EPACCSYS
ERP SOLUTIONS & SERVICES

Personal Protective Equipment Inventory

A MATTER OF LIFE AND DEATH

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GS1 UK | Industry Partner

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Executive summary

Over 650 health and social care workers died of COVID-19 during the first six months of the pandemic.

Now NHS trusts must respond to a second wave of the virus, alongside the expected challenge of winter flu.

Are they prepared?

As the coronavirus pandemic took hold in 2020, demand for PPE soared, but the usual routes of supply failed. Many healthcare workers reported going without the PPE they so desperately needed. As PPE costs quickly mounted, NHS procurement teams were forced to fall back on improvised supply lines.

We cannot improve what we do not measure.

Many NHS trusts are still unable to say whether they have the stock of PPE products they need, and delays in their accurate supply persist. Real-time visibility of inventory is critical.

The GS1-compliant barcoding solution Epicor from Epaccsys makes inventory management as straightforward as shopping in the supermarket.

This powerful and flexible system ensures that PPE stock is managed effectively, is available when needed, and saves on costs by reducing wastage. It is the long-term, sustainable solution that NHS trusts need - both for this pandemic and beyond.

Get in touch with us today to find out how we can work together to deliver a barcoding system that suits your needs and implements long-lasting change.

Background
COVID-19 and the PPE crisis

As coronavirus spreads by contact and airborne droplets, the people most at risk of infection are those in close contact with a COVID-19 patient.[1] Many of those infected with SARS-Cov-2 can be asymptomatic, often rendering it an invisible threat.

Healthcare workers need medical-grade personal protective equipment (PPE) in the form of eye protection, face masks, gloves, gowns, films (body bags and clinical waste bags) and chemicals to fully protect against transmission.

Demand for PPE soared in the spring of 2020 and rapidly outstripped supply. Prior to the pandemic, over 80% of PPE used in the UK was sourced from China.[2] But disruptions to the global supply chain, increasing competition from other countries, trade restrictions and the grounding of commercial flights meant that new sources of PPE were desperately needed.

" **There was a failure in Government to anticipate the types of PPE that might be needed and a failure to buy adequate stocks of some items that they knew definitely would be needed… this unleashed a sort of institutional panic buying… it was a very close thing that we didn't run out of gowns and other PPE."**

Senior Procurement Officer at a large NHS Trust

At the peak of the pandemic, medical-grade PPE was urgently needed within hospitals, but also care homes, hospices, prisons and in the community - environments which previously had little need for these products.

Existing stockpiles of PPE for influenza were insufficient to meet the escalating demand. Procurement and supply chains could not keep pace with the sudden rise in volume and need for rapid distribution.[4]

OVER 10% of all infections in England (26 April to 7 June 2020) were among patient-facing healthcare workers and resident-facing social care workers.[3]

£15 billion was spent on PPE after lockdown was declared – £3 billion more than the entire annual budget of the home office.[3]

Gown shortages were especially problematic because the national pandemic stockpile did not include large volumes of the highest protection level clinical gowns.[5]

Apparently minor complications have had major impacts on worker safety and care. For example, trusts have received up to five different brands of face mask. Fit testing is repeated each time a new brand arrives, which can take up to an hour per person.[6]

The cost of surgical masks increased six-fold, N95 respirators trebled in price, and gowns doubled. Market manipulation became common, and stocks were frequently sold to the highest bidder.[7]

Analysis of hundreds of transactions from trusts in England has revealed that procurement teams were forced to fall back on improvised supply lines as the flow of PPE from the centralised stockpile, overseen by Department of Health and Social Care (DHSC), struggled to cope.[10] Amid nerves about access to suitable PPE, some NHS trusts were accused of unnecessary stockpiling.[11]

But the bare truth is that many healthcare workers did not have access to the PPE they needed.

In a survey conducted by the Royal College of Physicians in April 2020, over 26% of respondents reported being unable to access the PPE they needed for managing COVID-19 patients.[12] Some NHS workers said they were asked to consider reusing equipment.[13]

In July, the British Medical Association branded the alleged continued use of faulty and out-of-date PPE a 'national scandal.'[14]

Distribution of masks increased by 4,700% to 85-90 million units.[9]

Monthly distribution of eye protection increased by 17,000% (7-8 million units).

Prepared to fail

The short fallings in providing sufficient PPE were due to a decade of austerity and cuts to the NHS, combined with a lack of preparedness by Public Health England (PHE).

According to many sources, the response from PHE and the Government was slow to acknowledge and tackle the urgent, growing demand for PPE.[15] The existing stockpile was designed for an influenza outbreak, not any other type of disease.[16] And shifting guidelines on the use of PPE between January and April 2020 only added to the confusion.[17]

The NHS supply chain needed to have accurate inventory data regarding PPE stock levels, product types and their expiration dates. This information should have been accessible and visible, complemented with a robust supply chain that could respond by increasing UK manufacturing capacity or by importing inventory from countries such as Turkey or Egypt. This did not happen.

Offers flooded in from British businesses to assist in sourcing and supplying PPE. But NHS systems could not handle or manage this unprecedented situation efficiently.

