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

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Accelerating Adoption and Diffusion of Innovation in the NHS

“The Dance of the Bumble Bee”

To: NHS Chief Executive Innovation Review Team
From/Organisation: Royal Liverpool & Broadgreen University Hospitals NHS Trust
Contact: Mr Steve Lake, Clinical Scientist
Email: splake@nhs.net
Telephone: 0151 706 4202
Kept in touch with next steps: Yes
Included in a wider community of interest: Yes
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1. Executive summary

The following reports on activities carried out to gather evidence for the NHS review on how adoption and diffusion of innovation can be accelerated across the NHS.

Background information on innovation activities at the Royal Liverpool & Broadgreen University Hospitals NHS Trust has been provided including examples of innovation that have been adopted and diffused.

Details of a workshop run to investigate the issues and consider options for improving the situation have been provided. The workshop used creativity techniques to encourage a reperception of the problem and to overcome a polarisation around the issue where there is a reinforcement of the status quo. The output from this workshop has been discussed.

The recommendations made by the report are as follows:
We would like the NHS review on innovation to consider adoption and diffusion alongside the development of innovation in order to prevent any undoing of the excellent work currently going on and consider the necessary measures will need to be implemented over the long term.

1. An entrepreneurial role to be developed within NHS organisations to pursue the diffusion of innovation, own the policies and procedures on how innovation is to be diffused, represent their organisation with their external innovation supporting partners, e.g. the Regional Innovation Hubs and be required to bring in funds for further innovative developments. Significant marketing skills and commercial insight into the industry is needed. If arrangements are setup with the private sector then licences should be developed that reflect the NHS principles.
2. Each NHS organisation to hold a regular organisation wide celebration event where those who have brought improvements to the organisation, through innovative or utilitarian solutions, can display their work and engage with the organisation’s executive members.
3. NHS organisations to allocate some regular protected study time for all staff, even if only one day per month, and to use the appraisal system to hold employees to account on how this has been used.
4. To adopt the new NHS Leadership Framework and build this into the appraisal system. The use of a feedback tool to indicate how leaders are performing against particular dimensions is a powerful way of engaging leaders in seeking improvements.
5. All NHS organisations to be fully open with their business planning information and to produce records and documents in a fashion that enables them to be released to their own employees immediately.
6. Each NHS organisation to set up and encourage the use of an online collaboration tool and for this to be accessible by private and voluntary sector partners and collaborating universities.
7. Relax the tight prevention controls imposed on the use of internet technologies from within the NHS and increase the detection methods to take their place.
8. Each NHS organisation to engage with their front-line teams when designing performance measures and to ensure that information generated from these flows in both directions.

There is a wealth of know-how within the NHS and with good leadership and a shared understanding of what success is we may also develop a good appreciation of know-why, a much sought after resource for making strategic decisions.
2. Background
The following reports on activities carried out to gather evidence for the NHS review on how adoption and diffusion of innovation can be accelerated across the NHS.

The Royal Liverpool & Broadgreen University Hospitals NHS Trust (RLBUHT) is one of the largest and busiest hospital trusts in the North of England with an annual budget of over £400 million, 5,600 directly contracted staff and over 650 staff in the hosted services or contracted services such as catering.

We are one of the top 20 teaching trusts in the country with well established links to both the University of Liverpool and John Moores University. Each year we provide a large number of placements for student doctors, dentists, nurses and allied health professions who benefit from the expertise and experience of some of the most skilled clinicians in the country.

The RLBUHT has an excellent record on innovation. The following are some examples:

**EMG Meter**
The aim was to produce a portable EMG amplifier to facilitate the upward trend in the use of Botulinum Toxin for the treatment of strabismus and spasmodic dysphonia. The device uses a needle to monitor the electrical signal from the muscle at the side of the eye so that the clinician can determine the correct position to release the toxin. The device has been through strict regulatory approval to obtain a CE mark in line with the Medical Devices Directive and is now being marketed from the RLBUHT to all over the world.

**The Tear Function Index (TFI) Strip**
This is a strip of filter paper impregnated at the tip with a minute amount of fluorescein used to assess tear production of the eye. The TFI Strip is a CE Marked product and is available for sale. It was featured in a recent study at Glasgow Caledonian University.

