Smartcards - Innovative, extended use. NHS Lincolnshire case study

NHS

NHS Lincolnshire achieve a range of benefits through innovative, extended use of Smartcards

Introduction

This case study highlights how NHS Lincolnshire is implementing extended use of NHS Smartcards for a range of innovative uses.

These solutions show how the national NHS Smartcard has been combined with local innovation to deliver a number of benefits for organisations – including cost savings, improved local IT systems and more efficient working practices.

It also shows how individual solutions of extended Smartcard use can be implemented, then built on over time and combined together to suit the needs of local organisations.

Organisation:	**NHS Lincolnshire**
Care Settings:	**Acute and Community**
Locations:	**7 Hospitals across United Lincolnshire Hospitals Trust (ULHT) and Lincolnshire Community Hospitals, 200+ sites including Health Centres, Trust HQs and GP Practices.**
Staff employed:	**Approximately 14,000, of which approximately 11,500 have Smartcards**

Drivers for change

There are a number of drivers for change for NHS Lincolnshire that are relevant to many organisations today – the need for cost savings, more efficient working practices, enhanced patient care and changing NHS structures.

Solutions implemented

The solutions implemented by NHS Lincolnshire are summarised below, with key benefits for each:

1. **Smartcard authentication for local eDD (electronic Discharge Document) system**
   - Quicker process – electronic signing via Smartcard certificate instead of printing off paper copy of discharge letter and then signing.
   - eDD's can be signed and sent electronically to GP's.
   - Increased convenience for staff – fewer passwords to remember.
   - Greener/more sustainable solution – less paper and printing.

2. **VPN access using Smartcard**
   - Cost savings through avoiding purchase of separate VPN (virtual private network) tokens. (These savings are estimated to be approximately £100,000 over 5 years in the acute setting and £300,000 per year in the community setting).

- Increased opportunity for flexible working.
- Increased service resilience – for example an increased ability to maintain service levels during bad weather (which proved valuable in the winter of 2009). No need to deploy other remote access technology to staff as they already had Smartcards.
- Increased opportunity for cost savings on size of the NHS estate (i.e. this is supportive of the strategic objective across government to improve the efficiency of the estate).
- Business change is easier and quicker to achieve as staff already use a Smartcard.

3. **Access to the Electronic Staff Record System (whilst not classified as an extended use, this is included for completeness and because it has been an enabler for extended use).**
   - Allows managers to manage sickness recording on line.
   - Staff can update personal information themselves.
   - Also allows for access to and recording of online training.
   - Using NHS Smartcards eliminates any additional password management issues.

4. **Re-using Smartcards for door access (Already deployed in community care buildings and now being implemented in acute care buildings).**
   - Cost savings through avoiding having to purchase additional door access cards.
   - Supports increased adherence to Smartcard and information governance processes.
   - Supports Single Sign On (SSO) and an expansion of this initiative. (25 of the 120 local systems in the acute setting are already accessed via SSO. Implementing Smartcards for door access supports this, because members of staff need to take their Smartcards with them when leaving workstations to get back into the relevant area of the building).

Solutions in the process of implementation

The below summarises solutions in the process of implementation along with expected benefits.

5. **Re-using Smartcards for physical staff identification**
   - Potential cost saving of £5.50 per ID card (which if deployed for 7,500 staff would equate to a saving of £41,250).
   - Increased convenience for staff by having fewer identity cards to carry and remember.
   - Further cost savings by streamlining security and access management processes into one function, reducing the administrative burden.

6. **Re-using Smartcards for car park access**
   - Expected cost savings (now being investigated).
   - Increased convenience for staff by having fewer identity cards to carry and remember.
   - Re-enforces door access solution.

Solutions being considered

7. **Re-using Smartcards for cashless vending**
   - Would reduce cash take (which would offer cost savings by reducing the amount of cash to process).
   - Re-enforces other Smartcard re-use initiatives.

8. **Single sign on to PCs/Laptops and applications**
   - Would reduce password management issues for users and service desk staff.

