Buying better: improving NHS procurement with behavioural insights

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THE BEHAVIOURAL INSIGHTS TEAM

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Executive Summary

Context and background

In February 2016 the Carter review found that £700m of savings could be achieved across acute and non-acute trusts in the purchasing of general supplies and services.

In this note we outline how behavioural insights can help to understand the barriers within digital hospital procurement platforms and develop solutions to overcome such barriers and improve procurement efficiency by reducing errors and generating savings. Whilst the ideas in this note are based on our programme of work for the Health Foundation in hospital procurement, many of the insights and ideas could be applied to the healthcare sector and digital procurement more broadly.

Digital procurement platforms in the NHS

Using digital procurement platforms in the NHS can be complex for both buyers (senior procurement officers in charge of setting up and managing procurement contracts for an NHS Trust) and requisitioners (procurement officers responsible for placing orders for products for a Trust). When digital procurement platforms are not designed well, behavioural biases can make it difficult for staff to make the best decisions. We identified three behavioural biases that we have found to be particularly relevant in this context: choice overload, risk aversion and status quo bias. These biases can sometimes lead to suboptimal outcomes.

Through our programme of work, we were able to identify a number of features of digital procurement platforms which, combined with some of the behavioural biases outlined above, can lead to poor outcomes in procurement decision-making.

Behavioural interventions to improve platforms

In order to overcome some of these issues, we have identified four main types of behavioural interventions that could be implemented to improve procurement efficiency. These interventions are included in the table below along with some concrete examples of how this type of intervention could be applied in the procurement context. Access to reliable, real-time data is key to improving procurement efficiency, and this underpins almost all of the behaviourally-informed solutions we discuss below. Setting smart defaults, making it easy to find optimal options or letting people know how they compare to others all require the use of data to identify opportunities for efficiency. New emerging digital platforms for hospital procurement have vastly improved in terms of the quality and amount of data collected, but more needs to be done to ensure that this data is used in smart ways to provide user-friendly and timely feedback loops. We believe that some of the most promising solutions to improve procurement in the NHS will be data-powered.

Behavioural intervention	How this could be applied to digital procurement platforms
Design smart defaults	• **Preselecting optimal product alternatives** where an identical option is available at a cheaper price for a given product, accounting for unit price, potential volume discounts and cost of delivery. • **Preselecting cheapest delivery options.** Ensuring that the 'go-to' delivery option is the one that is free or cheapest, whilst allowing procurement staff to override this when necessary. • **Using historic data from across the system to set sensible volume and spending limits**, for a given Trust or for a given time period, whilst ensuring this can be overridden when necessary and appropriate.
Simplify and harness friction	• **Displaying the key information in a simple and clear format,** crucially information around prices and delivery times. • **Making it easy to identify the most cost-effective options,** by moving the cheapest items to the top of the product list or providing suggested 'swaps' for procurement officers, accounting for unit price, delivery costs and bulk ordering savings opportunities where possible to avoid missing 'hidden' costs. • **Requiring additional confirmation or explanation,** when a procurement officer or buyer is purchasing non-contractual items (i.e. those that are not purchased through an existing contract) or more expensive items (e.g. "There is a cheaper option available for this product. If you wish to proceed with this purchase, please use this box to write a short justification"), or to ensure the correct quantities are procured. We note that it is important to carefully consider when it is appropriate and most beneficial to do this, as it requires extra time for staff. People can also start to ignore these additional checks and justifications when they are going through the same process again and again.
Use cost and social norm feedback	• **Providing cost feedback,** by highlighting how much purchasers have spent and/or could have saved if they had purchased cheaper alternatives. • **Providing social norm feedback for outliers.** Initially, only the biggest spending outliers (i.e. those who 'overspend' the most) at an individual level, Trust or CCG level could receive personalised feedback on their purchasing compared to other Trusts or CCGs. • **Providing social norm feedback on best performers.** Once the general purchasing behaviours improve to the extent that most purchasers buy the best value for money products, feedback could be provided on the behaviour of the most efficient spenders and the best performing Trusts, for example "80% of efficient purchasers buy this brand of gloves". • **Sharing user ratings of products.** Asking purchasers to rate products and then providing this rating information with others on the digital platform could help drive up quality, not just cost savings.
Provide timely prompts	• **Highlighting the optimal options** (contractual, generic, good value for money) in a visually salient way at a key moment in the decision-making process, for example by the use of colour, icons or through placing optimal products at the top of search results. • **Highlighting the least desirable options** (the most expensive product versions, costly delivery options), using colours or icons associated with danger, for example. • **Embedding alerts to potential basic errors or redundancies.** For instance, the system could warn procurers if the volume or cost of the order exceeds a certain limit or if the item has been already ordered and is on its way. • **Alerting procurers to potentially suboptimal choices.** Timely prompts could inform purchasers at the moment when they are about to choose a more expensive option. Framing their decision as an active choice may increase the sense of accountability (e.g. "You have selected a more expensive delivery option. Are you sure you want to proceed with this option?").

Key takeaways and next steps

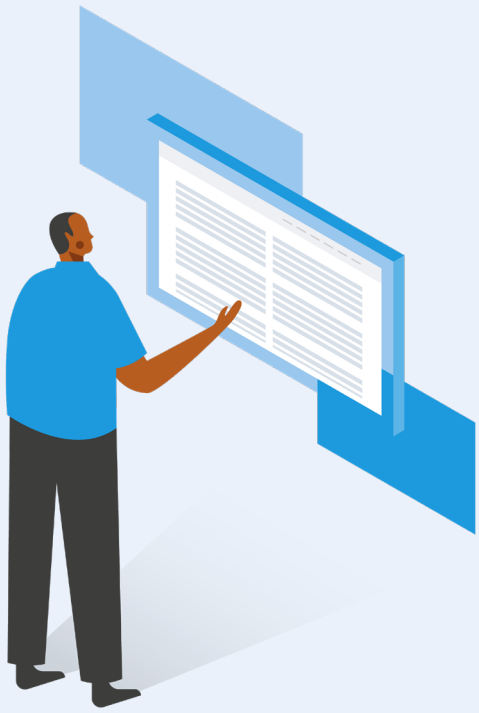
Our two overarching recommendations are to (1) use behaviourally-informed and data-led approaches to design ways to optimise the functioning of digital procurement platforms and (2) build evidence on what works to improve digital procurement.

