: When will that be in operation?

Professor Boyle: Early 2007.

Q43 Jon Trickett: Can you give us a note as to the capacity of that when it is up and running because that clearly will make a huge difference.⁶

Professor Boyle: Capacity is not an issue because there are a number of interactions like this where centralised Reporting would be important to the NHS, but the numbers of cases at any one time in any one region will be small.

Q44 Mr Bacon: Paragraph 1.17 refers to a note of an academic paper by someone called Wardlaw in the Health Technology Assessment, volume eight, number one, 2004. "In fact, a study by Wardlaw and others in 2004 found that scanning patients immediately is the most cost-effective strategy. They found that compared with strategies such as 'scan all within 48 hours of admission' or 'scan only patients with a life-threatening stroke immediately and the remaining within 14 days of admission', the strategy 'scan all immediately' cost the least and provided the best health outcomes." That, combined with the sentence in the beginning of this Report that stroke care costs the NHS more than treating coronary heart disease, is deeply shocking. I understand the points that Sir Nigel was making about priority for cancer and for coronary heart disease but this is about using the existing resources that you have effectively. You mentioned to Mr Trickett that a scanner costs around £1 million. How much have we spent on scanners? How many scanners do we have in England rather than the UK?

Professor Boyle: There is certainly access to scanning in every hospital where stroke is managed. Over 200 have recently been installed, new and replacement systems.

Q45 Mr Bacon: This is terribly rough, I know, but you would estimate roughly £200 million spent on this capital investment?

Professor Boyle: Yes. The amount varies depending on the enabling costs necessary to put in the scanner. If it is a new system it costs more because you need a building to put it in and the cost of the scanner is rather less than that.

Q46 Mr Bacon: How much is the cost of the scanner itself?

Professor Boyle: They range in price but around £500,000.

Q47 Mr Bacon: How much is spent currently on the staff who, 40 hours within a 168 hour week, operate these scanners?

Professor Boyle: That I cannot tell you.

Q48 Mr Bacon: Is it possible you could find out and write to us? What I would like to know is, first, what it costs now and, second, what it would cost to have them available to be staffed at all times, not what you call out of hours but if there were a 24/7 hour cover. What would that cost to staff these scanners?

Professor Boyle: The scanners are almost always available for out of hours use.

Q49 Mr Bacon: That was not my question. The comparison in my mind is with the operating theatres in Northern Ireland where the use is significantly lower than in England, Wales and Scotland. What I want to know is not whether they are available or not but (a) how much they cost, (b) how much it costs to have the staff who use them when they are now used and (c) what it would cost if they were used all the time for the staff who were using them all the time.

Sir Nigel Crisp: Let us try and get as good an estimation of that as we can.⁷

Q50 Mr Bacon: That would be extremely helpful because, to me, paragraph 1.17 as well as the clinical points it makes about the differences between haemorrhages and clots, is an extremely powerful value for money point. Here you are supposedly trying to use your resources as best you can and it is plain that you are not.

Sir Nigel Crisp: That study by Wardlaw and others was one of the reasons why we set up the vascular programme, precisely to address this point.

Q51 Mr Bacon: It is nice to know you are responding to strong evidence. This may be a question for Professor Philp. We have been written to by Different Strokes concerning intracerebral haemorrhage, ICH, and they say, "Although ICH accounts for only 10–15% of strokes it has relatively higher prevalence amongst people of working age and markedly worse outcomes in terms of mortality and morbidity. We therefore estimate that it may account for up to a quarter of premature deaths from stroke covered by the PSA target." Are you familiar with this and with their document, *A Bleeding Shame*?

Professor Philp: Yes, which we welcome.

Q52 Mr Bacon: There are two recommendations which I will read out. First, that current guidelines for scanning be urgently updated to maximise the therapeutic opportunities for those arriving within three hours. Second, "Commissioners be encouraged to stipulate immediate scanning for all suspected stroke patients arriving at hospital within three hours of onset." Are you going to adopt those recommendations?

Professor Philp: This is further evidence and pressure to develop this acute response to stroke with early scanning. On the point I made earlier

⁶ Ev 19–20

⁷ Ev 20

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about the complexity of scanning, scanning at three hours can exclude haemorrhage and allow you to treat a patient as though they have had a stroke but posterior territory strokes, for example, require a different type of scanning that may be done later in the patient's journey, so it is a little more complicated than simply having a three hour response.

Q53 Mr Bacon: I do not suppose for one moment it is not complicated but the Wardlaw point is that to scan all immediately is more cost effective.

Professor Philp: Which is why we established the Vascular Board and the Stroke Strategy Group. In the light of evidence as to that, we defined the care pathway that said we should be aiming to intervene within a three to six hour period. We identified that Reporting of scanning was a diagnostic block. We have agreed with stakeholders that we should go for three hour scanning but it would not necessarily require neuro-radiologist support but will require training and upskilling of other staff. We are working on that as a primary aim in our diagnostic strategy: early CT scanning to exclude haemorrhage and allow us to undertake thrombolysis and treatments to help prevent deep venous thrombosis and pulmonary embolisms, which are frequent complications of stroke. It is a slightly different point that Different Strokes are making, which is about the importance of making a firm diagnosis of haemorrhage. The evidence about the effectiveness of intervention, having made that diagnosis, is still contested. It is less clear cut than the Wardlaw and other papers that were published in 2004 that moved us towards treating stroke as a medical emergency.

Q54 Mr Bacon: You are national director for older people and national director for neurological conditions. I take it that means just that. You are not national director for older people's neurological conditions; you are national director for neurological conditions?

Professor Philp: Yes.

Q55 Mr Bacon: If a very new born baby has cardiac surgery, there is a very high risk of brain damage. I happen to know that because of a very tragic constituent's case. In the particular case of my constituent there was a power cut. It is still a matter of dispute as to what caused the brain damage but it is possible on some views that it was the power cut. The fact that the family were not told there had been a power cut for three weeks obviously led to increased suspicion. What was striking from my point of view knowing, as everyone knows, that neonatal cardiac surgery causes a risk of brain damage, was that there was no neurologist on hand at any stage and the only Reports that existed subsequently on this case from neurologists were commissioned independently by the family. There was no neurologist in the hospital and there was no neurologist around subsequently. Is it now the case that in cases of neonatal cardiac care there will always be a neurologist on hand?

Professor Philp: We may have to get back to you on that. My responsibility is for implementing the National Service Framework for long term neurological conditions which apply to adults and children moving into the adult age range. I would have to refer back to my colleague, the National Director for children.⁸

Q56 Mr Bacon: You do not cover neurological at all?

Professor Philp: Not in children.

Q57 Kitty Ussher: We are a Committee that deals with value for money rather than political prioritisation of services and I want to focus on that. First of all, the Report does state that the number of people who have had strokes has fallen by 30% in the 10 years looked at by this Report from 1992 to 2002. Is that a figure you would agree with and why do you think that has happened?

Professor Philp: Yes. The principal reason is probably risk factor modification, better management of blood pressure and lower rates of smoking that reduce the rate of stroke in the population. Some of the benefits are due to better health care for people who have had a stroke and in particular the establishment of specialist stroke services now available in 100% of hospitals which serve people with stroke in England.

Q58 Kitty Ussher: Since 2002, can you update the Committee on whether there has been improvement? What is the data for the last two years in terms of number of investments?

Professor Boyle: We are seeing a continued very rapid fall in cardiovascular deaths as a whole. Although they are faster in patients with coronary heart disease, deaths related to stroke have continued to fall. The latest data we have is a three year rolling average based on 2003. Overall, we have seen a 31% reduction in the Our Healthier Nation target frame between 1996 and 2003. Quite a lot of this has been due to change in lifestyle, about 60%, probably the majority being related to reductions in smoking prevalence, but also other lifestyle factors which have improved beneficially. The big impact has been the better use of secondary prevention drugs. Here I am including the treatment of blood pressure, the statins for lipid abnormalities, where we are now spending £2.1 billion a year on cardiovascular drugs to prevent events such as stroke and heart attack. That is up to 28% of the primary care prescribed budget across the country.

Q59 Kitty Ussher: The main conclusion from the Report we have in front of us is that we can save lives at a cheaper price effectively. The public can get greater value for money if we accelerate these types of measures and others that you have just

⁸ *Note by witness:* All paediatric, including neonatal, cardiac surgery is done in highly specialised tertiary units now, where there is access to paediatric neurologists, if required, to review a patient or advise.

