

NHS Chief Executive's Review of Innovation in the NHS Summary of the responses to the Call for Evidence and Ideas

December 2011

Executive summary

In June 2011, the Department of Health issued a Call for Evidence and Ideas about how the adoption and diffusion of innovations can be accelerated across the NHS. This was part of the NHS Chief Executive's Review of Innovation in the NHS. This report is a summary of the responses submitted to the Call for Evidence which was carried out by the Young Foundation on behalf of the Department of Health

The Call for Evidence¹ said:

"The NHS has a long and proud track record of innovation stretching back across its 63-year history. However, whilst the NHS is recognised as a world leader at invention, the spread of those inventions within the NHS has often been too slow, and sometimes even the best of them fail to achieve widespread use.

Unless innovations spread beyond pockets of excellence and into everyday practice, the NHS will struggle to produce the improvements in quality and productivity it requires. Therefore the focus of the review, and this report, is on adoption and diffusion rather than invention."

310 responses were received. The responses were drawn from a wide range of organisations, mainly from within the UK. 235 responses contained ideas about what could be done to increase spread. Most were organisational responses and only a few were from individuals. The analysed responses will be available on the Department of Health website.

The majority of the responses welcomed the NHS Chief Executive's Innovation Review and many suggested it was important to look at radical uncomfortable solutions as well as improving existing systems incrementally. The actions (in order of priority) described by respondents were divided into 14 themes:

¹http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_127940

- **Improve horizontal knowledge exchange, networks and links.** Respondents felt that the transmission of innovations happened through networks that cut across geographies and hierarchies, and bridged the gap between the NHS, the private sector, academia and social care. These networks play a crucial role in filtering ideas, assisting with practical implementation, and championing new practices. Supporting and sustaining these networks was a key recommendation.
- **Creating demand by looking more radically at regulation and performance management.** Respondents felt that the demand for innovation could be substantially increased by the correct use of centrally administered regulation. Compliance regimes, use of mandatory guidelines, and innovative commissioning arrangements could all play a part.
- **Improve information and evidence about innovation.** Respondents requested high quality clinical and financial justification for innovations, as well as practical implementation guidance. In an organisation of 1.3 million people, and with more than 500,000 medical articles published per year, matching the right innovation to the right adopter is a huge challenge. Respondents requested a central point where information on innovation could be found.
- **Deliver more clarity and support for the innovation pathway.** Respondents often felt there was a lack of clarity about the pathway that an innovation has to traverse to be accepted by the NHS. Often innovators felt unsure where to take their innovations, unclear about the processes they had to follow and uncertain about what support was available to them. Respondents also felt that skilled support specific to innovation was necessary to success.
- **Innovation needs leadership and promotion at local and national levels.** Respondents noted that diffusion requires tireless promotion and marketing. Innovations need champions both at the top, to raise awareness, and at the grassroots, expending time and effort in

face-to-face persuasion. Clinicians and managers both have crucial roles to play here.

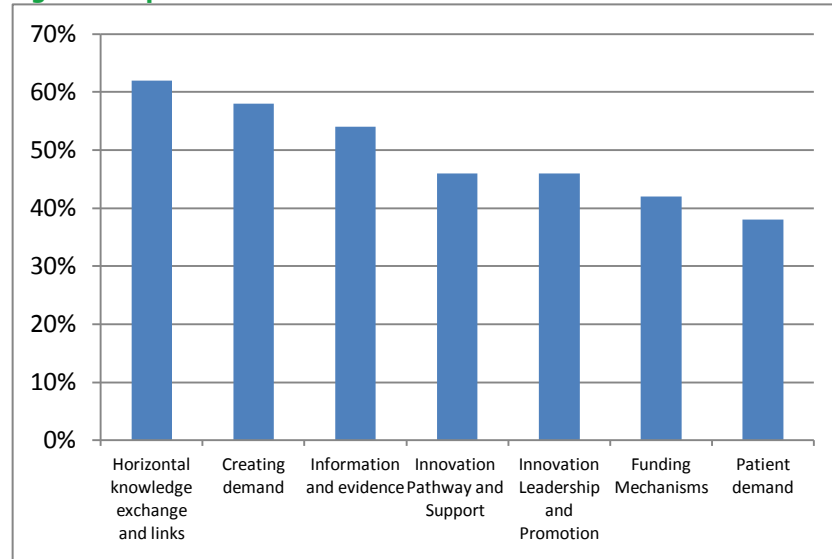
- **Improve funding and budgeting for innovation.** Respondents felt that specialist innovation funding had, and could continue to play a critical role. More generally, respondents identified budgetary silos as a key barrier to innovation, whose costs and benefits often do not fit neatly within existing structures, both within and between organisations.
- **More support needs to be given to increasing systematic patient demand.** Respondents identified patients as an underutilised resource for the diffusion of innovations. When patients are empowered to demand best practice and personalised care, the NHS will have to respond by finding innovative patient-centred solutions.
- **Need to improve supply factors to make ideas visible and transferable.** Supply factors refer to standards and norms that make innovations easier to transfer between locations and across the system. These include benchmark metrics, standardised business cases, use of NHS branding, kitemarking and intellectual property (IP) rules. Respondents felt that there was room for considerable improvement here.
- **Improve incentives and rewards for individuals.** Respondents felt that innovators, and those who adopted innovations, needed to be better incentivised and rewarded for their work. Without recognition through awards or incentives as part of their job, it is difficult to find the time to adopt and diffuse innovation.
- **Increase training, education and staff development around innovation.** Respondents identified the lack of relevant skills within the NHS around innovation. Producing reliable business cases, calculating return on investment and other such skills are not normally part of employees' jobs – training in this would help the uptake of innovation.
- **Alter or maintain organisational structures to aid innovation.** A number of respondents noted that certain organisational structures are supportive of innovation. For innovation to flourish, organisations as well

as individuals need the correct incentives, and organisations that support innovations need to be maintained or developed.

- **Engage staff in the innovation process.** Respondents felt that to ensure innovations were successfully adopted and diffused staff needed to be consulted and communicated with more effectively. There was also an acknowledgement that for some innovations to spread effectively staff needed to be campaigned to or involved in the design and implementation of the innovation.
- **Improve the procurement of innovations.** A range of issues were identified by respondents regarding the procurement of innovation. In general there was the feeling that there could be significant improvements in this area – around greater transparency in the process and the advantages of a centrally procuring or in greater volumes.
- **Use failure as a learning process.** Respondents felt that attitudes to failure within the NHS were not aligned with the realities of innovation. Most innovations will fail or not deliver what was expected, the process should be used as a learning tool.

The relative 'popularity' of these themes in the responses is illustrated in the graph below.

Figure 1 Top seven ranked actions



The popularity of these actions across all sectors and different types of organisations was very consistent. Most of the actions identified in the Call for Evidence and Ideas are about improving existing systems. However, there may be instances where disruptive innovations require new systems, new rules or new organisations.

Overall the responses to the NHS Chief Executive's Call for Evidence and Ideas demonstrated a wealth of originality and thoughtfulness about these important issues from both inside and outside the NHS, and contain a host of useful and actionable suggestions.

Contents

1	Introduction	6	7.4	Innovation pathway support.....	29
1.1	What is innovation?	6	7.5	Innovation leadership and promotion.....	33
1.2	Innovation pathways and process	6	7.6	Funding and budgeting	36
1.3	Scope of the review	7	7.7	Patient demand.....	39
2	Open Call for Evidence and Ideas.....	8	7.8	Supply factors.....	42
3	Submitted literature	9	7.9	Individual incentives and rewards.....	45
4	What makes adoption and diffusion happen	10	7.10	Innovation education, training and staff development.....	48
5	Methodology.....	11	7.11	Organisational structures and change	51
5.1	Responses and organisations	11	7.12	Staff engagement.....	54
5.2	Coding	12	7.13	Procurement.....	57
5.2.1	Coding framework.....	12	7.14	Risk management and failure.....	58
5.2.2	Coding and quality control	12	8	Discussion.....	59
5.2.3	Excluded responses.....	12	Appendix A:	Summary of literature supplied	60
6	High level summary	13	Appendix B:	List of respondents.....	70
6.1	Main themes in the Open Call for Evidence and Ideas.....	13	Appendix C:	Detailed description of methodology.....	75
6.2	Specific actions identified by respondents.....	13	Appendix: D	Glossary.....	77
6.3	Organisational viewpoints	15			
6.4	Comparisons between the NHS and Industry	16			
7	Main areas for action to accelerate adoption and diffusion	17			
7.1	Horizontal knowledge exchange and links.....	18			
7.2	Creating demand including regulation and performance management.....	21			
7.3	Information and evidence about innovation.....	26			

1 Introduction

The Plan for Growth² announced that the NHS Chief Executive would review how the **adoption and diffusion of innovations** could be accelerated across the NHS. The NHS Chief Executive asked Sir Ian Carruthers OBE to lead and coordinate delivery of this initiative. As part of this, the Department of Health issued an Open Call for Evidence and Ideas about what actions would help the spread of innovation across the NHS.

The Call for Evidence and Ideas noted:

"The NHS has a long and proud track record of innovation and creativity stretching back across its 63-year history. However, while the NHS is recognised as a world leader at invention, the spread of those inventions within the NHS has often been too slow, and sometimes even the best of them fail to achieve widespread use."

The health and social care system is of great importance to the UK economy. By improving health and welfare outcomes, it generates greater economic activity that is then reflected in the strength of the economy. The NHS is the largest UK purchaser of products and services from the healthcare and life sciences sectors, and part of this spending benefits UK companies and employees. So the degree of NHS success in adopting and diffusing innovation has a material impact on the UK economy.

Staff in the NHS, academia, industry and the third sector have invented new technologies, processes, tools and better ways of working that drive quality and value in the NHS. Responses to the Call for Evidence and Ideas have identified consensus across all stakeholder groups in

² *Plan for Growth*, HM Treasury and Department for Business, Innovation and Skills, March 2011 (http://cdn.hm-treasury.gov.uk/2011budget_growth.pdf)

the key themes to support adoption and diffusion across the NHS.

Why is innovation important?

All modern healthcare is founded on past innovation. The development and implementation of new ideas is recognised as essential to the future of the NHS and will contribute significantly to the UK economy because:

- Innovations in healthcare improve and extend millions of lives.
- Innovation connects and drives quality and productivity in the NHS.
- Innovations in healthcare support the UK economy and science and engineering in particular.

The challenge is to achieve the systematic adoption and diffusion of innovations at pace and scale.

1.1 What is innovation?

Innovation is the successful implementation of new ideas. We define the term innovation as:

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

An innovation may be incremental (building on and improving existing practices), radical (a completely new approach to solving existing problems), or revolutionary (an innovation that creates an entirely new and unexpected market). Innovation is not just about the originating idea, but also the whole process of the successful development, implementation and spread of that idea into widespread use.

1.2 Innovation pathways and process

The innovation development process is infinitely varied. There are

different innovation pathways for drugs, devices, software and service change each involving different users, safety standards, funders and regulators.

Whatever the innovation, there are three main stages:

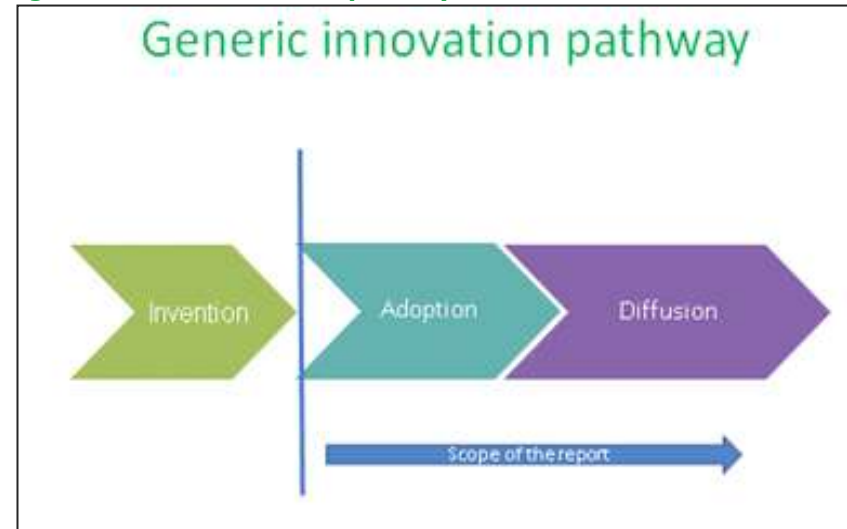
1. **Invention** (or identification) – finding new ways of doing things;
2. **Adoption** (including prototyping and evaluation) – testing new ways of doing things and putting into practice;
3. **Diffusion** (or spread) – systematic uptake or copying across the service.

This is illustrated in Figure 2.

1.3 Scope of the review

The NHS is very good at invention, but the spread of those inventions within the NHS has often been too slow, and sometimes even the best of them fail to achieve widespread use. For that reason, the focus of this Review is on adoption and diffusion, rather than the invention stage of the innovation process.

Figure 2 Generic innovation pathway



This report describes and summarises the actions suggested by respondents to the Open Call for Evidence and Ideas to support the spread of innovations in the NHS in England.

2 Open Call for Evidence and Ideas

To allow the broadest range of people to contribute to the review, the Department of Health issued a Call for Evidence and Ideas. This asked what actions the government, the Department of Health, NHS Commissioning Board, NHS, industry or other sectors might do to accelerate the spread of innovations in the NHS.

Contributions were actively sought from organisations and individuals. The Call for Evidence and Ideas was widely publicised to the NHS, industry and other partners through a number of newsletters and personal invitations.

The Call for Evidence and Ideas was 'live' between 30 June and 31 August 2011 and responses were accepted up until the end of October 2011. Respondents were asked to answer five questions in free text using an online form and to include any literature which they had found valuable. Respondents were asked for details of themselves and their organisation and if they would be willing to allow their response to be published electronically.

The five questions that people were asked to respond to are given in the box.

QUESTIONS ASKED IN THE CALL FOR EVIDENCE AND IDEAS

Learning from elsewhere about adoption and spread: 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? Please include relevant examples, published papers or other evidence you have found useful.

Actions at national level in the NHS: 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?

Actions at a local level in the NHS: 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?

Actions by NHS Partners: What specific actions do you believe others, such as industry, academia, patient groups or local authorities could take to accelerate adoption and spread of innovation, and what might encourage them to do so?

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

3 Submitted literature

This section describes the literature sent in by respondents in the context of the wider academic literature on the adoption and diffusion of innovation.

There is broad, yet not extensive, published literature regarding the adoption and diffusion of innovations. Literature about adoption and diffusion in the public sector is scarce, and there is even less literature specifically in the field of healthcare. Indeed, academics recognise this gap, that the introduction of innovations to healthcare is recognised as a complex process.³

The majority of the published papers are about drugs and medical technology, where small discreet changes have been achieved. There is less written about making and spreading improvements and innovations to care pathways.

One of the most quoted and leading researchers on innovation is *Rogers* (1995) who identified 6 key innovation attributes which have empirically shown to mediate diffusion.

- **Relative advantage** – the degree to which an innovation is perceived as being better than the idea it supersedes;
- **Compatibility** – the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters;
- **Trialability** – the degree to which innovations can be piloted before full adoption;
- **Visibility and observability** – the ability to see the benefits of an innovation;
- **Timescale** – this includes the timing of introduction, and the time it take to adopt an innovation;

- **Communicability** - the process by which participants create and share information with one another to reach a mutual understanding.

In a landmark systematic literature review, *Greenhalgh et al*⁴ (2004) built on Rogers research. They said that *'innovation must be diffused by means of planned and co-ordinated action by individuals, teams or organisations. The spread of innovations was a passive process of social influence, not an event.'*

Respondents submitted forty three pieces of supporting literature and many more provided electronic links, and/or references to published or grey literature. A list of the literature submitted is given in abstract form at Appendix A.

The grey literature submitted was, on the whole, very helpful. It is important to note that grey literature, as a body of knowledge, is not widely available, so many of the insights of the work done within the NHS and through its partners is not shared or learned from.

³ Fleuren et al (2004), Determinants of innovation within health care organisations, International Journal for Quality in Health Care, Volume 16, Number 2, p107-123

⁴ Greenhalgh et al, (2004), How to spread good ideas: A systematic review of the literature on diffusion, dissemination and sustainability of innovations in health service delivery and organisations

4 What makes adoption and diffusion happen

Spread of innovation has never been more important to the NHS. A prerequisite for successful adoption and diffusion of innovation is: first, a *supply* of new ideas, services or products that can be seen to improve quality and productivity in existing systems; and second, a *demand* for those new ideas, services or products from organisations or individuals/patients throughout the NHS.

On the supply side, establishing the 'added value' of an innovation is critically important; not every idea deserves to be replicated, even if it is safe. Those that are unable to clearly demonstrate improvements in quality of care and productivity are unlikely to be taken up. Added value might be reflected in clinical or other outcomes, including quality measures; the patient experience, timeliness and safety of care, and reduction of inequalities; and productivity and cost reduction. Together these make up the 'value proposition'.

On the demand side, potential adopters of an innovation need to be aware of its potential advantage, have the capacity to implement it, and to follow through with the changes to working practice, roles and even locations of service that may be necessary to realise its full potential. Most product innovations will have service implications, as indeed many service innovations will need the support of an enabling technology. Often this will require actively decommissioning the products or services that the innovation replaces.

The potential added value of an innovation, the ease of its implementation, and the visibility of its impact can all have a powerful influence on the rate of diffusion.

Diffusion works most effectively through the interaction of three sets of forces that help create the *demand*, which is a prerequisite for effective adoption of proven innovations:

- **Bottom up** pressures – patient pressure, professional and managerial enthusiasm;
- **Horizontal** pressures – peer influence, transparent reporting, collaboration, competition and effective marketing from external suppliers;
- **Top down** pressures – through centrally imposed requirements, regulation and incentives; and support, such as guidance and skills development.

A combination of all three sets of forces is likely to be most effective in both achieving more rapid adoption and diffusion of established and proven innovations, and developing a more sustainable culture of innovation throughout the NHS.

5 Methodology

This section sets out the methodology that was used by the Young Foundation on behalf of the Department of Health for analysing the 310 responses to the Call for Evidence and Ideas. It includes short descriptions and summaries of:

- Respondent organisations;
- Themes emerging from the analysis of responses;
- Specific actions identified by respondents.

