Response to NHS Chief Executive’s Open Call for Evidence and Ideas

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Spreading Innovation in the NHS: Call for Evidence and Ideas

Submission from JERA Consulting Ltd.

We welcome the opportunity to contribute our experience and ideas to enable the strategic approach to innovation in the NHS. The evidence we wish to present focuses on the role of procurement in stimulating innovation in the supply chain and bringing innovative goods and services into the NHS.

Specifically it describes two projects in the NHS at Rotherham NHS Foundation Trust and Nottingham University Hospitals Trust.

JERA Consulting has been working with the Department for Business Innovation and Skills and Department of Health to develop and test the use of innovation procurement methodologies, specifically a technique called Forward Commitment Procurement (FCP).

The evidence so far suggests that FCP has much to offer the NHS and would be a valuable addition to a strategic approach to accelerating innovation in the NHS.

The first FCP demonstration project with the Ministry of Justice led to the procurement of Zero Waste Mattresses (over 35,000 were being sent to landfill or clinical waste disposal each year at huge cost and out of step with sustainability targets). Using FCP innovation procurement techniques led to a complete rethink in the way mattresses were procured and now a managed service for supply and end of life management of mattresses and pillows is in place that ensures that mattress life is extended, no mattresses go to landfill, and projected savings over the life of the project are over £4 million.

**The first FCP demonstration project in the NHS was at the Rotherham NHS Foundation Trust.** An 8 year refurbishment presented, the vision of the CEO for a ‘hospital of the future’, presented an opportunity for an innovative response.

Adopting ‘innovation procurement thinking’ and FCP techniques, the Trust focused on the core outcomes it wanted to deliver:

- A step change in the patient experience
- A step change in the efficiency of lighting

and engaged with the supply chain early to seek feedback and stimulate a response to this requirement. The feedback from the supply chain enabled the Trust to develop a pro-innovation procurement strategy.
The pro-innovation procurement approach adopted has brought to the market an integrated ‘future ward’ modular solution (UEL POD), with integrated bio-dynamic lighting, trunking and storage.

Detailed costings, verified by an independent quantity surveyor, show that the innovative solution will cost the same as a standard ward solution with not only the required step change in patient experience and lighting efficiency but also with reduced on-site build time and additional benefits. (See case study attached for more information).

Colleagues from the Erasmus Medical Centre in Rotterdam have visited the demonstration of the UEL Pod at Rotherham Hospital and were keen to learn from their experience which they are now applying in their own innovation procurement project. Similarly colleagues from Poland have been inspired to adopt the FCP approach.

**Critical to success of the project was that the Trust understood that changes to the procurement process were needed.** Critically they started early; i.e. they gave advance notice of their requirement and allowed enough time for the supply chain to respond innovatively. All too often procurement is left to the last minute, detailed specifications are issued, and opportunities for innovation are lost.

FCP is now being adopted by Nottingham University Hospitals NHS Trust. Again innovation procurement thinking has led to a rethink in the way they approach supply and management of energy to the site. Instead of simply replacing the old coal fired boiler, the Trust are engaging early with the supply chain on the potential for an integrated low carbon solution.

NUH are using the procurement opportunity to fundamentally re-think the way they generate, use and procure energy services, across the whole Trust and ensure that the Trusts energy provision is fit for the future. They are setting out a challenge to the supply chain to achieve more than a step-change reduction in energy demand and emissions and to reverse historical trends to deliver continuous efficiency improvements across the Trust over the next 20 years.

In line with the FCP process they are communicating an unmet need to the market, and engaging with the market early enough to stimulate an innovative response. The Trust will then adopt a ‘pro-innovation’ procurement strategy based on the feedback they receive.

“The Trust needs to procure an innovative and integrated ultra-low carbon energy supply and management solution for its sites that is able to adapt to meet the Trust’s power, heat and cooling needs now and in the future. The energy solution needs to be reliable, low maintenance, and flexible enough to meet the shifting demands of heath care over the next 20 years. It should be cost effective, deliver progressive improvements and be future proofed ie take advantage of new and emerging technologies and anticipate increases in the cost of energy and carbon and in emissions standards”.
CASE STUDY: Innovative Ultra Efficient Lighting for Future Wards

Stimulating innovation in the economy and meeting society’s needs

Supporting innovation for progress and growth

The NHS needs to deliver carbon reductions, save money and at the same time deliver excellent services to patients.

In an innovative project, The Rotherham NHS Foundation Trust has addressed these challenges by taking a new approach to procurement – Forward Commitment Procurement (FCP).