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described. In terms of the improvements that have already been made, have there been savings therefore to the public purse given the reduction in deaths that have taken place in the last decade?

Sir Nigel Crisp: This is the absolute classic point where a lot of people measure productivity in the NHS in terms of hospital admissions. The £2.1 billion we spend on cardiovascular drugs saves hospital admissions and is shown as a fall in productivity in ONS and other accounts; whereas we in the Department of Health have done some work to try and identify the health benefit of this spending, which we think should be included in accounts on productivity. We can provide that material to you and the Committee if you would like to look at it. It does indeed show that spending money on statins is an improvement in value for money for the public and not a fall, as is shown in the official accounts.

Q60 Kitty Ussher: That would be extremely useful since it is value for money that we are considering. For every pound spent on the drugs you have just explained to us how much saving is there in terms of the overall patient journey?

Sir Nigel Crisp: Can I send you the papers? The saving is partly about saving in the people going into acute hospitals, but there are also some calculations around a saving in the improvement of quality of life, which is a benefit.

Q61 Kitty Ussher: Which you can put into financial terms?

Sir Nigel Crisp: Which the work that has been done with a couple of universities attempts to do.

Q62 Kitty Ussher: What price a life?

Sir Nigel Crisp: It is something about the assessment of what is quality of life. This is very important in terms of value for money. The simple processes which say, "This number of hospital admissions" and "This amount of money" are completely misleading in a world where we are trying to get prevention. This secondary prevention of giving people drugs rather than admitting them to hospital is a very important part of our strategy.

Q63 Kitty Ussher: I do not know whether, Sir John, this is something we might like to return to as to how we define effectiveness in terms of value for money in the health sector. Is it the traditional policy measures in hospitals involving the new work that is being done?

Sir John Bourn: We certainly will and there are very different views on how productivity would be defined in health services in particular and of course in other aspects of public services. We are looking at it and we will come back to the Committee.

Q64 Kitty Ussher: In terms of future work that needs doing, the Report suggests savings of 20 million annually, 550 deaths avoided, 1,700 people

in future fully recovering who have not been at the moment. Are those numbers that you would agree with?

Sir Nigel Crisp: We agree with the numbers in the Report, yes.

Q65 Kitty Ussher: Does that mean you agree with the 20 million savings annually so presumably you can quite explicitly quantify therefore how much saving you get from each pound that you spend differently? Do you have a model for this? How do you agree with the 20 million?

Sir Nigel Crisp: I do not have the page in front of me so I do not know whether in the document it is qualified. What I am really saying is that we agree with the figures in the document. Which page was it?

Q66 Kitty Ussher: The overall figures are right at the beginning on page six. It is the National Audit Office saying that you can save 20 million annually by doing the things that they suggest. My question is do you agree with that?

Sir Nigel Crisp: Yes.

Q67 Kitty Ussher: How do you do it specifically? Is it a ballpark figure because you agree with their analysis or do you have a model to save taxpayers £20 million?

Sir Nigel Crisp: This was a specific model for this specific case. We can provide the calculations for it which would have been agreed between ourselves and the NAO.

Q68 Kitty Ussher: You are all on the same page. You are going to do exactly what is set out here and you are happy to project that for the taxpayer that will lead to a £20 million saving. That is money you intend to save therefore, is it?

Sir Nigel Crisp: There are two separate points there. I agree with the figures. The second point is implementation and making it happen. We also agree with the implementation process. The thing that I am hesitant over is the time period in which we can do that.⁹

Q69 Kitty Ussher: What will you spend the 20 million annually on that you have saved?

Sir Nigel Crisp: We will no doubt spend it on other priorities and perhaps reinvest it in stroke, but I am not quite sure whether 20 million works like that in an overall budget of 79 billion.

Q70 Kitty Ussher: I understand that. That is why I am probing you on that particular figure. You said you agreed with this. You were going to do the things in the Report and that would therefore lead to a saving of 20 million, which I understand is small fry given the fantastic amounts that the government is investing in the NHS but what I am trying to get at is, in the decisions that you make, do you understand what bang you get for your buck? Do you have a plan for dealing with savings?

⁹ Ev 20

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Do you really understand the effect on the taxpayer of the decisions that you are making? If you agree you can save 20 million, what are you going to spend it on?

Sir Nigel Crisp: There are two separate processes. Firstly, if we put into effect the things here it potentially saves 20 million. That is our calculation as well. It is a question of timing. There is a separate discussion and decision involving politicians about what we spend the money on.

Q71 Kitty Ussher: There is an extra 20 million out there that you think will become—?

Sir Nigel Crisp: Yes, presuming that it is something that you can get nationally, though I suspect it is 20 million in 200 hospitals and they therefore may make decisions locally about that.

Q72 Kitty Ussher: If you look at appendix four on page 49, there seems to have been some attempt to perhaps answer this question by King's and the LSE, to calculate the effect on the taxpayer, both directly and indirectly, of the costs of people dying of stroke and having strokes. Is this something that you would agree with? Is it the government's view?

Sir Nigel Crisp: This is probably the best available. This is not our piece of work. We do not disagree with it.

Q73 Mr Bacon: On the other hand, Sir John did go to the London School of Economics so you surely do not disagree with him?

Sir Nigel Crisp: I would never disagree with Sir John but I do not think he wrote this. We would see this as the best available rather than definitive.

Q74 Kitty Ussher: If the government in making their political priorities decided to give an extra pound to stroke care, where would it be most effectively spent?

Sir Nigel Crisp: As a layman speaking, I think this point on scanning is a very important issue.

Professor Boyle: It would be hard to choose between the upstream preventing attack altogether or whether you just assume that the attacks are still going to happen to some extent and you invest it there. The scan itself does not save any lives at all. It is what is done afterwards that is important. The new drug for this called Alteplase is being appraised by NICE at the moment and we hope that will be another lever towards getting its implementation more widespread across the country.

Professor Philp: Discussions with people that represent people who have had strokes, the Stroke Association and other bodies, suggest that for many people who have had a stroke it is the quality of life in the long term for themselves and their families that is important. The challenge here is not just to transform the acute response to stroke; it is to manage the whole pathway from prevention through to long term care.

Sir Nigel Crisp: We would like to spend it on prevention, on treatment and on rehabilitation. That was a slightly facetious point but this is an integrated thing. We have to get all those bits right, which is the importance of having a clear strategy.

Q75 Kitty Ussher: In terms of value for money for the taxpayer, we should know where the most effective intervention is.

Sir Nigel Crisp: It is probably upstream.

Q76 Mr Curry: Most people know what cancer is and they have a reasonably good idea what heart disease is. Stroke is a sort of catch-all for anybody who looks as if they are having a bit of a turn but it is not cancer or heart disease. Are there specific lifestyle characteristics which are more likely to lead to stroke than to, for example, heart disease or are there certain lifestyle characteristics which are likely to make you ill?

Sir Nigel Crisp: As a layman, I would agree with you about people understanding the other two.

Professor Boyle: The risk factors for stroke are really the same as they are for every vascular disease. That includes heart disease. They are the ones we all know about, perhaps with one exception, which are high blood pressure, high cholesterol, diabetes, smoking, advancing age and poor diet. Those are the key ones. There is one other risk factor for stroke which is different and that is the presence of atrial fibrillation, an irregular beating of the heart. It increases the propensity of the heart to develop blood clots and those being propagated to the brain and causing trauma. The accurate definition of people who suffer from this condition that it affects about 8% of the over 65s is going to be a very important preventative measure in itself because, if we can get those people onto blood thinning treatment of one kind or another, we will reduce the risk of them having a stroke and may abolish it altogether.

Q77 Mr Curry: When we are talking about prevention, should we be framing specific messages for stroke or is there beginning to be a public fatigue of health messages? Should we not be framing messages which are more general about people being healthy and not ending up with one sort of illness or another?

Professor Boyle: Yes. Most of the campaigns that we have run recently have been generic in their target audience, particularly the advertising campaign on the effects of smoking which ran in the early part of 2004, one of the most hard hitting advertising campaigns in the history of advertising in this country. It had an amazing effect not only on public opinion in terms of what people would tolerate in terms of smoking environments but also in encouraging people to attempt to quit smoking. That is becoming increasingly important in this arena as well.

