

As the procurement hubs mature, it's becoming clear that there is widespread recognition at their senior levels of the factors that make innovative medical technologies so 'disruptive' in procurement terms.

First and foremost, medical devices do not work in isolation but are intricately bound into a network of interdependent systems. Assessing the true cost implications of an innovative technology demands analysis not only of its clinical capabilities, but its lifetime effect on service delivery, from staff numbers and time to the use of space and the movement of patients and equipment. Companies making a business case need to incorporate the tracking of such costs and benefits, and purchasing departments need to embed them into their decision-making analyses in order properly to judge ultimate value for money.

Here however the enduring syndrome of 'silo budgeting' remains a significant problem. Costs relating to an innovative product may be borne by one compartmentalised budget while the savings it brings benefit another – a divergence experienced between, as well as within, organisations. A comparable syndrome arises with the terms on which Primary Care Trusts undertake commissioning for the services they require: the tariffs they set may inhibit the adoption of a beneficial new technology when it fundamentally changes the way a particular service is delivered and by whom - despite the overall savings that may bring.

These conflicts reflect the fact that, as observed by Professor Carl May of Newcastle University's Centre for Health Services Research, 'the economics of the National Health Service are really some of the most extraordinarily Byzantine things in the history of humanity.'³ The NHS is not a single homogenous organisation, but a federation of more than 700 Trusts, with differing policies and practices on new technology development, application and purchase. As is indeed the case with their use of new purchasing structures like NHS Supply Chain or the Procurement Hubs, which is not mandated – although of course individual Trusts can choose to establish supply agreements with either that are binding.

Nevertheless a characteristic shared by the Trusts is that – like all bureaucracies – they are process-driven. For the individuals who administer procurement within them, adherence to an established and familiar procedure simplifies their task. This makes for a culture where the procedural changes demanded by innovative technologies tend to be viewed as a burden rather than an opportunity – in fact, the kind of disruption best postponed or avoided. The autonomous nature of Trusts makes this cultural slant a powerful influence to be addressed.

The complex interaction of these different factors contributes to the high transactional cost that deters innovative would-be suppliers. To reduce that cost, the managed exchange of key information between multiple stakeholders is at a premium. Promoting dialogue between users and suppliers is a proven means of easing progress through earlier stages in the innovation route. Increasingly, there is a palpable shift of attention by both national and regional agencies towards bringing NHS purchasers into these collaborative dialogues, so that the journey can be followed through to adoption.

The NHS National Technology Adoption Hub is the newest of the creatures spawned by the original HITF initiative, and has already demonstrated a refreshingly practical bias.

Its focus is by definition on the end of the innovation cycle: concerned not with R&D, but with products either already on the market, or marketable, that struggle to attain the NHS use they warrant. Its methodology is to select beneficial innovative products that have minimal NHS adoption, source Trusts to implement them, and then track exactly what happens in the course of that implementation – successful or not.

The hub put out a call for its first batch of participants in January: eligible products had to demonstrate both a step change in innovation and a strong evidence base for their benefits, yet still experience NHS resistance to adoption. The six products chosen were then subjected to rigorous due diligence. This process not only assessed the companies' viability but surveyed product issues through dialogue with the company, the relevant clinicians, and the purchasing staff involved in its acquisition. From the outset then, the Hub programme was an integrative one: in a context plagued by



Mediplus CT300



Deltex Medical CardioQ Oesophageal Doppler

fragmented activity, it combined the input of supplier, user and buyer in framing what the problems might be.

Four products came through this process successfully (two being retained for further review) to become Hub

projects. These then moved to the implementation stage of the programme: for each technology, three Trusts were found who undertook to purchase it. 'The processes around commissioning and procurement have a major impact,' said the Hub's CEO,

Margaret Parton, 'and we need to tackle the practical reality of how these play out. So it became very clear that the most valuable thing we could do was to ask our implementing Trusts to commit to procuring the equipment.'

Classic examples have already emerged in this group of projects of how these processes impact adoption. Deltex Medical's oesophageal Doppler enables better management of the circulating blood volume during operations, which significantly speeds recovery. Despite a strong evidence base and professional endorsement, only 1% of Acute Trusts have taken it up. Silo budgeting is partly to blame: the cost of the device is borne by the anaesthetics department – but the benefit of releasing bed days goes to the Trust. At the same time however, if existing procedures do not allow for early discharge, there's no direct benefit apparent to the Trust from investing in the device.

