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of Health



NHS eProcurement Strategy

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Contact details: John Warrington Procurement, Investment and Commercial Division Skipton House, 80 London Road, Elephant & Castle, London, SE1 6LH

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NHS eProcurement Strategy

Prepared by
Procurement, Investment & Commercial Division

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Foreword



Dr Dan Poulter MP Parliamentary Under Secretary of State for Health

In August 2013, we published *Better Procurement Better Value Better Care*, which established a new Procurement Efficiency Programme to help NHS trusts stabilise their non-pay spending so that they spend no more than they currently do by the end of 2015-16, thereby realising £1.5bn of procurement efficiencies.

There have been many previous initiatives to realise procurement improvements but this time we mean business and are determined to deliver efficiencies to free up more money for frontline care. To ensure that these new efficiencies are sustained and further improved upon, I am announcing this NHS eProcurement strategy, which will establish the global ~~GS1 coding and PEPPOL messaging standards~~ throughout the healthcare sector and its supporting supply chains. Compliance with these standards will enable trusts to control and manage their non-pay spending, by:

- the adoption of master procurement data;
- automating the exchange of procurement data;
- benchmarking their procurement expenditure data against other trusts and healthcare providers.

Previous efforts to improve eProcurement in the NHS have been patchy due to a lack of central direction. We have now **mandated** the use of the GS1 and PEPPOL standards by **amending the NHS Standard Contract to require compliance with this NHS eProcurement strategy**. We have also required suppliers to place their product data in a GS1 certified datapool by amending the NHS Terms and Conditions for the Supply of Goods and the Provision of Services.

To embed these standards across the NHS, we will establish the critical national infrastructure to support the strategy, which will be interoperable with existing

and future local eProcurement systems so that trusts can locally select their preferred technology partners.

The strategy also drives patient safety benefits. Barcodes based on the GS1 standards can be read at any point in the healthcare supply chain so that a product subject to a safety alert can be quickly located and recalled. Providers of NHS-funded healthcare, including the independent sector, must be able to electronically track and trace individual medicines and medical devices to a specific patient.

To help trusts to further improve their non-pay spending, we will establish a single, national spend analysis and price benchmarking service. This service will provide high quality expenditure data so that trusts can identify opportunities to continuously improve their procurement performance.

Our strategy draws from experience in the global healthcare sector and from the banking, manufacturing and retailing sectors. Importantly, there is nothing in the strategy that hasn't already been done in part somewhere, either in the NHS, in another sector or in another country. What is new, however, is bringing all these elements together in one cohesive strategy to improve patient care through a modern, effective and efficient NHS procurement function.

We have established wide support for the strategy through many conversations with the NHS, suppliers and eProcurement technology providers. The strategy has been endorsed by NHS England, the NHS Trust Development Authority, and Monitor.

I have recently written to all NHS trusts asking them to ensure that there is a **lead non-executive director for procurement** who will be asked to hold their board to account for the delivery of the wider Procurement Efficiency Programme, including this NHS eProcurement strategy.



Dr Dan Poulter MP

Parliamentary Under Secretary of State for Health

March 2014

Applicability

This document provides guidance to all organisations that provide NHS services. The 2014/15 NHS Standard Contract has been amended to include a requirement that *„the Provider must comply with eProcurement guidance if and when applicable’*.

From April 2014, the guidance and requirements on patient safety contained within this document are applicable to all organisations that provide NHS services through the NHS Standard Contract. All other guidance and requirements in the document will additionally be applicable to acute NHS foundation and non-foundation trusts.

Whilst the guidance and requirements on patient safety contained within this document are applicable to non-acute NHS providers and independent sector providers of NHS services through the NHS Standard Contract, all other guidance and requirements are not applicable, although such providers are encouraged to consider the benefits of adopting the full requirements of this document.

Some requirements of this document are applicable to suppliers to NHS providers.

Context

This document follows on from *Better Procurement, Better Value, Better Care*¹ (DH and NHS England, August 2013) which included a commitment to publish an NHS eProcurement strategy and mandate the use of GS1 product coding standards.

Front line clinical care cannot be delivered to patients without the goods and services provided by internal support departments and external suppliers. Patient care is directly affected, either positively or negatively, by the success or failure of the procurement processes that place goods and services at the disposal of clinical staff.

Patient care risks are presented by supply chain failures, by safety recalls and by the increasing numbers of counterfeit medicines and medical devices. A significant amount of clinical time is lost in resolving these issues and in the day-to-day acquisition of goods and services. These concerns can be mitigated by extending the use of eProcurement solutions, together with the adoption of global standards.

However, the NHS lags behind other sectors, such as banking, manufacturing and retailing, which have widely implemented global standards to underpin machine-to-machine processing of transactions with little or no human intervention.

As well as contributing to improved patient care, wider use of eProcurement solutions driven by global standards will generate significant financial savings for NHS providers, achieved through reduced errors, reduced obsolescence and increased productivity.

Background

eProcurement is the application of technology to automate the exchange of procurement information throughout the supply chain. All NHS providers already utilise eProcurement solutions to some extent, but none have fully implemented eProcurement to underpin all of their procurement activity.