Q78 Mr Curry: One of the factors you mention is high blood pressure which seems to be a general culprit. One of the general culprits for high blood

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pressure is salt. Last week a group of lobby organisations put on a reception here to which a handful of MPs turned up and they were talking about trying to cut salt. The Food Standards Agency has made reductions of salt one of its major directions of activity. How joined up are relations with organisations like, for example, the Food Standards Agency? Describe the gears.

Professor Boyle: We have been working very closely with the Food Standards Agency on work with the food industry to achieve just this very thing, which is to reduce the salt in processed food. It is often in places where you do not expect to find it, like in bread, for example so that there is a chronic intake of salt which many of us would find difficult to track down by reading food labels. Improving food labelling is also very important. More importantly, we are working very closely, in our new Vascular Programme, which I am chairing, with all the various groups that are involved in all of the various parts of the Vascular Programme, including the British Society for Hypertension which have been the main lobbying group on the salt progress led by Professor McGregor from St George's.

Q79 Mr Curry: The Report here points out that there is a class and race issue in this, no doubt that runs across the Health Service and it points out particular susceptibility in the Afro-Caribbean groups. Is that not the same thing as saying that Afro-Caribbean groups would tend to fall in the lower socio-economic groups or is there something specific? If there is something specific, what is the specificity of the susceptibility of Afro-Caribbeans or other ethnic minority groups?

Professor Boyle: The specific issue is they are more susceptible to hypertension, high blood pressure. Their high blood pressure is more resistant to treatment than in other groups.

Q80 Mr Curry: Does that high blood pressure come in the genes? Is it a lifestyle issue?

Professor Boyle: We think it is almost entirely genetically determined.

Mr Curry: Just like some people are lactose intolerant. You can trace Western civilisation on the basis of lactose tolerance or intolerance if you try hard enough. We are talking about the messages.

Chairman: If you want to elaborate.

Q81 Mr Curry: I am happy to do so. It is all to do with settling agriculture but we will not divert on that now. For that group you will need to devise a specific message which says you are more likely to have a problem, therefore you must do this, which perhaps is not as relevant to the rest of the population?

Professor Boyle: Indeed. We will need to do a similar process, as we have been attempting to do in the heart disease arena, for people of South Asian origin who are more susceptible to vascular disease for other reasons. They are more likely to

develop insulin resistance and so-called metabolic syndrome and early onset diabetes and that very much increases the risk.

Q82 Mr Curry: If you want to get that message through to the Afro-Caribbeans to focus on that then what would be the medium you would choose to make sure you had a high hit rate on that target group? What sort of messages would it be?

Professor Boyle: It is a difficult issue to handle because you have to get the community themselves to understand that they are different for a particular reason. We have managed to do that with the South Asian communities where they are pushing hard for us to give them a step up in terms of the risk assessment, in terms of establishing whether they are at risk of vascular events and to treat them as a special case. I think we need to do the same for people of Afro-Caribbean origin. The initial work on this has not been greatly successful because I think to get to the Afro-Caribbean community leaders is rather more difficult. They, perhaps, are not a group that are not renowned for being compliant with the medication when they are given it. That is a challenge for primary care and it is a challenge for our frameworks in terms of measuring the quality of what goes on in primary care and raising awareness within the primary care setting. This group do require special attention and maybe a different strategy at local level.

Q83 Mr Curry: We are all bombarded now, with messages particularly to do with food, with what is good and what we should not eat. As far as I can see if I existed entirely on a diet of cooked tomatoes, cranberry juice and Brazil nuts then my susceptibility to prostate cancer would be massively reduced but it would not make for much fun. If you had a 15 second slot on television free, gratis and for nothing in prime time and you had to get three non-killer messages out, what would they be to get the maximum benefit in preventative terms?

Professor Boyle: Professor Philp has been doing just that very thing on the BBC so maybe he could tell you.

Professor Philp: We have been supporting the BBC on a series called *How to Live Longer* that is going out at the moment. The episode tomorrow will be a man called Sugay who is a South Asian man and has a poor diet and lack of exercise and he is at risk of heart disease and a stroke. We make that clear and we are showing a case study of the main messages, in his case his diet. On Friday we have got a lady from an Afro-Caribbean background, Lisa, who is overweight and has diabetes risk in the family and high blood pressure. We were making the point through the medium of television that programmes are going out to about 1.5 million people each morning to encourage people to identify with people like themselves and adopt healthier lifestyles. The big messages relate to blood pressure, cholesterol—which we measure for all the participants in the programme—diet and exercise.

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Q84 Mr Curry: Every three years all MPs have to go and see the House of Commons doctor and you are always told to lose two stone, by and large. Do not tell me to improve my lifestyle or my diet, give me three specific things which I could do, good hard-hitting clear things that I would understand?

Professor Philp: Your waist measurement is probably now the best test, as a physical test, of your heart disease and stroke risk from being overweight. Get your belt size down two notches. Check your blood pressure, if you are in an at risk population go and see your GP, make sure your blood pressure has been checked and controlled. Change your diet because we live in a land of plenty but we are programmed genetically to live in a land of famine so we eat what is available to us readily. We have to change our outlook so that we consciously start to manage our dietary intake in the interests of our health and we are modelling this, as I say, through this television programme to show that people can change their lives, not through just following a diet for a few weeks but by reprogramming their behaviours and, in so doing, achieve happier as well as healthier lives and that then creates sustainable change.

Mr Curry: May I ask one further question.

Chairman: As long as you do not get too worked up, we do not want your blood pressure to go up!

Q85 Mr Curry: I have just had my test. You might well get an elderly person who has had a stroke and they live by themselves. As a result of the stroke they cannot drive so they become wholly dependent on the Social Services and, as this Report says, sometimes the most irksome things are what we might call the banal problems like they cannot cut their toenails or their fingernails, every single meal comes from Meals on Wheels, which are not always the healthiest concoction as a matter of fact. They cannot wash their cloths, or they cannot bathe themselves. Yet Social Services are under colossal pressure. If you look at the Chancellor's forward expenditure predictions then that comes into the "everything else category" which is going to have to fight over a limited amount of money once education and health and perhaps overseas aid has been prioritised. What do we do to prevent the dislocation between the health and the social services and people, particularly vulnerable like that, who are almost not going to let it be known when they do have a problem.

Sir Nigel Crisp: A general point from me and then I will ask Professor Philp to carry on. We published the White Paper last week which was very much focused on these sorts of questions about deliberately health and care because it is not enough to do the health intervention, there are all the other interventions around it. We published it because we know there is more to do with that area but I do not know whether there is anything specific that you want to say on that area.

Professor Philp: I do think the White Paper sets a better foundation for delivering care that is more appropriate to people's long term needs through the better alignment of the NHS and social care

system. Specifically, I would like to mention the push that we have on direct payment and the pilot studies we are doing on individual budgets which would deliver for the hypothetical person you described, much greater choice in how they would spend the money that would be associated with their level of needs and not rely, therefore, on the service to define what the service response to them should be. The responsibility of the service is to assess levels of needs and through the mechanism of direct payments personalised budgets, including direct payments for carers, people will have greater choice in accessing the services which they think will best meet their needs.

Chairman: For the record, public awareness is dealt with on page 35. It says "Public health campaigns have had modest success in raising awareness specifically about stroke and the least success with ethnic minority and deprived groups". There is a comment from a carer saying, "She had been warned about a stroke unless she got her weight and blood pressure down but ignored it saying 'A short life and a gay one'. She is now unable to walk, incontinent, epileptic and has reduced comprehension". I am sure one of our recommendations would be that your public awareness campaigns do not yet seem to have got through to the public.

Q86 Mr Khan: One of my problems is when you are the seventh person to ask questions all the best questions have been stolen. Can I underscore the point made by Mr Clark, which is the reason why we are all a bit vexed and animated. It is not simply our obsession with the value for money point, it is that the Report tells us, and you have accepted the Report, that 550 deaths per year could be prevented but also 1,700 people could revert back to their normal standard of living and their life but for the recommendations so far. You can understand, I am sure, the reasons for our vexation. My first question is you explained that international comparisons are difficult and you also said, and the Report says, that the number of incidents and deaths to do with strokes has gone down over the last decades. Can you explain, and I think Kitty Ussher who is not here alluded to this, why the chances of someone dying who has suffered a stroke have remained consistent compared with the chances, for example, of a heart attack, which have declined?