The analysis within this report does not attribute any responses to individuals or organisations.

5.1 Responses and organisations

310 responses were received in total. Of these, 67 responses came solely through the online form as an email submission, while the remaining 241 were submitted directly by email to a dedicated health innovation mailbox. A list of organisations that responded is given in Appendix B.

Of the 310 responses received, 235 (76%) were fully analysed to identify the actions proposed to increase adoption and diffusion.

Table 1 gives the summary of respondents categorised by type of organisation. The organisational definitions used are also included in the table. Organisational types were coded using self-reported information in the online form and emails provided in their submission or using the self-coding in the online form which had a set of organisation types to choose from. To ensure consistency, responses were allocated into groups based on their submission. Nine respondents could not be categorised and were classified as un-attributable, as they did not give sufficient information.

Table 1 Organisation by type

Organisation type	Definitions	Received N=310	Analysed N=235
NHS local organisation e.g. FTs, PCTs, CCG	Providing or commissioning services	63(20%)	40(17%)
NHS Systems e.g. HIECs	Covering a geographical area or multi-organisation	38(12%)	33 (14%)
NHS National e.g. NICE	National NHS organisation	19 (6%)	14 (6%)
SHAs		11 (4%)	9 (4%)
NHS Total		131 (42%)	96 (40%)
Industry (med tech and diagnostics) ⁵		38 (12%)	29 (12%)
Industry (other)	Consultancies	34 (11%)	31 (13%)
Industry (pharma)		14 (5%)	11 (5%)
Industry Total		86 (28%)	71(30%)
Academic Institute		21 (7%)	17 (7%)
Government Body	E.g. BIS	6 (2%)	5 (2%)
Individual		17 (6%)	8(3%)
Other	non-attributable	9 (3%)	5 (2%)
Professional Body	E.g. Royal Colleges	16 (5%)	14 (6%)
Voluntary/charitable		25 (8%)	19 (8%)

The majority of responses (70%) came either from the NHS (42%) or industry partners (28%). Another 22 per cent came from voluntary, academic, government organisations and professional bodies leaving

⁵**Industry responses (medical technology and diagnostics)** have been analysed as a single group because a number of organisations provided responses which covered both med tech and diagnostics in a single submission. Therefore, the threshold for analysis was met by bringing the two sectors together.

6 per cent from individuals and 3 per cent which were not attributable to a specific organisation type.

5.2 Coding

This section provides an overview of the coding methodology for the analysis. A more detailed explanation is given in Appendix C.

The responses came in a wide variety of free text formats. Analysis of the free text used standard qualitative analysis techniques to identify and categorise a wide range of different actions to help the adoption and diffusion of innovation.

5.2.1 Coding framework

A 'coding framework' was developed based on the themes that emerged from a rapid 'snowball' online survey⁶ on innovation carried out between April and May 2011. The initial coding framework was tested and refined using the first forty responses to the Open Call for Evidence and Ideas and resulted in 14 high level themes. Each of the high level codes was further divided into sub-categories. A full breakdown of these categories' definitions is provided in Section 7.

5.2.2 Coding and quality control

Respondents were free to identify as many actions as they thought appropriate, and there were multiple actions in many responses. All actions were coded, but multiple comments about the same type of action were only counted once.

To ensure consistency in coding, 10 per cent of responses were double coded by different analysts and compared on a weekly basis. In addition, all 'complex' responses were double coded. Complex

responses were defined as those that were over ten pages long or particularly detailed; identified prior to analysis or flagged as complex by the coder.

5.2.3 Excluded responses

Seventy five responses were excluded from analysis for a variety of reasons, leaving 235 that were coded. The reasons for exclusion included:

- Duplicates of responses already received;
- Technical issues raised, e.g. how to submit their response;
- Requests for information or funding;
- Short non-specific responses;
- Promoting individual products.

One response was received too late to be included within the analysis.

⁶ The 'snowball survey' was an online survey commissioned by the NHS Life Sciences Innovation Delivery board looking at how to best spread innovation through the NHS.

6 High-level summary

The free text and online responses were coded to identify 63 different actions proposed by respondents. These are listed below, in 'popularity' order- the frequency with which each was mentioned.

6.1 Main themes in the Call for Evidence and Ideas

The 63 specific actions given above were grouped into 14 higher-level themes which are described in Table 2. These are again in 'popularity' order - the frequency with which each was mentioned by the 235 respondents.

Table 2 Ranked themes for action

Rank	Actions	Frequency	N=235
1	Horizontal knowledge exchange & links	145	62%
2	Creating demand	136	58%
3	Information and evidence	128	54%
4	Innovation pathway and support	109	46%
5	Innovation leadership and promotion	107	46%
6	Funding and budgeting mechanisms	98	42%
7	Patient demand	90	38%
8	Supply factors (language & metrics)	85	36%
9	Incentives and rewards (for individuals)	64	27%
10	Training, education & staff development	61	26%
11	Organisational structure and change	60	26%
12	Staff engagement	44	19%
13	Procurement for innovation	39	17%
14	Risk management	33	14%

The following are worth noting:

- *Horizontal knowledge exchange and links, creating demand and information and evidence* were all cited in more than 50 per cent the responses;
- *Innovation pathway support, innovation leadership and promotion and funding and budgeting mechanisms* were cited in more than 40 per cent of the responses;
- *Staff engagement, procurement for innovation and risk management* were all cited in less than 20 per cent of the responses.

6.2 Specific actions identified by respondents

Each one of this long list of actions given in Table 3 is described in Section 7 of this report. Associated actions proposed by respondents are also given in this section together with quotes and quantified analysis of the data.

The most popular action was the creation of and support for more *horizontal knowledge exchange* (35%), followed by *compliance* (31%), *links with industry* (29%), and *innovative commissioning structures and tariffs* (26%). These together with *local promotion of innovation, links beyond the NHS, a visible, coherent pathway and individual awards and recognition* were all cited by more than 20 per cent of the organisations responding.

Table 3 Specific actions identified by respondents

Title	Frequency	Percentage (n= 235)
Horizontal networks (in NHS)	82	35%
Compliance	74	31%
Links beyond NHS (with industry)	69	29%
Innovative commissioning structures and tariffs	60	26%
Local promoters -learning from top performers,	54	23%
Links beyond NHS (other)	53	23%
Visible and coherent innovation pathway	52	22%
Awards, recognition, visibility	50	21%
Resources (time, methodologies and processes)	46	20%
Patient pressure (including lobbying groups)	43	18%
Clinical evidence	43	18%
Links beyond NHS (academia)	42	18%
Clear metrics (benchmarks, standardised business case)	41	17%
Top level message regarding innovation	40	17%
Innovation funds (e.g. RIF, transformation funds etc.)	40	17%
Procurement	39	17%
Joined up budgets between NHS organisations	37	16%
Central and visible database of innovations	36	15%
Financial evidence	33	14%
Frontline workforce training and development	32	14%
Performance management (creating pull)	30	13%
Patient design/prototyping process	29	12%
Evidentiary standards	29	12%
Local commissioning plans (e.g. CQUIN)	27	11%
Availability of evidence (NHS evidence)	24	10%
Common and high quality IT infrastructure	23	10%
Attitudes to failure	22	9%
Time scale	21	9%
Links beyond NHS (Local Authorities)	20	9%
Managerial training and development	19	8%
Joined up budgets within organisations	18	8%
Implementation guidelines	18	8%
Intellectual property framework	18	8%

Organisational structures	18	8%
Middle / local management innovation support	17	7%
Increase local autonomy and adaptation	17	7%
Public data transparency	16	7%
Compliance	16	7%
Innovation / productisation skills	16	7%
Joined up budgets between NHS and social care	15	6%
Access to users (e.g. for prototyping)	15	6%
High-level backing of particular innovation	14	6%
Communication with staff	14	6%
Co-design	14	6%
Brokerage of relationships	13	6%
Clear language around innovation	13	6%
Difficult process of disruptive change	13	6%
Organisational incentives to innovate	13	6%
No decision about me without me	11	5%
Commissioners training and development	11	5%
Public communication	10	4%
Unified voice on issues that innovation is to address	10	4%
Data transparency	9	4%
Mentoring and morale	9	4%
Kite marking approved innovations	8	3%
Better fit with existing NHS standards and processes	5	2%
Consultation	5	2%
Monitor	4	2%
Ethics approval (and similar processes)	4	2%
Campaigning with staff to encourage uptake of innovation	4	2%
Clarity of requirement about what industry should provide	3	1%
Patient-related outcome measures; PROMS	1	0%
IT literacy	1	0%

6.3 Organisational viewpoints

This section explores differences in frequency of response by theme between different organisation types.

The table opposite gives the ranking of themes for each organisation type. The ranking is fairly consistent across organisational types. Outliers, actions rated significantly higher or lower by one group compared to others, are identified in **yellow**.

Horizontal knowledge exchange networks, creating demand, better information and evidence and pathway support ranked in the top four places for most types of organisation. The main differences are as follows:

- Academic institutes ranked incentives and rewards for individuals much higher than other organisations;
- Improving demand was less important for the NHS;
- Industry ranked procurement higher than other groups;
- Professional bodies and industry ranked funding and budgeting mechanism higher than others;
- The voluntary sector ranked patient demand and training and education of staff higher than other sectors.

Table 4 Ranking of themes by organisation type⁷

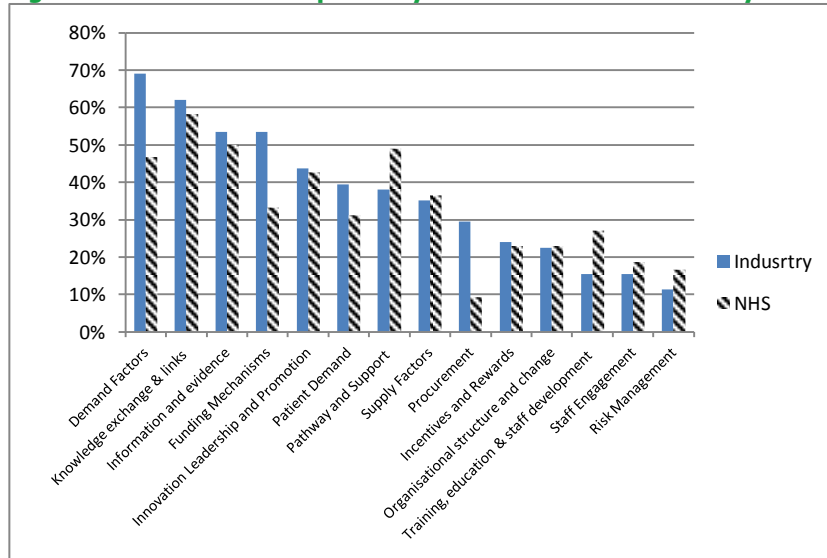
Org. type Area	Overall N=235	Academic institutes N=17	NHS N=96	Industry N=71	Professional bodies N=14	Voluntary sector N=19
Horizontal knowledge exchange & links	1	1	1	2	2=	3
Creating demand	2	3=	4	1	2=	1
Information and evidence	3	3=	2	3=	1	2
Innovation pathway and support	4	6	3	7	2=	5=
Innovation leadership and promotion	5	3=	5	5	6=	5=
Funding and budgeting mechanisms	6	7=	7=	3=	2=	5=
Patient demand	7	7=	7=	6	6=	4
Supply factors (transferability)	8	7=	6	8	6=	10=
Incentives and rewards (for individuals)	9	2	10=	10	6=	9
Training, education & staff development	10	10=	9	12=	6=	5=
Organisational structure and change	11	12	10=	11	11=	10=
Staff engagement	12	10=	12	12=	11=	13=
Procurement	13	14=	14	9	13=	12
Risk management	14	14=	13	14	13=	13=

⁷= signifies where rankings are jointly placed.

6.4 Comparisons between the NHS and industry

NHS (96 submissions) and industry (71 submissions) accounted for 70% of all responses. This section compares these responses.

Figure 3 Differences in response by theme in NHS and industry



Overall, the responses were consistent between the two groups, with one or two notable differences. NHS respondents felt that *creating demand*, *procurement* and *funding mechanisms* were less important than industry and instead, highlighted the *innovation pathway* as an important area for action.

The tables below highlight the specific actions most commonly cited by NHS and industry. NHS respondents were interested in horizontal networks and local promoters. Industry had a clear

focus on creating *links between the NHS and Industry* and *compliance* (centrally mandating actions).

Table 5 10 most frequent specific actions (NHS)

Actions - NHS	Frequency N= 96
Horizontal networks (in NHS)	46 (48%)
Local promoters	32 (33%)
Visible and coherent innovation pathway	28 (29%)
Resources	25 (26%)
Links beyond NHS (industry)	25 (26%)
Compliance	25 (26%)
Links beyond NHS (academia)	23 (24%)
Links beyond NHS (other)	23 (24%)
Central and visible database of innovations	22 (23%)
Patient pressure (including lobbying groups)	21 (22%)

Table 6 10 most frequent specific actions (industry)

Actions - industry	Frequency N=71
Links beyond NHS (industry)	33 (46%)
Compliance	33 (46%)
Innovative commissioning structures and tariffs	26 (37%)
Procurement	21 (30%)
Top level messaging regarding innovation	19 (27%)
Joined up budgets between NHS organisations	18 (25%)
Patient pressure (including lobbying groups)	15 (21%)
Performance management (creating pull)	14 (20%)
Awards, recognition, visibility	13 (18%)
Clear metrics (benchmarks, standardised business case)	13 (18%)

7 Main areas for action to accelerate adoption and diffusion

For the remainder of this report, comments are based solely on the 235 analysed responses.

Organisational groupings with very small numbers - government bodies (5 responses), individuals (8 responses) non-attributable (5 responses) - were excluded from the charts that follow as they were considered likely to be unrepresentative and therefore misleading in the case or too small to give any meaningful analysis.

This section explores the 235 analysed responses categorised by 14 themes described in earlier sections, in turn. For each, information is provided regarding:

- Explanation of key theme
- Identifiable actions
- Citation frequency
- Quotations from responses (all quotations are reproduced anonymously as they appeared in the original submission)

Overall the similarities between responses are much greater than the differences.

Comments on outliers, comparisons and points of interest are provided where appropriate.

7.1 Horizontal knowledge exchange and links

Horizontal knowledge exchange and links comprised specific actions around the need for greater cooperation and knowledge exchange within the NHS and outside it. These were the most commonly cited actions by respondents – 62 per cent of the 235 responses mentioned actions in this area. This totalled 266 different comments within two main areas. The definitions and actions linked to *Horizontal knowledge exchange and links* are given in table 7 below.

Table 7 Definitions and actions – Horizontal knowledge exchange and links

Horizontal knowledge exchange	Citation frequency	Specific actions
Develop horizontal knowledge exchange networks (in NHS) which cut across geographies and reporting lines for the transmission and facilitation of innovation	82 (35%)	<ul style="list-style-type: none"> • Knowledge-sharing networks as part of showcasing or trialling innovations where Trusts are trialling new technologies to encourage visits from other Trusts to learn about the new technology. • Local multidisciplinary, multi agency steering groups for NHS partners (chaired by a lead scientist) could provide the governance structure to drive the spread and adoption of innovations. • Create multi-disciplinary innovation peer review support teams.
Develop cooperative knowledge sharing beyond NHS with: Local authorities Academia Industry Others	20 (9%) 42 (18%) 69 (29%) 53 (23%)	<ul style="list-style-type: none"> • Ensure senior level involvement in partnerships with industry to help overcome mistrust of the private sector in the NHS. • Industry sector representation on the NCB through an innovation member • Involve industry in care pathway and service redesign. • Innovation partnerships, such as mutual social enterprises, to bring together all innovation stakeholders: NHS organisations; patients and industry to promote develop innovative services and new products. <p>Organisations should more routinely send groups of staff on fact-finding and learning missions to other organisations and sectors to bring in new knowledge to the organisation related to key priorities.</p>

This graph shows the proportion of responses for each organisational type which mentioned the importance of more horizontal knowledge exchange and links compared to the total in the group, and gives an indication of the relative importance of this theme to the group.

Academic institutions and SHAs were the most concerned with horizontal knowledge exchange as a proportion of their total responses. The voluntary sector and industry (med tech & diagnostics) responses were proportionately the least concerned.

Figure 4 Horizontal knowledge exchange responses by organisation type

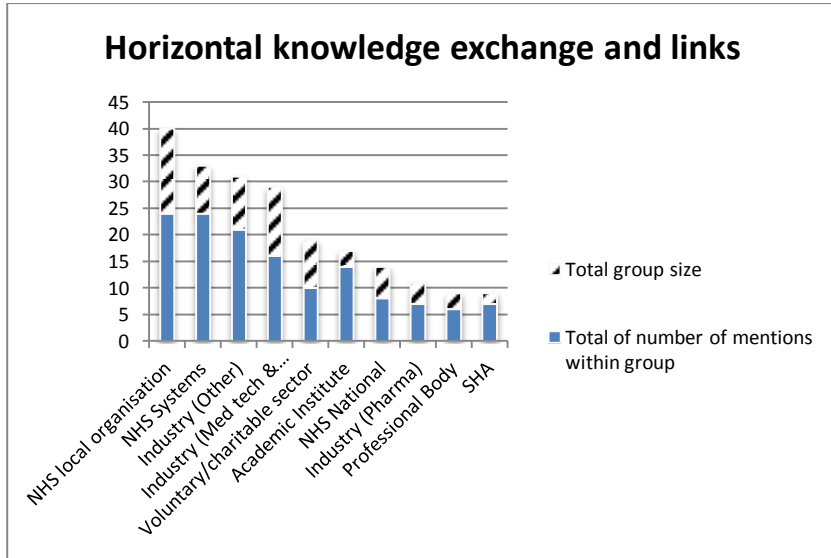
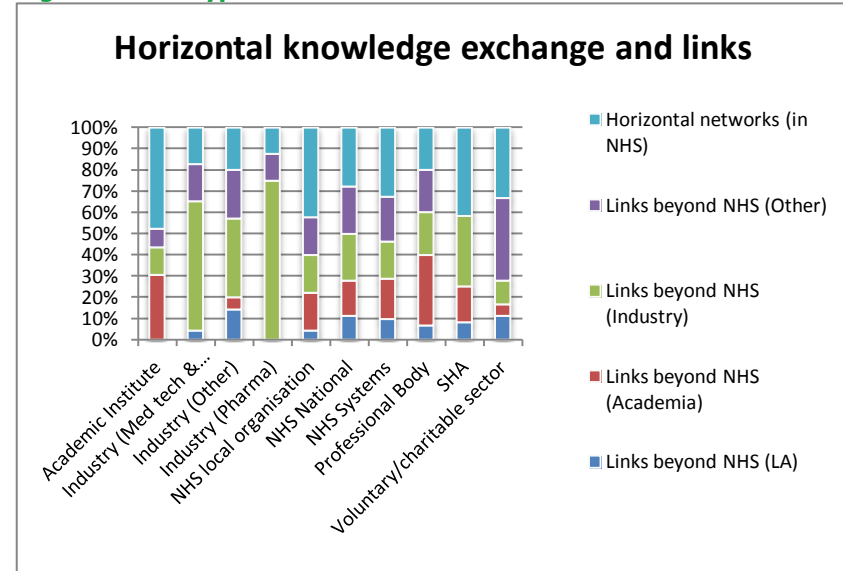


Figure 5 shows the make up of the responses for each organisational type, comprising 5 different types of horizontal knowledge exchange. The NHS and professional body responses were 'balanced', mentioning all sectors, but industry responses did not mention academic links.

