How do innovation and improvements in health and care get adopted and spread? Framework for analysis – for discussion

Summary

Innovation is an idea, service or product new to the NHS or applied in a way which is new to the NHS, which significantly improves the quality of health and care wherever it is applied.

Often adoption and spread requires top-down decisions, as well as bottom-up pressures, to be adopted and spread at scale.

We have developed a possible framework for the adoption and spread of innovation in the NHS. There are three broad areas where alignment is required to get adoption and spread: innovation value, structural fit and cultural fit.

**Innovation value** - relative benefit (ROI/SROI), simplicity / transparency, good business model, trial-ability / prototyping, observability, patient perspective, adaptability

**Structural fit** - strategic priority, compatibility, timing, infrastructure and project management

**Cultural fit** - trust and clinical buy-in, risk management and allowing failure, networks and relationships, champions and leadership, capacity and capability of the workforce

Introduction

1. This conceptual framework for analysis builds upon the summary the published evidence on the adoption and spread of innovation, key policy documents, and the ideas in the NHS CEO’s Innovation Review. It has also draws upon the snowball survey described in a separate document.

2. This framework is a ‘living’ document, to be developed further based upon the experience and insight of clinical and other health service leaders captured in the survey and call for evidence.

3. In thinking about how innovations get effectively adopted and spread within the National Health Service (NHS), we need to clear about:
   - What we mean by innovation in the NHS?
   - What makes for effective demand for innovation in the NHS?
   - What makes for the effective supply of innovation to or within the NHS?
   - How might we promote adoption and spread of innovation in the NHS?

What do we mean by innovation in the NHS?

4. We define innovation in the NHS as: ‘an idea, service or product new to the NHS or applied in a way which is new to the NHS, which significantly improves the quality of health and care wherever it is applied’. That means the innovations
have to be in part new (rather than improvements); have to be taken up (rather than just being a good idea); and have to serve a purpose (or generate value).

5. Innovations come in many different shapes and sizes as the classification and categories below illustrates.

Types and degrees of innovation

6. Innovation is not limited to the laboratory. It also refers to changes in thinking, products, processes, or organisations. Innovations could be in the form of technology (such as mobile healthcare apps); devices (such as the Oesophageal Doppler) or care pathways changes (for example, reducing unnecessary length of hospital stays). Care pathway changes can include the introduction of a new device or use of a new drug.

7. There are different degrees of innovation, with very different consequences. Innovation can be:
   - incremental (building on and improving existing practices), this is closer to what might be called improvement;
   - radical (a completely new approach to solving existing problems), or
   - disruptive (an innovation that creates an entirely new market).

8. We can also recognise a spectrum in the drive for innovation between the more organic, evolutionary uncontrolled approach and more top-down managed approaches. ‘Uncontrolled’ innovation bottom-up or a ‘let a thousand flowers bloom’ approach is very different from more directed diffusion, managed by a ‘parent’ organisation. Often adoption and spread requires top-down decisions, as well as bottom-up pressures, to be adopted and spread at scale.

Stages of innovation

9. We have arrived at a five-stage process of innovation that was used in the online snowball survey, as illustrated in figure 1 below.

Figure 1: Steps of innovation

10. The scope of this review focuses on adoption and spread (or diffusion) of innovations ie stages two to five in figure 1. Whilst it does not look in detail at the level or nature of inventions or ideas it does explore whether new innovations are designed and communicated in a way that is right for the NHS.
11. **Whatever the degree and type of innovation, it has to add value.** That is how we know it is a good idea. In the commercial sector, value is relatively straightforward to measure. In the NHS, we use a range of indicators for improved value - value in health care is ultimately related to health outcomes.

12. Whilst wanting to improve quality and health outcomes – this cannot be at any cost. Indeed, with productivity challenges against a backdrop of rising demographic pressure, cost reduction is a priority for many within the NHS. While innovation can add value for patients and managers, it can also add value to the economy as a whole. This points to the balance of three rationales for innovating in the NHS: quality, productivity and growth.

**Conceptual Framework: pushing and pulling innovations**

13. The NHS CEOs review has identified a number of factors which need to be taken into account in supporting adoption and spread. These include:
   - Common language and metrics
   - Pressure for change
   - Appropriate rewards
   - Organisational cultures supportive of new ideas
   - People with the capacity and capability to promote change
   - Effective data
   - Effective risk management

14. These are consistent the conceptual framework for our analysis see Figure 2. This brings ideas together to enable us to make sense of the huge variety and complexity of innovations and improvements which have been identified in the Regional Innovation Fund applications, snowball survey and from many other sources where no two innovations are the same.

**Figure 2: Possible framework for the adoption and spread of innovation in the NHS**

15. The remainder of this paper looks at what the potential barriers and solutions are for more effective supply of (push) and more effective demand for (pull) innovations. It explores the potential factors that enable good adoption and spread: features of the innovation itself and a mix of both structural and cultural fit between those supplying the innovation and those who might adopt and
spread it. A safe space to grow is thought to be important in proving the value of innovations and getting a good fit, both in terms of structures and cultures.

**What makes for effective demand for innovation in the NHS?**

16. How do these broad reasons to innovate translate into motivations to adopt and spread innovations within NHS practice?

17. The reasons we want to innovate from a system-wide perspective may look rather different from the perspective of individual teams within the NHS, or service users. Recognising these different motivations is important to understand effective demand for innovation. Individuals within the NHS may want to adopt innovations – but that does not necessarily mean they are able to do so (in terms of power, ‘cover’ and/or resource).