Professor Boyle: The numbers have declined for stroke as well, they just have not declined so fast.

Q87 Mr Khan: Exactly. The percentage of people who die post-stroke, the improvement that has been made is less good than the improvement made in better contrast to heart attack and deaths?

Professor Boyle: I think the message we have been trying to get across to you is that we need to do that effectively. We need to tackle the whole pathway right from the individual calling for help, the speed of the ambulance service, the access to the scan, the interpretation of the scan and then the application for those with a thrombotic stroke, that is an artery that occludes with a blood clot.

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Q88 Mr Khan: My second question is could you give us a note setting out—over the last 15 years I would be happy with—the increase there has been or the decrease, I assume there has been an increase, in the number of CT scans over the last 15 years, the number of pre-staff like radiographers, radiologists, neuro-radiologists, stroke consultants and the rehabilitative staff for example psychologists, dieticians, physiotherapists, occupational speech therapists and social workers, those sorts of areas over the last 15 years. Is that a reasonable request?

Professor Boyle: For a lot of those staff groups the survey data is not complete.¹⁰

Q89 Mr Khan: As much as you can would be useful. It provides us with a relative way of seeing in those areas how steep the graph is about improvements made. My second main issue is in the NAO paper on page five, there is a reference to the total cost—it is in table two in the second column, the second bullet point—“The total costs of stroke care are predicted to rise in real terms by 30% between 1991 and 2010”. Do you accept that?

Sir Nigel Crisp: Yes, I think we do.

Professor Boyle: One of the problems we have here is with an ageing population, age being a major risk factor for stroke, you would expect the numbers to rise and therefore the cost.

Q90 Mr Khan: Exactly. Is that because more people will suffer strokes and the cost post-stroke will rise or is that because you are buying more CT scans, training more staff and having the staff working up to 36 hours rather than 12, et cetera?

Professor Boyle: Basically, I think the rate will not rise once it is adjusted for age but the volume of work that we will have to deal with will rise because we have an old population.

Professor Philp: On your point comparing where will the costs be incurred, relatively more costs will be incurred on the acute response and proportionately, therefore, less cost on the long-term burden through better treatment and reduction in long-term disability although the proportion of the total cost of a stroke episode through care is largely accounted for by the longer term costs.

Q91 Mr Khan: That is the answer I was hoping for. Can I take you on to pages 16 and 17 in the Report, figures six to eight. It is quite clear that there is a huge variation in the service provision around the country. I know this because at St George's Hospital in Tooting we have a specialist stroke unit in a new wing built by PFI with a dedicated team of experts, the top 10 in the country. We have access to TIA technology where the one-stop clinic would have the availability of the thrombolytic drugs that are referred to in the Report. We have now more access to CT scans. Aside from your point, which I am sure you will say is because they have got a good MP, what is the other reason why

places like Tooting have such a different experience to our colleagues up in the North East in particular?

Professor Philp: It is local championing. The best practice in the country—and the best practice in our country does compare with the best practice in Australia, Sweden—Newcastle, Cambridge, some centres in London and others are delivering excellent care. Our challenge is to move these from best practice because you have self-selected champions with a strong interest in the area, many of whom are at the cutting-edge of the research and building up the workforce so that we have champions throughout the country. That is the main reason why there has been differential growth, it has been the availability of local champions, including no doubt local MPs.

Q92 Mr Khan: You are right, the average time people spend in St George's is 22 days, it is still too long but going the right way. Is that good enough? That is almost an argument not for devolving power down to the trust because St George's is blessed with a great MP and a good PCT and stuff. What about the others?

Sir Nigel Crisp: A general point about performance improvement is that it is on a normal distribution of bell curve. You will have people at one end who are the leaders, you have the bulk of people in the middle and then you have got the people at the end who really are the laggards. Our task, as a system, which I think Professor Philp was saying, is to make sure that the best practice that is learned in places like Tooting is spread elsewhere.

Q93 Mr Khan: How?

Sir Nigel Crisp: Amongst other things by these sort of publications, having the strategy that Professor Boyle is leading the development of and, to some extent, by targets. Let me give you an example of something which has not yet come up which is in the GP's contract, they get paid for certain measures and for things that they do. We have now got into it something like 30 payment points that are associated with stroke which we did not have before. You are getting the incentives into the GP, you are getting the spread of best practice, you are getting clinical leadership, you are promoting what is happening in Tooting and elsewhere and you are getting those people to go and talk to other people in the country. Best practice does not spread easily, it needs all those financial incentives as well as the leadership.

Q94 Mr Khan: When should we expect to be able to have you back here and ask you the questions about the bell graph you talked about and refer to it as a significant improvement? How soon?

Sir Nigel Crisp: I think it is happening. Some of these figures, it is interesting, have changed in the last couple of years, even within this Report. The people who say that they have been in stroke units and so on have shifted from 40% to 60% in three

¹⁰ Ev 21–23

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years, though if you were to invite us back in three years' time or something I suspect you would see a much better picture than that.

Professor Boyle: You mentioned the North East, in fact, one of our exemplar hospitals is in Newcastle and one of our leading clinicians, who is helping us develop the strategy, is based there. One of the reasons is that it is another large hospital where you are likely to have a bigger cohort of patients to manage, more resources and easier access to the scanning and the other technology. Even there, in a big hospital, it is not easy. This individual has also been appointed to run another topic, which we have not mentioned yet, which is a UK Stroke Research Network. We have funded them with £20 million over five years to develop research networks across the country which will cover about three quarters of the population.

Q95 Mr Khan: My final two questions are that, first of all, the Chairman and Mr Curry already alluded to public awareness campaigns, and you have been given a sneak preview. One of the criticisms could well be your lack of success in your public awareness campaign. One point that Mr Curry did refer to, where there is a disproportion of sufferers, is women. To pre-empt that criticism, or to make it less stark than it will be, what are you doing to improve the public awareness campaigns?

Professor Boyle: The stroke does get a mention in pretty well every one we have done in most of the leaflets and certainly also in the work we are doing with the Stroke Association to raise awareness that a stroke is important. I think that is for the general public. I think we have got another issue which is making sure that our professional groups are also absolutely fully up to speed and that relates to your last point in terms of how do we spread good practice. We are setting up a series of attachments to the exemplar units to make sure that that good practice is spread.

Q96 Stephen Williams: A lot of questions I had prepared have been asked already so I probably will not detain you for long. One of the issues that has come up repeatedly in this session is blood pressure. Can I ask Sir Nigel, perhaps more so than the clinicians, what is the Department doing so that we encourage as many people as possible to have a blood pressure test? The last time I went to see a GP, and I do not go very often, he said to me, "it is not very often you get young men in the surgery, I am going to take your blood pressure because we have very poor data on young men's blood pressure". What is the Department doing to have more statistical analysis of high blood pressure in the country?

Professor Boyle: Blood pressure is absolutely the key. What we have seen is a much improved performance in terms of tracking down blood pressure which does not come with symptoms so unless you get a measurement that is not easily recognised. On the other hand, we have seen clear evidence that the increased uptake of the drugs to treat blood pressure and spend on that as a

contribution to the £2.1 billion spend is having an effect on the nation's blood pressure. The average blood pressure is falling both for men and for women but faster in women for some reason which we do not fully understand. One of the major levers to bring this about has been the quality and outcomes framework within the new GMS contract for primary care and where blood pressure figures very high up the point scale in terms of encouraging primary care to do this work. It is also becoming increasingly important as part of an assessment of cardiovascular risk as a whole, which means looking at all of your risk factors and then seeing whether or not your threshold would warrant an intervention with treatment for your blood pressure or for your cholesterol level as well as the lifestyle advice that we have already covered. We are moving into a position now, following a recent appraisal of statins by NICE, that suggests that a 20% 10-year risk of an event would be a reasonable threshold for a cost-effective intervention in that arena. This is a big step forward because it would introduce another three million or so individuals as being eligible for treatment on top of the three million or so already receiving treatment and regular follow-up. It is a big task for primary care but one that they have shown they can achieve through this quality and outcomes framework and we are looking to expand that further in the coming years.

Q97 Stephen Williams: Young people perhaps are far more likely to go to a gym or some sort of health club than they are to see their doctor, in fact, where I have my blood pressure tested on a fairly regular basis is at my local sports centre. Nothing happens with the data thereafter even though I know it is all stored on a database held by the council. Has the Department considered, perhaps on a sample to see whether it is worthwhile, working with other people and collecting this data even though health is not their primary concern?