**Liverpool Silver Thread Eye Electrode**
By measuring the small electrical signals that appear on the surface of the eye when a patient looks at a flashing light, doctors can gain much information about the health of the eye. The detection of these electrical signals is achieved by recording from delicate electrodes placed on or near to the front surface of the eye (the cornea). The Liverpool-Silver Thread Electrode has been registered as a Medical Device.

Today the Liverpool Silver Thread Electrode is available commercially in the UK through the NHS Purchasing and Supply Agency, and worldwide via a number of commercial distributors.
Making Digital Radiography (DR) work in A&E
It was often thought that DR was not the first choice of imaging equipment in the A&E environment, because perhaps it was not as flexible as the cassettes with which radiographers have become so comfortable. DR is renowned for dose reduction, speed of imaging, and increased throughput. The RLBUHT took the lead in implementing this approach in the UK. We have been lucky to have visits from Sweden, Germany and Denmark to assess how DR can function successfully in an A&E environment.

Liverpool Care Pathway for the Dying Patient (LCP)
The LCP is an integrated care pathway that is used at the bedside to drive up sustained quality of care for the dying in the last hours and days of life. It is a means to transfer the best quality of care for the dying from the hospice movement into other clinical areas, so that wherever the person is dying there can be an equitable model of care. The LCP has been implemented into hospitals, care homes, in the individuals own home / community and into the hospice.

An evaluation of how well the RLBUHT supports innovation was carried out early in 2010 by the newly formed Innovation Working Group (IWG). Four proposals resulted from the evaluation:
- To setup an online portal and virtual team to support innovators
- Incorporate training on innovation into the Trust’s Leadership & Management training programme
- Publish the results of innovation using in house communications
- Host a ‘Dragon’s Den’ style competition.

The first three of these initiatives are in various stages of completion while the fourth, which we called “The I Factor”, has been carried out and five innovation projects have been funded.

The RLBUHT, as with other NHS organisations, is far more successful with progressing its own inventions locally than with adopting innovations from elsewhere. One successful adoption locally is the Productive Ward (NHS Institute for Innovation and Improvement, 2006) but how sustainable this will be is being questioned.

In the private sector, competitive forces drive the need for innovative solutions, whereas within the public sector, where you would imagine collaborative forces dominate, utilitarian solutions should be common place in bringing improvements. These utilitarian solutions, based more on a sensible idea with reliable evaluation data need not be novel. These tried and
tested solutions would have advantages including being cost effective to implement. So why is this not happening?

In order to investigate this question, and consider how we might improve our adoption of innovation, a creative workshop has been run with local innovators and conclusions drawn from the results.
3. Creative Workshop Method
Several frameworks in which to investigate the problem were considered. Since the problem involves multiple stakeholder views, and has symptoms that are deeply seated in the NHS culture, the problem can be considered as ‘wicked’ (Rittel, 1972). This type of problem requires exploration, mapping across the stakeholders views and there may be no perfect solution. Instead, we need to find acceptable ways of coping. A framework of reperception was chosen (B822, Book 2, p. 66). This addresses issues where you cannot see what to do and we need to reprogram an image to contain suitable possibilities. It allows the capturing of feelings about a situation that are expressive rather than a realistic representation of an issue. It also uses affirmation techniques which can help discover options that would not have otherwise been noticed.

The framework was applied across three phases:
- Awareness: to investigate the problem
- Analysis: to consider the options
- Action: to plan implementation

Each phase was split into a divergent stage and a convergent stage. 160 creativity techniques were considered using software to identify the following six techniques:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Stage</th>
<th>Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>Divergent</td>
<td>'Fresh eye' and networking</td>
</tr>
<tr>
<td></td>
<td>Convergent</td>
<td>Five Ws and H</td>
</tr>
<tr>
<td>Analysis</td>
<td>Divergent</td>
<td>Reversal</td>
</tr>
<tr>
<td></td>
<td>Convergent</td>
<td>Simple rating methods</td>
</tr>
<tr>
<td>Action</td>
<td>Divergent</td>
<td>Bullet proofing</td>
</tr>
<tr>
<td></td>
<td>Convergent</td>
<td>Implementation check list</td>
</tr>
</tbody>
</table>

The ‘Fresh eye’ and networking technique (VanGundy, 1988) helps to bring new perspectives to a problem. The problem is described in a non-technical way and circulated amongst a group. They may be given a couple of days to consider the problem, as was the case here. The ideas offered are then developed by a facilitator to become usable and suitable feedback given. As an extension to this, and in keeping with the expressive aspect of the framework, participants were asked to bring an object that represented the problem for them, which they would describe during introductions.

