



House of Commons
Committee of Public Accounts

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

Forty-fifth Report of Session 2010–12

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

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Committee of Public Accounts

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The committee is one of the departmental select committees, the powers of which are set out in House of Commons Standing Orders, principally in SO No 152. These are available on the internet via www.parliament.uk.

Publication

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 www.parliament.uk/pac. A list of Reports of the Committee in the present Parliament is at the back of this volume.

Additional written evidence may be published on the internet only.

Committee staff

The current staff of the Committee is Philip Aylett (Clerk), Lori Verwaerde (Senior Committee Assistant), Ian Blair and Michelle Garratty (Committee Assistants) and Alex Paterson (Media Officer).

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Summary

The National Programme for IT in the NHS (the Programme) was an ambitious £11.4 billion programme of investment designed to reform how the NHS in England uses information to improve services and patient care. The Programme was launched in 2002, and the Department of Health (the Department) has spent some £6.4 billion on the Programme so far. This report is concerned with a central part of the Programme, where the aim was to create a fully integrated electronic care records system, which is expected to cost around £7 billion in total. The original objective was to ensure every NHS patient had an individual electronic care record which could be rapidly transmitted between different parts of the NHS, in order to make accurate patient records available to NHS staff at all times.

This intention has proved beyond the capacity of the Department to deliver and the department is no longer delivering a universal system. Implementation of alternative up-to-date IT systems has fallen significantly behind schedule and costs have escalated. The Department could have avoided some of the pitfalls and waste if they had consulted at the start of the process with health professionals. The Department has failed to demonstrate the benefits achieved for the £2.7 billion spent to date on care records systems.

The Department has accepted it is unable to deliver its original vision of a standardised care records system with an electronic record for every NHS patient. It is now relying on individual NHS Trusts to develop systems compatible with those in the Programme, which means that different parts of the country will have different systems. However, we are concerned at potential inconsistencies, and the Department should address how they should be dealt with, and what it will cost local NHS organisations to connect up. The Department should review whether to continue the programme and consider whether the remaining £4.3 billion would be better spent elsewhere. The Department has not got the best out of its suppliers, despite having paid them some £1.8 billion since 2002. One supplier, Computer Sciences Corporation (CSC), has yet to deliver the bulk of the systems it is contracted to supply and has instead implemented a large number of interim systems as a stopgap. The Department has been in negotiations with CSC for over a year, and told us that it may be more expensive to terminate the contract than to complete it, although we also note that CSC has informed the United States Securities and Exchange Commission that it may receive materially less than the net asset value of its contract if the NHS exercises its right to terminate the contract for convenience.

The other supplier, BT, has also proved unable to deliver against its original contract. The Department agreed a revised contract reducing the number of systems and increasing the price for each system BT had to deliver. The Department is clearly overpaying BT to implement systems: BT is paid £9 million to implement systems at each NHS site, even though the same systems have been purchased for under £2 million by NHS organisations outside the Programme.

One factor which contributed to these failings is the Department's weak programme management. We are concerned that, given his significant other responsibilities, David Nicholson has not fully discharged his responsibilities as the Senior Responsible Owner for

this project. This has resulted in poor accountability for project performance.

NHS trusts will take over responsibility for care records systems from 2015-16, but they do not currently have the information they need about potential future costs. After the implementation of forthcoming health reforms, the organisations currently managing the Programme will no longer exist and the risks will transfer to NHS trusts. However, at present these trusts have no direct contractual relationship with existing suppliers and no information about the likely cost of using care records systems beyond 2015.

We are further concerned about the problems we and the National Audit Office have faced in getting timely and reliable information from the Department. Information provided has frequently been late, has contained inconsistencies and has contradicted other evidence. This has hampered our ability to scrutinise the Programme on behalf of Parliament.

On the basis of a Report by the Comptroller and Auditor General, we took evidence from the Department of Health and its contractors BT and CSC on the delivery of care records systems under the National Programme for IT in the NHS.¹

¹ C&AG's Report, *The National Programme for IT in the NHS: an update on the delivery of detailed care records systems*, HC (2010-12) 888

Conclusions and recommendations

- 1. The Department has been unable to deliver its original aim of a fully integrated care records system across the NHS.** Poor progress since 2002 has meant the Department has had to reconsider what the expenditure can deliver. Many NHS organisations will now not receive a system through the Programme which will not provide for the transmission of individual case records across the whole NHS. . The Department should review urgently whether it is worth continuing with all elements of the care records system, to determine whether the remaining £4.3 billion could be used to better effect to buy systems that work, are good value and deliver demonstrable benefits for the NHS.
- 2. There has been a substantial reduction in how many NHS bodies will receive new systems but the Department failed to secure a comparable reduction in costs.** This casts the Department's negotiating capability in a very poor light. In London, the Department's negotiations with BT resulted in far fewer systems to be delivered for only a marginal reduction in fee. We are worried that the Department will fare no better in its current negotiations with CSC, which has delivered only 10 of 166 of its 'Lorenzo' systems in the North, Midlands and East. The Department has been in negotiations with CSC for over a year, and told us that it may be more expensive to terminate the contract than to complete it, although we also note that CSC has informed the United States Securities and Exchange Commission that it may receive materially less than the net asset value of its contract if the NHS exercises its right to terminate the contract for convenience. Given the Department's failure to secure a good deal in its contract renegotiation with BT, and its weak position with CSC, we consider it essential that the Major Projects Authority now exercises very close scrutiny over the Department's continuing negotiations with CSC, and that Government gives serious consideration to whether CSC has proved itself fit to tender for other Government work. It is important that CSC, particularly given its proposed purchase of iSoft, does not acquire an effective monopoly in the provision of care records systems in the North, Eastern and Midland clusters. This could result in the Lorenzo system effectively being dropped as the system of choice and many Trusts being left with little choice but to continue with out-dated interim systems that could be very expensive to maintain and to upgrade, or to accept a system of CSC's choice. CSC should not be given minimum quantity guarantees or a licence to sell a product other than that procured and selected by the Programme within the LSP contract.
- 3. The Department is unable to show what has been achieved for the £2.7 billion spent to date on care records systems.** The Department failed to meet its commitment to report to the Committee by summer 2010 on the benefits delivered by the Programme. A statement of benefits to March 2010 was not provided to the NAO until May 2011 – more than a year out of date. The Department should, by September 2011, provide us with an updated statement of benefits to March 2011, which we will ask the National Audit Office to audit.

4. **We are very concerned at the lack of evidence of risk management of security issues which may arise as a result of medical records being held electronically.** The Department must address possible compromises in data security.
5. **Weak management and oversight of the Programme have resulted in poor accountability for project performance.** Sir David Nicholson has not been able to fulfil his duties as the Senior Responsible Owner for the Programme effectively, given his significant other responsibilities, weakening accountability for the Programme's extensive delays and increasingly poor value for money. It is essential that there is proper accountability for the Programme, especially since the current health reforms, according to Sir David, make it "quite difficult to shift a system like that into that environment"². Sir David should now expect much closer scrutiny and oversight of his actions by the Major Projects Authority, but he must remain Senior Responsible Owner for the Programme so there is a clear line of accountability and responsibility for performance as well as continuity in managing the substantial risks that remain.
6. **NHS trusts will take over responsibility for care records systems from 2015-16, but they do not currently have the information they need about potential future costs.** After the implementation of forthcoming health reforms, the organisations currently managing the Programme will no longer exist and the risks will transfer to NHS trusts. However, at present these trusts have no direct contractual relationship with existing suppliers and no information about the likely cost of using care records systems beyond 2015. The Department should write to every NHS Trust making clear the detailed implications of their future responsibilities for care record systems, and in particular the financial liability to which each trust will be exposed. This information should include information about exit costs from the LSP contracts and future maintenance and running costs for those Trusts that continue with the Programme, and this information must be provided within two months. It should also specify the support that the centre will provide to Trusts procuring outside the Programme, particularly where such systems can be shown to represent value for money to the NHS or greater functionality.
7. **It is unacceptable that the Department has neglected its duty to provide timely and reliable information to make possible Parliament's scrutiny of this project.** Basic information provided by the Department to the NAO was late, inconsistent and contradictory. We are surprised that in its memorandum to us of 7 June 2011, two weeks after our hearing, the Department did not mention that it made an advance payment to CSC of £ 200 million in April 2011. The Department must provide timely and reliable information in future to support effective accountability to Parliament.
8. **According to Sir David Nicholson, the Department may have to think about an interim step - a transitional body of some description- creating the impression of major uncertainty about how this work should be managed in the future.** We will return to this issue in the future.

1 Progress in implementing the systems and value for money to date

1. By March 2011, the Department and the NHS had spent £2.7 billion on care records systems.³ The original aim of the Programme was for these systems to be delivered across the NHS by 2007 and for every NHS patient to have an electronic care record by 2010.⁴ This has not been achieved and the Department acknowledged that it will not now deliver care records systems to all NHS organisations under the Programme and that its original aim will not be fulfilled.⁵

2. The Programme was inherently risky from the outset and, when the Department signed the contracts for the delivery of care records systems in 2003-04, the suppliers did not have a product to deliver.⁶ The Department reported, however, that the Programme had passed a number of risk assessments and that Ministers were aware of the risks.⁷ Some nine years later, a substantial number of systems are still to be implemented and those systems delivered so far are not yet working in the way that the Department intended them to.⁸ The Department acknowledged that the delivery of a one-size-fits-all system to the NHS was a massive risk and has proven to be unworkable.⁹ The Department also recognised that care records systems would have been easier to deliver if there had been more clinical engagement at the outset of the Programme to help define specifications for the required IT systems.¹⁰

3. There have been major delays in the North, Midlands and East where just 10 of 166 trusts have received only the most basic 'Lorenzo' system, and no system has yet been successfully delivered in a mental health trust.¹¹ Pennine Care Trust, the mental health trust that was acting as an early adopter, rejected the system in April 2011 following a number of missed implementation targets, and is examining other options to meet its IT needs.¹² CSC acknowledged the delays in developing and delivering Lorenzo and reported that some of these delays had been caused by financial and managerial issues with its supplier, iSoft, and by the need to adjust for the complexity of the NHS.¹³

4. The delays in developing and delivering Lorenzo have meant that around 80 interim systems have been delivered in its place.¹⁴ The Department reported that by March 2011 it

3 Qq 109-11

4 Qq 54, 125

5 Qq 105, 119-120

6 Qq 105, 132, 138-139, 205

7 Qq 140-141

8 Qq 289, 290, 314

9 Qq 119, 205

10 Qq 129-130

11 Qq 25-28, 52, 56, 282, 284

12 Qq 28, 31, 49-50, 309

13 Qq 55-56, 59

14 Qq 12-13, 21

had paid CSC £105 million for these systems.¹⁵ It confirmed that many of these interim systems will not now be replaced with Lorenzo, even though these systems were previously considered by the Department not to meet the aims of the Programme.¹⁶ The Department made no assessment of how much these interim systems would have cost had they contracted for them from the outset of the Programme.¹⁷ CSC confirmed that, if finalised, the revisions to its contract with the Department would result in reductions to the number of systems to be delivered and the functionality to be provided.¹⁸

5. Difficulties in delivering care records systems, particularly in acute hospitals, have required the Department to significantly revise its approach in London, moving away from delivering standard systems towards more locally tailored products. The introduction of local tailoring has, however, resulted in significantly higher costs. The Department has removed half of acute trusts, all GP practices and the London Ambulance service from its contract with BT – but this significant reduction in scope has led to cost reductions of just £73 million against a contract value of over £1 billion.¹⁹ The Department is now paying for 52 systems at an average of around £20 million per system across acute trusts, mental health trusts and community health services in London.²⁰

6. In the South, the Department had to change its approach to delivering systems following the termination of its contract with Fujitsu in 2008.²¹ The replacement supplier, BT, is now delivering 35 systems for £454 million, yet the Department expects to be able to deliver systems which meet the needs of up to 55 further NHS organisations for just £470 million.²² This equates to a requirement to deliver 57% more systems for only 3.5% extra cost.²³

7. We noted that the Department is paying BT an average of £9 million for each community and mental health system it is delivering in the South.²⁴ This compares to an average price of between £1 million and £2 million for systems purchased directly from the supplier, CSE Healthcare, outside the Programme.²⁵ For example, Bradford District Care Trust had purchased the same system and services directly from CSE Healthcare for £1.3 million over five years.²⁶ The Department stated that its contract with BT includes provision of additional items which account for this price difference and that a different level of service was provided to Bradford District Care Trust.²⁷ Subsequently, CSE

15 Ev 46

16 Qq 16-22, 231

17 Qq 227-230

18 Qq 45-48

19 Qq 63, 205-206, 291

20 Qq 61-64

21 Qq 66, 234, 311

22 Q 254

23 Qq 202-203

24 Qq 84-86

25 Q 91

26 Q 237

27 Qq 239-241

Healthcare disputed this evidence from the Department as it maintains that it provides a similar level of service to the Trust.²⁸

8. The National Audit Office report stated that the average cost of three new acute systems in the South was 47% more expensive than in London.²⁹ The Department challenged this figure at our hearing and has since provided written evidence which suggests that these sites are in fact 24% less expensive than the London sites.³⁰ The new figures provided by the Department also indicate that the cost of delivering an acute system in London has not increased from £16 million to £19 million, as reported by the NAO on the basis of figures contained within departmental papers, but rather has nearly doubled to £31 million.³¹ The increase in the cost of an acute system from £16 million to £19 million was not disputed by the Department during the preparation of the NAO report or at our hearing.³² It was also not until after our hearing that the £31 million cost of an acute system in London was revealed by the Department, despite the NAO repeatedly requesting clarification about the pricing of the London contract during its examination of the Programme.³³

9. During the preparation of its report the NAO identified that the Department lacked basic management information on the number of systems delivered and the amount spent on each system, as well as the cost implications of changes to the contracts for the delivery of systems.³⁴ The information the Department did have was provided to the NAO late, contained inconsistencies, contradicted material it had previously provided, and was at odds with information provided by the Department's own suppliers.³⁵ This occurred despite the fact that Connecting for Health, the NHS organisation responsible for managing the Programme nationally, has 1,300 staff and has spent £820 million on central programme management.³⁶

10. Sir David Nicholson has been the Senior Responsible Owner for the Programme since 2006-07.³⁷ However, his significant other responsibilities as Chief Executive of the NHS, especially at a time when fundamental health reforms are under way, have meant that he has lacked the capacity to meet his responsibilities fully as SRO on this project. This has resulted in poor accountability for project performance – in particular the Programme's increasing costs and delays.

11. In response to the Committee's previous report on the Programme published in January 2009,³⁸ the Department committed to producing a statement of benefits to March

28 Ev 29

29 Qq 66, 196

30 Qq 201, 203, 245; Ev 46

31 Ev 46

32 Q 288

33 Q 200

34 Qq 75, 197-201, 225-226

35 Q 76

36 Qq 75, 187

37 Q 114

38 Committee of Public Accounts, Second Report of Session 2008-09, *The National Programme for IT in the NHS: Progress since 2006*, HC 153

2010 by the summer of that year. The statement was also to be subject to audit by the Comptroller and Auditor General. However, it was not until May 2011 that the Department handed a statement of benefits to the NAO for audit, by which time the statement was more than a year out of date.³⁹

2 Future risks to value for money

12. The Department and the NHS expect to spend a further £4.3 billion on the delivery of care records systems by 2015-16.⁴⁰ This estimate assumes that the Department will manage to reduce the cost of the CSC contracts to deliver systems in the North, Midlands and East by at least £500 million, which it is currently negotiating with CSC. These negotiations began in November 2009 but have not yet been concluded. CSC accepted that the contract renegotiations were necessary because the contract as it stands is not working for either the NHS or for CSC.⁴¹ The Government has also initiated a review of the Programme by the Major Projects Authority, the joint Cabinet Office-Treasury body which oversees large public sector projects. The Prime Minister has stated that no new contract can be concluded with CSC until this review is completed.⁴²

13. To achieve a reduction in the value of the CSC contract of at least £500 million, the Department will have to agree a substantial reduction in the number of systems to be provided under the contract and in the functionality that they will provide.⁴³ This revised contract is being considered even though the Department believes CSC to be in breach of contract.⁴⁴ CSC reported that the focus of its negotiations with the Department had not been around terminating the contract but had focused on moving forward with the delivery of systems.⁴⁵ The Department stated that if it was to terminate the CSC contract it could be exposed to a higher cost than the cost of completing the contract as it stands.⁴⁶

14. To secure greater clinical support for the systems, the Department undertook an engagement exercise with clinicians in 2008 asking them what they wanted from their IT systems in the acute care setting.⁴⁷ This review identified five clinical areas of functionality and certain departmental systems, such as maternity or A&E, as being the minimum specification that would be acceptable to clinicians.⁴⁸ The original vision will not be delivered and the Department is now focused on delivering these five areas of functionality from a 'menu of modules' which enables each NHS acute trust to select those aspects of the system they need most.⁴⁹ The Department is therefore funding the development of modules which may not be taken by all acute trusts within the Programme and is now creating a patchwork system which builds upon trusts' existing systems.⁵⁰

15. One of the key aims of the Programme was to avoid each NHS organisation procuring its own system. The Programme had originally been set up to address these issues, but

40 Q 111

41 Qq 60, 42-44, 208, 315

42 Q 285; HC Deb, 11 May 2011, col 1163

43 Qq 41-48

44 Qq 310-313

45 Q 41

46 Qq 234-235

47 Qq 130, 315

48 Q153

49 Qq 155, 315

50 Qq 221-222, 291, 300

organisations within the Programme are now tailoring systems locally with different levels of functionality being provided, and the many NHS organisations now outside the Programme are again responsible for procuring their own systems.⁵¹

16. The Department believes that its compromise of a 'networked' approach of locally tailored systems will still enable the Programme's aims to be achieved, but it has no means by which to ensure interoperability between locally procured systems and those delivered through the Programme.⁵² This approach, however, will require trusts outside the Programme to fund the development of their own systems at a time when they are being asked to make significant efficiency savings.⁵³ The Department stated that it had made no assessment of the costs to trusts outside the Programme of developing their own systems.⁵⁴ In effect, some trusts will be getting systems that cost £31 million through the Programme, while others may or may not be in a position to fund the development of their systems to the same extent.⁵⁵ The Department told us it did not expect differences in the funding and development of systems to lead to any noticeable differences in service from the patient perspective.⁵⁶

17. The contracts for delivering care records systems expire in 2015-16, by which time the strategic health authorities that are responsible for the local delivery of systems will no longer exist.⁵⁷ The risks will transfer to individual NHS trusts.⁵⁸ With all trusts expected to become foundation trusts responsible for their own governance, the Department stated that it would be difficult to shift management of the contracts into that environment. It anticipated that, as an interim step, a body similar to Connecting for Health would be created to manage the transition.⁵⁹

18. It is not clear what implications the forthcoming health reforms will have on how care records system will be managed and governed in future, and who will take over from Connecting for Health.⁶⁰ Those NHS organisations receiving systems through the Programme currently have no direct contractual relationship with the providers or the subcontractors supplying care records systems.⁶¹ There is also considerable uncertainty about the mechanism for transferring services from the Programme to new suppliers, and in particular whether the costs of doing so will be prohibitive. This could mean trusts will in effect be tied to using the system they have taken through the Programme.⁶²

51 Qq 214, 306

52 Qq 212, 270, 298

53 Q 288

54 Qq 291-295

55 Qq 286, 292, 296, 299

56 Qq 213-219

57 Qq 257-258

58 Q 259

59 Qq 262-265

60 Qq 262-265, 273

61 Q 242

62 Qq 231, 316

Formal Minutes

Monday 18 July 2011

Rt Hon Margaret Hodge, in the Chair

Mr Richard Bacon

Mr Stephen Barclay

Dr. Stella Creasy

Jackie Doyle-Price

Matthew Hancock

Mrs Anne McGuire

Austin Mitchell

Nick Smith

Draft Report (*The National Programme for IT in the NHS: an update on the delivery of detailed care records systems*) proposed by the Chair, brought up and read.

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

Paragraphs 1 to 18 read and agreed to.

Conclusions and recommendations 1 to 8 read and agreed to.

Summary read and agreed to.

Resolved, That the Report be the Forty-fifth Report of the Committee to the House.

Ordered, That the Chair 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.

Written evidence was ordered to be reported to the House for placing in the Library and Parliamentary Archives.

[Adjourned till Monday 5 September at 3.30pm]

Witnesses

Monday 23 May 2011

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Patrick O’Connell, President, BT Health, and **Sheri Thureen**, President, UK Healthcare, Computer Sciences Corporation

Ev 1

Christine Connelly, Director General for Informatics, Department of Health, and **Sir David Nicholson KCB CBE**, Chief Executive of the NHS in England

Ev 9

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Twenty-First Report	The youth justice system in England and Wales: reducing offending by young people	HC 721
Twenty-second Report	Excess Votes 2009-10	HC 801
Twenty-third Report	The Major Projects Report 2010	HC 687

Twenty-fourth Report	Delivering the Cancer Reform Strategy	HC 667
Twenty-fifth Report	Reducing errors in the benefit system	HC 668
Twenty-sixth Report	Management of NHS hospital productivity	HC 741
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Thirty-third Report	National Health Service Landscape Review	HC 764
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Thirty-seventh Report	Departmental Business Planning	HC 650
Thirty-eighth Report	The impact of the 2007-08 changes to public service pensions	HC 833
Thirty-ninth Report	Department for Transport: The InterCity East Coast Passenger Rail Franchise	HC 1035
Fortieth Report	Information and Communications Technology in government	HC 1050
Forty-first Report	Office of Rail Regulation: Regulating Network Rail's efficiency	HC 1036
Forty-fifth Report	The National Programme for IT in the NHS: an update on the delivery of detailed care records	HC 1070

Oral evidence

Taken before the Committee of Public Accounts on Monday 23 May 2011

Members present:

Mrs Margaret Hodge (Chair)

Mr Richard Bacon
Stephen Barclay
Stella Creasy
Jackie Doyle-Price
Chris Heaton-Harris

Mrs Anne McGuire
Austin Mitchell
Nick Smith
Ian Swales

Amyas Morse, Comptroller and Auditor General, and **Mark Davies**, Director, NAO, gave evidence. **Gabrielle Cohen**, Assistant Auditor General, and **Marius Gallaher** (H M Treasury), Alternate Treasury Officer of Accounts, were in attendance.

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL

The National Programme for IT in the NHS: an update on the delivery of detailed care records systems (HC 888)

Examination of Witnesses

Witnesses: **Patrick O'Connell**, President, BT Health, and **Sheri Thureen**, President, UK Healthcare, Computer Sciences Corporation, gave evidence.

Q1 Chair: Can I thank you both very much for attending? This first session is going to be very tight. We have got half an hour, so we really want to use this to inform our questioning of those officials who are responsible for the programme. So if you could keep your answers as tight as possible, it is really to try and get some information that can help us do the main session as best we can, but I am very grateful to you both for coming. I am a non-IT person, but when I read this Report and looked at the previous Report it seemed pretty clear to me that you might have taken a position at the start that this ambitious project was undeliverable. You are the professional experts; I will start with you, Mr O'Connell and then come to you Ms Thureen: why did you sign a contract committing to deliver something, which we now know you cannot deliver, but which I think you as professionals might have taken a view back in 2003 was undeliverable?

Patrick O'Connell: Personally I was not here in 2003, but, to answer your question, I would guess or speculate that in 2003 the needs of the user—as perceived at that time—the policy of the Department, the state of technology, the trade-off between costs and schedule were believed to be doable at that time. As time has progressed, many things have progressed and evolved, and it has brought us to a different solution. I do not know that it necessarily means it was not doable at day one.

Q2 Chair: So if you had been around in 2003 would you have told Government, “This is not doable”?

Patrick O'Connell: In 2003? I do not think I would have said such a thing in 2003. It is more a matter that there are a lot of factors I am unfamiliar with from 2003, but the principle of it—

Q3 Chair: You know more in 2011, but in 2003, seeing the technological difficulty, the extent of the number of players who would have to come to the system, the fact that you had a whole range of different systems up and down the country—this was never deliverable. I cannot understand why professionals signed it in 2003 saying, “We can deliver.”

Patrick O'Connell: One of the things that has changed is the need of the users. In 2003, if one had built the system that was envisioned versus the system that is needed today—in the sense of a centrally-located system versus a clinically-led system—I think they would have approached it differently. It looks like the need has evolved.

Q4 Chair: I am not sure that I accept that, but given the shortness of time, Ms Thureen. Am I pronouncing your name right?

Sheri Thureen: Yes, thank you. Based on my experience of running very large Government contracts that span 10 to 12 years, the contract, as it was set out, was not unusual. And these components, when you have such a large organisation that has very specific requirements, will go through a process, in the beginning, where you are asking the suppliers to make a very significant investment up front—in our particular case to build a product that incorporates the specifications of the NHS into it. It does take some time before you start to see the benefits realisation. So I think we are on a track that we still can deliver the programme, and, as my experience has been in the past, this is the point in the programme where we have the base functionality in place, and it will start to pick up through the ensuing developments.

Q5 Chair: What? You believe that you can deliver a fully integrated, electronic care records system, available to all, at all times, in all NHS settings, by 2016?

Sheri Thureen: I believe that we have made significant progress to date.

Q6 Chair: Can you deliver it?

Sheri Thureen: I believe that it is common knowledge that our contract as it stands today is being evaluated for both the scope and the volume to adjust to some of the conditions that we have encountered so far.

Q7 Chair: Can you deliver by 2016, which is the end of the contract, a fully integrated, electronic care records system, available to all, at all times, in all NHS settings?

Sheri Thureen: I believe we will have the foundation to provide for much of that through a connected approach versus a replace-all—moving to a connect-all versus a replace-all.

Q8 Mr Bacon: So we are paying for foundations? This £11 billion or £12 billion programme—I know the number has moved a lot—is buying us some foundations, a sort of first step to get us off the mark, is it?

Sheri Thureen: I believe it is buying some core components, you are correct. I believe that we have made significant progress. For example, in the North Midlands and East, 10 years ago, 97% of the population did not have electronic patient records; today 20 million electronic patient records are in place.

Q9 Mr Bacon: This is using the interim system?

Sheri Thureen: It is not an interim system that is providing that.

Q10 Mr Bacon: It is true, isn't it, that you have implemented far more interim systems than you have Lorenzo?

Sheri Thureen: It is true that we have—

Q11 Mr Bacon: It that true, yes or no?

Sheri Thureen: Yes it is.

Q12 Mr Bacon: It is. In fact, it is 81 interim systems that you have implemented, because Lorenzo was not yet ready. Is that correct?

Sheri Thureen: Yes—

Q13 Mr Bacon: It just needs a yes or a no. Is it correct? It may be 82, it may be 79, I don't know. Is it correct you have implemented 81 interim systems, because Lorenzo was not yet ready?

Sheri Thureen: We have implemented more than 81 interim systems; it is 130 plus.

Q14 Mr Bacon: It's a higher number. So be it. What's the number actually?

Sheri Thureen: And we did that in the interim—

Q15 Mr Bacon: So what's the number?

Sheri Thureen: 130 plus.

Q16 Mr Bacon: 135 interim systems. Now, it is true also, isn't it, that these interim systems were not what was contracted for; in fact, they were rejected back in 2002 as being unfit for the national programme? That is true, isn't it?

Sheri Thureen: I believe that it was always our intention to provide—I don't believe that's true.

Q17 Mr Bacon: I'm not asking you what your intention was. I'm asking you if the interim systems that you're now deploying were rejected in 2002 as being unfit to deploy as part of the national programme. Yes or no?

Sheri Thureen: No. I am not aware that that was ever the case.

Q18 Mr Bacon: You do not think that that was the case?

Sheri Thureen: I do not.

Q19 Mr Bacon: Well, the Report itself says that that is the case. Are you disagreeing with the Report?

Sheri Thureen: Our contract was started in 2003, and part of our contract was always to take a look at what systems were in place, to enhance those that could be enhanced and also to deliver some new systems. Lorenzo is one of those new systems.

Q20 Chair: Mark, can you help us, because Richard is right. Where is the reference that says that it was considered that all existing systems had to be replaced?

Mark Davies: The origin was that Lorenzo was going to be the basic system that CSC was going to implement.

Chair: There is somewhere in the Report a reference—

Q21 Mr Bacon: It is paragraph 18; obviously the 81 is now slightly out of date perhaps, but this Report was only published last week. Because of the delay in developing Lorenzo, "CSC has also delivered 81 interim systems to Trusts whose systems needed to be replaced urgently. These systems were not previously considered by the Department to meet the aims of the programme and under the terms of the current contract will need to be replaced", because they did not meet the aims of the programme. I was right, was I not? The interim systems that you are deploying now were not seen as suitable in the initial stages—as suitable for the national programme. That is correct, isn't it? Just like it says here.

Sheri Thureen: I believe that those systems, perhaps, in the beginning were, but they have been enhanced, and some of those interim systems will go forward, because they are fully capable, and they are providing—

Q22 Mr Bacon: This was not what you were contracted for. What interests me is that you have just bought iSoft, have you not?

Sheri Thureen: We are in the process of acquiring iSoft.

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Q23 Mr Bacon: So, once you have iSoft—assuming all the regulatory hurdles are cleared and you get it, as it were, under your belt—you will have this large portfolio of old, profitable legacy systems where all the development work is already done. Why on earth would you continue pouring good money after bad, trying to make Lorenzo work?

Sheri Thureen: The acquisition of iSoft is a strategic decision of CSC to expand our global healthcare sector business.

Q24 Chair: Do you think Lorenzo will ever work?

Sheri Thureen: Lorenzo today is implemented in production; it is supporting 10 Trusts with 3.3 million patients being supported and 8,000—

Q25 Mr Bacon: That is version 1.0 in most of those, isn't it?

Sheri Thureen: It is release 1.9.

Q26 Mr Bacon: In how many of those 10 is it release 1.9?

Sheri Thureen: Four.

Q27 Mr Bacon: In four?

Sheri Thureen: In three; sorry three.

Q28 Chair: One Mental Health Trust pulled out of the contract completely, because it had no confidence in it. So, out of your 97¹ Trusts that you are trying to deliver this in, you are playing around with it in three; you wanted to put it into four, and one pulled out. What on earth gives you the confidence, having said it was ready in 2003 to 2004, nine to 10 years later, that it is ever going to be ready, and certainly within the terms of this contract?

Q29 Mr Bacon: It was actually the software supplier, iSoft, that said it would be ready, to be fair, Chairman; it was iSoft that said it was available from 2004. What confidence do you have that you can make it work?

Sheri Thureen: As I said, it is in production today for those three early-adopter Trusts on release 1.9. They have 8,000 users, supporting 3.3 million patients.

Q30 Chair: But hang on a minute. Unless our Report is wrong, our Report says you tried to introduce it in four; the Mental Health Trust—which Trust was that?

Mark Davies: Pennine.

Mr Bacon: Pennine.

Q31 Chair: Pennine has rejected it and is funding its own IT solution. The three have not yet accepted the software that you have given them; they are still waiting to accept it. I am just trying to have a little bit of common sense in this. Nine years on, you are experimenting with it in only three out of four—one has rejected—and in those three, nobody is yet satisfied with the software to be able to roll it out within their organisation.

Sheri Thureen: It has been accepted at one of those Trusts. The second Trust, Bury, has accepted—

Q32 Chair: When?

Sheri Thureen: Last week we had acceptance on that.

Q33 Mr Bacon: At the rate of deployment, how long do you think it is going to take you to deploy it across all the other sites where you are supposed to deploy it under the contract?

Sheri Thureen: As I believe is common knowledge, we are going through a restructure of our contract, which is discussing reduced volumes and scope. So I would not be able to talk to the details of that contract or deal, because it is under current evaluation.

Q34 Chair: I am going to ask both of you this question, but I will start with you. It would just be helpful for us to know how much you have been paid so far, how much you are owed and how much is left in the contractual commitment. Can you give us those three figures?

Sheri Thureen: So we have received £800 million to date for the whole programme. That is not Lorenzo; Lorenzo is only 3% of that. The top value of our contract is \$3.1 billion.

Q35 Mr Bacon: Pounds?

Sheri Thureen: Pounds, sorry.