Professor Boyle: The issue is Know your Numbers is a campaign which has been run by the Blood Pressure Association, and I think it is a very good one, but knowing your number and doing something about it are two different things. We are working with the pharmacists to see whether the high street is another option for those sorts of checks. The walk-in centres clearly make it easier for people to access that kind of measurement and again, within the White Paper, there is a clear drive to the life check and to encourage people to take this sort of issue seriously.

Sir Nigel Crisp: Can I make one point on this which is what you were doing yourself which is the primary prevention, stopping it getting there, rather than the secondary prevention which is the pill, the drug, which is where we do not want to be. We want to be encouraging people to be looking after themselves in the first place rather than to be in the position of needing us to provide medication to go with it. Your wider point about whether or

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not we collect that information for useful research purposes, maybe that is something we might come back to.

Q98 Stephen Williams: You mentioned the Health White Paper that came out last week or the week before and the health MOT life check was one of the eye catching initiatives within that White Paper and it seems to be a good idea. Presumably regular blood pressure tests would be a key aspect of that, a lot of that goes on at the moment. Do we need to have more of an understanding of blood pressure statistics without this need for health MOTs along with the work being done already?

Professor Philp: We know the statistics in terms of population risk, the issue is raising awareness in the population of the need to look after your health and get your blood pressure checked, particularly the age group that we are piloting the health checks first in, which is people in their late 40s particularly at risk in that age group. Our Communications Directorate in the Department of Health have been doing work looking at how people receive health information and where the trusted source is. The trusted sources are not always from health professionals, they are from the neighbour down the road, what you see on a TV programme, what you read in the magazines that people read and so on. Our campaigns of raising public awareness about risks and looking after your health are increasingly turning now to using the media and the example I gave was the *How to Live Longer* programme, for example. It is a multi-pronged approach, raising public awareness through sources that the public will trust, having access to means to get your health checked, targeting the specific at risk groups including in the case of stroke people from Afro-Caribbean backgrounds and South Asian communities, and then using the quality and outcomes framework in the GP contract to incentivise primary care to respond effectively as they have been doing to managing the identified risk factors.

Q99 Stephen Williams: Mr Khan mentioned earlier in his questions the fact that women often suffer from strokes more disproportionately than people realise. I wear this badge on my lapel which is to raise awareness of testicular cancer. The pink ribbon for breast cancer is now well understood and the breast cancer campaign has achieved a great deal but it says in the Report that three times as many women will die of a stroke than will die of breast cancer yet the resources that go into breast cancer research and public information and awareness of strokes is far lower. What work is the Department doing with various campaigning groups to turn around this perception?

Professor Boyle: I think the big issue here is to get into a position where individuals understand the concept of risk because these events are always things that happen to other people. Even if a risk level of 20% over 10 years is explained to them, they will then have to decide whether that is a big enough risk to warrant embarking on all the

lifestyle changes and possibly pharmaceutical interventions that would alter that. The key thing here in the stroke arena is smoking just as it is for heart disease and cancer, and that is why the vote on 14 February is becoming increasingly important.

Q100 Stephen Williams: I would certainly agree on that. Finally, I want to ask one general question, perhaps to Sir Nigel. In the answers to the Chairman's initial questions you were quite bullish by saying that the investment which has gone into coronary care has made the treatment of heart disease in this country perhaps the best in the world. Where would you rank our treatment of strokes?

Sir Nigel Crisp: There are two sets of figures here. One puts us not far off the European average in terms of outcomes but they are figures which seem to come from different dates. That is probably as good a guess as we can get. The short answer would be not good enough.

Q101 Stephen Williams: Is there a model out there—we have heard Australia and Sweden mentioned several times—that we can aspire to?

Sir Nigel Crisp: I think there is a lot that we can learn from Australia, they are not quite the exact model that we would put here.

Professor Boyle: We are working very closely with one of the specialist physicians that helped develop the Canadian strategy and he is now working in this country and working with us to learn from that experience. We are aware of the Australian experience. We have experts in this country that are equally as good and as active and determined to get things right as any of the Australian centres. The trick is to get that enthusiasm spread across the country which is why this national strategy that we set out to develop is so important. That builds momentum, it builds the sense of purpose and the engagement of all the various professional people that we need to have at our disposal and at the patient's disposal to treat the stroke better.

Q102 Sarah McCarthy-Fry: If we go right back to the beginning questions from Greg Clark where he raised the crux of the issue about the unnecessary lives that have been lost through stroke but he also more or less implied that in doing anything that you counter it by the fact that we prioritise on heart disease because there were more deaths through that. You pointed out what we had done to counter heart disease which was blood pressure drugs, statins and a huge awareness campaign in turn. As Kitty Ussher pointed out, they are also the actions you take to prevent strokes. Is there any way we can differentiate or is it totally impossible to say how many lives have been lost through people not having strokes? Is it impossible to do that? If we had not done what we have done on heart disease would the people dying from strokes have been that much worse?

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Professor Boyle: I do not think we have a method of disentangling that but the obvious answer is yes, that they would have been dying more often and we would not have seen the decline in stroke deaths that we have seen. We would have seen a complete plateau or maybe, as in some of the eastern bloc countries, the statistics going absolutely in the wrong direction.

Q103 Sarah McCarthy-Fry: We can say although we did prioritise heart disease, what we did to prioritise heart disease has also helped, not enough obviously because of what we have been hearing, but it has helped in preventing strokes.

Professor Boyle: Yes.

Q104 Sarah McCarthy-Fry: You quite rightly said, Sir Nigel, that prioritising means that one thing gets more attention than the other. If we are now going to shift our focus from heart disease and cancer on to stroke, does that mean we still maintain our world status in terms of heart disease or will things slip because we are focusing more on strokes?

Sir Nigel Crisp: No, we have got to keep the focus on heart disease as well but we have got some momentum there, and it goes back to the point that has been talked about, about good practice. What we need to do, through all our services in the Health Service, is get self-sustaining improvement. The systems are set up to get thrombolysis if you have had a heart attack, so that there is 100% of the country covered by rapid access chest pain clinics and so on, so you have got that self-sustaining momentum. I know Professor Boyle again has further ambitions for what we should be doing on heart failure as opposed to coronary heart disease. We do need to keep that focus on but we do not need to give it as much attention and that does allow us, at a national level, to pay more attention to a number of other areas of which stroke is, I suspect, the most important.

Professor Philp: I got a sense that there is a feeling that stroke was not a priority in some people's minds here and that progress had not been made until the NAO Report has been published, but I think it is really important to put on the record that there is some momentum in stroke. The key dates are 2001, 2004 and 2005. In 2001 we published the National Service Framework; in 2004 we had the Sentinel audit on stroke and in 2005 we had the latest data. 2004 was also an important year because that was the year when the evidence about the acute response emerged, and it is on the basis of that data that we are talking about saving lives through investment in that area. It is only in the last couple of years that there has been the research evidence to support the development of acute stroke services whereas we have had that information for 20 or 30 years for coronary heart disease, a speciality that has been established for 50 to 80 years plus, 80 years, stroke as a speciality only emerging in 2004. The data is that 46% of hospitals have stroke units or services in 2001, 86% in 2004, 100% now. The proportion of people spending the

majority of their care in stroke units: 27% in 2001, 41% in 2004, 64% through the Health Care Commission Survey in 2005. There is a momentum in stroke. The NAO Report has caught a period of rapid transformation in stroke services at the earlier point of that transformation. My colleague, Professor Boyle, will be taking it forward into the next stage. I did want to put these facts on record so there was not a misunderstanding that stroke was given no priority and that there has been no improvement in the last few years.

Q105 Sarah McCarthy-Fry: Thank you, that was the point I was trying to draw out. Can I go back the point of raising awareness. What do you think is the balance between the patient, the ordinary person who is treated, raising their awareness of what might be a TIA and going and asking for treatment, and when they go to the GP and say "I have just had a funny turn", the GP recognises what it is. Do you think it is equal or should we be concentrating now on one or the other?

