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

Summary

1 The National Programme for IT in the NHS (the Programme) is an £11.4 billion programme of investment. Launched in 2002, its stated aim was to reform the way that the NHS in England uses information, and hence to improve services and the quality of patient care. By 31 March 2011, total expenditure on the Programme totalled some £6.4 billion. These costs include central expenditure on managing the Programme, delivering national systems, procuring systems for local NHS organisations, and the cost to those organisations of implementing these systems locally.

2 The Department has spent £2 billion on the development and delivery of national systems, including a broadband network and a system to electronically share X-rays. Delivery of these systems is almost complete, and the majority are now providing the NHS with valuable infrastructure and services. A further £1.7 billion has been spent on the maintenance of national systems by local NHS organisations and on central Programme management by the Department.

3 Central to the Programme, however, is the creation of a fully integrated electronic care records system that is designed to reduce reliance on paper files, make accurate patient records available at all times, and enable the rapid transmission of information between different parts of the NHS. The system is intended to comprise for each NHS patient:

- a **Detailed Care Record** containing full details of the patient's medical history and treatment, that is accessible to a patient's GP and local community and hospital care settings, for example, in the event that the patient is referred for hospital treatment; and
- a **Summary Care Record** containing key medical information, such as allergies, made available across England to NHS staff involved in treating the patient.

4 The Department expects to spend some £150 million on the development of the Summary Care Record, and has so far spent around £100 million that is accounted for within the expenditure on national systems. In comparison, to support the creation of detailed care records, in 2003-04, the Department awarded five 10-year contracts totalling some £5 billion to four suppliers for the delivery of local care records systems: Accenture in the East and in the North East; BT in London; Computer Sciences Corporation (CSC) in the North West, and West Midlands; and Fujitsu in the South. The aim was for detailed care records systems to be delivered to all NHS trusts and GP practices (excluding GP practices in the South) by the end of 2007, with increased functionality and integration added until full implementation was complete in 2010.

Figure 1

Delays in the delivery of detailed care records systems reported by the National Audit Office and Committee of Public Accounts

Year	Development
2006	The National Audit Office (NAO) reports that care records systems will be delivered later than planned, and recommends that while some adjustment of suppliers' milestones may be a necessary, the Department "should not allow this to compromise the eventual achievement of the vision of the fully integrated care record service that was the objective of the Programme at its inception".
2007	Accenture announces a $450 million provision in its accounts for future expected losses relating to the delivery of systems for the NHS. Accenture's local service provider contracts are transferred to CSC. The Committee of Public Accounts reports that delivery of care records systems is two years behind schedule. It also reports that: • suppliers are struggling to deliver and there are no published plans for the systems in line with the Programme's original vision; • the introduction of clinical software has scarcely begun because essential clinical software development has not been completed; and • serious problems with the systems are contributing to resistance from NHS staff.
2008	The NAO reports that it will be 2014-15 before every NHS trust has a fully delivered care records system, and identifies the delivery of these systems as the Programme's major outstanding challenge. The Department terminates Fujitsu's contract in the South.
2009	The Department reports to the Committee that the original timescales had not been achieved because the suppliers were having to do more customisation to meet the needs of individual NHS organisations than was envisaged and because of the technically ambitious nature of the systems. The Department also reports to the Committee that it terminated Fujitsu's contract after negotiations to reset it had failed. One particular area of difficulty was the cost of what Fujitsu termed 'new requirements.' • The Department's position was that the majority of these requirements were remedial and were necessary to make the system being provided by Fujitsu fit for purpose. Furthermore, that the delay to the programme was as a result of Fujitsu's failure to meet its contractual obligations. • Fujitsu's position was that all the requirements were new and incremental to the existing contract and therefore needed additional funding. Fujitsu's view was that the Department had caused delay to the Programme as a result of substantial changes to the system. The Committee questions the remaining suppliers' capacity to deliver and raises concerns about the strength of the Department's negotiating position. Following the termination of Fujitsu's contract, the Committee also reports that the revised completion date of 2014-15, is in doubt. The Committee concludes that the Programme is not providing value for money because there had been few successful deployments of care records systems in acute trusts and recommends that the Department should: • assess BT's and CSC's capacity to meet their substantial commitments; and • consider the impact on the strength of its negotiating position of having only two suppliers.
2010	BT's contract is reset to reflect the need for greater flexibility in the delivery of care records systems than originally envisaged.