The Five Ws and H technique (VanGundy, 1988) provides a structure in which to converge the ideas from the first stage by simply answering the generic questions of Why, Where, When, What, Who and the How of the problem.

It was anticipated that the problem may have a polarised issue. There is a reinforcement of the status quo and national performance targets may be contributing to this. In order to overcome this, and in keeping with the framework, a reversal technique (Osborn, 1988) was used where the problem established from the previous stage is reversed and an affirmation constructed. How we can then achieve this new vision was then discussed and options listed.
Simple rating methods were then used: Firstly to rate the options listed from the previous stage in accordance with (Moore, 1962):

Yes       - The option could be implemented as stands
Possible - The option could not be implemented as stands but has potential with more thought
Weird     - The option is weird and unimplementable but has potential to trigger other options

Those items deemed implementable as they stand were then rated further using (VanGundy, 1988):

Simple – implementable with a minimum of time and money
Hard – implementable but a bit more expensive
Difficult – implementable but much more expensive

The initial plan to use bullet proofing (from Kepner and Tregoe, 1976) and an implementation checklist (VanGundy, 1988) was not followed due to a lack of time. Instead a review was carried out on the options receiving the most support to identify what could go wrong and how we might address this.

Details of the planned method can be seen in appendix 1.
4. Results
The participants at the meeting included: a service improvement facilitator, the theatre throughput co-ordinator, a superintendent radiographer, a consultant anaesthetist, the business manager from R&D and a clinical scientist.
The use of the framework had worked well. Some good metaphors and points were made initially and the reversal/affirmation kept ideas flowing. There was good input from across the participants. We did run over time and the plans for the third phase were cut short to fit this in.

In the initial stage, the following objects were discussed and points made:

Object: a mobile phone
The communications channels are poor if we want them to be! This is sometimes used as an excuse for not involving the right people.

Object: skull
We need to get hearts and minds on board. This guy hasn’t got either. It sometimes requires finding those people that will help rather than those best placed.

Object: lists of stalled innovations
There is no centralised route for people to progress their ideas. How are they to connect their innovation with those who might benefit?

Object: kitchen scales
We are preoccupied with national performance measures which don’t help front-line clinical teams to get better at what they do.

Object: prototype tap needle device
A tap needle device has been invented for delivering anaesthetic blocks accurately. The anaesthetist has been waiting since December 2009 to progress this. He feels it is like hitting your head against the wall.
The issue of performance measures was discussed further at the end of this stage. The analogy of weighing bee hives to check on their productivity (Senft, 1992) was introduced. Bees rely on communications to help them improve productivity. If one of the bees found a better source of pollen then it would communicate via a dance to the others in the hive, see figure 1. Weighing the hive was of little use to the bees. This analogy was referred to by others later in the meeting.

![Figure 1 – Bumble bee dance](image)

The following is a summary of the results from the 5Ws & H technique. A detailed list of the comments made can be seen in appendix 2.

- There are leadership issues and leadership is not distributive
- Communications are not working throughout the Trust
- Performance measures are dominated by national targets
- There are not enough resources to pursue adoption
- There are no rewards for pursuing adoption
- Successes are not celebrated well
- It is difficult to get support for adoption and there are no clear methods to follow
- The Trust hierarchy gets in the way

There appears to be a competitive approach between individuals that may be getting in the way of distributive leadership. This may be being reinforced by how rewards and recognition are given. There are excellent communication channels in place but the uptake from those who should feed into them and those who should be receiving is not happening. Performance management is not creating a ‘sense of direction’ for front-line teams. The main resource lacking is ‘protected’ time to look for improvements. There needs to be recognition for solving problems by adoption. Celebration of success needs to be built into project work and projects need better planning. There needs to be better support with policies and procedures. The hierarchy appears to be putting a strong emphasis on maintaining the status quo and stability.
The first stage of identifying options involved reversing the above list. The following was used to form an affirmation and address the polarised issue where the status quo is reinforced:

- Leadership is shared, excellent and visible
- Communications throughout the Trust are excellent
- Performance measures are measuring the right things
- There are plenty of resources to undertake adoption
- There are substantial rewards (financial and recognition)
- Success is overplayed
- There is plenty of support for adoption and detailed procedures
- Values are accommodated and it is appreciated that they vary across the Trust (prompted by the reversal)
- There is no hierarchy

The following suggestions were made on how we could move closer to this. The implementable and resource ratings shown are explained at the end of section 3 above.