Q36 Chair: And how much do you believe you are actually owed—that is the contract—out of work done to date?

Sheri Thureen: Well, the payment on this contract is only received once we have successfully deployed a system and it has been accepted.

Q37 Mr Bacon: Yes, but because you have not declared any losses, you must have a value for your work in progress, mustn't you? What is that?

Sheri Thureen: You may have seen a couple of weeks ago that the company is in the process of closing out its fiscal year, and we did issue new guidance that talked about a reduction in inception-to-date profit on this programme.

Q38 Mr Bacon: But what is the current value of your work in progress?

Sheri Thureen: I do not know that number.

Q39 Stephen Barclay: What is the value of the termination clause of the contract? If the Department decided it wanted to stop work on this, what would be the termination cost?

Sheri Thureen: I am not aware of what that cost is.

Q40 Stephen Barclay: Not even an estimate

Sheri Thureen: I am not.

Q41 Stephen Barclay: You are in negotiations with the Department without knowing what the termination costs would be.

Sheri Thureen: We have a deal on the table today that we believe is a good deal, and I am confident that that is the right deal to have in place. We have been focusing on moving forward versus expecting to terminate the contract.

¹ The correct figure for Trusts where the Lorenzo system is being delivered is 166. The 97 Trusts refers to the acute trust only.

Q42 Chair: And this deal takes £500 million out of the contract because the Department is trying to reduce it by £500 million. Am I right in that?

Sheri Thureen: It is at least \$500 million, and I cannot go into any specific—

Q43 Chair: Dollars? Is it all in dollars?

Sheri Thureen: Pounds, sorry.

Q44 Chair: Pounds, okay. So £500 million out of the contract at least—it could be more?

Sheri Thureen: Potentially.

Q45 Chair: It is more. And presumably that is because you are reducing scope and functionality?

Sheri Thureen: I would not be able to talk to the terms of that deal as it is still under evaluation.

Q46 Chair: Well, I think we do need to know. I can understand there is a bit you have to do commercially, but we need to know. Presumably, in reducing scope and functionality, can I just know whether you are reducing the number of Trusts you are going to deliver to?

Sheri Thureen: It is general knowledge that it is a reduction in the volume.

Q47 Chair: By how many?

Sheri Thureen: I would not be able to tell you that today.

Q48 Mr Bacon: And it would be a reduction in the scope as well. The functionality would be cut, correct?

Sheri Thureen: That is correct.

Q49 Mr Bacon: When Mike Laphen met the Minister for the Cabinet Office on 22 December, with the Chief Information Officer for Health, Christine Connelly, by what date did he say that Pennine would be implemented?

Sheri Thureen: I believe that was 7 February.

Q50 Mr Bacon: And was it implemented by then?

Sheri Thureen: It was not.

Q51 Mr Bacon: No, I did not think so. What really worries me about this is that you have your foot in the door: you are now three-fifths of the NHS. Accenture walked away declaring—we will say dollars, because they are American quoted—losses of \$450 million, which was the equivalent of £270 million, and it walked away without really paying very much. There was a £60 million penalty, but, given what the contract said, it got off extremely lightly. It was glad to be out of it, which, given how much Government work it does, was an eloquent comment on the state of the programme. You then came along, you were one-fifth of the programme and you took on both their contracts, so you became three-fifths of the NHS. And in seven years you have deployed it in three hospitals and it has caused chaos: in Bury, in Morecambe and in Birmingham Women's. Pennine now, we were told, walks away. And the NAO tells us that if you are to be successful you now have to do at least two sites—two hospitals—per month for the next four years.

Why should we have any confidence that you are going to do this? Having now got your foot in the door and having bought iSoft so you can control it—there is somebody nodding over there, which is always dangerous, but I think this is correct—you are basically using it as a way to control the marketplace. You are going to get yourself into a position where it will be difficult to get rid of you because hospitals become dependent on you, even if they are with old legacy systems, and you will be a monopolist. Is that basically your strategy?

Sheri Thureen: To be clear, for the 50% of the programme that is not Lorenzo, we have implemented over 1,800 solutions. For the portion that is the Lorenzo side, we have implemented Lorenzo in 10 Trusts to date—

Q52 Mr Bacon: Yes, this is a bit of a red herring, isn't it, because you are talking about release 1.0?² I mean, that is so basic that it is a red herring. You have done it in three, nearly four, and then Pennine basically told you to take a running jump. It is really three, isn't it, not 10?

Sheri Thureen: Look at some of the clinical benefits that are coming out of Morecambe Bay today, where last month it was able to issue 1,800 immediate discharge summaries directly to the GP. That came right from the acute system into the GP system with a standard set of information, and it was delivered on the next business day. This is something that the GPs have been asking for for 10 to 15 years. So I do believe that for the Lorenzo system the core part of the solution is available, it is in production and it is very much starting to prove out the benefits.

Q53 Chair: One more question, then I am afraid, Mr O'Connell, we are going to have to ask you some questions.

Patrick O'Connell: That's okay.

Sheri Thureen: Come on in.

Q54 Chair: Sorry about this: this is one of the worst examples that we have had to deal with, I am afraid, of very, very questionable value for money for the taxpayer. The final question: what I just do not get is that you said in 2003–2004, "Lorenzo is ready to be rolled out". We are now in 2011, where you are sitting here arguing with Richard, and probably me, about the readiness of Lorenzo, even in the very limited sites in which you have introduced it. I just do not understand, first, how you have managed to have those years and years and years where you have failed to deliver, and, secondly, what on earth gives you the confidence that you could deliver it between now and 2016 even in a more limited range of sites.

Mark Davies: Chair, can I just offer one word here? The contracts were put in place in 2003 to 2004. Concerning delivery of those contracts—whether it was BT or anybody else—they were due to be all in place by 2007, with full implementation in 2010. So there was a bit of time to get it developed.

² Lorenzo Release 1.0 has been implemented in 7 trusts and Release 1.9 in 3 trusts

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Q55 Chair: Just answer that very briefly, and then I think we have some questions for Mr O'Connell.

Sheri Thureen: As I said, part of the programme, however, delivered the 1,800 systems. On the Lorenzo side, we absolutely acknowledge there were delays in the development.

Q56 Chair: Huge, crazy, crazy. I mean, you have just called them delays. You know, this is amazing stuff. This is not a year or two, which is pretty awful.

Sheri Thureen: So we acknowledge those delays; some of those delays were as a result of issues we had with our supplier, where we had to step in to address them on their financial and managerial issues, and as we have already talked about we are now in the process of acquiring. We also had to adjust for the complexity of the NHS, so we have moved to a more modular approach, and to allow more configuration at the local level, so it can address the unique needs of the Trusts.

Q57 Chair: Why did you not suggest that in 2002 to 2003 when you signed the contract? That is one of the things that hits me in the face: why did you not suggest that then? You might have had something deliverable then.

Sheri Thureen: As is not uncommon in programmes of this type, the initial development and deployment goes through an early adopter process, and it is really not until you have got to that point where they have exercised the solution that you have a true understanding of whether or not the usability and the capability of the system are there.

Q58 Chair: I have to say to you—I will do it as a comment, because otherwise we are going to run out of time—that is a scary comment to make, because what it suggests is when Government signs a contract for a policy such as this, it is almost writing an open cheque, because you are not signing for a clear specification. And therefore, even with £11.5 billion—I can't remember what the figure was—you start off knowing you will not deliver, and that is what you are actually telling us. We signed an open cheque with you in 2002–2003.

Sheri Thureen: I am not saying that. We signed a contract that identified—

Chair: Which was undeliverable

Q59 Mr Bacon: One quick question: it is true though, isn't it, that CSC knew in February 2006 that Lorenzo was a complete dog? Scott Logan wrote a report—it was an Accenture and CSC joint review of Lorenzo—which said, "There is no well defined scope and therefore no believable plan for releases". You have known that Lorenzo was hopeless for over five years, have you not?

Sheri Thureen: I am not aware of that particular comment. I have talked about acknowledging that there were delays and that we did have to step in with iSoft to address both financial and managerial issues, which we did do.

Q60 Mrs McGuire: One very quick question: I have read your—what we would call—CV, and it is very

impressive. And I am just wondering whether or not you are happy to sit here in front of this Committee and defend millions of pounds of taxpayers' money going in on the basis that 1,800 discharge statements have been made in Morecambe, because that, frankly, is what is coming across.

Sheri Thureen: Well, I think that is just the beginning of the benefits that are coming out of Lorenzo, but we have implemented 1,800 other programmes. We have 20 million electronic patient records that are providing real value today, and that is the direction that this programme was going; it was to put the electronic patient records in place.

Amyas Morse: Can I just ask you? You are renegotiating at the moment, and I do not want to enquire into the details of that, but is that renegotiating because you cannot really deliver what was originally planned, or because there is not enough budget to cover it? Which one of those is it?

Sheri Thureen: I believe we have a joint understanding that the contract as it stands today is not working for anyone.

Amyas Morse: So it cannot really be delivered the way it is now?

Sheri Thureen: There is a demand portion of that, and there is a delivery portion of that, and I think what we have said is both of those—the demand and the delivery—are not working for either side.

Q61 Chair: I am going to move to BT. On page 24 of our Report, Figure 9, it shows the renegotiation of the contract with you in 2010. It is about £1 billion. You are going to be delivering some sort of IT into just over 50 settings. That, in my very crude reckoning, is £20 million a setting, and some of that is off the shelf RiO stuff. How on earth can you think that is value for money?

Patrick O'Connell: I think that CCN3 is value for money and has moved the programme—

Chair: Sorry, I'm afraid you are going to have to speak up. The acoustics are really poor here.

Patrick O'Connell: I guess we think that CCN3 has moved the programme to a position of value for money by moving from a monolithic solution that is centrally led to a modular solution, to produce localism in health. Even though there has been a reduction in the number of overall Trust settings, it is the same amount of work that is being done differently, in the sense that moving from monolithic to modular is quite a challenge to do, and quite an extensive amount of work. The design is different, the deployment is different, the service is different, the number of domains is different, they bought different kit, the capability is different. So we have changed the game.

Q62 Chair: It might have changed the game, but, at the end of the day, from the point of view of the taxpayer, this investment is going to produce an IT-based system to help better health delivery to patients in just over 50 settings for £1 billion. That is crudely £20 million per setting. Is that value for money?

Patrick O'Connell: Well, there are actually over 100 major systems in BT's data centres right now; there

are 62 RiO systems, there are 15 acute systems, there are 21 PACS systems—

Q63 Chair: Yes, but in the end it is a care record. What we are dealing with here, right, is the detailed care record system—part, I accept, of your IT system. You can tell me this—is this figure wrong, Figure 9 on page 24? It basically says £948 million, and then if you look up there you have cut the Acute Trust, you have taken out all the GPs, you have cut the community health services a bit and the Mental Health Trusts, and you are using RiO, which I understand is an off-the-shelf, rather cheapish system, for most of it. So we—the taxpayer—are spending nearly £1 billion to get an IT system to support healthcare in just over 50 healthcare settings. Is that value for money?

Patrick O'Connell: I think the benefits the system is producing are equivalent to the value for money that you started out with before: it is rearranged into a different setting that will not only produce value for money, but will produce more value for money going forward. The modular systems, and the ability to configure the systems today, allow the clinicians and the administrators to tailor their systems to move their systems in a way that is required by clinical care today.

Q64 Chair: If you were sitting in the Department of Health as the official, would you sign a contract that meant an investment of, on average, £20 million to get to where we are going to get to by 2016?

Patrick O'Connell: Knowing what I know, yes. I think it is value for money.

Q65 Chair: You think that is value for money?

Patrick O'Connell: It is.

Q66 Chair: Is it value for money for the new contract that you have signed for those bits of the South for which you are now responsible, where the cost is 47% higher than it is for this, for me, extraordinarily expensive contract for London? So the costs in the South are 47% higher.

Patrick O'Connell: No. I think the South is value for money, but I think we are mixing what I will call some significant one-offs with business as usual. When BT went into the South to take over the Fujitsu sites, there were significant one-offs that have added to the cost of the entire programme in the South, for example—

Chair: Well, I assume somewhere in this the taxpayer has also had to pay Fujitsu for something. So that's not incorporated. They are still arguing in the courts, aren't they?

Mr Bacon: Not in the courts.

Chair: They are still arguing over that. So your cost is on top of a sunk cost to Fujitsu?

Patrick O'Connell: I am not familiar with Fujitsu's story, but we had to take over the Fujitsu sites in situ and move them to the BT sites; we TUPE'd their people over, then we did the business-as-usual upgrade. If you take a look at apples to apples, the cost in London is higher than the cost in the South, as you would expect it to be, and it is value for money. It was a unique circumstance in the South.

Q67 Ian Swales: I would like to explore the basics of this. I am sure that—I do have some experience in this field, by the way—the people in this room could design the systems that we are talking about here in a few days. In fact, they probably could not, because there are probably too many people in this room, and I think that is part of the issue that I see with these NHS IT systems: we seem to have built this massive superstructure that is never likely to deliver clear, simple, straightforward systems to the NHS.

My question is that I do not think this is really so much a software problem as a management problem, and I would like to know your views on how the costs have ramped up here in terms of how clearly the programme has been run and how clearly the customer interface has been operated. I am not sure why the DoH actually made it so complicated at the start, but presumably it is getting ever more complicated as every Trust treats itself as different, every doctor says, "I am different from the doctor down the hall." And I would like to know your views about the management of all of this—not the software, but the management of the programme—because, let us face it, that's where most of the money is. The software costs are quite trivial in all this, we know that, or they should be anyway, with today's technology.

Patrick O'Connell: You mean the BT management of it?

Q68 Ian Swales: The management of the project—yes, the BT management, the CSC management, and how you see the management by the Department and by the Trusts, and so on, because that is where most of the money must be in all this. It cannot possibly be the software; a teenager in their bedroom can automate an e-mail from one system to another, or to a mobile phone; all that is trivial these days. This is about the management of some kind of superstructure that is going wrong—badly wrong.

Patrick O'Connell: I think it is more than that. Maybe we have not done a good job of explaining the complexity. This is a huge, huge; it is considered the largest civil IT programme in the world. The Spine, the N3, the LSP—there are three different parts there. There is a huge amount of industrial-strength robustness, availability, disaster recovery, that you cannot get someplace else. This is quite an unusual—

Q69 Ian Swales: This has never been attempted anywhere in the world. Neither of your companies has ever done anything like this in the world.

Patrick O'Connell: No. This is entire—

Q70 Ian Swales: So were we right to ask for it, then?

Chair: I don't think Mr. O'Connell would have signed the contract in 2003, from what he said earlier.

Patrick O'Connell: I think the company believed the contract was executable in 2003, at that time.

Q71 Ian Swales: Can you answer my question? The management from the public sector in the UK and your companies, the interface in that—how well has that been going, and how much has it been the source of the cost and the delays in this project?

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Patrick O'Connell: I do not think that is really the issue. I think that, if you are asking about the NHS staff, we have found them to be professional, committed, dedicated, and to have worked extraordinarily hard to try to advance healthcare in a very evolving and changing environment.

Q72 Ian Swales: So the delays are all down to your companies, then?

Patrick O'Connell: No, they are more than that. It is the need of the users and the community. The users and the community today, the clinical people today, want a modular system: they want to be able to do it. They want a domain per Trust. I do not know if you know what a domain per Trust means.

Q73 Chair: Why did you not know that in 2003?

Patrick O'Connell: In 2003 there was only one domain. There was only one domain ordered in 2003.

Q74 Chair: Yes, but presumably the user community at that point wanted the same sorts of things as it wants today. I do not think clinicians have changed.

Patrick O'Connell: Today we have Facebook, we have Twitter. In 2003 there were only so many possibilities with technology. Today, 2011, with Facebook, all these things, more possibilities—

Q75 Stephen Barclay: That does not explain the lack of basic management information. I mean, the Report says at paragraph 9 on page 7: “Our findings are presented in the context of a lack of clarity between the Department and its suppliers about basic management information.” This is notwithstanding the £820 million spent on project management. What is your view as to why there is such a basic lack of management information?

Patrick O'Connell: There is not a basic lack of management information on our part. I think that we work well with the NHS; we reconcile our figures. One of the things you have when you look at figures from other folks is that you have economic conditions, and the fact is that I happened to work in 2009 to 2010 and many Reports were done in 2004. Secondly, when you look at the average cost, there is no average cost because every Trust costs something different. The arithmetical average is not really a measure of the cost. Thirdly, there are things such as one-offs, and then there is business as usual. In the South there were a lot of one-offs. There were three different things—

Q76 Stephen Barclay: With respect, you are not answering my question. There may well be one-offs, but, as the Report says, “For example, information, we”—the NAO—“received from suppliers on Friday 13 May does not reconcile with information provided by the Department the previous day.” So you have a situation where the Department is sending information on 12 May, which is different from the information provided the following day by suppliers. Would either of you like to comment on that?

Patrick O'Connell: I think, from a BT standpoint, we have no issue in terms of reconciliation of our numbers with the NHS. It could be that the questions that were asked in terms of two different people

asking two different questions, but our numbers reconcile with the Government's.

Q77 Stephen Barclay: So the NAO has failed—

Q78 Mr Bacon: Did you just say your numbers reconcile with the Government?

Patrick O'Connell: Sorry, with the NHS.

Q79 Mr Bacon: Because we were getting the distinct impression that that is not the case. The Department last week was giving the numbers to the NAO, and the NAO was then going to you and saying, “What do you think?” And BT was saying, “We do not recognise those figures”. Mr Davies, would you like to comment?

Mark Davies: That is correct. That is absolutely correct.

Patrick O'Connell: I accept the fact that we do not recognise some numbers from the NAO; I was making a comment—

Q80 Mr Bacon: No, the NAO is merely passing on the figures given to it by the Department of Health. Let us be clear about that. Am I right Mr Davies?

Mark Davies: Yes, absolutely. Our figures were sourced from the Department of Health.

Q81 Stephen Barclay: Does that not raise questions over the—

Q82 Mr Bacon: Sorry, can I just pursue that? You said a minute ago your numbers reconciled with the NHS. That is not correct, is it? It is not necessarily your fault Mr O'Connell—it may be because the Department of Health is shambolic and you keep good records; that is a possible explanation for this—but it is not the case, is it, that your version of events and the Department of Health-CFH version are the same?

Patrick O'Connell: The BT numbers and the NHS numbers, in the way that we discuss the numbers, work. As people do a lot of “what ifs?” to me, there is a chance that some of the numbers would be out of context. So out of context is a likely case in the complexity.

Q83 Stephen Barclay: But if there is a lack of clarity on basic management information does that not raise questions over any renegotiation?

Patrick O'Connell: If that were true, yes. But I think, as I said earlier and I repeat, that our numbers were reconciled with the NHS.

Q84 Mr Bacon: Mr O'Connell, I just wanted to ask you briefly about RiO. Could I ask you to turn to page 29 of the Report? You will see there that it says the delivery of RiO at Mental Health Trusts and the community health services, including service management, until 2015 is £224.3 million. That is for 25 sites, isn't it?

Patrick O'Connell: Yes.

Q85 Mr Bacon: So that works out at £8,972,000 per site. That is right, isn't it?

Patrick O'Connell: It depends on the economic conditions; you usually guess about right.

Q86 Mr Bacon: But basically just under £9 million per site. Now, it says in paragraph 3.14 on the next double spread, on page 31, that in London, "Prior to the Department agreeing for RiO to be provided as the strategic solution for 37 sites in London, BT purchased software and services from the supplier of RiO in 2006", and I have just checked this with the National Audit Office, "amounting to £46 million". That was for 37 sites, and it cost £46 million. That is about £1.24 million per site there; £8.9 million per site for the 25 sites in the South on the previous page. Try as I might, I cannot find a way to account for the discrepancy between the two: you are charging the taxpayer nearly £9 million per site for something that costs less than £2 million and a bit above £1 million, depending on the circumstances, to deploy. Why?

Patrick O'Connell: That is the part of the numbers that I cannot reconcile. By my own numbers, we charge basically £8.5 million, roughly, in London for a RiO site; we charge £6.5 million in the South for a RiO site. If one does apples to apples—the reason I say apples to apples is because what is required in London is a little bit different, and the reason the South is cheaper than London is because things such as programme management are not duplicated—from my standpoint, our costs are relatively straightforward. They follow the basic idea that the second time round should be cheaper. They have been audited by Ernst & Young, they have been audited by Gartner, they have seen OGC assurance, so our costs are reasonable. Part of the issue is that costs often get taken out of context.

Q87 Mr Bacon: With all these different things you are talking about—the domains and whatnot, and the programme management—you are asking us to believe that the cost of that is something like £6 million or £7 million, between the roughly £1 million to £2 million it costs to go out there and buy RiO and what you are charging the Government?

Patrick O'Connell: To buy a RiO à la carte, and buy it in the package sense, are two different things. You buy it à la carte, you buy it from somebody in a pub, you are not going to get—

Q88 Mr Bacon: You are not going to buy it from somebody in the pub; you can buy it directly from its supplier, CSE Healthcare, which makes it. You can buy it directly from it, can you not?

Patrick O'Connell: Yes, you can—

Q89 Mr Bacon: And they do not charge £9 million do they?

Patrick O'Connell: That is an à la carte offering. We are having a package offering. If you add disaster recovery in, if you add the things in that are required for this programme, you get to the cost that it costs us.

Chair: À la carte means it costs more; it is not less.

Q90 Mr Bacon: I have just met with CSE Healthcare, and they tell me that it varies, of course it does—

Patrick O'Connell: Of course.

Q91 Mr Bacon: And companies are always sensitive about their costs, as well. But they confirmed to me that for a typical Mental Health Trust—not a very, very, very small deployment, and not an enormous unusual one, but a typical run of the mill deployment—a number somewhere between £1 million and £2 million, depending on the bells and whistles, including, typically, five years of service and support, would be typical. You are charging £9 million and no matter how you cut it, no matter which bells and whistles you pretend to add on, or which number you divide it by before adding the number you first thought of, it is impossible to me to see how you get to £9 million as a value for money number. It just does not make sense. This is a relatively straightforward system.

Patrick O'Connell: No, it does. Disaster recovery, the amount of SLAs that we have to add to it—

Q92 Mr Bacon: I would hope there was disaster recovery anyway. I mean, this is standard; everybody has disaster recovery if they have any sense.

Patrick O'Connell: No, they do not. They have backup. Backup means that within some weeks you can stand a system up; disaster recovery means that in two hours you are back and up running just like it was before with no data lost. It is a very industrial strength, highly robust system with significant failovers in it—

Q93 Chair: Which justifies that scale of difference? We are going to have to move on folks, so I am just going to ask you what I asked Ms Thureen: how much have you been paid so far under the contract?

Patrick O'Connell: Approximately £2.8 billion.

Q94 Chair: How much is left as contractually committed?

Patrick O'Connell: Approximately £1.3 billion.

Q95 Chair: And how much do you reckon is the value of the work you have done so far that you're owed?

Patrick O'Connell: I am not sure about that. I do not want to guess on that, so I would prefer to—

Chair: Are you bidding for the other South contract, the second contract to deploy some sort of IT in the South? We haven't covered it all.

Patrick O'Connell: Well, we have a contract with what is labelled the greenfields.

Q96 Chair: One—and then there is another contract, which needs to be let pretty soon if it is going to be delivered by 2016.

Mark Davies: The ASCC

Patrick O'Connell: That is competitive. But the greenfields was a—

Q97 Chair: And are you bidding for the competitive one?

Patrick O'Connell: Some elements of it, yes.

Chair: Thank you.

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Q98 Mr Bacon: Can I very quickly ask Ms Thureen, you mentioned 20 million records?

Sheri Thureen: Yes.

Q99 Mr Bacon: What system are they on?

Sheri Thureen: TPP.

Q100 Mr Bacon: Is that the GP system?

Sheri Thureen: GP and community health services.

Q101 Mr Bacon: Yes. So those 20 million are not hospital records—that is correct, isn't it?

Sheri Thureen: Community health services connected to GPs.

Q102 Mr Bacon: They are not hospital records?

Sheri Thureen: They are not acute.

Q103 Mr Bacon: That is what I meant—they are not hospital records?

Sheri Thureen: They are not acute. But they do include community hospitals.

Q104 Chair: Thank you very much. We will move on now.

Examination of Witnesses

Witnesses: **Christine Connelly**, Director General for Informatics, Department of Health, and **Sir David Nicholson KCB CBE**, Chief Executive of the NHS in England, NHS, gave evidence.

Q105 Chair: Welcome to you, Sir David, and welcome to Christine Connelly. I just want to contextualise how we are going to deal with this afternoon. This is a programme that was launched in 2002–03. It was a programme the aim of which was to improve the quality of care, in case we forget that, by a radical change in the use of IT. As I understand it, central to that was a fully integrated care record system, which you wanted, or intended, to be available to all, in all settings, at all times, right? And I think we all accept that that is a very worthwhile ambition, which probably has proved beyond the capacity of your Department to deliver. Now, what we are going to try and do this afternoon is firstly look at why you cannot achieve that aim that you had in 2003; secondly, your progress in delivering to date; and, thirdly, the future. Just to say to you, I think we all understand there are other issues around the detailed care records system where you have delivered. So we are taking that as read and do not want to go back to it—the broadband and the electronic delivery of x-rays and scans. We are trying, in the time available this afternoon, just to focus on the care record system. Is that okay?

Context. So I am going to start you off, take your pick who answers: was the vision too ambitious?

Sir David Nicholson: Having an integrated care record for patients in the NHS seems to me a laudable ambition, and, as you know, at the time a huge amount of work was done around working out how you might put that into practice. I think the issue with the way that the programme was set up was there were some big risks in the middle of it, and I think what I would say is that since then you have seen the working through of those risks in the way that we have tried to manage and adapt that vision to the circumstances that we found ourselves in over time. So, two examples: the first one is that part of the vision was to have a standard, relatively inflexible product, for the acute hospitals, that would essentially be implemented across the whole country, acute hospital by acute hospital. That has proved, right from the beginning, to be very, very difficult to do, and no doubt we will go through the reasons why it was—

Chair: Impossible, impossible.

Sir David Nicholson: Very difficult to do. And, indeed, if you look at the way we have tried to manage the programme since then, we have been trying to move from that very top-down approach to the delivery of the programme to one where the individual Trusts and clinicians are in the lead, and many of the decisions that we have taken have been a part of that process. And the second bit, which has been the risk that we have dealt with, is that for quite a lot of the service in the acute sector—I think you are absolutely right, the acute sector is about 20% of the totality of the programme, so we have 80% of the programme over here—the product to meet the specification we set out did not exist. So going into a process where there literally is not a product to deliver it is inherently risky, and those two things that started off in 2002 at the heart of the programme have been, in a sense, what we have been managing and trying to get into the right place since then.

Q106 Chair: So I take that to say you should never have signed the contract in 2002?

Sir David Nicholson: No, I am saying that—

Q107 Chair: It is a lot of money; it is a heck of a lot of money. I will just do you a crude stat—we all do our little crude things: £1 billion buys you about 20,000 nurses. That is what we are talking about.

Sir David Nicholson: No, no. Absolutely, but the point I would make as well is that the total amount of money we are talking about now spending on the programme is less than we were talking about the last time.

Q108 Chair: Sorry, I got that wrong—it is 50,000 nurses. We are talking about £4.3 billion buying you over 200,000 nurses.

Sir David Nicholson: I cannot remember the point I was trying to make. Oh yes, as we sit here today, the amount of money we spent on the programme, projected, is less than we were when we sat here last time at the Public Accounts Committee. It is £11.4 billion we are talking about now, as opposed to the

£12.6 billion at the time. So it is less; we are projecting less money now.

Q109 Chair: But you are never—

Sir David Nicholson: We spent about 20% of that resource on the acute sector. The other 80% is providing services that literally mean life and death to patients today, and have done for the last period. So the Spine, and all those things, provides really, really important services for our patients. If you are going to talk about the totality of the system, and you have just divided one by the other, you have to accept that 80% of that programme has been delivered.

Mark Davies: Can I just make a point here? That we are focusing on the care system here.

Chair: Care system, yes.

Mark Davies: We have spent £2.7 billion, and the estimate is another £4.3 billion—

Chair: It is a £7 billion programme.

Mark Davies: To be spent on the care records system.

Chair: Please, because we can talk about Spine and all that stuff—

Q110 Mr Bacon: Sir David, the title of this Report that we are taking evidence on is “An update on the delivery of detailed care records systems”, not something else. So let us talk about detailed care record systems, shall we?

Sir David Nicholson: I am absolutely happy to do that, but if you are going to use the total amount of money—the £12.6 billion—let us talk about it.

Q111 Mr Bacon: You are right, let us concentrate on the £2.7 billion and the £4.3 billion.

Sir David Nicholson: Fine.

Chair: So, £4.3 billion, just to say to you, buys you 200,000 nurses.

Q112 Stephen Barclay: Sir David, your Health Minister called this an expensive farce on the radio last Wednesday. Do you agree with your Minister?

Sir David Nicholson: I think in terms of trying to deliver a top-down programme, spending huge amounts of taxpayers’ money for no benefit, anyone would describe something like that as a farce. The particular position we are talking about here in relation to the local service providers and that contract is, I think, moving us towards a position where we will be able to deliver value for money for patients and improvements for them.

Q113 Stephen Barclay: Who is the senior responsible owner for this project, and when were they appointed?

Sir David Nicholson: Me.

Q114 Stephen Barclay: And when did you become the SRO?

Sir David Nicholson: Sometime during the end of 2006–07.

Q115 Stephen Barclay: Right. And how much time do you spend a week, would you say, as the senior responsible owner on this project?

Sir David Nicholson: It would vary, depending on where we were, because there are some parts of the programme where I would spend a lot of my time on it, when we are renegotiating.

Q116 Stephen Barclay: Absolutely, but since 2007, on average how much time would you say as SRO?

Sir David Nicholson: That is quite a difficult thing for me to calculate. I would have to go back.

Q117 Austin Mitchell: You said, Sir David, the problems came from the middle range, but surely they were implicit from the start, because this project was rushed into. The Prime Minister was very keen, the delivery unit was very keen, it was very fashionable to computerise things like this. An appendix indicating the cost would be £5 billion was missed out of the original report as published, so you have a very high estimate there in the first place. Then, Richard Granger, the Director of IT, rushed through, without consulting the professions. This was a kind of computer enthusiast’s bit, was it not? The professionals who were going to have to work it were not consulted, because consultation would have made it clear that they were going to ask more from it and expect more from it, and then contracts for £1 billion were let pretty well straightaway, in May 2003. That was very quick. Now, why were the contracts let before the professionals were consulted?

Sir David Nicholson: Well, we had to start the work, and we had to start to work with suppliers to get us into a place where they could start to deliver.

Q118 Austin Mitchell: But you would not know what you were going to deliver on unless you had consulted the professionals.

Sir David Nicholson: Well before the specification was delivered to the contractors there was consultation with the professions, albeit certainly in hindsight not enough.

Q119 Austin Mitchell: Well, the professionals say not, and you have had to cut down what information is required to a simplified form of five pieces of information instead of the wider range of information, and the profession is still not agreed on what those five should be.

Sir David Nicholson: No, absolutely. As I said right at the beginning, this idea that you could have a one-size-fits-all to every hospital in the country, I think, was a massive risk for the programme to take at the beginning, and it has proved unworkable in that sense.

Q120 Chair: Can I put it on the record that we are not going to get a care records system that is available to all, at all times, in all NHS settings. Yes or no? No?

Sir David Nicholson: No. We will get what you have just described, but, of course, it means different things to different people. So, for example, what you will not get is one type of medical record which covers everything, for everybody in the country, available everywhere. You will not get that, you absolutely will not get that. You will get different mechanisms in different parts of the country, because that is, in reality, where most of the requirement for clinical

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information is. But on top of that you will get the summary care record, which will do exactly what you have just described. So in an emergency, anywhere in the country, at the end of this process, your doctor, your physician, will get access to some basic information about you to enable you to be treated safely.

Q121 Chair: But we will come back to the summary record—£180³ million out of £7 billion.

Christine Connelly: Could I perhaps add something to that description in terms of what we will get from this? We will get lots of locally owned information that is owned by the clinicians who go through their working practices, and we will have an infrastructure that connects those sources together, as opposed to drawing all the data out of that and putting it into some big, single system. So the shift that we have made is to move away from an idea of a very small number of very large data sources to a networked environment where we have many data sources that will fit particular standards and will technically be capable of joining together.

