Government initiatives

Improving patient safety and efficiency in the NHS

In 2014, the Department of Health mandated the use of GS1 standards as part of the National Health Service (NHS) eProcurement strategy. Called *Scan4Safety*, the programme to rollout GS1 standards across the acute care sector in England has since grown, and is now in the early implementation phase with six acute NHS Trusts selected as demonstrator sites.

The adoption of GS1 standards allows for the unique identification of every patient, every product and every place across NHS acute Trusts. This will help to improve patient care and safety, efficiency, patient experience and support the standardisation of clinical best practices.

By Steve Graham

Make a significant difference

Scan4Safety is now supporting the NHS to improve the delivery of patient care and to drive process standardisation and efficiency to protect frontline care.

The *Scan4Safety* programme emerged out of a series of high-profile, ambitious and centrally led initiatives designed to enable England to become a global leader in the provision of digital health and care services that improve patient safety and transparency.

Published in 2013, *Better Procurement, Better Value, Better Care* was the precursor to the eProcurement strategy and set the scene for the drive to adopt GS1 standards in the English NHS. Lord Carter's report—*Operational Productivity and Performance in English NHS Acute Hospitals: Unwarranted Variations*—built upon the measures outlined in the 2014 NHS eProcurement strategy. It highlights that investment in digital platforms, improved staff organisation and a standardised approach to purchasing will make a significant difference in the way the NHS operates and could

make a notable contribution to savings of up to £5 billion per year.

In February 2016, the Department of Health announced the six NHS acute Trusts in England that are now acting as *Scan4Safety* demonstrator sites, proving the benefits of the use of GS1 and PEPPOL standards. The six sites have received a share of £12 millon in funding and are documenting the benefits, as well as the challenges they encounter from using the standards.

GS1 UK is supporting the Department of Health to embed GS1 global standards across the NHS.

Degrees of readiness

Due to the size and complexity of the NHS, the main challenge is how to achieve the range of efficiencies outlined in the NHS eProcurement strategy. There are varying degrees of "readiness" across NHS Trusts, which differ in size, services offered, level of technology adoption and size of the population they care for. This requires a collaborative approach to implement GS1 standards.

Five achievements

What has been achieved so far?

1. Ministerial sponsorship

GS1 standards have been included in NHS policies for some years, although their wide scale adoption has been patchy. In 2014, the NHS eProcurement strategy received endorsement from the Parliamentary Under Secretary of State for Health, Dr Daniel Poulter MP.

This level of endorsement, coupled with clinical and professional support from both inside the NHS and from suppliers, has driven the *Scan4Safety* programme forward and given credibility to the work as it is rolled out to individual NHS Trusts.

2. NHS Trusts commitment

Across England, each NHS Trust is managed by a board of senior healthcare executives who make strategic and operational decisions. In support of the programme, each Trust was asked to nominate a senior executive to act as GS1 lead sponsor for its organisation. Over 80 percent of Trusts now have nominated leads to sponsor GS1 adoption in their organisations.

This level of engagement is evidence of a growing commitment by Trusts to adopt GS1 standards. It shows that Trusts are serious about harnessing the potential efficiency and patient safety benefits.

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3. Suppliers and technology and service providers commitment

In addition to the momentum that has built across the NHS for *Scan4Safety*, many suppliers to the NHS are also now engaged with the programme and working to adopt Global Trade Item Numbers (GTINs) and Global Location Numbers (GLNs) across their product catalogues and operational estates. The commitment of suppliers is fundamental to the success of the programme, so as to ensure that products

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designed for patient care enter hospital environments labelled correctly and traceable from their sources.

In addition, the commitment of technology and service providers that support the identification, capture and storage of information related to patients, products and places, is vital if the benefits of *Scan4Safety* are to be realised across the whole healthcare system in England. Commitment from this group has been similarly encouraging and has enabled the rapid realisation of benefits in the six demonstrator sites.

4. Central funding

Through the *Scan4Safety* programme, the Department of Health has made available a fund of £12 million in order to demonstrate the anticipated benefits from the implementation of GS1 and PEPPOL standards into a healthcare environment. This has kick-started the programme through an initial bidding round that ended with six NHS acute trusts being selected to implement the standards and document and record every benefit and every learning—every step of the way.

The expectation is that once the benefits have been proven, it will be easier to drive implementation across the rest of the NHS acute care sector in England.

5. Core enablers and primary use cases for implementing GS1 standards

Recognising the potential size and scope of the work involved for Trusts to fully adopt GS1 standards, the *Scan4Safety* programme accepted the decision to break up the task and, in the first instance, is promoting the use of GS1 standards across three core enablers.

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Three core enablers

The core enablers include:

1. Every person: patient identification

Globally unique identification of patients enables accurate and consistent identification at every stage of care and for relevant information to be captured and stored in an electronic patient record. This is seen as a major addition to patient safety and data quality in the NHS.

2. Every product: catalogue management

Scan4Safety has committed to delivering common coding for products across all aspects of healthcare based on GTINs. This will be delivered through the establishment of a national datapool service for the NHS, acting as a single route for data between the GS1 Global Data Synchronisation Network (GDSN) and all Trusts. Using this approach, Trusts can easily access accurate and transparent product information, enabling more accurate ordering, improved product availability and lower operating costs, as well as increasing efficiency and enabling the delivery of improved patient care.

3. Every place: location numbering

A single location numbering system, used by all Trusts and their suppliers, provides for the unique and unambiguous identification of every physical and operational location within the healthcare system. It enables the consistent identification of exactly where material and equipment is delivered, by whom it was received and where it was stored. The aim is that the information will extend to include where patient care events occur and which specific suppliers or partners were involved in the supply chain.