Table 2: Suggestions on how we could move closer to desired state

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Implementable</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell leaders how well they are doing (reverse appraisal)</td>
<td>Possible</td>
<td></td>
</tr>
<tr>
<td>Improve communications</td>
<td>Yes</td>
<td>Difficult</td>
</tr>
<tr>
<td>More open with information within the trust</td>
<td>Possible</td>
<td></td>
</tr>
<tr>
<td>Celebrate success more</td>
<td>Yes</td>
<td>Hard</td>
</tr>
<tr>
<td>Reduce restrictions on IT communications (monitor instead)</td>
<td>Yes</td>
<td>Simple</td>
</tr>
<tr>
<td>Member of Exec to write to adopters to recognise successes</td>
<td>Yes</td>
<td>Simple</td>
</tr>
<tr>
<td>Team managers to give better feedback to staff</td>
<td>Yes</td>
<td>Simple</td>
</tr>
<tr>
<td>Innovation Working Group to develop policies and procedures</td>
<td>Yes</td>
<td>Hard</td>
</tr>
<tr>
<td>Better input from staff into developing the mission statement</td>
<td>Possible</td>
<td></td>
</tr>
<tr>
<td>Flatten the hierarchy</td>
<td>Weird</td>
<td></td>
</tr>
</tbody>
</table>

The final phase investigated what could go wrong and what measures could be used to address these issues:

Table 3: Identification of what could hinder moving to the desired state and measures

1. Leadership feedback
   If staff are asked to provide feedback about their manager’s leadership skills then there could be suspicion about how anonymous it is. A solution could be to use a paper form method.

2. Improve communications
   It is unclear how well communications are working. An evaluation of how effective communications are might highlight where these can be improved.

3. IT communications being opened up
   These could be abused. There are many people being prevented from freer access to internet technologies due to a few people abusing them. Could the lock down of these technologies be kept to just out of hours? Would monitoring suffice, especially if appraisals become more aggressive and problematic reports are discussed with line managers?

4. Exec letter of recognition
   This may not be seen as a good use of time. This is highly motivating for staff.

5. Values appreciated and accommodated
   Not currently consulting all those who could input to this. Better engagement is needed. As we move to a more empowered workforce this may be more forthcoming.
5. Discussion
Adoption and diffusion rely on two completely different processes requiring different knowledge, skills and experience (KSE). Diffusion of innovation relies heavily on marketing know-how. Each potential client will have different needs and how the innovation can be presented as meeting these has to be managed. These skills are not usually found within NHS organisations. The problem with adoption is far more complex. Two main problems need to be overcome. The first concerns that NHS staff are busy bees, but unlike those in the analogy they don’t take time out to look to see if there is a better way of doing things. This needs to be built in to how they are managed and led. The second problem concerns how staff judge the appropriateness of innovations from other organisations. Assessing the value of an innovation requires a good understanding of what the innovation has achieved elsewhere, how it will meet their needs, whether it fits in with their local context and what their organisation’s future plans are. This requires open channels of communication to outside of the organisation and an open environment within their organisation. The following are suggestions on how these issues could be addressed.