Q122 Chair: But that was not the purpose of the system.

Christine Connelly: I guess it is whether you describe the purpose of the system as the technical architecture that delivers it or the purpose to provide the information to the clinician.

Chair: No, the purpose of the system was what everybody says: if you are in Barking or Bournemouth or Birmingham, whichever setting you end up in, they have access.

Q123 Ian Swales: It is about driving choice as well: if I want to have my knee replaced in my local acute hospital, I expect the records to be available if I go and have it done in the next town or the next county. That was the original idea.

Christine Connelly: Certainly, and the architecture that we are working with will allow that to happen. It is not an expectation that your data will be trapped on a particular site. The question was asked earlier, why was that not the architecture in 2002?

Q124 Ian Swales: So it is one system?

Christine Connelly: No. It is not a monolithic system. It is a networked architecture where forces will exist around that network, and the ability to join them together will be there. A key requirement of that is that all the systems identify you in the same way, and the piece of data they will use for that is your NHS number. So, as long as the system that is holding your record identifies you with the same unique identifier as any other system, the technology will be in place to join that together. And the question was asked earlier as to why we did not do it that way in 2002. In 2002 the maturity of the technology to allow those connections to happen at the level of risk that the Health Service could accept just was not there. So an alternative structure about large data stores—half a dozen or so of them that would be joined up—was the way forward. By 2011, or certainly by 2009–10, when

we were looking at this again, we said, actually, the technology had moved forward.

Q125 Chair: Hang on a minute, this system was supposed to be in place by 2007. I am going to ask everybody, although I know it is really irritating, because everyone wants to talk—let us keep tight, tight, tight, or we will be here all evening.

Amyas Morse: Can I just say, to avoid being misleading, in fact the plan is that local Trusts will get issued with a connectivity toolkit that they need to make work. Is that not right?

Can I just ask you something, Sir David? Sorry, just before we get away from the broad picture, it must put you in a very difficult position when you start with a very ambitious contract and you then have to negotiate, so to speak, downward with the providers all the time. So you have actually already contracted for a very substantial delivery, a lot of money, and then you are always having to try and modify and negotiate down. Does it not put you in a position where it is very hard to walk away, or to, sort of, draw stumps and start again? Does it not put you in a very tough position to have started with that hand of cards?

Sir David Nicholson: Well, there are two bits of answer to that. The first one I am sure I should not say, but I will do anyway, which is, most of it is actually working fine, and actually the contracts have worked, and we have delivered on time and on budget. On the bits that you are particularly talking about, one thing I would say about it—the thing that we have always had in this contract, which is really, really important for us—is that you do not pay unless delivered. So the bit of the environment you did not talk about is the fact that we pay when they deliver.

Amyas Morse: What happens if you cancel?

Sir David Nicholson: Absolutely right that, in a sense, what we committed to in 2002–03 is to work in partnership with BT, with CSC and the other people during that period, and we do work together; we work closely together to enable it to happen. If I felt at any time that we were unable to get value for money out of that, we would clearly look seriously at the option of cancelling the contract. Any sensible people would do this.

Chair: We will come to the future. I am trying to get people to focus.

Q126 Mr Bacon: Just very briefly, before you do, Sir David, you said something I did not hear. You said most of it is working fine.

Sir David Nicholson: Yes.

Q127 Mr Bacon: What is “it” in that sentence?

Sir David Nicholson: The Spine. All those things that I am not allowed to talk about.

Q128 Mr Bacon: It is a Report about the detailed care record, isn't it?

Sir David Nicholson: Yes, I know, but Amyas was talking about the contracts as a whole, so I was just making that clear. So the idea that we cannot run a contract—we can, and there are lots of good examples.

³ The correct figure is £150 million out of £7 billion

Q129 Ian Swales: Can I ask how you feel about the number of professionals you had on your side of the desk, or the table, when these contracts were being put in place, and how you feel about the fact that much of the software you were contracting for did not exist, and you are now getting some software that was judged inappropriate at the time, some half-baked software, some that will never be completed? How do you feel about the contracting that you did at the start, and the risks that you were taking? Did you have the right professionals on your side of the table?

Sir David Nicholson: Clearly, based on the evidence of what we have seen, doing it in the way that you have described added to our risk. So if you are asking me do I wish we had had more clinical buy-in at the beginning of this process, of course I wish we had had more clinical buy-in, and it would have made it easier to deliver the products.

Q130 Ian Swales: That was my other point, the clinical buy-in. To what extent do you think that we have now allowed open season in all the different areas, to the point where the IT suppliers can now go in treating each new setting as a clean sheet of paper, and charging us an arm and a leg for doing so?

Christine Connelly: So I think it is important to understand that we did a large engagement exercise in the middle of 2008 following on from the Next Stage Review that went out and talked with large numbers of clinicians about what they wanted from their IT systems. What came back was a very rich set of requirements that we then looked at, which we talk about as the Clinical Five. Because there are five things and five headings, we should not think of that as five cells in Excel. It is not that level of functionality. So that was a very large exercise. We have since then used that as a significant input to look at the scope of the contracts that we have, focusing our suppliers on delivering the Clinical Five, plus some other key departmental systems—things like maternity—that are critical policy areas for the Government, but did not come up through that exercise.

When we did that, we then looked at the delivery mechanism that we had in the contracts, and we have to balance up this idea of consistency through that delivery and local configuration, and we are very clear that we talk about local configuration and not software customisation. So we do not drop into the product and change it. We configure the product, making use of the capability that came with a product like Cerner. When we do that, if we look at the way we are doing that in London, we have created a menu of modules that a particular Trust can then look at and say, “These are the things I want and in this order.” We have managed now to put into the contract all the Cerner product, which was not there before. We then get to a situation where a particular Trust configures the product for themselves, and places that configuration in a configuration library.

Ian Swales: that’s good

Christine Connelly: so that when the next Trust comes along, the first place that they go is the configuration library, so they start from that place and then say, “If I am going to take this module, which is

the same as the module that the Royal Free took; if I am going to take that module, which is the same as the module that Kingston took. By taking them together, do I need to do something slightly different, because they did not take it in that mix?” And then from there that would go back into the configuration library.

Ian Swales: But the consultation was five years too late, that is the only trouble.

Q131 Chair: Ian, I am trying to keep this in an order. First, before we get to the operability, Anne is this on this?

Q132 Mrs McGuire: Yes, it is on this. Sir David, on I think about four or five occasions you have mentioned the word “risk”—“big risk” and so on. Can I ask you, what risk assessments were actually undertaken before the contract was placed?

Sir David Nicholson: Yes. I am sure that if you look at the documentation there is extensive risk assessment done around it, but the big issue is payment by results. In a sense that was the bottom line in all this. We do not pay until we have a functioning system in place.

Q133 Mr Bacon: Can you tell us what the total value of the advance payments has been through the life of the programme?

Christine Connelly: No. Advance payments run during a year, and then they all get called back to the Department at the end of the year.

Q134 Mr Bacon: I was not asking you about when they get called back; I was asking for the total value of advance payments. You have just said you only pay for delivery; advance payments are something different from that. What is the total value of advance payments that have been made during the course of the programme?

Sir David Nicholson: I have not got that piece of information.

Christine Connelly: No, I am sorry; we do not have that with us. But in terms of what an advance payment is—

Q135 Mr Bacon: It is at least £443 million, isn’t it? And that is a very old figure. Actually, to pursue the point that you were trying to make with Mrs McGuire, it is not actually true to say you have just been paying for delivery, is it?

Christine Connelly: It is true that we have only been paying for delivery; what an advance payment is—

Q136 Mr Bacon: In that case, why were you making advance payments?

Christine Connelly: Perhaps I could explain what an advance payment is.

Q137 Chair: Very quickly, please.

Christine Connelly: Thank you. So it is an amount of money—

Q138 Mrs McGuire: I want to deal with this issue of risk and what efforts were made to evaluate risk at

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the beginning of the contract, not with the retrospection we are hearing just now, very admirably, from Christine Connelly.

Christine Connelly: Chair, so an advance payment is an amount of money that goes to the supplier that is covered by a bond. If the supplier does not meet their deliverables within that year, the money comes back to the Department. If at any time during that year the supplier fails to meet any of the criteria set by the Treasury or ourselves, the bond is called back.

Chair: Right, risk.

Q139 Mrs McGuire: Perhaps Mr Bacon might come back to that. Who undertook the risk assessments?

Sir David Nicholson: The Department of Health will have done that.

Q140 Mrs McGuire: What professional technical advice—not clinical advice—did the Department of Health, who were pretty new into this game, frankly, take on board when they were undertaking those risk assessments?

Sir David Nicholson: I have not got that detailed information with me, but there was extensive technical advice, from consultancies and others.

Christine Connelly: During the original procurements third-party experts were included, and in particular KPMG, Gartner, and Partnerships UK were consulted on the original procurements. So they were the third-party people who came in.

Q141 Mrs McGuire: I think you may well just have destroyed the reputation of the organisations that you have mentioned given the situation that we are facing now. Were Ministers made aware of the risk? Everybody who has dabbled in technology thinks it can do wonderful things, but we have just been told by one of the previous witnesses here today that this is the biggest IT project in the whole world, if not the universe, yet we appear to be in a situation where, if a risk assessment was undertaken, it certainly does not appear to have been particularly valid.

Sir David Nicholson: Well, those risk assessments were taken, I can absolutely assure you.

Q142 Mrs McGuire: Were Ministers aware of the risks?

Sir David Nicholson: Ministers would have been aware of those risks.

Q143 Mr Bacon: Sir David, can you remind us, what was the risk score in the original document, “21st Century IT”?

Sir David Nicholson: I have not got that.

Christine Connelly: I have not got it with me, sorry.

Q144 Mr Bacon: It was 53 out of 72, which makes it very high risk.

Sir David Nicholson: Right.

Q145 Mr Bacon: That was in one of four appendices, and I do not know if the Ministers saw the appendices, but in the published version, can you confirm that there were not four appendices, only

three, and that the risk profile was removed? Can you confirm that now?

Sir David Nicholson: I cannot confirm that.

Q146 Mr Bacon: Why not? I mean, you ought to know this; you have been living and breathing it for five or six years, and you have been the SRO since 2006. Why not? You should know this stuff. I do, and I have 50 other things to do. I look at a lot of other projects; this is just one of them. The members of this Committee, who just joined the Committee since May last year, have done 40 or 50 hearings on 40 or 50 different projects. I happen to be rather long in the tooth and I have been here for 10 years, so I have done probably 400 or 500. I remember your becoming the Senior Responsible Owner, I remember seeing “21st Century IT”, which was produced by Sir John Patterson after the February 2002 breakfast meeting where he was given 10 minutes to present, and he was asked how long it was going to take, and he drew his breath, and he said, “Maybe three years”. And the Prime Minister of the day said, “How about two?” This is what happened, and you are telling me you do not know the risk score? Why not?

Sir David Nicholson: No, you have asked me whether I knew whether the risk score had been taken out of the final document.

Q147 Mr Bacon: Actually, I asked you what it was. With respect, my first question was, what was it?

Sir David Nicholson: Yes.

Q148 Mr Bacon: You said you did not know, and then I got on to, did you know that it had been removed?

Sir David Nicholson: I did say that I thought the system and the contract were high risk, and you have reinforced that by what you have said. So I knew it was risky—

Q149 Mr Bacon: But it was hidden, it was concealed—

Sir David Nicholson: When I took it on. What I did not know—

Q150 Mr Bacon: My point is just how risky it was was concealed at the inception.

Sir David Nicholson: I cannot comment on that.

Q151 Chair: I want to move this on to the actual programme with Stephen. I just want to ask one final question, because we are still on the purpose. At the end—2016—how many Trusts are going to end up with the full range of functionality as agreed, and as priced, in the original contract?

Sir David Nicholson: It is quite difficult to make that comment on the basis that what we have focused our attention on is the clinical five. That was what the clinicians told us were important in functionality terms for the NHS going forward. Our expectation is that that functionality will be available across the whole NHS. It will be delivered in a whole set of different ways to those perhaps originally perceived in the contract, but will be available to people across the NHS.

Q152 Chair: And what will the benefits be? What has changed? As briefly as you can.

Sir David Nicholson: What happened? The way this particular bit of the system was explained was in terms of what the computer system would look like in an individual organisation. What we found in our conversations with clinicians was it was very difficult to talk about that specification to them; they did not understand it.

Q153 Chair: They should have been in there designing it.

Sir David Nicholson: They should have—well, let us put that to one side. What we said then in those circumstances was, “What are the big clinical benefits that you think you want?” They came up with five big areas they thought were important.

Q154 Chair: What are they?

Sir David Nicholson: The first one is a patient administration system—a system in a hospital which enables bits of your information to go around that hospital and outside it when required and helps you doing appointments, all that sort of thing. The second area is discharges—being able to communicate discharges from hospital to hospital, from hospital to community, from a hospital to GPs, and that coded in a way that you could use your unique identifier, as Christine says, with a diagnostic coding. So everyone would know what your condition was as it went through the system. The third area is order communications—I am looking at you as a patient, I think you need an MRI scan and a blood test, or whatever, I have a mechanism by which I can there and then, on your computer, order those tests and get them straight back to you, so that is the third. The fourth one is scheduling, really important—scheduling outpatients and scheduling operating theatre sessions are really significant. Then the final one was e-prescribing: the ability to be able to prescribe, and for pharmaceutical information to be available. Now, if you add all those five things together, you get, for an individual patient, the potential for an integrated record.

Q155 Chair: Well, you get something. You get something, but it is very different from the original vision.

Sir David Nicholson: You get what clinicians regard as being the most significant sets of information and knowledge for them to make decisions about your care.

Q156 Chair: But not shared from Torquay to Newcastle.

Sir David Nicholson: Certainly to be shared across your local health community.

Q157 Chair: Yes, not shared from Torquay to Newcastle?

Sir David Nicholson: Well, potentially they could be shared between those places. It is absolutely right that you could sit in an out-patient clinic in Newcastle and call up the results somebody had had from somewhere

else, but there are a lot of ethical and complicated discussions to be done before we get to that place.

Q158 Chair: Okay. Let us move onto costs and progress.

Q159 Stephen Barclay: You have been talking today about some of the benefits; notwithstanding the concerns of this Committee, you failed to comply with a previous recommendation to produce a benefits statement.

Sir David Nicholson: Yes.

Q160 Stephen Barclay: Why was that?

Sir David Nicholson: All I can say on that is to apologise to the Committee. We said we would do it, and we did not do it. I can talk about the mitigations and reasons for that, but absolutely we should have done it, and we did not.

Q161 Stephen Barclay: So you only produced it the week this Report came out, on 11 May.

Sir David Nicholson: Yes.

Q162 Stephen Barclay: Over a year late.

Sir David Nicholson: Yes. I am sorry, I do not want to give an excuse, and I am absolutely sorry for not having delivered it to the Committee.

Q163 Stephen Barclay: Okay. Is the benefits statement up to date now? Does it run up to 11 May?

Sir David Nicholson: No, the benefit statement that you have is for 2009–10.

Christine Connelly: Yes.

Q164 Stephen Barclay: So it is a year late and it is a year out of date when produced?

Sir David Nicholson: Absolutely. The only mitigation I can say is that we did the work, and we did produce it on time; however, it got mixed up, I have to say, with a whole set of discussions around the new Government coming in, the review of the IT programme as part of that, the major projects review plan and all that. But that is an excuse; we should have produced it, and I apologise to the Committee for not doing that.

Q165 Stephen Barclay: Could we then look at the central programme costs? As of May 2011, they are estimated at a staggering £1.19 billion. How much of those central costs consist of legal fees?

Christine Connelly: Sure. I do not have the number specifically for legal fees. We can go away and find that.

Q166 Stephen Barclay: Perhaps we can have a note on that.

Christine Connelly: Certainly.

Q167 Stephen Barclay: Could you give us a breakdown of that £1.19 billion as you understand it, or perhaps Sir David, as the Senior Responsible Owner, may wish to do so.

Christine Connelly: The major part of those central programme costs are staff that we have in the centre.

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We have, as a result of the work that we have been doing in the last year, taken out a significant part of those central programme costs compared with the last Report that this Committee saw, where the expectation was that they would be £1.6 billion in total. For the costs still to go in the programme, we have taken out half the internal costs that were here, which is this piece.

Q168 Stephen Barclay: With respect, that was not my question. My question was a breakdown of the costs. What I was hoping for was some broad figures. We have a figure here. I am sure that you prepared for the Public Accounts Committee hearing. You have a figure here of £1.19 billion. It is not an unreasonable question to ask for a breakdown of that figure. Can you give us a sense of what it has been spent on?

Christine Connelly: I shall give you a note of it specifically. The key categories are about our people, our internal staff, our external contractors and consultants. There would be professional fees. There would be the cost of the buildings that those people work in.

Stephen Barclay: Okay, fine.

Christine Connelly: There will be the cost of the IT that they use for themselves.

Q169 Mr Bacon: When you say your external contractors, you mean central administrative cost contractors rather than the contracts?

Christine Connelly: The people that we use to come in and do work in our offices for our work day to day. As a programme of work, we do not use permanent staff to do all the work, because this is not something that will last for ever.

Q170 Stephen Barclay: On that, could you clarify a previous note you gave the Committee? At a previous hearing we discussed spending on consultants. You will recall that the Department of Health is one of the two highest-spending Whitehall Departments on consultants. In your note to the Committee, you said that spending on consultants would go down, but also hidden in there it said that spending on contractors would go up, and I was a little confused as to the distinction between the two. Perhaps you can clarify that.

Christine Connelly: In this programme we look at consultants and contractors together, because we bring them in to do pieces of work. Sometimes we talk about it as a work package. Sometimes it is somebody coming into a team to fill a job on a temporary basis. We do look at that together here.

Q171 Stephen Barclay: So when we were looking at the £1.5 billion spent by Government on consultants, you drew a distinction between consultants and contractors. What you are saying today is that actually there is no distinction.

Christine Connelly: I am not saying that. I am saying that for this particular programme I have a line in my management reporting that shows me the amount for consultants and the amount for contractors. They are both inside the central programme cost.

Q172 Stephen Barclay: Perhaps in the note we could bring out the two figures.

Christine Connelly: Certainly.

Q173 Stephen Barclay: Could I come on to a related issue, which is around the security of the detailed records on this system? Could you clarify how many members of staff will have access both to the high-level record and to the detailed patient records? How many members of staff will be able to access those?

Christine Connelly: By the high level record, do you mean the summary care record?

Stephen Barclay: Yes.

Christine Connelly: Thank you. The summary care record is being created for any patient in England who chooses not to opt out of the system. To date we have about 6 million records. We have written to over 30 million patients. The expectation is that, when a patient presents themselves out of hours, which is the more common time, at that point—

Q174 Stephen Barclay: No, how many staff will have access? I am not asking how many patients' records there will be. What I am asking is, how many staff will have access to the high-level record and to the detailed medical record?

Christine Connelly: At that point, when the patient presents themselves, the member of staff who is treating the patient will ask the patient for permission to see their record, and only those clinicians who are given that permission can then see the record.

Q175 Stephen Barclay: Again, you are not answering my question. I used to work in financial crime prevention. One of the issues there was the concern of staff, often on very modest salaries, being bribed to reveal confidential information. It is not a new issue. It is one I assume, in your risk assessments, you have looked at.

Christine Connelly: Certainly.

Q176 Stephen Barclay: We have just had news around the hacking issue. What I am trying to get to is how many NHS staff will potentially have access to detailed financial records? Do you have any sense—

Christine Connelly: Detailed financial records?

Stephen Barclay: Detailed medical records.

Christine Connelly: Detailed clinical records.

Stephen Barclay: Yes.

Christine Connelly: Okay. Clinical staff who are treating a patient will be given access to their detailed record.

Q177 Chair: How many thousands?

Christine Connelly: How many people are currently registered on the system?

Q178 Chair: No, not people with records. How many staff—

Christine Connelly: No, no, I mean clinicians. Today there are 800,000 clinicians registered with smart cards on the system, and in March we had 380,000 unique logins to the system.

Q179 Mrs McGuire: How will you protect the access? If I am sitting as a patient with a clinician, and I say no, what safeguard do I have that that clinician cannot make a unilateral decision to access my medical records? Do I have a password that I keep in my head?

Christine Connelly: No. The record is opened up as clinicians are added to the clinical team, so people then get added, with the exception of the summary care record, which is available should you need to see it. The summary care record is a very minor record.

Q180 Mrs McGuire: Maybe I am not explaining myself properly here, but how do I have protection delivered to me for my records if I do not wish to give permission to someone who has a smart card that can access the system? Do I have a PIN that I need to keep in my head so that I can give that to the clinician who wants to access my records?

Christine Connelly: No, you do not have a PIN that you need to keep in your head.

Q181 Mrs McGuire: Right. Explain to me what happens if a clinician wants to access medical records without a verbal positive comment from a patient.

Christine Connelly: The clinician is placed on the clinical team looking after that patient, and those clinicians can access the record. Only people on that team can see the detailed record.

Q182 Mrs McGuire: But if I say, "I do not want you to see my records," then how—

Christine Connelly: Then nobody would be put on the team.

Ian Swales: But they might not do anything for you.

Mrs McGuire: Am I the only one who does not quite understand this?

Stephen Barclay: It is totally unsecure.

Q183 Ian Swales: Going back to Mr Barclay's point, you were saying that roughly one in every 50 adults in this country will have access to this system—800,000 people. It is a legitimate question to ask about security of data, isn't it?

Christine Connelly: It absolutely is a legitimate question.

Chair: *The News of the World* may be very interested in the clinical records.

Christine Connelly: That is the number of people who have access to the system overall. There is then another level of security about the records for particular patients, where those patients are assigned to a clinician's list. As the patient gets assigned to the clinician's list, the record goes with that. In the same way, if your paper record moved and you went to have treatment, your paper record would be called up from a file somewhere in a store, and the paper record then, if everything went well, would work its way through the system and move to the clinicians who were treating you.

Q184 Chair: The difference here, however, is that if you are a clinician, you can take it off and then sell it on.

Christine Connelly: You cannot take it off. It is very difficult to take it off.

Q185 Chair: You can write it down. You have access, you write it down, you sell it on.

Christine Connelly: You can do the same thing on a paper record. If you have legitimate access to the paper record—

Q186 Chair: Much more difficult.

Christine Connelly: In the same way that you can have legitimate access to the electronic record, you can take things out, and you can photocopy them, and you could send them away. By putting this on an electronic system, we have an audit trail of everybody who has ever accessed the system. If there was to be some kind of leak, it would be very clear who the community of people were who had accessed this system in a way that we would not have with paper records.

Q187 Chris Heaton-Harris: I do not want to get too confused about the gateways to the privacy of people's records, but I really wanted to ask Sir David, you are the Senior Responsible Owner of this project and you are dealing with a great period of change within the NHS. I do not expect you to be spending days upon days upon days on this, but I wanted to know the structure of your team beneath you, and how many people in the Department of Health are helping you on this project.

Sir David Nicholson: I have a Director-General, the Chief Information Officer, Christine Connelly, an extraordinarily experienced individual doing this kind of thing, who heads it all. She has a whole team of staff working for her—

Christine Connelly: 1,300 people.

Sir David Nicholson: She has 1,300 people working for her, who are managing this system. Within the governance arrangements we have a Programme Board, which oversees the programme, which is chaired by my deputy, who is also the Director of Finance, Performance and Operations for the NHS, and that has three Strategic Health Authority Chief Executives on it, the three leaders of the individual patches. That is Bill McCarthy, who is the Chief Executive from Yorkshire and the Humber, who looks after North Midlands and East; Candy Morris, the Chief Executive from the South East Coast, who looks after the South; and Ruth Carnall, who is the Chief Executive of London. They look after the individual geographic patches for me as part of this system.

Q188 Chair: I had two more questions on costs and progress in the current period, then I want us to go to the future. You say in page 14, paragraph 28, "Money spent to date has not been wasted, and will potentially deliver value for money." That is your claim.

Sir David Nicholson: Yes, yes.

Q189 Chair: I just want to test that against two things that we talked about with the contractors. If we can take BT first, you renegotiated that contract in 2010.

Sir David Nicholson: Yes.

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Q190 Chair: Crudely, as I have said, you are still spending £1 billion. You have not saved anything, because you are spending money outside the contract on delivering something for GPs. You have taken out the GPs. You have taken out half the Acute Trusts. You have taken out the Ambulance Service. We are left with £1 billion for 53 sites.

Sir David Nicholson: Yes.

Q191 Chair: How on earth can you say that is value for money?

Sir David Nicholson: The first thing is that if you take the GP and the Ambulance one, that is a relatively tiny amount of money—important, but relatively tiny.

Q192 Chair: That makes me even more scared, because I then think you thought at some point £20 million was—

Sir David Nicholson: The bulk of this issue is moving essentially from 31 hospitals to 15 hospitals. That is essentially the bulk of it all. The point of that is that, first, all hospitals in London will have access to the Spine, and all those other things that I cannot talk about. They get all those. So nobody is outside the programme in that sense. The difference is essentially twofold. One is that the 15 hospitals that you are left with are by far the biggest and most substantial in London, so significantly more than half the patients of London will be treated. You will get more than it appears by going from 31 to 15 in coverage. That is the first thing. The second thing is the functionality has significantly increased for those. If you add those two things together, it is perfectly possible to calculate that you do get value for money out of this.

Q193 Chair: But £20 million? I know I have averaged it out, and some will be more, and some will be less.

Sir David Nicholson: Yes, yes.

Q194 Chair: I am looking at Figure 9 on page 24, which tells me that 53 cost you £948 million.

Sir David Nicholson: Yes.

Q195 Chair: You are saying that an average of £20 million, with the increased functionality—which is very different from the original functionality, but nevertheless what clinicians want—is good value for money. Is that what you are saying?

Sir David Nicholson: Yes, yes.

Q196 Chair: Can I then ask you how you justify the costs in the South being 47% higher?

Sir David Nicholson: They are not, and we do not accept those figures at all in the document.

Q197 Mr Bacon: Can I just stop you there? I have been discussing this with the NAO for quite some time, and I am sure the NAO will want to come in. The whole point is that we do not like hearings where you do not agree the figures with the NAO. We like hearings where the figures are agreed and signed off. The NAO has been sweating blood to try to get some sensible numbers out of you. Even though you have known that this Report has been in the pipeline since

last September, you gave one set of numbers to the NAO last Thursday, and BT says on the Friday, “We do not recognise these figures.” This Report is replete with references to the fact that you do not know what is going on.

Sir David Nicholson: I do not accept that.

Q198 Mr Bacon: Can I just finish, Sir David?

Sir David Nicholson: I do not accept that.

Q199 Mr Bacon: Can I just quote from the Report?

Sir David Nicholson: Yes.

Q200 Mr Bacon: On page 7, it says, “Our findings are presented in the context of a lack of clarity between the Department and its suppliers about basic management information.” Over the page it says, “The Department has not stated what impact these reductions in the scope will have on the expected benefits of the Programme.” Then on page 9, “The Department has also been unable to provide us with a full breakdown of the cost implications of these changes.” Just one more. This is page 23. It is relevant to what we were just talking about, actually: the cut-down that has taken place in London: “The Department has been unable to provide us with a full breakdown of the costs of the revised £948 million contract.” This is not what we expect the NAO to have to report, but it is because you do not appear to have had a firm grasp on the numbers.

Sir David Nicholson: That is not the case. As you know, I do many Public Accounts Committees, so, like you, I hate the idea that we would come with a different set of numbers from the NAO, because it is not the most productive way of spending our time together. There is no doubt that there was a significant breakdown of the process operating between the Department and the NAO around this Report. We can have a debate about why that was and how it happened, but the reality is that it happened. I do not think there was any surprise when you talk to BT about their problem about their figures. You were talking about figures—

Mr Bacon: They did not have a problem.

Sir David Nicholson: Being shared with the NAO on 13 and 14 May, which was three or four days before—

Q201 Mr Bacon: They kept on moving, Mr Nicholson. I have been talking to the NAO about this for months, and the expression they used to me several months ago was, “The trouble is that the numbers keep swinging and swaying.” You have known about this, and the need to get hard figures, since last September.

Sir David Nicholson: I agree. I cannot remember a Report for which I have been at the Public Accounts Committee in the last five years where we have been in that position. I cannot remember a time, and I, like you, do not want it to be like that. We can answer each of those issues as you want.

Chair: Speak to the 47% increase in the South.

Mark Davies: Can I just pick up on that. The 47% is derived from figures that were sourced from Department of Health papers.

Sir David Nicholson: Of course. There are lots of sources, you can add one against another. The problem they have here is that you have essentially tried to compare apples with oranges. You have tried to do an average across a set of organisations, which are simply not average, so you have come up with a figure that I think is nonsense.

Mark Davies: I do not understand why the figure is nonsense, because we are taking the global figures—sourced, as I say, from the Department of Health—in terms of London costs, and comparing them with the costs of the three acute greenfield sites in the South.

Sir David Nicholson: In a sense that is part of the problem: you do not understand it and neither do I. Sorry, no, I absolutely understand our own figures, and we are very clear that our figures tally exactly with those of BT and of the suppliers.

Q202 Chair: I am sorry to rush you, but it is half-past 5. If we go to the South—I understand it is apples and pears, and there is a bit of that in it, but I think you can overplay that card—BT are delivering 35 out of 90 sites there for £454 million. You are expecting to introduce, for the rest of the South, IT support for some sort of patient information, 55 sites, for £470 million. Now, that is 57% more systems for 3.5% extra cost. Is this cloud cuckoo land?

Christine Connelly: In terms of how we are looking at the South, it has been broken up into a number of different categories to procure, rather than continuing with the idea of a large single supplier.

Q203 Chair: Can I just say to you, you try and complicate it? It seems to me we have sites, we have money. You do not accept that it is 47% extra in the South? I am now drawing to your attention to it that you are trying to deliver 57% more systems for 3.5% costs in the South. Have I got that wrong? Have I read it wrong?

Christine Connelly: So in terms of what that number means for us, we will deliver systems that will be in service for significantly less time than the time that the other systems will be in service around the LSPs. So in terms of how the costs are constructed, there is a deployment cost for any system that we have under these contracts, and then there is an ongoing service cost. We have market tested each of the component pieces, and we believe that we can deliver the systems in the South for that number.

Q204 Chair: So if I have you back in a year's time, if you are still working in that job, you will have delivered the 55 extra sites at £470 million, full stop.

Christine Connelly: In terms of where we will be in a year's time, we will not have delivered all those things because the contracts will run for four years, and we will only pay an amount of money as the system is deployed, then pay annually when the system is serviced.

Q205 Chair: Every time you renegotiate you pay perhaps the same, but you pay for less.

Sir David Nicholson: That is not true.

Q206 Chair: That is true. That is true. You are paying for fewer sites in London.

Sir David Nicholson: We are paying for significantly more functionality; that is what we are paying for.

Q207 Chair: Not for more functionality than you had at the beginning.

Christine Connelly: Yes, we are.

Q208 Mr Bacon: Let me just quote from a briefing that was prepared for a very high-level meeting. You were present at a meeting mentioned in this briefing. It is talking about the negotiations with CSC and that while the offer, which will involve the saving of £500 million, may be superficially attractive, it is, in fact, unattractive, and, indeed, that the health commercial team are not approaching it in the best way. And, "This is because the unit price of deployment per Trust, under offer, roughly doubles the cost of each deployment from the original contract". Are you telling me this is wrong?

Sir David Nicholson: I don't recognise the source.

Q209 Mr Bacon: I did not tell you the source. Are you telling me that is wrong?

Christine Connelly: Or the context. So, we do not know which paper you are talking about.

Mr Bacon: You know perfectly well it is correct.

Q210 Stella Creasy: I am sorry, you just said that you are delivering for 15 sites in London, and that is going to cover about 50% of the patients. What about the rest of them?

Sir David Nicholson: No, I said we would cover more than 50% of the patients, because the hospitals that we are going to be dealing with—

Q211 Stella Creasy: 60%, 55%, 52%? How many do you think will actually be covered by this at the moment, and what are you going to do about the rest?

