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Can Barcodes Revitalize the NHS?

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Bar codes offer a way around two everyday challenges faced by healthcare professionals: medication errors and quicker access to patient data. In addition, they also provide a proven means for higher efficiency in running a hospital – in terms of stock control and asset tracking. Results from a survey conducted in the UK show that most physicians and nurses agree.

The Diagnosis

The NHS (National Health Service) is an integral part of British society. Many of us work in, or directly with it, pay taxes to fund it, and at some point everyone in the UK will have experienced its services first hand. Therefore it is a subject that many people feel passionately about, particularly as most agree that the system is struggling. Considering it deals with a staggering one million patients every 36 hours, this is not surprising. It is no secret that the NHS has had its fair share of challenges over the years; its resources are being significantly stretched, resulting in long waiting hours in A&E (Accident and Emergency) and records going missing.

Despite doing an impressive job with these limited resources, The National Patient Safety Agency in the UK reported that in 2007 alone there were over 80,000 NHS medication blunders. This is a lot of people, when there are simple and cost effective ways in which such errors can be avoided. For instance, the implementation of basic data standards and automated identification systems, such as bar coded patient wristbands and equipment, could have a great impact. This kind of basic technology can help trusts to improve efficiency and at the same time save costs, precious time, staffing resources and most importantly improve the quality of patient care. As the new government has pledged to ring fence resources to support the NHS, while all other public services are experiencing dramatic budget cuts, it is even more important for money to be spent wisely. But how should they do so and what do front line health staff think?

What are the Symptoms?

In light of this debate, GS1 UK conducted independent research with hospital doctors and nurses to gauge their opinion about improving ward services and quality of care, as well as the role of technology in enhancing patient safety and efficiency. In partnership with leading British medical publications, GS1 UK surveyed 861 hospital nurses and 409 hospital doctors across the UK. The results of which were rather serious.

The survey respondents were asked to assess how often they were unable to locate vital patient data. The findings of this research highlighted that a large number of doctors and nurses struggle to locate patient data on a daily basis with over 20,000 doctors spending over an hour a day waiting for vital patient data, while a quarter of nurses find that patient records and lab results go missing at least once a day. When asked about the time they have to check patient data, a large number of our doctor and nurse respondents felt that they had little time to check patient records thoroughly before treating them. To be precise:

- 12 percent of hospital doctors feel they rarely have enough time to check patient records before treating them
- 10 percent of nurses feel they have time to check patient records thoroughly all of the time

Another major issue highlighted by both doctors and nurses was miscommunication, whether it is through shift handovers or the misplacement of physical patient records:

- 78 percent of hospital doctors explained that miscommunication in multiple shift handovers is responsible for causing problems with patient care
- 38 percent of hospital nurses believe care is compromised because patient data is not shared between different doctors

These findings highlight key areas for improvement in the NHS, and the need for processes and technology to be put in place to enable key hospital staff to work as efficiently as possible, freeing up time to help them administer the best patient care possible.

Using Technology to Improve Patient Care

The doctors and nurses surveyed were also asked to highlight which processes could be put in place to improve these issues and standards, the result of which was an outcry for technology that makes information available electronically, to help front line staff work more efficiently. 48 percent of hospital doctors feel that the use of physical records instead of electronic systems is the cause of problems in patient care, and over three quarters of doctors specify they'd like to see real-time electronic records in place.

While 69 percent of doctors feel that better structured handovers would improve overall patient safety, highlighting that electronic systems and tracking need to be in place to abate existing inefficiencies. 52 percent of doctors believe bar coded patient wristbands would help doctors and nurses perform their roles more effectively, with 44 percent of nurses feeling that bar coded wristbands could reduce patient safety incidents by 50 percent. Nearly two-thirds of nurses said they require a real-time view of vital stock levels, which is not currently available in many trusts. It is clear from these responses that front line health professionals have ideas about what needs to be done to improve the NHS, but can it be done successfully and within budget?