Source: National Audit Office and Committee of Public Accounts

5 The delivery of both the Summary Care Record and Detailed Care Record have been delayed. Whilst the Department has now overcome the ethical issues that delayed implementation of the Summary Care Record, the delivery of care records systems to support the creation of the Detailed Care Record has proven to be far more difficult than expected. Previous reviews by the National Audit Office and Committee of Public Accounts have reported on delays in software development and delivery, difficulties in implementing standard systems across the NHS, and contractual issues that have led to one supplier exiting the Programme and the contract for another being terminated (**Figure 1** on page 5).

6 The Department now has contracts with only two local service providers across three Programme areas. BT is the local service provider in London and has taken on some of the work previously contracted to Fujitsu in the South, and CSC is providing systems in the North, Midlands and East. Each region is treated as an individual project, and has its own contractual arrangements. Different care records systems are being delivered in different care settings, and the systems being delivered vary between regions (**Figure 2**).

Figure 2
Care records systems to be delivered through the Programme

Region (supplier)	Care setting	Care record systems being delivered
London (BT), South (BT)	Acute trusts	Cerner Millennium
	Mental health trusts and community health services	RiO
North, Midlands and East (CSC)	Acute trusts and mental health trusts	iSoft Lorenzo
	Community health services	iSoft Lorenzo/TPP SystmOne
	GP practices	TPP SystmOne/GP Lorenzo
	Ambulance trusts	Medusa Siren ePCR

Source: National Audit Office

7 The Department has so far paid some £1.8 billion to suppliers of care records systems and a further £900 million has been spent by local NHS organisations on implementing the systems provided. Of the further £5 billion expected to be spent on the Programme overall, some £4.3 billion will be spent on the delivery and implementation of care records systems up to 2015-16 (**Figure 3**).

Figure 3
Expenditure on the Programme as at 31 March 2011

Category	Actual expenditure (£bn)	Expenditure remaining to 2015-16 (£bn)	Expected total expenditure (£bn)
Programme management	0.82	0.37	1.19
Local NHS costs of running national systems	0.89	0.21	1.10
Delivering national systems	1.98	0.18	2.16
Local implementation of care records systems by NHS organisations	0.88	1.38	2.26
Delivery of care records systems by suppliers	1.78	2.91	4.69
Total	**6.35**	**5.05**	**11.40**[1]

NOTE

1 This figure does not include the £391 million cost of extending the N3 network by two years from 2011 to 2013, which the Department considers to be outside of the Programme.

Source: National Audit Office analysis of Connecting for Health data

8 This report provides an update on the delivery of detailed care records systems in each of the three Programme areas. In particular, it examines changes in the scope of the Department's contracts with its suppliers, the implications of these changes on the costs of care records systems, what these systems are able to do, and what risks and challenges the Department needs to manage in taking the Programme forward. This report does not seek to quantify what benefits are being realised through utilisation of those care records systems which have been delivered, or to establish the views of NHS staff on the Programme and its systems.

9 The information used within this report is drawn from departmental documents, interviews with lead officials, interviews with the Department's main contractors and visits to three NHS acute trusts at the forefront of the delivery of care records systems (see Appendix One). Unless otherwise stated the cost information in this report is at 2004-05 prices to enable comparison with cost information in previous National Audit Office reports on the Programme. Our findings are presented in the context of a lack of clarity between the Department and its suppliers about basic management information. In some cases we have been unable to reconcile the discrepancies we have identified. For example, information we received from the suppliers on Friday 13 May does not reconcile with information provided by the Department the previous day. The Department was unable to provide clarification to reconcile the discrepanicies by the time this report was submitted by the Comptroller and Auditor General for publication on Monday 16 May.