Sir David Nicholson: No, the point of all this is we have moved from a situation where, at the beginning of the process, we decided that we would replace all the systems in all the hospitals.

Q212 Stella Creasy: Yes.

Sir David Nicholson: We have changed, we have gone away from that and we have said we will have a system where we connect all the systems together. But for some of the hospitals, for obvious reasons, because their individual systems were coming to the end of their natural life, or they were moving to new accommodation, or whatever, they are going to get replacement systems. The other hospitals will not get replacement systems, but they still will have systems, and they will be connected to the national arrangements.

Q213 Stella Creasy: So there will be two tiers of patients. There will be the patients who get the new system, and the patients who get the old system?

Sir David Nicholson: Absolutely not, absolutely not. The functionality will be very similar, but these organisations do not—

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Q214 Stella Creasy: Very similar? Will the functionality be the same? Will every patient in London get the same level of service under this system?

Christine Connelly: Patients will get the same level of service. The technical footprint to deliver that service will be very different across the landscape, and that is what choice is about. If hospitals were asked to take exactly the same system we would be back to the original model that we all agreed we did not want.

Q215 Stella Creasy: As a patient, if I go to my hospital in London, I will be offered a technical choice about the kind of system—

Christine Connelly: No you will not. As a patient you will be offered a service that will be the same.

Q216 Stella Creasy: So how will I have choice in this system, then?

Christine Connelly: The patient will be offered a service; the service will be the same. The organisations providing that service will choose the technical footprint they want to have to support their working practices to deliver that service. The systems as they run there—the kind of systems we are talking about under this piece of the programme—will not be in evidence to the patient themselves, other than when they sit with their clinician—the clinician showing them data; the clinician showing them x-rays, which I know we are not allowed to speak about; the clinician bringing back their tests in an ordered form; and the clinician communicating with the patient. But the patient would not know if they were doing that through a Cerner or Lorenzo system, or anything else.

Q217 Stella Creasy: Heaven forbid, one of my constituents in London, on holiday, has an accident in Bournemouth, and there is a different system—

Christine Connelly: There is the summary care record.

Q218 Stella Creasy: And they need, because of their medical conditions, access to all that information. You do not think there is a risk that, because they are a London patient and they are not in that 50%, that data will not be there? There is no assessment of any risk there?

Christine Connelly: The risk is no different between the Cerner system supplied under this programme and the systems supplied independently through the Trust themselves.

Q219 Chair: So why are we spending money on the programme?

Stella Creasy: So why are we spending all this money on this new system, then? If they are not going to get a better quality of service, why are we spending all this money?

Christine Connelly: They absolutely will get a better quality of service, and the point is, where Trusts already have systems that deliver the required level of service, what would be the value in us just ripping those systems out for the sake of it? It takes a hospital in London between 12 and 18 months to replace their patient administration system. If they consider already

that they have a system that is modern, fit for purpose and meets the technical standards required to connect into this environment, why would we go in and just replace it?

Q220 Stella Creasy: Why start this process at all? My constituents would really like those nurses Margaret pointed out. Why start this process at all if the standards are already there?

Christine Connelly: Because for the hospitals that do not have a system, or did not have a system all those years ago, we had to do something to give them a system. For those people who are in the other Trusts in London—

Q221 Stella Creasy: Sorry, so when you started this process, at that very point, Sir David, you said we had this lofty ambition at the start, a high risk process. You are now saying actually that was not what this was all about; it was about trying to do with a patchwork system. Which is it?

Christine Connelly: You have asked me two separate questions: what will happen to me now if I have a different system?

Q222 Stella Creasy: With respect Ms Connelly, I am responding to what you are saying—

Christine Connelly: So that is one set of questions—

Stella Creasy: And I am deeply concerned as a London taxpayer and a London user of the service whether I am in the 50% either way. I do not know that, but what you are telling me is that this was not a system that you brought in to deal with a qualitative improvement in service; it was about dealing with gaps in service. Is that fair?

Christine Connelly: I am sorry, that is not what I meant to say.

Q223 Mr Bacon: What you meant to say is you are paying for a Rolls-Royce, but getting a second-hand Datsun. That is what you meant to say.

Christine Connelly: That is not at all what I meant to say, Mr Bacon, and you would know that.

Chair: Right, I am going to move this to the future.

Q224 Mr Bacon: Can I just briefly, before we go on to the future, come on to one issue on cost, because we discussed this with BT, Sir David, and I would like to discuss it with you? If I could ask you to look at paragraph 3.14; this is on page 30. It is about the cost of RiO. It says, “The Department has stated that it determined their average £9 million cost”—that is the cost of the RiO systems—“on the basis of the costs agreed for RiO systems in London in 2007, but despite repeated requests has not provided us”—that is the NAO—“with any evidence of the work it undertook to assess the value for money of the prices agreed for London”. Now, will you send us a clear, written account, or do you not have one, of the work that was undertaken?

Sir David Nicholson: We will send you a clear written account.

Q225 Mr Bacon: Why were you unable to give it to the NAO? You do not understand?

Christine Connelly: We believe that we presented it, but clearly we did not present it in a way that the NAO understood.

Q226 Chair: Mark, can you comment on that?

Mark Davies: I am sorry. I think I have to stand by exactly what we say in this Report—that we were not provided with evidence of the work. It is as simple as that, and this Report has been in clearance discussions with the Department, so I will stand by what we say in this Report.

Q227 Chris Heaton-Harris: Let us try: the CSC representative who was here described that, essentially, Community Trusts had 50 sub-optimal, non-Lorenzo products placed in them. If you had bought those sub-optimal products off the shelf from them at the very start, how much money would you have saved?

Christine Connelly: I think what happened with interim systems was that when we took those systems they were then invested in, in a way that the supplier had not intended, to allow the systems to be connected into the broader environment.

Q228 Chris Heaton-Harris: I am not convinced that was the question I asked you.

Christine Connelly: I am sorry then.

Q229 Chris Heaton-Harris: I just want to know, if you had bought those interim systems as System 1 or whatever it was called—

Christine Connelly: IPM.

Q230 Chris Heaton-Harris: Yes, how much would we have saved?

Christine Connelly: So the systems as they stood off the shelf would not have worked in the integrated environment that we had. So IPM, for example, is a system that is supplied by iSoft and is in use in Community Trusts and in Acute Trusts, and we have some 83 implementations of that. And that system, at the start of this programme, was not able to do things like interact with Choose and Book, connect with the Spine. All that development work was done then with the supplier to allow it to operate as an interim system in this programme.

Q231 Mr Bacon: That is why it was rejected—because it was unfit for the programme—yet you now have 83, or however many of them it is, and CSC is now in the position of being virtually a potential monopolist. Did you take legal advice on what might happen if CSC were to succeed in buying iSoft, if it all goes through, and then just basically drop Lorenzo, and carry on with other interim systems, and carry on updating them. Having got their enormous size 12 foot through the door, they are going to have you over a barrel, are they not?

Christine Connelly: Well, we do not believe so. We believe that our commercial agreements are good for us, and we believe that they are fair to our supplier. So we think that we are in a good position with that. We would say that in terms of the IPM systems the suppliers were required to bring them in as interim

systems, to upgrade those systems, to make them interact with the rest of the national programme systems: the Spine, Choose and Book and so on. So the supplier then invested in those systems in a way that they had originally not intended.

Q232 Stephen Barclay: You just said that you thought the CSC systems were good for us.

Christine Connelly: I said the CSC contract.

Q233 Stephen Barclay: However, the Report says, “The Department is considering all options, including termination or a significant reduction in both scope and functionality”. This is in reference to CSC.

Christine Connelly: And I said that I thought the contract was good for us.

Q234 Stephen Barclay: What is the maximum exposure of the Department to both CSC and BT?

Christine Connelly: So, in terms of the contracts that we have today if we decided to terminate for convenience—I do not want to run through a set of numbers that, if we put them out into the public domain, we could find ourselves in a commercial discussion where our suppliers come back and say, “Well, you said that you would expect to pay this to us if we were in that situation,” particularly given where we are with CSC at the moment, and we are exploring all our options with CSC. But in terms of what we would expect to see in the supplier discussions, there are contractual caps in the contract, where we would be required to pay a certain amount depending on the period of time, for how long the service is not supplied. So we would expect that contract, if we were talking about CSC, to be several hundred million pounds in terms of what we would have to pay to terminate for convenience.

There then is the potential that the supplier may then come to us and seek damages based on the work in progress that they have on their balance sheet today, with a view—not that I am saying at this point that we would share it—that we have impacted their ability to get return on that asset that we were holding. So they may come to us and seek damages as a proportion of that balance sheet value. Again, that may be several hundred million pounds.

From that point on we would have to look at the cost of transitioning the systems out of the national programme to some other supplier, and I am not talking about what it costs in terms of running those other systems, but there would be a cost if we decided no longer to have Lorenzo or IPM or whatever. We would have to take the people who are currently using those systems and move them to something else; that would be a transition cost. There then is likely to be a period where we would still be running the systems that we had now terminated. If you look at what happened to us in the South with Fujitsu, Fujitsu increased the cost of supporting the systems. They almost doubled the cost compared to the contract that we had. So for the period before we had transitioned the systems across, we would expect to pay some premium on that support and obviously we would seek not to do that, but given that we would then be over a barrel, because we are running systems that one

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supplier has provided and we have now terminated, if we do not manage that well that could be a very difficult position. So potentially, if you ask me about the absolute maximum, we could be exposed to a higher cost than the cost to complete the contract as it stands today.

Q235 Stephen Barclay: It is an interesting contrast with our hearing last week. We had a hearing last week with the Department for Transport which, on the East Coast, entered into a £1.4 billion contract, yet the termination clause from the company concerned, which was allowed to be a stand-alone company, was just £120 million. So when a contract ends for the benefit of the private contractor there is very little cost. Here, where we have the boot on the other foot, you have actually negotiated yourself, by the sounds of it, into a very difficult situation. Have you shared up-to-date figures on your assessment of the termination costs with the NAO?

Christine Connelly: Well, there were certainly figures in the paper that was presented to the National Programme Board on the CSC contract negotiations, which were legally privileged, that were available to the NAO, because we made all the papers that went to the National Programme Board available. I do not know if the NAO picked up and looked at that paper, and I do not know if they only looked at the minutes of that, but certainly I can evidence that that paper went forward to the National Programme Board and has been to the Board twice definitely, maybe three times—I would need to go back and look at it—where the Programme Board asked us to explore different sets of options.

Chair: Really quickly, and then I am really moving to the future.

Q236 Mr Bacon: Very quickly, I just wanted to pursue this point about the cost of RiO, which I did with Mr O’Connell from BT, where you are paying BT £224.3 million to install RiO in 25 sites. Have you now ascertained the cost of obtaining RiO outside the national programme?

Sir David Nicholson: Yes.

Christine Connelly: Yes.⁴

Q237 Mr Bacon: And what figure were you given?

Christine Connelly: I have looked at a particular example of that. You wrote to me about this last Thursday night, Mr Bacon, so based on that we looked at the example of Bradford District Care Trust, which is a Mental Health Trust, which has procured RiO outside the contract. It procured RiO under the ASCC arrangement and we looked then at the terms provided to it as well as the services provided as part of that contract, and we looked to compare both.

Chair: And what came out of that, sorry?

Mr Bacon: What was the amount, by the way? I am assuming it is going to be a pretty high number, but go on—how much is it?

Christine Connelly: So in terms of the total cost of RiO at Bradford where they have a 59-month contract

duration, the cost is £1.3 million over that 59 month duration.

Q238 Mr Bacon: Right, so it is actually within the bounds of what you would expect.

Christine Connelly: It is inside what you have quoted

Q239 Chair: And the comparison?

Christine Connelly: Okay. So the comparison: in terms of the services that we provide, there are a whole set of services that are not within that £1.3 million that are inside the LSP contract. Earlier somebody said, “Well, doesn’t everybody have disaster recovery.” Well, actually, no, and at this Trust only 25% availability is provided in their local arrangements, which are not included in these costs. So we have a cost in terms of the BT LSP in the South for the same period, which includes the hardware, the support, the disaster recovery at 100%, the Spine connectivity, all of which are not supplied inside this Bradford system. If we looked at those costs through BT’s cost profile, it would be valued at £2.5 million. Our cost compared to Bradford is £2 million more.

Q240 Mr Bacon: Yes, but the—

Christine Connelly: So it is £1.3 million compared to £3.3 million.

Q241 Mr Bacon: Can I pursue this point? It is the comparison with the £8.9 million figure that interests me, because the company itself says it can do it between £1 million and £2 million and it depends on the size of the project, including hardware and including support. You gave the example of £1.3 million and then there are certain add-ons for services that are provided on top of that. I still cannot understand how you get something under £2 million up to £8.9 million? What is it that you get from the £2 million to £3 million, the £3 million to £4 million, the £4 million to £5 million, the £5 million to £6 million, and so on? What do you actually get for it?

Christine Connelly: So first there is the period, so we need to take a look at the average period that you would expect to be there, because we pay a one-off deployment charge and then we pay a monthly charge. So in terms of the figure that you quote, it is generally for about a four-year period, and the figure we quote is generally for about a six-year period, sometimes a little more. I think what we get is 24/7 support. We get full disaster recovery. I think it is fine to say, “Oh, anybody has that.” The cost of full disaster recovery is significant, when you look at the costs that BT have; we invited an external auditor to go look at the cost build-up, and they have audited these costs. We looked at BT’s profit margin, and they have taken a significant reduction in their profit margin between the original contract and the contract that we have today.

Q242 Mr Bacon: But it is not the taxpayer’s fault if BT has unbelievably high costs. The way to do this is to get a software supplier talking directly to a potential buyer, but the company that supplies this product—which for all I know is a perfectly good product; I have not heard complaints about the product itself—said to me in a meeting this afternoon, “We are not

⁴ A separate answer in response to a written question from Mr Bacon will be provided comparing RiO inside and outside of the National Programme

allowed to talk to our customer.” That is the problem with this structure; it is like having you over here, and the customer over there, and an enormous thicket, a forest of lawyers in between. I said, “Is that right?” and he said, “Yes, except you have to factor in that you have to translate it into two different languages as well.” That is why it is so expensive, and most of that is unnecessary, isn’t it?

Christine Connelly: The structure of the programme in the past was that the Trust talked to BT, BT talked to the suppliers. One of the most significant of the changes that we have made to this programme is that you will see suppliers of product on site talking to Trusts themselves. In London and the South, for RiO, they have created a user group to bring together all the Trusts so that the Trusts can work together and work with the supplier of the product. In Cerner’s case, Cerner worked directly with each Trust as they went through the deployment. That was a significant shift in the model post-the Royal Free. So before the Royal Free we had an arm’s length relationship between the Trust and the supplier.

Q243 Mr Bacon: When you say post-the Royal Free, can you just remind everyone? That was the one where the system was giving double doses of radiation, wasn’t it?

Christine Connelly: That is not true. That is absolutely not true.

Q244 Chair: Okay. Can I ask a final question on this one? Are you satisfied that the extra costs that are incurred through BT running this for you, as the accounting officer, are value for money? It’s just a yes or no, so I can move on.

Sir David Nicholson: What we have said is it is too early to tell.

Q245 Chair: And then can I ask one final thing: can you also give us a note on why you disagree with the 47% extra costs?

Sir David Nicholson: Yes.

Q246 Chair: Now can we move to the future? There is £4.3 billion left in this contract; again, every £1 billion is about 50,000 nurses. Should we drop it? Should we save our money and spend it elsewhere, particularly with your £20 billion challenge?

Sir David Nicholson: We should always have in our minds—

Q247 Chair: What is your view? You are the SRO, so what is your view, given the disasters to date?

Sir David Nicholson: As I say, we are talking about 20% of the programme; 80% of the programme is fine, all those sorts of thing.

Q248 Chair: No, please, there is £4.3 billion now on care records. That is a heck of a lot of money.

Sir David Nicholson: Yes, it is.

Q249 Chair: Is it right to carry on or should we cut our losses?

Sir David Nicholson: We think that in London now we have a product that can be delivered and

professional clinical support to make it happen. We believe it is the right thing to do to continue with that.

Q250 Chair: £4.3 billion?

Sir David Nicholson: However much for London.

Q251 Chair: London is £1 billion.

Christine Connelly: From the end of March this year to the end of the contract, the remaining cost for London is £504 million.

Q252 Chair: I imagine that is the same sort of story—you are contractually committed.

Sir David Nicholson: When you look at the option of cancelling it, why would we? We now have a product, which is being delivered, and we can see the benefits across London.

Q253 Chair: God, not this Lorenzo rubbish?

Sir David Nicholson: No, this is London. It’s London⁵. For North Midlands and East, which is Lorenzo, we are involved in a set of negotiations with CSC about the future of this contract, the structure of it, the way it is delivered, the functionality and the kind of penetration that we get through it. We hope that that will come to a satisfactory conclusion, but the alternative in all that, inevitably in those circumstances, is to think about the cancellation. That is not what we are applying to do at the moment, because we think the negotiations will happen, but we will make that part of our decision-making, and similarly with the resetting of the arrangements with the South, the ASCC, we are in the position at this moment in time where we could make a decision to cancel if we thought that was the right thing to do. As I sit here at the moment we are confident that those negotiations—

Q254 Chair: Sorry, is this the BT contract in the South?

Stella Creasy: The Millennium contract?

Christine Connelly: The BT contract in the South has £241 million still to run. The ASCC in the South is the programme that we were talking about earlier that has £470 million.

Q255 Chair: So you could cancel that?

Christine Connelly: So we would say the same about the BT part of the contract in the South as we would of London.

Q256 Chair: You are contractually committed and coming out of it would cost you more than staying in?

Sir David Nicholson: But we also think we have got a product with BT.

Q257 Nick Smith: I want to talk about the future governance and costs. We all know that we are on a pause at the moment, but the project is going to roll on until 2016, possibly longer. It is supposedly managed by Connecting for Health and the 10 SHAs, which look like they are likely to be abolished. There is a question mark over Connecting for Health. So, in

⁵ i.e. the product is Cerner Millennium not Lorenzo

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terms of future governance, who is going to manage the contracts? Who is going to measure and report on the benefits, given this is an eye watering amount of money? And given that the contract is probably going to go on beyond 2016, how are you going to make sure that Trusts, or GP consortia, or whoever is next decided at the pause, are going to be able to manage this eye watering amount of money?

Sir David Nicholson: I mean, there are a whole set of issues there because the programme is not a monolith; there are bits of the programme that sensibly are being managed by different bits of the system.

Q258 Nick Smith: But at the moment it is sort of centrally managed?

Sir David Nicholson: It is.

Q259 Nick Smith: Yes, so what is going to happen in this new atomised future?

Sir David Nicholson: Well, we are obviously working through all this at the moment—as you know we are going through the listening exercise—but obviously we are trying to think about how we can make it—

Q260 Mr Bacon: I thought it was full steam ahead, Sir David. I thought the whole point of the listening exercise was that under the undergrowth everyone was told to paddle furiously. Was that not your last missive to everyone?

Sir David Nicholson: I think that is a distortion of what I was saying.

Q261 Mr Bacon: I must have got that wrong.

Sir David Nicholson: Okay.

Q262 Chair: Actually, there is a serious point here. On the assumption that the reforms go ahead, what would the governance arrangements be for this programme?

Sir David Nicholson: Yes, okay, you are absolutely right. Central to the reforms going ahead is this idea of a purchaser-provider split, where you will have the commissioning system over here, and the providers all being individual providers as Foundation Trusts responsible for their own governance and future. And that makes it quite difficult to shift a system like that into that environment, because what you want to get to, at the end point, is that each individual Foundation Trust will have its own relationship with the supplier over the things that it does. But the contractual arrangements still end up with the Department as it stands at the moment. So what we may have to do is think about an interim step—a transitional body of some description, looking very similar to Connecting for Health, to enable us safely to transit from where we are at the moment to a place where individual organisations take responsibility.

Q263 Chair: Within your commissioning empire?

Sir David Nicholson: No, no. Sorry, I said that badly. This is a provider issue.

Q264 Chair: So it will be a new quango?

Sir David Nicholson: Well, we are looking at how we could do it.

Q265 Nick Smith: Given the high risk, what you are saying is you are going to have a quango, because it is very high risk isn't it?

Sir David Nicholson: I think either the Department could do it directly in the new environment, or you could have some other arrangement, but you need some transitory arrangement safely to transfer it. We cannot just go from where we are now to one where—

Q266 Stella Creasy: What if the GPs say no?

Sir David Nicholson: But most of it is very little to do with the GPs; this is about individual hospitals.

Q267 Stella Creasy: But they are going to be connected to it as well.

Sir David Nicholson: Yes, but these will be—

Q268 Stella Creasy: They are going to be the purchasers, are they not?

Sir David Nicholson: Yes, but regarding the bit of the programme we are talking about now, which is the hospital systems, it is not a matter for the GP about the technical way in which a hospital resolves its problems.

Q269 Stella Creasy: But it will be a matter for the GP who connects into this system, will it not?

Sir David Nicholson: Well, obviously there will have to be connectivity between the hospital and the GP system, but we have made that very clear, whatever the arrangements are. What we are talking about here is the implementation of this and holding the contracts. And that would not be a matter for the GPs or the GP commissioners; that would be a matter for the individual organisations going down the road.

Q270 Stella Creasy: So there could need to be more bits of technology to make all these different bits work together?

Sir David Nicholson: No. There is something called the—

Christine Connelly: Interoperability toolkit.

Sir David Nicholson: That is the one, which is the bit that connects it all together, which will continue nationally. And the issue for us is how we make sure that work continues in an environment where you are splitting the commissioning and provider part of the system. I think we have not come to the conclusion of that, but it seems to me some transitional body will be required that will be able safely to manage that. Going from where we are now to essentially splitting up all the contracts within the individual organisations seems to me to be adding huge amounts of risk to what is already a very risky transition.

Q271 Stephen Barclay: You just mentioned a transition body. Will you continue as senior responsible accounting officer for this project?

Sir David Nicholson: I am the chief executive of the commissioning board designate. When I become the chief executive to the commissioning board, subject to all this listening—if we have a commissioning board at the end of it—I would not be the accounting officer for this particular—

Q272 Stephen Barclay: So will that change happen? When will there be a change of accounting officer, and who is it likely to be?

Sir David Nicholson: I think that is the issue. I think that is part of what we are trying to work through.

Q273 Nick Smith: When will we know about these transitional arrangements for this £4 billion, five-year, many-people organisation?

Sir David Nicholson: We will know when the Government has responded to the listening exercise.

Q274 Nick Smith: Have you had many responses on this part of the listening exercise, and what are they?

Christine Connelly: Around the national programme? No.

Q275 Nick Smith: No responses yet?

Christine Connelly: I am not aware of that.

Sir David Nicholson: At none of the meetings I have been at.

Q276 Nick Smith: Can you give us a note on the responses you have had around this at this moment in time?

Sir David Nicholson: Yes.

Q277 Nick Smith: Given it is £4 billion over five years.

Christine Connelly: I think it is important for us to talk about the breakdown of that £4 billion, because part of that breakdown is in the local costs that are about deploying the systems. Part of it is in the contracts that we are talking about with the LSPs. And, as we have said already, in terms of the costs to go, we have about £2.2 billion to £2.3 billion⁶ inside those contracts. The other costs are things like the interoperability toolkit and like the ASCC in the South, which are being managed in a very different way. So the Child and Community Health Programme for ASCC in the South has each individual Trust that signs up to the programme take the contract, so they will have the contract as soon as we let it, and they have written already to guarantee that they will provide the benefits statement on what they do. So the constructs that we are creating within that £4 billion that you are discussing differ depending on where we are in which part of the programme. We are still talking about a very significant amount of money.

Q278 Nick Smith: We are talking about a very chunky organisation with much risk, which, in the middle of the pause, you have had little response from clinicians or others on, on which you are going to decide in how long—by when?

Sir David Nicholson: Well, we have already done quite a lot of work on looking at what the options would be and looking at how we might put them into place; it very much depends on the timetable that comes out, for example, of the listening exercise as to how quickly or slowly we will move.

Q279 Chair: But Sir David, you are looking for £20 billion—I cannot quite work it out—but out of the

£4.3 billion left, how much do you think you are stuffed because you are in there and how much is available for taking out of it? Have you got a figure?

Stephen Barclay: Zero.

Chair: Well, zero on a bit of it, yes. There is £4.3 billion left. On how much do you reckon you are so contractually committed it would be too expensive to get you out, and how much do you think you have free spending, out of £4.3 billion?

Sir David Nicholson: It is quite difficult for us to answer that.

Q280 Chair: Give us a crude oversight?

Sir David Nicholson: A crude figure would give the suppliers an indication as to what we would be prepared to pay if we cancelled it, and I am reluctant at this moment in time, given what we are trying to deliver here, to say that out loud.

Q281 Mr Bacon: I have 120 pages—I did not have time to read it out this afternoon, but I will send in a potted—

Stella Creasy: Shame.

Mr Bacon: Well, I always could, Stella.

Sir David Nicholson: Please feel free.

Q282 Mr Bacon: This is full—full of broken promises going back many, many years; not one or two years, but five or six. And some of the stuff about Lorenzo is just hilarious—the things that people have said, including you, about what is going to happen and then has not happened. So plainly, although the NHS has not helped itself by being a fairly bad client and has kept on moving the goalposts, and has negotiated for the down-scoping in various places—behind the backs, I might say, of the NHS Hospital Trust Chief Executives who are supposed to be the beneficiaries of all that—it is still also the case that the suppliers have failed as well. They have failed big time. Now, I am not asking you to get all macho and cojones-istic, if there is such a word, but surely to goodness, certainly in the case of CSC, they have delivered so well.

Chair: Badly.

Mr Bacon: They have delivered so little with this product Lorenzo, which is itself the subject of a huge scandal, as you know, because it was sold in as a product that was available from 2004, there was basically a stockmarket ramp of the company iSoft, four directors then sold tens of millions of pounds worth of shares—at least £76 million, and probably more like £90 million—and went off and bought football clubs and things. As you know, four of those former directors are now the subject of criminal prosecution for false accounting, which they deny, and you have this company that for years was trying to implement and install the unimplementable, and you are saying, “Well, we just have to be careful of the contract, we have to pay them billions of pounds.” It really ought not to be that simple, should it?

Sir David Nicholson: And it is not that simple, and first, without going through it, your overall analysis I do not accept. That is the first thing.

⁶ Witness correction: Figure is actually about £2.4 billion

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Q283 Mr Bacon: You mean about the football clubs or about the criminal prosecution?

Sir David Nicholson: Before you got to that—the way you characterised the relationship between the programme and the NHS I do not accept. I do not accept that.

Q284 Mr Bacon: It is certainly true—I was talking specifically about Lorenzo—that Lorenzo was sold into the programme as a great new shining hope. It was called the great strategic product by iSoft, and it had not even been written.

Sir David Nicholson: I can absolutely assure you, we have had these conversations more recently, in the last three or four weeks, with the—whatever he was—President of CSC—

Q285 Mr Bacon: Mike Laphen.

Sir David Nicholson: In words of one syllable that anyone can understand, what our expectations are around all that. We think there is the possibility of getting something really good for the NHS out of this, but having said all that, we are going to be pretty hard nosed about all this, because you are absolutely right: on the one hand, it is not that we have huge amounts of growth going into the NHS; we have not. So we need every penny we can use of taxpayers' money; we are not going to make a cavalier decision based on what we think we were trapped in in the past, and genuinely, if we have to make that decision, we should absolutely make it. I do not feel that we are emotionally connected and that just because we had a contract in the past we should have one in the future, but we need to be hard nosed about it. At the moment, as you know, we have those contractual discussions coming to a conclusion, we have a major projects review being undertaken, and we have to submit all this to the Cabinet Office. So it is not just the Department; this is a broader Government question to tackle, and we absolutely will.

Q286 Stella Creasy: My local hospital is already looking at having to find savings, and looking at reconfiguration, yet you are saying that you think that they would still be more likely to buy into these changes in the computer system than they would be to investing in, say, front-line clinical staff?

Sir David Nicholson: Well, one of the things about these clinical—

Q287 Stella Creasy: Is that the trade-off you think they are going to have to make? Because as much as it is about the contract you will have to renegotiate at a national level, it is about the local modules they are going to have to buy, isn't it, to fit into this system?

Sir David Nicholson: They will make any payments they want to make; their judgments are based on what is in the interests of their patients and their organisation. They will have to take hard-headed decisions about all that. If you look at the Clinical Five—

Q288 Stella Creasy: For the contracts that you have renegotiated, which cost an extra 18% in London, for example, on the 50% of patients who are covered,

where they will have to buy in the modules to get the functionality that you are talking about. That is right, isn't it? They will have to buy in the modules to make it work with their system locally; they are going to face the increase in costs, are they not? They are going to have to fund it themselves.

Sir David Nicholson: There is the group of hospitals.

Q289 Stella Creasy: Because nobody has the functionality that you are saying that you want at the moment, have they? Nobody has the level 3 Millennium functionality at the moment, do they?

Sir David Nicholson: No.

Q290 Stella Creasy: No. So nobody can make the system work in the way that you want it to at the moment, can they?

Sir David Nicholson: No.

Christine Connelly: The only piece of functionality that is not in use that comes as part of the Cerner product is e-prescriber. Now that piece of functionality, we say, does not exist, because we have not implemented it in the national programme yet. It is in train in a number of Trusts, for them to go look at it, they have started their projects to deploy it. Cerner, as a supplier, would say that that product does exist, because they are running that system in lots of other hospitals around the world. We take a view that until it has been deployed as part of the programme in one Trust, the functionality itself is not there. That is quite a hard-edged view.

Q291 Stella Creasy: What assessment have you made of the capacity of Trusts in London to make up the difference in funding that this new model will require?

Christine Connelly: That assessment would have been made by the London Programme Board as they came to a view on the mix that they thought was the best view for London. So they took a view that said, "We want to have much more flexibility and much greater functionality in this contract," and a number of Trusts then were saying, "We do not want to move forward with Cerner; we would rather keep the system we have already and enhance that system and join it up with the other Trusts who have Cerner."

Q292 Stella Creasy: Let me try this question the other way round: do London NHS Trusts have the money to pay for this system in the future? Yes or no?

Sir David Nicholson: It is a matter for them, their choice.

Q293 Stella Creasy: No, it is a matter for all of us, isn't it? Because you are paying, you are renegotiating the contract at national level, and they are picking up the pieces at local level. Do they have the money?

Sir David Nicholson: When we went through this process, we said to every Trust in London, "Do you want to come in or not?" and 15 said they wanted to come in, the rest of them did not want to. So it is not that there is a queue of people wanting to come in and do this.

Q294 Stella Creasy: I bet there isn't at these costs.

Sir David Nicholson: Because they are very happy with the arrangements that they have at the moment, and they think that by incremental changes they can get the functionality that is required. That is a judgment that they took about their own financial circumstances, which seems to be right.

Q295 Stella Creasy: When you are looking at the future of these contracts, and their deliverability, you have made no assessment of any variation in the component that local Trusts will pay?

Christine Connelly: So the idea of this is that local Trusts add to their environment to fit in with the working practices that they want to have with the new technologies that they want to use.

Q296 Stella Creasy: But do they have the money? They do not have the money to do that.

Christine Connelly: But they have the money for the specification that they want and the capability that they want. Every Trust in London was invited into the programme and 15 chose to come in, and then the functionality that they wanted was what we negotiated in this contract.

Q297 Stella Creasy: So the rest of those Trusts that were not part of that conversation will not be able to buy into it?

Christine Connelly: It is not true that they were not part of that conversation. They chose not to come into the contract.

Q298 Stella Creasy: So their patients—those 50% of people, or the less than 50% who will not be covered by this, whose Trusts will not be able to buy the functionality—what impact would that have on that service, on the ability for everyone in London to benefit from this scheme?

Christine Connelly: The point is that people in London will benefit from the scheme, because the systems will join together.

Q299 Stella Creasy: But they will not, because their Trusts will not be able to buy the modules to fit in with this, will they?

Christine Connelly: But the Trusts might already have what they want. Not all Trusts want all modules, and some Trusts have invested in their IT over the last few years.

Q300 Stella Creasy: Why at a national level are we paying for the development of modules that Trusts at a local level then are not going to buy?