Because NHS providers have varying levels and types of eProcurement infrastructure in place, it is not the intention of this strategy to require NHS providers to change their existing technology base. Instead, NHS providers will maximise the benefits of their existing eProcurement systems by focusing on:

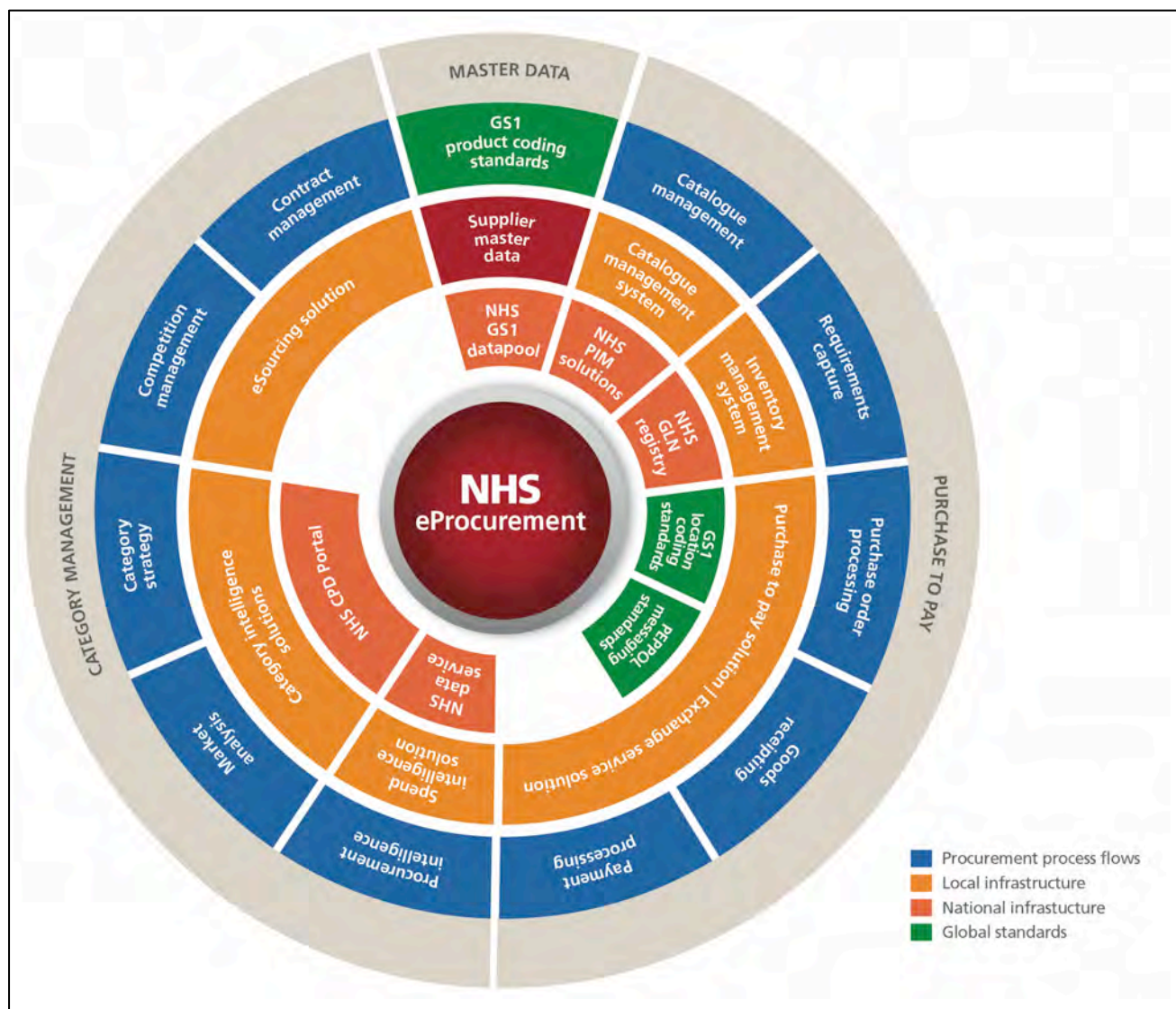
- the implementation of international standards, supported by enabling national infrastructure, to achieve „straight-through-processing“, where transactions are made from machine to machine with little or no human intervention;
- greater use of procurement intelligence and sourcing solutions to improve the outcomes of contracting activity;
- the benchmarking of procurement data, to enable NHS providers to compare prices with their peers and to increase competition amongst the supplier base.

NHS providers should consider extending the use of their eProcurement systems to encompass all non-pay expenditure across the organisation, much of which will be outside the procurement department. Where an NHS provider has gaps in their eProcurement infrastructure, they should consider implementing additional solutions, or utilise eProcurement solutions provided by an intermediary organisation.

This eProcurement strategy builds upon previous guidance, notably:

- *Coding for Success*² (Department of Health, 2007)
- *Procurement eEnablement in the NHS*³ (NHS eEnablement Group, 2007)
- *Raising our Game*⁴ (Department of Health, 2012)
- *Better Procurement, Better Value, Better Care*¹ (DH and NHS England, 2013)

The following diagram describes the key procurement flows in the purchase-to-pay and category management processes, and shows how each process flow is driven by master data, supported by the global standards, national infrastructure and local infrastructure that are required by this eProcurement strategy.



Ambition

The ambition of this strategy is for all NHS purchase-to-pay transactions and all category management activities to be undertaken by electronic means to cover all non-pay expenditure. It will take several years of concerted effort across the NHS landscape, and across the NHS supplier base, to achieve this ambition.

Ultimately, eProcurement is about making procurement processes faster and more efficient. A key barrier to the maximum realisation of eProcurement benefits is that, within acute NHS providers, many procurement process flows are fragmented across multiple supply functions, including supplies, pharmacy, pathology, sterile services, linen services, appliances, estates, catering and cleaning services. To maximise the benefits from the eProcurement ambition, acute NHS providers should migrate these fragmented supply functions to common business processes and rules, based on the requirements of this eProcurement strategy.

Master data

The use of master data throughout the supply chain is essential to achieve effective management of long, complex supply chains. Master data supports all elements of procurement, including: price benchmarking between NHS providers; analysis of expenditure within an NHS provider; catalogue content; exchange of requisition, purchase order, delivery and invoice data; and the notification and sharing of purchasing requirements when tendering.

Master data is the definitive and accurate version of the information held about an item. The use of master data in procurement is limited in the NHS, resulting in the same item being coded and described differently by NHS providers and suppliers. Adoption of GS1 standards (see Appendix 1 for further detail) by NHS providers and suppliers will provide the master data required for procurement efficiency.