Professor Philp: We need to give much more attention to raising the public awareness about what the symptoms of a stroke are. Again, the evidence on what we do has only emerged in the last few months, less than a year. In the development of the FAST test it is a simple method which has been sponsored by the Stroke Association which the Department recognises as a very useful way: the face, arm and speech sudden loss. If we can get that message out to the public that if there is a sudden loss of function on one side of the face, one side of the body, one arm or, if there is a sudden onset of speech disturbance, that these are the symptoms of a possible TIA or a stroke that means it is a medical emergency. A key priority in the next phase is to get that message out to the public.

Q106 Sarah McCarthy-Fry: As I say, I know a few people who have eventually been diagnosed with TIA who just thought, "I had a funny turn, I feel fine now". A lot of people now are going through NHS Direct. What training are you giving to the people on the other end of the phone? If you go to the doctor it is one thing but when you are on the other end of the phone, what happens?

Professor Boyle: The protocols for NHS Direct and how they respond to people with those kinds of symptoms have been revised so that we expect that to be a sharper response and have a better chance of the person ringing or a family member getting the right advice, which is to go for immediate referral. The problem with a transient ischemic attack is that at the time you do not know whether this is the beginning of a full-blown stroke or whether it is something that will get better within the 24-hours in the definition, the response must be the same, you must have an immediate assessment.

Sir Nigel Crisp: That has only just changed.

Q107 Sarah McCarthy-Fry: For my own benefit, the face, arm, speech; do you have to demonstrate all three?

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Professor Philp: No, only one.

Q108 Sarah McCarthy-Fry: That was not even clear to me from reading the Report so I think that is something we need to do on public awareness. Can I pick up something that disturbed me a little. I want to clarify, in the Report, paragraph 22 on page nine where it says “. . . surgery on the carotid arteries are being carried out after the time when they would have been of benefit”. Can I clarify that does not mean we are giving people unnecessary operations? It does not mean that there is no benefit if it is done after a certain time, or does it?

Professor Philp: What it means is that we are not responding quickly enough.

Q109 Sarah McCarthy-Fry: That is what I thought. It is a little misleading in the Report.

Professor Boyle: It is not that we are over-treating. The benefits are greatest if it is done very soon. That is a different type of scanning, it is scanning the arteries in the neck with ultrasound initially and then going rapidly through to a surgical, or increasingly now, a stenting procedure to open the vessel and prevent further events. More importantly overall is to get these people on to proper anti-thrombotic treatment with aspirin and other agents as appropriate.

Sarah McCarthy-Fry: Can I suggest to Sir John Bourn that maybe the wording should be “after the time when they would have been most benefit” rather than saying “after the time when it would have been of benefit” in cases where people are getting operations they did not need. I have to be ever so quick, I just want to bring in about carers because it has not been brought up by anyone else. I was horrified on page 30—

Chairman: There is a figure 12 on page 27.

Q110 Sarah McCarthy-Fry: No, it is paragraph 2.15. It says that: “28% of carers had experienced problems with their jobs, 63% had problems with their physical health and 56% had experienced problems with their mental health since becoming a carer of someone with a stroke”. With a White Paper that is trying to get patients back into the community we are going to be depending more and more on carers and I know there is a carers awareness raising campaign at the moment. They need help and support. What are you doing to help them?

Professor Philp: The White Paper also makes some very strong points about carers with three things in particular. First, the availability of an information prescription to carers, so that carers become aware of the services which might support them, having had their assessment for which they already have a statutory right to an assessment of their needs. Secondly, improving emergency respite. What the carers organisations tell us is that it is not the standard two-week break a year at a pre-booked time that carers need it, it is when there is a crisis in their lives as a carer they need services to step in and look after their loved one and undertake duties at that point. Thirdly, the development of a

training package for carers, the so-called expert carer programme which would provide carers with better skills and competencies, so that they feel better equipped to undertake their caring role, although not as a substitute for the provision of formal services.

Chairman: Can I have some brief answers now to some supplementaries from Mr Bacon, Mr Curry, and Mr Clark.

Q111 Mr Bacon: Professor Philp, you painted a picture of us being on the cusp of rapid transformation which the NAO has just caught in time. How will you measure progress in the effectiveness of the delivery of improvements by the Vascular Programme Board?

Professor Philp: Currently the more detailed measure is the extent to which the quality measures which are used in the National Sentinel Audit for Stroke are met, the percentage of all the points that define a quality stroke service. The National Sentinel Audit for Stroke will be repeated again this year and will publish in March 2007. We will get an early indication of what progress we have made since 2004.

Q112 Mr Bacon: Sir Nigel, you must have thought, since you have got Professor Philp here as the national director for neurological conditions and the national heart director here in Professor Boyle, and we have seen Professor Richards, the national cancer director, that one way to give it higher priority would be to have a national stroke tsar. Is there not a danger that these two distinguished gentlemen and Professor Alberti, in charge of emergency access, that this is going to fall between three stalls? Have you given any thought to having one tsar with overall responsibility for this?

Sir Nigel Crisp: You are quite right and that is why we have asked Professor Boyle to have overall responsibility.

Q113 Mr Bacon: The answer to the question who is accountable for this is Professor Roger Boyle?

Sir Nigel Crisp: That is right.

Q114 Mr Bacon: My third question is about funding. On page 14 it shows a very vivid chart—I do not mean in terms of colour but numbers—that the Department of Health funding for research is £9.4 million for stroke and £52 million for coronary heart disease, a pattern that is repeated by charity funding where there is only £2.6 million for stroke and £43 million for coronary heart disease. What do you expect to happen to that Department of Health number in the next five years?

Sir Nigel Crisp: Can I just pass to a colleague. What you see there is precisely a reflection of where we have already been. We have decided to invest a further £20 million over the next five years.

Chairman: If that is the answer—let us not keep passing to colleagues—that is the answer.

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Q115 Mr Curry: Professor Philp, you mentioned in your final answer that the Health White Paper gave a greater range of choice to carers. Can I merely impress upon you that there are some people, who might be elderly, who live by themselves, who might not be able to speak very clearly, who may be, quite frankly, not particularly appetising because of their condition, who are panicked at the idea of choice, who do not have permanent carers. What they want is to be able to rely absolutely on the conventional social services delivering what is absolutely necessary to them.

Professor Philp: Yes.

Q116 Mr Curry: Let us realise that choice is also a question of competence, it depends upon competence and some people are not as competent as we would like.

Professor Philp: I agree. The brief answer to that is that the White Paper also includes plans to spread the availability of case management for older people and others with complex long-term needs to the person that they can rely on and trust who will help co-ordinate their care for them. It is not all down to handing the money to the person and saying “Get on with it”. People will have the choice to be cared for by trusted professionals.

Q117 Greg Clark: The Report says that the number of community stroke teams across the UK appears to be falling. This is confirmed by an agency which says that PCTs are contracting community stroke services. That is clearly worrying. Does this represent a pattern you recognise?

Sir Nigel Crisp: I do not but I do not know whether other colleagues do.

Professor Philp: The latest data we have got on the national picture shows an increased investment in community rehabilitation services, including people with strokes. For example, people with stroke having an occupational therapy home visit prior to their discharge from hospital has gone up to 70% from 52% three years ago. However, the current situation is changing, investment decisions are being taken by PCTs and councils, and the White

Paper, with its emphasis on investing more in care closer to home, is intended in part to ensure that we continue to invest in the community.

Q118 Greg Clark: Has that decline been arrested?
Professor Philp: What I am saying is we do not know from the data whether there is a decline, that is a perception.¹¹

Q119 Greg Clark: The figures are here.

Professor Philp: Which page?

Q120 Greg Clark: Page 29, paragraph 2.8, the middle of that says: “. . . the number of community stroke teams across the UK appears to be falling (31% in 2002 and 25% in 2004).”

Sir Nigel Crisp: That does not appear to be what our perception was. Can we give you an answer later to that?

Q121 Chairman: Also, perhaps, for the sake of completeness, at paragraph 2.10 on page 29, which is the need for improved co-ordination in health and social care services, Sir Nigel, can we have a note on that?

Sir Nigel Crisp: Yes.¹²

Q122 Chairman: That concludes our inquiry but may I say before we end, Sir John, that I am very proud of what we achieved in this Committee with MRSA and I hope we might achieve the same on stroke as we achieved on MRSA: raising the public profile. I wonder whether you would consider bringing this back to this Committee before the end of this Parliament in order that we can bring Sir Nigel back in a couple of years and see exactly what progress has been made. I am sure that if you can save quite a lot of lives a year then this has been an immensely important hearing. As Mr Clark said, this could well be a historic document that you and your staff have created today.