Christine Connelly: Because a series of Trusts do want to have them, and we then moved into a world where we said we would offer choice to Trusts, and whether I think they should or should not have done this, it was their choice to come in or not.

Q301 Chair: Well, you were in a contract. I think what happened was BT was about to walk away at a huge bloody expense and you renegotiated down by de-scoping—

Sir David Nicholson: I am sorry, that just simply was not the case.

Q302 Chair: Well then, I do not know why you did not walk away from it instead of renegotiating.

Sir David Nicholson: It simply was not the case; what we wanted was a set of systems to be implemented that would improve services for patients, and they were unable—

Q303 Chair: But Sir David, do you know what I would have done in 2010? If you could have walked away in 2010, and you had nearly £1 billion to play around with, and you had gone to the idea that people would go modular and they would find their local solution and you would have just this little bit of interoperability, I would have given £10 million to each Trust, or something like that. They could have achieved a heck of a lot more on this, or chosen to spend it on nurses, than we are getting out of this contract.

Q304 Mr Bacon: This is exactly what the Chairman is describing; this is more or less exactly what was with GP systems of choice, whereby the Department of Health basically encouraged GPs to up the quality of their IT, and contributed financially towards it, and that model—that approach—would have worked much better than the National Programme for NHS IT, would it not?

Sir David Nicholson: The National Programme for IT is much bigger than just this.

Q305 Mr Bacon: You kept on saying that the detailed care record was only 20% or something; £7 billion on £11.5 billion or on £12 billion is about 60%, isn't it?

Sir David Nicholson: Less than 40% of the total spend of the National Programme for IT is on the LSPs. Of the LSP about half that figure—a total of just less than 20%—is on the acute sector. The rest of it is providing services in the community, mental health and for GPs.

Q306 Chair: £7 billion, either through you or through local PCTs, is being spent on this programme. That is the figure. Unless this figure is wrong, that is the figure, which is a heck of a lot of dosh.

Sir David Nicholson: I am not underestimating it; it is a huge amount of money. But I would just point out to you what happened before the National Programme for IT, where we had a situation that the National Programme team responded to, which was essentially every hospital could do their own thing. And we had huge issues with that.

Chair: But they are doing their own thing anyway.

Stella Creasy: There is also the impact assessment in London about subsidising an IT system that only 15 Trusts can use.

Chair: Yes.

Mr Bacon: King's College Hospital is not in and UCL is not in. They are not part of the National Programme. They are huge hospitals.

Q307 Jackie Doyle-Price: Could I bring us back to the CSC contract, if I may? Obviously CSC has not delivered the goods against its obligations on that contract, and you started to begin renegotiating with

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it in December 2009, is that correct? What has taken so long?

Christine Connelly: We started our negotiations with CSC in December 2009. We worked through and created a memorandum of understanding that the Department and CSC were prepared to commit to, but we would only commit to that when they had delivered Lorenzo Release 1.9 working in four Trusts. So we had built all that, and we discussed that, as Mr Bacon mentioned, with the Minister for the Cabinet Office in December last year.

Q308 Mr Bacon: I did not actually mention the Minister for the Cabinet Office.

Christine Connelly: Sorry, I thought you did.

Q309 Mr Bacon: No, I just said a high-level meeting.

Christine Connelly: I am sorry. There was a meeting between me, Mike Laphen of CSC and the Minister for the Cabinet Office and the fact that meeting has taken place is already in the public domain. That happened last Christmas. Given the delays we had had with CSC, the construct around that memorandum of understanding was predicated on delivery of those four Trusts, and we were still waiting at that time for Pennine, the Mental Health Trust, to deliver, which was due in February. That was late by then and we would not sign the MOU until that had happened. And we stated at that point that, if that Trust did not deliver, the shape of the MOU that we had agreed would move off the table, and we would then look to replace it with something else or nothing at all. But since then we have negotiated another structure of a MOU, which a CSC representative referred to earlier today, and that MOU has been put on the table for evaluation, and we are evaluating that proposition now.

Q310 Jackie Doyle-Price: But ultimately they are in breach of contract, so why not just cancel it?

Christine Connelly: CSC disputes the fact that it is in breach of contract. We have informed it of our viewpoint, it has informed us of its viewpoint, and we are taking advice on what that looks like and where the balance of probability lies. So while we claim it is in breach of contract, and clearly we do, CSC itself does not accept that.

Q311 Jackie Doyle-Price: I find this incredible. We have just listened to a representative from CSC, and she was very confidently giving a very good account of herself, but ultimately the facts are there. They are in breach of contract. How long does it take before the NHS wields its power in these situations? You are the customer. You have the obligations there.

Sir David Nicholson: And we did it with Fujitsu.

Q312 Jackie Doyle-Price: How long does it have to be, and how much money has to be wasted, before you actually call time on this?

Christine Connelly: We do not believe that any money has been wasted because we only pay for systems when they are live and working in Trusts. In terms of where we are with the CSC contract, we

agree that the current position is not at all what we would want to have, and we have said that we believe that CSC is in breach. CSC disputes that, and we then have to follow our process through. We are looking at options around that, and as the Prime Minister said in his response to Mr Bacon's question in the House, all those options are still being considered, including termination. What we must do is ensure that we get the best value for the taxpayer moving forward, and deliver systems into the NHS that are fit for purpose.

Q313 Justine Greening: And you are looking at taking £500 million out of that contract. Given their performance to date, what confidence can you possibly have that they will deliver against a reduced fee?

Christine Connelly: At the minute, we talk about the amount we are taking out of the contract as at least £500 million. So in terms of the deal that CSC has proposed, it understands that number, and the Chief Exec met with Sir David and discussed a different view of how they could take this programme forward. So we are evaluating that proposal.

Q314 Ian Swales: Following on from that, according to our brief there are over 3,000 places still to receive a system. Most of them are in the Midlands, the North and the East. That is where CSC is operating. You are now giving it a hard time, looking to take money out. What is likely to be the impact on those areas in terms of functionality and services from these systems?

Christine Connelly: In terms of the 3,000 people, the majority of that is in GPs. As was referred to earlier, what we have done in London and what we would seek to do in the North, the Midlands and East is to move the GP systems from the LSP contracts to GP systems of choice, with the exception of those that are already provided through the TPP SystemOne.

Q315 Ian Swales: Specifically about CSC, are you planning to try to get £500 million to spend it on other suppliers to deliver what is needed in the Midlands, the North and the East, or are they likely to get less functionality from the deal that you eventually do?

Christine Connelly: What we intend to do with any supplier agreement that we have is focus our functionality on the Clinical Five plus the key departmental systems. One of the things that often happens on very large IT programmes is that people over time inflate the scope of the programme, and it is quite important regularly to go back and review that. That is one of the things that we have done through the engagement process that happened in the middle of 2008 to clarify exactly what was the relevant and appropriate clinical functionality in the systems that this programme provided. So we would seek to focus the CSC contract, if we take it forward, on that clinical functionality, the Clinical Five and the key departmental systems.

In terms of the GP functionality, our view at this stage is to do what we did in London and move the GP functionality to the GP systems of choice, with the exception of those GPs who have already signed up for the product delivered under the CSC contract, and CSC is happy with that position on GPs.

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Q316 Austin Mitchell: I would have thought it would be cheaper right from the start to let the Trusts sign their own contracts with their own suppliers, and use what system they want to provide, and it is agreed nationally, instead of asking them to act through the contracts of four regional monopoly suppliers. That is just a passing thought.

My real question is, including London, what will be the total cost for the Trusts? There was an estimate earlier that the Trusts would have to pay £3.4 billion out of a total bill of £12.4 billion. That total bill might well be higher now, so what will the Trusts, in the desperate situation they are in, trying to impose these efficiency savings, have to pay at the end of the day?

Christine Connelly: The total cost inside the £11.4 billion of local deployment costs is almost £2.1 billion. So far, they have spent £882 million, so I guess the remaining value of that is something like £1.1 billion.

Q317 Austin Mitchell: And they have to find that at a time of huge efficiency savings?

Christine Connelly: That is what they estimate it would cost to deploy these systems.

Q318 Mr Bacon: Ms Connelly, you rightly said that I wrote to you last Thursday, and obviously we have

not had time to cover all the answers by any means. Would you mind writing to the Committee with answers so that we can include them in the Report? Also, I will probably be writing to you again in the next couple of days with some more questions. If you could turn around these questions and the imminent ones very quickly that would be very helpful.

Christine Connelly: Certainly we have researched the answers to the set that you wrote to me last Thursday, and I have them with me today. I am happy to read them out or send them to you.

Q319 Chair: Thank you for your patience. It has been quite a long session. I take it from this that the purpose has changed. You may think it is valid, the current purpose. The purpose has changed from the original intent, and I think we will want to comment on that. I think we all agree that the costs have escalated for what you are getting in terms of Trusts covered or health settings covered for the money spent. While I accept the difference in view between the NAO and you on figures and value for money, I think we are left with a huge question mark on how much we can salvage from the £4.3 billion to spend elsewhere on front-line services within the NHS. Thank you very much indeed.

Written evidence from CSE Healthcare Systems

PAC MEETING 23 MAY 2011 ON THE NATIONAL PROGRAMME FOR THE NHS

During the evidence presented by Ms Christine Connelly, one of our contracts for RiO; Bradford Mental Health Trust was referenced.

Ms Connelly's statement was that Bradford is receiving a lower standard of service than provided by BT in London and hence the lower price charged by CSE Healthcare Systems to Bradford.

CSE Healthcare Systems wishes to correct the evidence given.

- Ms Connelly stated that the service is NOT 24*7 hours—the service is a 24*7 service.
- Ms Connelly stated that Disaster Recovery (DR) was NOT included in the service—a DR service is included.
- There was no mention of Facilities Management—we provide remote Facilities Management
- The service contract is for five years—not four years as stated.
- Ms Connelly implied that the system only had 25% availability—our records demonstrate that this is not true; the system is architected to achieve an availability of over 99%.

If you require any further information then please do hesitate to contact us.

26 May 2011

Written evidence from Maracis Solutions Ltd

SUMMARY OF POINTS FROM THE PAC MEETING HELD ON 23 MAY 2011

I assumed that the point of the PAC meeting was to the have questions posed by the committee to the supplier representatives and DOH. My assumptions where met. However, to my dismay, this was clearly not the same assumptions which the “witnesses” had.

In this document I will attempt to explain in, simple terms, the key areas of disconnect between what was required and what was delivered. The areas which were and have still not been addressed, in relation to the Care Record at the detail and summary level. The technologies available in 2003 and how they have changed since that date to suddenly facilitate a different approach ie on of interoperability.

I will disclose at the outset of this document that I have a vested interest as an existing supplier to the NHS since 1994, I am the Technical Director of MARACIS Solutions Ltd, a small software house in Beckenham.

We have managed to “carry on” in our chosen field and provide what all of our customers would attest to as value for money and a very effective system. One capable of sharing information across organisational boundaries in real time and very simply, despite the National Program and in some cases because of it. This has not been an easy thing to do.

Key areas of disconnect: in 2003 these related to what we had across the NHS in terms of systems in use, what was available in the market place and what the NHS wanted to achieve (this was the humdinger!). The aim of the program on the face of it was laudable, a fully connected joined up set of systems available to all clinicians at all times about all patients. Oh that CfH et al could have put it so succinctly. Most if not all hospitals and GP surgeries had information systems which held within them patients care records first problem, what is actually meant by a care record? What actual data and in what structure/order is it stored (Actually if one reads the NHS's own data manual and dictionary, it tells you, certainly for Patient Administration Systems or PAS)? The existing IT procurement process for Trusts was long winded and cumbersome, the national program was supposed to streamline this. It did not. Ask any Trust how long it takes them to go from “we need a new system” to getting it live under NPfIT and how much they have to spend doing it! In addition what choice were they given, Hobson's I think you will find. When this “plan” was seen to be not to working as well as predicted the rules were changed such that Foundation Trusts could do their own thing. What rot! This led to the second disconnect issue “Foundation Trusts were allowed to do what they wanted but the LSP contracts guaranteed the LSPs at least a minimum number of installs to trigger payments”. Time for a philosophy/logic lesson. I refer of course to the Law of Excluded Middle, apologies if you already know how to suck an egg but this states that a proposition cannot be both true and false at the same time (from the PAC session, something that all witnesses would have you believe, I wouldn't buy a car from these people let alone national solution). It is a certainty that in all of the LSP areas foundation Trusts would be forced to take solutions they did not want and could ill afford. Two such Trusts, one in Oxford and one in Avon were both “encouraged” to take RiO over there existing system which was MARACIS. Between the Two Trusts they have spent in excess of £4,000,000 of their own monies which they would not have had to spend were it not for the LSP contract extension in the south to BT. How much has actually been spent across the country because of similar pressure being applied. To cap it off in Oxfords and Buckinghamshire's case their SHA was threatened with an £8,800,000 fine if the solution was not taken and the Trust was informed that said fine would be passed down to them in the form that amount of reduced service contracts. So we have one part of the NHS threatening another part of the NHS by risking the amount of care which could be delivered to their population so that a supplier could tick the deployment box and get is fat cheque, what choice did they really have? I hope you are as aghast as I was when I was made aware of this information. Anyone who has actually worked within an NHS Trust (I have) at the patient interface will know that one size does not fit all, yes there are commonalties and similarities but the degree of variation within and between organisations is very large indeed. This leads to a third disconnect which is typified by the lack of clinical engagement and why CfH/ NPfIT avoided it, “asking a clinician what an information system should do for them is the wrong question, it should be more along the lines of what is it that you do on a day to day basis with patients, what do you write in your notes, what information do you and your colleagues use to inform clinical decision and process, what if any of that information does your organisation use to evaluate and quantify clinical efficacy” I suspect, and the witnesses alluded to the fact that this was never done. This omission was made because its hard stuff to do, you can forget a three year delivery timescale at any price. In 2003 this is what the industry was telling NPfIT. Microsoft, ORACLE and IBM to name but three technology suppliers—did not want to be involved with an obvious train wreck, said as much. The BMA and British Computer Society had the same view along with many other in the technology media. All were ignored, such arrogance and ignorance could be forgiven at the time but it was still on display at the PAC.

The areas which were and have still not been addressed: This is not a technology issue at all but runs to heart of what our health service and its staff are supposed to do for us as a nation. They are entrusted with our collective health, I guess it could be summarised in to “do no harm” which of course is an over simplification but you get the idea. When a member of the public fetches up in front of their GP/nurse/A&E doctor (pick you healthcare professional of choice) there is both an implicit and explicit duty of care to do no harm and if possible do some good. The person doing the doing is the clinical professional and it is their career and potential liberty which is at stake when they enter into any such interactions with or about a patient. This is understood both implicitly and explicitly by the both parties in the relationship, how often across all such interactions on a daily basis is the clinicians' judgement questioned by the patient? Not very I would suggest. What is the nature of the interaction? Basically they work out what wrong and work out what to do about it in the most expedient way possible. This process is based on the clinician gathering information about the patient which then tailors their response. But throughout said interaction the clinician is responsible because the information comes from them to the patient or to their colleagues. Jump forward if you will to a time where a clinician can look you up on centralised system (the summary care records service). The clinician will see a bunch of data, and that is all that it is as at this point, the clinician has no contextual reference to make it information he/she can act on. What do they do? Medico-legally they have no choice but to verify the data ie turn it into information they feel comfortable acting on. They know nothing about who updated the record last (in reality it would have been system to system no humans involved) in what capacity and when. So now said clinician will have to Trust that the system is correct (and we know that that is a fallacy as the countless examples in the press re data accuracy and the comments made by messrs Nicholson and Conolly at the PAC will attest), but in doing so they abdicate responsibility to the “machine”. There is no get out of jail free card

issued with each of the 800,000 smart cards that I am aware of therefore the clinician has no choice but to gather the data themselves by doing the tests, performing the examination and asking the questions themselves instantly rendering the summary useless. If on the other hand the get out of jail free card was issued with the smart card then the patient's would need to be informed of this, consent would need to be given explicitly to act on said information and the ramifications made clear. Given that choice would you not ask your clinician to do the tests, perform the examination and ask the questions of you? Damn right you would and again the system is rendered useless. I cant believe that I am going to be able to use the word floccinaucinihilipilification but this is a classic example if ever there was one.

The technologies available in 2003: The comments which were made by all witnesses as a justification for what is a requirements rewrite were some of the most, at best, ill informed and inaccurate I have ever heard by a group charged with such responsibility on behalf of the nation. In 2003 were we not all able to purchase stuff online and have it delivered by Amazon/Play/Tesco etc etc. Yes we were! Were we not able to send an email have it get to where we wanted it to go? Yes we were (unless it was EDS's NHS mail of course only £90,000,000 wasted). Were we not able to make bank transfers from account A in Bank A to account B in bank B? Yes we were! Were we not able to share information between Health and Social Services, GP practices' and A&E departments? Yes we were (well if you were on MARACIS we were). The statements made were just plain wrong. One needs to be very clear on what was being said and why. You are being asked to believe that the technology available at the time was not capable of such interoperability this is just not the case. I would be astonished if Ms Conolly did not know this, I am not so sure about Sir David as he seemed to know not very much about a anything of note. This leads me to the fourth disconnect, namely "lack of understanding at the executive level necessary to evaluate any solution being proposed". In my opinion it is impossible to provide clear oversight/management on any IT project however large or small without an understanding of the business problems it is designed to address and the technical architecture being proposed as part of the solution. In the case of NPfIT the business problems which were to be addressed were never the same as those perceived by the clinicians. They were always top down, a set of problems which in reality may never have actually existed in the real world of NHS clinicians but did so in the minds of the white hall mandarins who came up with the cockamamie idea in the first place. The individuals to whom this nonsense was proposed also had no idea so just went along with it leading to where we are now. I could report on the conversations I had outside the PAC with DOH staff what I overheard Ms Conolly say to Ms Thureen but that would be just hearsay. But I heard nothing which would change my overall view of the current mess. I could go into chapter and verse about technology platforms, design and development paradigms, interoperability etc but I wont. What I will do is provide some bullet points on comments made by all concerned.

Why does RiO cost £9 million from BT?—Disaster recover was the only tangible response from Mr O'Connell from BT. What stuff and nonsense! Disaster recovery MUST be predicated on Business Continuity and in a sane world, nothing else. What does Business Continuity actually mean, well clearly Mr. O'Connell has no idea its just another stock phrase to trip of the tongue. Put simply its those processes and procedures an organisation puts in place to ensure that the elements required to perform its main functions are available at the time and locations necessary. From a healthcare setting, say a Trust that means things like have enough clinical staff on shift, having a backup generator in case mains power is lost, having appropriate guidelines in place to define actions to be taken when a theatre is no longer available and the list goes on. When we reach the level of IT it becomes more problematic because it's a harder thing to quantify. Would patients die if clinicians were suddenly unable to access their beloved NPfIT solutions? In a word No. So now the question becomes one of risk versus cost. How much risk are we prepared to take in not having access to our IT system and at what cost. Look across the entire NHS estate today and you will still find large numbers of resilient single servers hosting corporate systems. Resilience is the degree to which a system (server) has built in redundancy eg at least two power supply units, two network cards, an intelligent UPS (battery backup) and disk drives arranged in some form of RAID configuration (simplest in use is RAID 1 also know as a mirror the system has two disk which present to the user as 1 everything is written to and read from both disks simultaneously both disk would have to fail at the same time for their to be system loss). There are several forms of RAID but they all do more or less the same (apart from RAID0 but lets not go there now). Baring the above in mind it's perfectly reasonable decision for a Trust to go for a resilient server hosted in their own server room under their control. The only issue with such a solution is that there is still a single point of failure in this configuration namely the servers motherboard. This could fail but any server bought comes with a four hour call out and repair contract from its manufacturer so worst case scenario a Trust may be without its main information system for no more that 24 hours during a working week or 48 if over a weekend, this level of security on average can be acquired for well under £10,000 for a large scale machine capable of supporting 100's of users. At the other end of the spectrum we have real time fault tolerant systems which effectively duplicate and triplicate the hardware infrastructure. The contract signed with ORACLE for their software stack as at 2003 made all this possible to any NHS organisation running ORACLE based systems. This translates to configurations which have a Primary server which hosts the Information system and to which all users connect. There is also a Secondary and in some cases Tertiary server (or failover servers) which runs in what is termed "permanent recovery" mode. Every modification made to the Primary servers database (content as well as structure) is in near real time replicated to all failover servers. In the case of MARACIS installations for example 450 users are connected to the Primary server (by the way there is no single install of RiO under the national program hosted by BT which gets any where near that level of concurrency—info from Oxford), something goes pair shaped and the server or network it sits on fails. Within two minutes (configurable by

supplier) the Secondary server is promoted to Primary and all 450 users now connect to it. IT personnel (and our support desk) are automatically informed of the failure and the hardware supplier is called (Dell in this case). Engineer turns up fixes issue and the database is now up and running and is automatically synchronised with the new Primary. The Trust, if it wishes, can have the roles switched back to the original configuration but there is technical reason for doing so. Mr O’Connell also made a statement about not being able to access systems which were in recovery mode. Not so, well it may be so for systems like RiO which are based on Microsoft’s SQL server platform. This is not the case for ORACLE based systems, again using both Oxford and Avon as examples, at least one of the failover instances are configured as what ORACLE terms a “logical standby” as opposed to a “physical standby”. When an ORACLE database is in logical standby mode it can be read from. In those Trusts the logical standby is used by their information departments for running all reports, DOH extracts and feeding their data warehouses with zero impact on the running of the live system. How much does this cost the Trust? Less than £22,000 for the hardware (Dell pricing at the time) and about £15,000 per year Trust for database administration and disaster recovery configuration support and maintenance including out of hours support. Ask either of these Trust’s how many times they have lost MARACIS over the 10 to 14 years and for how long as compared to the availability of RiO (as supplied by BT) since they started implementation and I think you will be shocked especially when the price difference, according to Mr O’Connell is due to disaster recovery provision and you will see that there is no value for money whatsoever.

Interoperability Toolkit—Ms Conolly would have you believe that this software is now capable of connecting all sorts of systems together, it isn’t. That is not because it is a technical challenge but because its not a piece of software at all! (see this link <http://www.uktcregistration.nss.cfh.nhs.uk/trud3/user/guest/group/0/pack/13>). The toolkit is yet another set of specifications on how one is supposed to be able to connect to central systems, below is a screen grab from the above web page.

NHS Interoperability Toolkit

The Interoperability Toolkit vision is based on the development of a toolkit for local interoperability. This will complement the existing National services, and will allow new products to be developed locally, accredited centrally and linked to existing deployments of information systems such as Cerner and Lorenzo.
Please Note: Presently the Initial Draft Release is available for download.

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NHS Interoperability Toolkit Spine Mini Services

A package which contains the Spine Mini Services specification of the Interoperability Toolkit.
(please note: currently there is no release published for this subpack)

[View releases \(0\)](#) | [View licences \(1\)](#)

You may note that some of it is not even ready as a specification. Yet this was presented to the PAC as a viable out of the box solution. There is value in this concept. I don’t know how much it cost to develop this non software but I am willing to bet that if that money had been spent on actually building a standards based solution which “knew” how to communicate with the central solutions on the one side and a publicly defined interface on the other which any system could interface with, a black box approach if you will, then the entire care records service could have been delivered at a fraction of the price. All existing suppliers would have had to be compliant to the extent that their systems could communicate with the public side of the black box in order to sell to the NHS. No top down imposition, clinical engagement would be guaranteed as it would be between Trust’s and their direct software suppliers. Once you have that position the market is open, fair and competitive. It’s a level playing field for all parties and the value add comes from what system A can do over system B. A central fund could be made available to assist Trusts in acquisition of compliant systems with interoperability headaches at all. Utopia? Not so, this is precisely what Canada has done. The Canadian Institute for Health Informatics (Senior Architect Mr Mark Fuller an ex MARACIS man) designed the national data warehouse and the interfaces to it then the federal government told the IT suppliers you all need to be able to communicate with the central system in this manner with this frequency. How much did they spend? \$1.3 billion and most of that went on physical infrastructure so that every health location across Canada was connected to their equivalent of N3. At the projects inception Mr Granger was invited over to speak, his on and off the record comments “This will never work your not spending enough money”. He was politely ignored, as his mother pointed out he did fail his computer science A level. Canada now has a system in place where Federal and Provincial government bodies (as well as the public!) can in real time interrogate the national data warehouse and see what’s going in terms of the health of the nation. This information is used for health service planning and provisioning and resource allocation. I am not sure of the metrics but I am sure if you asked they would be more than happy to disclose what it has meant to them financially as a country. Compare that to where we are. The damage this project has done to our industry and our health service, is that worth the spend to date? Is it worth the continued spend in the direction the DOH wants to take us.

Post NPFIT—What happens then?—Oxford has asked BT what support and maintenance will cost for RiO post 2014–15 the answer £375,000 per annum. What were they paying for MARACIS as a comparison, less than £70,000. At the end point healthcare IT in this country will have been ruined, if it hasn't already been so. We will be left with only the mega corps and you will have to pay what ever they ask as you will have no choice in the matter. Ms Conolly said as much of Fujitsu, ask the DOH how much McKesson was screwing them for to maintain existing systems which were to be replaced by Lorenzo and its ilk and you will weep, I did.

A way forward—the £4.5 billion pound question, this is in your hands, as I said earlier and have maintained in all my public postings the aims of such an undertaking need to be clearly and simply specified, they were not hence the various recasts of the program to date. What we are being asked to allow now is a complete change from what was bought. The fact that CSC is or wants to acquire iSoft (which is it?) means that an LSP with three fifths of the contracts available will be supplying their own software which under the terms of the original contract award was forbidden (and for good reason). The disillusion of the SHA's effectively removes oversight and control though their past behaviour questions whose interests they were looking after. The NHS does not need a one size fits all approach, nor does it need a single system which may or may not be configurable to local needs unless it is built on a technology which is truly data driven and service oriented which Cerner Millennium nor iSoft Lorenzo are not. The NHS requires systems which support the day to day processes undertaken by all its clinical and administrative staff, systems which are capable of sharing information in real time ie not message based across service boundaries with the control of such sharing in the hands of the Trust's and their staff. Systems which the patients can access as and when required again with the content of that access controlled by the Trust's. Certainly in the case of mental health patients full access to their records is often clinically inappropriate, ask any psychiatrist. It has saddened me to write this summary because so much more could have been achieved for so many without the vast cost incurred if only the right questions were asked of the right people.

May 2011

Written evidence from Public Technology

As a technology journalist and consultant, I've been following and writing about the National Programme for IT since its inception. On PublicTechnology.net—a public sector news and analysis community with 115,000 subscribers across the UK public sector with half a million page impressions per month,—we've just published an NHS IT special report as part of which we listed what we see as the four possible next steps for NPFIT.

We offer these up to you for consideration following the PAC meeting on Monday last:

OPTION 1

Scenario: The Prime Minister closes the whole project down and says “not a penny more on my watch”.

Pros: This aligns with the government's “waste and efficiency” ideology. It could be presented, with not that much PR genius, as proof of the Coalition's commitment to the NHS and be a healing balm, perhaps, against all the resistance NHS reforms are experiencing—look, we're putting £4 billion back into “frontline service delivery”.

Cons: Very regrettably, the original NPFIT CIO Richard Granger's attitude to supplier contracts has come back to haunt us badly, despite years of telling he was doing the opposite (“We have punched the bottom out of pricing arrangements that have previously been suffered by the NHS and the wider public sector... We have seen big cuts in the prices for electronic patient records, for servers and for other infrastructure. We now need to see the same for picture archiving systems. If we don't get that, we will subject the suppliers to radical surgery,” 2004 interview with the Financial Times).

Essentially UK HMG basically can't afford to can the Programme. If we did, you're talking literally years of punishing litigation that will only make lawyers and the contractors richer. Indeed, the most likely outcome would be that CSC and BT would walk away with some reputational damage perhaps, but probably, pound for pound, as much as they'd got anyway (CSC maybe more, given that we've been trying for two years to recalibrate the deal).

The outcome would be that no British government would commit any big money to NHS informatics for a generation—sort of like an AI Winter, only longer.

OPTION 2—DO NOTHING: THE PLACEBO EFFECT

Scenario: Apart from some really rather tough words in the House or a Committee report or two, we leave things in situ. BT and CSC continue the cheque-trousering, NPFIT limps on until 2015, when as a nation we shrug our collective shoulders and put it down to experience.

Pros: This makes both political and arguably “medical” sense. Sorting out this would require a lot of legal, contract management, communications and strategic vision talent—and we're using all of that to try and work out WTF we do to reorganize the rest of the NHS. Medically, doctors since Classical times have been told

they must first, “Do No Harm”. Sometimes left alone is best. So, again, accept that money and opportunity have been wasted, but push ahead with the thousand flowers bloom/localism agenda. Look to the planned Information Strategy to reconcile the work done so far and emphasis that as a way to unify NHS ICT. Thus you avoid the law courts, you keep the peace with two central government suppliers (important at a time of massive change and dislocation in the wider NHS).

Cons: Er, what the hell is the Information Strategy? It’s certainly not a professor of computer science’s idea of a unifying taxonomic framework. At the moment, it’s Tory-LibDem personal freedom ideology in press release form. Who’s driving it? Is there coherence? Do we really expect it to provide the kind of overall intellectual architecture to unify what our friend Granger himself called in 2006, “a massive, diverse, heterogeneous organisation that is itself changing while this is being implemented”.

Er...quite. If we try this we face real danger in the sense of systemic drift—nothing happens, expensively, for a long time and suddenly it’s 2015 and it’s all been a total waste of time, energy and ideas. Oh, and enough money to build God knows how many proper new hospitals—or 10% of a PFI one, maybe.

OPTION 3—KEYHOLE SURGERY

Scenario: Stop the most flagrant waste. Look to the new Major Projects Authority that Maude, Healey and Watmore have schemed up to step in and sort out the mess and get what value can be had from the suppliers. Accept it won’t be all we want (as we drew up the contracts ourselves as the national customer, or rather let Granger, we can’t say “deserve”), but this time put some structure and commercially sensible benchmarks back in. Re-focus the Information Strategy work to be as useful as possible. Provide support to the newly structured, post-Lansley shake up (if there is one, bien sur) NHS to make the most of what’s out there, and where appropriate, go commodity for new NHS ICT.

Pros: Government, suppliers and CfH save face—again. This is not a particularly attractive element given ten years of wasted opportunity, but important if you’ve built a career or a sales pipeline out of all this. Saving face will be a consideration at key points in the decision tree, believe you me. Done well, you get (some) reform and minimal “disruption”.

Cons: This option needs sure political and project management skills to dance our way with something still worthwhile out of the wreckage. Is NHS CIO Christine Connelly the right woman to do this? What about NHS supremo David Nicholson? We have our own thoughts on that—cemented by their performances under questioning from the PAC—but we’ll keep our powder dry for now—as they say they are doing in their negotiations with suppliers.

OPTION 4—HEART AND LUNG TRANSPLANT

Scenario: A radical version of the latter with a bit of option 1. This one’s not for the faint hearted. You dump the whole thing and have the cojones to face down the suppliers, probably paying the price of some compensation, but suggest to them that they’d not work in Whitehall ever again if they play dirty pool. Then you use the balance of the rest of the money in the NPFIT account to do an NHS Cloud, stripped down, commodity-based, not-invented-here version. Think universal, cheap, open source—you choose what works for you.

Pros: By mandating that Trusts only use simple, proven technology, you get quite a few wins for free here. It aligns with the G-Cloud message, App Store and New Model Army Government ICT Strategy approach (all that “agility”, right?). You make the suppliers and indeed the market do the bulk of the development as you just rent what works. Cloud is the future, so this could actually last a bit longer and do more useful work than what we face when we walk over the cliff in 2015 when the nightmare, sorry, the Programme, ends.

Cons: If you give the NHS to Google this time, not Microsoft as Blair did, you’ll have a new PR problem of your very own. If you give my patient record to someone who will store it in India but work on it in Budapest, the first time The Daily Mail finds out we’ll have the whole offshoring row of the last decade all over again, only this time with your mum’s X-ray data being sold, not your current account. It’s also, to be frank, probably too radical and imaginative for DoH to even consider.