Figure 5 Components of horizontal knowledge exchange by organisational type



The need for more *horizontal networks* within the NHS was the top overall action identified by respondents appearing in 35 per cent of responses. This action came out most strongly in NHS responses (their top action, 48%). Industry identified *links beyond the NHS with industry* as their top action (46%) and this was reflected in this actions position as the third most commonly cited action over all groups (appearing in 29% of responses).

The following quotes from the responses concern **horizontal knowledge exchange and links**:

"Create support networks both formal and informal e.g. support the creation of 'Early Adopter Groups' across local networks and facilitate their work"

"Get buy-in from professional bodies, such as the royal colleges, from an early stage so that innovation and its adoption is included in their education programmes"

"The DH needs to support the creation of a forum for the collation, dissemination and implementation of innovation."

"The centre should rationalise the current landscape for innovation, creating local innovation networks that will counter-balance the centralising focus currently evident in the reorganisation of the NHS and maintain local engagement for innovation."

"Continue to support the development of local, regional and national networks for the trailing and spread of innovations."

"The NHS is a major economic influencer. To optimise the impact on health improvements and to the economy, it would benefit from a greater alignment of the efforts of NHS, Local Authorities, LEPs and others to create a healthier population and workforce."

"Local Authorities need to be able to work seamlessly across the silos that separate them from hospital care."

"There is an opportunity here for universities to look at providing further education around the whole concept of innovation."

"Academia & industry could be encouraged to manage an 'Innovation Ideas' process – which focuses on solving a 'real' NHS problem."

"Industry plays a key role, not only as a key source of new innovations but in facilitating the uptake of innovation and providing a mechanism for the dissemination of information and best practice across the system...However, industry is often seen in a negative light by the NHS, access to the right customers is often difficult and highly regulated and the willingness to engage or collaborate is often very low. The poor recognition that industry plays in bringing innovations to the NHS is often felt and more appreciation and willingness to engage is needed."

"The relationships between industries and the public sector are less than optimal. We need to develop our relationships, ideally into more collaborative and partnership type arrangements; we should only work to develop things that hold the promise of delivering genuine value to the NHS, offering real improvements."

"We think that improved cooperation within the NHS and between the NHS and other sectors is critical here. Innovation is not developed in isolation. It comes from a range of stakeholders working together to develop solutions. The mechanisms for this are currently too hierarchical and formal, and often reflect suspicions amongst different stakeholders within the NHS"

7.2 Creating demand including regulation and performance management

Actions identified to create more demand by respondents centred on stimulating the market for innovation within the NHS through central guidance and changes to commissioning structures. Creating demand was the second most commonly cited theme—appearing in 58 per cent of responses. The definitions and actions linked to creating more demand are given in the table below. NHS respondents ranked this the fourth most popular action whereas industry regarded it as the most important (1); for the voluntary/charity sector and professional bodies it came second and the academic sector third. There were 245 different comments within eight different areas.

Table 8 Definitions and actions linked to creating more demand

Creating pull (regulation and performance management)	Citation frequency	Specific actions
<p>Compliance—The need for greater compliance in regards to the adoption of particular innovations through guidelines, NICE, operating framework, commissioning framework etc.</p>	<p>74 (31%)</p>	<ul style="list-style-type: none"> • Where there are proven improvement methodologies the NHS should be required to implement the improvement, like a business would do. Implementation should be compulsory, and adopting new practice should be part of their operating plan rather than discretionary. • Where a technology is put forward as a recommendation, with a defined and guaranteed saving, the budget should be reduced by this amount after 2 years, regardless of the trust’s decision to adopt or not. • Develop a ‘deliver or explain regime that requires organisations to explain their failure’ to adopt effective practices if they have below-median performance (this will continually raise median performance). • NICE guidelines should be compulsory, and immediately reflected in the formulary. • Introduce national CQUIN’s for a range of therapies to incentivise national behaviour, ensure equality of access for patients, and drive better patient outcomes. • Pharmacy Voice seeks more national guidance, in the form of service frameworks; the multiplicity of specifications and accreditation requirements in the current system has stifled delivery, and created unnecessary barriers to patient care. • Have a national mechanism to consider disruptive innovation.

<p>Innovative commissioning including tariff ; actions around commissioning structures and tariffs to encourage the adoption and diffusion of innovation e.g. outcome-based commissioning</p>	<p>60 (26%)</p>	<ul style="list-style-type: none"> ● Commission for outcomes rather than processes. Outcome based incentives, rather than ones that assume and entrench a particular architecture, are particularly valuable here. ● Improve commissioning practice and make the tariff more sensitive to innovation: <ul style="list-style-type: none"> ○ NCB to commission innovative approaches at a national level: ○ Include incentives for innovation in the commissioning process including explicit funding within contracts; ○ Support the development of local commissioning to meet national targets on innovation. CCGs should be supported to develop their own strategies for delivering their duty to promote research in innovation, and meet nationally set targets. Hospital tariffs and the routes by which services are commissioned should be used to drive innovation and remove such barriers; ○ Improve the national tariff's ability to reward innovation. The national tariff has often proved a blunt instrument in accommodating innovation in specialist treatment. As the scope of the national tariff is extended, it is therefore crucially important that more robust arrangements are put in place; ○ Improve the transparency and process around the national tariff. The role of the NCB in tariff development should be expanded to provide that leadership by merging the roles into a single National Tariff Office. The National Tariff Office should therefore be a joint activity between the Board and Monitor; ○ Improve commissioning for rare diseases, and for medicines and devices that are as yet not approved by NICE. National commissioning for rare diseases and orphan drugs to reduce geographic variation, bureaucracy and delays in accessing treatments which are only accessible through IFRs, as they fall outside the review of NICE.
<p>Performance management; NHS organisations should explicitly performance manage the implementation of certain innovations, or of behaviours likely to improve the spread of innovations</p>	<p>30 (13%)</p>	<ul style="list-style-type: none"> ● CEOs should be incentivised, in part, on the basis of the value added to the organisation by improving the processes of care. This requires a focus on the true value chain within the organisation (the delivery of clinical care) and would reflect the aim of government reforms to develop a more clinically-led NHS. ● Each NHS Foundation Trust and CCG should have an innovation scorecard as part of their performance metrics. Greater weight should be given for successful adoption and championing of innovations. ● NCB should place a requirement on CCGs to evidence their approach to promoting the adoption and diffusion of innovation at scale and pace as part of the accreditation and authorisation process. ● CCGs must implement their duty to promote innovation in the provision of healthcare which could be embedded in performance management mechanisms across all levels of the NHS.
<p>The use of local commissioning plans to increase the uptake of innovations. (e.g. CQUIN)</p>	<p>27 (11%)</p>	<ul style="list-style-type: none"> ● A CQUIN that drives innovation would reward providers that implemented national clinical guidelines. ● Ensure consistency across CCGs. There is a danger that variations in the adoption of innovative medicines will be exacerbated by fragmentation at a local level through the introduction of CCGs ● Commission across the length of a care pathway including social care.

Funding timescales should be more than one year	21 (9%)	<ul style="list-style-type: none"> • Use project finance to support innovation development. Innovations take longer than one year to develop and can fail because of the annual funding cycle. Funding should be on a project basis (like capital projects) with timescale longer than one year. • Upfront costs of an innovation can be high, so innovations should be assessed over more than one year so that the benefits of innovation have time to outweigh their up front costs.
A clear unified message on what priorities for innovation should be	10 (4%)	<ul style="list-style-type: none"> • Create a strategic government forum bringing together health, education, social care and the voluntary sector to give a unified voice on innovation.
Role of monitor	4 (2%)	<ul style="list-style-type: none"> • Financial regulation needs to support innovation and risk taking • Independent providers need to work with regulators to build shared understanding.

Industry (pharmaceutical) and SHAs were the most concerned with **creating more demand** as a proportion of their total responses. The NHS national organisations and responses were proportionately, the least concerned.

Figure 6. Show how within this area *compliance* appeared in most groups, replicating its overall position within the actions identified by respondents – it was the second most often cited action appearing in 31 of responses. *Innovative commissioning structures and tariffs* also featured strongly within responses (in 26% of responses).

Figure 6 Creating demand factors responses by organisation type

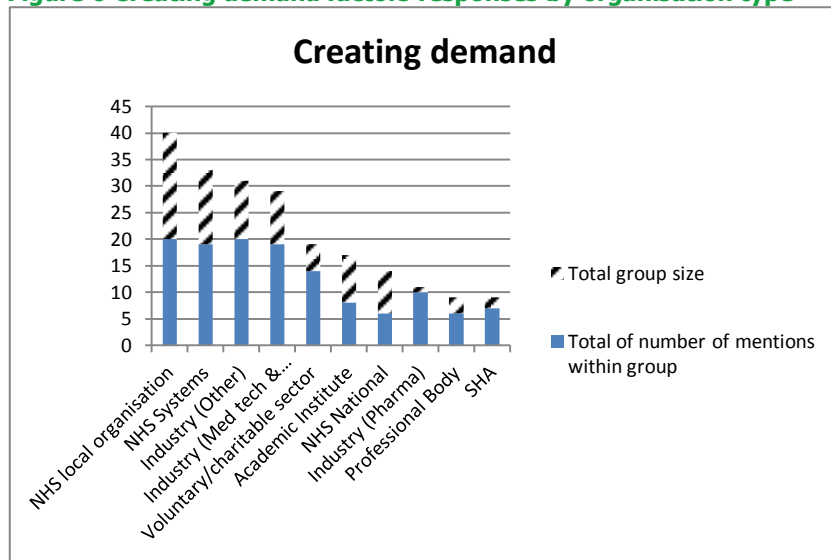
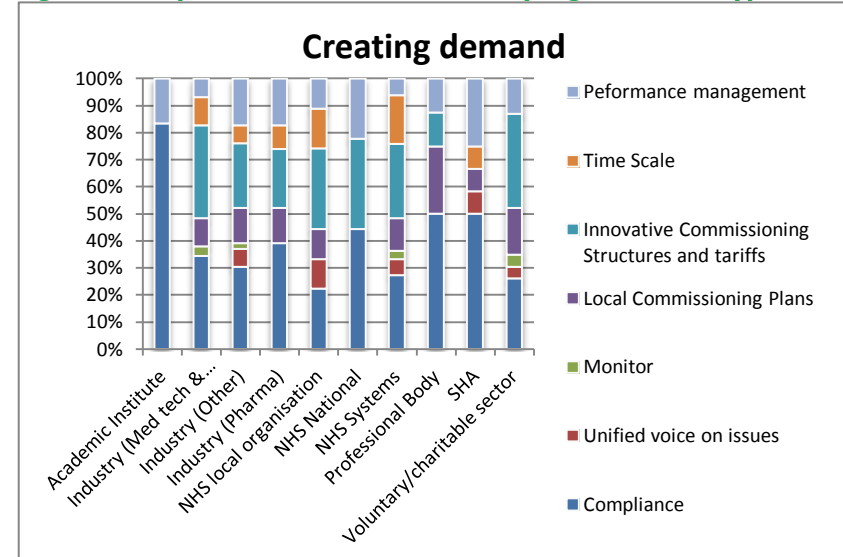


Figure 7 shows the proportion of responses for each organisational type which mentioned the importance of creating more demand.

Figure 7 Components of demand factors by organisational type



This graph shows the make up of the responses for each organisational type comprising the seven7 actions which were defined above. The following difference is worthy of note:

- Academic institutions did not mention commissioning structures but NHS local organisations ranked this the most important action;
- NHS national responses did not mention *local commissioning plans*, such as CQUIN;
- Professional bodies, SHAs and academic institutions strongly supported the need for a stronger *compliance* regime.

The following quotes from the responses are of interest in **creating demand**:

“With respect to upper quartile or decile performance develop a ‘deliver or explain regime’ that requires organisations to explain their failure to adopt effective practices if they have below median performance (this will continually raise median performance)”

“Within the current system there are multiple layers of assessment that take place even after positive NICE guidance. This leads to inefficiencies. As a result the NHS does not receive the outcome or efficiency savings identified through the NICE appraisal process; it also leads to unwarranted variation in delivery of care.”

“It is helpful for key strategic innovation goals to be set, to focus horizon scanning and adoption. These could be set by commissioners, by providers or ideally across health economy and commissioners.”

“Alignment of innovation activities with the objectives of both commissioners and providers, ensuring cross community engagement and alignment with local objectives”

“Embedding innovation locally is likely to require a multi-factorial approach. One route to achieve this would be through the performance management mechanism (or equivalent accountability framework) across all levels of the NHS, where accountability for innovation can be included within individuals’ job descriptions, objectives and work plans.”

“Innovation should be a key measure in NHS leaders’ performance management plans to help incentivise commitment and delivery of solutions.”

“Commissioners (at all levels) and monitor will have an important role ensuring a level playing field and making a reality of “Any Qualified Provider” if the NHS is to take advantage of the innovations in the private and third sectors.”

“The links between the outcome from innovation and the CQUIN payments is already making changes and this can be strengthened by explicit alignment to the innovation agenda.”

“Make the link to financial and non financial system levers i.e. make use of the existing system levers such as CQUINs, quality accounts, CQC registration, contracts and the NHSFT Terms of Authorisation to reinforce the need to demonstrate the success of implementation strategies to the commissioners, the NHS commissioning Board, Monitor and to the public.”

“Commissioners should set clear goals for innovation for a healthcare economy, and then incentivise or mandate organisations to come forward with ideas and proven innovations to deliver these goals through contractual mechanisms, e.g. CQUINs.”

“Local commissioners need incentivising and providers should be allowed to take a longer term view on innovation to stop the vicious cycle of year on year crisis management of NHS finances.”

“Despite the financial pressures in the NHS, the National Commissioning Board needs to take a more long-term view of sustainable innovation. In order to move from adoption (trying something new out on a limited scale through a pilot or evaluation) to spread (wide take-up across a service that spans both early adopters and laggards), the National Commissioning Board will need to take a more long-term perspective than has hitherto been the case.”

7.3 Information and evidence about innovation

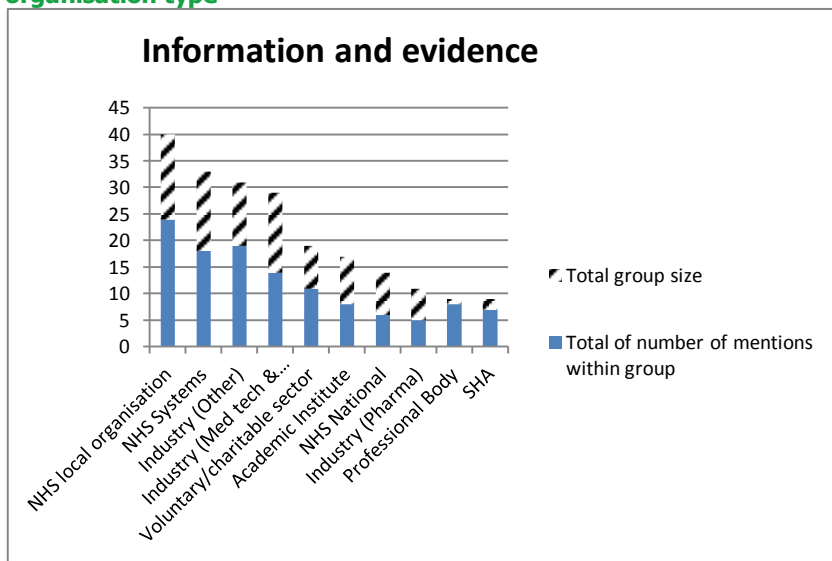
Information and evidence about innovation included actions associated with generating sufficient evidence for innovations to be able to be adopted and spread throughout the NHS. *Information and evidence about innovation* was the third most often cited area for action appearing in 54 per cent of responses. Professional bodies (1) and the voluntary/charity sector (2) cited it more often than the NHS or industry. The six more specific actions that made up *information and evidence* were:

Table 9 Definitions and actions linked to information and evidence of innovation

Information and evidence about effectiveness	Citation frequency	Specific actions
Improve the quality and quantity of evidence of clinical efficacy	43 (18%)	<ul style="list-style-type: none"> Make the results of RCTs, systematic reviews and meta analysis more easily available in simple standard format.
Develop a single central database of innovations	36 (15%)	<ul style="list-style-type: none"> Create a single portal/resource/database of innovations which can be accessed and searched by anyone (within the NHS.)
Improve the quality and quantity of evidence of productivity	33 (14%)	<ul style="list-style-type: none"> Make standard business case templates available. Make information on Return on Investment (ROI) and Social Return on Investment (SROI) more accessible.
Alter the stringency of evidentiary standards required for certain types of innovation	29 (12%)	<ul style="list-style-type: none"> Standards should be proportionate appropriate to circumstances – just-enough evidence.
Promote and increase the availability of high quality evidence about innovation implementation, e.g. NHS evidence	24 (10%)	<ul style="list-style-type: none"> Improve access to use to test innovations, including simplifying the process for clinical trials. Making it easier for the creators and suppliers of potential innovations to test and validate their new products and services is important. Reduce the number of pilots and the duplication of evaluations. NHS organisations should avoid endlessly duplicating evaluations. Improve the availability of NHS data for analysis, including to external organisation or industry. The NHS needs to continue the process of making information about NHS resources, services and impact available for analysis.
Create or improve structures or guidelines for the transfer of both explicit and tacit knowledge of how to implement innovations	18 (8%)	<ul style="list-style-type: none"> Develop practical 'How to Guides' – like those developed by NTAC and the Young Foundation

The graph in Figure 8 below compares the number of responses mentioning a particular theme as a proportion of the total responses for that organisational type.