Sir John Bourn: I will certainly do that, Chairman.

Chairman: Thank you very much.

¹¹ Ev 23

¹² Ev 23

 Supplementary memorandum submitted by the Department of Health

Since the hearing, the Department has developed a toolkit for Trusts to use to improve their stroke services. The main part of the toolkit is an interactive spreadsheet, which Trusts can use to analyse their current service provision and identify the impact that certain changes would have on outcomes. This has been tested with stakeholders at a conference on 1 March and will be made widely available and will be posted on the DH website shortly.

Question 36 (Jon Trickett): Can you please provide a note on your objective to increase the productivity of each scanner?

Utilisation and productivity rates of individual scanners are not collected centrally, but the number of CT scans nationally has increased from 1,056,365 in 1996–97 to 2,141,652 in 2004–05. Improving treatment for stroke patients involves ensuring patients—especially those who may benefit from thrombolysis—receive urgent CT scanning. Most patients already receive a CT scan in the days following the scan. The challenge is to shift this volume of activity earlier. So it is not so much the productivity of each scanner that is the key challenge, rather the way in which they are deployed.

An average District General Hospital will see around 20 strokes in a typical working week and almost all present within working hours, simply because patients who have a stroke at night remain unaware until waking the following morning so this is not a major capacity challenge.

Historically, however, stroke patients have not been regarded as emergencies because there was little that could be given in the way of treatment. Therefore, the challenge is around awareness of, and training on, the benefits of emergency CT scanning to rule out haemorrhage. It is essential that haemorrhagic strokes are ruled out before thrombolysis is contemplated and emergency scanning is important to enable other treatments, for example giving aspirin to reduce the risk of a repeat ischaemic stroke.

We have a dedicated expert project group advising the Department on the emergency response to stroke, including scanning access as part of work to develop a new Stroke Strategy. In the interim, the Department has developed a toolkit, which encourages Trusts to prioritise those patients who present within three hours of stroke onset and may be suitable for thrombolysis as urgent cases who should receive CT scanning on arrival at hospital.

Question 37 (Jon Trickett): Was the scanner at my local hospital trust (Mid Yorkshire Hospitals NHS Trust) purchased under PFI and is it only available for eight hours a day under the PFI contract?

The West Yorkshire Strategic Health Authority (SHA) has provided the following information.

CT SCANNERS

CT scanners are available at all times at the Mid Yorkshire Hospitals NHS Trust. These machines were not purchased under PFI contracts.

Urgent CT scans are available 24 hours a day at all sites within Mid Yorkshire and are used for acute stroke patients in an emergency setting.

MRI SCANNERS

The trust has two MRI scanners, one at the Pinderfields General Hospital, which serves both Pinderfields and Pontefract General Infirmary patients and one at the Dewsbury and District Hospital.

The scanners were not purchased under a PFI but via an independent partnership. At Pinderfields and Pontefract this is with a company called Lodstone. This is a 10 year partnership, that is 6 months into its contract. The contract will enable the trust to regularly upgrade the equipment as well as increase the breadth of service.

Trust patients have first call on the use of the scanner at all times and all referrals for MRI scans are reviewed by the consultant radiologist based on clinical need.

The MRI scanner is used mainly Monday to Friday with occasional access at weekends as is necessary

Question 41 (Jon Trickett): Can you please provide a note on how you are going to skill up more people to interpret scans?

New roles have been introduced including advanced and consultant radiographers. This means that radiographers are being trained to interpret and report specific types of scans. In addition, work is in hand to identify where neuro-radiologists are currently employed and how they might work in reporting networks across a geographical area. Training is also planned for clinicians who are not radiologists, for example, senior doctors working in Accident and Emergency Departments will be trained to interpret scans undertaken on suspected stroke patients. We are currently gathering information on the numbers of additional people who will be able to interpret scans.

We have already begun discussions with the relevant Royal Colleges on the scope for further extending the number of people trained to interpret scans. Dedicated expert project groups are advising the Department both on the emergency response to stroke, including scanning access, and workforce issues, including training, as part of work to develop a new Stroke Strategy. These will need to consider existing training packages for scan interpretation, such as web-based distance learning currently available. Patient safety is paramount so it is important that the number and range of people interpreting scans is only extended when the necessary training facilities are available.

Question 43 (Jon Trickett): Can you please provide a note as to the capacity of the Picture Archiving and Communications System (PACS)?

Picture Archiving and Communications System (PACS) enables images such as X-rays and scans to be stored electronically and viewed on video screens, so that doctors and other health professionals can access the information and compare it with previous images at the touch of a button. It is being developed around 5 regional clusters. Deployment of PACS is currently progressing well with full deployment expected in the course of 2007.

The contracts have been agreed on the basis of online storage of data. The capacity required has been estimated based on previous DH returns from hospital providers. Year on year growth has been allowed for, to the end of the contract term in 2013.

Stroke patients' scans could be interpreted remotely using PACS, through a regional reporting service or through radiologists, or other professionals, working remotely. PACS has the capability to share images from CT or MRI scans for reporting across the health community.

The new PACS solution across England will, when fully deployed, have the capacity to deal with the planned development of stroke services over the foreseeable future. The commercial and contractual arrangements have sufficient capacity based on the best estimates and due diligence that has been undertaken.

PACS is a key enabler to allow access to expert opinion, but it will also require changes in working arrangements to maximise the benefits of the new system. The work to develop a new national stroke strategy is being informed by project teams, including one looking at the emergency response to stroke. This will look at ensuring that diagnostic solutions for stroke—such as regional reporting networks—use PACS to the maximum benefit.

Question 49 (Mr Richard Bacon): How much do scanners cost, how much does it cost to have the staff who use them when they are now used and what would it cost if they were used all the time?

The costs of CT scanners are dependent on a number of factors, such as scanner specification, software and hardware options included and the price submitted by the supplier during the tender process. The approximate capital purchase costs of a CT scanner may range from £400,000 to £800,000.

Information on the cost of staffing scanners is not collected centrally. The costs of running scanners are variable and dependent on the degree of skill mix utilised as well as variations in non-staff costs such as the maintenance contract. Annual revenue costs (staff and non-staff costs) for CT scanners may range from £250,000 to £400,000 per annum. This means that it is impossible to calculate accurately the cost of using scanners more widely than they are used now.

However, we do know that there has been an increase in the number of scanning staff between 1997 and 2004. In 2004 there were 10,015 diagnostic radiographers compared to 8,626 in 1997—an increase of 16%. Over the same period there was a 28% increase in radiologists from 1,364 in 1997 to 1,746 in 2004.¹

In almost every trust, CT scanners are available on a 24/7 basis in, or close to, the A&E department. These are typically staffed using on call arrangements. There is not the volume of out of hours scanning to necessitate permanent on-site cover in every hospital. However, in some places there is a cultural challenge with getting acceptance of the fact that stroke is a medical emergency and that patients derive important benefits from rapid scanning.

Question 68 (Kitty Ussher): How will you achieve savings of £20 million annually, for the taxpayer?

The National Audit Office based their calculation of a saving of £20 million per annum on increasing the proportion of stroke patients who get thrombolysis to 9% and improving access to carotid surgery. The economic analysis underpinning these calculations is available from the National Audit Office.

The Department of Health has analysed the likely cost and benefit of a number of interventions, including access to transient ischaemic attacks (TIA) clinics, increasing the uptake of thrombolysis by 9% and full coverage of early supported discharge teams. This indicates that savings of £20 million in the first year would be within the likely range of savings. However, it must be noted that these calculations are preliminary. We will be working with the full range of stakeholders to ensure we have an accurate picture of all the barriers to change that need to be overcome to achieve these savings before setting out a fully costed set of proposals in the national stroke strategy.

We are making a toolkit available to trusts which will enable them to calculate the bed day saving and improved outcomes they would be able to make in their individual trust if they introduced a number of measures such as TIA clinics, thrombolysis and early supported discharge teams. The toolkit is due to be launched shortly and will support trusts in making a more cost-effective use of resources. As the £20 million savings identified in the modelling are shared across a large number of hospital trusts, they will be reinvested

¹ DH Medical and Dental Workforce Census figures 1994–2004 and NHS hospital and community health services non-medical staff in England: 1994–2004, DH. All figures are full time equivalents.

in local service improvements rather than being made available as a central saving. This is likely to benefit stroke patients by, for example, increasing the number of patients who are seen within a stroke unit rather than on other wards.