Within these, we include a number of practical sub-recommendations:

- **Implementing the behavioural interventions included in this note** across all digital procurement platforms used in the NHS to make effective procurement easier for those involved in making procurement decisions.
- Ensuring that providers of digital procurement platforms **adopt data-led approaches** to the provision of their services, and make data available for analysing purchasing behaviour, identifying bottlenecks and common errors or areas of overspend, enabling the design of further behavioural insights interventions.
- **Systems need to be set up in ways that incentivise innovation;** providers of all public sector digital platforms should be incentivised to ensure they are designed in a way that makes it easy for users to make the best decisions, including through the application of behavioural insights.
- Ensuring that **rapid iterative testing and evaluation of new features and tools is automatically built into tenders and contracts** with providers of digital procurement platforms, and that a part of the budget is allocated to ongoing R&D, to ensure that iterative testing and evaluation is ongoing.

Implementing the behavioural interventions included in this note will support the realisation of improved efficiencies in purchasing in the NHS, but we should not stop there. Going beyond digital procurement, a lot of the process continues offline where there is further scope for improvements. Whilst requisitioners might have ordered the best product online, they will reorder it again if it gets lost due to a lack of stock organisation. Behavioural insights and empirical approaches should therefore be applied across the whole procurement user journey to help requisitioners and buyers make more efficient decisions, as well as more widely across NHS systems and processes.

Behavioural insights can be applied to a wide range of areas within the NHS, and many of these principles and ideas could be implemented in other areas to improve systems and processes. We would recommend considering behavioural insights as part of the 'bigger picture' approach to delivering on strategic improvements within the NHS.



Procurement in the NHS: the state of play

The 2014 NHS Five Year Forward View set an ambition to achieve 2% net efficiency gains over the next decade, equating to around £22bn annually.[1] In February 2016, the Carter review found that £700m of savings could be achieved across acute and non-acute trusts in the purchasing of general supplies and services.[2] The review shone a light on unwarranted variation in purchasing across and within Trusts, and suggested that savings could be delivered annually from improved procurement management by adopting best practices and modern systems.

Digital procurement platforms in the NHS

When it comes to the procurement of basic commodities, the inflexible and user-unfriendly nature of existing NHS digital procurement platforms can result in errors, inefficiency and waste. Complex interfaces complicate purchasing decisions for procurers and the design does not help identify the sources of spending inefficiency and variations among Trusts. Improving the design of these platforms could contribute to better and more efficient procurement decisions in the NHS.

What is the role of behavioural insights in digital procurement platforms?

The Behavioural Insights Team (BIT) were awarded a grant from the Health Foundation in 2016 to conduct a programme of work to explore and test how behavioural insights (see Box 1) could be applied to improve decision-making on hospital digital platforms. In this note we summarise key insights and recommendations from this work which BIT conducted in conjunction with research partners.[3]

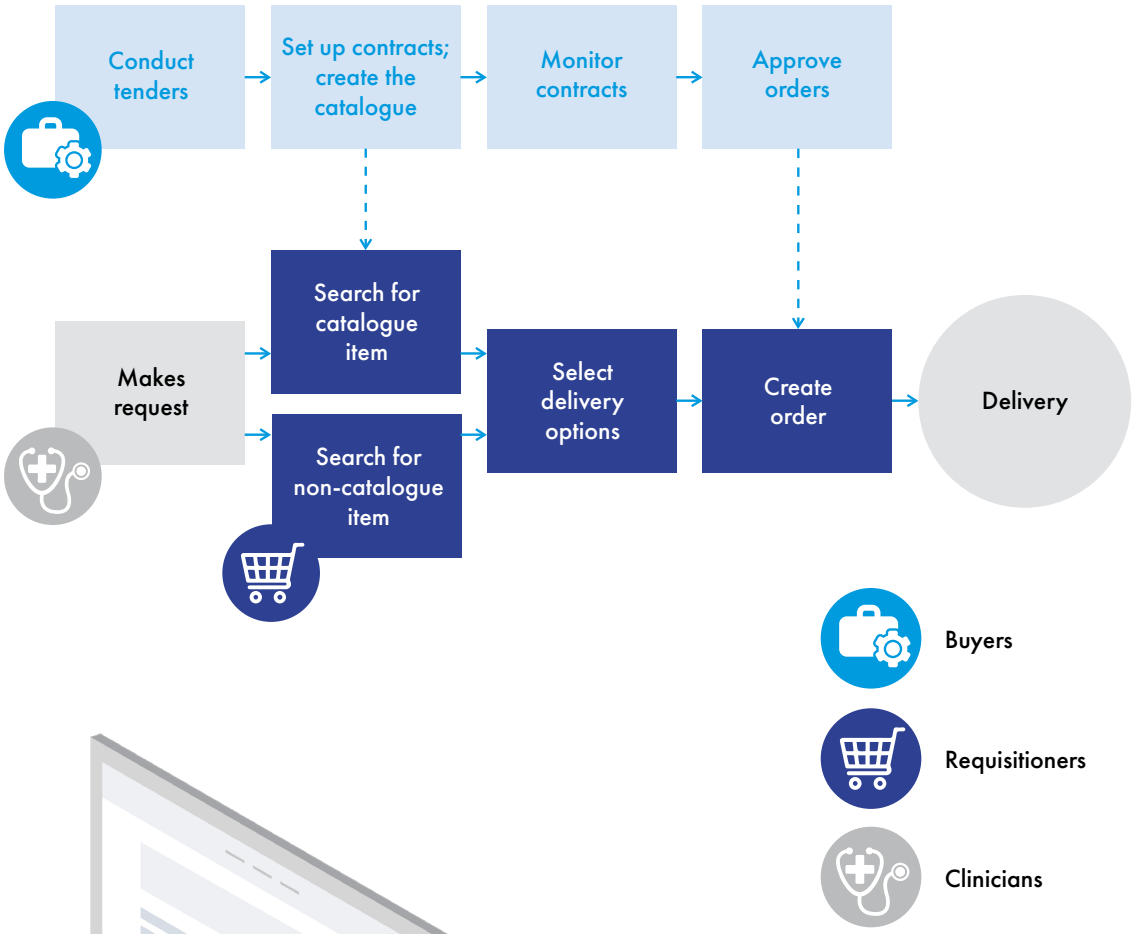
Box 1: What are behavioural insights?