Figure 8 Information and evidence of effectiveness of responses by organisation type



Professional bodies and SHAs most often cited specific actions around the importance of *information and evidence of innovation* with over 80 per cent of their respondents mentioning actions in this theme. Most of the organisational groupings except NHS national bodies and industry (pharmaceutical) mentioned information and evidence of innovation more than 50 per cent of the time.

Figure 9 Components of information and evidence by organisational types

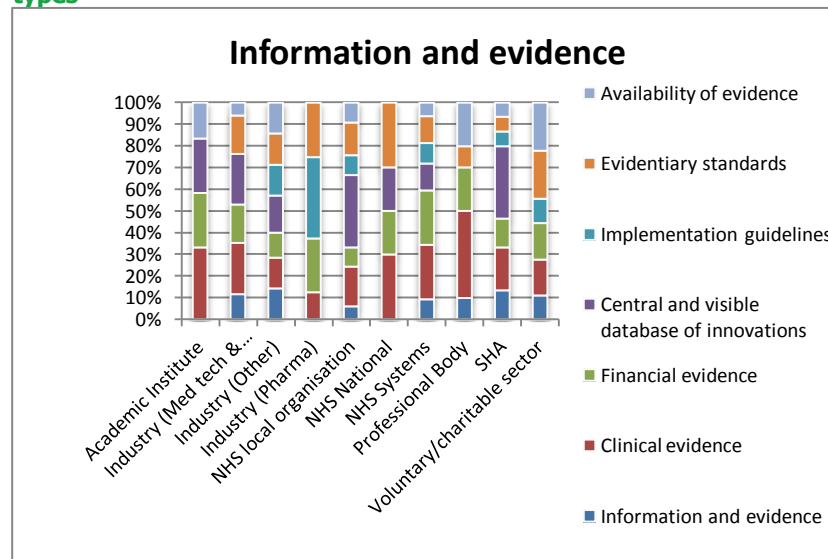


Figure 9 shows the detailed components of the responses for each organisational type showing the distribution of the seven specific actions for each organisational type.

The need for more accessible / improved clinical evidence of innovation was a consistency finding across all the organisational types.

Academic institutions did not mention evidentiary standards and pharmaceuticals did not mention the availability of evidence.

The following quotes from the responses are of interest concerning **information and evidence of innovation**.

“We have learned that evidence of efficacy is not always possible to fully acquire. Large scale randomised trials with control experiments are not always possible. Comments widely made by NHS staff are that they know they have a requirement, common sense dictates that these systems will help, but that they are not able to purchase them.”

“The data to support start-up, implementation, and on going evaluation must be credible and persuasive and therefore a greater significance should be put on quantifying the anticipated and actual benefits.”

“We need to learn from others about the treatment of emergent evidence. Within Trusts, clinical governance teams should be encouraged to take a proactive stance to innovation, supporting new approaches which balance risk and patient safety, through active feedback and early data collection.”

There needs to be an increased role for NICE in the gathering of evidence – *“More capacity to conduct ad-hoc reviews as and when innovations arise may be beneficial. More focus may be needed on the clinical utility and cost-savings of service re-design.”*

There also needs to be *“the development of an NHS analytical capacity and capability that can measure, monitor and analyse improvements. The Government OR Service, the Government Statistical Service and the Government Economic Service might provide models for this.”*

“An intellectual marketplace of ideas, a ‘problems and solutions warehouse’– where innovators can showcase/exchange their ideas”

“Need one stop shop for evidence / strong business cases – the principle should be to do it once across the NHS and share”

“One website/portal should be identified as a “one stop shop” for all matters regarding innovation, funding opportunities, events, case studies and networking with innovators.”

“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.”

Implementation needs to be evidence based: “Find out what is working / has worked, where, and why. Whose brought down their caesarean section rate significantly and how have they done it? Whose satisfaction survey has improved by a quartile or even two in a year? What did they do? I’m sure the key lies within, rather than without, but it is also very dependent on being aware that this is a worthwhile investment. “

“A strengthened role for NICE regarding implementation of their guidance; this would help achieve consistent and rapid implementation of NICE guidance across the NHS. To help address the challenge of innovation within the care pathway the current ‘implementation template’ would need to be further developed.”

7.4 Innovation pathway support

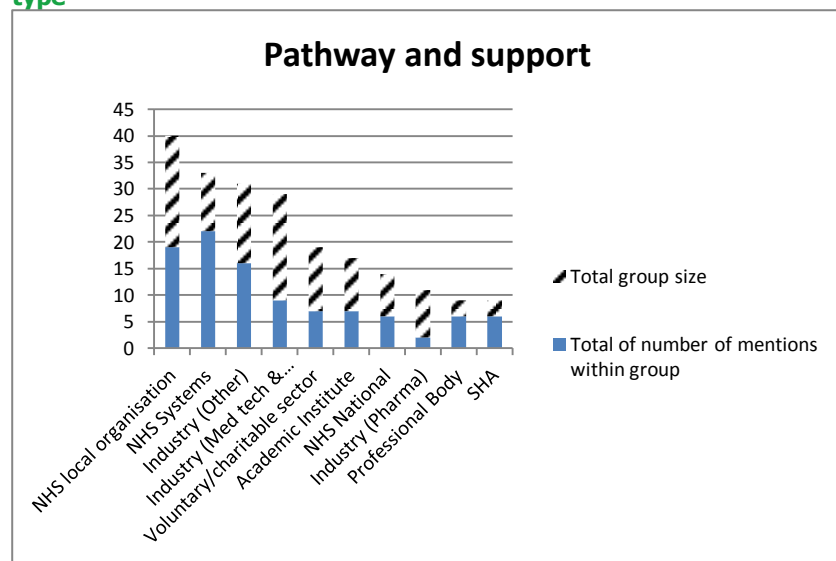
Overall, the need for better *innovation pathway support* was cited within 46 per cent of responses– the fourth most frequently cited theme in the whole of the Call for Evidence and Ideas. This generated a total of 174 different comments. Actions identified within this group are described in more detail below.

Innovation pathway support	Citation frequency	Specific actions
Visible and coherent innovation pathways	52 (22%)	<ul style="list-style-type: none"> • Give one organisation the lead role for promoting adoption. The NHS and public health system needs a single body with responsibility for taking such national strategic oversight, engaging with both internal and external partners to identify and communicate opportunities and create a clear pathway to drive long-term change. • Acknowledge that there are multiple pathways. The current focus on a single mechanism of diffusion in the NHS does not work. It restricts the solutions that can be generated. • Publish clear roadmaps of how to get new innovations into the NHS: identify organisations which can support adoption of the innovation. • Use NICE processes more explicitly as part of innovation pathways. NICE evaluation of diagnostic technologies through the NICE Diagnostic Assessment Programme should be a bridge between development and commissioning implementation. . • Create an innovation support unit for innovation pathways. A Support Unit for NHS Innovators (SUNI) should be created. Roles to include exploring, testing and replicating the methods successful innovators use to identify, adopt & spread innovations; understanding the innovation problems and hurdles they face, and the information they need to help them realise and develop their – often unrecognised – innovation role; developing scalable, effective methods to support them in overcoming these hurdles; and increase their innovation success rate
The need for more resources (especially time methodologies and processes, not money) to help spread innovation	46 (20%)	<ul style="list-style-type: none"> • Supply expertise and resources which may not be routinely available in the NHS. • There should be a NHS innovation dedicated sales and marketing team, providing the NHS with expertise to attract new customers and introduce the new products.
Give individuals innovation/productisation skills	16 (7%)	<ul style="list-style-type: none"> • Train frontline innovators or give them access to social marketing, digital media and other expertise that will help make the innovations into products.
Brokerage of relationships between innovators and	13 (6%)	<ul style="list-style-type: none"> • Support the development of knowledge brokers to enhance adoption and diffusion of

commissioners or adopters		innovations
Access to users (e.g. for prototyping) to allow product development, including clinical trials	15 (6%)	<ul style="list-style-type: none"> • Loosen the very restrictive clinical trial regulations.
Actions around the need for more mentoring of innovators to give innovation leaders more confidence	9 (4%)	<ul style="list-style-type: none"> • Provide mentoring support for front line innovators.
Speed up the ethics approval (and similar processes)	4 (2%)	<ul style="list-style-type: none"> • Ethics processes often slow down the innovation process, altering them would the spread of innovations.
A clear message from NHS about what is needed in an innovation	3 (1%)	<ul style="list-style-type: none"> • There should be a presumption of openness at a national level with a default position of sharing all standards and requirements with developers. The routine posting of specifications and objectives within. • The N3 walled garden puts unnecessary obstacles in the way of innovators in their quest to understand NHS requirements.

The graph in Figure 10 compares the number of responses mentioning a particular theme as a proportion of the total responses for that organisational type.

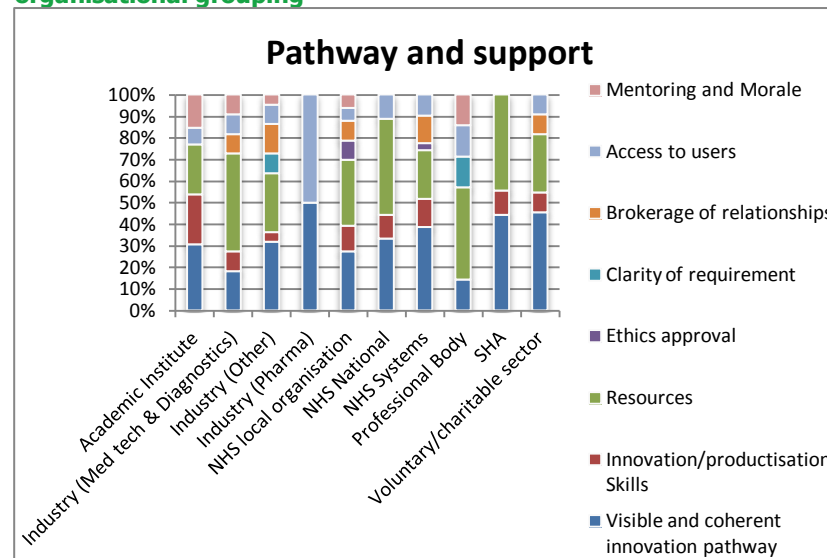
Figure 10 Innovation pathway and support responses by organisation type



NHS systems (mostly made up of networks) cited *pathway and support* in 67 per cent of their responses.

The graph in Figure 11 shows how organisational types cited the components of innovation pathway support

Figure 11 Components of innovation pathway and support by organisational grouping



The need for a clearly defined *innovation pathway* was identified consistently across all the groups (the seventh most cited action overall appearing in 22% of responses). The need for greater *resources* (either time, or skills) was evident in a large number of responses – this was acknowledged by those within the NHS and those within industry (ninth overall, identified in 20% of responses).

Pharmaceutical responses mentioned only *access to users* and a *clear innovation pathway*. SHAs did not mention *mentoring* and *access to users*. *Ethics approval* was only identified by NHS systems and NHS local organisations.

The following quotes from the responses concern the **innovation pathway and support:**

"Too many 'hoops' to jump through to innovate, no clear innovation pathway. Needs to be knowledge and understanding of what support is available."

There is a need to *"publish a clear roadmap of how to get new innovations (dependent on type) into the NHS and where these organisations are positioned along the roadmap which leads to the adoption of the innovation."*

"Given the size of the adoption challenges, one might argue that it would be better to 'simplify the complexity of the innovation landscape' where appropriate, and to clarify widely the roles, relationships and interactions of existing NHS initiatives within the innovation landscape. Mapping each to Technology Readiness Levels (TRLs) would be helpful here, especially to industry collaborators."

"Build innovation and the concept of adoption and spread into undergraduate and post graduate curricula."

"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."

"Making the adoption of innovation from elsewhere as easy as possible, by ensuring templates, documents and 'how to' guides are accessible and readily available for each specific innovation which has been shown to work and is ready to diffuse."

"There should be a presumption of openness at a national level with a default position of sharing all standards and requirements with developers. The routine posting of specifications and objectives within the N3 walled garden puts unnecessary obstacles in the way of innovators in their quest to understand NHS requirements."

"Simplify ways in which providers can engage with commissioners, outside the formal contracting process providers could also gain from some sort of directory/list of those private sector companies who are keen to work with NHS. Greater innovative opportunities may be found through establishing our own partnerships; we are free to do this, but it would be helpful to get guidance on whom to begin with."

"A system of partnering/mentoring from equivalent levels of management in successful private sector industries would be helpful."

7.5 Innovation leadership and promotion

Innovation leadership and promotion was the fifth most often cited action – appearing in 46 per cent of responses with 150 different comments within this area. There were five more specific actions *within innovation leadership and promotion*. These are described in the table below.

Table 10 Definitions and actions linked to innovation leadership and promotion

Innovation leadership and promotion	Citation frequency	Specific actions
Learning from local promoters / champions/ scouts of particular innovations who have successfully diffused innovations	54 (23%)	<ul style="list-style-type: none"> • Clinical commissioning network delivered by champions who are charismatic, credible connectors who influence people and bring them together, are trusted experts and pathologically helpful, and persuaders with powerful negotiating skills. • Innovation fellows should be utilised - those who are clinicians and managers who have championed local change. • Innovation Scouts whose role is to spot and evaluate new ideas and inspire colleagues with bright ideas.
Top level messages about innovation priorities from NHS/DH leadership or Trust level, innovation	40 (17%)	<ul style="list-style-type: none"> • Develop agreed priorities and possible high impact innovation changes. • Local leads for innovation.
Increase local autonomy to try new innovations, show leadership in innovation or promote their own innovation	17 (7%)	<ul style="list-style-type: none"> • Allow local areas to tailor innovation to their specific needs. • Encourage or allow adopters of innovators to adapt innovations.
Middle/local management support for innovation process	17 (7%)	<ul style="list-style-type: none"> • Ensure middle managers are involved in the development and implementation of innovations.
Top level, NHS, DH, or organisational backing to help adoption and diffusion of a particular innovation	14 (6%)	<ul style="list-style-type: none"> • Create a national level champion for innovation. A primary purpose of NCB should be encourage and measure the appropriate use of innovation. As such a board-level champion should be appointed for innovation.

Figure 12 shows that between 40-50 per cent of the responses in each organisational type listed *leadership and promotion* as important. The highest proportion was in SHAs and the lowest in the voluntary / charitable sector.

Figure 12 Innovation leadership and promotion responses by organisation type

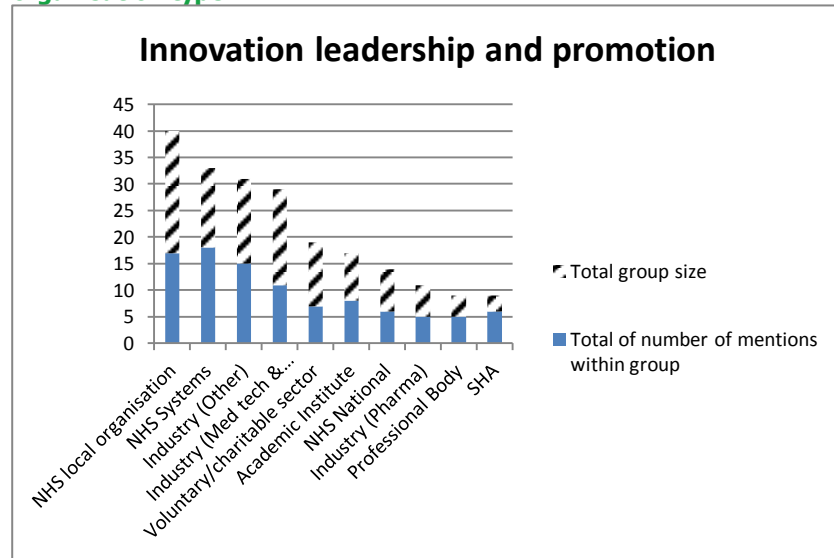
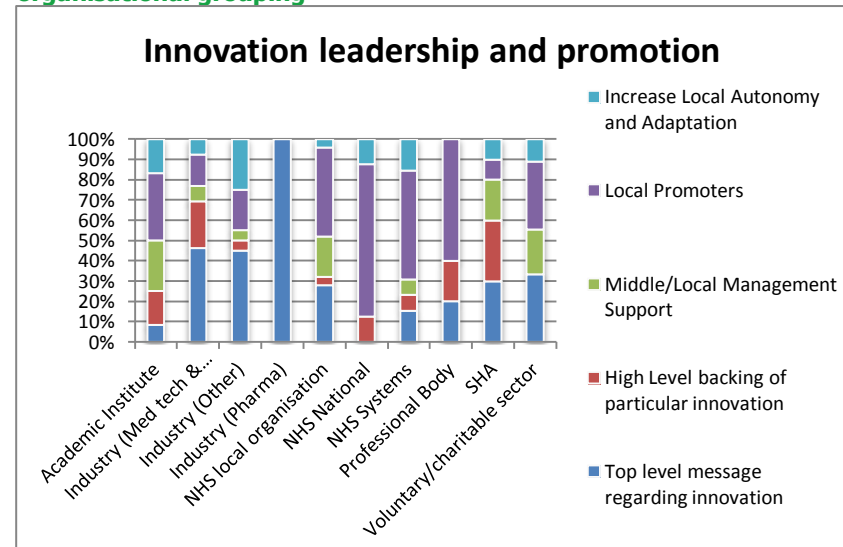


Figure 13 shows that within the more specific actions, *local promoters or champions* was a significant theme within NHS responses reflecting its overall position as the fifth most often cited action, appearing in 23 per cent of responses. This encapsulated 6 different specific actions; including helping successful innovators to actively spread their innovations to hiring innovation scouts to seek out and to spread innovation.

Figure 13 Components of innovation leadership and promotion by organisational grouping



Industry responses highlighted the need for stronger *top level messages regarding innovation* whereas NHS responses highlighted the need for *local promoters*. Other respondents were more balanced in their recommendations between *local promoters* and *top level messages*.