The Trust worked in partnership with the Department for Business, Innovation and Skills and the Department of Health in a forward commitment procurement project that sought to meet two key requirements:

– A step change in the patient experience
– A step change in the efficiency of lighting

The opportunity for innovation was presented by a 7 year refurbishment programme beginning in 2010. The vision of the CEO for a ‘Hospital of the Future’ was a key driver.

The pro-innovation approach has brought to the market an integrated ‘future ward’ modular solution, with integrated bio-dynamic lighting, trunking and storage.

Detailed costings, verified by an independent quantity surveyor, show that the innovative solution will cost the same as a standard ward solution, but will deliver both the required step change in patient experience and lighting efficiency, and also reduced on-site build time, minimising disruption to hospital staff and patients.
Innovative Ultra Efficient Lighting for Future Wards

Design features
- Increased storage
- Bio-dynamic lighting
- Daylight responsive
- Modular and flexible solutions
- Patient control over local environment

Operational benefits
- Future technology ready
- Easy to clean & maintain
- Simple pictorial controls
- Failure feedback
- Daylight linked control
- Efficient lighting design
- Ergonomic design
- Diversity of storage options

Construction benefits
- Factory made quality
- Adaptable standard components
- Tried and tested technology
- Clean dry construction
- Quick installation
- Same cost as the traditional

Financial benefits – Based on Rotherham General Hospital
- Reduced energy consumption / cost anticipated savings of 30% or ~£4,600 per 40 beds over 10 years
- Reduced maintenance time / cost anticipated saving of 88% or ~£13,600 per 40 beds over 10 years
- Reduced construction and disruption costs due to faster turn around

Sustainability
- Reduced energy use
- Long lamp life
- Green energy in manufacturing
- Low energy lamps
- Recyclable components

Anticipated Benefits Realisation

“The NHS is continually striving to improve the services they provide for patients and as can be seen from the outcome of this project – FCP can help them to deliver. I would like to see more Trusts adopting the FCP process and innovative techniques to maximise the benefits available.” – David Whiteley, Chief Engineer, Estates and Facilities Division, Department of Health

“From the start we said that the solution had to be cost effective and affordable. We have not been disappointed – the outcome shows that better and more sustainable does not have to cost more.” – Steph Holmes, Head of Procurement, Rotherham NHS Foundation Trust
Taking a new approach to procurement

The project team, which included the Director of Estates and Facilities, the Head of Procurement and the BIS Consultant FCP Programme Manager, used the Forward Commitment Procurement (FCP) methodology to stimulate innovation in the supply chain to meet ‘unmet needs’ identified as part of the programme.

With the vision for a ‘Future Ward’ firmly in their minds and adopting FCP thinking, the project team set out to define what they needed in terms of outcomes, rather than in terms of the products that were available on the market.

Once identified this ‘unmet need’ was communicated to the supply chain in outcome terms as part of a market sounding exercise:

‘The Trust wish to achieve a step change in the patient experience; creating a patient centred environment, including the incorporation of highly efficient, smart lighting systems that can deliver economical carbon reductions while at the same time contributing to a pleasant and healthy environment for both patients and staff’.

The project team drew on the expertise of the Photonics and Plastic Electronics KTN and other supply chain intermediaries to ensure all parts of the supply chain were aware of the opportunity.

By providing advance information on the requirement, in the context of a major procurement, and by stimulating cross supply chain cooperation the Trust gave the supply chain the time and motivation to come up with an innovative approach.

The market consultation process was enthusiastically received and culminated in the consultation workshop and a refined outcome based specification.

The Trust communicated their requirement and the market consultation via a Prior Information Notice in the OJEU 2 years before the solution would be needed on site. This gave the supply chain a chance to organise and innovate.

**FCP ‘pre-procurement’ techniques**

Give the supply chain time to innovate

Think ahead; signal your long and medium term ‘direction of travel’ to the market.

Communicate your forthcoming needs and procurement plans in advance.

Allow room for innovation

Communicate your needs in outcome terms; State what you want, not what you think is available or affordable.

Look for progressive improvements and future proofing.

Invite feedback from the supply chain

Market sounding and market consultation allow you to test out your requirements and iron out problems in advance of the invitation to tender.

Facilitate communication between suppliers

Consultation workshops, site visits and publishing a directory of companies that have expressed interest all help.

**FCP Know How**

BIS and DH provided FCP Know How training and project support.
An outcome based specification sets out the end result to be achieved, not the means of delivering it: you effectively specify the problem and invite solutions. This gives the supply chain the opportunity to innovate.