*Coding for Success*² set out the case for the benefits to patient safety and supply chain efficiency and recommended that the GS1 system be adopted throughout the NHS in England. Through the Automatic Information and Data Capture programme⁵, DH has provided support to many NHS providers in the adoption of GS1 standards,

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typically around patient identification, medical records tracking and surgical instrument tracking.

*Procurement eEnablement in the NHS*³ confirmed that the NHS should use the GS1 system for product coding.

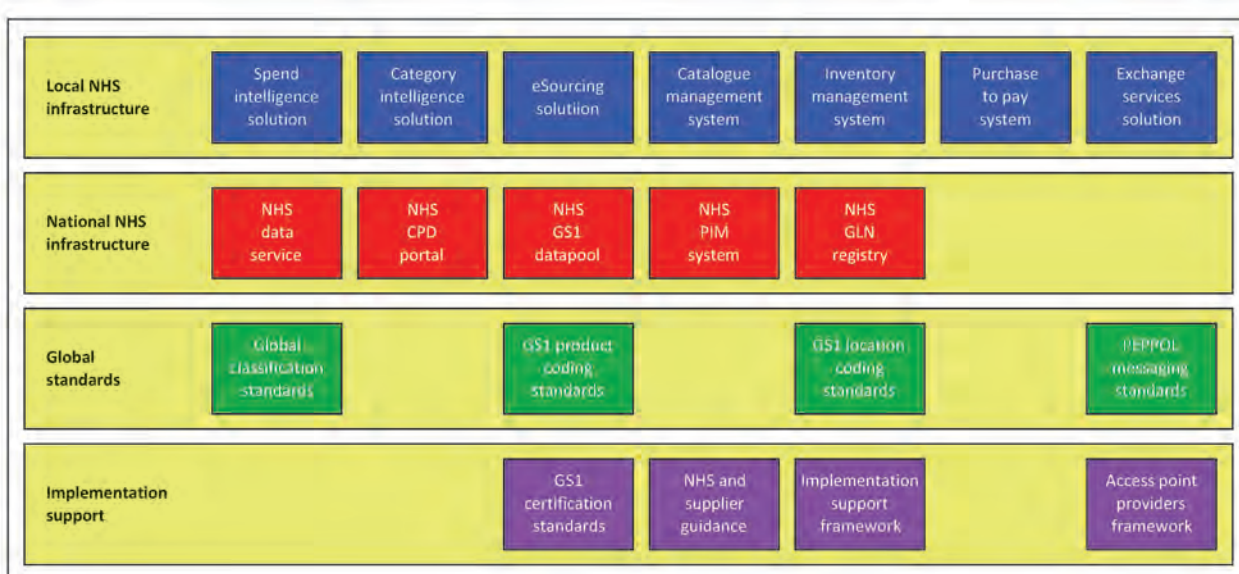
*Raising our Game*⁴ included the following action: NHS providers should include the requirement for suppliers to provide GS1 Global Trade Identification Numbers and associated data as an integral part of any procurement process.

*Better Procurement, Better Value, Better Care*¹ set out our intention to publish an eProcurement strategy for the NHS and affirmed our intention to mandate the use of GS1 coding for the NHS through contracts.

Using the GS1 system to underpin the use of master data by NHS providers and their suppliers provides the foundation for improving all aspects of procurement. However, NHS providers cannot do this alone. National infrastructure and external implementation support will be procured to support adoption and to extend the benefits of all elements of eProcurement.

eProcurement architecture

The following table describes the key building blocks required:



Greater detail around each of these building blocks is covered further below.

Key standards

GS1 and PEPPOL standards

The adoption of common global standards by NHS providers and their suppliers, throughout their internal and external supply chains, will create efficiency and quality benefits for all parties. The key standards required by this strategy for adoption by NHS providers and their suppliers are:

- 1) GS1 (for product coding, location coding and data synchronisation);
- 2) PEPPOL (for purchase order, advice note and invoice messaging).

The adoption of these standards will enable interoperability between existing NHS provider and supplier systems, so there is no need for either to change their systems. Instead, they will need to implement the GS1 and PEPPOL standards to underpin the exchange of data between their systems, thereby achieving interoperability. To encourage implementation, adoption will be mandatory for both NHS providers and their suppliers through conditions of contract, as follows:

- 1) the NHS Terms and Conditions for the Supply of Goods and the Provision of Services were revised in August 2013 to include a requirement on suppliers to place master product data into a GS1 certified datapool.
- 2) the 2014/15 NHS Standard Contract between healthcare commissioners and NHS providers includes a requirement that the Provider must comply with the requirements of this NHS eProcurement strategy.

Detailed guidance will be published for NHS providers, including compliance dates, along with templates to support the local production of adoption plans and business cases. Guidance for suppliers to the NHS will also be published, which will include GS1 product data compliance dates and PEPPOL implementation requirements.

To comply with this eProcurement strategy, NHS acute foundation and non-foundation trusts are required, during the course of the 2014/15 financial year, to develop and commence implementation of a trust board-approved GS1 and PEPPOL adoption plan.

To enable NHS providers to demonstrate progress, DH will develop a certification scheme for NHS providers and their suppliers, and a framework agreement will be put in place with external accreditation organisations to provide certification services. Certification will be at the levels of: GS1 *ready*; GS1 *implementing*; and GS1 *compliant*. Progress against the adoption of PEPOL will be monitored through the reporting of transaction volumes exchanged by access point providers.

Classification standards

Classification standards support:

- procurement intelligence, by enabling similar items to be grouped together for spend analysis and demand aggregation;
- the traceability requirements of regulatory agencies.

NHS eClass⁶ is the primary classification standard currently used by procurement teams in the NHS, whilst pharmacy teams use the dm+d⁷ standard for the classification of medicines. The application of NHS eClass is inconsistent across the NHS and it is not resourced or maintained to the level of an international standard.