The following quotes from the responses concern **innovation leadership and promotion**:

"We believe it is important that the NHS Commissioning Board consistently provides leadership and endorses innovation at a national level to ensure that these messages are cascaded throughout the NHS."

"'Innovation leadership' should be embedded in all NHS structures from executive level to operational management levels and including clinical leaders."

"The centre needs to identify two or three things (no more) for 'industrial-scale' implementation. An example of this is the management of long-term conditions which presents one of the biggest challenges and opportunities for change."

"Innovation fellows' should be utilised - those who are clinicians and managers who have championed local change."

"Each NHS Trust to appoint an Executive or non-Executive Director as innovation and research 'champion'."

"Develop a network of national and local adoption champions who are experts in diffusion. This includes both managerial and clinical

champions that can foster networks and build good relationships to win hearts and minds. This needs to go much wider than simply asking for organisations to nominate knowledge managers and needs to allow organisations to: secure the implementation support that allows for local adoption and ownership, acknowledge their organisational readiness, and therefore willingness, to adopt new initiatives, and recognise that they need to change rather than being told that they have to change."

"You would have the potential to create communities of interest who would research then champion evidenced-based best practice adoption back in to the service."

"More of the responsibility for innovation (and of the resources that support it) should be devolved from the centre to Trusts". "Innovation is thus both a reason for decentralisation (because devolution fosters innovation), and a means to that end (because innovation enables better local decision-making)."

"As it is well recognised in the literature the implementation or adoption of new technologies or evidence is highly dependent on local environment and it is necessary to adapt and ensure interventions are fit for purpose at a local level."

7.6 Funding and budgeting

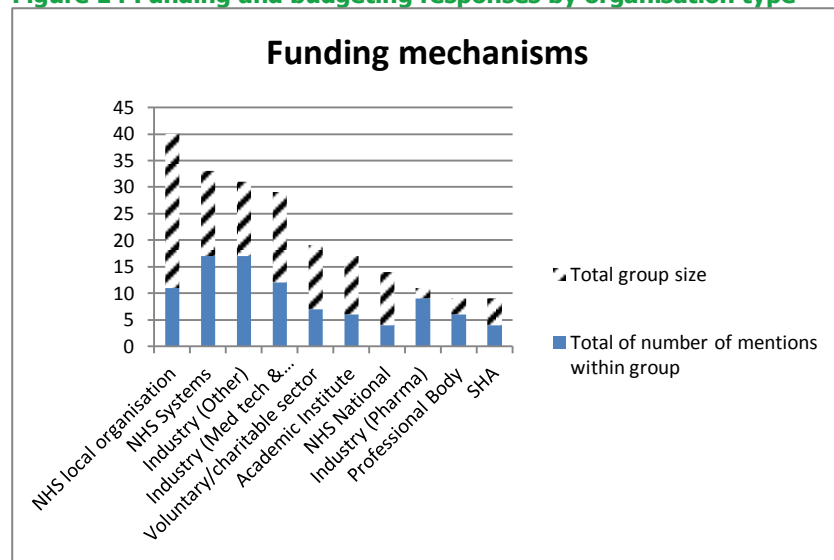
Funding and budgeting was the sixth most cited area appearing in 42 per cent of responses. This created a total of 138 different comments divided into five specific actions. These are described in the table below:

Table 11 Definitions and actions linked to funding and budgeting

Funding and budgeting	Citation frequency	Specific actions
Funds reserved for innovation (e.g. RIF, Transformation Funds) - reserve funds (at any level) to allow for investment in innovation. Linked to risk management)	39 (17%)	<ul style="list-style-type: none"> • Clear, ring fenced budgets for innovation partnerships and networks should encourage collaboration around innovation. • Wider use of the Small Business Research Initiative (SBRI) to create wider engagement in NHS-specific challenges. There needs to be external resource made available to assess the impact, and generate and disseminate the evidence about its impact of innovations. • Continue local innovation funding which can be responsive to local priorities for local determination is an important lever to incentivise and support adoption and diffusion and enable the 'localism' agenda to progress in the new operating environment e.g. Regional Innovation Funds (RIF) which provided the opportunity to support front line innovation and adoption of proven innovations. A continuation of local funding. • Specialist commissioners should have an innovation fund set from the NCB which would allow them to lead by example in trialling and commissioning innovations.
Actions which aim to reduce silo budgeting between NHS organisations	37 (16%)	<ul style="list-style-type: none"> • Adapt the payment by results system to appreciate the total value chain of a treatment, both within a single Trust, and across NHS care boundaries. One way to do this would be compensate for the reduced income brought about through adopting innovative practice, by providing balancing financial incentives through the various quality incentive payment systems.
Actions which aim to reduce silo budgeting within organisations	18 (8%)	<p>Address inflexibility in the NHS financial model by stopping:</p> <ul style="list-style-type: none"> • budgets at individual departments which make it hard to share the benefits and costs of innovations; • annual budgetary cycle which make it hard to make a business case for most innovations; • limitations in ability to accumulate discretionary funds or generate a financial surplus (which make it hard to experiment).
Actions which aim to reduce silo budgeting between NHS and Social Care	15 (6%)	<ul style="list-style-type: none"> • New Health and Wellbeing boards should develop and encourage joint funding models for preventative technologies.

The graph in Figure 14 compares the number of responses mentioning a particular theme as a proportion of the total responses for that organisational type.

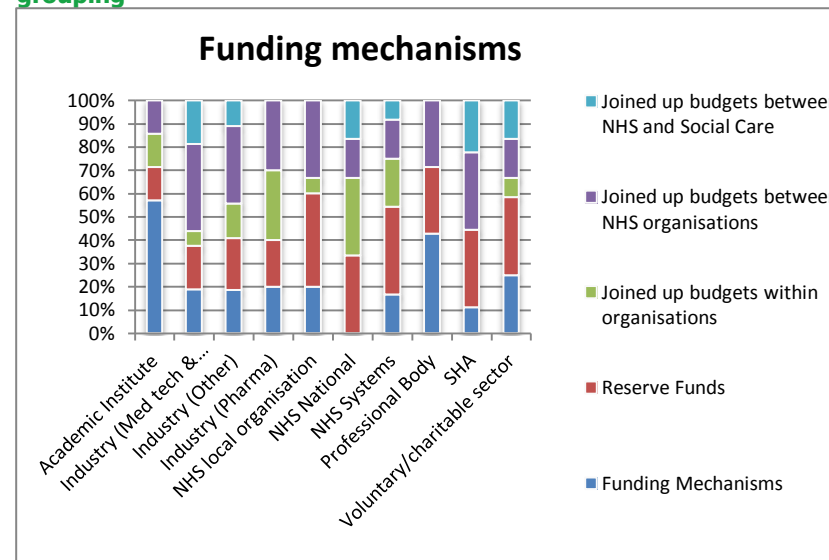
Figure 14 Funding and budgeting responses by organisation type



It shows that Industry responses highlighted the need for reform of *funding and budgeting* frequently – especially the pharmaceutical sector. Only about 30 per cent of NHS local organisations felt that this was an important factor in adoption and diffusion.

Figure 15 compares the components of the theme showing what each organisational type felt was most important.

Figure 15 Components of funding mechanisms by organisational grouping



Within the more specific actions about *funding and budgeting* the overall priority for adoption and diffusion was not clear. However, *joined up budgeting between NHS organisations* and *reserve funds* (e.g. Regional Innovation Funds) were consistently mentioned throughout responses.

The following quotes from the responses concern **funding and budgeting mechanisms**:

"Trusts should be required to set aside a substantial part of their budget, perhaps 5%, to be allocated to service redesign and transformation. This is necessary because a significant barrier to change is that staff and managers cannot see how to implement new configurations of service, whilst maintaining existing arrangements, and meeting existing service targets and performance criteria. Funds protected for service transformation could cover the double running costs incurred during implementation, and facilitate rapid transformation of services."

"Silo budgets and annual cycles dis-incentivise investment in new technology or novel treatments by forcing budget holders to focus on the short-term rather than consider potential long-term investments."

"Silo budgeting discourages an integrated patient pathway approach, thereby limiting opportunities for improvement to patient outcomes."

"Whilst the potential of local tariff arrangements are currently possible, wide scale implementation currently requires multiple negotiations between NHS organisations. A mechanism to rapidly introduce 'innovation related tariffs' whilst awaiting confirmed PBR tariff would overcome this problem on a national basis."

"Many of the issues associated to integrated care delivery and failure to deploy certain technologies stem from poor payments systems that hinder organisations from collaborating. The move to linking payments to outcomes will, if done right, drive collaboration across organisations; it will allow, for

example, GPs and the acute sector to collectively invest in technologies such as telehealth."

"Innovation I feel is frequently challenged by poor integration of the financial teams and clinicians across boundaries (Acute/Community Trusts/PCTs). Each organisation is continually competing for its share of the pie and the excellent service development can get squeezed in the middle. If there was one pot of finance with one overall person / organisation responsible for the whole pot and both hospital and community services I feel this could improve scope for innovation."

"We believe that one of the key reasons why the use of new technologies can be resisted is due to silo budgeting in the NHS; the system has difficulty in releasing the savings they deliver, particularly if the savings are delivered in a different budget to where the cost is incurred. At national level, there is no medicines budget and in theory, savings delivered by the use of new medicines can be banked by the system overall. However, locally, most Trusts will proportion an amount of money to medicines based on previous usage as well as forecasted need. There is often a pressure to make additional savings from within this already tight allocation. In addition, if care spans primary and secondary care, we have seen examples of cost-shifting where different local organisations can be reluctant to take responsibility for funding."

"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"

7.7 Patient demand

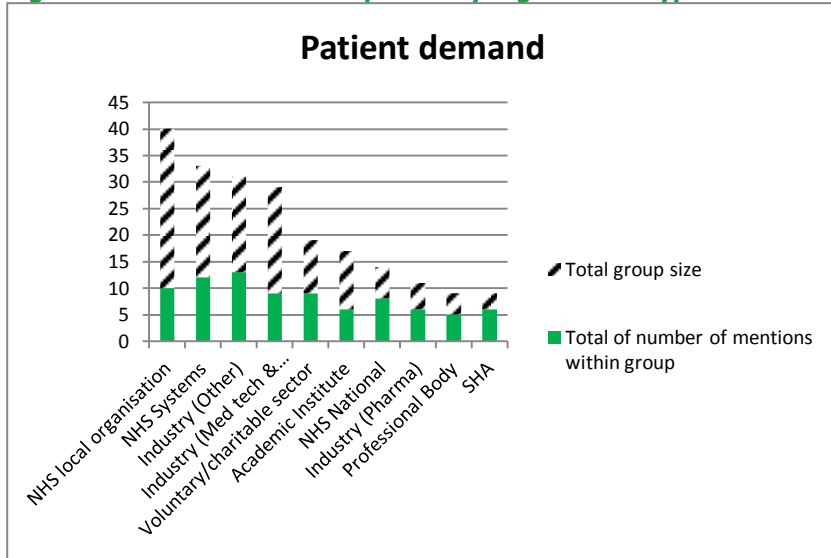
38 per cent of all responses to the Call for Evidence and Ideas contain comments about *patient demand*. There were a total of 123 comments made up of six different specific actions. These are described in the table below in order of popularity.

Table 12 Definitions and actions linked to patient demand

Patient demand	Citations	Specific actions
Increase patient Pressure (including lobbying groups) generating patients pressure to help innovation	43 (18%)	<ul style="list-style-type: none"> • Patients need a clear mechanism to help stimulate service improvement and innovation. • Patient held budgets are a means of enabling patients to make a more informed choice around their care and where they wish to invest in their health. • Health and well-being boards should use social marketing to ensure that they can target specific patient populations which are not benefiting from innovative services and technologies.
Patients involved in designing or prototyping innovations	29 (12%)	<ul style="list-style-type: none"> • Identify simple triggers for each LTC for patient use. • Face to face workshops where patients co-design pathways with clinicians. • Ensure that patients participate in discussions about innovation by engaging both at a national level and locally. • Guidance should be issued by the board to CCGs on the involvement of patients.
Public data transparency will help increase pressure for adoption	16 (7%)	<ul style="list-style-type: none"> • Publishing data which explicitly shows the extent to which a GP practice or hospital trust is using innovations. • Patients want granular transparent information. They want to know how good (or bad) (is) the doctor they are seeing, the clinic they are attending, the ward they are on, and the treatment they are being offered - e.g. public mortality data by surgeon, etc. • Patient databases also provide a valuable resource for health research and on-going evaluation of patient outcomes. They facilitate recruitment of participants to clinical trials; improve pharmaceutical co-vigilance, and support surveillance and evaluation of new interventions to monitor their effectiveness. Integrated databases, across the NHS, to support these activities would make England unique, globally, for research.
'No Decision about me without me'	11 (5%)	<ul style="list-style-type: none"> • An appeal mechanism for patients (and manufacturers) when access to NICE-recommended medicines is inappropriately restricted locally (2010 IT strategy).
Communicate with the public around innovation	10 (4%)	<ul style="list-style-type: none"> • GPs should email to interact with their patients and embrace other new technologies and exploit their positive aspects. Royal Colleges should reconsider their guidance in this area. • Knowledge dissemination at point of care, to complement / replace the focus over the last two decades on capturing patient data.

The graph in Figure 16 compares the number of responses mentioning a particular theme as a proportion of the total responses for that organisational type.

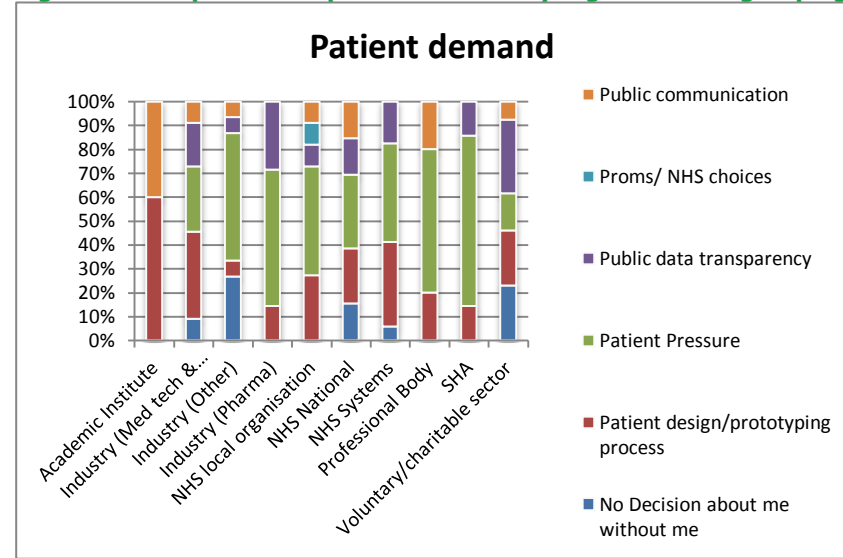
Figure 16 Patient demand responses by organisation type



Patient demand was clearly not a priority for organisations across the board possibly because there were very few individual responses. NHS local organisations and academic institutions did not highlight *patient demand* as very important, whereas SHAs and NHS national organisation felt that it was an important ingredient.

Figure 17 compares the components of the theme showing what each organisational type felt was most important in relation to patient demand

Figure 17 Components of patient demand by organisational grouping



Within the more specific actions about *patient demand* the overall priority for adoption and diffusion were *patient involvement in design and prototyping* (cited by all organisational types) and public data transparency which was cited by all organisational types except academic institutes. *PROMS / NHS choices* were only mentioned once.

The following quotes from the responses concern increasing **patient demand**:

"An appeal mechanism for patients (and manufacturers) when access to NICE-recommended medicines is inappropriately restricted at a local level."

"Identify simple triggers for each LTC for patient use. Face-to-face workshops where patients co-design pathways with clinicians."

"Ensure that the participation of patients in discussions regarding the introduction of innovative medicines is encouraged, by engaging both at national level with the NCB and at local level with Trusts / CCGs."

"Guidance issued by the board to CCGs on the involvement of patients should include the development of decision aids working with patient groups and others."

"Patients need to be better informed and need a clear pathway whereby they can stimulate service improvement and innovation (possibly via Innovation Networks exercising a duty to engage with the public)."

"Commit to publishing data which explicitly shows the extent to which a GP practice or hospital trust is using innovative medicines."

"Transparency is an important spur – public mortality data by surgeon, etc."

"Patients want granular information. They want to know how good (or bad) is the doctor they are seeing, is the clinic they are attending, the ward they are on, the treatment they are being offered."

"Patient databases also provide a valuable resource for health research and on-going evaluation of patient outcomes. Specifically, such databases facilitate recruitment of participants to clinical trials, improve pharmaceuticals co-vigilance, and support the surveillance and evaluation of new interventions to monitor their effectiveness."

"Patient held budgets are a further means of enabling patients to make a more informed choice around their care and where they wish to invest in their health."

"Health and well-being boards should use social marketing to ensure that they can target specific patient populations which are not benefiting from innovative services and technologies."

"The Royal Colleges need to reconsider their guidance on GPs using emails to interact with their patients, and instead should find ways to embrace the new technologies and exploit their positive aspects."

"A new emphasis on point of care knowledge dissemination, to complement / replace the focus over the last two decades on capturing patient data. At least knowledge does not vary between patients, like data does."

"Integrated databases, across the NHS to support these activities would make the UK unique, globally, for such research."