BIT is one of the world's first organisations dedicated to the application of behavioural science to public policy. Behavioural insights provide a better understanding of actual human decision making and behaviour, based on evidence from sciences such as psychology and behavioural economics. A key premise of behavioural insights is that people tend to overly rely on automatic 'fast' thinking (rather than 'slow' deliberation), underpinned by a host of mental shortcuts (heuristics) that are often very useful but can sometimes lead us astray. This tendency for people to rely heavily on 'fast' thinking makes it important to consider the environment surrounding choices which can disproportionately influence people's decision. BIT developed the EAST framework to summarise practical insights on how to encourage desirable behaviour by making it easy, attractive, social and timely. Many of these practical insights are drawn upon in this note.

What does procurement in the NHS look like?

The following schema illustrates a simplified procurement process in the NHS, showing the key actions of both buyers and requisitioners. NHS buyers are senior procurement officers in charge of setting up and managing procurement contracts for an NHS Trust. Requisitioners generally work to buyers, and are responsible for placing orders for products for a Trust. There is a role for behavioural insights at various stages of the procurement process.

Figure 1: Simplified schema of the procurement process via NHS digital platform



Behavioural barriers to efficient procurement decision making

Using digital procurement platforms in the NHS can be complex. Buyers and requisitioners often need to compare multiple products across different dimensions—offered by many different suppliers—to identify the best option. They need to order and reorder dozens, if not hundreds of products, but then they must also remember to cancel or change orders which are no longer needed.

When digital procurement platforms are not designed in a way that goes with the grain of how people behave and make choices, behavioural biases can make it difficult for staff to make the best decisions. These biases can sometimes lead to suboptimal outcomes, for example a requisitioner procuring a product which is considerably more expensive than an identical product offered by a different supplier. Digital decision-making is particularly prone to some of these biases, given the vast amount of data to process and multi-tasking that digital working requires.[4]

In the following table, we list some of the most pervasive biases that we have found to be relevant in this context based on our work. These biases are referred to throughout this document.

Table 1. Key behavioural biases at play in digital procurement

Biases	Description
Choice overload[5]	As the number of options presented to a person increases, their ability to select the best outcome can decrease. Faced with dozens of product options with complex trade-offs across different dimensions, procurers can be overwhelmed and choose worse deals.
Risk aversion[6]	In many situations people are particularly sensitive to low probability but potentially high impact risks. In the procurement context, a procurer may overorder an item or opt for an expensive delivery, even if there is only a very small risk of running out of the item, or the item arriving late. In some cases this may be perfectly rational if an item is of critical importance to patient care.
Status quo bias[7]	People generally tend to prefer for things to stay as they are - the 'status quo'. Procurers may find it easier to keep doing what they have always done. For instance, they could continue to buy products from a familiar supplier rather than searching for the most efficient option which may mean switching to a new and unfamiliar supplier.

Challenges in the current procurement system

Many of these behavioural biases are likely to be relevant to how procurement staff interact with digital procurement systems. To explore this hypothesis, we carried out interviews with procurement officers (individual requisitioners) and held multiple discussions with procurement specialists delivering a hospital digital platform.[8] We were able to identify a number of features which, combined with some of the behavioural biases outlined above, can lead to poor outcomes in procurement decision-making in requisitioners. Whilst the research that informed this focused on individual requisitioners, many of these features are likely to be relevant to buyers as well.

Features of digital procurement platforms which may contribute to poor outcomes

- **Low visibility of the best price alternatives.** The system is not designed to function as a procurement search engine, enabling easy product comparison and identification of better value alternatives when procurement officers search for items.
- **Lack of clear product information.** There is a lack of clear product detail, images or descriptions provided for many products (i.e. most products are listed as codes).
- **Unclear delivery times.** A lack of clear delivery times makes it more likely that people will select 'next day delivery' for new orders, potentially incurring more expensive courier costs.
- **Static favourites lists.** The challenges in navigating the existing system mean that staff who routinely have to interact with the procurement system try to find time-saving ways of keeping track of their 'favourites' (or routinely bought items). The current system has the functionality to store these lists of favourite products, but when the price of those products change, this price change is not reflected on their favourites list.
- **Ineffective approvals processes.** The lack of a user-friendly system means that people who need to approve purchases may find it challenging to navigate the system and identify large errors in the proposed purchases of their requisitioners.

8 Note that these interviews were carried out in 2017 and therefore some Trusts will have since adopted newer procurement platforms which may have designed out some of these features.

Potential poor outcomes resulting from the features above combined with behavioural biases

- **Errors in the type of items ordered.** These errors are largely due to a lack of clear product detail, images or descriptions (i.e. most products are listed as codes) but also due to static favourites lists and complicated approvals interfaces.
- **Errors in the volume of orders.** The current system does not help procurement staff to identify implausibly high quantities of items (for example 100,000 boxes of pens, rather than 10 or 100 boxes).
- **Over-ordering.** Due to the lack of both transparent delivery tracking and an accessible and up-to-date inventory management system, it is not easy for staff to check whether the item they are ordering is already in stock or not.
- **Expensive orders.** Whilst the best value for money items can be difficult to find on the platform, costly alternatives are available. More expensive options for products may be procured by an individual for various reasons. For example, it may be because a user is unaware that a cheaper identical option is available, because the user orders a product stored on their favourites list. In other cases, a requisitioner - or the clinician who made the request to the requisitioner - may have a preference for a product brand and higher trust in the product quality and timely delivery, even if it comes with a higher price. Moreover, individual expensive orders may be due to procurers using a contractual supplier who may offer a higher price on a given product but the overall contract provides savings in other products or due to volumes ordered. In addition, people may select expensive delivery options to compensate for long lead times, due to anticipated delays in approvals or deliveries.