Work will be undertaken at the national level to determine the most appropriate procurement classification standards for use by the NHS. The outcome of this work may be to maintain the status quo or to recommend an alternative approach. A likely outcome will be different classification standards for different categories.

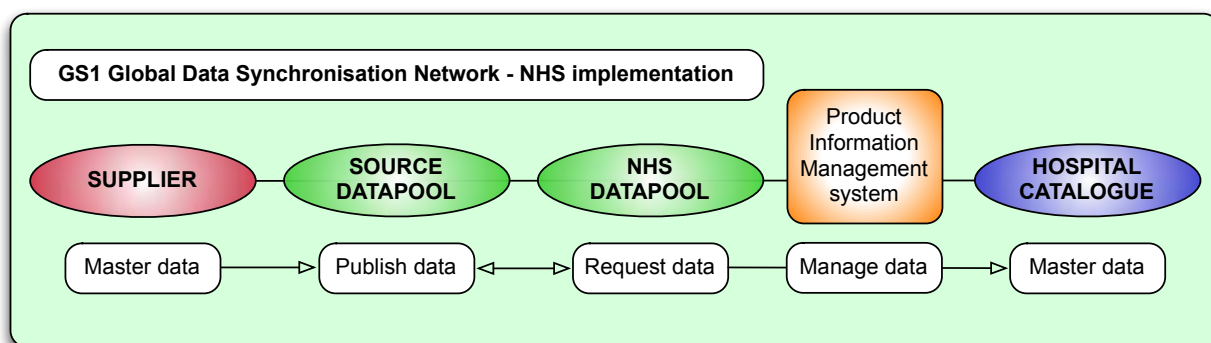
Purchase to pay processes

Catalogue management

Many NHS providers already operate electronic catalogues that are integrated with the purchase order module of their finance system. Those that don't already have electronic catalogues should expect to implement a solution as part of their GS1 adoption plans. NHS providers can access the NHS eCommerce framework agreement⁸ for external catalogue solutions, which runs until 31st March 2016, and was established by Northumbria Healthcare NHS Foundation Trust in partnership with the Department of Health and the NEP Shared Systems Group.

Where NHS providers have an integrated catalogue solution, they should seek to extend its coverage to encompass all goods and services, with the exception of medicines, which already has well established catalogue management in place.

To enable GS1 master data to be transferred from suppliers to existing NHS provider catalogue solutions, central investment in national infrastructure will be undertaken by the Department of Health. The diagram below shows how GS1 master data will be maintained between a supplier and an NHS provider catalogue solution.



Under the revised NHS Terms and Conditions for the Supply of Goods and Provision of Services⁹, suppliers are required to place product data into a GS1 certified data pool (the source datapool in the above diagram). During 2014, DH will establish a GS1 certified NHS datapool, which will take supplier master product data from any GS1 certified source datapool to become the data repository for master data relating to products purchased by the NHS.

DH will also establish a national Product Information Management system (PIM) that will integrate the NHS datapool with local NHS provider catalogue solutions, with each NHS provider using the PIM to request and manage master product data from the datapool, which in turn will request master product data from the source datapool chosen by a supplier. The GS1 Global Data Synchronisation Network¹⁰ will enable this master data to be synchronised in near real time, thereby ensuring that NHS provider catalogues always contain accurate master data.

The cost of procuring a PIM with this functionality is prohibitive at NHS provider level, hence the need for a single national solution. The national PIM will be the only available mechanism for NHS providers to access the NHS datapool and maintain their local catalogues with master data.

Manufacturers may load their entire product catalogues into their chosen GS1 datapools. However, the NHS datapool will be a subset of the product data contained in the various GS1 datapools around the world, ultimately containing the totality of products purchased by the NHS. In turn, each NHS provider catalogue will be a subset of the NHS datapool, containing the products purchased by the provider.

DH will establish a Task & Finish group to determine the minimum dataset required by the NHS to be used by suppliers when populating their chosen GS1 datapool. Initially, this will be restricted to product and associated classification data, and the dataset will vary by category. However, it is expected that price data will also be included in the dataset at a date to be determined by the Task & Finish group.

Inventory management

Master item data synchronised from a GS1 accredited datapool to an NHS provider catalogue system can be retrieved to manage logistics activity in the supply chain using Automatic Identification Data Capture (AIDC) devices to scan barcodes.

Within pharmacy, acute NHS providers utilise either the Powergate¹¹ or Medecator¹² requirement capture systems. Over time, NHS providers should adapt these systems to capture GS1 barcodes as many medicines already carry a GS1 barcode.

Many NHS providers operate a materials management service using handheld eDC¹³ data scanners provided by NHS Supply Chain to undertake basic inventory management and to order items from both NHS Supply Chain and direct suppliers. NHS Supply Chain has developed plans to adapt its systems to utilise GS1 codes and for most acute NHS providers, eDC will meet the majority of their needs. eDC Gold¹⁴ is a recent development that provides the ability to manage consignment stock; track and trace items through lot numbers and serial numbers; manage expiry dates; and to interface with patient records to support traceability.

Some NHS providers are beginning to deploy more sophisticated inventory management systems, primarily for high value medical devices in the theatre environment. These systems can add increased inventory management and control options to NHS providers that already have well established inventory management arrangements, although care is needed to ensure a positive return on investment.

Location identification

Currently, every NHS provider creates supplier numbers in their system, with the consequence that all NHS providers have different numbers for a given supplier. This works in reverse, with all suppliers having different numbers for a given NHS provider. The GS1 system includes Global Location Numbers (GLNs) that enables globally unique numbers to be created for any location in the supply chain, from factories to clinical departments.

GLNs are contained in barcodes used on supplier despatch documentation and packaging labels, which can be read by a scanner at the point of receipt at the NHS provider, automating the goods receipting process. Barcodes using GLN data can be used at NHS provider requisitioning points in conjunction with Global Trade Identification Number (GTIN) codes to automate the requisitioning process.