Key findings

10 The problems with implementing care records systems identified in previous reports by the National Audit Office and Committee of Public Accounts have continued. Delivery of the contracted number of systems continues to fall well below expectations and fewer systems will now be delivered to NHS organisations, although the cost of delivering care records systems remain substantially the same. In September 2009, the Department announced that it was changing its approach to a more locally-led system allowing NHS organisations to introduce smaller, more manageable change in line with their local business requirements and capacity. The Department no longer intends to replace systems wholesale, and will instead in some instances build on trusts' existing systems.

Care records systems are no longer being delivered in every NHS organisations and the Department is no longer intending to replace systems wholesale

11 Delivery of care records systems to all NHS organisations has not been achieved and the Department has now reduced the number of systems to be delivered. Significant reductions have been made in the number of acute trusts, ambulance trusts, and GP practices to receive care records systems through the Programme (**Figure 4**). These reductions mean that the aim of creating an electronic record for every NHS patient will not be achieved under the Programme. The Department has not stated what impact these reductions in the scope will have on the expected benefits of the Programme.

12 In December 2009, the Department revised its approach to implementing care records systems and each acute trust is now allowed to build on their existing system where this is possible and take the elements of the system they most require. Due to changes in the contracts, however, which enable trusts in London and the South to configure systems as they require, the Department cannot easily compare the level of functionality available across the NHS with that set out in the Programme's original specification. To support interoperability of the systems the Department has developed a set of standards which systems will be required to meet. With fewer systems being provided through the Programme and more use being made of a variety of existing systems, there is an increased risk of not achieving adequate compatibility across the NHS to effectively support joined up healthcare. The Department estimates that achieving interoperability will cost at least £220 million.

13 Although far fewer systems are now being delivered in **London** (Figure 4), there has not been a significant reduction in the total contract value. Care records systems for 1,243 GP practices and the London Ambulance Service have been removed from the Programme. In addition, the number of systems being delivered in acute trusts has reduced by around half. Savings achieved as a result of this reduction in scope have, however, been just £73 million out of £1,021 million because the original approach to delivering systems did not work and the Department has paid more for the systems to be tailored to meet the local needs of NHS trusts. There is a lack of transparency, regarding the impact these changes have had on the functionality now being provided compared to what was originally expected. The Department has also been unable to provide us with a full breakdown of the cost implications of these changes but Departmental papers suggest that they resulted in an increase in the average cost of Millennium per acute trust by at least 18 per cent.

Figure 4

Changes in number of care records systems contracted to be delivered

	London		South		North, Midlands and East		Total	
	Original 2003 contract	Contract as at 31 March 2011 (% reduction)	Original 2004 contract	Contract as at 31 March 2011 (% reduction)	Original 2003 contract	Contract as at 31 March 2011 (% reduction)	Original 2003-04 contracts	Contracts as at 31 March 2011 (% reduction)
Acute trusts	32	15 (-53)	42	10 (-76)	97	97 (0)	171	122 (-29)
Community health services	31	29 (-6)	31	12 (-61)	90	90 (0)	152	131 (-14)
Mental health trusts	10	8 (-20)	13	13 (0)	35	35 (0)	58	56 (-3)
GP practices	1,243	0 (-100)	–	– (0)	4,400	4,400 (0)	5,643	4,400 (-22)
Ambulance trusts	1	0 (-100)	4	0 (-100)	6	6 (0)	11	6 (-45)

NOTES

1 In some cases the number of trusts to receive systems has reduced since the original contracts were agreed as a result of mergers.

2 Ambulance and GP practice systems were removed from the scope of the Programme in London in March 2010.

3 GP practice systems were not included within the scope of the original contract for the South.

4 Ambulance systems were removed from the scope of the Programme in the South in March 2009.

5 In the South, some of the shortfall of care records systems is expected to be met through additional contracts which have not yet been let.

