

"Coding for success" Automatic Identity and Data Capture programme within the National Health Service

ABSTRACT

In February 2007, the Department of Health published a best practice guidance document titled "Coding for success" (*Simple technology for safer patient care*) which advised that, in order to address patient safety issues, the National Health Service (NHS) should adopt GS1 coding standards provided to help eradicate patient safety issues in the NHS. This work has been adopted and driven by NHS Connecting for Health (CFH), the Department of Health's agency which is responsible for delivery of the NHS's "National Programme for IT". The Automatic Identity and Data Capture (AIDC) programme has since driven adoption of GS1 UK standards by over 250 English Trusts operating in many different facets of healthcare.



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Introduction

The Department of Health (DH) conducted a review of patient safety within the NHS in 2006 and some of the findings were of great concern to parliament, the NHS and the permanent secretary of the Department. The main finding of the report was that 1 in 10 patient admissions into the NHS results in some kind of error, thus costing the NHS an estimated £2billion per year in additional, avoidable hospital days. (C. Vincent, G Neale, M Woloshynowich (2001) "Adverse events in British hospitals.) The report also found that at least half of these errors were preventable. These findings led to the development of the vision within the DH that the patient should have 5 safety rights

The 5 Patient Rights

- Ensuring that the **right patient**
- Is given the **right treatment**
- In the **right dose**
- Through the **right route**
- At the **right time**

This was reinforced by the Darzi report which reviewed the safety of the NHS, and stated that

"Our vision should be an NHS that is safe, as safe as it possibly can be, giving patients and public the confidence they need in the care they receive."

Lord Darzi

In 2007, the Department of Health published the guidance document "Coding for Success". The document had been written in partnership with The Department of Health, The National Patient Safety Agency, The Medicines and Healthcare Regulatory



Authority (MHRA), NHS Connecting for Health and The Purchasing and Supplies Agency. It strongly recommended that both industry and the NHS should adopt the GS1 System of Standards and set out an action plan to support both the NHS and healthcare industry sector.

Shortly after the publication of the document, NHS Connecting for Health entered into an agreement with GS1 UK, to lead a programme of work for the NHS to drive adoption and use of the coding standards to reduce patient safety risk.

After the announcement that NHS CFH were entering into an agreement with GS1 UK, Lord Hunt (the then Minister for Health) issued a statement to parliament advocating the programme and the adoption of GS1 coding standards in healthcare.

By focusing on key areas of healthcare, and working with other healthcare agencies and liaising with the industry and manufacturing side of healthcare, CFH has been able to make a huge success of the programme and to influence healthcare end to end, from manufacturer to patient to after care.

Connecting for Health and GS1 UK

The contractual agreement that is in place between CFH and GS1 UK provides the NHS with professional standards services allowing for the easiest and best led implementation of AIDC.

NHS CFH provides vital governmental liaison expertise while working with manufacturers, solution providers, suppliers

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and - most importantly - the NHS to drive adoption of the GS1 Standards. NHS CFH also provides NHS organisations with membership to GS1 UK at no cost to the NHS.

GS1 UK provides support, expertise, facilitation, project and standards documentation and a dedicated service desk to the NHS.

This joint approach has reaped great rewards over the past 3 years and should ensure continued success into 2010.

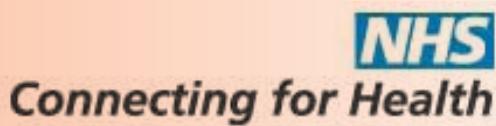
Key Focus areas

To make the programme manageable and achievable, the adoption was broken down into focus areas allowing the expertise of GS1 UK to be more "Genre specific." Below are some examples of these areas.

Sterile services

Errors in the decontamination cycle have been well publicised. NHS CFH, GS1 UK and the DH "national decontamination programme" are all working to solve lost instruments, lack of track and trace, loss of revenue due to poor availability, postponed procedures and other issues .

The ability to track and trace instrumentation across the NHS is invaluable and coding solutions have been progressing well over the last few years. Tray level tracking is now available, through loan sets and in-house equipment. Direct part marking is also progressing and that would bring a full track and traceability across the NHS. The development of the super centres for the decontamination cycle has presented an ideal opportunity to



The National Health Service

- The National Health Service was formed in 1948 as a public health service in Britain.
- The NHS is the 2nd largest employer in the world and has some 1.3million staff, of which 77% are female.
- Nursing staff make up over 30% of the workforce
- The NHS serves more than 1.5million patients everyday and 23 million people visit their general practitioner each month
- 1.4million people receive care in their homes every week.
- Community pharmacies process more than 745 million prescriptions every year
- Since the NHS was established in 1948, men and women in England live an average of 10 years longer.