DH will establish a central GLN Registry for adoption by both NHS providers and suppliers. NHS providers and suppliers will access the Registry to locate:

- a GLN or set of GLNs for each NHS provider, for use by all suppliers;
- a GLN or set of GLNs for each supplier, for use by all NHS providers.

Both supplier and NHS provider GS1 adoption plans should include early implementation of GLN codes for location identification.

Purchase order and invoice processing

Typically, only a third of non-pay expenditure is transacted by NHS providers through their purchase order processing module attached to the finance system. The rest is fragmented across sub-systems in pharmacy, estates, catering, appliances and agency staff, or not even captured through any sub-system and simply paid on invoice, such as energy and some services.

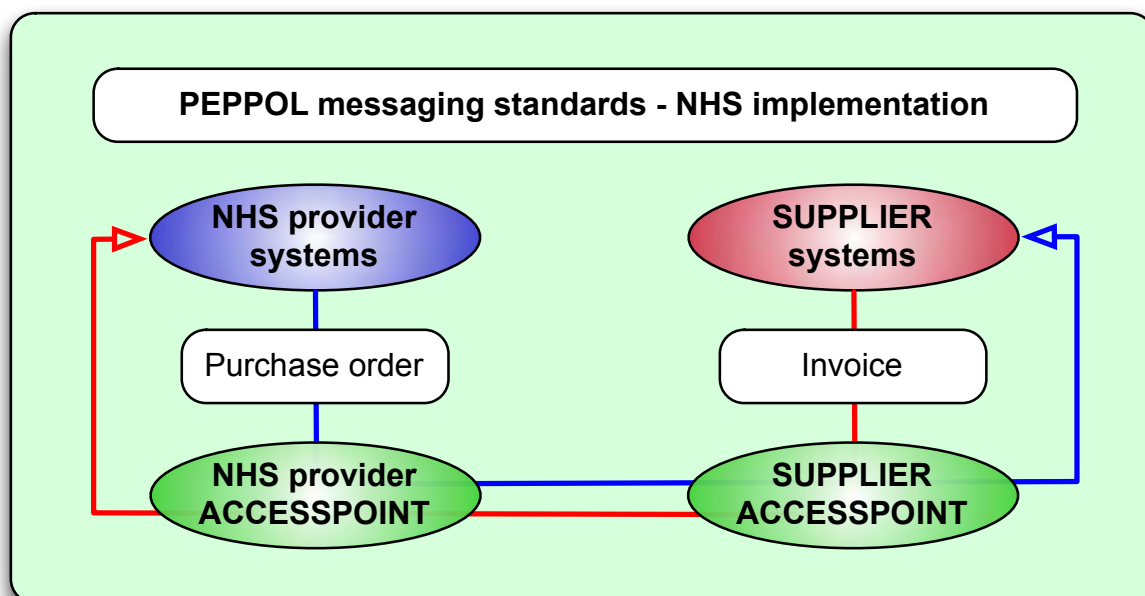
NHS providers should consider migrating all non-pay spend to their purchase order system, with the exception of the already well-developed pharmacy purchase order processing systems. These transactions can then be processed through a messaging platform that is integrated to both the purchase order system and the supplier sales order processing system.

Currently, almost all NHS providers utilise the **GHX Pharmacy Messaging Service**¹⁵ to process purchase order messages and around 80% of these transactions are integrated with their suppliers' systems. For non-pharmacy orders, around half of NHS providers use the GHX exchange but less than half of their purchase order messages are integrated, with the majority reaching the supplier as a PDF file that requires re-keying by the supplier into their sales order processing system. This inefficient process generates excess costs in the supply chain that are ultimately borne by the NHS in the form of higher prices and inventory levels.

In June 2013, the European Commission proposed a draft directive on electronic invoicing¹⁶ in public procurement. The proposed directive will include a requirement for contracting authorities, such as NHS providers, to offer their suppliers the ability to submit electronic invoices. Although some progress has been made on purchase order messaging, particularly in pharmacy, NHS providers have made little progress on electronic invoicing.

To achieve automated machine-to-machine purchase order and invoice transactions between NHS providers and suppliers, both must operate to a common messaging standard. This strategy recommends adoption of PEPPOL¹⁷ (Pan European Public Procurement On Line) as the messaging standard to be adopted by the NHS and its suppliers. PEPPOL is the culmination of a multi-year project funded by the European Commission, providing a set of messaging standards that enable key documents (purchase orders, advance shipping notes, invoices) to be electronically exchanged between buying and selling organisations without manual intervention through PEPPOL „access points“. To ensure the long-term sustainability of PEPPOL messaging standard and supporting specifications, the not-for-profit OpenPEPPOL association was formed in September 2012.

The diagram overleaf shows the architecture for the provision of a messaging platform for the NHS and its suppliers using PEPPOL messaging standards. The architecture operates on a „four-corner“ model with access points between buying and selling organisations.



The NHS provider access point is integrated to the NHS provider purchase order processing system. It receives purchase orders from the NHS provider and converts them to the PEPPOL messaging standard. It then exchanges PEPPOL-compliant purchase order messages with the supplier access point, which in turn is integrated to the supplier sales order processing system. This enables a purchase order from an NHS provider to be transmitted and loaded directly into a supplier sales order processing system without manual intervention.

This process works in reverse to accommodate the exchange of invoice data between supplier accounts receivable systems and NHS provider accounts payable systems. It also accommodates advance shipping notes between supplier goods outward systems and NHS provider goods inwards systems.