A view from staff involved in implementing these initiatives

Nigel Gay, Assistant Director ICT Operations (ULHT):

"We have concentrated our use of the NHS CFH Smartcard, as becoming a single use card within the Trust. This we saw as having a number of benefits in that its use would become as familiar to users as the card they use to draw money from a bank, we also wanted to integrate as many uses of the card as possible, so it means staff have to carry the card with them, thus helping reduce the risk of sharing and increase information governance compliance.
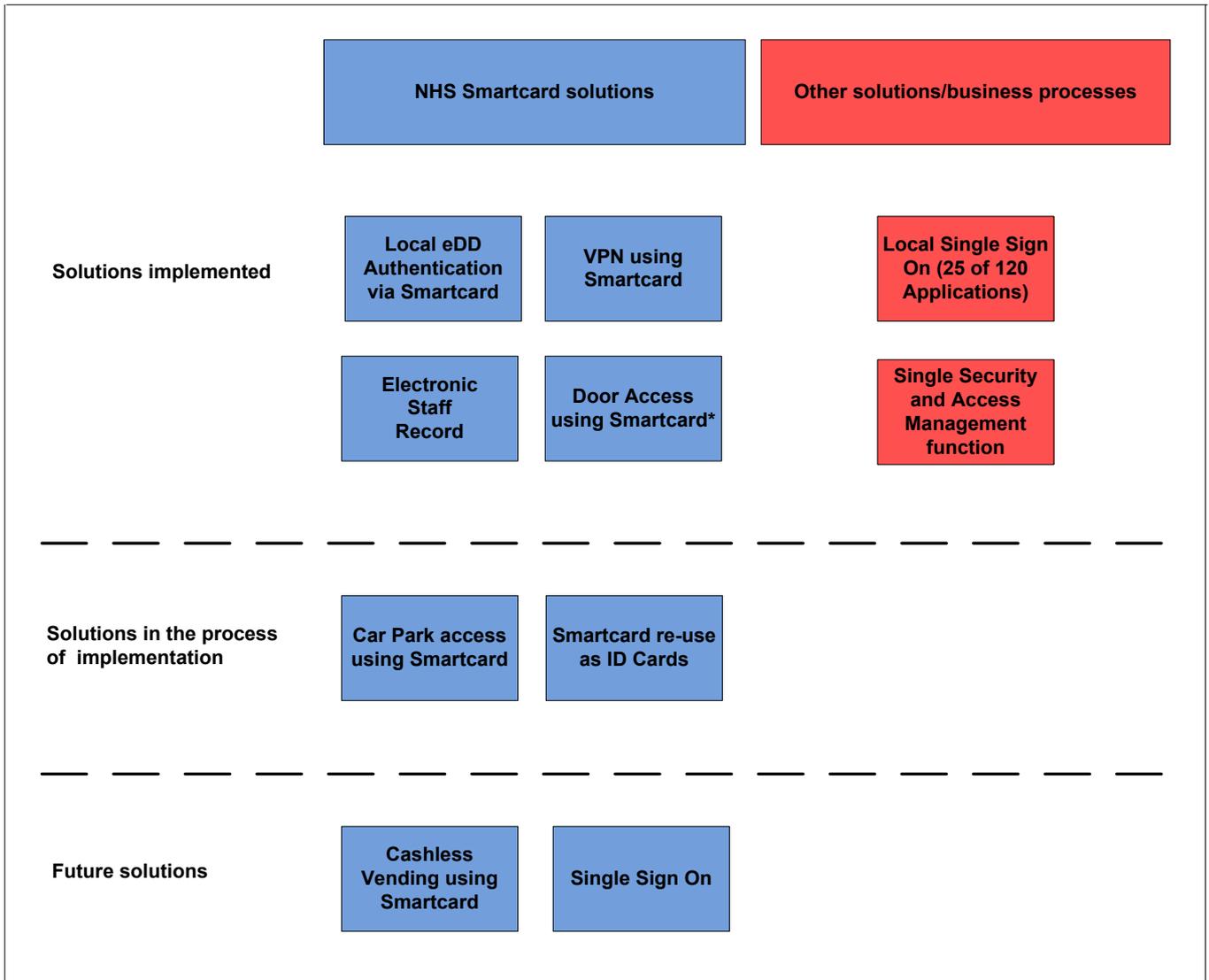
"We have also found that by making greater use of the Smartcard, we have been able to reduce the number of identity checks staff are required to do to obtain various forms of ID in order to do their job. Also by collapsing all their cards onto one multi-use card, it not only reduces staff time in getting all the different cards for their job but it reduces processes and the cost of issuing and controlling multiple bits of plastic. It also reduces training and reduces support calls as staff remember their pin code, just as they do with their bank card."