May 2011

Written evidence from K2 Advisory

In the UK, we can pretty much all see the wisdom of having a digital care record system which means that when we or our friends and family are taken ill and are rushed to hospital in an emergency, the medical profession has immediate access to our medical records. So, one question is whether it is possible to achieve this outcome and the other question is which scapegoat to charge with the blame for us spending £2.7 billion to date on a system that does not yet work?

If we were starting the Detailed Care Record system today we would begin by finding out whether any software existed that could help us deliver such a system. In fact although ISVs such as iSoft have made efforts

to develop their software to deliver what is required, none yet really have what is required. This goes some way to explaining why not one of the 250 hospitals in England yet has a full electronic record.

But, even today there are surprisingly few Detailed Care Record systems in operation anywhere in the world and certainly none on a national scale.

It was clear from the outset of the NPfIT that it was a very ambitious project to stage a revolution, and was also approved without due diligence being paid to some basic considerations, such as the availability of the software on which to build the systems. Indeed, this type of risk was left entirely up to the Local Service Providers to shoulder. Given the size of the investment from the public purse that was definitely not a wise decision.

It is now not reasonable to expect this system to emerge as envisaged particularly given the proposed re-organisation of the NHS. So the best course may well be to move to a more evolutionary roll-out by establishing a catalogue of suppliers working to agreed data exchange and payment standards and let the hospitals adopt what they want, when they want.

Furthermore, as Google Health matures, along with the Web generations that have grown up with online presence, individuals will increasingly elect to manage their own medical information. By a combination of these two approaches we will gradually get a more modern Digital Care Record system, but the current Big Bang project is too expensive to continue given our budget deficit. We cannot afford to spend several more billion pounds on this.

And, what of the existing contracts? The solutions and their ongoing development should form part of the catalogue of services available for medical practitioners to use. The contracts themselves need to be renegotiated to fit a pared down, decentralised adoption approach.

A commonly held opinion both among suppliers and buyers is that much of the fault lies with Richard Granger (the Director General for IT for the NHS 2002–08). He set up a top-down, centralised approach to programme development along with a survival of the fittest approach to managing the four main IT suppliers for NPfIT. Some think his mis-management was of reasonable proportions. Others blame the then Prime Minister Tony Blair for pushing programme approval through too quickly.

However, neither Granger nor Blair is around to take the flack. In their absence the fallguys are CSC, for being American while missing deadline after deadline, and Christine Connolly and the DoH for attempting to defend the project. BT is not targeted nearly so much for its failings, partly because two of its national projects N3 and The Spine have been successfully delivered, and also I think because it is a British supplier.

May 2011

Written evidence from The Consultancy Partnership Ltd

THE FUTURE OF THE CONTRACT WITH CSC

All indicators suggest that CSC as owners of iSoft will not continue to develop Lorenzo. In which case, assuming a new MoU is signed with CSC as suggested, we believe the situation would be as follows:

- All 130+ [CSC response to Q13] interim solutions delivered would de facto become permanent. Those mental health and acute trusts with the iSoft iPM system can, in time, be expected to enter a long term arrangement with CSC for an on-going service: similarly those community care organisations with the TPP system.
- CSC would be well positioned to provide iSoft clinical application add-ons to any trust already with iPM. These add-ons sit naturally on an iPM foundation.
- For those trusts which have not received interim solutions, the focus, apparently, will be to offer a choice of systems delivering “flexible (clinical) modules that would sit on a base care records platform”. It is unclear what this choice will be or how, as owner of iSoft, CSC’s conflict of interest in providing choice will be resolved.

In these circumstances, it seems clear that non-Lorenzo iSoft products, whether legacy systems or later developments, would proliferate, verging perhaps on a monopoly position for CSC as owner of iSoft. This surely cannot be in the best interest of the NHS. Had Lorenzo been successfully developed in line with CSC’s original contract of 2003 it would be a different matter. But as it is there is no reason in terms of functionality to prefer iSoft systems to those of any other supplier. Furthermore, DoH would be at risk of being challenged in the courts by other suppliers complaining that EC procurement rules have been broken in de-scoping the original contract without re-tendering.

RECOMMENDATIONS

1. It is not in the best interest of the NHS to retain CSC as LSP for the North, Midlands and East. The contract with CSC should be terminated. (*This is based purely on the arguments developed above and takes no account of the Committee’s concerns about value for money in the proposed amended contract with CSC.*)

2. With current cost cutting and performance improvement pressures on all the public sector, never have the benefits that NPfIT was supposed to bring been so desperately needed. Having terminated the contract with LSP, the Department should, by some mechanism to be determined, make over to hospital trusts the residue of the available national funding so that trusts can procure appropriate systems for themselves.

BACK-UP MATERIAL

Long term role for Interim Systems/Implication that Lorenzo is to be dropped

Transcript of PAC Meeting of 23 May 2011

Q5: Mr Bacon: So, once you have iSoft—assuming all the regulatory hurdles are cleared and you get it, as it were, under your belt—you will have this large portfolio of old, profitable legacy systems where all the development work is already done. Why on earth would you continue pouring good money after bad, trying to make Lorenzo work?

Sheri Thureen: The acquisition of iSoft is a strategic decision of CSC to expand our global healthcare sector business.

Ms Thureen was given the opportunity to refute the suggestion that Lorenzo is to be dropped. She failed to take it. Taken with the reports immediately below, the inevitable conclusion is that CSC intends to focus on non-Lorenzo iSoft systems. This surely makes commercial sense. iSoft systems proliferate throughout the NHS (some supposed to be replaced by Lorenzo, others not). Then, additionally, there are the 80 or so iPM (patient administration) systems that NPfIT has allowed as interim solutions, with the strong suggestion that if trusts so wish these can be retained as permanent solutions. What responsible trust would want to replace the low risk, well proven iPM with the high risk Lorenzo? A rhetorical question, especially as Lorenzo development has stopped short of clinical applications and so offers no path to the future. So, why indeed would CSC as owner of iSoft want to pour good money after bad when it already has a solid, low risk income stream from legacy systems: a profit stream made even more profitable by the actions of NPfIT?

As reported in E-Health Insider of 24 May 2011 “Outline of new CSC deal takes shape”

Connelly gave a heavy hint that a new CSC deal is likely to recast the role of “interim” systems to give them a long-term role; a path that has already been followed with CSC’s installations of SystemOne from TPP. Potentially this could see many of the 87 iSoft iPM systems for which CSC has already been paid being used as a basis for future development, possibly with future slices of Lorenzo. “We’ve certainly said that where we have a system that supports care, such as iPM, and the trust wants to keep it, we will not be forcing them to rip and replace. CSC has already been paid for implementing iPM. If they are willing to support it for longer then we would want to keep it.”

As reported in E-Health Insider of 26 May 2011 “Memo reveals latest CSC offer”

A leaked memo from a Cabinet Office confirms that the DH is looking to sign a new memorandum of understanding with CSC, and that this would result in fewer trusts being contracted to use the system, in return for a further reduction in contract price. The memo says that in February, CSC offered a deal in which the number of trusts offered a CSC system would be cut from 220 to 80, and that they would be offered a choice of system, not just the iSoft Lorenzo software that CSC was contracted to deliver by the National Programme for IT in the NHS. Interviewed by EHI, NHS chief information officer Christine Connelly said that the new focus would be on delivering flexible [clinical] modules that would sit on a base care records platform

CSC ENTITLEMENT TO DAMAGES IF THEIR CONTRACT IS TERMINATED

Having no knowledge of the contract we can offer no opinion on this matter. We do, however, suggest that potential value of “interim” iPM contracts made permanent is considerable and that any such income would offset any claim for damages.

NHS trusts which have been provided with iPM through NPfIT are unlikely to prefer the upheaval of moving to new systems if presented with the opportunity to retain iPM as a permanent solution. This will generate considerable income for CSC. Based on a recent business case for PAS replacement undertaken by The Consultancy Partnership the typical annual charge from the supplier is circa £400,000. Assuming 80 interim iPM systems made permanent and typically 10 year contracts, this would generate some £300 million for CSC. Conservatively, this could double to £600 million allowing for clinical applications to be subsequently added. And this just covers the acute sector. TPP interim arrangements made permanent will generate further revenue for CSC. It may not be fanciful to suggest total income over 10 years at £1,000 million. Clearly, further consideration is required.

PROBITY CONSIDERATIONS

Whilst this is a matter for lawyers, it has been suggested that other suppliers might already have grounds for complaint that EC procurement rules have been broken given that CSC has been allowed within NPfIT to implement as interim solutions systems that were rejected in the original procurement as being unfit for NPfIT. [NAO Report Executive Summary para 18 “CSC has also delivered 81 interim systems to trusts whose systems

needed to be replaced urgently. These systems were not previously considered by the Department to meet the aims of the Programme and under the terms of the current contract will need to be replaced.] How much greater might that complaint be if these interim systems are established as permanent and CSC is allowed to build them into long term income streams?

THE SUBMITTER

Alan Shackman has over 20 years experience as an independent consultant to the public sector, principally to the NHS, specialising in the business/user focused elements of preparing for and implementing IT systems. He is an expert in the usage of IT at grass roots level in the NHS, having undertaken assignments across all sectors—acute, mental health, community and primary. Over the past 15 years his work has focused on electronic patient record systems. In that time he has prepared business cases and detailed definition of requirements, led procurements at major acute trusts and across local health communities, and facilitated the management of change.

Alan is familiar with the products being offered by the two suppliers of core CRS software to NPfIT having worked on PAS replacement projects in both the South and North West & West Midland clusters. During 2004 and 2005 he acted as NPfIT programme facilitator for the north east sector of Greater Manchester.

At national level, Alan led the development of a national output based specification for electronic patient record for acute trusts as part of the NHS IM&T Procurement Review of 1999. Earlier in the 1990s he was a member of the NHS Information Management Group's panel of consultants advising trust boards on electronic patient records. He was also a member of the team that reviewed the national resource management programme

Most recently during 2010–11 he has been assisting two acute trusts in the East of England prepare for the open procurement of a replacement patient administration system and integration engine/clinical portal.

Alan is a Chartered Engineer and Member of the Institution of Engineering & Technology. In an earlier phase of his career he was a member of the UK Industrial Space Committee and represented the UK on international telecommunications standards and regulatory forums.

2 June 2011

Written evidence from HSC Oxford

INTRODUCTION

The UK NHS and Social Care aim to be the envy of global care systems. That requires the best in-service informatics [for definition of informatics see endnote 2]

The DoH IT-driven losses recently calculate to be £3.7 billion³ and rising. To that can be added the unquantified costs of poor information architecture design,⁴ poor Social Care informatics, inadequate connectivity and unquantified losses to patients and families.

Current work of the **PAC** and **NAO** shows that, as a nation, we have significant care IT failures. Analysis of NHS-IT systems by the **PAC** reveals rising opportunity cost, rising care delivery cost, cost-discrepancies and other associated financial costs of poor NHS informatics.

This Summary adds further context to the **PAC** discussion. The purpose is threefold:

First, this Response shows that the current DoH/NHS informatics trajectory has roots two decades ago. How did the trajectory avoid scrutiny and keep growing with large-scale IT-based losses of opportunity, time and funds? For the future, a forward plan built on that trajectory carries the promise of an extremely negative outcome.

Second, this Response independently confirms the work of the **PAC Session regarding NHS-IT**. It puts into the medical IT context additional findings that experience shows are important.

Third, this Response reaches conclusions that confirm, in the national interest, it is essential the Government takes forwards this work of the **PAC**.

The PAC has struck a deep seam. Health Ministers and MPs have publicly recognised that NHS health informatics is marked by years of failure. *For example, the then Health Secretary points out in his foreword to the Burns Report [Information for Health ISBN 0 95327190 2]: "Up to now the use of IT in the NHS has not been a success story. Far from it. Lots of money has been wasted."*

We have analysed the reasons why previous Health Ministers have been unable to build on the work of independent experts and PAC to achieve the improvements they desired. That analysis identified the goals in paragraph 3, below.

In a care system with increasing choices and care quality measures, delivery of national uniform *leading-edge care with the best outcomes relies* upon complicated information flows, work flows, resource flows. To serve these variables with an appropriate information architecture, it a priority to solve *lack of expert*

informatics leadership, large-scale waste of funds, lack of service informatics as a unifying force, and lack of a coherent informatics strategic direction. Three simultaneous actions are necessary:

- (a) Arrest the losses revealed by the current PAC.⁵
- (b) Reconstruct the contribution of informatics.
- (c) Build a national strategic plan for optimising informatics in health services, social services and community services.

To achieve these three actions requires an understanding of why the issues were not identified and acted upon earlier. To answer that question it is essential to start with the role of the **NAO**.

THE NAO AND ITS NHS-IT AUDITS AND REPORTS

The NAO Audits of NHS-IT are vital to optimising the interdependency in the NHS between care and expenditure, and for overseeing value-for-money. The present-day outcome of the care of each of millions of patients, and £billions of expenditure has a primary dependency on the degree of success of the **2006** and **2008** National Audit Office (NAO) **Audits/Reports of NHS-IT**.

Health Ministers corresponding with us at the time stated they were satisfied with the NAO Audits. But Health Ministers of the time were unable to explain to us why they did not take account of the unreliability we had found in the Audits.

An unreliable audit must be regarded as a failed audit. Reliability of an Audit has a substructure with many components whose significance must not be lost. For care purposes, the audit must be **verified and validated**. The care environment in which any audit-derived corrective measure will be applied also needs to be well-understood, well-managed and accurately reported as part of the audit and its verification.

The end-result of assembling a verified array of component measures of an Audit, is a validated measure of reliability or unreliability of an audit.

Failure to Validate the 2006 NAO Audit of the NHS-IT Programme

The 2006 NAO Audit of NHS-IT was not Validated before release to the Public. Whilst validating the published 2006 Report, we identified serious failings in the 2006 NAO Audit of NHS-IT. The failures we identified essentially negated the 2006 Audit and rendered the Audit unreliable and unusable for forward NHS-IT and service planning.

The 2006 Report showed that the Auditors themselves believed that, upon publishing the 2006 NHS-IT Audit, their objectives had been met. But in reality, the effect of making public an unverified failed Audit was to set NHS service development and NHS-IT planning as a whole on a decrematory course.

Failures in the 2006 Report and the need for urgent remediation formed the subject of our private correspondence with the then Auditor General. We had identified IT work in Hospitals was causing serious clinical disruption. Our correspondence warned that patients' lives could be lost because of missing fundamental components of the IT.

To warn Ministers of the seriousness, an Oxford summary briefing note put the failures into an NHS working context. We identified a way of handling the complexity of the failures and identified a feasible coherent management solution.

Validating the 2008 NAO Progress Report on the NHS-IT Programme

In our private correspondence with the then Auditor General and Ministers, we made the point that it was advisable that a follow-on Audit or Report should follow publication of the deficient NAO 2006 Audit as soon as possible.

Work in the NAO to produce a follow-on NAO NHS-IT Audit started by first appointing a fresh NAO team of auditors. The follow-on Audit Report appeared in May 2008 under a new Auditor General. It is in two volumes. Vol I comprises the NAO findings; Vol II contains the individual project progress reports.

In view of the serious shortcomings in the 2006 NHS-IT Audit, the follow-on 2008 NHS-IT Audit had to function beyond being a Progress Report and/or Value for Money Audit. The 2008 Audit should also audit NHS-IT in the NHS care context, starting from the original plan of the DoH-IT Managers. In that way, the Audit could chart the course of improvement or otherwise.

The 2008 Report needed to audit in the care context because the NAO 2006 Audit had failed to reveal that the most fundamental of all IT Programme components—the IT Requirements Analysis—was missing.

At the outset of the NPfIT programme we had communicated that fundamental flaw to DoH colleagues. The fact that this omission had not been corrected several years later is most alarming.

Accordingly, we communicated to the then Auditor General that reliance upon the NAO 2008 NHS-IT Audit/Progress Report should be based upon **validation against objectives**. This validation has never been presented publicly, leaving in place serious technical issues and doubts about the 2008 Report.

Validating the 2011 NAO Progress Report on the NHS-IT Programme

The DoH internal IT-subculture is highly relevant. It will largely determine how the findings from a national-level audit/progress report are applied. The problems revealed by the current NAO analysis are beyond the solving capacity of current DoH-IT management. That became self-evident at the **PAC** Session.

Worsening of the IT issues raises fundamental questions for the **PAC** about how reports from the **PAC** will be acted upon in the current financial climate, and not lost sight of.

Some unsolved audit questions for the Public Accounts Committee

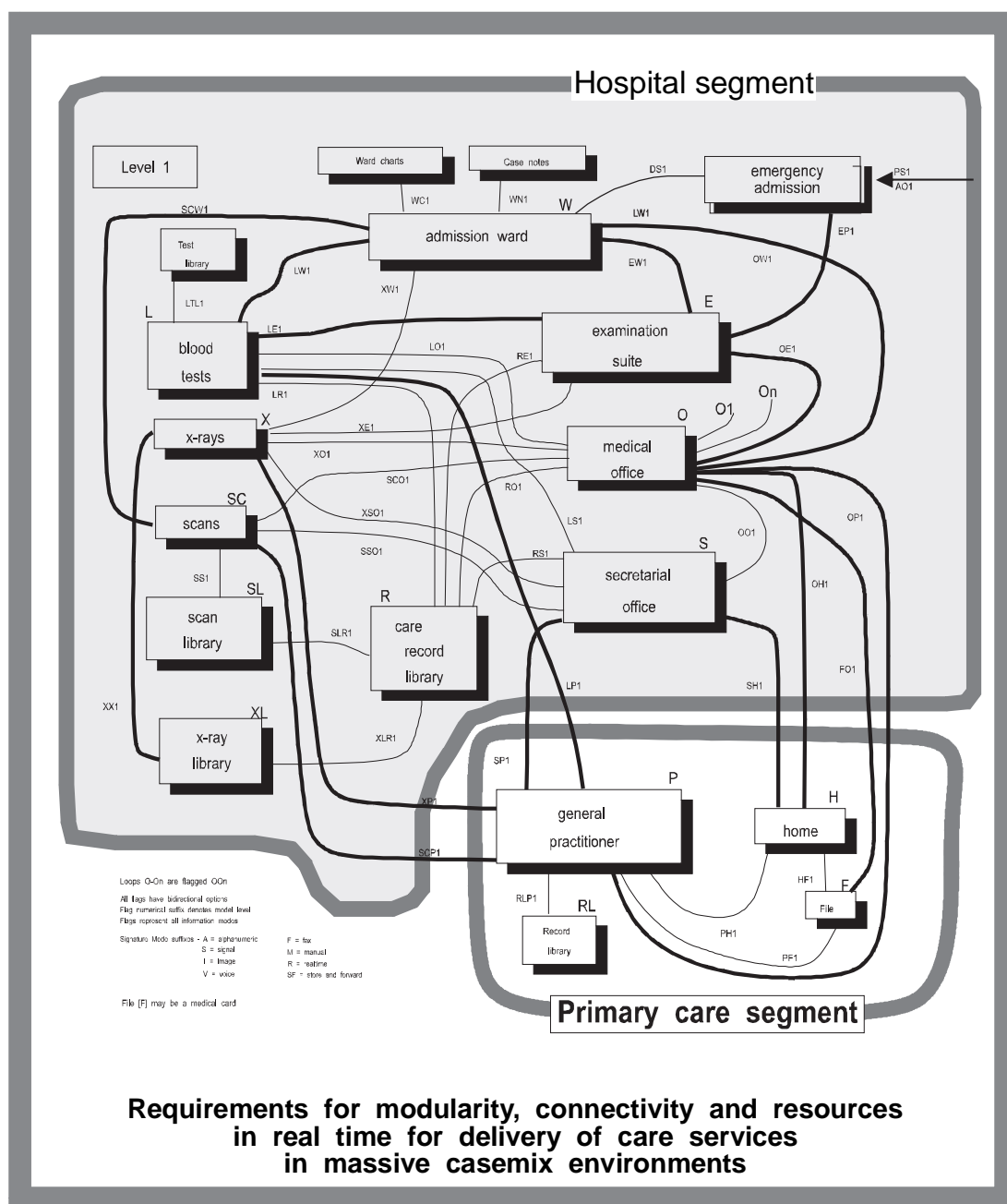
This Summary reveals important unsolved questions for the **PAC**, including:

- Why did the previous Chief Medical Officer not raise concerns about the drift of the IT work of DoH and its increasingly negative impact and risk to patient services. We would have supported him had he done so.
- Likewise, why did the previous and current Chief Executive of the NHS fail to raise warnings about the IT?
- Taken with the IT position of DOH, that suggests the dynamics at the top of DoH had not focussed on protecting patients, staff and public resources.
- Why was the Health Secretary forced to apologise for IT failure managed by DoH. It should be the job of the IT officials to guard against such happenings.
- Why was the National Audit Office barred from auditing the Requirements Analysis which should have been presented by the IT officers in DoH. This massive black hole in NPfIT would have been found. That led to a flawed NAO report being taken by the IT Director General as supportive of their progress.

A FAIL-SAFE REFERENCE BASE FOR THE COMPUTABLE INFORMATION ARCHITECTURE

During the discussions between the four witnesses and the recent **PAC**¹ Session, the point was made by the NHS-IT witness that requirements had been determined in 2008. Incredibly, this was several years after the Programme had been implemented. **PAC** members asked questions about different aspects of functionality. These too were poorly answered by the witnesses. The witnesses called before the **PAC** to be poor understanding of what functionality is in real-life. The witnesses were not aware of the importance of a reference base for care-related IT work.

This Submission provides a reference base for the **PAC** from our own work. Summarised in **Figure 1**, below. It is a model of locality functionality and modularity, based on real-life anonymised care dataflows, workflows and organisational structures.



Having real-life computable analysis of this type is fundamental to safe production of care information systems. Production systems can have their functionality discovered/improved/certificated in a real-life environment without interfering with patient care. This provides suppliers, patients and staff with a fail safe and speedy route of live IT-system integration into the local environment.

Industry witnesses talked of a move from monolithic to modular information systems as being suited to the NHS Project (+ the implication that there will be further costs).

The first query is that modular clinical information systems were being built in the 1980s and should have been specified from the outset for the national project by DoH. Figure 1 shows how modularity was analysed and established with associated data flows and work flows. In the late 1980's we were not only building modular architectures even with the then available technology, but we had produced methods for modular verification of the Structured Requirements Analysis. We had developed the approach sufficiently that a working installation was made at a Medical School. That is 20+ years ago.

Having not accepted our invitation to visit the site, all the DoH IT Director General had to do was to ask us to help them.

The second query is that at the PAC Session, the NHS Chief Executive spoke of the desirability of having modules comprising *patients admissions, discharges, orders and communications, summary discharge, e-prescribing*. Inspection of Figure 1 shows that 20+ years ago these were functional modules in our hands. We

already the formal specification. Something has gone seriously wrong inside DoH and with the Suppliers that this modularity was not specified at the outset.

Even if a supplier or NPfIT director/manager has not done a specific requirements analysis (as is the case), this reference data route would have supplied a verified and patient-safe functionality at the commencement of a project. Not several years later down the project line (as has happened).

The PAC Session several times discussed *Lorenzo* [Dutch in origin providing GPs with access to hospital information], ***RiO*** [mental health and social care records system] ***iSoft, records systems and communications***.

None of the four witnesses we heard, described their use of a fail-safe approach with these imported systems to protect the NHS, patients, staff and minimise stress on locality finances. The following comments in Table 1 show the importance of using fail-safe thinking and formal methods in design and implementation of care IT.

Table 1

COMMENTS ABOUT NHS IT FROM REAL USERS

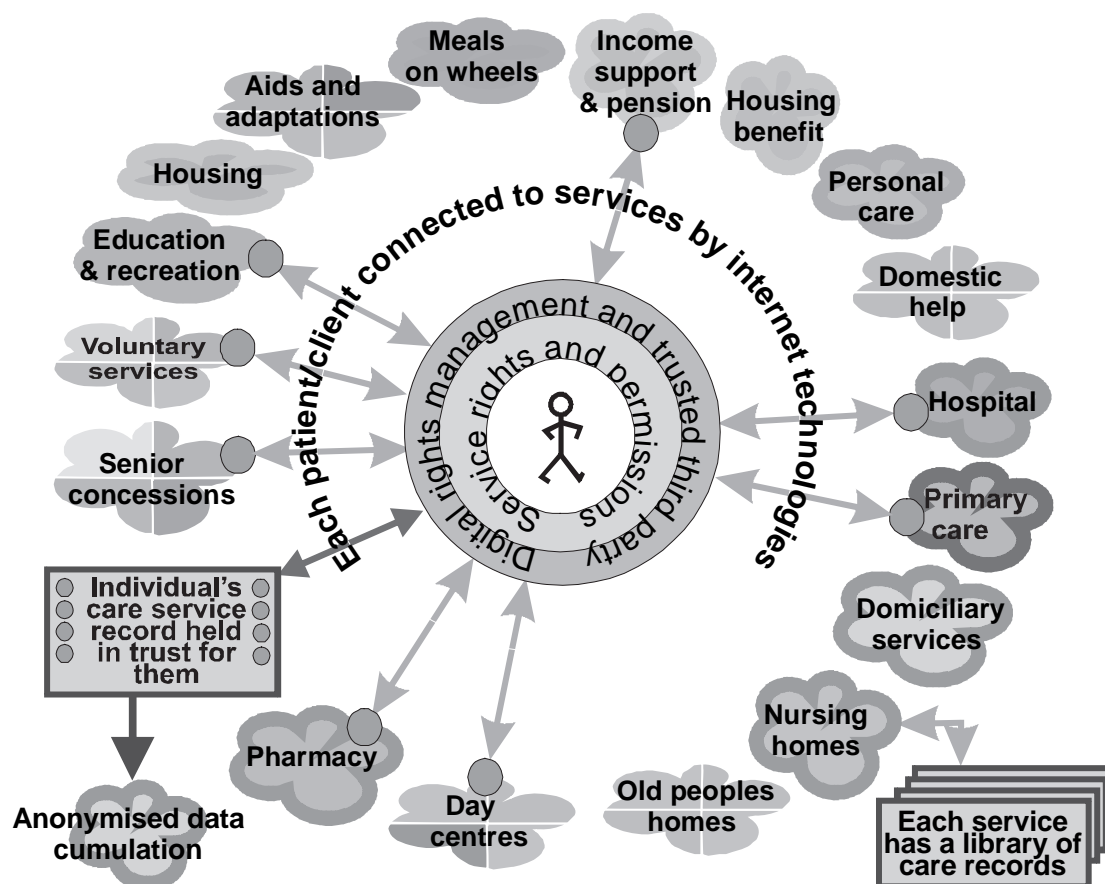
January 2008	<i>I apologise that you have waited just to find your scan was not available and that you now have to make another appointment to see me.</i>
September 2008	An hospital consultant to an outpatient whose image were lost by the new NHS IT system <i>Choose and Book completely failed to assist me. It is a waste of time for me and my GP. The old system is much better. Can we go back to that?</i>
October 2008	A patient interviewed during work-up for orthopaedic surgery <i>This National NHS IT system is a waste of time and money.</i> A busy GP
February 2009	<i>A new NHS computerised n=medial records system at a London Hospital has been criticised by a hospital boss for causing “heartache and hard work”. Staff were “incredibly disappointed” with the IT upgrade on trial at the hospital which put doctors and nurses under stress, had technical problems which could cost the trust £10 million and meant fewer patients could be seen</i> Andrew Way, Chief Executive of London’s Royal Free Hospital

BUILDING AN NHS CARE INFORMATION ARCHITECTURE FROM THE EXISTING IT COMPONENTS

Essentially the **PAC** was asking whether a national information architecture can be built from existing components. A functional care information architecture⁴ is shown in the following diagram taken from our own work:

Figure 2. (below) is an example from the HSC Pilot Site Care Workflow architecture.

This is a real-life example of a working care information architecture with the required functions. It shows that each individual, or their carers, is at the centre of care. They drive their own care, connected by on-line informatics through their unique care account to any service.



An elderly person's care data and workflow schema

For drawing clarity colour codes replace the alphanumeric codes of the original

Figure 2 shows that if the working components [eg the different care provider information systems], connectivity, database and interface design, are inadequate for the UK care system, a top-class patient-oriented information architecture will never be achieved.

THE PAC HAS IDENTIFIED THAT IT SKILLS ARE MUCH NEEDED

The PAC unambiguously showed in the recent NPIT session that a cohort of care-informatics-expert staff is needed. The reality reveals the starting point. Informatics failures over the years are traceable to documents signed by NHS informatics managers, NHS information managers, medical staff, non-medical staff, and large IT contractors engaged with care informatics. Care informatics failures demonstrate the need for credible in-post informatics staff improvement.

Such evidence involving diverse care professionals needs a large-scale solution. The skills of NHS and Social Care staff involved with informatics need to advance using two procedures: regular informatics staff validation and independent best-expert audit of the locality informatics workplans produced by the staff. The latter is discussed in paragraphs 25–29.

Informatics staff validation benefits from part-time or whole-time clinical and non-clinical informatics staff having a professional informatics “home”. Which they do not. At first sight, medical and nursing royal colleges, computer societies, industry partners for example, offer a usable heterogeneity of “homes”. But, such existing organisations are tainted with large-scale, expensive, informatics failures and lack of success^{4,5} to which their members contributed. The informatics failures are of such large impact that this heterogeneity of “professional homes” is presently not credibly usable.

There is a ready solution. Namely building care system medical- and non-medical informatics staff validation under the supervision of a previously informatics-non-participant organisation, the General Medical Council. That overcomes the telling negative criticisms about existing organisations and staff and builds a validated clinical and non-clinical informatics skills pool, which in due course will find its own professional “home”.

Is it feasible to co-develop regular informatics staff validation and independent best-expert audit of the informatics workplans produced by informatics and other locality staff? To answer this, last year we studied

in depth a sample large Foundation Health Trust and its Local Council environment. Our conclusion is that the Trust Clinical Services, associated Council Community Health and Social Services, and the finances of all parties would materially benefit. Extrapolating, our preliminary study suggests national informatics staff validation + locality informatics workplan audit is entirely feasible. Such a scheme introduces a progressive, continuous cost-benefit multiplier across the NHS, Social Services and Community Services. Essential in current times.

THE PAC HAS IDENTIFIED A NATIONAL NEED TO DEVELOP LOCALITY CARE INFORMATICS

Analysis of the failures of UK health and social care informatics shows the need for a national optimal least-cost change strategy with locality/community management having proven skills in care informatics. Rather than the top-down arrangement that currently exists.

To achieve that, locality-oriented skilled care informatics management is required, overseen by a small national panel of our best care informatics experts. A practical management scheme based on this thinking is shown in Figures 3 and 4.

For example, the locality informatics leader initiates the locality informatics requirements and implementation pathway. The pathway starts with best-expert audit of current informatics systems and services. That locality informatics audit scheme is shown in Figure 4. It is a one-day meeting with national / global experts who verify the locality informatics team and their work, advising changes where necessary.

The audit covers such topics as, formulation of locality informatics objectives and requirements, software and hardware re-usability plans, workplan verification with staff and patients. The audit path flows to implementation, validation and training of staff that provide and use the information.

Functional coordination of localities, essential for proper operation of patient choice, rapid dissemination of information about care, helping staff to relocate, and other patient- and staff related factors, a specialist informatics expert Management Oversight level is required. That is shown in Figure 3.

Conclusions from the PAC Session on NHS Informatics:

- Informatics as currently used in the NHS is far from being an optimising force. It is a cumulative resource drain on the UK general taxpayer and suboptimal for the patient⁵ and delivery of care.
- Thus far a large resource, in the £billion, has been wasted on ineffective informatics that would otherwise be available to care providers.
- *Without bespoke informatics, health and social care will always be suboptimal.*
- The route to a successful information service architecture is lined with two decades of prior failure in large scale medical IT in the UK NHS. Paragraphs 13 and 17, below, emphasise the importance of knowing *causality*.⁸
- As a discipline, NHS and Social Care informatics holds a Cinderella reputation that needs to be reversed.

A 2008–09 predecessor study recognised that a *bespoke informatics building programme* is required in NHS & Social Services.

The PAC Session reveals there is no verified national strategic plan of how informatics should be optimised and managed in health services, social services, community services and linked to other required services. Figures 3 and 4 show how such an effective scheme can be assembled with current resources.