5.1 Diffusion
The lack of marketing KSE could be addressed by outsourcing or developing in-house. The advantage to outsourcing diffusion to a private company is that this can quickly acquire the necessary marketing KSEs to make it happen. The disadvantage is the mismatch in organisational purpose. The innovation has arisen from public funds, is then licensed to a private company, who may make a substantial profit from selling it back to a public organisation. There will also be filters applied with a test on viability and sustainability by the private company. What will happen to innovations that do not pass this test? Should the arrangements with the private sector build in the NHS principles, via something similar to the Copyleft licensing method (Wikipedia, 2011)? Alternatively, diffusion could be managed in-house. The NHS Regional Innovation Hubs (Hubs) have a wealth of experience in managing innovation. A comment raised during the workshop suggested that the Hubs have a lack of enthusiasm to market our products, although this may be a misunderstanding of their role. The business models for the Hubs will also take into account viability and sustainability of the innovations presented to them along with an assessment of the resources being offered by the inventing organisation to support marketing. While the NHS principles may remain intact within the Hubs, the Hubs may then involve the private sector to produce and market the innovation. One advantage to using the Hubs is if the innovation is not attractive to the private sector the Hubs have other channels on which the innovation may be diffused.
A third option would be to bring production and marketing in house. The first three examples in section 2 above are produced and marketed from our Medical Physics and Clinical Engineering department. A role within this department deals with regulatory issues, oversees production and markets the products. At the point a private company competes with an alternative product the department withdraws from the market. It is known that there are a few large teaching hospitals around the UK with these capabilities. The main advantage here is these groups are part of the NHS and guided by its principles. The disadvantages are their ability to compete in a market and their capacity to up scale production.
Some innovations may also lend themselves to be diffused via a charity, as in the fifth example above. Astute skills found in the management and clinical staff within the Trust, researchers within the University and the charity itself have established a very successful international diffusion of this innovation. The purpose and values within the three organisations involved may have complemented each other and reinforced to enable its success.
The way forward would appear to be to engage with the private sector and build in licensing that honours the NHS principles. This engagement should involve the Hubs if expertise in protecting intellectual property is not available in-house. If a private sector partner cannot be found the Hubs other channels could be of assistance along with any local in-house production and marketing team. The resources within the inventing organisation to support diffusion are a concern and the Hubs and/or private sector partner cannot succeed without these. Once the inventor has received recognition within their professional body, either by presenting at a conference or publishing, their motivation to pursue this further is likely to be reduced. Using the inventor to drive the diffusion of their own invention may not be a good use of their time since they are not likely to have the necessary marketing skills and any issues around profit may clash with their own personal values. The use of this time should be kept to a minimum and an entrepreneurial (or intrapreneurial) role created/used within the inventing organisation. Looking at innovation as a staged process (B822, Book 1, p. 145) the main stages can be described as:
1. identify the idea – inventor
2. develop the idea into something practical and evaluate – innovator
3. introduce the product or service to the market – entrepreneur

There may also be a market gatekeeper, who understands which innovations are viable in the market, a champion who understands the need for the innovation (could be the inventor) and/or a sponsor who can provide resources to prepare a product for the market. One further role would be a technology gatekeeper who keeps abreast of new developments and acts as an information gatekeeper for the organisation. This role is also important to adoption. Are all these roles supported within the NHS?

The entrepreneurial role, whose success could be measured by how much money is made, is missing. This role would be required to oversee the development of and own the policies and procedures around diffusion. The person fulfilling this role would need to have marketing skills and KSE of the industry and a passion for diffusing innovations.

5.2 Adoption

The fourth example in section 2 above, regarding diagnostic radiology in A&E, is an example of successful adoption. The superintendent radiographer believed that this would improve clinical practice (acting as a technology gatekeeper) and set about overcoming the hurdles in getting this implemented and worked with the supplier. The skull metaphor above represented the issue of winning over hearts and minds and the need to engage with those who will help even when they are not necessarily those who are best placed. Why should this be so difficult?

The workshop highlighted that there are little rewards and resources for adopting solutions. While recognition for innovative solutions is available to some groups via their professional bodies, recognition for adoption is uncommon. Adoption has to be recognised on an equal footing with innovation and the recognition needs to be provided in an appropriate way. It has been suggested (Farson and Keys, 2002) that innovation is better recognised by engagement from leaders instead of praise. Engagement demonstrates real interest and is appreciated more. Presenting their work at key organisational events can be a more effective way of obtaining recognition for their work. At our Trust we are looking to reinstate an annual celebration event where researchers, innovators and service improvers can display their work and where the executive board of the Trust can engage with them.
Resources can usually be found to help develop innovation but funding for adoption needs to come from any proposed cost savings it will bring, e.g. invest to save. The lack of an entrepreneurial role within the inventing organisation may exacerbate this since the marketing of the product may not provide the necessary information for this to be appreciated. The main resources required are time to pursue the improvements and funds. Some groups of staff have protected time for professional activities, which may not always be used appropriately considering a comment at the workshop, while other groups may need to request it.

At Google, staff are allocated 20% of their time to work on projects of their own choosing, 3M give their scientists and engineers 15% of their time to pursue their own ideas, and may provide seed grants, and Hewlett Packard allow their researchers 10%. Allocating protected time to this degree to all NHS staff would be very expensive and open to criticism on how public funds are being spent. The appraisal system could address the abuse of this time to some extent. It has been found locally that when allocating study time temporarily and providing funds to backfill staff time that making arrangements for temporary cover can be very difficult. Some time for all staff to pursue improvements, even if it is only one day a month, linked with appraisals, could facilitate their engagement in searching for improvements.