In the next section we discuss potential behavioural solutions to address some of these features with the overall aim of improving procurement decisions and processes.

Behavioural solutions to improve procurement efficiency

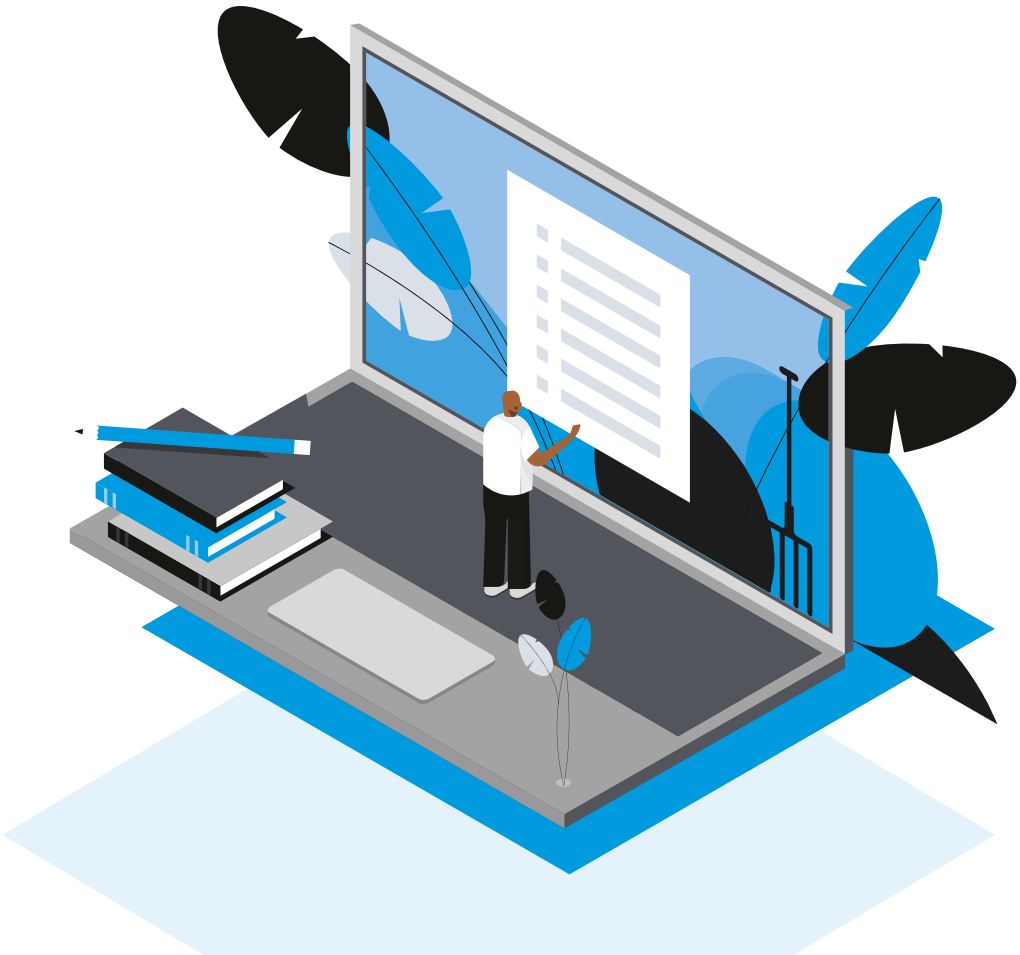
Throughout this programme of work we have identified four main types of behavioural interventions which could be used to improve procurement behaviours in digital interfaces:

1. Designing smart defaults
2. Harnessing friction
3. Using cost and social norm feedback
4. Introducing timely prompts

These are discussed in more detail in the rest of this section, along with real examples from interventions we developed and tested in online experiments as part of this programme of work. More information on these trials is in Box 2.

Access to reliable, real-time data is key to improving procurement efficiency, and this underpins almost all of the behaviourally-informed solutions we discuss below. Setting smart defaults, making it easy to find optimal options or letting people know how they compare to others all require the use of data to identify opportunities for efficiencies - or in other words, what we should nudge procurers towards and what impactful information we should use to persuade them to act.

New emerging digital platforms for hospital procurement have vastly improved in terms of the quality and amount of data collected, but more needs to be done to ensure that this data is used in smart ways to provide user-friendly and timely feedback loops. We believe that some of the most promising solutions to improve procurement in the NHS will be data-powered. To illustrate this, we have developed and tested two such data-led tools within our two trials (more information below and in Box 2).



Solution 1: Design smart defaults

People have a strong tendency to stick with the 'default' option: the pre-set option that will come about if they do nothing. Facing multiple options can lead to choice overload,[9] making people more likely to possibly forgo selecting an option and just sticking with the default that is often implicitly considered to be a safe pre-selected option.[10]

What is the evidence?

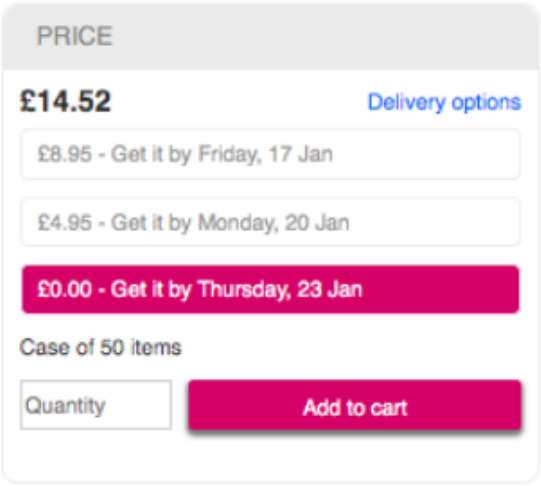
A US study found that preselecting cheaper generic medicines in the electronic prescription system increased their use by 30%, as clinicians chose to override the default only in 2% of cases.[11]

How could this be applied to digital procurement platforms?