Neil Sturge, ICT Service Support Manager (NHS Lincolnshire ICT Shared Services):

"In addition to the required access to national applications there has been a large increase in staff being issued with NHS Smartcards in Lincolnshire, specifically to access TPP SystmOne but additionally for access to the Electronic Staff Record System. This has allowed NHS Lincolnshire ICT Shared Services to consider other uses for the cards in terms of door access and VPN. The use of the Smartcard for VPN has made a significant saving for all of the organisations that we support.

The next project where it is anticipated that NHS Smartcards will be a major benefit will be single sign on, the significant benefits to staff would be the elimination of the requirement to remember multiple passwords which would also reduce calls to the service desk and users having to utilise the self service options."

The diagram below provides a simple view of the solutions and how NHS Lincolnshire has implemented these:

| | NHS Smartcard solutions | Other solutions/business processes |

Solutions implemented
- Local eDD Authentication via Smartcard
- VPN using Smartcard
- Local Single Sign On (25 of 120 Applications)
- Electronic Staff Record
- Door Access using Smartcard*
- Single Security and Access Management function

Solutions in the process of implementation
- Car Park access using Smartcard
- Smartcard re-use as ID Cards

Future solutions
- Cashless Vending using Smartcard
- Single Sign On

*Implemented in Community and now being implemented in the Acute setting

Conclusion

Implementing extended use of the NHS Smartcard can deliver cost savings, improved IT systems and more efficient working practices for organisations.

It is recognised that because of the huge variety of NHS organisations and systems within them, a one size fits all approach to extended Smartcard use is unlikely to be practical.   Therefore, this case study is intended to provide organisations with a more informed view when they consider this type of solution.   To further assist organisations in determining what is most appropriate for them locally, **Appendix A** sets out a menu of potential solutions.

Further information

Further information regarding this case study may be obtained by emailing
cfh.accesscontrol@nhs.net

Appendix A: Innovative Smartcard Use – Menu of Solutions

The table below sets out innovative Smartcard solutions organisations may wish to consider along with their key costs, benefits and further considerations.

Smartcard Solution	Costs	Benefits	Further Considerations
Using Smartcard for local application authentication	Cost of a single sign on solution.	Increased convenience for staff – fewer passwords to remember. Single sign on can provide cost savings through a reduction in password resets.	Single sign on should not cache the pass code for access to Spine systems. Consider compatibility of Identity Agent software with version of Windows.
VPN using Smartcard	Cost of building a web portal to allow staff to authenticate using Smartcard and pass code.	Saves costs of purchasing other VPN tokens. Saves costs of a separate process for the ongoing management of tokens. Increased opportunity for flexible working. Increased resilience – for example an increased ability to cope with emergencies or bad weather. Increased opportunity for cost savings on size of estate.	
Re-using Smartcards for Door Access	Costs to replace/upgrade Door Access Readers.	Cost savings through avoiding cost of purchasing additional door access cards. Supports increased adherence to Smartcard and information governance processes. Supports single sign on (SSO) because staff would then need to take their Smartcards with them when leaving workstations to get back into the office or building.	A mixed economy may be possible – for example staff with Smartcards could use these for door access and staff without Smartcards could use their ID cards. It may be useful to understand the profile of card versions in circulation (as versions 1-4 can use the Magstripe and version 5 can use the Mifare 4K chip). Consider if it is possible to use the same door reader which is compatible with the different card types (the vendor of the door readers needs to check whether they are

Smartcard Solution	Costs	Benefits	Further Considerations
			compatible with the Smartcard specification.)
Re-using Smartcards for ID cards	Cost of any further organisational details being provided separate to the Smartcard (see Further Considerations).	Potential cost saving by avoiding cost of purchasing other ID cards. Increased convenience for staff by having fewer identity cards to carry and remember. Potential opportunity to combine physical and system access management functions	There should be no permanent changes to the Smartcard – for example organisation names should not be printed on the Smartcard as per Access Control Policy. A solution may be to use a low cost plastic card held on the reverse of the Smartcard in a wallet or attach a sticker to provide organisational details.
Car parking access	Cost to install/upgrade/replace barrier readers.	Potential cost savings by avoiding cost of other cards. Increased convenience for staff by having fewer cards to carry and remember. Re-enforces Smartcard door access solution and other re-use initiatives.	
Cashless vending	Cost to install readers.	Reduces cash take which can reduce costs. Supports single sign on and other Smartcard re-use initiatives.	
Managed print service	Cost to install/upgrade/replace card readers.	May enable reduction in printing costs (paper and consumables). Supports single sign on and other Smartcard re-use initiatives.	