Another problem raised at the workshop concerns the culture within the receiving organisation, which may be considered to be unreceptive to adopting innovations and striving for improvements. This may reflect weaknesses in leadership, as was raised at the workshop. Leadership as described by Hartley and Allison (2000) is ‘a set of dynamics occurring amongst and between individuals, groups and organisations. It is concerned with motivating and influencing people, and shaping and achieving outcomes.’ Heifetz (1996) describes it as ‘mobilising people to tackle problems’.

Hartley and Allison conclude that ‘Innovation cannot be pre-specified and therefore part of the role of leadership is to provide a framework and to observe, nurture, shape and reflect as well as to implement. Models of leadership in the UK public sector urgently need updating to reflect this’. A new NHS leadership framework is being rolled out this year (NHS, 2011) with various supporting tools, e.g. an e-learning resource called LeAD, a 360 degree feedback tool and a self assessment tool. Having this built into the appraisals would be an effective way of providing leaders with feedback, which is something the workshop identified as a way forward.

The workshop also identified a problem with openness to organisational plans. It has been suggested (Ekvall, 1991) that aspects of the organisation climate that can impact on the capacity for innovation include freedom and trust. Freedom refers to empowered employees having space to take on innovations and obtaining information for themselves. Trust is easier to build in an environment that has open relationships and is supportive of new ideas. The company Kao, a chemical and cosmetic company, is described as one of the most creative companies in Japan (Bartlett et al, 2004). The chairman of Kao describes how they provide free access to all information for all employees. “If someone has special and crucial information that others don’t have, then that is against human equality, and will deprive us and the organisation of real creativity and learning.” While we need to protect patient information and keep it confidential in the NHS, there is a downside to treating business information in the NHS in the same manner. All NHS organisations should be fully open with all their business planning information. Is there an ethical issue with a public organisation withholding its plans?
Those looking to bring improvements need to know their organisation’s future plans when appraising opportunities. Some of these plans may also stimulate new ideas.

The workshop identified failings in how staff communicate. Farson and Keyes (2002) assert that “If the road to success requires making others fail, then innovation gets left by the way side. Competition infects co-workers with a desire to win rather than to solve problems and move projects forward. In the process, employees inhibit the free flow of information so vital to innovating.”

Gaming is common in these situations and while engaging in politics is accepted as a necessary way to achieve the best outcomes it must not be overlooked that there is an opportunity cost from not being open and developing a solid foundation of trust that can be built upon.

Farson and Keyes describe how leaders see collaboration as the best means for tapping into the imagination of employees who are not especially competitive and who might have invaluable innovative ideas. These uncompetitive people do not do well in gatherings and communication technology can help. On-line collaboration systems can help with this if they are encouraged and extended to include the private sector and universities.

Communication issues also directly affect adoption. Implementation of information governance policies have led to tight controls on how employees can access the internet. Technology gatekeepers need to keep abreast of new developments. Lester et al (1998) argues that companies need to be continuously open to new ideas. If NHS staff are prevented from accessing the new communication platforms on the internet, like Facebook, Twitter and You Tube, then there is a danger of disillusioning technology gatekeepers. Preventing access to these facilities needs to be relaxed and detection methods increased to take their place.

One final issue raised at the workshop concerns how performance is measured and how useful this is to the front-line teams. Gittell (2000) in her study of two major airlines found that when front-line employees are co-ordinating directly with each other, problems can be resolved on the spot in a collaborative and timely way. Gittell describes accountability as ‘management by intimidation’ and that it results in employees looking out for themselves to avoid recrimination rather than focussing on shared goals like satisfied customers. It also makes employees afraid to take risks. In order to address this, and remove some of the blame culture, Southwest Airlines monitor whole team performance in a manner that allows the team to learn. Information flows in both ways and is coded to a team. If there are problems with performance then executives discuss this and get involved, otherwise the teams are given a free reign.

Asking front-line teams within the NHS to engage with developing their own performance measures has met with varying successes in the past, which could be due to implementation failures. As more and more NHS organisations become Foundation Trusts and develop better performance measures they must consider designing these in partnership with the front-line teams themselves and ensure that the information generated from these flows in both directions (simply weighing the hive of activity shouldn’t be happening).