Question 88 (Mr Sadiq Khan): For the last 15 years, can you provide a note on the number of scans, the number of pre staff like radiographers, radiologists, neuro-radiologists, stroke consultants and the number of rehabilitative staff, for example, psychologists, dieticians, physiotherapists, occupational speech therapists and social workers?

Number of CT scans:

1995–96	1,709,244
1996–97	1,056,365
1997–98	1,172,656
1998–99	1,254,474
1999–00	1,359,852
2000–01	1,488,752
2001–02	1,625,304
2002–03	1,767,791
2003–04	1,992,826
2004–05	2,141,652

CT scans per year from 1995–2006 taken from KH12 returns. Data is not available before 1995–2006.

Workforce data:

Table 1 below sets out the available data on the overall number of consultants (including radiologists), nurses, radiographers and rehabilitative staff. The workforce data collection does not distinguish between the conditions of the patients being treated so these staff will not all work with stroke patients. However, Tables 2 and 3 separate out types of consultants and nurses most likely to work with stroke patients. Data on the number of social workers working with stroke patients is not available as work with patients in hospital forms a small part of the work of a number of social workers and any overall figure would be misleading.

Table 1:
ALL STAFF GROUPS (FULL TIME EQUIVALENTS)

<i>England as at 30 September each year</i>	1997	1998	1999	2000	2001	2002	2003	2004
Consultants	18,618	19,379	20,336	21,077	21,954	24,585	26,105	27,914
Nurses	246,011	247,238	250,651	256,276	266,171	279,287	291,925	301,877
Dietetics	1,864	1,961	2,058	2,129	2,255	2,377	2,565	2,664
Occupational therapy	9,792	10,194	10,792	11,188	11,816	12,541	13,053	13,879
Physiotherapy	11,348	11,709	12,047	12,515	12,992	13,586	14,455	15,564
Diagnostic radiography	8,626	8,860	9,009	9,169	9,264	9,489	9,642	10,015
Speech & Language therapy	3,742	3,831	3,939	4,066	4,207	4,365	4,707	4,973
Clinical psychology	3,376	3,660	3,763	4,052	4,399	4,846	5,331	5,518

Source: NHS hospital and community health services non-medical staff in England: 1994–2004, DH and DH Medical and Dental Workforce Census figures 1994–2004

Table 2:
CONSULTANTS AND REGISTRAR—GROUPS MOST LIKELY TO WORK WITH STROKE PATIENTS (FULL TIME EQUIVALENTS)

	<i>Clinical Radiologists</i>		<i>General Medicine</i>		<i>Geriatrics</i>		<i>Neurology</i>		<i>Rehabilitation Medicine</i>	
	<i>Consultant</i>	<i>Registrar Group</i>	<i>Consultant</i>	<i>Registrar Group</i>	<i>Consultant</i>	<i>Registrar Group</i>	<i>Consultant</i>	<i>Registrar Group</i>	<i>Consultant</i>	<i>Registrar Group</i>
2004	1,746	863	93	149	867	425	403	183	107	37
2003	1,669	794	19	89	849	371	355	166	107	46
2002	1,582	750	39	62	814	367	309	152	100	51
2001	1,492	721	75	62	738	354	298	147	75	39
2000	1,460	632	31	102	733	353	279	142	71	42
1999	1,414	582	326	262	693	315	261	145	67	42
1998	1,387	523	219	257	686	306	262	132	62	33
1997	1,364	507	393	429	653	246	246	138	62	30
1996	1,310	454	400	564	624	226	229	142	54	26
1995	1,275	471	238	578	636	238	221	142	49	24
1994	1,194	483	179	703	597	223	201	125	49	20

Source: DH Medical and Dental Workforce Census figures 1994–2004.

Table 3:**NURSING AND HEALTH VISITING STAFF—GROUPS MOST LIKELY TO WORK WITH STROKE PATIENTS (FULL TIME EQUIVALENTS)**

<i>England as at 30 September each year</i>	1997	1998	1999	2000	2001	2002	2003	2004
Acute, elderly & general	130,462	131,271	133,981	138,120	144,597	154,057	162,671	166,098
Community services	34,422	35,299	36,058	36,871	38,221	39,302	41,850	44,989

Question 118 (Greg Clark): Has the decline in the number of community stroke teams been arrested?

The Royal College of Physicians (RCP) audit shows that the percentage of sites with a community stroke team across England, Wales and Northern Ireland fell from 31% in 2001–02 to 25% in 2004. In 2001–02 the figures for each country were not recorded separately. However, in 2004 the figure for England was 27% compared with 5% in Wales and 23% in Northern Ireland.

In 2001–02 Trusts were asked whether there was a specialist community team linked to the Trust. In 2004 the question was “Is there a specialist stroke community team in your area for continuing longer term management?” Then RCP have advised that as the question has changed “it is not surprising the rate has fallen.” However, the 2004 figure for England is clearly not high enough and we would expect to see improvement in the results of the audit being carried out this year.

Standard 5 of the Older People’s NSF set out the model of care for long-term support for stroke patients. This included making sure stroke patients are followed up to ensure expert team care, including medical care to prevent further strokes and hospital outreach teams delivering care in people’s own homes. Now that all hospitals that treat stroke patients have specialised stroke services, as a result of the NSF, we would expect the provision of coordinated community services to also improve.

Post stroke care will be a key feature of the new stroke strategy—three of the workshops as part of the national stroke strategy conference on 1st March covered “Life after stroke”, “Community stroke services” and “Rehabilitation”. We will listen to the views of patients, carers and providers to ensure that the strategy provides clear recommendations for the provision of community stroke services.

The White Paper “Our Health, Our Care, Our say” published in January sets out a clear aim to seek far more services delivered in the community or at home including through outreach services. The Government has set out a clear direction of travel and we would expect to see improvements in the provision of community stroke services

Question 121 (Mr Edward Leigh): How is the need for improved co-ordination in health and social care services being addressed?

We accept that there is scope for increased integration between health and social care. That is why the new White Paper published in January sets out a new direction for community services which will deliver services that are more integrated and built around the needs of individuals. We will do this through:

- shared outcomes measures for health and social care services;
- aligned performance measurement between health and social care reinforced through inspection;
- aligned planning and budgeting cycle across the NHS and local government;
- Local Area Agreements to facilitate joint planning and delivery;
- integrated health and social care plans for patients with long term care needs;
- joint health and social care managed networks or teams;
- more joint commissioning between primary care and local authority teams.

One step already being taken to reduce the gaps in rehabilitation services for stroke patients is through stroke care co-ordinators. The older people’s National Service Framework described the role of these co-ordinators. This has been taken up by PCTs and many such posts are now in place.

Memorandum submitted by Different Strokes

Different Strokes is a charity run by younger stroke survivors for younger stroke survivors to support their special needs.

We are delighted that the Committee of Public Accounts is hearing evidence on 8 February concerning the NAO’s Report Reducing brain damage: faster access to better stroke care.

As an organisation, we welcome and support much of the report’s content. It is, however, notable that the main form of haemorrhagic stroke, intracerebral haemorrhage, goes unmentioned.

Although ICH accounts for only 10–15% of strokes it has relatively higher prevalence amongst people of working age and markedly worse outcomes in terms of mortality and morbidity. We therefore estimate that it may account for up to a quarter of premature deaths from stroke covered by the PSA target.

Against that background, we are shortly launching the enclosed report, *A bleeding shame*. This highlights the significance of ICH and the need for rapid scanning to distinguish between strokes caused by bleeding and by clotting in order to improve outcomes. The report has been sponsored by Novo Nordisk Limited.

We recognise that there is a wide range of sometimes challenging factors presently delaying scans, many of them occurring outside the hospital. Nevertheless, even where patients reach hospital within what is emerging as the key therapeutic window of three hours, only a small proportion are scanned on arrival. In the interests of making rapid and realistic progress, the report therefore recommends that:

- current guidelines for scanning be urgently updated to maximise the therapeutic opportunities for those arriving within three hours; and
- commissioners be encouraged to stipulate immediate scanning for all suspected stroke patients arriving at hospital within three hours of onset.

Your Committee's support for these recommendations would be much appreciated.

Christina Meacham
Chief Executive