Default settings in digital procurement interfaces can play an important role in final choice. People often stick with the default option, even if they could override it if they wanted to. Defaults could be harnessed through:

- **Preselecting optimal product alternatives** where an identical option is available at a cheaper price for a given product, accounting for unit price, potential volume discounts and cost of delivery.
- **Preselecting cheapest delivery options.** Ensuring that the 'go-to' delivery option is the one that is free or cheapest, whilst allowing procurement staff to override this when necessary. See figure 2 below.
- **Using historic data from across the system to set sensible volume and spending limits,** for a given Trust or for a given time period, whilst ensuring this can be overridden when necessary and appropriate.

Figure 2: Use of defaults - preselected cheapest delivery option



Solution 2: Simplify and harness friction

People have the tendency to follow the path of least resistance. Simplifying processes makes it more likely that people will follow through, whilst adding even a little hassle to a process can discourage us from taking action altogether.

What is the evidence?

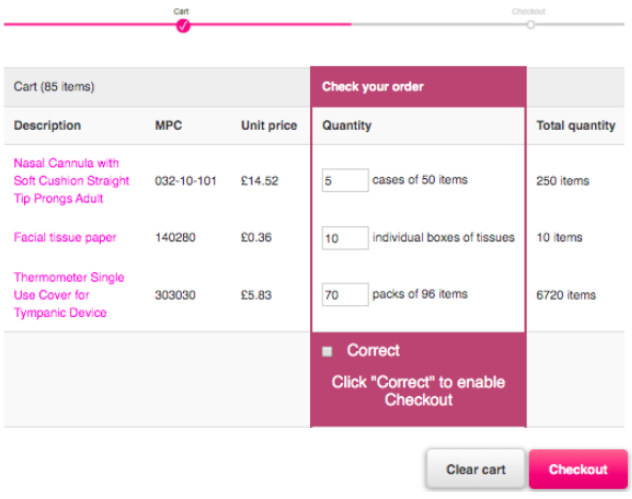
In a US trial, researchers found that clinicians were over-ordering tests because it was easier for them to choose a bundle of tests than to select each individual test needed. 'Unbundling' standard orders of multiple tests into single components and reducing the ease of recurrent ordering led to between a 16-51% reduction in ordering.[12] Crucially, patient outcomes such as mortality, length of stay, readmission and transfer to intensive care units were unchanged by these changes.

How could this be applied to digital procurement platforms?

Our tendency to follow the path of least resistance can be used to influence procurement behaviours. Processes could be simplified, or friction could be harnessed, by:

- Displaying the key information in a simple and clear format, crucially information around prices and delivery times.
- Making it easy to identify the most cost-effective options, by moving the cheapest items to the top of the product list or providing suggested 'swaps' for procurement officers, accounting for unit price, delivery costs and bulk ordering savings opportunities where possible to avoid missing 'hidden' costs.
- Requiring additional confirmation or explanation, when a procurement officer or buyer is purchasing non-contractual or more expensive items (e.g. "There is a cheaper option available for this product. If you wish to proceed with this purchase, please use this box to write a short justification"), or to ensure the correct quantities are procured (see Figure 3 below). We note that it is important to carefully consider when it is appropriate and most beneficial to do this, as it creates extra hassle and requires extra time for staff. People can also start to ignore these additional checks and justifications when they are going through the same process again and again. Based on existing evidence, such prompts work best when targeting likely areas of concern, for instance, based on data analysis highlighting abnormal behaviour (e.g. ordering 1,000 items instead of the usual 100), or preempting potential errors (e.g. highlighting that an older test is still valid, before reordering).[13,14,15]

Figure 2: Adding friction - additional click required to confirm quantities



Solution 3: Use cost and social norm feedback

People are social animals and we care deeply about how our behaviour fits in with that of our peers. We often take the behaviours of others as a benchmark for how we should behave ourselves. Providing social norm feedback, and more general feedback, can influence behaviour.

What is the evidence?

Several studies have shown that providing cost feedback to clinicians on the cost of their item when they are about to order it can improve their decision-making. Depending on the context, over-ordering was reduced by between 15%-32%, across a number of studies.[16,17,18]

In a recent example from the UK, the staff of the Nottingham University Hospital (NUH) decreased their blood assay tests orders by a third, after the following message was inserted next to the order button in their blood test ordering system: "Cost per test £1.00; total NUH spent on C-reactive protein (CRP) assays in 2010 was £200,914."[19] Order rates dropped by 32% when compared to a neighbouring hospital that didn't implement the change.

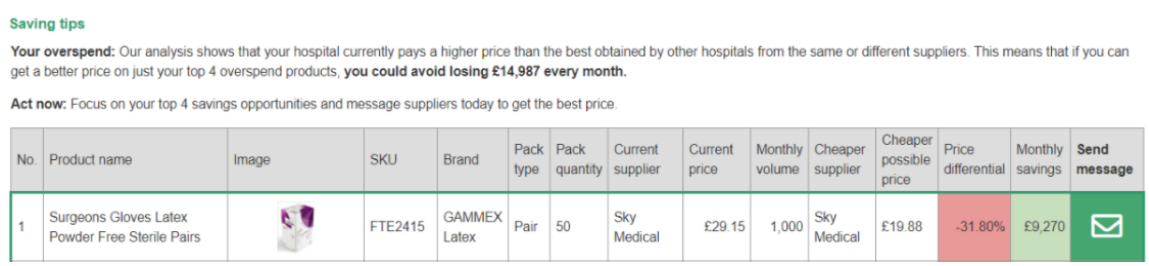
Similarly, BIT found that sending high GP antibiotic prescribers a letter with social norm feedback on how much antibiotics they prescribe compared to other doctors in their local area ('The great majority (80%) of practices in [local area] prescribe fewer antibiotics per head than yours.'), reduced overprescription by 3.3% over the six following months.[20]

How could this be applied to digital procurement platforms?