The main benefit of the programme is the improvement of patient safety in the NHS. There are also other benefits that have been realised:

- Cost reduction
- Time and effort saving
- Removal of paper processes
- Greater data usage
- Reduction of human intervention
- Service is more patient-centered
- Opportunity to inline NHS with Industry
- Anti-counterfeiting benefit
- Great increase in track and trace
- Single data set leads to greater efficiency in processing

introduce coding standards to surgical devices of all kinds. With NHS CFH, the NHS supply chain, the DH, GS1 UK and the solution provider community involved, coding in sterile services and theatre management will continue to improve.

Pharmacy and medicines manufacturing

Coding in the pharmaceutical world is being adopted to reduce errors in prescription, and to assist with administering, validation, dispensary issues, packaging issues and waste management.

Coding solutions are being adopted throughout the pharmacy sector from manufacturers, to suppliers to repackaging and over labelling units, manufacturing units in trusts and hospital dispensaries. Robotic dispensing which is being used in some trusts also works with GS1 UK standards.



Legislation stating that all outer packaging of pharmaceuticals must carry unique identification codes may come into effect in the next 6 months. The MHRA is currently working with the other regulatory bodies across Europe to take this forward. This move is a counter measure to the counterfeiting of drugs which is a huge problem in the medicines world, but one that can be addressed through unique coding.

Patient Identification

"A study carried out at Charing Cross hospital, as part of Coding for Success found that patient ID checks were only being undertaken 17% of the time. When bar-coded wrist bands were implemented they were checked 81% of the time"

Through simply issuing a unique NHS Number, bar-coded

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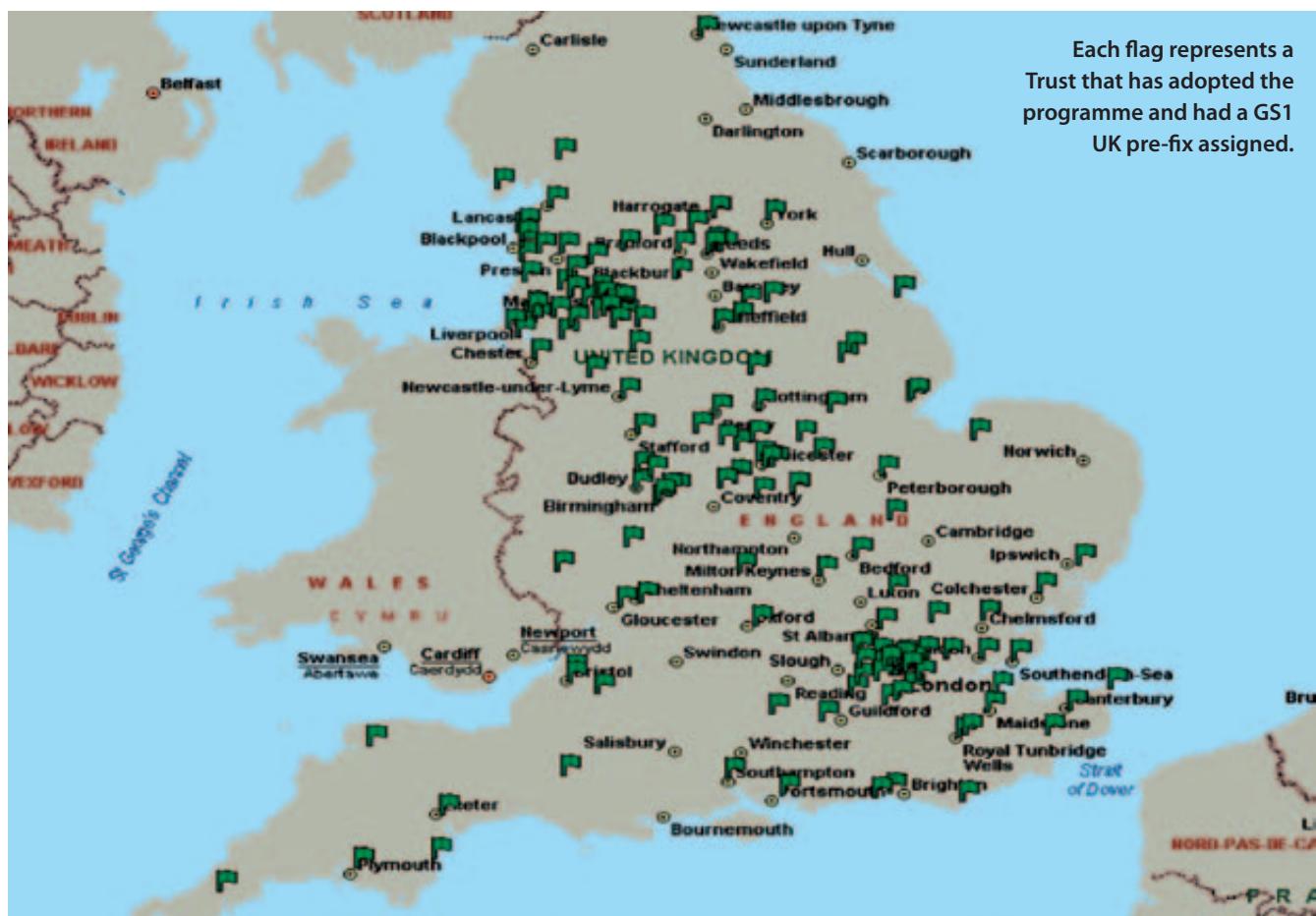
wristband to every in-patient in a hospital, we can greatly increase the positive identification of patients before, during and after care. The unique nature of this NHS CFH identifier also enables cross referencing to treatment and ensures direct access to patient records.