Successful, Cost-effective Treatment

Given the scale of the budget deficit, whilst everyone agrees that front line services should be protected and the government has pledged to ring fence the NHS budget, it is obvious that the service will be affected in some way. Therefore making the best use of doctors and nurses time on wards and enabling them to treat patients quickly and effectively is key. As the GS1 UK research suggests, simple changes to the way hospitals organise wards and promote staff communication can have a major impact on the quality of patient care given by doctors and nurses.

At the root of this communication is the demand from medical professionals for more real-time accurate, electronic data. The use of GS1 standardised bar codes and RFID technology has been shown to reduce errors, track medication, improve the quality of patient care and prevent counterfeit medication from entering the NHS supply chain. In turn, from an operational perspective, there are real efficiency gains including less paperwork, reduced manual processes, automatic stock replenishment, reduced time wasted by inaccurate data sharing, access to centralised, accurate and standardised data. This means that doctors and nurses can spend less time on administration, and more time with their patients.

Technology in Action

There are several examples of hospitals who have successfully implemented simple technologies and GS1 UK standards to save money and improve their processes.

Leeds Teaching Hospitals – Automated Stock Control

Leeds Teaching Hospitals implemented an automated stock control system which reduced stock levels by £570,000 while improving the service level to 98 percent over the last three years. This has released significant nursing time from routine stock matters to direct patient care and improved the hospital's efficiency. Leeds identifies 3,000 medical items including consumables and implanted products using GS1 bar codes which are scanned at its 270 stocking points throughout the hospital.

Wythenshawe Hospital – Electronic Asset Tracking

The use of GS1 bar codes to track and trace surgical instrument trays at the hospital has improved traceability of the decontamination process and enabled staff to store historical information on individual instruments electronically. This information can be accessed easily in the unlikely event of a recall procedure. The tracking system also ensures that the right trays are returned to the right hospital or department from its outsourced decontamination facility.

Airedale NHS Trust – Bar Coded Patient Wristbands

Following national guidelines for patient wristbands from the National Patient Safety Agency's Safer Practice Notice (SPN 24) and the NHS ISB Advanced Notice, Airedale has implemented a system that prints and positively identifies patients at their bedside using GS1 bar coded (Datamatrix) wristbands in 27 of its wards. The hospital is currently working on using the unique patient ID to ensure accurate labelling of blood samples and also for medication prescribing.

Mayday Healthcare NHS Trust

– Electronic blood tracking and patient wristbands Mayday Healthcare NHS Trust have implemented bar coding and RFID technology for its electronic blood tracking pilot to track blood from ordering through to sampling and transfusion. This helps ensure the right blood is administered to the right patients. The trust has adopted GS1 standards for its passive RFID enabled patient wristbands using unique GS1 codes to help ensure positive patient identification.

Now is the Time to Revitalise

With a reassessment of public spending and a government focus on exploring new methods, now is the right time to think about how to revitalise the NHS. The results of the GS1 UK surveys show that doctors and nurses are clear about what the fundamental issues within the NHS are, and how they can be resolved. The simple solutions they suggest and the previous success stories of these technologies being implemented, show that other healthcare institutions should be following suit to increase efficiency, reduce costs and most importantly improve patient safety.

What's the First Step?

The first step is to become a GS1 UK member, which is free for all NHS Trusts in England. GS1 data standards underpin all of the technologies that front line health staff are asking for, enabling the systems to operate at their best. The Department of Health fully recommends the use of GS1 standards throughout the healthcare system in the UK. It is an important part of their 'Coding for Success' policy. Members of GS1 UK are inducted into the use of global and interoperable standards within their hospital, and gain free access to implementation guidelines, education modules and dedicated experts in their field.

They also have the chance to define GS1 UK healthcare standards through working groups. With all of these resources to hand, there is no reason why the NHS can't be cost effectively revitalised with improved patient care and greater efficiency.

To download the full GS1 UK survey report on hospital doctors and nurses please visit www.gs1uk.org

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