



Strategic Partnership Board

10 August 2017

Title:	Innovations we are supporting in London
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Date paper completed:	26 July 2017
Purpose of paper:	To raise awareness of some innovations that improve health, save clinical time or save money among Strategic Partnership Board members.
Executive summary:	The paper gives a brief overview of some of the innovations that the three London AHSNs are currently focused on promoting. These include innovations supported by the Innovation and Technology Tariff, where there exists significant scope for London to achieve greater uptake of these evidenced innovations. It provides an update for members on the Digital Health.London Accelerator Programme, which includes a number of products which may be of interest to Public Health teams within Local Authorities.
Action required by Board Members:	The authors seek suggestions of ideas including good fora for raising greater awareness of the potential of these innovations and in particular good groups to link into looking at Digital Government within the capital and colleagues providing digital public health schemes, to assist in the systemic spread of proven innovations together in London.

London Health & Care Strategic Partnership Board

Innovations we are supporting in London

10th August 2017

Purpose

This is a brief overview of some of the innovations that improve health, save clinical time or save money – in some cases all three – that the three London AHSNs are currently focused on promoting.

It has been brought to the meeting by Amanda Coyle, who in addition to being the Asst Director for Health and Communities at the GLA is also a Board member of the Health Innovation Network, the AHSN for south London, and has been written with its Chief Executive, Tara Donnelly.

1) The Innovation and Technology Tariff –

On 1st April a new Innovation and Technology Tariff from NHS England went live. This is very important development as it enables Trusts in England to use important patient safety innovations for free, or to claim a charge per use to support some clearly defined conditions.

The Tariff is a result of AHSN lobbying – and it rewards those NHS Trusts who best adopt and use innovations that help Patient Safety and improve care. There are six innovations on the tariff, four of these are very well known to us as they are on the NHS Innovation Accelerator supported by all 15 AHSNs, the fifth was supported by its local AHSN in Wessex and the sixth is a great idea from America. They include devices, a digital tool and innovative procedures and this first round of the tariff is particularly focused on the safety of acute hospital care.

Innovations supported by the tariff include:

- **Episissors-60;** Guided mediolateral episiotomy to minimise the risk of obstetric anal sphincter injury
- **Non-injectable arterial connector (NIC);** Non-injectable arterial connector that avoids this never event
- **Pnuex;** Device that prevents ventilator associated pneumonia in critically ill patients
- **myCOPD;** Digital product for the self-management of Chronic Obstructive Pulmonary Disease
- **Frozen Faecal Microbiota Transplants (FMT);** Frozen Faecal Microbiota Transplantation which cures recurrent Clostridium Difficile infection
- **Urolift;** A surgical procedure for management of Benign Prostatic Hyperplasia as a day case

The first one is eligible for a payment per use, the final one attracts a special (higher) tariff and the remaining four are available **free of charge** within the NHS in England. Each of the innovations is well evidenced to improve care for patients however they all need careful consideration locally with clinical teams about the best way of implementing. Pathways of care need amending, products need testing out locally and associated training.

An article saying more about each of the innovations is supplied at the appendix.

In addition to improving care, the innovations have the potential to save scarce resources, for example if we could reduce trauma in childbirth to a similar level as those achieved in the studies for Episissors, the saving would be over £1m a year for the NHS in south London, as surgical repair would be avoided. If we were able to reduce the rate of ventilator associated pneumonia, the most common complication in intensive care, we would reduce the number of people in critical care beds across London and avoid deaths.

Working with our member Trust partners, we are seeking to increase awareness of this across south London and the NHS more widely and it would be terrific to have the support of the Board in doing this. We have kept this very brief but there is plenty more information available, our lead Eric Barrett, would be delighted to supply or answer any further questions, ericbarratt@nhs.net.

2) The DigitalHealth.London Accelerator Programme –

As Board members may be aware, in Oct 2014 the London Health Commission set out 64 recommendations within Better Health for London, and in March 2015 the London Partners signed Better Health for London: Next Steps ageing ten aspirations to improve health and wellbeing in London, aiming to make London the healthiest global city.

One of the ten aspirations is:

"Put London at the centre of the global revolution in digital health"

And more detail on this was outlined in the Next Steps document: "***The three London AHSNs and MedCity working together to deliver a digital health institute and accelerator for London that will enable and support local actions***"

As part of the city's response to this we have established a single digital health hub for the capital in order to make it easier for innovators with great health tech solutions gain traction in the capital and likewise the NHS make the most of the digital opportunity. The three London AHSNs together with MedCity established this - [DigitalHealth.London](#) – with a launch at City Hall in Feb 2016. It is actively supported by the three London AHSCs as well as many supporters from health, care and industry and a number of the large hospital based charities in London. Last week it was described as the fifth largest brand in digital health globally by a firm of brand analysts, a result to be proud of.

In September 2016 we commenced our Accelerator programme having selected 31 companies to work with over a year. The deputy mayor for business Rajesh Agarwal spoke at the launch. The programme is resulting in increased spread and adoption of digital innovation, the SMEs say that 50% of their growth has been down to the Accelerator. We will launch cohort 2 in September and this programme is part funded through EU funding via ERDF.