‘Innovative, value added, smart, ultra efficient lighting systems that can deliver the Trust’s vision for Future Ward lighting, meet the operational requirements and provide added value functionality, in a cost effective way. The core requirement outcomes are:

1. A step change in patient experience – i.e. creating a pleasant healing environment with patients being in control of bed zone lighting levels and ambience whilst providing the lighting to perform clinical requirements and incorporating measures to reduce the risk of hospital acquired infections;

2. A demonstrable step change in energy efficiency with progressive improvements in energy efficiency and operational performance over the life of the project;

3. A fully installed, maintained and future-proofed service, for example to facilitate upgrading to more energy efficient or better products as they become available.

Greatly encouraged by the response of the supply chain, the Trust began a competitive procurement in the summer of 2009. A number of high quality proposals were presented as part of the Competitive Dialogue process. Among these were leading medical lighting companies and a pan-European consortium of companies including a lighting designer, architect, building systems manufacturer and lighting manufacturers.

“The market engagement not only gave potential suppliers advance notice and time to innovate, it also stimulated a valuable exchange within and between supply chains.” – Dr Gareth Jones, Consultant for the Electronics, Sensors and Photonics KTN.
The key to success was to begin by asking for what was needed – not what we thought was available or affordable. The results have exceeded all expectations. FCP really works.” – John Cartwright, Director of Estates and Facilities, Rotherham NHS Foundation Trust

The result: A new and innovative solution for the healthcare market

Stimulated by the advance warning of the forthcoming procurement, one consortium worked together in advance of the tender and was subsequently well prepared to come forward with an innovative solution that met, and indeed exceeded, the Trust’s expectations.

The pro-innovation FCP approach has brought to the market an integrated smart ‘future ward’ modular built solution with integrated (bio-dynamic) lighting, trunking and storage.

The solution transforms the appearance and functionality of wards from a cluttered, hard to clean and poorly lit environment with little storage, to one that is streamlined, easy to clean and welcoming, with smart lighting that responds to patient and environmental needs and follows the circadian rhythm.

The new well lit environment will use one third less energy than the previous poorly lit environment. It will also benefit from reduced maintenance and is future proofed i.e. the pod is designed to be able to take new lighting technology as it becomes available.

A demonstration pod was built at Rotherham Hospital in March 2011 to undergo clinical and facility assessment. Following this it was installed at the Building Research Establishment.”
The FCP process has been well received by suppliers

“This is what gets us excited. There is somebody here who doesn’t want to carry on doing the same old thing, just chipping away at energy efficiency but saying what they really need – a step change”. – Andrew Bissell, Cundall Light4

“What is great about this [Rotherham Foundation Trust FCP] process is the commitment – the 7 year programme gives a timeframe we can really work with to plan and bring new solutions forward”. – Wayne Morgan, Elements Europe

“This is what we suppliers need; information on our customers needs today, and even more helpfully their future needs. We can then plan and manage our supply chain so we are ready to respond”. – Peter Jones, Director of Design, Skanska.

FCP is increasingly seen as best practice and more FCP projects are now underway in the NHS and in healthcare organisations across Europe.

In England…

Nottingham University Hospitals NHS Trust is using FCP to test the market for an ultra low carbon energy solution to replace their coal fired boiler plant.

Estates and procurement staff at the Scarborough and North East Yorkshire NHS Trust are embarking on the FCP Know How programme as part of their carbon reduction programme.

The Rotherham NHS Foundation Trust is looking to stimulate the market to provide a zero waste zero infection mattress.

Across the rest of Europe

Erasmus MC, Rotterdam is looking for a more energy and resource efficient bed cleaning solution.

Rawicz Hospital, Poland is looking for innovative low carbon refurbishment technologies.

In Norway, SINTEF Health Research are working with a new build acute hospital (nye østfoldsykehuset – NØS) to understand how the current planning process influences the introduction of innovative, energy effective solutions in the hospital and how the process presents barriers for innovative solutions and change.

These projects all received support from the European Commission Lead Market Initiative as part of the Low Carbon Buildings (LCB):HEALTHCARE Public Procurement Network programme

LCB:HEALTHCARE – Buying better building solutions

LCB-Healthcare stimulates demand for innovative low-carbon solutions for the healthcare sector by providing procurement decision makers with the knowledge and tools to achieve more sustainable buildings within their budget constraints.

To find out more about these projects, access information on low carbon solutions and continuing professional development materials and advice on how your organisation could benefit from adopting FCP go to info@lowcarbon-healthcare.eu