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

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Innovation in the NHS: call for evidence and ideas

Summary of comments from the NHS Innovation Challenge Prizes Expert Panel

This paper has been produced on behalf of the NHS Innovation Challenge Prizes Expert Panel. Highlights emerging from the recent call for evidence are summarised below. Detailed comments from which this summary has been created can be found in Appendix A. A full list of panel members can be found in Appendix B.

1. **What can the NHS and NHS Commissioning Board learn from national and international best practice to accelerate the pace and scale of adoption of innovations throughout the NHS?**

Proposed actions:

- find the means to better identify “Best Practice and Better Practice”
- Looking at international best practice and incentives to understand why adoption elsewhere is more effective would be worthwhile

Factors which will accelerate adoption:

- Commissioning Board must become close to real activities on the ground
- Prioritise significant areas where improvements would contribute to multiple NHS objectives

2. **What specific actions do you think national NHS bodies, such as the NHS National Commissioning Board, need to take to encourage and stimulate the successful and rapid adoption and spread of innovations throughout the NHS?**

Proposed actions:

- issue a ‘call for Innovations’ in specific areas
- develop a database of material
- publicised innovations in a positive and attractive ways – websites and newsletters etc
- consider a national equivalent to CQUINS

Factors which will accelerate adoption:

- reward/recognition (including to those who adopt)
- incentivise – competitions/award schemes
3. **What specific actions do you think local NHS bodies, such as providers and Clinical Commissioning Groups, need to take to encourage and stimulate the successful and rapid adoption and spread of innovations throughout the NHS?**

Proposed actions:

- Communication: knowledge and knowledge sharing
- Closer rapport and working together to allow understanding of all agencies goals and objectives
- Reward adoption of innovation

Factors which will accelerate adoption:

- development of processes to seek out the most useful ways of collaboration and passing on of key information
- funds are saved and quality is improved some of that could be reinvented (should this be reinvested?) in the innovative organisation and future commissioning could be informed by the advances
- small percentage – which could then be used to ‘top up’ payments and if the scale of these payments was on a sliding scale then increasing scale payments could enhance the incentives along with the scale of benefits to quality and finances

4. **What specific actions do you believe others, such as industry, academia, patient groups or local authorities, could take to accelerate adoption and spread, and what might encourage them to do so?**

Proposed actions:

- industry may develop new products without proper understanding of the processes underlying the use of products – close alignment of objectives on purpose and design at the earliest possible stages of development would make a very big difference
- involvement of patients groups, industry, academia and local authorities

5. **Do you have any further comments about accelerating the adoption and spread of innovation in healthcare?**

Ideas include:

- funding
- incentives
- unified back office function
- mindsets
• organisational form: strategic direction, capacity, capabilities
• duty to innovate: intellectual property/knowledge assets
• barriers to adoption: emerging themes
• putting positive actions to spread innovation alongside awards

Lisa M Butland

NHS Innovation Challenge Prizes Programme Associate, on behalf of the Expert Panel

30th August 2011
Appendix A

Innovation in the NHS: call for evidence and ideas

Detailed panel member’s comments

[Paper key: Factor identified: Action identified: notable point: * supporting material available]

What can the NHS and NHS Commissioning Board learn from national and international best practice to accelerate the pace and scale of adoption of innovations throughout the NHS?

A first important step would be surely to find the means to better identify “Best Practice and Better Practice” where they exist through the establishment of a database and communication process which captures and makes available the evidence based information needed to prioritise Innovations and areas of medicine / patient care deemed most important in achieving overall objectives of QIPP. In the East of England there is great enthusiasm for adopting Best practices – but the demand from the front line is “help us to identify and understand them as a first step towards implementation” The Commissioning Board must surely become close to real activities on the ground. Prioritisation would be needed – everything cannot be tackled at once. Significant areas where improvements would contribute to multiple NHS objectives such as COPD – could be worked on to develop models which could be transported elsewhere.

The NHS has a reputation as a slow adopter and my knowledge of Canadian and Dutch systems suggests this is not an unreasonable perspective. Looking at international best practice and incentives to understand why adoption elsewhere is more effective would be worthwhile. There has, until recently, been no downside to the NHS for continuing to operate in a business as usual mindset. The current financial challenges therefore present an opportunity.