7.8 Supply factors

Supply factors encapsulated a number of different issues around what may stop new innovations spreading throughout the NHS and actions to improve supply. It was the eighth most cited area for action appearing in 36 per cent of responses and leading to 113 different comments. These are described in the table below:

Table 13 Definitions and actions linked to supply factors

Supply factors (common language and metrics)	Citation frequency	Specific actions
Clear agreed standards and metrics (benchmarks, standardised business case, branding) to allow users to assess innovations more quickly	41 (17%)	<ul style="list-style-type: none"> Performance should be measured against the 90-day NICE mandatory funding requirement (if the healthcare professional wishes to prescribe a medicine) and the NCB should set financial incentives for achieving this e.g. through QOF quality prescribing indicators.
Common and high quality IT infrastructure , in particular increasing compatibility between systems	23 (10%)	<ul style="list-style-type: none"> All Trusts and GPs should use the same computer software for patient records).
IP framework - change the rules for intellectual property to encourage the flow of innovation and / or improve support for IP systems	18 (8%)	<ul style="list-style-type: none"> Review the existing IP standard contract to provide a level playing field between Universities and the NHS. The current provisions of the Department of Health's Standard NHS Contract for Acute Services (the Standard Contract) relating to intellectual property do not ensure that the organisations that invest in the development of innovations are appropriately rewarded which has the potential to stifle development of IP. There is a need to balance the principle of sharing best practice with that of rewarding Trusts that invest considerable time and resources into the development of intellectual property.
Clear simple consistent language around innovation	13 (6%)	<ul style="list-style-type: none"> Agree definitions around innovation language. There needs to be greater clarity in our understanding of the value of innovation. It is variably perceived as benefit to patients, economic benefit and 'return on investment (ROI)'. Whilst ideally it should be all of these, we need to understand and more clearly define what constitutes successful innovation, and why and how to replicate this.
National kite marking standard for innovations that meet certain standards	8 (3%)	<ul style="list-style-type: none"> Innovations should be 'suitable for use'.
Better fit with existing NHS standards and processes	5 (2%)	<ul style="list-style-type: none"> Align existing programmes and processes with individual innovations and the innovation process.

Figure 18 shows that *supply factors*, or transferability of innovations, did not appear very frequently in any organisational group. However the lower level action of clear metrics did. Views between different groups were largely in agreement in this area.

Figure 18 Supply factors responses by organisation type

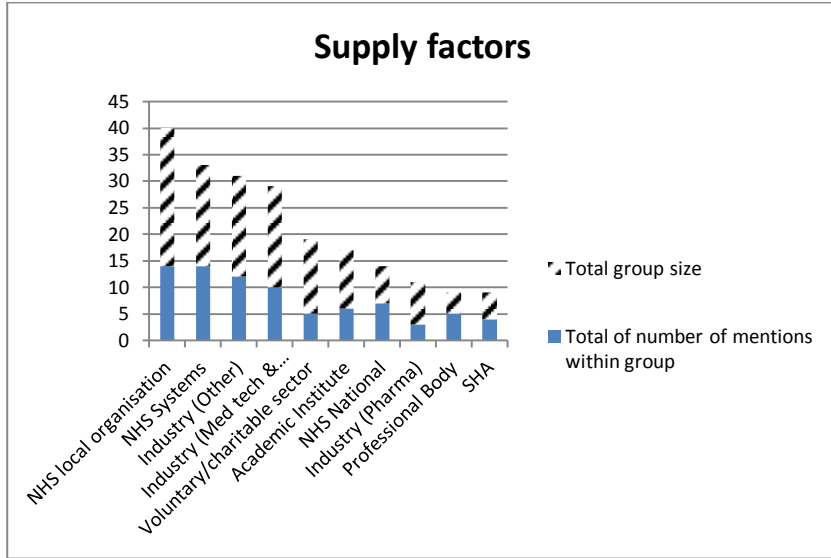
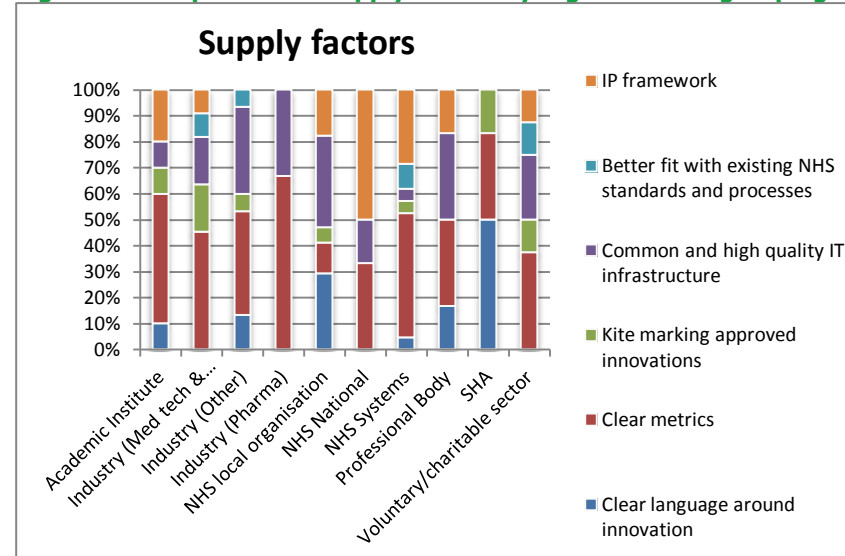


Figure 19 shows that all organisational types felt that *clear metrics* were vital to support adoption and diffusion and appeared in 17 per cent of responses and remained a strong theme across groups and most felt that IT common infrastructure was important. NHS respondents highlighted the *intellectual property framework* more frequently than other groups as an issue that needed to be addressed to help innovation spread.

Figure 19 Components of supply factors by organisational grouping



The following quotes from the responses concern **improving supply factors**:

"Adopt a common, clear, and concise language for innovation which transcends individual trust and educational influence. This must be a national, NHS-led, initiative which trusts must embrace and accept without question."

"There needs to be greater clarity in our understanding of the value of innovation. It is variably perceived as benefit to patients, economic benefit and 'return on investment (ROI)'. Whilst ideally it should be all of these, we need to understand and more clearly define what constitutes successful innovation and in what context."

"A wide variety of local adaption academic disciplines and industries are able to provide insights and advice on how to adapt and optimise interventions at a local level. There is a need to facilitate translation and communication from these disparate groups. "

"A system of metrics for research and innovation, on which the NHS is monitored with regular reporting, needs to be developed."

"Embed innovation by linking performance to metrics. Trusts / Clinical Commissioning Groups should be accountable for improving the adoption and diffusion of innovation, with objectives measured against the prescription of new medicines and undertaking research. Performance should be measured against the 90-day NICE mandatory funding requirement (if the healthcare professional wishes to prescribe a medicine) and the National Commissioning Board should set financial incentives for achieving this, e.g. through QOF quality prescribing indicators."

"The focus on clear outcome measures is undisputed, but will require a combination of process, pathway and behaviour changes and measures if there is to be demonstrable and sustainable change."

"The old adage that if you don't measure, you don't get applies. Metrics need to be specific, unambiguous and related to the process of innovation to support the improvement function of the National Commissioning Board. Relying on outcomes, whether financial or qualitative will not encourage innovation adoption and spread, nor will fluffy high-level measures."

"Some kind of endorsement / kite-marking process – both for "best" practice as well as for innovations and initiatives which have been shown to be demonstrably useful and which are capable of replication and adaptation."

"It may now be helpful to have a national kite marking system for best practice...The NHS would be ideally placed to lead and co-ordinate this area of work."

"Publicising information about "best in class" practice in an accessible and standardised format would enable patient groups to compare with commissioning in their area, and if necessary to put pressure on commissioners to ensure that the best outcomes are being achieved within the funding envelope."

"Have all trusts use the same computer software and all GPs using the same software."

"The NHS needs better enabling infrastructure for innovation ... a better N3 network, one that has more bandwidth capacity and a better access regime. Crucially, the NHS will also need to invest in wireless networks both within hospitals and out in the community as many of the innovative solutions today and tomorrow are mobile."

"The efficient management and transfer of information (which relies on system compatibility and wireless integration within and across organisations) is key and respondents consider that a national strategy is needed to ensure enabling technologies are in place."

7.9 Individual incentives and rewards

Individual incentives and rewards were cited by 27 per cent (64 times) of the respondents as being important to spread. There were two more specific actions, mentioned by respondents where individual rewards were thought to be important: non-financial recognition and greater transparency about performance. It was also important to recognise people’s work on adoption and diffusion as well as invention.

Table 14 Definitions and actions linked to individual incentives and rewards

Individual incentives and rewards	Citation frequency	Specific actions
Awards, recognition, visibility for innovators , mainly non-financial	50 (21%)	<ul style="list-style-type: none"> • Use innovation prizes to recognise and reward individuals. We should promote and use innovation prizes and awards, including the NHS Innovation Challenge Prizes, Innovation and Progress Transformation awards • Reward diffusion as well as innovation. Formal recognition should be developed for those who successfully take up and apply innovations, as well as those who develop the initial innovation.
Data transparency around individual performance to encourage diffusion of innovations.	9 (4%)	<ul style="list-style-type: none"> • More use of geographical information systems as an analytical tool. Expand <i>‘The Right Care Atlas of Variation’</i> to help increase the transparency of outcomes at local NHS level. This would be an important resource to help evaluate local performance against the five domains of the NHS Outcomes Framework. • Greater transparency in information about the relative performance of healthcare organisations to highlight best practice.

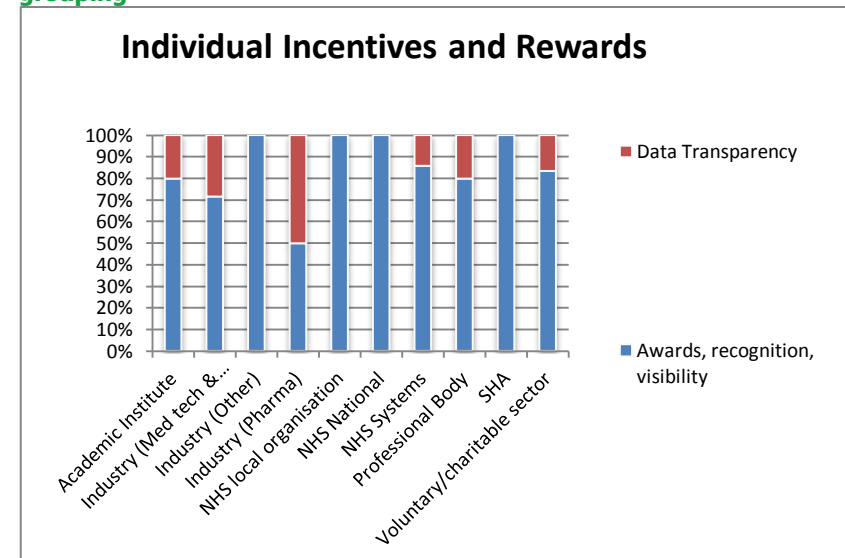
The graph in Figure 20 shows that the *individual incentives and rewards* theme was identified by all organisational groups. A low number of actions cited by respondents within this group suggesting that this was not a priority area.

Figure 20 Incentives and rewards responses by organisation type



Figure 21 shows that within the *individual incentives and rewards* theme, *awards, recognition, visibility* was the eighth most often cited individual action, appearing in 21 per cent of responses. Data transparency only appeared in four per cent of responses – although industry (excluding other) identified it as an area where action was required to a greater degree than other respondent groups.

Figure 21 Components of incentives and rewards by organisational grouping



Quotes regarding **incentives and rewards**:

"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"

"Support and reward local innovation champions who engage other front-line staff in the innovation agenda (to avoid the 'why bother' attitude)."

"Guaranteeing ownership of the innovation and the assurance that recognition will be fully awarded. People need to understand that they will be recognised for their work, and that they really can make a difference by exercising initiative, and innovating through creative means. Most people would welcome recognition, and thereby feeling valued for their contribution."

"We recommend that those making awards for innovation build into their award criteria the concept of 'providing value to the NHS', using an

approach that is consistent with Health Technology Assessment (HTA) methods used by NICE to determine the value of technologies to the NHS. We also recommend that award winners should be advised to contact NICE to explore evaluation of their new product by the Medical Technologies Advisory Committee (MTAC)"

"At a local level, there should be financial rewards for both innovation, and for the development of an innovative organisation which is orientated to working differently, at all levels within its organisational culture."

"Incentives could take the form of social recognition in the community, CEO awards and other forms of recognition and / or privileges that are socially valuable but don't need to have a high monetary value."

7.10 Innovation education, training and staff development

Education, training and development appeared in 26 per cent of responses. Specific actions identified by respondents centred on training for different types of staff in evaluation and implementation skills. There were 85 different comments within the four different areas.

Table 15 Definitions and actions linked to innovation training, education and staff development

Innovation training, education & staff development	Citation frequency	Specific actions
Improve the understanding of frontline workforce about innovation through training and development	32 (14%)	<ul style="list-style-type: none"> Introducing the evaluation and implementation skills required for successful innovation into the undergraduate and postgraduate training programmes would play a long term part in further embedding a culture of continual improvement. Recognition that implementing innovation requires specific skills; and by equipping managers, clinicians and commissioners with these skills provide training for them. Local organisations need to develop the leadership capacity of both clinicians and managers, and to help them to develop their understanding of successful strategies for change management.
Improve understanding of managers about innovation through training and development	19 (8%)	
Improve the understanding of commissioners about innovation through training and development	11 (5%)	
Improve the level of understanding of information technology among NHS staff generally	1 (0%)	

Figure 22 shows that relatively few respondents included *innovation training and development* in their responses.

Figure 22 Innovation education, training and development responses by organisation type

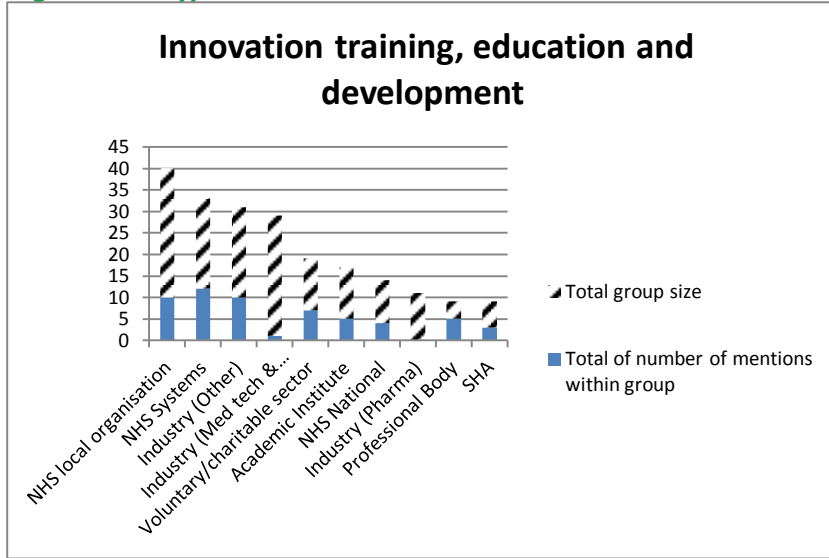
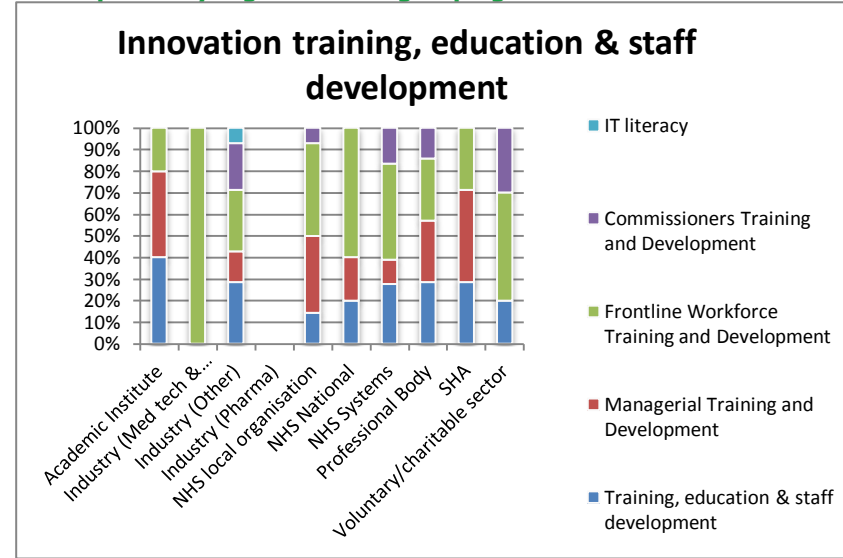


Figure 23 shows that the *Training of front line workforce* in innovation was featured by all the organisational types which responded in this theme.

Figure 23 Components of Innovation education, training and development by organisational grouping



The following quotes from the responses concern **innovation education and staff development:**

"Local organisations need to develop the leadership capacity of both clinicians and managers and help them to develop their understanding of successful strategies for change management."

"Enhancement of managerial skills, capacity and leadership would make innovation smoother and less traumatic."

"Educate NHS senior management to understand innovation management as a professional competency."

"Training could be available / developed for clinical leaders to champion and develop strategies for innovation in their organisation."

"Relevant training should be commonplace – including in the training of junior doctors, the development of clinicians, consultants, nurses and other NHS staff."

"It is clearly important to ensure that local innovation developments are fully and quickly incorporated in future workforce development programmes and that close links are maintained with these programmes."

"When staff feel besieged and worried about their jobs and when there are less people to do more work they turn inwards and stop learning and innovating. Staff are inundated with e mails, web information etc. They need to have the capacity to learn. Bottom-up discussion needs to take place in all settings with staff to help them develop the capacity to learn more effectively. Practical ideas include: having a day where no emails are sent unless urgent, and supporting staff to spend one hour accessing best practice. Mentoring of staff from other areas is something that also needs to be considered."

7.11 Organisational structures and change

Organisational structures and change was cited by 26 per cent of the respondents. These actions centred on the need to change how the health and care sector was organised to allow for, and as a means to, the successful spread of innovation. Specific actions identified were disruptive change, aligning structures and ensuring that structures were supportive of innovations (excluding *horizontal knowledge exchange and networks*). There were 60 different comments within the three different specific actions.

Table 16 Definitions and actions linked to organisational structures and change

1. Organisational structures and change	Citation frequency	Specific actions
Maintain or develop organisational structures that support innovation , excluding horizontal networks	18 (8%)	<ul style="list-style-type: none"> • Devolve more responsibilities and resources for innovation from the centre. More of the responsibility for innovation (and of the resources that support it) should be devolved from the centre to Trusts
Disruptive change: acknowledge that innovations are disruptive to existing ways of working and established interests, and seek ways to overcome this	13 (6%)	<ul style="list-style-type: none"> • Identify mechanisms for creation of new entrants or disruptive innovation
Improve and align incentives for organisations to adopt innovation	13 (6%)	<ul style="list-style-type: none"> • Align incentive along the whole patient pathway which will cross organisational boundaries

The graph in Figure 24 shows that the *organisational structures and change* theme was not highly ranked by any of the organisational groups – and was not mentioned by industry (pharmaceutical) respondents.