Figure 4 also shows how Informatics skills will develop in a locality, by the relationships with Colleges and Industry [upper left hand corner of Figure 4].

THE PAC'S QUESTIONS ABOUT PATIENT RIGHTS MANAGEMENT

The *non-emergency gateway to care access* and *care record access* can be envisaged to be as simple as management of a secure on-line web-based bank account. Achieving that securely and confidentially, observing patients' rights, in the health and social care system requires informatics at its best.

Protection of patients is paramount. **Each patient/client has a unique identity which is the basis of their care rights.** In an highly-connected informatics-based care system architecture, informatics-based management of digital rights is critical. It can minimise such fraudulent resource-consuming processes as health tourism, identity borrowing and theft, prescription fraud.

The PAC's witnesses, from industry and the NHS, were vague about the type of information architecture that would connect the IT-sources and IT-sinks together. The workflow information architecture has developed since the 1980's. In it, *the individual care record* is held by a trusted third party organisation as *confidential in trust* for the relevant individual and/or a trusted third party caring for a seriously disabled individual. **To gain entry to their unique care record assembly**, the patient/carer satisfies the digital rights manager [electronic] that he/she is the trusted owner of the unique *Service Identity* under which the individual's record is held. They can access in confidence their own care record at any time from anywhere.

A key question asked by the PAC was not answered by the DoH witnesses. Namely, how is unique digital identity established for access to the patient care record. In the best clinical practice the rule is that *care rights* and *care record rights* can only be **uniquely accessed by the genetic owner of the biological identity or a proxy authorised by the genetic owner of the identity**. In the case of severely disabled or unconscious patients, a proxy for the genetic owner has to be nominated. That nomination process has to have a legal status.

One of the NHS witnesses mentioned they had 800,000 access cards. Being an owner of an identity+security card is quite inadequate. The witness failed to show how each card was incontrovertibly linked to its correct biological owner and only that owner, how the card would regulate access to the owner's record and other owner attributes, and how the card would protect the owner in a clinical emergency.

A practical aspect of that PAC question is: at what place is each person's electronic identity first established with their genetic identity so they may legitimately obtain services on demand. It is known that in the NHS, document fraud, and hence identity fraud [eg passport, birth- and other certificates, letters of accreditation..] can result in large financial and service losses to the care system.

Establishing and registering individual biological identity for the care system may be best achieved with consistency and reliability during registration in person at the primary care (GPs) surgery. Informatics technologies exist to achieve that.

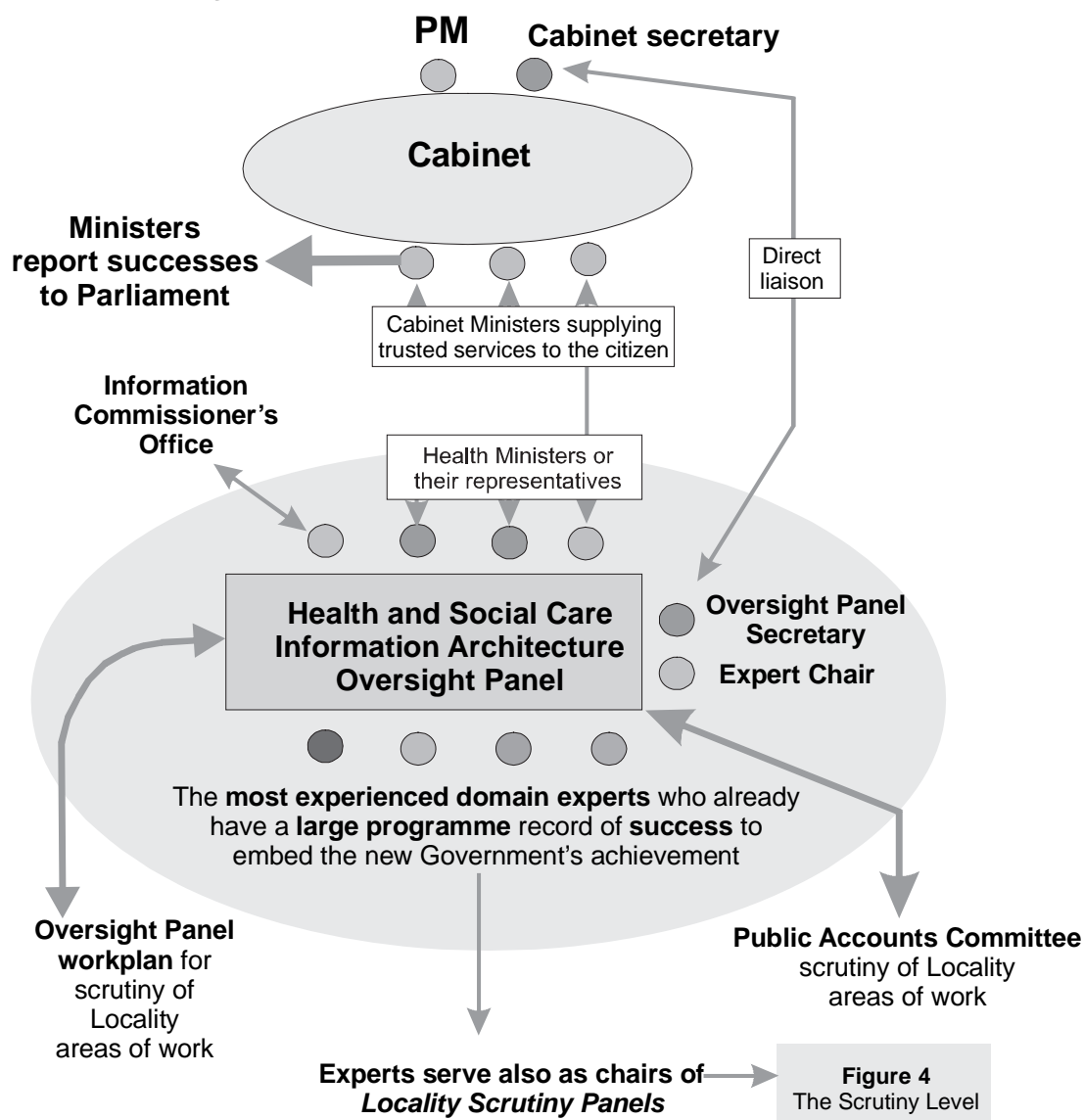


Figure 3: Informatics Management - The Oversight Level

maximises benefit and minimises risk for the new Government's Health and Social Care Consultation Proposals

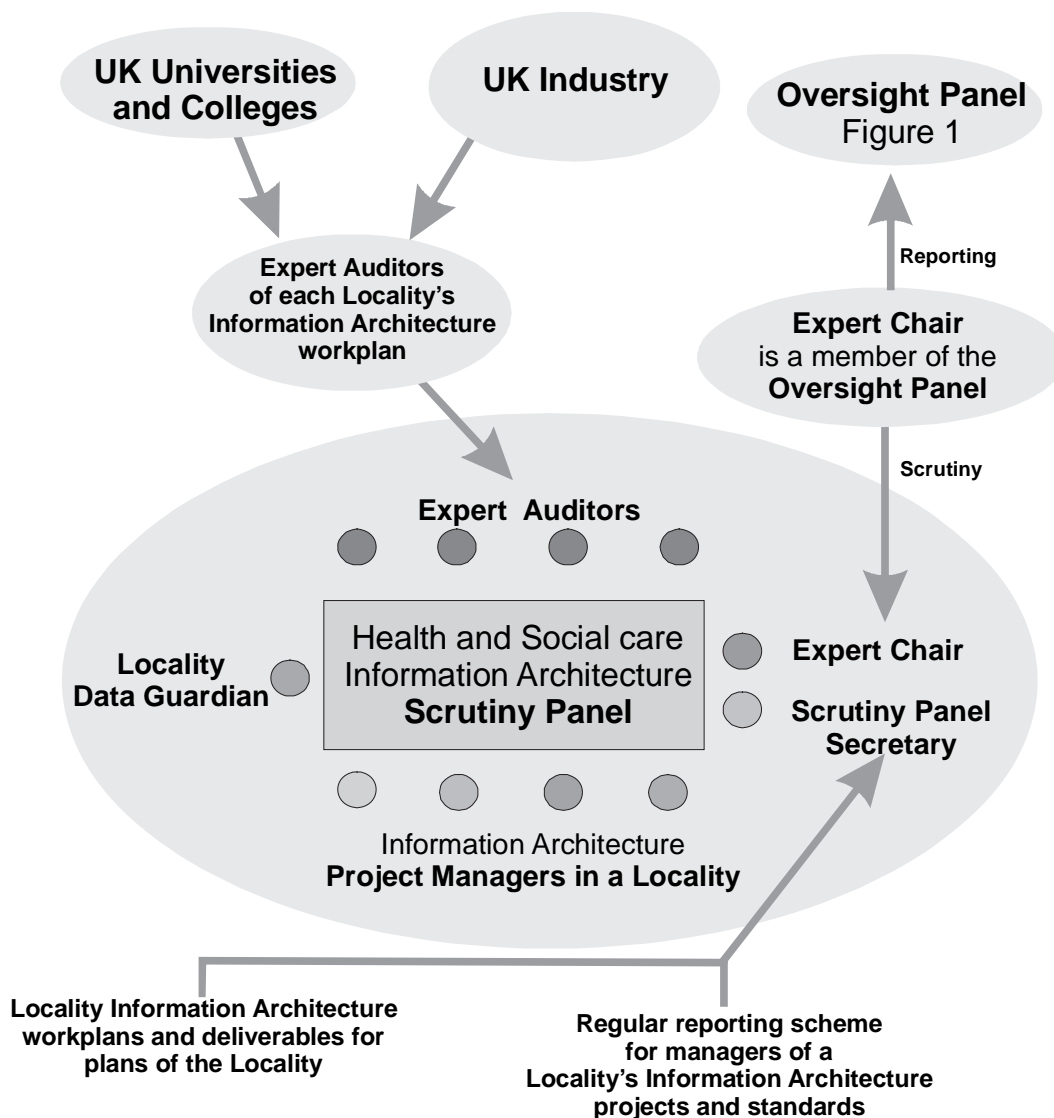


Figure 4 The Locality Scrutiny level
 provides missing skills, *minimises patient risk* and *maximises patient benefit*
 for the Government's Programme operating in each Locality

ENDNOTES FOR SUPERScript REFERENCES IN THE TEXT

¹ This Submission is presented as a Working Paper of HSC [Health Systems Coordination]. Abbreviations are: PAC, Public Accounts Committee; NAO, National Audit Office; This document links to the PAC DoH IT Session on 23 May 2011. Points raised by the PAC members and responses given by the witnesses are from our verbatim copy of the Session Proceedings and referred to throughout this document.

² The term Informatics is adopted in the EEC/EU from the Russian, informatika. It is used in this Submission in its broadest sense. Care informatics is information science and technology in care systems and care organisations. Here, that includes health and social care, and care includes prevention. The term patient is used in this working paper in its broadest sense. That includes persons who receive care from health or social entities. The importance of informatics to all care systems was validated in multilingual work done by the small EEC/EU planning team of nine experts [of which by invitation HSC provided the UK medical member] who planned, implemented and managed development of the EEC/EU care informatics programme through successive Framework Programmes of the EEC/EU.

³ The cost of poor NHS informatics has been calculated to be £3.7 billion and rising. The studies characterised the NHS informatics-driven overt loss, hidden losses, one-off and cumulative components. The studies identified a multiplicity of failure factors, for example: IT contract and management failures; failure to use the correct project models; improperly populated project models; failure to use competently skilled staff;

specification and implementation failures; lack of validated informatics standards; failure to build on work already done; failure to verify requirements; lack of competent professional validation for informatics staff. The record shows instances of GPs and hospitals having to suspend their work when large-scale informatics failures occurred.

⁴ In the NHS there is missing a patient-oriented, informatics-driven Health and Social Care Information Architecture. Such an architecture came to the forefront by the work Evolution and Protection of the Care Record. Nigel Harding, Angela Giles, Michael Graveney, 1992. An information architecture is the integrated expression of information-based formal methods, computable systems, connectivity, security and timeliness that serve the patients and staff to provide the best, safest and most efficient outcome of their requirements. Lack of an architecture has large impact. For example in 1988, Harding et al calculated that some 1,000 person years per year of NHS outpatient clinics were wasted by inefficient information services.

⁵ Failure of care informatics has a profound influence upon a care organisation. The last entry of Table 1 shows in real-life how informatics failure affects the morale of an entire hospital and diminishes its ability to handle patients. Of major concern is that, behind such failures, are several different clinical professional staff organisations and computer organisations, who all accredited the IT installation. In the care environment IT-based harm to patients occurs in a spreading manner. Care-informatics-based damage spreads over time, even after the original informatics fault has been corrected. Recovering from such damage is an uphill task requiring skilled planning, expert recovery management, retraining of the involved personnel and devoted expert resources.

⁶ Summary CV of the principal author.

Harding, Professor Nigel Graham Lionel. Health Systems Co-ordination, 70 Lime Walk, Oxford OX3 7AE. Comes from the East end of London. Cambridge then Oxford. BA MB BChir Camb; DPhil Oxf. Univ. Oxf: Radcliffe Prize Surg.; Univ. Oxf: Brian Johnson Prize Path. Univ Oxf SERC/BHF Fell. Dept. Clin. Biochem. Hon. Cons. Biochem. John Radcliffe Hosp. Oxf. Specialty: Biochem; Oncol; IT. Previously, Sen. Lect. Dept. Path. Biochem. Univ. Glas; Mem. Staff Med. Research Council; Asst. Director of Research (Med. Research Council.) Postgrad. Med. Sch. Camb; Awards: Sir Henry Wellcome Fell. Med. Research Council. Derrham Fell. Amer. Cancer Soc; Invited expert UK medical member EEC/EU team planning, implementing & evaluating transEU programme for Care IT&Comms. Main publns: Clinical & molecular biology of resistance to anticancer drugs; Care Information Technology; Care workflow and Quality of Service.

Written evidence from British Telecom

BT is one of the main suppliers to the National Programme for IT in the NHS delivering three key contracts. Below are some key bullet points detailing progress so far:

Local Service Provider—in London and the South of England: BT is working with community, acute and mental health trusts to deliver clinical information systems which are connecting care teams together and transforming the way patient care is delivered.

- BT systems and services are working in 80 NHS organisations across London and the South of England, with over 170,000 registered NHS users.
- Picture archiving and communications systems, which enable images such as X-rays and scans to be stored electronically and viewed on screens, are now in use in every acute hospital in London, every day, with images now being made available for sharing between acute hospitals.
- RiO—the electronic patient record system—has been installed at 62 community and mental health trusts in London and the South of England, giving health professionals instant access to patient clinical information, which used to take up to 24 hours with previous systems.
- Acute trusts have been more challenging owing to greater scale and complexity but progress has been made and, to date, BT has installed the Cerner Millennium electronic patient record systems at six acute trusts in London—and is managing systems at a further two acute trusts.
- BT is also managing Cerner Millennium at seven acute trusts in the South of England, and it has upgraded five of these trusts to the latest configuration of Cerner, taking them on a journey to benefit from more clinical functionality.
- BT is due to install new systems to four further acute trusts by the end of the 2011–12 financial year, and continues to work with existing trusts to upgrade their systems.

N3—the secure national broadband network built and managed by BT for the NHS

- One of Europe's largest virtual private networks, it connects every NHS organisation across England and Scotland and 1.3 million NHS employees.
- Replacing old and more expensive technology, it has saved the NHS £192 million so far.
- It supports key national applications for healthcare workers and patients, including electronic hospital booking and the electronic transfer of prescriptions.

- It's also helping the NHS to make efficiency and quality improvements. The N3 network now offers voice services, allowing 100 NHS trusts to benefit from reduced internal phone calls lower calls to mobiles.
- N3 also supports a managed national videoconferencing service that is expected to save up to £160 million on travel costs when fully deployed.

The NHS Spine service: a highly secure database of patient information and a powerful messaging system which supports key NHS services.

- It hosts a personal demographics service, which holds the names, addresses, gender and NHS numbers for more than 70 million patients cared for by the NHS in England.
- Among other functions, the Spine manages requests for patient details. Identifying where the information is held, it returns the results in milliseconds, routing more than two billion messages between accredited IT systems every year.
- More than 900,000 Smartcards have been issued to NHS staff, meaning they have been registered and approved to access the Spine and will be able to view—subject to appropriate and strictly enforced controls—a patient's clinical and demographic information electronically.
- The services it supports are being used more every day. Over 25 million appointments have been booked electronically so far with Choose and Book and one million medical records have been transferred electronically from GP to GP.
- More than six million summary care records have been created on the Spine—electronic records that give healthcare staff faster, easier access to essential information about patients. These records contain basic information such as current medications, allergies and previous bad reactions to medicines.
- Part of the Spine, the Secondary Uses Service provides secure access to national integrated healthcare information which can be analysed to help the NHS plan its operations and improve outcomes.

June 2011

Written evidence from the Department of Health

SECTION 1—INTRODUCTION AND CONTEXT

Introduction

This document is a follow-up to the Public Accounts Committee (PAC) hearing on 23 May 2011 into the NHS National Programme for IT.

The structure of this document is as follows:

- **Section 2:** notes requested by the PAC.
- **Section 3:** responses to written questions received from Mr Richard Bacon on 19 May 2011.
- **Section 4:** additional clarifying notes provided to the PAC.
- **Section 5:** the Department's formal response to a letter sent to the PAC on 26 May 2011 by the Chairman of CSE Healthcare Systems.

Context

The National Audit Office (NAO) report entitled "*The National Programme for IT in the NHS: an update on the delivery of detailed care record systems*", was published on 18 May 2011. This report was not agreed by the Department.

The PAC hearing took place on 23 May 2011 to consider the NAO report. The PAC recognised that the majority of the National Programme had been delivered and the focus of the hearing was on the detailed care record systems, where progress has been more disappointing.

SECTION 2—NOTES REQUESTED BY THE COMMITTEE

2.1 Note on Central Programme Costs

Figure 3 (page 7) of the NAO report sets out total expenditure on the Programme, including what it describes as "programme management" costs of £1.19 billion. The PAC requested a breakdown of these costs which are not all programme management costs but include activities such as testing and deploying systems, technical design, finance and commercial management, as well as organisational overheads such as buildings and IT. Industry averages suggest that programme management costs typically account for 10–20% of the total cost of a programme of this scale and complexity.

The table below provides a breakdown of central costs by type, including the itemisation of legal costs requested at the PAC hearing.

Figure 1

EXPENDITURE ON NPfIT (AT 2004–05 PRICES)

<i>Category</i>	<i>Total Actual Expenditure to 31.03.11</i>	<i>2011–12 forecast</i>	<i>2012–13 forecast</i>	<i>2013–14 forecast</i>	<i>2014–15 forecast</i>	<i>2015–16 forecast</i>	<i>Total Programme Cost</i>
	<i>(£m)</i>	<i>(£m)</i>	<i>(£m)</i>	<i>(£m)</i>	<i>(£m)</i>	<i>(£m)</i>	<i>(£m)</i>
Internal Staff	262	38	37	25	21	21	405
External Contractors	267	15	11	9	7	7	317
External Consultancy	83	8	4	3	3	3	104
Supplier Contracts	53	40	18	9	6	6	131
Buildings	67	7	8	7	8	7	104
IT Costs	53	4	2	2	2	2	65
Legal	36	7	7	7	7	8	74
Income	(4)	(1)	(2)	(1)	(1)	(1)	(10)
Total Central Programme Costs	817	119	87	62	54	52	1,190
Total Programme Costs	6,354	1,084	1,179	918	797	1,068	11,400
Central Programme Costs as % of total	13%	11%	7%	7%	7%	5%	10%

This reduction represents a 25% saving in central programme costs (down from £1.599 billion to £1.190 billion) since the last NAO report in May 2008 and represents a 46% reduction in central expenditure from 31 March 2010 onwards.

Figure 1

DEFINITIONS

<i>Category</i>	<i>Definition</i>
Internal staff	Permanent staff salary costs plus associated costs, for example training and travel.
External Contractors	Professional services temporary resources plus associated expenses which includes admin and clerical, interim managers and specialist contractor within established departmental posts.
External Consultancy	The provision of management, objective advice and assistance relating to the strategy, structure, management or operations of an organisation in pursuit of its purposes and objectives. Such assistance is provided outside the business as usual environment when in house skills are not available and will usually be time-limited.
Supplier Contracts	Non LSP third party supplier costs for direct frontline service provision, for example IT Hosting and Rental charges and the Public Information Programme contract.
Buildings	Rent, rates and associated costs for accommodation for NPfIT resources.
IT Costs	Internal costs associated with Hardware, Software and Licences for NPfIT resources.
Legal	Legal fees to support the NPfIT contracts.
Income	Invoiced income received for National IT Services provided to the Department of Health and NHS organisations by the Systems and Service Delivery team on a not for profit basis.

2.2 Note on the Costs of Millennium in the South “Greenfield” Sites relative to London

Purpose

At the Public Accounts Committee on 23 May the Chair requested a note on why the Department disagrees with the National Audit Office conclusion that the price of Cerner Millennium in the three “Greenfield” sites in the South is 47% higher than in London.

Extract from the Summary of the NAO Report

“The costs of delivering three care records systems in acute trusts under this contract are some 47% higher than the cost of delivering the same system in London, although BT advises that the system is being delivered in a different way” [page 10, paragraph 14].

Departmental Response

The Department does not accept the NAO statement that the price of Cerner Millennium in the South is 47% higher than in London, as the NAO is not comparing like with like.

The NAO comparison was based on London CCN2, which the Department believes is an inappropriate baseline as:

- The BT delivery model for Cerner has evolved significantly in the three year period between London CCN2 (May 2007) and the agreement of the Greenfields CCN (March 2010).
- The Greenfields trusts were of a significantly bigger scale and complexity, had a different underlying technical solution and had richer clinical functionality than delivered to London trusts under CCN2.

The Department believes that, although still difficult to draw a direct comparison, a more representative baseline would be London CCN3 which was agreed during March 2010, along with the Greenfields CCN, and had a similar delivery approach and core functional scope. If average prices are compared (noting the Departments' view that taking an average is a crude comparison as all trusts are different) then the NAO would have noted that the unit price of the Greenfields is 24% less expensive than London CCN3 (£23.6 million as compared with £31 million) with the primary difference in price being that the London deal included optional, additional functionality such as; pathology, radiology, pharmacy stock control, electronic document management, clinical dashboard and clinical benchmarking which trusts would be charged for additionally under the Greenfields contract. BT's cost model at CCN3 was independently verified by KMPG who concluded in November 2010 that "BT has provided sufficient underpinning evidence to support the agreed delivery costs".

2.3 Note on the Verification Exercise relating to the costs of RiO

Purpose

At Question 224, the Public Accounts Committee asked for "a clear written account" of how the value for money of the RiO prices was assessed.

Assessing the value for money of the RiO prices was part of the CCN3 negotiation process. This note explains that process and the subsequent verification exercise carried out by KPMG.

CCN3 Negotiations Process

The CCN3 negotiation process was lengthy and involved many iterations challenging the component parts of the BT cost model. This included ensuring that rates offered were competitive and that the effort ascribed to various activities was justifiable.

Taken together, competitive rates and reasonable effort comprise value for money. BT was required to provide numerous iterations of financial models. These models were reviewed in detail by the Authority, resulting in multi-million pound savings.

The Authority negotiated reduced day rates on all of the BT labour within the contract. In addition, BT's profit margin on the contract was also significantly reduced. Other commitments were also obtained by the Authority, in particular around sub-contractor pricing; for example, Cerner has confirmed that the pricing provided to the Authority (via BT) is the best it provides to any of its customers.

The Authority then requested further financial assurances and agreed with BT that a requirement of signing CCN3 would be that a verification exercise would be conducted by third party, independent financial experts (KPMG).

KPMG Verification Exercise Process

In October 2010 KPMG were requested by the Authority to verify the costs presented by BT, including those for RiO, in the CCN3 Financial Model.

The approach adopted by KPMG was as follows:

- Their work focussed on the Cost Data sheet within the CCN3 Financial Model and was conducted on a sample basis, designed to provide a high coverage of costs with a reasonable sample size.
- The cost elements for potential duplicate entries were reviewed.
- The cost rates associated with BT labour were validated to cost rate cards and payroll records.
- The hours presented in the Model associated with BT labour were reviewed for reasonableness.
- Sub-contractor and other supplier costs were validated to the agreements entered into by BT with their suppliers.

- Cost elements and supporting documentation requested from BT were sampled to substantiate the costs provided.

Conclusion of the Verification Exercise

On 3 November 2010 KPMG concluded that “BT has provided underpinning evidence to support the agreed delivery costs” and that “no proposed adjustments are required for Agreed Delivery Costs”.

2.4 Note on the Listening Exercise

Purpose

The Public Accounts Committee asked for a note (Question 276) about the responses received as part of the “listening exercise” in respect of the National Programme for IT.

Departmental Response

The Department can confirm that it has not had any responses relating directly to, or mentioning, the National Programme for IT. There have been a very small number which note the need to harness IT to facilitate information flows, but these tend to be generic references.

SECTION 3—RICHARD BACON QUESTIONS AND ANSWERS

DETAILED CARE RECORDS SYSTEMS

3.1 *What are the maximum payments to which NPFIT would be exposed for contract cancellation of the detailed care records systems, for each of the LSP providers?*

We are not able to reveal specific numbers as that is likely to lead to suppliers expecting those amounts should we attempt to terminate for convenience. Also, at this stage, all figures are subjective, although they are informed by our experiences with Fujitsu.

The *maximum* payments would occur if the whole of the contracts were cancelled for convenience. In that scenario, taking into account contractual costs, potential damages to suppliers, the costs to procure replacement systems, transition costs, the costs of “uplifting” ongoing services, legal and professional fees, we believe that the *maximum* payments *could be* in excess of the currently anticipated costs to complete the BT and CSC contracts.

If we were to terminate in part (only services for Acute) then the maximum payments might reduce by approximately 50%.

These costs do not include the deployment or operational costs of any new systems that the NHS would need to procure. The NHS cannot continue without replacing the systems now covered by these contracts.

The categories are explained as follows:

- Contractual costs: The minimum amount the supplier is allowed to receive under these circumstances.
- Damages paid to suppliers: This would include covering some of the suppliers’ unrecovered costs to date and pre-accrued claims at the point of termination.
- Transition and Uplift Costs: The costs of providing the ongoing services post termination. It is likely that suppliers will seek to increase these ongoing costs in an attempt to improve their financial position (Fujitsu, for example, doubled the service charges claiming they would turn the systems off unless we paid).
- Procurement of replacement systems costs: The costs of running the procurement for the live services to be supported and developed.
- Legal and professional fees: The costs of supporting the termination, transfer and investigation of the facts around termination.

Wider Impacts

Both BT and CSC have been clear that they are not willing simply to walk away. Therefore, it is safe to assume that some form of dispute will occur and that both suppliers will seek to recover costs. Legal advice provided to the Department indicates there is a risk of some unquantifiable “collateral damage” to the Fujitsu existing claim and the risk of suppliers working in unison against the Department is significant.

Delivery of replacement or new services would also be required, and the time taken to procure can be extended by factors outside of the Department’s or Trusts’ control.

3.2 Have you now ascertained the cost of RiO outside of the National Programme and compared it to the cost within the National Programme?

We have obtained comparative data from three trusts (as set out in Figure 2 below), which have purchased RiO outside of the National Programme: Bradford District NHS Care Trust, a mental health trust; Somerset Partnership NHS Foundation Trust, also a mental health trust, and Nottinghamshire Healthcare NHS Trust, which provides mental health, learning disability and community health services, as well as managing two medium secure units and the high secure Rampton Hospital near Retford.

Figure 2

COMPARATIVE ANALYSIS OF RIO COSTS

	<i>Bradford District Care Trust</i>	<i>Nottinghamshire Healthcare NHS Trust</i>	<i>Somerset Partnership NHS Foundation Trust</i>	<i>Trusts provided by NPFIT</i>
Deployment Charge	590K	1596K	(see note 1)	1395K (see note 2)
Annual Service Charge	160K	335K (see note 3)	139K	353K
Total Cost (over a normalised 48 month term)	1230K	2936K	556K	2797K

Notes:

1. There was no deployment charge as a special development relationship existed between CSE and the trust.
2. Deployment charges for RiO vary from £925k to £1.6m depending on care setting and software version. The figure provided is an average.
3. Nottingham has additional specialised modules of functionality because of the services provided by the trust.

Figure 3

COMPARATIVE ANALYSIS OF RIO SERVICE OFFERINGS

	<i>Bradford District Care Trust</i>	<i>Nottinghamshire Healthcare NHS Trust</i>	<i>Somerset Partnership NHS Foundation Trust</i>	<i>Trusts provided by NPFIT</i>
License	For contract term	For perpetual use	For contract term	For contract term
Hardware	No	No	No	Yes
Hosting	No	No	No	Yes
Application Support	Yes	Yes	Yes	Yes
Disaster Recovery	Partial (see note 4)	Partial (see note 5)	No	Yes
Spine connectivity	No	No	No	Yes
Product Development	No	No	No	Yes (see note 6)

Notes:

4. The disaster recovery process is managed by the supplier on trust owned and managed infrastructure which is capable of holding 25% of the capacity of the live service.
5. The disaster recovery process is managed by the supplier on trust owned and managed infrastructure.
6. There has been significant product development already funded through the NPFIT. This will continue and trusts have the ability to influence enhancements to the RiO software with 3, significant, trust defined, functional upgrades to the deployed software included in the price.

Summary

None of the trusts consulted had purchased the same RiO product offering and all trusts varied significantly from the offering provided to NPFIT trusts, making a direct price comparison difficult. However, trusts within the programme typically had significant advantages to those outside the programme, namely:

- The ability to influence the functionality of the product.
- Centrally provided and hosted hardware.
- Centrally-provided disaster recovery with 100% capacity and availability.
- No additional development costs for subsequent releases.
- Spine connectivity.

BT estimate that the monthly charge for hardware, disaster recovery, service management and Spine connectivity to be in the region of £42,500 per month or just over £2 million of value over a 48 month contract term.

Additional Functionality

Furthermore the NPFIT investment in the development of the RiO has significantly enhanced the functionality of the product to the benefit of all trusts. Examples of functionality in the latest deployed version (v5) and soon to be deployed (R1, 2011) of RiO include:

- Standard assessment forms.
- Care-plans and reports.
- Spine connectivity, enabling integration with central demographics services, and functionality to support smart cards and role based access controls.
- Waiting lists.
- Results reporting.
- Prevention, screening and surveillance.
- SNOMED.
- Inpatient prescribing.
- Functionality to support multi-disciplinary care planning.

CERNER MILLENIUM A NORTH BRISTOL, OXFORD, AD BATH

3.3 How much is NPfIT paying in total to deploy Cerner Millennium at each of the following 3 sites: North Bristol, Oxford, and Bath—inclusive of licence, hosting/central infrastructure and deployment charges?

3.4 What is the annual cost, every year for the remainder of the BT contract, for each of the 3 sites?

The table below provides the overall cost, inclusive of licence, hosting/central infrastructure and deployment charges, of deploying Cerner Millennium at North Bristol, Oxford and Bath.

Figure 4

GREENFIELDS ONE-OFF AND RECURRING COSTS

	£'000			
	<i>Bath</i>	<i>Oxford</i>	<i>North Bristol</i>	<i>Total</i>
Overall cost	21,000	23,800	24,300	69,100
Deployment charge (one off)	13,100	15,700	15,200	44,000
Annual service charge (£/y)	1,700	1,900	2,000	5,600
Forecast service months	56	51	54	

The service charge for North Bristol is higher (despite having fewer users than Oxford), as the Oxford infrastructure is shared with the Nuffield Orthopaedic Centre NHS Trust (ie a shared domain).

Service charge is payable only for the months that the system is in use (i.e. it is not a fixed charge).