Source: National Audit Office analysis of Connecting for Health data

14 The reduction in the number of care records systems contracted to be delivered in the **South** (Figure 4) follows the termination of the original contractor, Fujitsu, in 2008. The replacement supplier, BT, is contracted to deliver only 35 of the original 90 care records systems at a cost of £454 million. The costs of delivering three care records systems in acute trusts under this contract are some 47 per cent higher than the cost of delivering the same system in London, although BT advises that the system is being delivered in a different way. The Department expects to deliver the remaining systems through a framework contract at a cost of no more than £470 million, meaning that the level of funding available for systems at each trust is significantly lower than that which is available under existing contracts.

15 There have been no reductions in the number of systems to be delivered by CSC in the **North, Midlands** and **East** (Figure 4). The Department is, however, in negotiations to reduce the total contract value by at least £500 million. To secure this cost reduction it is likely that the Department will need to reduce the number of care records systems to be delivered and the capability of these systems. The negotiations began in December 2009, but have not yet been concluded.

Progress with delivery of care records systems continues to fall well below expectations

16 The Department has so far spent some £1.8 billion on delivering care records systems, but was unable to provide us with a breakdown of what it has so far paid for each system. A further £900 million has been spent by local NHS organisations on implementing the systems provided. At the outset of the Programme, the aim was for implementation of care records systems to be complete and for every NHS patient to have an electronic care record by 2010. Progress has, however, fallen well below expectations and even with the agreed reductions in the number of systems being delivered, a substantial amount of work remains (**Figure 5**). Based on overall performance to date, we consider that under the terms of the current contracts it is unlikely that the remaining work can be completed by the end of the contracts in 2015-16.

17 In **London**, care records systems have been delivered to all 37 community health services and mental health trusts, and around half of the contracted number of acute trusts (Figure 5). In the **South**, care records systems have been delivered to 23 of 25 community health services and mental health trusts by BT. Seven acute trusts have care records systems. No new acute systems have been delivered since 2008 when Fujitsu's contract was terminated (Figure 5), although BT has completed the transfer of data and services from the seven former Fujitsu acute sites and upgraded the systems at four of these trusts. No contracts have yet been let to provide care records systems to those NHS organisations in the South not covered by the £454 million extension of BT's London contract.

18 In the North Midlands and East some 1,380 of 4,400 GP systems and all six ambulance trust systems have been delivered (Figure 5). Care records systems have also been delivered to 56 of 90 community health services, There have, however, been particular delays in acute trusts where only 10 of 97 systems have been delivered, and in mental health trusts where none of the 35 systems have been delivered. Because of delays in developing one of its systems, 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 (Figure 5). The Department does not now expect all of the interim systems to be replaced, although this is subject to finalisation of the ongoing negotiations to reset the contract in the North, Midlands, and East.

Figure 5

Progress in delivering care records systems as at 31 March 2011

	London		South		North, Midlands and East		Total	
	Delivered	Remaining (%)	Delivered	Remaining (%)	Delivered	Remaining (%)	Delivered	Remaining (%)
Acute trusts	8	7 (47)	7	3 (30)	4	93 (96)	19	103 (84)
Community health services	29	0 (0)	10	2 (17)	5	34 (38)	95	36 (27)
Mental health trusts	8	0 (0)	13	0 (0)	0	35 (100)	21	35 (63)
GP practices	–	–	–	–	1,377	3,023 (69)	1,377	3,023 (69)
Ambulance trusts	–	–	–	–	6	0 (0)	6	0 (0)

NOTES

1 Two of the deployments in acute trusts in London pre-date the Programme, but have since been integrated into the Programme, with services now provided by the Local Service Provider.

2 Ambulance and GP practice systems were removed from the scope of the Programme in London in March 2010.

3 GP practice systems were not included within the scope of the original contract for the South.

4 Ambulance systems were removed from the scope of the Programme in the South in March 2009.

5 The figures for systems delivered in the North, Midlands and East do not include interim systems.

6 In the North, Midlands and East, a module of SystmOne is contracted to be delivered to 54 child community health service organisations. As at 31 March 2011, all 54 contracted systems had been delivered. In London and the South, child health modules are delivered through the community health services system.