Figure 24 Organisational structures and change responses by organisation type

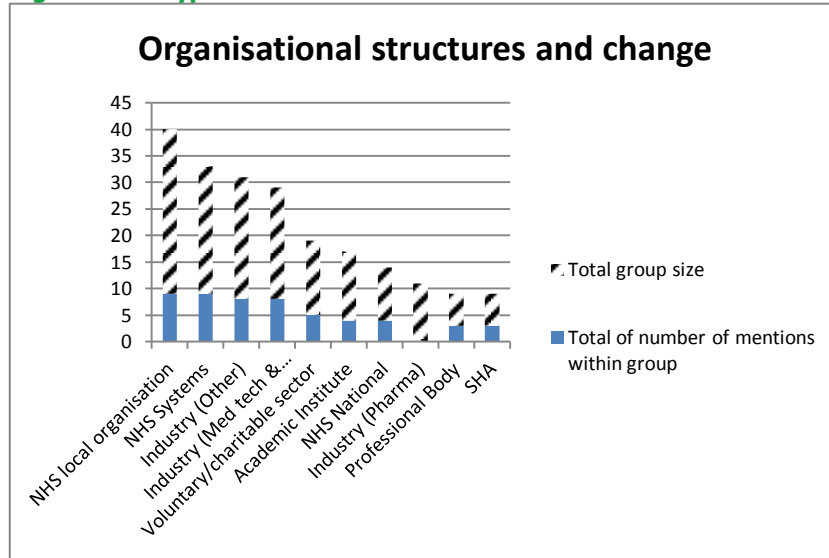
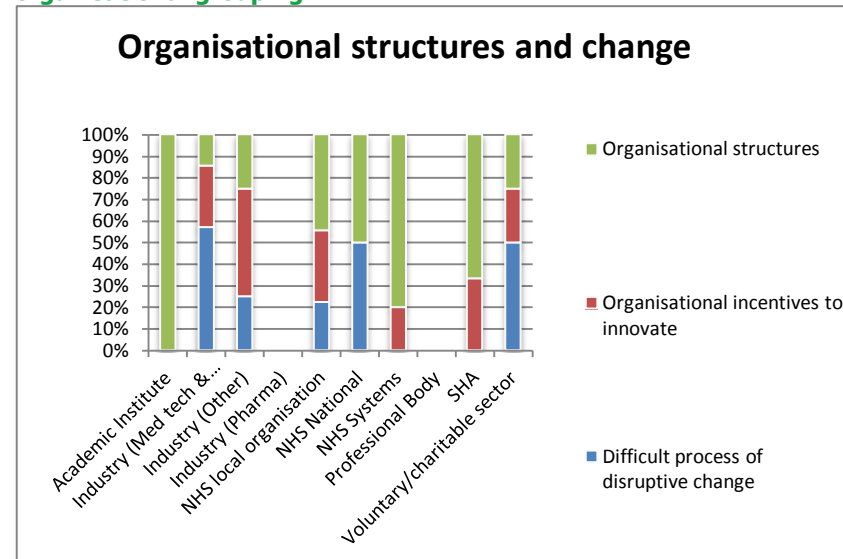


Figure 25 shows that disruptive change was only mentioned 13 times in six per cent of responses. Academic institutions, NHS systems, professional bodies and SHAs did not mention disruptive change.

Figure 25 Components of organisational structures and change by organisational grouping



The following quotes from the responses concern **improving organisational structures**:

"The structure of the NHS and barriers to innovation often has a "dampening" effect on bottom up innovations."

The NHS needs to "create a conducive environment for disruptive innovation...Strategic Health Authorities would be in a prime position to take a strategic view on which Disruptive Innovations to consider and then support a local / regional NHS leader who would champion the testing and adoption of the innovation. The NHS needs to consider how this process would be managed once the SHA's are disbanded."

"There is a sense that maintaining existing systems and processes is the safer course of action. There is insufficient recognition that sticking with the status quo is itself a decision that must be justified."

"The NHS must have a mechanism for new entrants, and for successful operations to grow. For this to happen it must also have a mechanism for unsuccessful institutions to close."

"Diffusion does not occur rapidly and effectively within stable, rigid, hierarchical systems. Diffusion requires a level of instability and fluidity where new innovative practices can displace more traditional ways of working."

"Better alignment of commissioners / procurement targets / objectives to considering NHS Innovations both within their own Trust but importantly to take on solutions from other Trusts."

"Improving cohesion between bodies such as NTAC, ILSDB, NHS Institute and others. Clarification of all organisations operating in the innovation landscape, their roles and co-ordination of their activities under the NHS Commissioning Board may assist in promoting consistent messages and the alignment of limited resources for maximum benefit."

"The NHS landscape of organisations that claim responsibility for innovation is crowded and confusing. Examples include: NHS National Innovation Centre; NHS Innovation Hubs; NHS Institute for Innovation and Improvement; NHS Technology Adoption Centre; NHS Information Centre. This has resulted in overlapping responsibilities: the NHS National Innovation Centre and the NHS Institute for Innovation and Improvement both aim to support innovators, clinicians and commissioners to develop and deliver innovations to improve healthcare provision in the NHS. There appears to be a strong case in favour of rationalising and streamlining the number of NHS organisations responsible for innovation."

"Research centres of excellence, including the Biomedical Research Centres, the Biomedical Research Units, and the Academic Health Science Centres should have a core role to play in generating and accelerating the adoption of innovations within the NHS. These centres are well placed to drive innovation, and to develop and share best practice."

7.12 Staff engagement

Staff engagement was only cited by 19 per cent (44 times) of the respondents as being important to spread of innovation. There were four more specific actions mentioned by respondents as part of the staff engagement theme; co-design, consultation, communication and campaigning.

Table 17 Definitions and actions linked to staff engagement

Staff engagement	Citation frequency	Specific actions
Communicate more frequently and effectively with staff about specific innovations	14 (6%)	<ul style="list-style-type: none"> Introduce mass media communication e.g. NHS Innovation Bulletin which goes to all NHS staff to make them aware of potential innovations.
Co-design and involve staff in the design of innovations	14 (6%)	<ul style="list-style-type: none"> Future users of innovations need to be involved with designing and prototyping innovations.
Consult and involve staff more widely and deeply	5 (2%)	<ul style="list-style-type: none"> Users and implementers of products and services should also be involved in the procurement process. This will help create buy-in and support from the bottom up and allow front-line staff to drive the uptake of innovation where necessary.
Campaign with staff for the uptake of innovations	4 (2%)	<ul style="list-style-type: none"> Need effective marketing strategies to allow for uptake-this includes educational marketing - information for senior managers about required resources, generic education by a clinician to other referring clinicians to explain / justify use of (tele-medicine) information demonstrating the strategic fit between health and organisational goals.

Figure 26 shows that there were very few responses about the need for *staff engagement* to enable adoption and diffusion although it was mentioned consistently across all organisational groups. The NHS Systems group cited actions in this theme most frequently.

Figure 26 Staff Engagement responses by organisation type

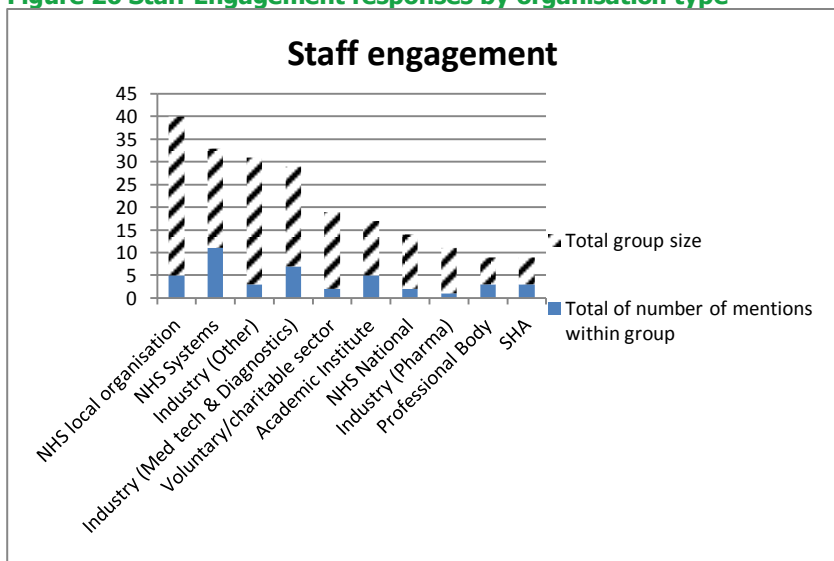
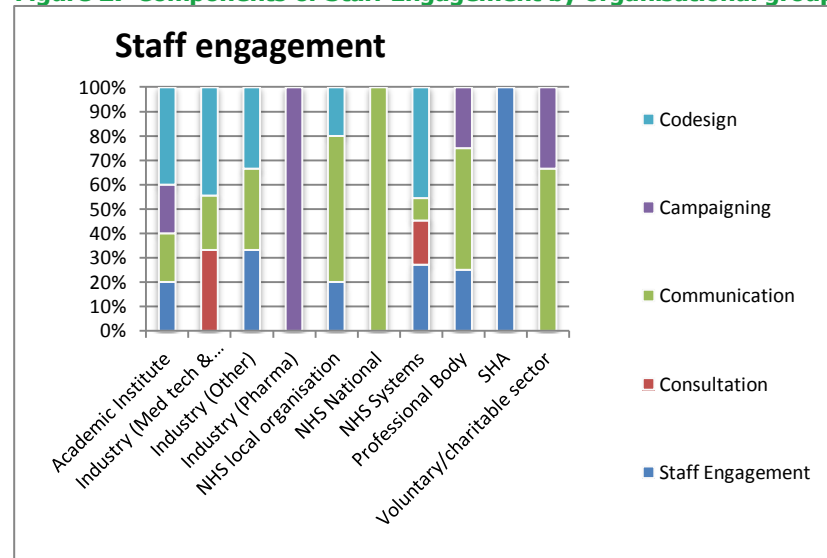


Figure 27 shows that *Communication* and *co-design* was cited by all organisational types except SHAs and industry (Pharmaceutical) but it appeared in only six per cent of responses.

Figure 27 Components of Staff Engagement by organisational grouping



Quotes regarding **staff engagement**:

"The spread of innovation will only be successful if... healthcare professionals are supportive of it."

"Clinical engagement early on in adoption and spread initiatives is vital to achieving success."

"Create a NHS Innovation Bulletin which goes to all NHS staff to make them aware of potential innovations."

"At national level the NHS should both raise awareness of the existing information on innovations that have proved successful but also consider how best to engage NHS staff with how to effectively implement innovation."

"We draw the inquiry's attention to the extensive evidence base on the importance of dialogue and sense-making within a learning organisation as a means of encouraging innovation ... The point is not quite that everyone must come to use a 'common language', but that the process of dialogue, debate and deliberation enables people to learn where others are coming from (i.e. surface the different 'languages' and learn to accommodate them)."

"No company would launch a new product by releasing evidence of its efficacy, and waiting for the phone to ring. Innovations need to be supported by campaigns, networks, advertising and marketing."

7.13 Procurement

Procurement was cited by 17 per cent (39 times) of the respondents. The importance of *procurement*, recognising the need for transition between incubating and developing innovations and mainstreaming them was recognised more by industry partners than by the NHS.

Table 18 Definitions and actions linked to procurement

Procurement	Citation frequency	Specific actions
<p>Changes to the procurement process to speed up procurement of innovations and increase VFM</p>	<p>39 (17%)</p>	<ul style="list-style-type: none"> • Create a level playing field for SMEs spinning out from universities and NHS trusts. • Improve the transparency and clarity around procurement processes. A helpful step would be greater transparency in the tendering process (perhaps around reasons for awarding contracts) - giving increased confidence to those bidding. • Procure centrally or in greater volume. The adoption process is slowed down though by going through a procurement process with each Trust. We would be able to provide better value for money if solutions could be purchased centrally or as a combination of multiple Trusts in one go. • Ensure procurement is aligned with clinical needs. Clinicians must be responsible for devising specifications aided by procurement teams – often it is the other way round, with the result that procurement is driven by a simplistic version of Most Economically Advantageous Tender that does not address best outcomes for patients at best value.

However, the number of responses on this theme was small and no detailed analysis was possible.

7.14 Risk management and failure

Risk management and failure was recognised by 14 per cent (33 times) of the responses almost all of which were around the need for the NHS being able to use failure as a learning exercise. This is particularly important in innovation where the failure of 'good' inventions is likely to be very high (around 80-90 per cent).

Table 19 Definitions and actions linked to risk management and failure

Risk management & failure	Citation frequency	Specific actions
Help the NHS to see failure as a learning experience	22 (9%)	<ul style="list-style-type: none"> There should be a clear understanding that a high proportion of innovations will have little or no real benefit, but are still part of the learning process and may in turn lead to change which is lasting and sustainable. Revise National Audit Office practical guidance for public sector organisations on the management of risk in respect to innovation and set in the context of the new NHS
Protect specific funding for innovation incubation and risk taking	1 (0%)	<ul style="list-style-type: none"> Need to ensure that funding and understanding support the incubation of new ideas and that many will fail.
Explicit ' failure process ' that allows the NHS to fail fast, and become better at decommissioning/disinvestment	1 (0%)	Review use of interventions which have been proven to be ineffective or dangerous – 'never' events.

However, the number of responses on this theme was small and no detailed analysis was possible

8 Discussion

There were 310 responses to the Call for Evidence and Ideas, all of which were positive and supportive of the need for action to accelerate the spread of existing innovations. This was a welcome endorsement of the NHS Chief Executive's Review of Innovation. The responses contained many thoughtful and useful ideas.

Responses stressed the spread of innovation can be blocked or diverted by an equally diverse range of factors from disincentives to cultural aversion. It can't be commanded, or simply incentivised.

235 responses were included in the analysis by the Young Foundation carried out on behalf of the Department of Health. 75 responses were excluded, the majority of which were straightforward pitches for specific products and did not address the issue of adoption and diffusion.

There were few solution-focused case studies included in the responses, with very few written up as case studies (with a timeline and evidence of successful adoption and diffusion). The responses contained many suggested examples and references of good ideas, but it was beyond the scope of this study to follow-up the suggestions and test if these could be helpful to others.

There were 43 different articles submitted as part of the response. The majority comprised grey literature which is important, but which is difficult to identify, sift and include in 'evidence'.

- The majority of responses were from the NHS and these were broadly consistent with their concerns.
- The response from the industry sector gave a strong unified voice and was good in quality and quantity.
- 2 CCGs and 6 PCTs responded, and 8 of the responses were from individuals, rather than organisations.

Most of the actions suggested incremental change rather than more disruptive actions. The analysis reinforces the:

- importance of horizontal knowledge exchange across organisational boundaries;
- need to create more demand in the system, including using national financial levers;
- a strong wish for a single place for those involved in innovation to go to find good intelligence about how to implement new ideas.

There was considerable convergence of thinking about what needs to be done, between all the different organisational groups, particularly the NHS and Industry.

In summary, there is a clear challenge to the NHS and partners to get more innovations spread at pace and at scale. The actions identified in this report provide a rich source of information about where to start.

Appendix A: Summary of literature supplied

Academic articles cited:

Citation	Abstract
<p>Gerry McGivern, Sue Dopson (2010) 'Inter-epistemic Power and Transforming Knowledge Objects in a Biomedical Network' <i>Organization Studies</i>, 31 (12), pp. 1667-1686.</p>	<p>We examine a multi-disciplinary network established to translate genetics science into practice in the British NHS. Drawing on theory about epistemic communities and objects, we describe three stages in their lifecycle (vision/formation, transformation and reincarnation) and epistemic clashes over knowledge objects. Medical academics captured jurisdiction over the network at formation, through their superior knowledge of the nascent genetics discipline, producing epistemic objects reflecting their interests. A governmental community challenged medical academics for jurisdiction but, unable to transform objects by changing their space of representation in performance reporting, ceased funding the network, which then closed. Afterwards, however, a NHS community successfully 'reincarnated' a discarded epistemic object into a technical object in NHS practice. We make a theoretical contribution by developing a processual framework for understanding biomedical innovation, focusing on transforming objects situated between different wider knowledge/power structures. This explains how objects were transformed at micro-level through the interaction and relative power of local communities, influenced by macro-level rules about knowledge formation in wider epistemic, organisational and governmental communities.</p>
<p>Massoud MR, Nielsen GA, Nolan K, Schall MW, Sevin C. A Framework for Spread: From Local Improvements to System-Wide Change. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2006.</p>	<p>A key factor in closing the gap between best practice and common practice is the ability of health care providers and their organisations to rapidly spread innovations and new ideas. Pockets of excellence exist in our health care systems, but knowledge of these better ideas and practices often remains isolated and unknown to others. One clinic may develop a new way to ensure that all diabetics have their HbA1c levels checked on a regular basis, or one medical-surgical unit in a hospital may develop a consistent way to reduce pain for post-operative patients. But too often these improvements remain unknown and unused by others within the organisation. Organisations face several challenges in spreading good ideas, including the characteristics of the innovation itself; the willingness or ability of those making the adoption to try the new ideas; and characteristics of the culture and infrastructure of the organisation to support change.</p> <p>In 1999, the Institute for Healthcare Improvement (IHI) chartered a team to develop a "Framework for Spread." The stated aim of the team was to "...develop, test, and implement a system for accelerating improvement by spreading change ideas within and between organisations." The team conducted a review of organisational and healthcare literature on the diffusion of innovations, and interviewed organisations both within and outside of healthcare that had been successful in spreading new ideas and processes, including Luther Midelfort Health System, Mayo Health System, Virginia Mason Medical Centre, and Dean Health System.</p> <p>Since then, the Framework for spread and our deeper understanding of its content have continued to evolve. This white paper provides a snapshot of IHI's latest thinking and work on spread. It is divided into two parts:</p> <p>The first part of the white paper describes the major spread projects that IHI has supported through early 2006,</p>