The visibility of an accurate PPE inventory is still missing.

For trust leaders across England, nothing could have been more important during the pandemic than ensuring their staff had the PPE they needed, when they needed it. Trust leaders repeatedly raised concerns over supply, yet delays continued to persist.[18]

Prior to the pandemic, business-as-usual procurement of PPE was decentralised across health and social care settings.[19] Each organisation sourced its PPE through wholesalers or directly from suppliers.

Although PPE ordering is also done on a UK-wide level, different parts of the NHS have different levels of stock.[20]

The time for reflection on the failure to adequately prepare for a national pandemic will come. But right now we should address the more immediate challenge: how can the NHS ensure its staff are safe?

NHS staff have told Epaccsys they were forced to update daily stock records by collating Excel spreadsheets sent by

Nurses wasted time doing inventory checks, counts, and hunting for suitable PPE. Their time should have been released back to caring for patients.

" **Healthcare workers risking their lives couldn't care less how many billion pieces of PPE have been ordered or supplied. If it isn't there when they need it, they are in harm's way."**

Professor Andrew Goddard, President of the Royal College of Physicians[21]

The solution
We cannot improve what we do not measure

The DHSC is building a 'strategic stockpile' to respond to future surges in PPE demand. This will be equivalent to around four months' stock of each product category. The Department has promised this will be in place and stored in warehouses by November 2020.[22] But this is not enough.

The difficulties in managing PPE are rooted in trusts not knowing where it is needed, where it is being used, how quickly it is depleting, or what products and sizes are required. In short, they lack accurate, real-time and meaningful inventory data.

Given the critical nature of PPE in protecting lives, proper solutions and real-time visibility of inventory are critical.

We learned from the first wave of COVID-19 that the NHS must improve its inventory management. It is imperative that trusts monitor PPE usage against admission spikes and develop agile processes to allocate inventory across trusts in response to urgent demand.

The Government has set up a new PPE Dedicated Supply Channel, designed to meet urgent volume requirements for core PPE items. It runs in parallel to the normal NHS Supply Chain service.[24]

But individual trusts and hospitals also need to see, at any given moment, which types and sizes of PPE products are running low or due to expire.

Inventory management at several trusts appears to have failed because they have not implemented a centralised, real-time system with robust processes and controls in place.

Trusts need help with reporting and analysing PPE usage. It is not enough simply to forecast or estimate demand, especially during a crisis.

Clear inventory levels of all critical products are essential - especially during a pandemic. It is, after all, a matter of life and death.

The next wave, or waves, of COVID-19 must not catch us out again. Nor must a future pandemic hit us so hard. We must be prepared to protect NHS workers and save lives.

> **The NHS has been grappling with medication errors, wrong site surgery, wrong implants - all of these sorts of problems - for years. Actually, the solutions to these intractable problems are close at hand. We're not talking about some obscure, exotic science or technology. Scanning is what you get at a checkout at the supermarket. When was the last time you checked your bill from a supermarket? You don't have to. They're not going to make any mistakes because it's all been scanned."**

Gavin Boyle, Chief Executive, University Hospitals Derby and Burton NHS Foundation Trust[23]

Make inventory visible

According to the WHO, PPE management requires supply chain mechanisms that use a 'centralised request management approach' to limit wastage, overstocking, and failures in stocking.[25] They must also include monitoring systems that manage the distribution of PPE.

Speaking to key stakeholders from NHS trusts - including frontline nurses, doctors, procurement directors, materials management staff and CEOs - Epaccsys found that their needs were clear.

The good news? A solution already exists.

Under the GS1 framework, barcodes are produced to the highest standard, so every barcode is globally unique and useable across all GS1-compliant computer systems and devices.

Inventory management using barcodes is no more difficult than shopping in the supermarket.

Alongside inventory solutions, GS1 can manage PPE inventory across trusts. It can capture data such as PPE stock volume and usage, storage location, type and shelf life. It can also provide a holistic view across all NHS trusts, to any level of required detail.

Until now, there has been no urgent incentive to put robust inventory systems in place. But ramping up GS1 compliance is critical as the second wave of COVID-19 hits the NHS.

GS1 was agreed by the Government back in 2014. It was mandated that all NHS trusts in England must adopt GS1 standards across a number of arenas and all their suppliers must become GS1 compliant. Six years ago, the focus was less on safety and more on cost savings.

Sadly, it has taken the PPE crisis and the tragic death of healthcare workers to put this obligation back on the agenda.

> " **We know the adoption of GS1 standards can save lives and save money and can do it quickly."**
>
> Lord Philip Hunt, President, GS1 UK, and former Health Minister

Every trust needs to be able to:

Set up and track minimum and maximum PPE stock, from the level of the entire trust down to individual hospitals and wards.

Track and review the usage of PPE stock on a daily or weekly basis to understand what is truly used and

Confront the fear of technology

One barrier to GS1 uptake is the institutionalised distrust of digital technology.