What specific actions do you think national NHS bodies, such as the NHS National Commissioning Board, need to take to encourage and stimulate the successful and rapid adoption and spread of innovations throughout the NHS?

Incentivisation seems a priority. Competitions and Awards Schemes have helped stimulate Innovation and the surfacing of new ideas and practices. Rewards and Recognition (not all monetary) have been shown to encourage and inspire. The National Commissioning Board could issue a call (rather like the Technology Strategy Board does – and maybe the National Commissioning Board could work more closely with the TSB ?) for Innovations in specific areas – which have reached or are reaching evidence based status, and develop a database – which could be made available for others to draw from. At the same time, exceptional innovations submitted in response to these calls could be publicised in positive and attractive ways – websites and newsletters etc. Rewards could be extended to those adopting – not just those initiating. Indeed, in the East of England we have devoted a significant amount of our Regional Innovation Fund to investment in projects which are
taking Innovations from outside the Regional and adopting / implementing. This seems a rich area for engagement of Commissioners with the front line.

There should be incentives for adopting innovation (a national equivalent of CQUINs might work). The spread of innovation could then be further incentivised for the organisation spreading the news and those taking up the opportunity. Ideally there should be a mechanism for celebrating these initiatives in order to foster more widespread adoption and spread.

**What specific actions do you think local NHS bodies, such as providers and Clinical Commissioning Groups, need to take to encourage and stimulate the successful and rapid adoption and spread of innovations throughout the NHS?**

Communication is again at the forefront of needed actions. Indeed these there first questions are closely related. In the East of England, our Innovation Council embraces ALL professions and Local government / third stream organisations and industry to seek to find and adopt Innovations more readily and widely. Knowledge and Knowledge Sharing and Open Innovation (so well adopted and adapted by Industry) are essential if progress is to be accelerated. A closer rapport and working together must be a first step. The development of processes to seek out the most useful ways of collaboration and passing on of key information will be important. Patient Pathways – often dysfunctional and in need if disruptive change, an only be properly addressed by ALL agencies understanding the goals and objectives of others and finding better ways to work together – “**Better Together**” is a good maxim.

Commissioners could again reward the adoption of innovation – so where funds are saved and quality is improved some of that could be reinvented in the innovative organisation and future commissioning could be informed by the advances. In a similar approach to CQUINs resources could be retained – a small percentage – which could then be used to ‘top up’ payments and if the scale of these payments was on a sliding scale then increasing scale payments could enhance the incentives along with the scale of benefits to quality and finances.

**What specific actions do you believe others, such as industry, academia, patient groups or local authorities, could take to accelerate adoption and spread, and what might encourage them to do so?**

Drawing from the last point made – “**Better Together**” is my proposition. Industry can play a part in being involved at the earliest stage of the emergence of an innovative product or service and understanding the real needs of providers and patients. Too often in the past, industry may develop new products without proper understanding of the processes underlying the use of products – close alignment of objectives on purpose and design at the earliest possible stages of development would make a very big difference. Industry is ready – and exemplars in Open Innovation – knowledge sharing in the real sense – such as Philips and Nokia, - just two examples – are working with us closely in the East of England together with medics and others – and the Engineering Department at the University –
where process design is a key strength – to make major inroads in these areas and impact positively the “Patient Pathways” jungle. The attached Hauser report* – published last year addressing the issues of the “translational gap” between excellent R&D and products in the market gives some additional insights into how the processes “from idea to product or service” may be more effectively handled. Some of the principles in this work could be applied in the NHS and its units.

The involvement of patient groups, industry, academia and local authorities in encouraging, fostering and incentivising innovation could be very powerful

**Do you have any further comments about accelerating the adoption and spread of innovation in healthcare?**

**FUNDING INNOVATION.**

In the East of England we have significant data on the first and second SBRI (Small Business Research initiative) schemes run – and I think the 2009 – 2010 schemes was the first in the NHS in UK. Funding has been from the DH, TSB, RDA and European Investment Fund. Most recently it has been mainly from the TSB. The first scheme has been judged successful and evidence can be produced to show how it was administered and what has been achieved so far in supporting SMEs in the Healthcare sector.