7 CSC is also contracted to deliver SystmOne to 136 prisons. As at 31 March 2011 all 136 had been delivered.

Source: National Audit Office analysis of Connecting for Health data

Care records systems require further development to reach the contracted level of functionality

19 Since January 2011, the National Audit Office has made a series of requests for an explanation of what level of functionality has been delivered to update those data provided to the Cabinet Office for its 2010 review of the Programme. On 5 May 2011, the Department provided an assessment of functionality, but this was based on an alternative methodology than that used for the data provided to the Cabinet Office.

20 The Department has stated that the assessment presented to the Cabinet Office used a proxy measure based on the functionality delivered across the range of releases. The Department now believes that this method did not provide a consistent approach across regions, care settings and systems, and did not take into account its new approach to delivering care records systems. This is despite the fact that these data were prepared for the Cabinet Office around the same time as the Department announced its new approach to delivering care records systems at the end of 2009.

21 The Department now judges development of functionality on the basis of the development of individual modules rather than entire releases of functionality across NHS organisations. On this basis, the Department now reports that in London and the South 91 per cent of the functionality for the acute system has been proven to work. Similarly, the Department estimates that 64 per cent of the acute system to be provided in the North, Midlands and East has also been developed.

22 We have not had time to validate the Department's assessment, but our initial view is that it risks presenting an overly positive position on progress. For example, the Department's assessment does not mean that 91 per cent or 64 per cent of functionality is available across acute trusts in London and the South, and the North, Midlands and East, respectively. That is because this assessment does not measure the extent to which functionality has been delivered and is in use. It measures technical readiness of individual modules and assesses development to be complete when it has been delivered in one care setting, for example, a ward or a unit, in one NHS organisation. The Department considers that delivery in one setting provides assurance that the functionality can be delivered to any NHS organisation, even though past experience of delivering systems through the Programme indicates that it may not be this straightforward. Furthermore, the Department's assessment is not weighted according to the complexity or potential benefit of each module.

23 The Department's assessment also does not measure progress against the original aims of the Programme, but rather a minimum specification level of functionality agreed with clinicians in 2008, reflecting the move towards a more flexible approach. The Department has recognised that the measure of functionality delivered should ideally relate to the detailed requirements set out in each of the original contracts, weighted according to the clinical benefit provided and complexity of implementation, but has not undertaken such an assessment.

24 At the outset of the Programme, it was expected that care records systems would be introduced incrementally with each system requiring a number of upgrades, releases, or enhancements after their initial delivery in order for the NHS to have access to the full extent of functionality expected through the Programme. If progress is set against the original aims of the Programme, the overall level of functionality provided to date is well below what the Department contracted for. For example, clinical benefits, such as the ability to electronically manage the prescribing and administration of drugs in hospitals, are expected to be delivered in later releases of the systems which are not yet available. Some of these later releases, have yet to be developed which puts at risk the delivery of the Programme's aims, even in London, where progress is more advanced (paragraph 26).

25 In the **North, Midlands** and **East** there have been significant delays with the development of the new care records system for acute trusts, mental health trusts and community health services. Three further releases of this system have yet to be developed and no functionality has been delivered to any mental health trust. The latest release of the system delivered at three early adopter sites is an additional release containing some of the functionality originally expected in the second release. This release has not yet been signed off as meeting the requirements of any of the receiving trusts. In addition, a fourth early adopter, a mental health trust, announced in April 2011 that it no longer wished to remain in the Lorenzo early adopter programme and was considering other options available in the wider IT market. Because of the significant delays, the Department has funded delivery of interim systems where trust's existing systems needed to be urgently replaced. These systems, however, do not deliver the full level of functionality contracted for by the Department.

26 Further progress has been made in acute trusts in **London** and the **South**, where two of the three planned releases of the system for acute trusts are available for delivery, BT is contracted to deliver the third release to acute trusts by October 2014. In addition, two further releases of the system for community and mental health services are still in development, with the first expected to be delivered in summer 2011.