We have recently written a report on the spread of a number of these digital solutions called [Digital Leadership in London's NHS](#) [here](#), which gives some more detail on the types of benefits NHS organisations are deriving.

NHS institutions in London involved in the work and featuring in the report include:

- Our city wide ambulance service - London Ambulance Service
- Great Ormond Street Hospital for Children NHS Foundation Trust
- King's College Hospital NHS Foundation Trust
- South West London CCGs
- North West London CCGs
- Guy's and St Thomas' NHS Foundation Trust
- Chelsea & Westminster Hospital NHS Foundation Trust

The NHS has been extremely generous to the programme supplying many experts to advise the companies, mentorship and access to tremendously useful fora such as the London Clinical Senate, London Chief Nurses group, Leadership Team at HLP, CCG Clinical Leads.

We also support a number of great products that meet goals such as breaking addiction, [Breaking Free](#) [here](#), reduction of drinking - [Club Soda](#) [here](#), that would be of interest to Local Authority colleagues and would be very grateful for advice and ideas about how best to link in to the wider group of London councils and public health leads.

There is also much more on our [website](#) as well as [DigitalHealth.London](#) and [DigitalHealth.London Accelerator](#).

3) Action

Amanda would welcome **discussion** of this item, **ideas and views** and how we can **best support this work** as a group.

Appendix: A Tariff for Innovation

A new tariff came into play in April this year and for the first time we have a payment scheme to encourage the spread of innovation within the NHS. This is significant, laudable and we need to do everything in our power to ensure that we make the most of the opportunity. Even better, the focus of the tariff in its first year is innovations that make hospital care safer.

Most devices that are eligible for the tariff have been developed by innovative clinicians who saw opportunities to improve care – making it safer and more effective.

Dharmesh Kapoor, a consultant obstetrician at Bournemouth Hospital invented scissors that make childbirth safer; **Maryanne Mariyaselvam**, a doctor in training working in research in Addenbrookes, came up with a device that prevents tragic accidents with blood lines; **Peter Young**, a consultant anaesthetist at King's Lynn Hospital created a ventilation tube that prevents the most serious complication of ITU care; **Simon Bourne**, a consultant respiratory physician at Portsmouth Hospital devised myCOPD an online platform that helps patients self-manage with dramatic results. **Robert Porter**, a consultant microbiologist at Queen Alexandra Hospital has developed a treatment that cures Clostridium difficile based on faecal transplantation.



Dharmesh Kapoor, photo from [East Dorset NHS Library](#)



Maryanne Mariyaselvam, photo from [NHS England](#)



Peter Young, photo from [edp24](#)



Simon Bourne, photo from [LinkedIn](#)



Robert Porter, photo from [The Portsmouth News](#)

We should be proud that as a country we are not only inventing these superb devices, we are also **designing systems to help accelerate their uptake**.

Innovations supported by the tariff include the following:

(Note: there are hotlinks at each of the names to tell you more about each)

- [**EPISCISSORS-60**](#) - Guided mediolateral episiotomy to minimise the risk of obstetric anal sphincter injury
- [**Non-injectable arterial connector \(NIC\)**](#) - Device that avoids this never event
- [**PneuX**](#) – Ventilation tube that prevents ventilator associated pneumonia in critically ill patients
- [**myCOPD**](#) - Digital product for the self-management of Chronic Obstructive Pulmonary Disease
- [**Frozen Faecal Microbiota Transplants \(FMT\)**](#) - Frozen Faecal Microbiota Transplantation which cures recurrent Clostridium Difficile infection
- [**Urolift**](#) - a surgical procedure for management of Benign Prostatic Hyperplasia as a day case

NHS England's [**Innovation and Technology Tariff**](#) (ITT) enables NHS Trusts in England to use these patient safety innovations either for free, or to claim a charge per use. The 15 AHSNs have lobbied for a tariff to support innovation for some time, and it was the NHS Innovation Accelerator (NIA) - a national programme supported by all 15 AHSNs - which was a key influencer in the development of the ITT. The AHSNs therefore are delighted with this development, and are working to support uptake of these innovations within their geographies.

There are [**six innovations on the tariff**](#) and for the four that are devices (2-5) the process is exceptionally straightforward, for these staff order in the normal way but the price is set at £0 as they are purchased nationally by NHS England. For example, PneuX tubes are usually £150 each, using this process they are completely free to NHS Trusts in England. This is ideal as it means the process is as simple as possible for busy clinical staff. The two that relate to clinical procedures are slightly different – the first is purchased by maternity units, which then claim a fee per use, and for the last, Urolift, the normal clinical coding process triggers the special tariff.

Obstetric Anal Sphincter Injuries (known as OASIS) during childbirth is the leading cause of faecal incontinence in women in the UK. These are devastating injuries, requiring surgical repair, with 30% of women having some level of symptoms a year later.

It is also on the rise; the leading research paper in the field written by south London clinicians from Croydon and King's College Hospitals outlines that "Rates of OASIS appear to have risen from as low as 0.6% two decades ago to as high as 11% in 2008". A team from Guy's and St Thomas's won the Chairman's award in the 2015 HIN & HESL Innovation Awards, for their project to make a training video for midwives and obstetricians on techniques to reduce OASIS.