In 2002, at a cost of £12 billion, the Labour Government launched the National Programme for Information Technology (NPfIT) NHS Care Records Service. It was intended to deliver an electronic health records system containing patient records from across the UK. In 2011, the NPfIT was dismantled and closed down, following problems with poor user requirements analysis, the failure to address patient confidentiality, overambitious timescales, and enormous cost overruns.[26]

Such historical issues have created an understandable fear, apathy, and resistance to new technology. In many cases, NHS trusts have been left ill-equipped to manage and implement new IT systems.

NHS trusts have also lacked adequate funding to invest in appropriate IT systems. In 2015, the NHS was asked to find £22 billion of efficiency savings by 2020-21.[27] Since then, budget increases have often fallen below inflation while long-term austerity measures have prevented adequate digitalisation of health services.[28]

NHS leaders must now make changes to protect against future failure and to keep staff safe.

During a two-year initiative, six trusts used GS1 to scan people, products and places. They successfully released 140,000 hours of clinical time back to patient care. Together, these trusts made non-recurrent inventory reductions of £9 million and recurrent inventory savings worth nearly £5 million.

An existing licensing agreement between GS1 UK and NHS Digital (lasting five years from 1 April 2019) means all trusts in England can generate GS1 barcodes at no additional cost.

Proven benefits of GS1 for PPE inventory management:[29]

- Arrival scanning for consistent, reliable stock management
- Product orders are just in time rather than just in case
- Products are ordered in the quantities required
- Clear visibility of product expiration dates
- Free clinical staff from stock taking to spend more time with patients
- Precise and quicker costings
- Complete traceability at the click of a mouse
- Products can be easily recalled

Our answer

Cost and efficiency savings with Epaccsys

NHS trusts should collaborate with a professional partner to implement an appropriate inventory management solution.

Many companies claim to offer free and low-cost software. But there is no such thing as a free lunch.

Doing nothing comes with a cost.

By not taking action and implementing a reliable and effective inventory solution, the lives of NHS staff are at stake.

At Epaccsys, we use the GS1-compliant inventory solution Epicor.

Epicor is a powerful, flexible, fully integrated solution that tracks the process of ordering stock right through to receipt. It monitors usage and provides traceability.

The system ensures that PPE stock is managed effectively, is available when needed, and saves on costs by reducing wastage.

The Epaccsys offer

> Set minimum and maximum stock levels for PPE against size and type

> Allow staff to record items of PPE that have been taken from stock and used, either using barcode scanners or wall-mounted touchscreens

> Live dashboards of stock visibility across a trust, a hospital or even down to shelf level

> Tailored dashboards for at-a-glance spending analysis by department or ward

> Automatic re-ordering or notification of stock replenishment needs

> Reduce wastage with appropriate PPE use and ordering

> Standard GLN and GTIN fields and PEPPOL integration for GS1 compliance

" Our solution is particularly relevant in this second wave of COVID-19, when visibility of PPE usage, PPE inventory balances by location, type and so on are critical to help NHS procurement make intelligent sourcing decisions."

Rob Graham, Epaccsys Limited

First steps to saving lives

The Epicor software and system is simple, but the process of change requires some preparation including staff involvement and strong leadership. We suggest you follow these preparatory steps:

Internal Procurement Process: Will you go out to tender or award directly via the G-Cloud framework?

Staffing: Are your staff available for the project? Do they have delegated authority and decision-making, or should this come from the external provider?

Project Sponsor: Who will lead the project and unite individual hospitals, communities and staff through the change management process?

Timeframe: When do you want the system to go live?

Budget: How much can you allocate for software licenses, support costs and implementation (remembering budget for project management, process compliance and integration, data migration, testing, user set-up and training)?

IT department: How will you involve your IT team and work with them on connectivity, hardware, and technical support?

Business Requirements Document: What are your specific needs and the problems you want the system to solve?

Do your preparation well and implementation will be easy. Get in touch with Epaccsys so we can guide you in this preliminary work.

About the author
Rob Graham

Rob graduated from Essex University in 2007 with a BA Degree in Accountancy & Management, which lead him in the world of accounting in practice. During his time in practice, Rob found himself working in the technology arena, through his love of technology combined with his advisory and accounting skills, Rob found himself working in the IT industry delivering solutions that delivered beneficial, practical solutions to clients.

Having now worked in the ERP software space for the last 12 years, seven of which has been Epaccsys delivering Epicor solutions, where using his skills he enjoys delivering well thought out solutions that bring tangible benefits to sectors he cares about, in particular the NHS.

Currently working with a number of NHS Trusts and ambulance services Rob is determined to make a difference and work closely with this invaluable sector.
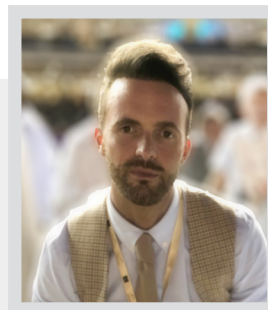
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Take action today

LEAD CHANGE AND SAVE LIVES

We implemented a stand-alone PPE inventory management system across the entire South West Ambulance Service NHS Trust (109 locations) in less than two weeks.

Get in touch today and discover how we can help.

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