Commercial exchange service suppliers operating the PEPPOL messaging standards provide access point services. NHS providers and suppliers each select their own preferred access point provider. With the four corner model:

- **each NHS provider selects its own access point for messaging all suppliers;**
- **each supplier selects its own access point for messaging all NHS Providers.**

There are no fees payable between access points, with each party paying only their own PEPPOL access point provider. In 2014, DH will establish a national framework agreement for the provision of PEPPOL-compliant access points. Existing

providers of exchange services will be able to compete for this framework agreement provided they become compliant with the PEPPOL standards.

NHS providers should include arrangements for the introduction of the PEPPOL messaging standards as part of their GS1 and PEPPOL adoption plan, including provision for the early adoption of PEPPOL compliant invoice messaging within pharmacy, where there is an opportunity to build on the existing eProcurement capabilities to realise early benefits from electronic invoicing.

Suppliers to NHS providers should investigate and plan for the adoption of PEPPOL messaging standards to enable receipt of standard purchase order messages and issue of advance shipping note and invoice messages.

Patient safety

Medical devices

To support safety recalls; traceability; identification; and reduce counterfeiting, the European Commission (EC) issued a recommendation¹⁸ (April 2013) on a common framework for a unique device identification system (UDI) for medical devices, which:

- requires health institutions and suppliers to electronically store and keep the unique identifier of devices they have been supplied with or have supplied;
- requires health institutions to issue an implant card, carrying the unique device identifier, to patients receiving an implantable device.

The EC recommendation will lead to a revision of the Medical Devices Directive, which will require a staged implementation, beginning with high risk medical devices before extending to lower risk devices. Medical device manufacturers will be required to place barcodes containing two separate identifiers on their products:

- a device identifier (manufacturer name and device product code);
- a production identifier (batch number, expiry date and serial number).

GS1 provides for both device and production identifiers to be encoded into a single barcode. NHS providers should include plans for UDI in their GS1 adoption plans.

Equivalent action was put into legislation by the Food and Drug Administration¹⁹ in the United States in September 2013, with a timetable that requires implantable medical devices to be compliant with UDI requirements by September 2014 progressively followed by lower risk devices on an annual timetable such that all classes of medical devices will be subject to the UDI regulations by September 2018.

Recording usage in the patient record

European UDI legislation will lag behind the US, but suppliers should not delay in amending their systems to utilise the GS1 system to achieve compliance with the EC recommendation¹⁸. This will result in both a device identifier and a production identifier being present on the packaging of medical devices in the form of either a single barcode containing both device and production identifiers, or separate barcodes for the device and production identifiers.

Scanning of the barcode(s) at the point of receipt, again at point of storage and again at the point of use will enable NHS providers to respond effectively to safety alerts and recalls issued by the Medicines and Healthcare products Regulatory Agency.

The use of GS1 standards to apply a barcode to patient identity wristbands by NHS providers was identified by *Coding for Success*², and required by ISB 1077²⁰ (Information Standards Board for Health and Social Care, 2011). Once providers of NHS services have implemented GS1 coded patient identification, they should seek to integrate the recording of the use of medicines and implantable medical devices into patient records by means of scanning the patient identity wristband and the unique device identification barcode(s) on the product.

Medicines

A requirement to carry production identifiers on the labels of medicines is on the near horizon as a result of the EU Falsified Medicines Directive²¹ (Jan 2013). A system of pharmaceutical verification to inhibit counterfeiting is being determined, but is likely to require manufacturers to register unique random product serial numbers in a European database, with a matching barcode on the product packaging to be scanned at the point of dispensing and checked against the database.

Category management processes

Procurement intelligence

Procurement intelligence falls into three principal areas:

- 1) Spend analysis - to enable an NHS provider to scrutinise internal expenditure and prioritise areas for procurement action;
- 2) Price benchmarking - to enable an NHS provider to compare prices paid with other NHS providers and prioritise areas for action;
- 3) Spend recovery - to enable an NHS provider to examine historical payments to identify and correct duplicate payments, overpayments and unclaimed VAT.

The National Audit Office²² has identified wide variation in prices paid by different NHS providers for identical items. The basis on which prices are agreed between an NHS provider and a supplier can vary, resulting in some price variations that can withstand scrutiny. However, not all price variation can be satisfactorily explained.

*Better Procurement, Better Value, Better Care*¹ included an action to “develop, procure and implement a single, best-in-class NHS Spend Analysis and Price Benchmarking service”. DH will establish a Task & Finish group to determine the detailed specification and supply route to support the acquisition of a national data service and supporting services. DH will establish the data service during 2014, which is expected to be operational from April 2015.

The 2014/15 NHS Standard Contract has been amended to include a requirement that *‘the Provider must comply with Transparency Guidance if and when applicable’*. DH will publish transparency guidance in Spring 2014.

As part of the transparency guidance, all NHS providers will be required to electronically submit a monthly file of all accounts payable and purchase order transactions to the national data service. Arrangements for the submission of data, including commencement dates, will be managed through the Health and Social Care Information Service ROCR²³ (Review of Central Returns) processes.

As a minimum, the service will provide:

- 1) a monthly benchmarking report to each NHS provider to show comparative prices paid for identical items against peer group and all other NHS providers;
- 2) a quarterly spend file to each NHS provider re-presenting their own data, in a cleansed, classified and categorised format, for the NHS provider to undertake their own analysis of their spend, or for the NHS provider to share their data with other NHS providers and procurement partners such as procurement hubs, NHS Supply Chain and the Crown Commercial Service, or with external spend analysis providers and spend recovery providers;
- 3) a twice yearly report to the Department of Health to show aggregated spend data across the NHS, together with trends on price movements by high volume, high value product lines and spend categories.

The national data service will provide technical support to NHS providers to facilitate routine automated data extracts from NHS provider systems, including standard software plug-ins and online support.

As well as the outputs described above, the national Spend Analysis and Price Benchmarking service will show progress on the elimination of unjustifiable price variations.

Category intelligence

Improved prices can be realised at NHS provider level when a demand forecast is supported by a contractual commitment to volume or value. In many cases, prices can be further improved by aggregating volume or value commitments across multiple NHS providers. Drawing spend analysis and price benchmarking data together from multiple NHS providers enables demand to be aggregated by procurement partners to support regional and national contracts.