Letting people know how much they are spending (cost feedback) and how they compare to their most efficient peers (social norm feedback) can help persuasively communicate the desirable course of action. This could be implemented by::

- **Providing cost feedback,** by highlighting saliently how much purchasers have spent and/or could have saved if they had purchased cheaper alternatives (see Figure 4 and 5 below).
- **Providing social norm feedback for outliers.** Initially, only the biggest spending outliers (i.e. those who 'overspend' the most) at an individual level, Trust or CCG level could receive personalised feedback on their purchasing compared to other Trusts or CCGs.
- **Providing social norm feedback on best performers.** Once the general purchasing behaviours improve to the extent that most purchasers buy the best value for money products, feedback could be provided on the behaviour of the most efficient spenders and the best performing Trusts, for example "80% of efficient purchasers buy this brand of gloves".
- **Sharing user ratings of products.** Asking purchasers to rate products and then providing this rating information with others on the digital platform could help drive up quality, not just cost savings.

Figure 4: Cost feedback on potential monthly savings available



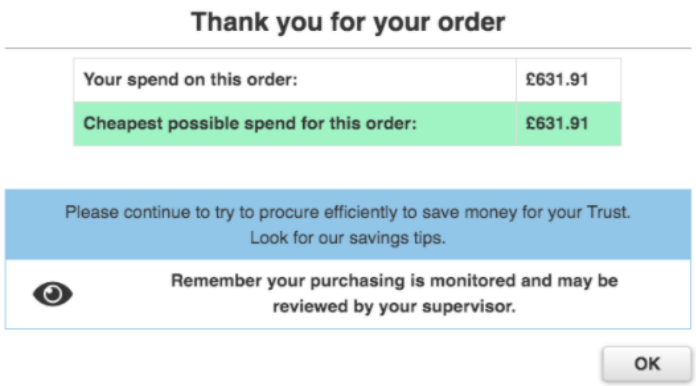
Saving tips

Your overspend: Our analysis shows that your hospital currently pays a higher price than the best obtained by other hospitals from the same or different suppliers. This means that if you can get a better price on just your top 4 overspend products, **you could avoid losing £14,987 every month.**

Act now: Focus on your top 4 savings opportunities and message suppliers today to get the best price.

No.	Product name	Image	SKU	Brand	Pack type	Pack quantity	Current supplier	Current price	Monthly volume	Cheaper supplier	Cheaper possible price	Price differential	Monthly savings	**Send message**
1	Surgeons Gloves Latex Powder Free Sterile Pairs		FTE2415	GAMMEX Latex	Pair	50	Sky Medical	£29.15	1,000	Sky Medical	£19.88	-31.80%	£9,270	

Figure 5: Cost feedback on spending after completing an order



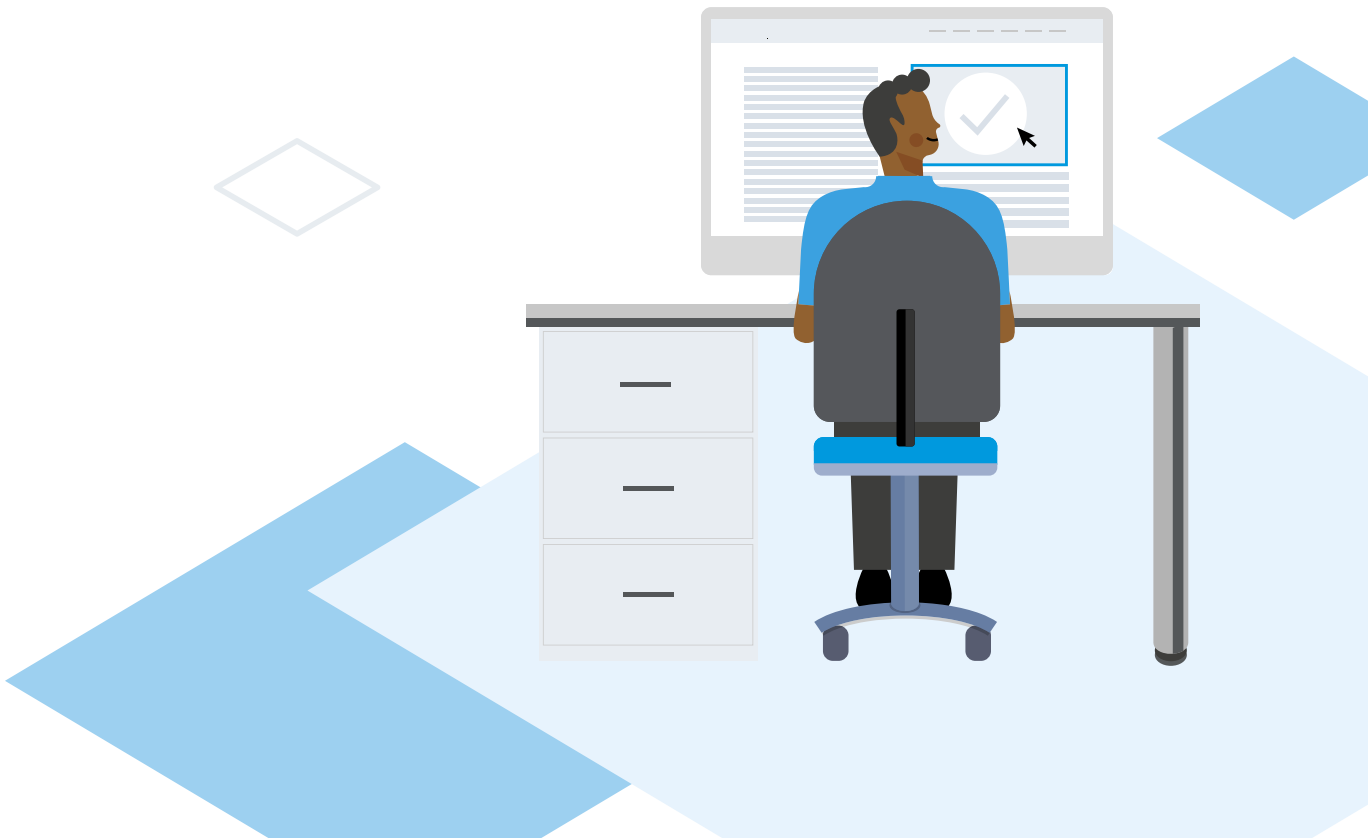
Thank you for your order

Your spend on this order:	**£631.91**
Cheapest possible spend for this order:	**£631.91**

Please continue to try to procure efficiently to save money for your Trust.
Look for our savings tips.