The Regional Innovation Funds – with different focus – primarily on NHS based projects and proposals have been administered in the East of England by the Regional NHS Innovation Council we set up in 2010 and Health Enterprise East Ltd – the Regional NHS Innovation Hub.

The purpose of this note is to make a strong proposal that within the developing Innovation Strategy and Plans within the NHS, resulting in part from the Caruthers’s Review – consider funding innovation and the extension / development of the SBRI Schemes and RIFs continue and, equally important, that serious consideration be given to ensuring that mechanisms and educational programmes be put in place to enhance the prospect that success with early stage funding through SBRI or RIF lead on to (where needed – and this will often be the case) longer term and larger scale funding through Grants or Equity. Schemes are being out in place in some Regions to ensure that this “Investment readiness and Awareness” and “Finding Finance” capability is developed together with proper mentoring of those benefitting from early stage finance through SBRI or RIF schemes.

I have attached some information on the first SBRI Schemes* run in the EoE and some more recent information on RIF process*. I also attach an encouraging note from Miles Ayling* indicating that the SBRI Scheme will run for a further two years. I have made comments on this concerning the need for an approach to “later stage funding”

More could be said, written and presented as evidence of what has been done and achieved to date. I wanted to highlight this as an important area in stimulating Innovation – Incentivisation is a key factor.
2 other factors:

1. The concept of the Unified Back Office. From Industry and large institutions – some public as well as private, we can see the value of consistency throughout an organisation in information provision and use. Banks, large Telecommunications companies and others – have a “single back office” organisational structure and means of communicating. A “common language” to show how operations are being managed, measure outcomes, adjust activities etc. The NHS is far from having this as it is far from the desired approach to Open Innovation mentioned earlier. It may be a difficult area to confront – but if a start is not made it will never come to pass. Innovation within an organisation and its adoption and diffusion will depend on the overall organisational and communications structures enabling freer and more effective communications and collaboration.

2. MINDSET – a key issue. Creativity and Innovation – and Entrepreneurial thinking and actions are needed in all walks of life – in the view of some of us – and our experience shows that such a mindset is necessary to optimise creativity and innovation. We hold the view that Entrepreneurship is NOT the narrow defined process of starting as business – but can pervade all of life. We have enlisted the team from Centre for Entrepreneurial learning at Judge Business School Cambridge to supplement our Human Resources programmes of education to incorporate the support, encouragement and training needed to bring changes in MINDSET and behaviour. Good evidence based example is why entrepreneurial thinking can make a big difference can be found in the history of medicine – and we use these examples throughout the region to stimulate and inspire. For example, Wiilem Kolff developed the first haemodialysis system in occupied Netherlands in 1942 by improvisation and creativity – using a disused washing machine and old car parts. Bell and Banting in Canada – did their pioneering work on insulin discovery and use with zeal and creativity equal to anyone I can think of in industry.

In many ways the NHS corresponds to Professor Henry Minzberg’s descriptions of what he calls a ‘Professional Bureaucracy’. In such organisations managerial control is maintained by the standardisation of work processes, outputs and skills. This type of organisation has difficulties in innovating because ‘power’ goes to experienced professionals who are ‘islands’. They may be islands of innovators but this does not make for organisations that are efficient at diffusing innovation. Sometimes this is due to vested interests, restrictive regulatory environments, lack of incentives or, most likely, due to lack of capacity and capability for diffusion (or maximizing) innovation.

This does not necessarily mean that there is a shortage of innovations; it does mean that they are not creating enough value due to barriers to diffusion. To some extent this will be due to the significant amount of what is now known as ‘hidden’ innovation that exists within the NHS – and something that is hidden does not, by definition, diffuse (or at least not easily). This is hardly the NHS’ fault as innovation scholars have only lately noticed that the
service sector can be rather innovative. Our systems of measuring innovation having been equates innovation with R&D budgets, patents and number of higher scientific degree holders in R&D, etc. – none of which are categories which would tell us much about innovation in the NHS.