While the reasons for the increase appear multifactorial, it has caused significant concern, leading to a joint project led by the Royal College of Midwives and Royal College of Obstetricians and Gynaecologists aimed at reducing OASIS in the UK, which launched in January of this year. The Health Foundation scaling up fund has supported the Croydon work being shared across more maternity units, and this work is underway. As well as the human cost, OASIS costs the NHS financially around £57 million annually in repair and litigation costs.

Dharmesh developed guided mediolateral episiotomy scissors that minimise the risk of obstetric injury, they are set to 60 degrees, the optimal angle to avoid serious injury. A number of studies have proven their efficacy including a recent UK research study, published in the International Journal of Women's Health in Dec 2015, which found an impressive 84% reduction in OASIS in the cohort of first time mothers when these scissors were used.

Maryanne's non-injectable arterial connector or NIC enables conventional arterial line sampling for patients in theatre or intensive care with the huge bonus that it is not possible to accidentally inject medicine into it. This prevents the "never event" of wrong route drug administration, which while rare can have terrible consequences including in the most extreme circumstances, amputation.

Peter's PneuX invention has also been proven in studies to reduce the rate of ventilator associated pneumonia (VAP). In its guidance, NICE quotes a plethora of studies including a recent UK randomised control trial which found that PneuX halved the rates of VAP after cardiac surgery from 21% to 10.8% patients. Bearing in mind that VAP has a 30% mortality rate, this is very good news for very many patients. There are also significant safety and patient advantages such as reduction of pneumonia rates meaning patients recover quicker, leading to a freeing up of intensive care beds across the UK, reducing ITU transfers and enabling major elective cases to be undertaken without cancellation; an issue demonstrated very vividly in the excellent BBC series "Hospital".

Chronic Obstructive Pulmonary Disorder or COPD is the second most common reason for hospital admissions in the country costing the NHS over £800m in direct healthcare costs. COPD is a progressive disease meaning it gets steadily worse over time, and people living with COPD find that exacerbations increase and they are admitted to hospital more and more frequently. Studies have also found that 90% people with COPD are unable to take their medication correctly. Simon's support system for people with COPD has educational, self-management, symptom reporting and pulmonary rehabilitation aspects, all delivered online. The platform has been found to correct 98% of inhaler errors without any other clinical intervention. Typical quotes from grateful patients include "*last year, before using myCOPD, I had 12 exacerbations. This year I have had just two.*"

Robert's innovation helps people with Clostridium difficile, a serious bacterial infection affecting the digestive system, who have a one in six chance of dying within 30 days. Antibiotics are the first treatment and cure the condition in many cases. But for a proportion – about 20 per cent – antibiotics do not work. Those patients can suffer recurring bouts of diarrhoea so severe that they are unable to work, stop seeing friends and family, and refuse to leave their homes. A faecal transplant will cure 90% of these patients, effectively giving them their lives back. Robert Porter has been developing this solution and set up the faecal bank to make this possible. This pioneering work has been supported by colleagues at Wessex AHSN.

UroLift is an alternative surgical procedure for the treatment of the common condition of benign prostatic hyperplasia, where the enlarged prostate makes it difficult for men to pass urine, leading to urinary tract infections, urinary retention, and in some cases renal failure. This is an alternative to existing surgical treatments such as TURP or laser, and is far less traumatic.

Guidance came out from NHS England recently, and, understandably, was circulated to Finance Directors given it relates to a tariff. However it will be important others such as CEOs, COOs, Medical, Nursing, Midwifery and Clinical Directors, Operational Managers and Patient Safety leads are also aware and seek to support uptake given these innovations will work best when supported by consideration of best patient pathways and training with clinical teams.

We have in the past bemoaned that the NHS doesn't support clinical entrepreneurs, and that the period between discovery of an innovation and its wide spread uptake at the often quoted time of 17 years is too long. Here we have a handful of fantastic inventions that improve safety and reduce cost, devised by UK clinicians who have been hugely supported by the NHS to date. Increasing uptake is now down to all of us. What about getting over 50% uptake in 17 months instead of 17 years? Are you up for ITT?

Tara Donnelly

A version of this article was published in the *Health Service Journal*, June 2017

About the NIA:

The NHS Innovation Accelerator (NIA) is an NHS England initiative delivered in partnership with all 15 AHSNs, sponsored by Sir Bruce Keogh and hosted by our colleagues at UCL Partners. It accelerates uptake of high impact innovations and provides real time practical insights on spread to inform national strategy. Darmesh, Maryanne, Peter and Simon are NIA fellows, being supported by the NHS to spread and scale their innovations. The ITT enables Trusts to procure these innovations and be reimbursed by NHS England.

NIA successes so far include:

- 51 – jobs created since the start of the NHS Innovation Accelerator
- 14 Awards won
- £28.6M secured in external funding
- 10 NHS Innovation Accelerator innovations selling internationally

You can read more at the NIA website www.nhsaccelerator.com.

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