Procurement partners should have access to in-house or commercially provided eProcurement systems or services that enable demand to be aggregated across multiple NHS providers. Procurement partners will be able to access spend data from the national data service for input to their demand aggregation solutions. The ability to aggregate expenditure data will be increased by the adoption of GS1

product coding by all NHS providers to enable accurate product matching, providing the necessary data to inform the development of category management strategies.

As well as accurate line level expenditure data, category managers need access to market intelligence when developing a category strategy. During 2014/15, the Centre of Procurement Efficiency (CPE) outlined in *Better Procurement, Better Value, Better Care*¹ will establish a Procurement Portal accessible by NHS procurement practitioners. The portal will provide access to a repository of market data, including commercial, financial and risk profiles of key suppliers and markets, together with trend data around inflation and commodity price indices.

Through the transparency agenda, procurement practitioners will be expected to share their category strategies and contract pricing methodologies with CPE so that they are available through the CPE portal for access by other NHS procurement practitioners. This will support continuous improvement of procurement practice at the category management level

CPE will also develop a standardised category management methodology for the NHS and this will be embedded in the portal, through which procurement practitioners will be able to undertake online training to develop their category management knowledge and skills.

eSourcing

The European Commission strategy for e-procurement²⁴ (April 2012) requires all contracting authorities to undertake OJEU-compliant procurement procedures using electronic means by mid-2016. Progress is in hand within the European Commission to take this requirement through the legislative process.

To comply with this forthcoming requirement, NHS providers and their procurement partners will need to manage above-threshold OJEU procurement procedures, including contract notices, tendering processes, reverse auctions and contract awards by electronic means.

Many NHS providers already have either their own eSourcing platforms to electronically manage procurement procedures and the subsequent ongoing contract

management activity, or use the services of an appropriately equipped procurement intermediary to undertake their eSourcing activity. Where NHS providers do not have access to an eSourcing platform, they should consider using the Government eMarketplace²⁵ (GeM) provided by the Crown Commercial Service (CCS), which provides an eSourcing toolkit, including eTendering and eAuction solutions.

For procurement procedures below the OJEU threshold, GPS provides their Dynamic Marketplace²⁶, which enables buyers to request competitive quotations from pre-registered suppliers. To achieve compliance with forthcoming legislation, NHS providers should take care to ensure all of their sourcing activity across all departments, eg estates, catering, pharmacy etc is managed by electronic means.

The Cabinet Office provides Contracts Finder²⁷, which all NHS bodies are required to use under the Government transparency agenda, to publish contract notices and contract awards for all procurement procedures valued over £25,000. The use of Contracts Finder will increase the visibility of Government opportunities, especially to SMEs, in turn increasing competition for public sector supply contracts and encouraging growth.

Sid4Gov

In April 2013, the Government Procurement Service (now CCS) launched Sid4Gov²⁸ to supersede the Sid4Health solution, extending its scope to the whole public sector. Sid4Gov is a supplier information database that provides a single registration point for suppliers for the input and maintenance of responses to standard questions that are required in procurement procedures. It is available to registered NHS buyers, providing access to standard supplier data (eg company numbers, vat numbers, insurance certificates).

Sid4Gov uses Dun and Bradstreet „D-U-N-S“ numbers²⁹ to provide standard identification of suppliers, enabling buyers to understand mergers, acquisitions and corporate linkages. Corporate linkage information enables buyers to identify parent company and other related business entities within a group. Over time Sid4Gov will provide data to enable tracking of compliance with Government policy objectives such as increasing expenditure with SMEs.

All NHS buyers should register with Sid4Gov and undertake the online training facility provided and should encourage all their suppliers to register with Sid4Gov.

National purchasing agreements

Before undertaking local procurement procedures, NHS providers should first assess whether an existing national agreement is in place that meets the requirement. There are three principal sources of national contracts where registered buyers can access an online catalogue of national purchasing agreements:

- 1) Government eMarketplace²⁵, primarily for non-clinical categories, but including assistive technologies;
- 2) NHS Supply Chain³⁰, primarily for clinical categories, but including some non-clinical categories;
- 3) DH Commercial Medicines Unit³¹, for medicines and related categories managed through pharmacy.

NHS providers should also ensure that they have electronic access to regional or multi-NHS provider purchasing agreements provided by their procurement partners.

Benefits case

Without the goods and services provided by external suppliers, patient care cannot be delivered, whether directly by clinicians or when enabled by the support services and back office functions that support front line care. However, simply getting these goods and services can present a significant drain on clinical time.

Adoption of GS1 global standards provides consistently safer healthcare with fewer mistakes, with clinicians spending less time on procurement activity, and with redundant activities and their associated costs being eliminated.

As well as achieving compliance with forthcoming legislation, full implementation of eProcurement solutions can yield significant recurrent savings that can be returned to patient care. The McKinsey report, *Strength in Unity*³² has identified recurring

annual savings of £3m-£5m for a 600 bed acute NHS provider from the application of GS1 global standards to hospital procurement activity.

Reworking the McKinsey benefits case to an average NHS provider results in forecast savings of between £5,000 and £8,000 per bed, scaled as per the table below.

Recurrent savings (600 bed Trust)	Savings forecast (£)	
	Low range	High range
Reduce adverse drug events	1,366,460	2,360,248
Reduce obsolescence	1,366,460	2,111,801
Reduce data cleansing	248,447	372,671
Reduce inventory financing	223,602	310,559
Reduce recall processing	136,646	198,758
Purchase software, maintenance	-285,714	-298,137
Net one-off savings	3,055,901	5,055,900

Realisation of these benefits requires a significant upfront investment, which will be offset over time by a similar level of one-off inventory reductions.