Conclusion on value for money

27 Central to achieving the Programme's aim of improving services and the quality of patient care, was the successful delivery of an electronic patient record for each NHS patient. Although some care records systems are in place, progress against plans has fallen far below expectations and the Department has not delivered care records systems across the NHS, or with anywhere near the completeness of functionality that will enable it to achieve the original aspirations of the Programme. The Department has also significantly reduced the scope of the Programme without a proportionate reduction in costs, and is in negotiations to reduce it further still. So we are seeing a steady reduction in value delivered not matched by a reduction in costs. On this basis we conclude that the £2.7 billion spent on care records systems so far does not represent value for money, and we do not find grounds for confidence that the remaining planned spend of £4.3 billion will be different.

The Department's view on value for money

28 "The Department considers, however, that the money spent to date has not been wasted and will potentially deliver value for money. This is based on the fact that more than half of the Trusts in England have received systems under the programme and no supplier is paid for a system until that system has been verified by the Trust to have been deployed successfully. The Department believes that the flexibility provided by the future delivery model for the programme will deliver functionality that best fits the needs of the clinical and managerial community. The future architecture of the programme allows many sources of information to be connected together as opposed to assuming that all relevant information will be stored in a single system. This approach has been proven in other sectors and is fully consistent with the Government's recently published ICT strategy."

Recommended action to be taken by the Department

29 Since the contracts for care records systems were let in 2003-04, their implementation has been subject to delay and difficulty, and delivery targets have been repeatedly missed. Despite repeated warning signs (Figure 1), these problems have persisted over several years and the Department has now compromised the vision of the fully integrated care record system that was the objective of the Programme at its inception.

30 In September 2010, following a Cabinet Office assessment of the Programme, the Department announced that the Programme's existing contracts, which require further payments of up to £2.9 billion for the delivery of care records systems, would nonetheless be honoured. Together with the associated £1.4 billion of local implementation costs, the costs of continuing to deliver care records systems up to 2015-16 represent some 86 per cent (£4.3 billion) of the remaining £5 billion to be spent on the Programme overall.

31 Given its past history, the major issues still confronting the care records systems, and with such significant funds still at stake, there is a compelling case for the recently announced Whitehall-wide review to re-evaluate the business case for the Programme to determine what should happen now to safeguard against further loss of public value. That re-evaluation should include consideration of the significant risks outlined below.

32 Although in January 2011, the Programme's Board reported that a significant gap existed between the funds required for the Programme and those available, following the Spending Review settlement the Department now reports that it has been allocated sufficient funds to cover the expected costs of the Programme for 2011-12. There remain, however, a number of uncertainties with the delivery of care records systems that put at risk their delivery within the remaining budget of £4.3 billion. In particular:

- Significant contract renegotiations to the value of £500 million with CSC have not yet concluded. The Department is considering all options including termination or a significant reduction in both scope and functionality.

- The costs of the additional procurement required in the South are not yet certain, and the level of funding available for systems at each trust is significantly lower than that which is available under existing contracts.
- As payment is dependent on suppliers delivering, profiled expenditure could slip, putting pressure on funding in subsequent financial years.
- Local costs may increase as a result of the need to make systems provided outside of the Programme compatible with systems provided through the Programme.

33 There is a considerable amount of outstanding work to be undertaken before the care records systems are able to do what the Department expected at the outset of the Programme. In particular:

- In the North, Midlands and East, under the existing contract there will need to be over 160 deliveries of care records systems at a rate of between two and three systems a month until July 2016.
- In the South, care records systems need to be procured and delivered to 28 acute trusts, 13 community health services and four ambulance trusts by October 2015.

34 By 2012, as part of the reorganisation of the NHS, strategic health authorities will be abolished and the existing governance structure for the delivery of care records systems will disappear. Although initial proposals have been discussed by the Programme Board, it is not yet known:

- who will manage the existing contracts up to July 2016;
- who will measure and report on the benefits of the Programme; and
- how the financial implications for the Programme of the structural changes to the NHS will be managed and by whom.

35 By 2015-16, when contracts for the delivery and support of care records systems expire, responsibility for the continued support of these systems will transfer from the Department to the NHS organisations using them. These organisations, however, currently have no direct contractual relationship with those providing the systems. There remains considerable uncertainty about:

- the financial liability of NHS organisations using the Programme's systems; and
- the cost and mechanism for transferring services from the Programme to any new suppliers.