5.3 In summary
We would like the NHS review on innovation to consider adoption and diffusion alongside the development of innovation in order to prevent any undoing of the excellent work currently going on. Financial incentives for diffusion could bring a real clash with the current drivers for innovation that can be based on bringing improvements to the quality of care.
We consider the measures needed to improve adoption and diffusion need to be implemented over the long term since it is well established that to address cultural issues like this takes time to permeate through. Also, such measures need to be mutually reinforcing and consistent with other planned developments for the NHS.

Our recommendations for accelerating adoption and diffusion are:

1. An entrepreneurial role to be developed within NHS organisations to pursue the diffusion of innovation, own the policies and procedures on how innovation is to be diffused, represent their organisation with their external innovation supporting partners, e.g. the Hubs and be required to bring in funds for further innovative developments. Significant marketing skills and commercial insight into the industry is needed. If arrangements are setup with the private sector then licences should be developed that reflect the NHS principles.

2. Each NHS organisation to hold a regular organisation wide celebration event where those who have brought improvements to the organisation, through innovative or utilitarian solutions, can display their work and engage with the organisation’s executive members.

3. NHS organisations to allocate some regular protected study time for all staff, even if only one day per month, and to use the appraisal system to hold employees to account on how this has been used.

4. To adopt the new NHS Leadership Framework and build this into the appraisal system. The use of a feedback tool to indicate how leaders are performing against particular dimensions is a powerful way of engaging leaders in seeking improvements.

5. All NHS organisations to be fully open with their business planning information and to produce records and documents in a fashion that enables them to be released to their own employees immediately.

6. Each NHS organisation to set up and encourage the use of an online collaboration tool and for this to be accessible by private and voluntary sector partners and collaborating universities.

7. Relax the tight prevention controls imposed on the use of internet technologies from within the NHS and increase the detection methods to take their place.

8. Each NHS organisation to engage with their front-line teams when designing performance measures and to ensure that information generated from these flows in both directions.

The creative methods used to guide the workshop where employed to allow some of the tacit knowledge of the participants to be expressed. There is a wealth of know-how within the NHS and with good leadership and a shared understanding of what success is we may also develop a good appreciation of know-why, a much sought after resource for making strategic decisions.
6. References


7. Acknowledgements

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Dianne Wake, Executive Director of Nursing and Operations
Stella Clayton, Deputy Director of Organisational Development
Tony Bell, Chief Executive
Appendix 1

Accelerating Adoption/Diffusion of Innovation Plan

Preparations
1. Invite via email a selection of those who have been successful and unsuccessful in adoption and diffusion to attend a one hour workshop.
2. Chase up specific people, referring to their specific innovations, via email.
3. Send out brief details of the meeting, covering letter, background material and a request that they bring an object that in some way reflects their view of the problem.
4. Prepare the string, magnets and scissors for the second task (joining of two suspended strings too far apart to reach both – multiple solutions to be sought). Prepare the canes for the third task (group lowering to the floor).
5. Check camera in working order.
6. Check enough flip chart paper and pens available. White board pens and duster available.
7. Prepare the room layout. Tables arranged in a V with one at the front. Flip chart(s) set up to one side of the white board.

Phase 1 – Study the problem

Divergent phase - ‘Fresh eye’ & networking
1. The problem has already being written down and circulated to all with additional material.
2. All have had time over the weekend to think about the problem and asked to identify an object that represents some part of the problem for them (task 1).
3. Discuss the idea with each and develop or re-interpret it with them.
4. Document all the ideas and photograph the objects.

Convergent phase - Five Ws and H
1. What is/isn’t happening?
2. Who does this problem involve (affected by and/or contributes to)?
3. Where is/isn’t this happening?
4. When is/isn’t this happening?
5. How do we know it is/isn’t happening?
6. Why is/isn’t this happening?

Generate statements that contain aspects of 5Ws & H to describe what we are trying to do.

Task 2: Cut the string. How many ways can be found to reconnect the two strings, if doing this on your own?

Phase 2 - Generate options and screen

Divergent phase - Reversal
1. Reverse statements of what we are trying to do resulting from the first stage.
2. What action do we need to achieve these reverse statements?
3. Use the list to trigger more actions.