Commissioning is an issue for Mediplus's CT3000, which enables non-invasive diagnosis of bladder outlet obstruction. Its precision means it can reduce the number of patients undergoing prostate resection as well as improving the success rate of that operation. But if a urology department is paid for both the tests and the operations, then while a Trust can make a business case for savings by taking up the device, the urology department will actually lose money. This conundrum simply reflects the fact that the service was commissioned against what was standard at the time. The Hub is currently talking both to PCTs and Acute Trusts' urology clinics about the possible benefits of siting the CT3000 in a primary care setting.

In continuing to follow these technologies through the implementation process, the Hub will be seeking and testing practical solutions to the problems raised – problems which make clear the importance of its integrative approach. Implementation will be pursued until the technology achieves widespread adoption, becoming the standard of care where appropriate. If that's not accomplished, a clear case will be made either for adoption being unsuitable, or why it's not yet possible and what has to happen to make it so.

This leads on to the second part of the Hub's remit: to translate this experience into generic guides that circulate the collated knowledge nationally. The information will be developed in two forms. 'Firstly, we'll produce "how to-why to" guides for specific technologies,' Margaret explained. 'These aim to de-risk the process for Trusts.' The guides will include an expanded business case which looks long-term at the costs and benefits of an innovative technology, and also at the related changes that might have to be made to accommodate it.

The second tool is an 'Adoption Navigator' designed to complement the NIC's web guide to the innovation cycle. 'The Navigator will be a practical guide,' Margaret continued, 'for anyone looking to understand the process of getting a new technology adopted – whether that's a company, a clinician, or an NHS manager or commissioner. So it will show who does what in the innovation landscape, what information those people need to make an adoption decision, and at what stage in the process you should be talking to them.'

'What we're hoping to do with the Navigator is get it to the point where companies can define their product by its adoption issues rather than its disease area or its technology. So achieving adoption means asking different questions – "If our product means unbundling the tariff, which route do we take through this landscape?" or, "If our product is higher cost but improves safety, what's the right path for us?" So that people will be able to take a more informed, strategic approach in their marketing to the NHS.'

After its most recent call for new projects the Hub is currently taking another 12 projects through due diligence: six will be implemented in Trusts, and six will be taken through an adoption review, which assesses the issues but stops short of implementation. Another call for new projects will go out in January 2009. 'Essentially, we'll repeat this cycle,' said Margaret, 'until the changes that need to be made have been consolidated – until, ideally, we become redundant.'

At the regional level, the West Midlands is home to one of the earliest schemes bringing NHS procurement and industry together: following on from that work, specific tools are now being developed to help simplify the tortuous adoption route.

Medilink West Midlands (MedilinkWM) led a group of six organisations in the 'Single Project'⁴, designed to support innovative medical technologies from R&D to NHS adoption. Both MidTECH, the region's NHS innovation hub, and the Healthcare Purchasing Consortium (HPC), its procurement hub, were partners on the Project, which concluded in March after a highly successful two years.

As part of that scheme, three specialists from MedilinkWM were placed inside HPC to work with its clinical engagement teams, facilitating their links with industry. Now the Medilink is working closely with the hub on a new project, developing a web registration portal that links buyers and suppliers across the NHS and the private sector. As MedilinkWM CEO Tony Davis explained, the project is notable in being designed to counter not just practical adoption barriers, but cultural ones.

'The first stage of the portal is to work jointly with HPC on the listings of buyers' requirements,' said Tony. 'We've recruited some 20 Trusts who are HPC members and they will all be trained to use the portal.' The Medilink already has systems to track supplier opportunities in OJEU, the Official Journal of the European Union where Trusts are obliged to advertise contracts over a certain value threshold. But on the new portal, Trusts will be registering all their requirements below that threshold, whether tenders or requisitions.

The next stage of the project will be to populate the portal with a suppliers' list, for which the Medilink will be recruiting members in addition to the existing HPC supplier base. 'Over the next two years, we'll be getting companies to register under specific categories,' Tony explained. This will enable a Trust requirement posted on the portal to be directed immediately to the appropriate companies on the supplier base. The portal will therefore automatically work to increase the

number and diversity of suppliers available to NHS purchasers.

Equally importantly for HPC, this system will help the hub to tackle one of the most intractable barriers to adoption: culturally entrenched buying habits that resist a widening of the supplier base. The hub needs to be able to identify decisions driven by routine procedures, with negative implications for cost, quality and innovation – which is why the technology enables HPC to track the buying activity of purchasing executives, both within the hub and its member Trusts.