NHS CFH has been working with the National Patient Safety Agency (NPSA) and GS1 UK to have Safer Practice Notice (SPN) No. 24 published to try to ensure that the benefits associated with bar-coded wristbands. This stated that, by September 18th 2009, all Trusts should have taken action towards using the NHS number bar code on patient wristbands.

The NPSA Safer Practice Notice No. 24 (3 July 07) 'Standardizing wristbands improves patient safety' can be found at www.npsa.nhs.uk/nrls/alerts-and-directives/notices/wristbands.

The standard for encoding the NHS number is ratified by the Information Standards Board and backed by NPSA Chief Executive Officer, Martin Fletcher.

Through working with the NPSA, DH and ISB agencies and the NHS Number programme, holding workshops and collaborating with the procurement hubs and the OGC, we have enabled widespread adoption of wristband technologies.



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Since the publication of SPN 24, the Information Standards Board for the NHS has also published guidance that all Trusts must be compliant with the SPN24 guidelines by June 2011, this has led to an increase in adoption by trusts.

Document tracking

Many clinical appointments in the NHS have to be re-scheduled, as patient's notes cannot be located. This causes a significant loss in terms of cost and wasted effort as many staff hours are lost by records staff, nurses and clinicians looking for notes and records.

Through the adoption of GS1 coding, either in bar code or Radio Frequency Identification (RFID) format, these problems can be vastly reduced. The ability to locate a set of patients' records almost instantly within the library or to know exactly which of a hospital's various department the notes have gone to, greatly increases efficiency and improves organisation. There is considerable evidence that implementation of the system has led to swifter response times, improved staff morale and reduced cost.

Pilots are being run currently to test two different RFID systems in the document tracking environment, and there are early indications that one of has already generated fantastic benefits.

While these key focus areas are the large focus areas within the project we have many, many instantiations which are also being developed such as Healthcare GLNs, Real time tracking, Newborn baby screening, Blood tracking and supplies and materials management projects.

Current status

The significant extent to which the programme has been adopted across England can be seen from the map below.

In summary the programme has been one of great success and under the guidance of NHS CFH will continue to drive adoption and encourage new ways of adopting the standards across the NHS. Through the selection of the key focus areas and the development of them, a great number of health care professionals have become advocates of the programme and many more can see the direct benefits it brings. Through workshops, seminars, conferences and hospital site visits along with the issuing of policy and guidance documents the adoption of AIDC in the NHS will continue to grow.

ABOUT THE AUTHOR

Neil Lawrence is the programme leader for AIDC technologies in the NHS. Before working for Connecting for Health, he worked for many years in the financial sector for companies Capital One and GE Money. Neil is greatly involved with GS1 UK, and sits on the global regulators' body as well as the UK HUG and UK Technical Committees.

The Coding for Success programme has been driving adoption with the NHS for 3 years with great success. Some examples of this are:

- Over 260 trusts signed up to the programme
- National backing of the programme from government agencies
- Parliamentary backing of the programme
- Positive media coverage of all aspects of the programme
- E-learning and internet tools delivered by NHS CFH to help Trusts adopt the standards
- AIDC documentation written and available to the NHS to assist adoption
- 5 key focus areas established and piloted
- Use cases published to European audience
- UK Healthcare user group established
- Positive coverage of the programme worldwide
- Joint approach to wristband programme with the National Patient Safety Agency has led to mandated standards in the NHS

Lord Hunt's statement to parliament:

"Auto identification is not a new technology – we've all been used to bar codes in supermarkets for years. But to reap the benefits in healthcare everyone needs to work to agreed standards. We are recommending that both industry and the NHS should use the GS1 UK System for coding, and I am delighted to be able to announce that GS1 UK will be providing membership and support to NHS organisations who want to move forward on this."

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