Remember your purchasing is monitored and may be reviewed by your supervisor.

OK



Solution 4: Provide timely prompts

We have limited cognitive capacity which can be depleted by competing demands on our attention. This can negatively impact our capacity to make effective decisions. Reminders at the point of decision can help to prompt people to review their choices, without constraining their freedom to make the final call.

What is the evidence?

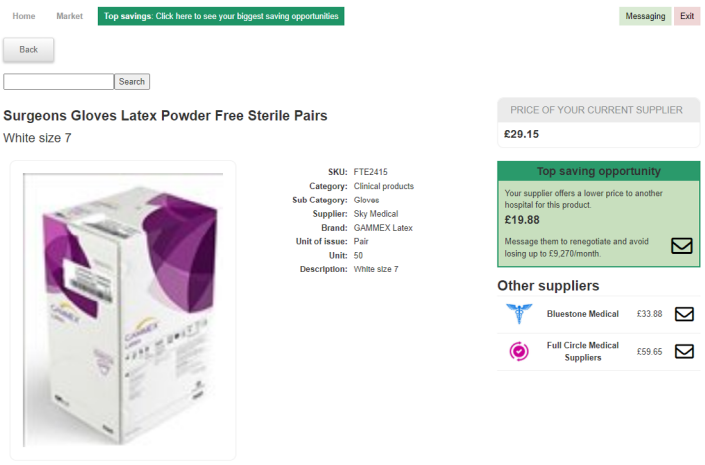
In a randomised controlled trial in a Boston hospital, the lab test ordering system was programmed to identify and to alert users about 'redundant tests' (i.e. tests which had been ordered but were repeats of tests which had already been done recently and were still valid, or where results were pending).[21] In the treatment group, purchasers who were about to order a redundant test received a prompt to cancel it or to justify overriding the warning. These users cancelled 69% of such orders and were 50% less likely to proceed with a 'redundant test' order compared to the control group which received no prompts.

How could this be applied to digital procurement platforms?

Providing timely prompts to users of digital procurement platforms could encourage users to review their behaviour and make better decisions. This could be implemented by:

- **Highlighting the optimal options** (contractual, generic, good value for money) in a visually salient way at a key moment in the decision-making process, for example by the use of green colour, icons or through placing optimal products at the top of search results (see Figure 6 below).
- **Highlighting the least desirable options** (the most expensive product versions, costly delivery options), using colours or icons associated with danger, for example.
- **Embedding alerts to potential basic errors or redundancies.** For instance, the system could warn procurers if the volume or cost of the order exceeds a certain limit or if the item has been already ordered and is on its way.
- **Alerting procurers to potentially suboptimal choices.** Timely prompts could inform purchasers at the moment when they are about to choose a more expensive option. Framing their decision as an active choice may increase the sense of accountability (e.g. "You have selected a more expensive delivery option. Are you sure you want to proceed with this option?").

Figure 5: Cost feedback on spending after completing an order



Box 2: BIT's procurement platform trials

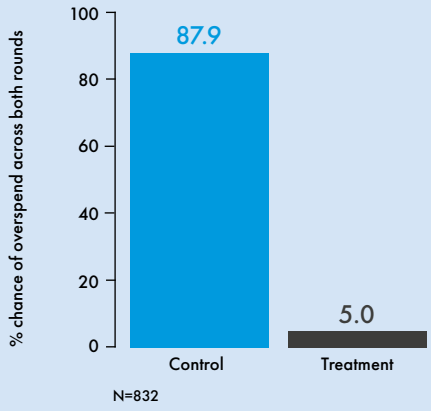
Working with a hospital digital procurement platform provider, we ran two 2-arm online randomised controlled experiments.

Trial 1 - a focus on requisitioner behaviour

In our first trial in 2019, we explored how we could improve the platform for individual requisitioners who are responsible for placing orders for products. We tested whether a BI-informed design could help participants avoid overspend in a hypothetical shopping exercise. The key element of the interventions was a suggested 'basket swap' at the checkout page. The basket swap was based on an underlying algorithm that calculated and recommended the optimal basket of goods for the given order, taking into account hidden savings on quantities and purchasing multiple products from the same supplier.

We found that the BI-informed platform design reduced the likelihood of overspend by approximately 83 percentage points compared to the current version of the platform. Interestingly, the BI-informed platform design did not reduce the chance of ordering a wrong quantity or reduce the amount of time spent on the task. If our redesign were implemented and the same effect observed, it could help save up to £15m per billion spent.

Figure 7: Effect on chance of overspend



Trial 2 - a focus on buyer behaviour

We carried out a further trial in 2020 which aimed to improve the platform for buyers, who are senior procurement officers in charge of setting up and managing procurement contracts. In this trial we tested whether a behaviourally-informed platform design could help participants to identify the biggest savings opportunities in their contracts during a hypothetical contract review exercise.

The key element of our design was a savings tool that displayed the top products for which buyers could make savings by switching to another supplier or by renegotiating with their current suppliers. The tool was based on an underlying algorithm that compares current prices for a given product to the price offered by a different supplier for the same product as well as to the price offered by the current supplier to another NHS Trust

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Key takeaways: How to improve hospital digital procurement?