'So if a purchaser continues to use the same suppliers,' said Tony, 'while at the same time the system has been providing new, highly suitable supply companies, that will indicate a buying pattern needing attention.' When looked at more closely, the collated purchasing history and supply opportunities can show what a buyer could or should be changing to offer improved equipment or bring about savings. In this way it's a practical, evidence-based tool for identifying and amending buying habits that inhibit effective procurement.

Meanwhile existing regional projects at the R&D end of the innovation spectrum are now looking to involve NHS purchasing, to take the process through to adoption.

One of the most interesting models for facilitating direct contact between health professionals and suppliers is the **Giebel Round**, which was developed in Germany by Professor Gerfried Giebel and is now being applied in North Wales. What's distinctive about the Giebel Round is that its regular small meetings between equal numbers of clinicians and industrialists are held on active sites, at clinical and company premises alternately. These real-life environments demonstrate the different needs and forces at work in the clinical and commercial worlds, the better to recognise and solve the problems involved.

Professor Giebel's model was rolled out across upper Austria, and now EU funding has enabled the local County Borough Council to establish Wrexham's Giebel Round. MediWales

manager Gwyn Tudor both sits on the project's Steering Group, and attends the Giebel Rounds themselves. What his experience of those onsite discussions has made clear is the interdependence of medical technologies, service delivery and purchasing. In a clinical setting, these factors are so intricately bound together as to be inseparable.

At one Giebel Round, a dozen clinical and company staff toured both an operating theatre and a critical care unit at Maelor Hospital. Senior nurses raised a significant problem: the difficulty of shifting and cleaning bulky, unwieldy laparoscopic units that need to be moved between theatres – sometimes during surgery. 'From a purchasing angle,' Gwyn observed, 'the hospital could look at the cost of an additional unit offset against savings in staff time. Or a high-tech company might see an opportunity to develop smaller, portable technology. But another option is a customised, efficient laparoscope trolley – a reachable solution that's in the remit of a good 'metal-bashing' SME.'

'So there's an infinite number of perspectives on any given problem,' Gwyn continued, 'and when you walk into that real-time environment, it's possible to see more of those options and to get at what will actually work best.' He therefore strongly supports the inclusion of NHS procurement representatives at future Giebel Rounds: by experiencing the full context in which innovative medical devices are developed and applied, procurement staff would be better placed to judge their overall costs and benefits in use and make informed decisions about their purchase.

In Yorkshire, the **White Rose Health Innovation Partnership** [see p18] was developed in 2006 to promote collaborations between the NHS,

academia and industry. It's now also supporting the newly-established PCT Strategic Innovation Group, which arose from discussions with Trusts about the lack of infrastructure for innovation. Led by Medilink Yorkshire and Humber, the Group is looking at ways of influencing the culture and processes within PCTs to encourage, rather than deter, the use of innovative devices. Its members include the CEOs of the PCT, regional procurement hub and NHS innovation hub, as well as senior representatives from the Strategic Health Authority, healthcare companies and academia.

With the move towards offering ever more advanced levels of medical attention in a primary care setting, the Group is concentrating on equipment and instrumentation technologies as two key areas for change. The first of its series of specialist focus groups is working on bariatric care, aiming firstly to identify product needs and initiate their development, and then to review and improve procurement of the devices.

Nationally and regionally then, work is under way to get new technologies across the NHS threshold to the patients who need them.

The barriers to NHS adoption – structural, procedural and cultural – represent a formidable challenge. Nevertheless there is increasing awareness among all the parties concerned as to how these barriers function, and a recognition that sustained collaboration between users, suppliers and buyers is essential to deal with them. This is the strategy being deployed by networks like Medilinks, the innovation hubs and the procurement hubs, in building long-term connections that can dismantle

adoption barriers at a regional level. Meanwhile the Innovation Adoption Hub is building nationally accessible information routes through the adoption process, with the data from their project implementation feeding into the NIC capacity to supply tools and high-level backing for change at the national level.

Encouragingly, the respective roles taken up by the national and regional groups discussed here play to their particular strengths. The regional collaborations represent activities ideally suited to their agencies, where skilled team members have long-term, in-depth knowledge of their area profile. Equally, there will be other projects like those of the Adoption Hub that demand action at the national level, to generate UK-wide applications which can then be tapped into by the regional groups. For SMEs struggling with the high transactional cost of taking devices into the NHS, these initiatives are developing practical solutions that will help speed the evolution of more responsive innovation routes.

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4 HPC, MidTECH, the Centre for Healthcare Innovation and Development (CHID), Business Innovation Centre (BIC) and SetPoint Staffordshire were selected by Advantage West Midlands (the RDA) to channel specialist medtech business support led by Medilink WM.

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