It is also argued that in such organisational structures there is also tendency to subscribe to the “not invented here” syndrome.

This could also be described as a lack of strategic direction from top management. In of itself, strategic convergence and direction is a necessary, but insufficient condition. Innovation that does not correspond to strategic direction often has little value for the organisation and, can have high opportunity costs.

By a lack of capacity I do not mean a lack of emphasis or of raw talent – of which the NHS has in abundance. Rather, a lack of the capacity to make sense of the world and what is important to do – as opposed to a model that appears to earmarks scientific advance. By lack of capacity, I think that one of the problems is likely to reside in a lack of time! There seems to be precious little slack within the system and innovations do not diffuse well when there isn’t the time to assess their value and incorporate them into routines. It might be useful to seek examples of where innovative best practices have overcome these barriers. It would also be useful to compare this in how it works in large organizations outside the sector (e.g. Google, Microsoft, etc.).

However, while time is another necessary condition (along with strategic direction), in the creation of an ‘enabling environment’, the third factor is capability. The encouragement of innovative behavior is dependent upon developing innovation management capabilities – how organisations use knowledge to create value in the form of new products, processes, and services. These may well be internally generated but is even more likely to come from external sources and, therefore, the challenge is in acquiring and using external knowledge – or what is known as ‘absorptive capacity’. Innovation management capability of this kind is not evenly distributed across organisations and it is a learned capability. From my limited perspective, it seems likely that although emphasis has been placed on important aspects of organisational infrastructural – such as the Institute for Innovation or having positions such as ‘Director of Innovations’ within Regional Health Authorities – insufficient attention has been paid to the understanding and introducing the capabilities required to successful manage innovation.

Behavior studies of the capabilities required for managing innovation are few and far between. However, there are some and within even a simplistic model of the innovation process which divides activities between searching, evaluating, judging, realizing and maximizing, for which different skills sets (and mind-sets) have been identified.

Some examples of what skills are required.

Within Searching they include:
• Framing the enquiry
• Facilitating creativity
• Identifying opportunities
• Hunting and gathering ideas

In Exploring, they include

• Investigating the ideas
• Selecting promising ideas
• Experimenting to narrow the field
• Validating the ideas

In the Committing phase, they include:

• Proposing the ‘business case’
• Influencing stakeholders
• Decision making which will provide the focus and momentum needed
• Allocating resources

Realising requires:

• Creating and sustaining high-performance teams
• Managing political issues
• Coordinating and organizing support
• Delivering in a timely fashion

Optimising includes:

• Skills to assess value created
• Exploiting additional ways of gaining benefit from the innovation
• Improving the innovation process

None of these are ‘rocket science’ and they can all be learned. Nor do they need to reside in the same person. However, I am not aware of any attempt to systematically develop the required skills sets by the NHS. Indeed, even when I have been on the interview panels for the appointment of ‘Director of Innovation’ within RHAs, the basis was heavily towards individuals with large project management and IT experience – probably a bias introduced by the large electronic records programme. While I have no doubt that these are important, it has little to contribute to the creating of either a culture which encourages or facilities innovation or helps to develop the skill sets needed. (I am limited for time but can provide more on the skills sets for managing innovation or the components necessary for increasing the ‘absorptive capacity’ of an organisation. (By the way, the disappearance of RDAs may have a negative impact on diffusion as they made have been (or could have been) providing an important network for diffusion channels via such directors of innovation.)
Finally, as I have mentioned above, the distribution of such skills can be patchy within an organisation as large as the NHS. There is, therefore, as need to be able to identify where the organisation is weak or strong on the required skills and capabilities required to diffuse innovation (capability audits do exist to perform this function). Once there is a more in-depth understanding of the relative strengths and weaknesses within and across the organisation, it is possible to match them with different approaches/mechanism to assist diffusion. Here much can be learned from the academic literature and from innovation policy practices over the last twenty years. Depending upon ones’ starting point, the approaches can range from laisser faire (leaving it to the market), broadcast mechanisms (primarily broad brush awareness raising activities), agent assisted (e.g. use of innovation consultants as intermediaries who can help to position innovation, etc.), and peer-assisted modes in which diffusion occurs via learning from and communicating with others.