Convergent phase – simple rating methods
1. Mark up each option with either √, ?, or a W
2. Mark up each option that received a √ as either simple, hard, difficult
3. Step through each idea and ask for a champion and a supporter.
   • Champions would take the lead on the idea
   • Supporters would help realise the idea
4. List those options that have gained champions and supporters

Task 3: In groups of 3 or more – standing in a line with finger pointing, rest cane on top. Lower the cane to the floor without talking to each other and without anyone’s finger leaving the cane.

Phase 3 - Implementation/action planning

Divergent phase – Bullet proofing
1. Brainstorm around questions like: What might happen if…?
2. Place each area identified on a table plotting how likely against impact for each problem
3. Take the highly likely and high impact section first and identify measures to address them
4. Take highly likely or high impact sections next and identify measures to address them

Convergent phase – implementation checklist
1. Resources
2. Motivation
3. Resistance
4. Procedures
5. Structures
6. Policies
7. Risk
8. Power
9. Clashes
10. Climate
### Appendix 2 – Transcribed Flip Charts and Whiteboard Scribbles

#### Phase 1 – study the problem – convergent

**Table A3.1: Use of Five Ws & H**

<table>
<thead>
<tr>
<th>1. What is/isn’t happening?</th>
<th>4. When is/isn’t this happening?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Not going forward / ideas stuck</td>
<td>• When new starters join the trust full of new ideas – forced into operational services before working up ideas – not given the time</td>
</tr>
<tr>
<td>• Stagnating</td>
<td>• When people move in from private industry with ideas – shocked by how slow things move – told – ‘Don’t hold your breath!’</td>
</tr>
<tr>
<td>• One idea should be leading onto another, it isn’t</td>
<td>• Hierarchy getting in the way</td>
</tr>
<tr>
<td>• The culture is wrong</td>
<td>• If Non-execs have private industry experience, why are they not bringing in an approach to speed adoption of innovation up?</td>
</tr>
<tr>
<td>• Mindsets are wrong at all levels, from Exec to operational staff</td>
<td>• Will the Foundation Trust Governors bring in a new approach?</td>
</tr>
<tr>
<td>• There is no sustainability on spread within the Trust</td>
<td></td>
</tr>
<tr>
<td>• Need to find the people who you can change, otherwise it fails</td>
<td></td>
</tr>
<tr>
<td>• On productive series – expected certain staff to resist – gave them time and it worked</td>
<td></td>
</tr>
<tr>
<td>• The resources are not being made available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Who does this problem involve?</th>
<th>5. How do we know it is/isn’t happening?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Different levels - Exec</td>
<td>• Staff verbalise they are having problems</td>
</tr>
<tr>
<td>• Middle management</td>
<td>• We are not communicating when staff are successful</td>
</tr>
<tr>
<td>• Operational staff</td>
<td>• Values – do the Exec appreciate the importance of some improvements</td>
</tr>
<tr>
<td></td>
<td>• Do middle managers appreciate the importance of some improvements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Where is/isn’t this happening?</th>
<th>6. Why is/isn’t this happening?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• People are working in silos</td>
<td>• The leaders in the Trust do not always believe in the importance of bringing improvements</td>
</tr>
<tr>
<td>• Told there will be problems in theatres with productive series due to surgical teams (it’s like a village) – problems like this haven’t materialised</td>
<td>• They don’t encourage the teams to believe in the importance of bringing improvements</td>
</tr>
<tr>
<td>• Resource constraints vary across the trust</td>
<td>• Leaders need to be leading visibly – ‘walk the talk’</td>
</tr>
<tr>
<td>• Medical consultants – have SPA time. Only some use for research or education (golf?)</td>
<td>• Charismatic leaders needed?</td>
</tr>
<tr>
<td></td>
<td>• National targets take the focus off local improvements</td>
</tr>
<tr>
<td></td>
<td>• There is sometimes a perception problem – expect to be a problem but when communicated properly the problem doesn’t appear to be there</td>
</tr>
<tr>
<td></td>
<td>• Communications about success are not happening</td>
</tr>
<tr>
<td></td>
<td>• The innovation hub doesn’t appear to have any enthusiasm to market our products (should they?)</td>
</tr>
<tr>
<td></td>
<td>• Diffusion thought may be happening but: innovative solutions discussed in conferences and attendees don’t report back to local teams; research published in journals/articles and not read by enough people.</td>
</tr>
</tbody>
</table>