Throughout this multi-year programme of work for the Health Foundation, BIT has generated many learnings about the workings of hospital procurement systems and its digital platforms in particular.

Our research and trials highlight the importance of considering behavioural barriers to procurement efficiency on digital platforms and showcase the potential of applying behaviourally-informed and data-led approaches. Embedding a culture of innovation and experimentation in digital hospital procurement should be encouraged.

But the learnings of this work are not only applicable to improving procurement decisions in relation to cost efficiency; there is scope to apply these behavioural interventions to improve outcomes for the NHS in a range of other areas such as sustainability, quality of products or services, or ethical sourcing, for example.

Recommendations

Our two overarching recommendations from this programme of work are to (1) Use behaviourally-informed and data-led approaches to design ways to improve procurement platforms, and (2) Build evidence on what works to improve digital procurement. Within these, we include a number of practical sub-recommendations.

(1) Use behaviourally-informed and data-led approaches to design ways to improve procurement platforms.

Building on the existing large body of evidence, BIT's work on this topic confirms and showcases the role of biases in procurers' decision-making and the potential of behaviourally-informed and data-led solutions to improve these digital platforms and hence achieve better procurement outcomes.

Going forward the key areas of focus should remain reducing overspend and errors, as well as improving the ability to identify savings. Promising approaches should involve designing smart defaults, simplification and harnessing friction, providing timely cost and social feedback and timely prompts.

Across these insights, there is a need for data-led approaches to produce information in a clear way for procurement officers. In the context of great informational complexity that procurement involves, using data and presenting simple and actionable information to procurement staff is key.

We recommend:

- Implementing the behavioural interventions included in this note across all digital procurement platforms used in the NHS to make effective procurement easier for those involved in making procurement decisions.
- Ensuring that providers of digital procurement platforms adopt data-led approaches to the provision of their services, and make data available for analysing purchasing behaviour, identifying bottlenecks and common errors or areas of overspend, enabling the design of further behavioural insights interventions.
- Systems need to be set up in ways that incentivise innovation; providers of all public sector digital platforms should be incentivised to ensure they are designed in a way that makes it easy for users to make the best decisions, including through the application of behavioural insights.

(2) Build evidence on what works to improve digital procurement.

Both the existing evidence and our new evidence highlight the benefits of using empirical approaches to gain practical knowledge on how to improve digital procurement. We need to harness the culture of experimentation to reap the sizable benefits of innovation—and digital platforms—for procurement. First, this requires data collection and analysis in order to bring new insights into how such platforms could be improved by building new data-powered tools that vastly outstrip the potential of the human brain.

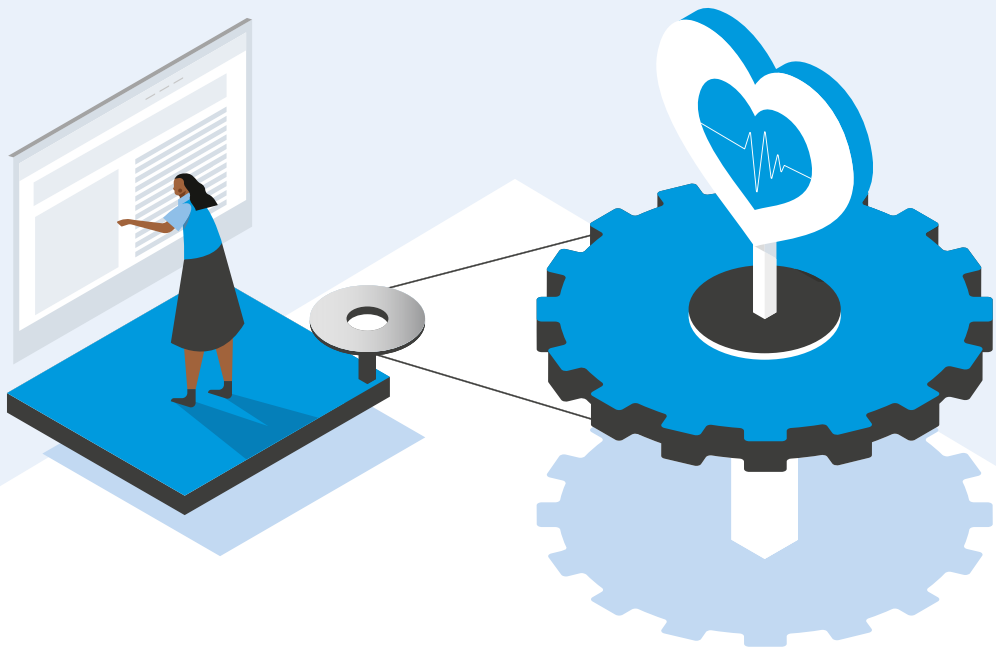
Second, we need to seek ways to systematically build in prototyping, rapid iterative testing and evaluations of such new features and tools in order to achieve incremental improvements in procurement efficiency wherever possible. Digital tools are naturally suited to such approaches. We recommend:

- Ensuring that rapid iterative testing and evaluation of new features and tools is automatically built into tenders and contracts with providers of digital procurement platforms, and that a part of the budget is allocated to ongoing R&D, to ensure that iterative testing and evaluation is embedded throughout the life cycle of a platform. This should include field trials and A/B testing where appropriate, with interventions identified as successful being scaled.

- Ensuring that, as new evidence emerges, such as the results from our two trials (see Box 2), existing platforms in the NHS are updated in line with the best available evidence to ensure the potential impact is realised.

Next steps

Implementing the behavioural interventions included in this note will support the realisation of improved efficiencies in purchasing in the NHS, but we should not stop there. Going beyond digital procurement, a lot of the process continues offline where there is further scope for improvements. Whilst requisitioners might have ordered the best product online, they will reorder it again if it gets lost due to a lack of stock organisation. Behavioural insights and empirical approaches should therefore be applied across the whole procurement user journey to help requisitioners and buyers make more efficient decisions, as well as more widely across NHS systems and processes.



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