The establishment of the legal duty to promote innovations, laid on the Strategic Health Authorities, was a powerful signal of the intentions of the NHS, to change its behaviour in terms of stimulating and adopting innovations. Within the new system, I think it is important that this duty is retained and further refined.

The duty to innovate – where this responsibility is lodged at a high level, for example within the Commissioning Board, has the potential for the parts of the system to assume it is someone else’s job. It would help to provide further reinforcement, if this duty was rippled down through to individual provider units, including the Care Commissioning Groups. There is extant guidance from the DH on the responsibilities of Chief Executives of NHS organisations for the identification, protection and exploitation of intellectual property, and this at its time was groundbreaking documentation, and has stood the NHS in good stead over a number of years.

However, it would now benefit from updating, to include the broader definitions of intellectual property and knowledge assets, leading towards the implementation of these new ideas, i.e. the full innovation process. Once again, in its current construct the majority of executives and managers within the NHS, presume that the management of intellectual property is the domain of a very few large university hospitals and this responsibility doesn’t feature highly if at all in the objectives of management teams.

In our conversations in the North West, particularly with clinicians, to help us to understand the apparent inherent barriers to the adoption of new ideas, particularly where these are clinical and have a direct impact on patient care, a number of themes consistently emerge:

- As referred to in the call for evidence papers, there is a need for a common language across boundaries and professions, including clinical and management, that describe the risks and to set out clean clinical endpoints or standards, that make clear what it is the supposed improvement is trying to achieve, and which is better (not just different) than the current standards. There is often a mismatch in the way that the objectives are articulated between clinical management staff and this undoubtedly impedes the adoption process.
• Silo budgeting both within organisations and between NHS organisations and social care and local authorities, is still frequently raised as one of the biggest disincentives to change current practice and procedures. Within the issue of silo budgeting, other financial barriers including expenditure in one year and saving in other years, a common appreciation of risk, which will vary along the patient care pathway and between organisations, are cited as barriers.

• The positive impact that clinical leadership and champions provides to encourage clinical groups to take up new ideas. The role of the National Clinical Directors, in respect of innovation, is often raised.

• Innovation as an activity, and which includes the time to carefully evaluate new ideas, whether they have been used elsewhere or not, as well as the implementation process, isn’t currently valued alongside other activities, such as research or teaching. Within job plans and the clinical excellence frameworks, there should be a more explicit recognition of the value of innovation activities. In the research field, this is recognised through the NIHR Clinical Research Networks, by the provision of paid for sessions. This is having a very clear benefit on raising the quality and volumes of clinical research within the NHS and this effect may be transferrable to innovation. The availability of funding to support the PAs of innovation champions, would immediately uprate the perceived value of innovation activities, and provides incentives within the system, creating upward pressure with NHS organisations.

The implementation of innovative practice, procedures and systems, is rarely without some upfront additional costs, and sometimes these can be significant where there are dual running costs or significant training, new equipment or other resource costs are required. Securing the funding for these within organisations is often challenging, as the competition for scarce resources, set against things that glow red on risk registers and the maintenance of existing clinical activities which support known income streams, in most cases prevents innovation from getting to the top of the investment priorities. A number of people cite the need for some form of “investment bank”, whether this is held at a national level, or could be done at care Commissioning Group level. The aim being to frontload the funding of investment, with clear agreements for the payback of the ROI.

Recommend putting positive action to spread innovation alongside awards. The NHS Innovation Challenge Prizes can make a contribution here. Also, engage National Clinical Directors to promote innovations, examples of innovative practice and ways of rewarding innovation.
Appendix B

Innovation in the NHS: call for evidence and ideas

Expert Panel Members

Alasdair Liddell CBE
Expert Panel Chair & Independent Health Strategy Consultant

Alan Barrell
Chair, Health Enterprise East Ltd

Keith Chantler
Director of Innovation and Enterprise, Central Manchester University Hospitals Foundation Trust

Prof. Matthew Cooke
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