GS1 standards enable everything that happens to a patient to be recorded accurately and with minimal impact on patient or clinical staff.

The structure of the delivery of the *Scan4Safety* programme in NHS Trusts revolves around four "Ps." These are patient, product, place and process, relating to the three core enablers plus the addition of the vital step of process management and change, which is imperative if the GS1 and PEPPOL standards are actually going to be used. Therefore, the programme identity: *Scan4Safety*.

Alongside these three core enablers, *Scan4Safety* is first focusing on the implementation of GS1 standards to support three main applications or use cases. Concentrating activity on just three applications in the first instance, this will help to maintain focus on the adoption of GS1 standards in a healthcare environment of the size and complexity of the NHS.

Three applications

The three main applications or use cases are:

1. Purchase to pay

Automating purchase to pay processes and increasing the adoption of electronic, machine-to-machine transfer of business transactional information, such as purchase orders, advance shipping notices and invoices, reduces the number of errors in these documents and avoids time delays.

2. Inventory management

Evidence to date suggests that one of the largest areas of opportunity for potential cash and efficiency savings is in the area of inventory management. Applying a common approach to the management of inventory across a hospital and making stock visible to all areas, reduces the overall level of inventory required by a Trust. At the same time, it increases the confidence of nurses and doctors in the availability of stock when needed for patient care.

3. Product recall

By linking improved product and location identification with better inventory management and the relationship of products to patient care events, product recalls can be executed easier and faster. This radically improves the visibility of the locations of medical devices used in patient care and significantly reduces the amount of time clinical front-line staff spend locating and processing returns.

4. Healthcare Advisory Board

GS1 UK has facilitated the coming together of industry leaders, senior clinical staff and regulators from across healthcare in UK to form the Healthcare Advisory Board. The board's aim is to improve patient safety, reduce regulatory non-compliance and realise cost savings from operational efficiencies across the NHS through the adoption and implementation of GS1 standards. It aligns support and engagement activities and ensures coordination across healthcare in the UK.

5. Healthcare User Group

GS1 UK, key healthcare users and industry stakeholders regularly meet to discuss the implementation of GS1 standards across healthcare in UK—particularly in the NHS. These sessions support the tactical application of GS1 standards, are forums that provide advice and technical expertise and encourage best practices across Trusts as well as manufacturers and suppliers.

6. Engagement with trade associations

The NHS eProcurement strategy states that ultimately, every supplier of every product and service in the NHS must adopt GS1 standards over a period of time. With potentially more than 50,000 suppliers of the NHS—from medical device suppliers to cleaning products and foodservice operators—embedding GS1 standards into the supply chain is a complex challenge.

Engagement is ongoing, through a series of regular meetings, with all the leading trade associations to drive awareness, education and support for the adoption of GS1 standards. Where appropriate, this is then being supplemented with direct engagement of major international manufacturers and distributors.

Numerous benefits

Adopting these three core enablers and the three main applications will allow Trusts to provide accurate and real-time records, reduce "never-events" and drive patient- and activity-level costing.

Accurate and real-time electronic records

GS1 standards enable everything that happens to a patient to be recorded accurately and with minimal impact on patient or clinical staff.

For example, critical standard operating procedures (SOPs) can be implemented using handheld scanners or suitably equipped trolleys and would require the nurse to scan the patient, their own identity, the current location (for example, a bed bay or recovery room), the products administered and the equipment used. This would provide an accurate and real-time record of exactly *who* did *what* to the patient, *when* it happened and *where* it took place.

Having detailed and accurate electronic records will enable the identification of areas where outcomes are worse than should be expected and allow remedial action to be taken.

Prevention of never-events

Through the effective use of technology, GS1 standards also enable "what is about to happen to a patient" to be recorded accurately and with minimal impact on clinical staff, through use of barcodes and RFID (Radio Frequency Identification) tags. This can be checked against the patient record to make sure "what is about to happen" is correct, before it occurs.

For example, the implementation of ePrescribing enables the scanning of the patient, the equipment and the products that are going to be used to be checked against the prescribed treatment in the patient record. This means any potential errors can be identified and prevented before they are prescribed.

Patient- and activity-level costing

Having an immediate, accurate and detailed electronic record of what was actually involved in a treatment makes it easier to code everything correctly and ensures that Trusts are correctly compensated for the work they do, through the system of national tariffs. Trusts can also accurately compare payments received with the actual costs they incur, so they can financially plan more effectively. These benefits can be transformational for cash flow.

Since the 2012 McKinsey report, *Strength in unity: the promise of global standards in healthcare*, the benefits of GS1 standards in healthcare have been widely accepted. In the UK, the programme of work that is well underway is demonstrating these benefits and efficiency gains, while at the same time, supporting the NHS to build a better, patient-centred, health service that is ready for the future.

About the Author

Steve Graham leads the NHS eProcurement policy at the Department of Health in England. He developed the NHS eProcurement Strategy, published by the Department of Health in May 2014, and leads a small team focused on delivery of Scan4Safety, a project to implement GS1 and PEPPOL standards in the NHS, working with six NHS Trust demonstrator sites and the NHS supplier base. Steve previously led the Innovative Technology Adoption Procurement Programme for the Department of Health, focused on increased adoption of medical technologies to improve patient outcomes while reducing costs. He has significant private sector experience, including: procurement roles in manufacturing; commercial director for the hospital division of a European pharmaceutical wholesaler; and director for an innovative supply chain finance solution provider.

About the Department of Health (DH)

DH is a ministerial department, supported by 15 arm's length bodies and a number of other agencies and public bodies. The department employs 2,160 staff who work in locations across England.

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