3.5 What will the annual cost be for each of the 3 sites after the BT contract finishes?

This figure is to be determined, as it would be subject to a separate procurement exercise. It will be determined by factors including:

- Whether the Trusts' procurement results in the Trusts staying with Cerner Millennium.
- Whether the systems are transferred to a new hosting provider.
- Whether the Trusts wish to continue being part of a consortia where there are synergies and therefore cost reductions by sharing certain support services between trusts, or "go it alone".
- Whether they wish to maintain the very rigorous service level agreements, with penalty payments where services are not met.
- The usual reduction in the total cost of IT ownership over time.

3.6 What original delivery dates were given for each of the 3 sites when the BT contract reset was first signed?

3.7 How many changes have been there been to those delivery dates for each of the 3 sites since then? Please list.

3.8 What are the current planned go-live dates for North Bristol, Oxford, and Bath?

The table below provides answers to each of these questions:

Figure 5
DELIVERY DATES FOR THE “GREENFIELDS” SITES

	<i>Bath</i>	<i>Oxford</i>	<i>North Bristol</i>
A) Outline delivery date agreed with BT at contract reset, prior to local detailed planning	28-May-11	10-Sep-11	04-Jun-11
B) Formally contracted delivery date following local detailed planning	01-Jul-11	19-Nov-11	Yet to baseline
C) Current planned delivery date	29-Jul-11	19-Nov-11	Yet to baseline
Number of changes in delivery date (between A and C)	2	1	2
Variation between formally contracted and current delivery dates (between B and C)	1 month	None	N/A
Planned project duration from project start to go-live	16 months	20 months	21 months

The implementation of a Cerner system is a significant change management exercise within a Trust. Accepted good practice for the IT element within a large scale change programme is to determine the dates as part of the wider planning exercise. Fixing dates too early and driving to meet those dates can introduce unnecessary risk to the project. As the project progresses dates move from being tentative (or “outline”) to becoming fixed as part of a detailed implementation plan.

When the dates have been fixed in the detailed implementation plan, the supplier can be penalised for failure to meet the date—similarly the Department of Health would be penalised if the slip was caused by an NHS Trust.

Outline delivery dates were agreed with BT at the point of contract reset reflected by point A in the table above—these delivery dates were not contractually baselined at that stage. Dates were contractually baselined following detailed planning between the Trust and the Supplier and these are reflected by point B above. This method of agreeing implementation dates is in line with best practice on large IT programmes

Historically, Oxford and Bath had initiated projects with Fujitsu.

Changes at Bath

1. Detailed planning led to the outline delivery date of 28 May 2011 being contractually baselined at 1 July 2011.
2. On 15 April 2011 BT notified the NHS of a delay to the project resulting in a re-baselined delivery date of 29 July 2011. Contractual delay deductions in the order of £500K have been applied to BT for this delay.

Changes at Oxford

1. Detailed planning between the Trust and the supplier led to the outline delivery date of 10 September 2011 being contractually baselined at 19 November 2011. There is not expected to be any financial implication from this change.

Changes at Bristol

1. The detailed planning led to the outline delivery date of 4 June 2011 being revised to 2 July 2011, but this was not formally baselined and is now subject to further revision. This change was as a result of the Trust wanting to move an interim milestone that would impact the go-live date. This was in part due to the Trust receiving a Delay Event Notice issued by BT in September 2010. BT have, to date, not associated any cost with this Delay Event Notice.
2. Detailed re-planning discussions are currently ongoing between the supplier and the Trust to establish a new contractual delivery date.

Comparisons of delivery timeframes

By comparison in London, Kingston took 18 months, St Georges took 18 months, and Imperial is forecast to take 20 months. All these durations exclude the delays caused by the four month “pause” in London deployments between Oct 2008 and January 2009, following the Royal Free go-live in July 2008.

Outside of the programme, where Trusts have contracted either directly with Cerner or via a third party (such as University Pittsburgh Medical Centre), deployments take a similar duration. Newcastle took 19 months to go-live and the Wirral took 24 months after contract signing.

COMPUTER SCIENCES CORPORATION

3.9 How many iSoft iCM licences i) have been paid for by NPfIT since it began? And ii) at what total cost?

The answer provided to this question includes iPM, as well as iCM licenses. iPM was deployed in Primary Care, Mental Health, Acute and Tertiary settings between April 2005 and August 2010.

To date the Authority has procured a total of 6 iCM licenses and 83 iPM licences. Within the current contract, the Authority has paid £1.4 million for all 89 iCM and iPM licences combined. This covers the licence cost until iCM and iPM are de-commissioned.

Figure 6

DEPLOYMENT AND SERVICE CHARGES FOR IPM

Cluster	Deployment Charge per site (£'000)	Annual Service Charge per site (£'000)	Total Annual Service Charge (£'000) for all IPM Deployments	Acute	Mental Health	PCT
NE	470	226	1,353			
NWWM	500	152	8,156	22	14	47
EEM	564	274	4,111			
Average	511	217	13,621			

Figure 7

DEPLOYMENT AND SERVICE CHARGES FOR ICM

Contract	Deployment Charge per site (£'000)	Annual Service Charge per site (£'000)	Total Annual Service Charge (£'000) for all ICM Deployments	Acute	Mental Health	PCT
NE	564	113	113			
NWWM	610	78	234	5	0	1
EEM	564	108	216			
Average	579	100	563			

As can be seen, the contracted costs vary by Cluster. As clusters were originally offered as individual contracts, potential contractors offered discreet bids for each individual region that reflected the contractor's view of charges necessary to recover their costs and achieve margin. An average value is included above for simplicity.

The total cost of deployment and service charges of these interim systems to end March 2011 is approximately £105 million.

The local cost of a deployment of iCM is approximately £150,000 and the estimated local cost of an iPM deployment is £5 million.

3.10 When will the next Lorenzo go-lives take place? And at which sites?

There will be no decision on the next Lorenzo site to go live until after the outcome of the Major Projects Review is known by the Department.

We do know that there are 80 Trusts in the North, Midlands, and East of England whose PAS systems will become unsupported in the next 2–3 years and who will, therefore, need either to extend non-strategic systems or re-procure systems.

3.11 What is the demand for Lorenzo?

The original contract committed 223 Trusts to take NPfIT systems in NME. This includes 161 Trusts committed to Lorenzo. In December 2010 we wrote to you saying that, at that time, the Memorandum of Understanding (MoU) expectation was that these numbers would reduce to 187 Trusts taking systems, with at least 127 expected to take Lorenzo. These numbers were based on returns from the SHA CIOs. We would expect to repeat this exercise if the terms of the MoU are accepted by the Department.

3.12 How many Trusts are signed up to take Lorenzo?

Under the current contracts in the North East & North West and West Midlands, 161 Trusts are committed to take Lorenzo. The East and East Midlands Cluster does not have a commitment due to the contract's non-exclusivity in that Cluster.

3.13 *How many will sign up to take it? How do you know?*

The number of Trusts that will take Lorenzo is under review as part of the current MoU discussions with CSC. We have previously carried out a consultation exercise with trusts to establish demand and we would expect to repeat this exercise if the terms of the MoU are accepted by the Department. The Department is clear that demand will depend on the quality of the product.

3.14 *How long does it take to deploy Lorenzo at one site?*

The deployment “cut-over” takes a weekend.

The deployment project, which delivers all the necessary local design, build, testing, data migration, and related clinical and process change, varies in duration depending on the size of the organisation, the scope of the deployment, and its complexity.

The actual project durations for the three Release 1.9 Lorenzo Care Management deployments to date have been:

- *Bury PCT*: Project Initiation Document (PID) Sign Off—March 2009; Care Management—Go-Live—03 November 2009; *PID to go-live duration 8 months.*
- *University Hospitals Morecambe Bay*: PID Sign Off—February 2009; Care Management—Go-Live—31 May 2010; *PID to go-live duration 15 months.*
- *Birmingham Women’s Hospital*: PID Sign Off—January 2009 but Project Engagement started March 2010; Care Management—Go-Live—31 October 2010; *PID to go-live duration 22 months, Project engagement to go-live 8 months.*

Evidence from CSC’s delivery of other products suggests that these timeframes will be reduced as CSC refines its delivery process in the light of lessons learned from previous deployments.

Delivery timeframes for Lorenzo modules:

The Lorenzo product is designed to be deployed in modules or stages. The list below shows the expected time to deploy these modules.

- Care Management, Mental Health, Care Plans and Inpatient Prescribing (IPP) deployment units each have a deployment profile of *12 months.*
- Request and Results is *11 months.*
- Clinical Documentation is *eight months.*
- To Take Out (TTO) and Advanced Bed Management is *six months each.*
- Day Care is *four months.*
- Emergency Care is *four months (with Care Management).*

Comparative Data

Cerner Millennium Deployments—by comparison, Cerner Millennium deployments in London at Kingston took 18 months, at St Georges 18 months, and Imperial is forecast to take 20 months. All these durations exclude the delays caused by the four month “pause” in London deployments between October 2008 and January 2009, following the Royal Free go-live in July 2008.

Outside of the programme, where Trusts have contracted either directly with Cerner or via a third party (such as University Pittsburgh Medical Centre), deployments take a similar duration. Newcastle took 19 months to go-live and the Wirral took 24 months after contract signing.

Pre-NPFIT Projects—the South West Shires Consortium May 2003 implementation plan assumed an average roll-out of 30 months per Trust.

The Kensington, Chelsea and Westminster Business Case in April 2002 for the implementation of IDX included a “strategy” stage of 3–12 months, a procurement stage of 18–24 months and an implementation stage of 21–42 months.

SECTION 4—ADDITIONAL NOTES PROVIDED TO THE COMMITTEE

4.1 *Note on Role Based Access Control*

Introduction

The aim of this paper is to clarify answers given (in response to questions 173–186) at the Public Accounts Committee hearing on 23 May in respect of access to care records.

The different types of health records discussed in this paper include:

- detailed care records held locally;
- records held in prescription, referral and other local systems; and

- Summary Care Record of key information which can be accessed anywhere in England should a patient need treatment away from home, out of hours or in an emergency.

Detailed care records

Every NHS organisation keeps a detailed record of every patient they care for.

There is more than one single electronic health record for each patient—these records used to be a combination of electronic and paper but increasingly they are becoming electronic.

The majority of electronic detailed care records held by NHS organisations in England are stored in iPM, SystemOne, Lorenzo, Cerner, RiO and EMIS.

Summary care record

Patients have a choice whether or not to have a Summary Care Record (SCR). Every patient aged 16 and above is written to at least 12 weeks before any information is sent to the Summary Care Record from the patient's GP practice record. Any patient who chooses to opt out will not have an SCR created.

Access to records

Regulatory bodies have made it clear that they expect the NHS to put in place the strongest possible safeguards. The commitment to achieving this is set out in the NHS Constitution and in the NHS Care Record Guarantee.

By law, everyone working for, or on behalf of, the NHS must keep all information about a patient secure. Healthcare staff have a legal, ethical and, in some cases, professional obligation to respect patient confidentiality.

These choices may vary between different NHS organisations depending on the local systems they use. All systems connected to the Spine have a range of technical controls in place to allow detailed care records to be safely and securely shared across NHS organisations.

NHS Smartcards

Healthcare Staff must have an NHS Smartcard (like a bank card and PIN) to access systems and access to a patient's medical record is only available to those healthcare staff who have the appropriate access controls added to their Smartcard. Staff who do not need to have access to medical records will not have the appropriate access controls added to their Smartcard and will not be able to access a patient's medical record.

In order to ensure that Smartcards are issued to appropriate individuals, Smartcards are issued by Registration Authorities locally in the NHS, so it is not possible to give an accurate figure of the number of NHS staff who will have access to SCRs.

Legitimate Reason

Access to a patient's medical record is only available to staff with a legitimate reason. This is enforced in the system through a mix of both stringent technical controls and operational processes. Access to a patient's record requires a legitimate relationship to be established in the system, which requires the involvement of at least two members of staff to register the patient on the system. Any access without this would generate an alert, for investigation by the local NHS Privacy Officer, whose role it is to investigate any inappropriate accesses.

In the context of GPs, each GP practice functions as a workgroup and will generally have access to the records of a patient of that practice in the appropriate context (for example, for a patient consultation). This access is fully audited.

All GPs must use smartcards when interacting with national services such as the Personal Demographic Service, Summary Care Record, Choose & Book and Electronic Prescriptions Service. Smartcards are not mandated for general system access; however, many GP systems do provide the capability to use the smartcard as a method of authentication. Additionally, under the Local Service Provider contract, TPP is obliged to provide smartcard authentication as the primary authentication mechanism for its GP systems.

Permission to View

Access to a patient's Summary Care Record requires the patient to give their permission for the clinician to view their Summary Care Record. Any access that is made without permission—eg accessing a patient's SCR in an emergency—generates an alert which is sent to the local NHS Privacy Officer to investigate.

In an acute setting such as a hospital the patient would consent to the clinical team providing care for them to have access to their record at the point of entry.

Audit of accesses

All accesses to a patient’s medical record are audited, including the details of the time and date of the access and the details of the individual who made the access.

Transparency of accesses

Patients can request to see both the information held about them but also who has been looking at their Summary Care Record. This commitment to the public is included in the NHS Care Record Guarantee.

Not all system users can access all information, for example administrative staff would only be allowed to see a patient’s demographic information. This principle is known as role based access control (RBAC). These functions are authorised by the local NHS Information Governance lead known as a Registration Agent.

User Numbers

The number of users by Cluster is shown in Figure 8.

Figure 8

USER NUMBERS BY NPFIT CLUSTER

	<i>Number of Users</i>
North Midlands and East	200,000
London	53,000
Southern	35,000

- The total number of registered smartcard users is currently 843,000.
- The number of unique users authenticating during March 2011 was 378,811.
- Currently 12,500 staff have the appropriate roles on their NHS Smartcard to view Summary Care Records.
- A large Mental Health Trust would have approximately 3,000 users.
- Another 61,721 healthcare staff also access detailed care records using Ambulance, Child Health, Maternity, digital x-rays and scans (PACS and RIS), Accident and Emergency, and Theatre systems.

4.2 Note on Clinical Benefits and Exploitation

Introduction

NHS IT systems support the NHS in providing better care for patients. This document provides practical examples of how NHS IT systems are being exploited to improve: patient experience, clinical efficiency, clinical safety, clinical effectiveness, research and education.

Patient experience

Integrated software allows the doctor to demonstrate result and diagnostic findings directly on screen to the patient. As examples, Cerner Millennium can be used to show laboratory data and to graph sequences of data in front of the patient in the clinic. This allows the patient to see the effect of a treatment or procedure and improves both the level of understanding of the patient as well as their level of engagement.

Using the screen to demonstrate information to patients is a first step towards patients having control of their own record, as it improves familiarity and understanding of medical terminology.

Millennium also allows the printing of any page so that the doctor can share legible and easily deciphered information with the patient at any point of their journey. Millennium additionally allows the doctor or nurse to review information from other providers in the presence of the patient and check accuracy, as well as developing patient confidence in the medical or care information held about them.

With patient agreement, it is also possible to add patient generated digital information, for example, e-mails about their condition, to the detailed care record.

Healthspace and Communicator (although only available to a small number of clinicians at the moment) provide a platform for patients to communicate with their GP or specialist through a secure e-mail route. The doctor can add information to the patient’s Healthspace account. As an example, a consultant in haematology at Barts and the London Hospital has a patient on an oral chemotherapy drug for a chronic bone marrow condition. The consultant sends blood results to the patient using this route. Other patients on the move use this route to ask the consultant questions about their appointments and their condition.

Clinical efficiency

Millennium allows the doctor to review and endorse GP referrals made via Choose and Book online. In this way the doctor can redirect the referral if necessary to return it to the GP with questions or comments. The process is faster than paper based processes for accepting referrals in secondary and specialist care.

Clinical staff at Morecambe Bay can also access the GP records of the specific patients they are treating, as Lorenzo is connected to the GP system in use locally.

Millennium also provides the clinician (nurse or doctor) with immediate access to a group of test results. This includes access to radiology, reports integrated with the PACS image, other images such as ultrasounds and MRI scans, laboratory results and patient measurements such as height, weight and vital signs. Remote monitoring of conditions by testing at home and uploading via e-mail is now also possible. Immediate access to patient documentation, such as the referral letter, clinic letters, discharge summaries and clinical notes is also available through Millennium.

In summary, the digital record is always available for clinical consultations at any networked PC within a trust at any time of day or night. With VPN access the clinical professional at home can also view the record securely and support decision making by doctors based at the hospital. This has proved particularly helpful, for example, at Barts in managing stroke patients in the stroke unit.

The search for patients through the personal demographic system has improved patient flows and access to information in Accident and Emergency departments.

Depth of coding into International Classification of Disease (ICD)10 codes and Health Resource Groups is improved by access to problem lists populated with Systematised Nomenclature of Medicine Clinical Terms (SNOMED CT). As wider use of SNOMED is achieved through the use of Millennium and Lorenzo the ability to plan services based on deeper levels of information will develop rapidly.

Clinical safety

Immediate access to patient information including coded diagnosis and problem lists improves decision making by all staff in emergency situations. For example, coding of diabetes in the digital record aids treatment in the emergency room of confused or comatose patients. Emergency resuscitation of cancer patient receiving chemotherapy is also improved by knowledge of their blood counts.

Lorenzo and Millennium permit the use of Alerts to manage patients with Infection Control problems such as MRSA and C.diff, allergy status, vulnerable adults and child safeguarding needs. At Morecambe Bay, infection prevention is now fully electronic across the Trust using Lorenzo functionality and in Barts all patients carrying MRSA are alerted to the clinician using Millennium. The data is always available day or night.

The Royal Free has also created safety procedure information in Millennium. For example, there was a serious untoward incident in the trust, as a result of which bleeding guidelines are now included in the system. Similarly, endoscopy data is now held on the system, helping to address the issue that previously only about a quarter of endoscopy data was available.

The software provides listing functions to support patient handover at shift change times and to create work lists for nights and weekends.

The software supports the production of legible and meaningful discharge summaries for handing over care to GPs and sharing information with patients and their families. This function is particularly well developed in the current version of Lorenzo at Morecambe Bay University hospitals where about 60% of patients currently are sent home with a software generated summary. This equates to 1500 Discharge Summaries being produced in April 2011, compared to only 136 in January 2011.

The software provides tools for endorsing patient results from the laboratories. This ensures that abnormal results are not missed or if they are, the practitioner can be identified and managed.

Patient protocols can be added to the patient record to be used by any staff for treatment or care management. In Barts, for example, all occupational therapy assessments are added to the record. These can be printed out or e-mailed to other practitioners either within the hospital or in the community. Protocols for patients with haemophilia, sickle cell disease and multiple sclerosis are other examples.

Clinical effectiveness

Clinical audit is strongly supported by the creation of patient lists identifying groups of patients with particular problems or diagnoses. These lists can be tracked in real time and offer an immediate way of checking that patients are correctly investigated and managed.

Patient tracking and outcomes assessment is advanced by the use of SNOMED Clinical Terms.

The software supports decision making and management of patients at all forms of multidisciplinary team meetings and cancer review processes.

Research

Millennium gives the user immediate access to Medline, an abstracts and research publication database. Searches are initiated from a recognised clinical term and support both care and research. The software suites allow the capture and transfer of clinical data for research purposes.

Databases and protocols can be shared across health systems to support complex research and network collaborations.

Education

Millennium provides access to BMJ Action sets in a number of English Trusts. These are real time learning tools for any grade of doctor and provide the doctor with decision support.

The patient listing functions allows educators to review groups of similar patients with students on a class room basis before visiting patients or where patients are only seen rarely in outpatients. The stored clinical data provides an immediate source of educational material for medical and nursing students.

Statistics relating to Lorenzo Exploitation at Morecambe Bay

- 70% of all staff are trained to use Lorenzo and are smartcard enabled (4,200 out of 6,000) with a concurrency of 350–400 users at any one time.
- Lorenzo supports in excess of 1,200 unique logins per day; greater than 300 of those are by Doctors.
- Approximately 28% of all users login each day.
- In addition to management and administrative teams, some 1,100 clinical staff are now using the Lorenzo system at Morecambe Bay to admit, transfer and discharge patients.

Statistics relating to Cerner Millennium Exploitation at The Royal Free Hospital

During April 2011, Cerner processed the following number of transactions:

- 93,655 appointments (3,122 per day);
- 71,906 registrations (2,397 per day);
- 321,320 orders opened (10,711 per day); and
- there are over 1,300 smartcard enabled active users within the Trust (700–800 concurrent at peak times).

4.3 Note on Advance Payments and Repayments

Description

Advance Payments are provided to suppliers as a method to mitigate high financing costs that their projects would otherwise attract using bank credit, and hence a higher cost to the Taxpayer.

Advance Payments are only made once a value for money case has been made to the Treasury and their permission granted.

All Advance Payments are made against a Bond (and Deployment plan) which is guaranteed by a reputable financial institution, acceptable to CFH. CFH can call the Bond without recourse to the supplier. No advance payment period exceeds one year and all advance payments are reconciled at the end of the term and unearned values are refunded within the term.

Advanced Payments and Repayments to date

The total of advance payments made to 31 March 2011 in respect of all contracts over the whole period of the Programme is £2,532 million. The total of repayments to date is £1,085 million and suppliers have retained £1,328 million, as deliverables have been met. The value of outstanding advance payments at 31 March 2011 was £119 million. The table below sets this out:

Figure 9

ADVANCED PAYMENTS AND REPAYMENTS TO DATE

	<i>£ million</i>
Total advance payments made	2,532
Of which:	
Total amount earned by supplier	1,328
Total amount repaid	1,085
Amount to be earned or refunded as AP not yet expired	119

SECTION 5—RESPONSE TO LETTER FROM CSE

5. Note for the Public Accounts Committee in response to the letter received by the Public Accounts Committee from the Chairman, CSE Healthcare Systems dated 26 May 2011

Purpose

Mr Alan Stubbs, the Chairman of CSE Healthcare Systems, wrote to the Clerk of the Public Accounts Committee (PAC) on 26 May 2011 in response to evidence given by Ms Christine Connelly at the PAC hearing on 23 May 2011.

This note is a formal response to the points raised in Mr Stubbs' letter.

General Points

The evidence provided by Ms Connelly at the hearing in respect of Bradford District Care Trust was based on written information received by the Department from the Trust on 20 May 2011 in response to specific questions asked of the trust by the Department.

Ms Connelly also sought, on the basis of the information received from Bradford, to compare the RiO service provided at Bradford with the RiO systems provided as part of the National Programme for IT. She did not state that Bradford was receiving "a lower standard of service" but did clearly state that there is not a like for like comparison between the services provided by CSE directly to Bradford and the services provided by BT to Trusts receiving RiO through the National Programme for IT.

In order to make a broader comparison, the Department has, since the PAC hearing, obtained information from two other trusts that have deployed RiO outside of the National Programme for IT. The findings are summarised in the answer to Question 2 from Mr Richard Bacon (please see Section 3 of this document).

Specific Points raised in the CSE Letter

- Ms Connelly did not state that Bradford does not get 24/7 support. She said, in response to Question 241, that "we get 24/7 support". By "we", Ms Connelly was referring to the trusts that take RiO inside the National Programme
- Ms Connelly did not state that *Disaster Recovery* was excluded from the Bradford service. In fact, explicitly in response to Question 239, Ms Connelly stated that Bradford do have Disaster Recovery. However, she went on to point out the limitations of the Disaster Recovery at Bradford and to contrast this, in response to Question 241, to the fact that within the National Programme full Disaster Recovery is provided and that the cost of full Disaster Recovery is significant. To clarify, Bradford told the Department that they have "local disaster recovery provision" with CSE invoking Disaster Recovery remotely, onto local Bradford infrastructure and that this operates "at 25% capacity". This contrasts significantly with the NPfIT environment where components are automatically recovered if they fail and, should the whole environment fail, it is contracted to be completely recovered within two hours.
- The Department acknowledges that there was no mention of *Facilities Management*. Bradford told the Department that hosting and infrastructure is provided by the Trust, with 24/7 support provided by CSE via "dial-in" over N3. In NPfIT, facilities management is provided directly by BT on infrastructure supplied by BT.
- Ms Connelly stated in response to Question 237 that Bradford has a 59 month *contract duration*, as the Trust told the Department that their live service runs from 5 May 2009 to 31 March 2014.
- Ms Connelly's comment re 25% *availability*, in response to Question 239, was, as stated above, specifically in the context of Disaster Recovery, not in respect of the service availability as a whole. The Department did not request information from the Trust on operational service levels achieved by CSE.

Figure 10

A COPY OF THE LETTER FROM CSE CHAIRMAN, ALAN STUBBS.

SUBJECT: PAC meeting 23 May 2011 on the national programme for the NHS

During the evidence presented by Ms Christine Connelly, one of our contracts for RiO; Bradford Mental health Trust was referenced.

Ms Connelly's statement was that Bradford is receiving a lower standard of service than provided by BT in London and hence the lower price charged by CSE Healthcare Systems to Bradford.

CSE healthcare Systems wishes to correct the evidence given.

- Ms Connelly stated that the services is NOT 24*7 hours—the service is a 24*7 service.
- Ms Connelly stated that Disaster Recovery (DR) was NOT included in the service—a DR services is included.

- There was no mention of Facilities Management—we provide remote Facilities Management.
- The service contract is for five years—not four years as stated.
- Ms Connelly implied that the system only had 25% availability—our records demonstrate that this is not true; the system is architected to achieve an availability of over 99%.

June 2011

Supplementary written evidence from the Department of Health

Thank you for your letter dated 27 June. I apologise for the slight delay to my response. I have responded to your questions in order below.

ADVANCE PAYMENTS TO SUPPLIERS

1. *Is this (press) report accurate?*

I can confirm that the report referred to in your letter is accurate.

2. *Why was this payment not reported to the PAC, either during the hearing or in the subsequent memorandum?*

This advance payment was not reported to the PAC as the payment was made in April 2011 and the memorandum submitted only covered advance payments up to the end of March 2011, the most recent complete financial reporting period. The period covered by the disclosure was made clear in the memorandum. I apologise that this later payment was not disclosed as part of the memorandum and I can assure you that there was no intention to mislead you or the Committee on this point.

3. *What was the justification for this payment and what value does it represent to the NHS?*

This advance payment was agreed by the DH Finance and HM Treasury for an initial period of six weeks from 1 April, given the exceptional circumstances and in the expectation that, during that period, a Memorandum of Understanding (MoU) would be signed. In the event, the Major Projects Authority review took place and is under discussion between Cabinet Office, the Department of Health, their officials and Ministers. The original period of the advance payment has now been extended until 30 September 2011 again with HMT approval, whilst the deliberations and outcomes of the MPA review are finalised.

4. *What will happen in respect of this payment if a new memorandum of understanding is not in fact signed with CSC?*

If there is no agreement and an MoU or other agreement is not signed that allows CSC to retain the advance payment during this financial year, then the payment will be re payable, save for any amounts earned by CSC.

5. *I would also be grateful if you would comment on the CSC filing with the US Security and Exchange Commission*

I would not wish to comment in detail on CSC's filing which is an issue, rightly for them.

The Cost of deploying Cerner Millennium at North Bristol.

6. *Can you explain why the delivery date agreed with BT at the contract "reset" was 4 June 2011?*

The original contract did not specify a particular date for the Greenfield deployments. If by "reset" you refer to the Greenfield's Contract Change Note of 1 April 2010 to formalise the date, then the agreed delivery date of 4 June 2011, was committed then.

The date was agreed between the local Trust and BT based upon, amongst other things, the Trust's view of its own readiness.

7. *Why it was then revised to 2 July 2011?*

The Trust requested that their deployment phase commence a week later than originally planned and that their Design Review Event be delayed by four weeks.

8. *And why it now appears that there is no agreed delivery date at all?*

There is now an agreed date of 8 December 2011 based on a meeting at the Trust on 15 June 2011 between the Trust, BT (the supplier) and their subcontractor Cerner.

9. *Can you also give your best comparison of the cost of deploying the Cerner Millennium system at North Bristol, with the cost to University Hospitals Bristol of deploying the System C Healthcare Medway system outside the National Programme?*

I am unable to answer this question at this stage as we do not have information about the System C contract with University Hospitals Bristol and are therefore unable to make an appropriate comparison with the Cerner Millennium contract.

10. *As the Senior Responsible Owner for the National Programme, can you give your explicit undertaking that the North Bristol contract represents value for money for taxpayers?*

I believe the contract represents value for money and will provide a valuable service for local clinicians. The specific trusts were fully involved in defining the requirements for, and conducting the reviews of, the BT Business proposal to ensure alignment with their business needs and processes. The trusts have concluded that the requirements and approach will result in a deployable solution capable of meeting local needs. Each trust has also provided a letter of intent, confirming their commitment to the project and that they have the resources to deliver it.

The Full Business Case was supported by the SPfIT Programme Board, chaired by the South East SHA Chief Executive (and the Senior Responsible Owner for SPliT), and on 4 February 2010, the NPfIT National Programme Board approved it for submission to the Department's own Capital Investment Branch for a value for money assessment. Following a rigorous assessment, the business case was confirmed as affordable, and was approved by HM Treasury.

15 July 2011

Written evidence from XML Solutions

I am from a small company which specialises in advising on large scale and government Healthcare ICT projects. I worked on the National Programme for IT for seven years working for the final two years as the Chief Architect on the NHS Spine. I learnt a tremendous amount about the challenges—technical and commercial—of modern Healthcare IT and large government projects. Further to speaking with a clerk of the committee, Phillip Aylett, I have agreed to make a short note on a few of the challenges that were faced by the National Programme which have perhaps not been so widely understood in the investigations to date. There are many subtle problems which helped escalate the costs of the NHS National Programme for IT. Some have been addressed in the NAO report. Many other factors are perhaps only evident to those on the “front line” of delivery and in what follows I attempt to explain just a couple of these. I hope it will be of interest to the committee.

The first of the phenomena I want to discuss goes some way to explaining the spiralling costs and inefficiencies of many large government projects. The government has already recognised that there are inefficiencies in these projects and sensibly proposes to cap the size of projects in future. However, this note elaborates one of the many subtle reasons why costs spiral.

Every large programme inevitably has to allow for elements of change. Whenever a new deliverable is negotiated, the government reasonably wants to limit the potential profit a private organisation can make on that change. In order to do this they specify a fixed profit margin (somewhere between five and fifteen percent depending on the type of change) on each change. Although on the face of it this approach seems sensible it actually encourages inefficiency in the system. When the government requests a change the supplier must estimate the cost of the change. To do this they will in turn talk to their sub-contractors. However, because there is a fixed percentage that the supplier can make there is no incentive for them to encourage their sub-contractors to make the additions in the most efficient way possible. In fact, perversely there is a subconscious incentive for the main supplier to encourage its subcontractors to be expensive because 15% of five million is obviously a lot more profit than 15% of one million. I should emphasise that in no cases do suppliers consciously overestimate the cost of change. However, I have observed on many occasions the collective unconscious of an organisation going through this process and then watched the additional waste of effort as the department of Health (or CFH) spend weeks arguing about the estimate.

In summary, the committee should consider finding commercial structures which reasonably limit the profit a major supplier can make but which none the less still encourage creativity and efficiency in the supplier. If the committee are able to recommend commercial relationships that resolve this issue they will be providing a great service to future government projects, even those of the relatively smaller £100 million scale.

The original requirements of the NHS National Programme for IT included substantial services on the Spine which were to be used by the LSPs. However, one area of hidden losses to NHS patients is the lack of functionality that has been taken-up from the Spine. It is worth remembering that the National Programme was essentially an integration activity that relied on all parts of that system working together. For example, the PSIS (the store of the Summary Care Record) has been designed and built to support much more than the basic records that are being used today. Similarly, the Access Control Service, originally envisaged as a nationally

utilised system, is now likely to be extremely underutilised. As such, many hidden losses result not from non-delivery of LSP components but from the lack of utilisation of already delivered Spine components. This is not necessarily to assume that all these services should now be fully utilised, but the fact there they have been paid for without their full value being gained by the NHS should be recorded.¹ In summary, the committee should consider quantifying these losses in terms of the lack of adoption of Spine services and the general reduced level of integration between systems.

I hope these notes have been of some use and wish to offer the committee my sincerest wishes that they are able to assess and provide useful recommendations for the future of these services.

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¹ I note that the NAO report appears to mark Spine Services as “fully utilised”. Whilst I would not want to contradict this more measured report, that assumption does not accord precisely with my understanding.