18. As a ‘demander’ of innovations, the NHS might play **direct or more indirect** roles in adoption or spread. The NHS might play a role as a direct adopter, bringing in innovations within its core practice, but also as an investor or facilitator of innovations. The NHS might also help innovations adopt and spread through contracting or sharing in-kind resource with other organisations and bodies in different sectors.

19. It is helpful to think about the different motivations for someone who ‘demands’ innovation – or is looking for best practice.
   - At the **national level**, these will be closely allied to the broad rationales of quality, productivity and growth highlighted above. Within these are specific policy objectives, such as increasing patient power.
   - At the level of **individual organisations within the NHS**, the key incentives that might lead to innovation are around key performance measures, including quality and clinical outcomes. Competition with other Trusts could also affect the demand for innovations, whether competition is direct through patient choice, or indirect through peer comparison.
   - For **clinicians and clinical teams** within the NHS, key motivations will be around patient outcomes, but also status and reward and incentives, not necessarily financial.
   - **Patients, their families and representatives** (for example in charitable health groups such as Macmillan Cancer Care), may also demand innovations that improve health outcomes and patient experience.

20. However, unless motivations that might encourage innovations can fit easily alongside other incentives for those that ‘demand’ innovation in the NHS, it will remain hard for innovations to get adopted and spread. Sometimes it can be a case of just too many competing agendas and objectives on the NHS leaders’ plate.

21. Innovation that fits well with the structural incentives and cultures of organisations within the NHS are more likely to be effectively ‘pulled’ by those demanding it, and therefore adopted and spread.

**What makes for effective supply of innovation to the NHS?**
22. Innovations get adopted and spread in the NHS when an effective innovation is supplied that meets the demand for those innovations. However, how these innovations are developed, designed, evidenced, tested and marketed impacts upon their chances getting adopted and scaled.

23. A diverse range of people and organisations might ‘supply’ innovation to the NHS. Alongside commercial suppliers, many will come from within the NHS. Patientses and civil society groups might also come up with ways to add value to the health service – whether in quality or efficiency.

24. What are the key pressures on and motivators for those developing and selling innovation to the NHS? While some individual innovators in the life sciences may be primarily motivated by the advancement of science, prospects of financial or other rewards (in return for managing risk) will be important. For others, in particular clinical practitioners, the key motivators might be professional status and promotion prospects, while the big concerns will be time and risk.

25. Those innovations that have been successfully scaled are those that have been communicated well, had public visibility and are led by and communicated through trusted sources. But above all they have to solve a problem for those that might ‘demand’ it. Better dialogue between innovators and commissioners, providers, clinicians within the NHS might help identify and spot innovations that might help solve the problem. Time to develop, test and prototype innovations is key not only to proving value but getting support. Involving those ‘pulling’ innovations at this stage (co-production) might help increase the chances of innovations getting spread.

Effective supply and demand: initial survey evidence

26. Our snowball survey suggests key barriers for those supplying or demanding innovation in terms of the evidence of their effectiveness and potential savings (value), how they fit with system incentives, payments and commissioning (structures), and in involving, accessing and convincing the right people (cultures). These largely reinforce our analysis of the literature.

Innovation’s value
- 80% of managers agreed that innovators lack convincing evidence of savings. For commissioners of NHS services, National NHS organisations, academics, and civil society organisations, that figure rose to 90%.
- 70% of clinicians, 75% of managers, and 80% of commissioners thought that innovators lack rigorous effectiveness data.
- 68% of commissioners, providers and NHS organisations thought that it was difficult to measure return on investment for an innovation.

Structural fit
- Only small proportions of all stakeholder groups surveyed thought that payments and tariffs encourage adoption and spread of innovation. This was the case for less than 25% of commissioners, academics, clinicians and managers. National NHS organisations were the least likely to think that payment structure supported innovation – just 14%.
- 75% of NHS national organisations and academics thought that there were poor incentives and rewards for those that do adopt innovations.
• 50% of national and academic groups – but 86% of civil society groups – thought that the commissioning processes do not support innovation.

Cultural fit
• Roughly half of respondents thought that innovators had not involved clinicians, patients or family in the design process. More commissioners than providers and more managers than clinicians thought this.
• The vast majority of clinicians, managers and commissioners (79-84%) thought that innovators lacked access to the right people.
• About two-thirds of National NHS organisations and commissioners thought there was resistance from professional groups.

Summary of issues for adoption and spread
27. Previous work on adoption and spread and our initial analysis of the survey data above has confirmed that Innovation Value, Structural fit and Cultural fit are three grounds on which ‘pushing’ and ‘pulling’ innovations can be misaligned.
28. Findings from the NHS Institute have identified relationships, risk taking, resources, knowledge, goals, rewards and tools as dimensions of innovation culture - which supports the conceptual framework set out here.
29. Bringing these ideas together we can break down Innovation Value, Structural fit and Cultural fit into sub categories (see table below) - some of these factors are already very familiar from the evidence and survey findings.

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<thead>
<tr>
<th>Innovation Value</th>
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<td>Trial-ability/Prototyping</td>
<td>Infrastructure and project management</td>
<td>Champions and leadership</td>
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<td>Observability</td>
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<td>Workforce capacity and capability</td>
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30. The framework suggests structural incentives work best when they release the potential value of innovation, and support cultures and behaviours that get good ideas taken up in practice. Whilst less visible, cultural factors and motivations can be hugely important to getting innovations adopted and spread.

Next steps
31. The challenge now is to test and refine this framework in light of the experiences of people responding to the NHS CEO’s Call for Evidence and Ideas. This analysis will be completed by October 2011.

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