One-off savings and costs (600 bed Trust)	Savings forecast (£)	
	Low range	High range
Inventory reduction	2,111,801	4,099,379
Less: Implementation support, software	-2,236,025	-2,484,472
Net one-off savings	-124,224	1,614,907

GS1 standards are universally adopted in the retail grocery trade, and are ultimately expressed through barcodes scanned at the checkout. Other countries already drive healthcare eProcurement systems with GS1 barcodes, such as Australia through the National E-Health Transition Authority³³ and Canada through the Carenet Healthcare Sector Board³⁴.

In addition to the financial benefits of GS1 described above, further benefits will accrue to NHS providers. By linking the use of goods to the patient record by scanning the product barcode and the barcoded patient identity bracelet, patient level and clinician level costing can become more accurate, enabling standardisation decisions that generate both financial, patient safety and quality benefits.

Implementation

Key actions – all providers of NHS services Page ref

- 1) Ensure compliance with the ISB 1077 standard for patient identification (p20)
- 2) During 2014/15, develop and commence implementation of plans to electronically record usage of medicines and medical devices into the patient record (p20)

Key actions – acute NHS providers (in addition to the above)

- 3) During 2014/15, develop and commence implementation of a board-approved GS1 and PEPPOL adoption plan (p12)

Key actions – acute and non-acute NHS providers (in addition to the above)

- 4) Adopt the Sid4Gov supplier information database (p24)

Key actions – suppliers to NHS providers

- 5) Develop and commence implementation of plans to comply with the GS1 requirements within the NHS Terms and Conditions for the Supply of Goods and the Provision of Services (p12)
- 6) Develop plans for the adoption of PEPPOL messaging standards (p19)
- 7) For medical device manufacturers – develop plans to comply with forthcoming requirements on unique device identification (p19)

Key actions – Department of Health

- 8) Publish detailed guidance for NHS providers, together with a template GS1 and PEPPOL adoption plan and business case (p12)
- 9) Publish detailed guidance for suppliers to NHS providers (p12)
- 10) Develop a certification scheme for NHS providers and suppliers (p13)

- 11) Establish Task & Finish group(s) to determine:
- 11.1) classification standards (p13)
 - 11.2) product and price datasets for the NHS GS1 datapool (p15)
 - 11.3) dates for supplier compliance with GS1 coding requirements (p12)
 - 11.4) dates for NHS provider compliance with GS1 coding requirements (p12)
 - 11.5) specification for provision of certification services (p13)
 - 11.6) specification for provision of a GS1 certified GLN registry service (p16)
 - 11.7) specification for an NHS GS1 datapool service (p14)
 - 11.8) specification for an NHS Product Information Management system (p14)
 - 11.9) specification for provision of PEPPOL messaging services (p18)
 - 11.10) specification for eProcurement implementation support services (p11)
 - 11.11) specification for a national NHS Price Benchmarking service (p21)
 - 11.12) specification for a portal for the NHS CPE (p23)
- 12) Facilitate the procurement of:
- 12.1) provision of certification services (p13)
 - 12.2) provision of a GS1 certified GLN registry service (p16)
 - 12.3) a single NHS GS1 datapool service (p14)
 - 12.4) a single NHS Product Information Management system (p14)
 - 12.5) provision of OpenPEPPOL compliant messaging services (p18)
 - 12.6) provision of eProcurement implementation support services (p11)
 - 12.7) a single national NHS Price Benchmarking service (p21)
 - 12.8) a portal for the NHS Centre for Procurement Efficiency (p23)

Appendix 1 – GS1 system

The GS1 system enables a single global source of master data to be created, captured and shared across supply chains, from the brand owner through to the end user. A GS1 reference guide³⁵ for the NHS is available on the GS1 website. GS1 standards include:

1) Global Trade Identification Number (GTIN)

A GTIN is a unique number used to access an electronic record held in a database that can contain hundreds of attributes concerning a specific product. These attributes include data such as product description; manufacturer product code; product weights/dimensions; and packaging hierarchies. A GTIN is globally unique and cannot be duplicated.

2) Datapools and the Global Data Synchronisation Network (GDSN)

GS1 has certified 29 datapools across 24 countries that provide repositories for suppliers to place master data. Suppliers can load their master data into any GS1 registered datapool. These datapools are operated by either GS1 or commercial vendors and are linked by the GDSN network that enables master data to be synchronised in near real time and shared globally with buying organisations.

3) Healthcare extension

Some sectors require additional attributes and GS1 provides different extensions to cover these requirements. A healthcare extension is available covering 20 further attributes, including information around sterility, reusability and safety.

4) Data carriers

The GTIN is encoded to a GS1 data carrier standard for barcodes and Radio Frequency Identification (RFID) tags, enabling the generation of a barcode that can be read by a scanner. Scanning the barcode provides an electronic key to access a database of product specific attributes.



GS1 DataMatrix codes (see image, left) can be etched onto devices such as surgical instruments or printed on small packs, overcoming the size limitations of linear barcodes. RFID tags can be attached to a product, enabling its whereabouts to be located without line-of-sight scanning. GS1 DataMatrix and RFID tags can carry expiry date, batch number and serial number, supporting the EU unique device identification requirement.

5) Global Location Number (GLN)

A GLN is also a globally unique number used to access a record held in a database. It is used to identify a physical location in the supply chain, such as a warehouse or a delivery point. GLNs can be allocated by NHS providers to identify the NHS provider, hospital, cost centre, transfer point or even a specific storage cupboard. Similarly, suppliers can use GLNs to identify specific companies and distribution points.

6) Price data

GS1 standards enable pricing structures, including volume breaks and rebates, to be created and shared electronically. By combining a GTIN and a GLN, customer specific pricing can be held in a GS1-certified datapool, enabling management of any price, for any product, for any NHS provider. The combined use of GS1 datapools, GLNs and GDSN accommodates pricing between manufacturers and third party distributors.

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