	<p>and harvests the lessons we have learned about the most effective ways to: Prepare for spread; Establish an aim for spread; and Develop, execute, and refine a spread plan.</p> <p>The second part of the white paper is a reprint of an article published in the June 2005 issue of the Joint Commission Journal on Quality and Patient Safety, describing how the Veterans Health Administration (VHA) used the Framework for Spread to spread improvements in access to care to more than 1,800 outpatient clinics.</p>
SMITH, Michael and CLARK, Richard (2010). Commercialisation of innovations from the UK National Health Service. <i>International Journal of Technology Transfer and Commercialisation</i> , 9 (3), 238-254.	<p>The potential opportunities offered by developing innovative ideas from staff within the UK National Health Service (NHS) was recognised in 2000 and this paper describes a regional organisation, Medipex, which was set up to undertake technology transfer and commercialisation of innovations from the NHS in Yorkshire. The approach adopted by Medipex has been shown to be a successful model for the commercialisation of IP, obtaining private sector investment and winning external recognition after its first three years trading. Analysis of the outputs demonstrates that though the majority of ideas emerge from service use, the innovations that have high-value commercial potential emerge from research undertaken in the hospitals.</p>
Plsek, P. 2003. Complexity and the Adoption of Innovation in Health Care. Paper presented at Accelerating Quality Improvement in Health Care: Strategies to Accelerate the Diffusion of Evidence-Based Innovations. Washington , D.C. : National Institute for Healthcare Management Foundation and National Committee for Quality in Health Care	<p>This document is a paper prepared for Accelerating Quality Improvement in Health Care: Strategies to Speed the Diffusion of Evidence-Based Innovations. This paper examines what it means to say that healthcare is complex and how that complexity affects the generation and spread of process innovations.</p>
GREENHALGH, T., ROBERT, G., MACFARLANE, F., BATE, P. and KYRIAKIDOU, O. (2004), Diffusion of Innovations in Service Organizations: Systematic Review and Recommendations. <i>Milbank Quarterly</i> , 82: 581–629. doi: 10.1111/j.0887-378X.2004.00325.x	<p>This article summarises an extensive literature review addressing the question, How can we spread and sustain innovations in health service delivery and organisation? It considers both content (defining and measuring the diffusion of innovation in organisations) and process (reviewing the literature in a systematic and reproducible way). This article discusses (1) a parsimonious and evidence-based model for considering the diffusion of innovations in health service organisations, (2) clear knowledge gaps where further research should be focused, and (3) a robust and transferable methodology for systematically reviewing health service policy and management. Both the model and the method should be tested more widely in a range of contexts.</p>
Franco LM, Marquez L. 2011 Effectiveness of collaborative improvement: evidence from 27 applications in 12 less-developed and middle-income countries. <i>BMJ QualSaf.</i> 2011 Aug;20(8):658-65. Epub 2011 Feb 11.	<p>Introduction. The improvement collaborative approach has been widely promoted in developed countries as an effective method to spread clinical practices, but little has been published on its effectiveness in developing country settings. Between 1998 and 2008, the United States Agency for International Development funded 54 collaboratives in 14 low and middle-income countries, adapting the approach to resource-constrained environments.</p> <p>Methods. The authors analysed data on provider compliance with standards and outcomes from 27 collaboratives in 12 countries that met study inclusion criteria (at least 12 months of data available for analysis and indicators</p>

	<p>measured as percentages). The dataset, representing 1338 facility-based teams, consisted of 135 time-series charts related to maternal, new born and child health, HIV/AIDS, family planning, malaria and tuberculosis. An average of 28 months of data was available for each chart.</p> <p>Results. 87% of these charts achieved performance levels of 80% or higher, and 76% reached at least 90% performance, even though two-thirds had a baseline performance below 50%. Teams achieved average increases of 51.9 percentage points (SE=28.0) per chart, with baseline value being the main determinant of absolute increase. Teams consistently maintained this level of performance for an average of 13 months (69% of months of observation). The average time to reach 80% performance was 9.2 months (SE 8.5), and to reach 90% performance, 14.4 months (SE=12.0).</p> <p>Conclusion. Collaborative improvement can produce significant, sustained gains in compliance with standards and outcomes in less-developed settings and merits wider application as a strategy for health systems strengthening.</p>
<p>Massoud MR, Donohue KL, and McCannon CJ. Options for Large-scale Spread of Simple, High-impact Interventions. Technical Report. Published by the USAID Health Care Improvement Project. Bethesda, Maryland: University Research Co., LLC; 2010</p>	<p>The Surgical Safety Checklist has the potential to save untold lives worldwide and to prevent even more surgical harm. Such success, however, will rest on effective implementation, which in turn will require adoption by many thousands of surgical practitioners, working in different cultures and contexts, many of them in remote, hard-to-reach areas.</p> <p>The World Health Organisation Patient Safety Programme and the Harvard School of Public Health commissioned the United States Agency for International Development's Health Care Improvement Project (HCI) to present its understanding of and experience with the effective adoption of simple, high-impact interventions, such as the surgical checklist. All too often in healthcare, evidence-based interventions that have been shown to produce superior results in certain locations do not spread to other sites. Therefore, practitioners of healthcare improvement have broadened their focus to not only develop superior models of care but also to take such models to larger scale by focusing on intentional spread, to more rapidly meet the needs of large numbers of patients. Such spread requires making changes in the organisation of care delivery, policies, resources, and other factors that will influence the uptake of the superior model.</p> <p>In planning to spread an evidence-based intervention, we must consider three key questions: 1) What are we trying to spread? 2) To whom do we want to spread it, and by when? And 3) How will we spread it? This paper lays out a practical framework for spread that addresses these three questions and then discusses several illustrative approaches for spread and lessons learned from applying them. The paper concludes with lessons learned from large-scale spread that can inform the spread of the surgical checklist and other simple, high-impact interventions.</p>
<p>Reinertsen JL, Bisognano M, Pugh MD. Seven Leadership Leverage Points for Organization-Level Improvement in Health Care (Second Edition). IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2008</p>	<p>Leadership models and frameworks can provide a roadmap for leaders to think about how to do their work, improve their organisations, learn from improvement projects, and design leadership development programs. Because IHI has gained a lot of new knowledge and field examples, and we are also faced with questions about relationships among various IHI leadership frameworks — such as will-ideas-execution, the IHI Framework for Leadership for Improvement, and the IHI Framework for Execution — we thought it was timely to write a Second Edition of our white paper, Seven Leadership Leverage Points for Organisation-Level Improvement in</p>

	<p>Health Care.</p> <p>Since publishing the First Edition in 2005, we have learned a great deal about what it takes to achieve results in quality and safety at the level of entire organisations and care systems. We have noticed, for example, that many of the leverage points work well in the field without much modification, whereas others seem to need some reframing, or a special emphasis on particular elements within the leverage point, or even substantial revision.</p> <p>The Second Edition (2008) white paper incorporates this continued learning, particularly on the subject of execution, provides specific examples of the field application of each leverage point, and describes the relationship between the leverage points and other IHI leadership frameworks. The paper also includes a self-assessment tool designed to help leaders design and plan their work to lead to a significant reduction in one or two system-level measures.</p> <p>As part of IHI's work of supporting and encouraging leaders of innovative health systems, this white paper presents what we believe to be some important leverage points for leaders who want to achieve dramatic, system-level performance improvement. This set of leverage points is not offered as a tried-and-true method, but as a theory — one that we hope will be useful for individual leaders in planning their work and for us in organising a support and learning system to share best practices and results across organizations; and from which all of us can learn about what works, and what doesn't in bringing about large-system change in healthcare.</p> <p>IHI's Innovation Series white papers were developed to further our mission of improving the quality and value of healthcare. The findings and tools in these reports provide you with an opportunity to understand and evaluate the issues, and begin testing changes that can help your organisation make breakthrough improvements.</p>
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Grey literature cited:

Author, Title	Description
"After the light bulb": accelerating diffusion of innovation in the NHS - David Albury, Amanda Begley, Paul Corrigan, Sarah Harvey, Laurie McMahon	In recognition of the limited effectiveness of traditional approaches to diffusion, UCL Partners on behalf of NHS London undertook the After The Light Bulb project to achieve a breakthrough in thinking and action, leading to more rapid and effective diffusion. The project brought together a group of experts from a range of disciplines and perspectives to cast light on why the problem of diffusion might exist within the NHS and what characteristics and conditions might need to be developed within the NHS to address this problem. This paper builds on the rich and powerful insights and perspectives of these experts and draws on the extensive research on diffusion of innovation in various sectors, systems and countries as well as the authors' experience of working in and with organisations throughout the NHS. The report made a series of recommendations - strengthen and exploit provider autonomy, incentivise and reward scaling and spreading, actively decommission and disinvest, encourage competition, focus investment and risk capital, engage and mobilise patients and carers, build alliances across internal and external networks, provide granular, accessible comparative performance information & acknowledge necessary instability and fluidity.
A summary of Diffusion of Innovations - Les Robinson	Diffusion of Innovations seeks to explain how innovations are taken up in a population. The paper offers insights into the process of social change - including the qualities that make an innovation spread successfully, the importance of peer-peer conversations and peer networks & the need to understand the needs of different user segments.
An Inside View of IBM's 'innovation jam' - Osvald M. Bjelland and Robert Chapmand Wood	This paper outlines IBM's concept of an "Innovation Jam" - an online parallel conference to share and generate ideas between IBM's 346,000 employees. It used a group of interlinked bulletin boards and related web pages on IBM's intranet, with systems for centrally managing these boards, with the aim to give people a sense of participation and being listened to, while generating valuable new ideas. It used a carefully designed system for reviewing vast numbers of posts, which then enabled the company to initiate important courses of action. They also hosted a "Jam" to launch new technologies. The first "Jam" took place in two three days phases in 2006. IBM tracked the projects that received \$100m in funding based on the Jams results - and the data shows that it was successful to a considerable degree in uncovering and unlocking new ways to use technology. This paper outlines both the difficulties and successes of the process, in particular it highlighted how many people throughout a network may have important strategic ideas, but it also revealed limitations in how most people recognise and build on each others ideas online.
Analysis of survey about adoption and spread of health and care innovation & improvement - NHS Life Sciences Innovation Delivery Board	This paper presents the results of an online survey on adoption and spread of health and care innovation. There were 444 responses to the survey from across the health and care sector. The survey identified three main actions to increase the adoption and diffusion of innovation: changes to funding mechanisms and structures, changes to the innovation pathway processes and support mechanisms and improved information and evidence of effectiveness. The lack of incentives and rewards was highlighted as a reason for innovations failing to spread.
Better health through partnership: a programme for action - Healthcare Industries Task Force	This report is from the Healthcare Industries Task Force (HITF) which was established to explore issues of common interest and identify opportunities for co-operation that would bring benefits for patients and service users, health and social care services, and industry. The report dates from 2004, and its policy recommendations were taken forward by the Post HITF SIG (Strategic Implementation Group), leading to the establishment of the NIC, the Technology Strategy Group, the Bioscience and Health Technology Database, Collaborative Procurement Hubs and a number of other prominent initiatives. This report reflects on the process undertaken to achieve these policy recommendations, and some of the complexities which the Task Force faced.
Cultivating organisational creativity in an age	This IBM Creative Leadership Study found that leaders who embrace the dynamic tension between creative disruption and

of complexity: A companion study to the IBM 2010 Global Chief Human Resource Officer Study - Barbara J. Lombardo and Daniel John Roddy	operational efficiency can create new models of extraordinary value. It outlines qualities creative leaders should have to enable innovation.
Delivering Healthy Ambitions Better for Less - NHS Yorkshire and Humber	This response from Kirklees Community Healthcare Services outlines a project carried out jointly with the local ambulance service to reduce the number of frequent callers to the 999 ambulance service. The challenge was to secure significant savings and quality improvements by reducing the number of inappropriate ambulance calls and journeys, unnecessary A&E attendances and hospital admissions. This was done by identifying frequent individual callers and care home callers from other callers, and offering different responses and management. Evidence indicates that this project brought about increased levels of patient satisfaction, reduced hospital in patient stays and reduced emergency calls.
Empowering Change: Fostering Innovation in the Australian Public Service - Australian Public Service Management Advisory Committee	This report was commissioned by the Management Advisory Committee (MAC) to consider how to develop and strengthen a culture of innovation in the Australian Public Service (APS). Building on UK literature and learning, the report makes 12 recommendations designed to support and drive an innovation culture within the APS. These recommendations centre on: strategy and culture, leadership, systemic/structural issues, resourcing and managing innovation in the APS & finally recognition, sharing and learning.
Evaluating the Effectiveness of Treatment in the Therapeutic Community: CORE Outcomes and Health Care - Rawlinson, D and Bennett, C	The aim of this investigation and paper was to evaluate the effectiveness of the therapeutic community (TC) for individuals with complex needs (Personality Disorder), with regards to healthcare service usage pre and post-treatment. The investigation found that the average number of healthcare contacts made by patients in the two years before they entered the TC was significantly higher than the number of contacts made in the two years following discharge from the TC. Another aim of the study was to evaluate the effectiveness of the TC according to treatment outcomes measuring functioning, wellbeing, presenting problems, and risk. Overall, the investigation indicates the clinical effectiveness of treatment in a TC for complex needs patients, and suggests cost-effectiveness with regards to significantly reduced healthcare service contacts post-treatment.
Evidence Based Orthotic Clinical Services – RSL Steeper	This paper outlines the potential of orthotic and diabetes service provision to achieve significant health, quality of life and economic benefits for the NHS if a comprehensive, integrated service can be provided throughout the patient pathway.
Experience of the Toyota Production System in the NHS in the North East of England - Stephen Singleton, Sir Peter Carr	This paper outlines the approach used by the North East Transformation System (NETS), which combines ambitious vision, a “compact” (aligning culture with vision) and a continuous improvement method based on the Toyota Production System (TPS) – as adapted by the Virginia Mason Medical Centre (VMMC). NETS shows the expected positive results of adopting and adapting TPS, and the authors briefly analyse the success of VMMC and discuss the features of positive adoption of NETS – compared with organisations that have not been as successful. The authors believe that the current transformation of the NHS in England is a possible catalyst for the wider use of NETS.
Factors Influencing the Adoption and Implementation of Teledentistry in the UK - Reena Neha Patel BDS MFDS RCS	This study draws on Rogers’ diffusion of innovation theory to demonstrate the factors that negatively impact upon the adoption and implementation of teledentistry. The model describes five characteristics of an innovation: relative advantage, compatibility, complexity, trialability and observability. These attributes are discussed in the context of key stakeholder groups within a healthcare organisation: dentists / doctors, patients, hospital managers, and healthcare decision-makers and funders. This study aims to develop a better understanding of the challenges faced in these kinds of projects and suggests future recommendations to guarantee success.
Fortune 1000 Executives’ Perspectives on Enterprise Innovation - Harris Interactive	This submission outlines the conclusions from an online survey that was conducted by Harris Interactive on behalf of Olympus Corporation of America among 304 Fortune 1000 executives using Harris Interactive’s Executive Omnibus. It

	found that the vast majority of executives understand enterprise innovation to be extremely or very important for driving business growth, profitability, attracting and keeping talent, and brand prestige. The overall survey findings suggest that companies must first develop or improve operations and processes that can serve as the foundation for their creations.
High Performing Healthcare Systems: Delivering Quality by Design (Chapter 4) - G. Ross Baker	This chapter outlines the work and achievements of Jonkoping County Council - a county in south Sweden, which has gained national and international recognition for making and sustaining large scale improvements in health care. It outlines innovative practices adopted, and the social values on which the Swedish healthcare system was founded.
How do innovation and improvements in health and care get adopted and spread? Framework for analysis - NHS Life Sciences Innovation Delivery Board	This document is a conceptual framework for analysis about how innovations get effectively spread within the (NHS). 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 diffusion requires top-down decisions, as well as bottom-up pressures, to be spread at scale. We have developed a possible framework for the adoption and diffusion 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.
How IBM innovates - Anders Quitzau	This presentation outlines the approach, strategies and values IBM adopts to support innovation in their organisation.
How to deliver high-quality, patient-centred, cost-effective care - Consensus solutions from the voluntary sector	This publication is the collective effort of ten leading health and social care organisations in the voluntary sector. Each organisation submitted evidence to The King's Fund, which independently analysed and assessed each submission and worked with the organisations to establish a common position. Together they have identified the five key themes that the health and social care system must embrace to be sustainable and to ensure quality. The themes are: co-ordinated care, patients being engaged in decisions about their care, supported self management, preventions, early diagnosis and intervention & emotional, psychological and practical support. The paper also presents evidence of the financial benefit of a range of specific interventions and services, based on research and evaluations conducted by the contributing organisations.
Improving Home Oxygen Services: Emerging Learning from the National Improvement Projects - NHS Improvement	This paper outlines the potential role of home oxygen services, and contains a number of examples that demonstrate value for money, increased productivity and approaches that can sustain improvements over the long term. The publication contains information for healthcare professionals and those working in commissioning or interfacing with chronic obstructive pulmonary disease (COPD) services. It also outlines emerging key themes allowing for service innovation, including the need for consistent data co-ordination between clinical, managerial and administrative staff, a consistent message to patients regarding treatment options, and the need for service integration across GPs, commissioners, specialist providers and non specialist providers.

<p>Innovation and Spread- increasing the rate of introduction of clinical innovations in the NHS - Dr Tricia Woodhead</p>	<p>This submission proposes a three tier structure for an innovation network within the NHS; the team (micro-system), the health economy unit: the provider organisation and the commissioning body (the meso-system) and at a strategic level, the Region (the macro-system). It is proposed that the value of a three tiered approach is to tailor skills and systems to the specific needs of each tier, and enables a wider group of researchers, innovators and talent to collaborate. As a consequence, it is then suggested that a far wider degree of consistency in shared learning can occur in embedding best practice.</p>
<p>Intellectual Property and DNA Diagnostics - Human Genetics Commission</p>	<p>This report is a synthesis of a seminar convened by the Human Genetics Commission in October 2010 on the impact of DNA patents on diagnostic innovation. The seminar brought together a wide range of stakeholders, and discussion was facilitated under the Chatham House Rule in order to encourage an open exchange of views. The main aim of the seminar was to inform policy deliberation in the UK by collecting evidence and views on the impact of DNA patenting on innovation in diagnostics, and by eliciting views on what might constitute fair and equitable frameworks for intellectual property (IP) in the field of diagnostic testing. The seminar revealed a profound tension between the industry's desire to exploit the financial value of biomarker patents and the routine infringement of such IP in NHS laboratories. Using biomarkers as a case study, the paper makes a series of recommendations which include the need for research companies and other biomedical researchers to review their guidelines on licensing, to establish monitoring functions within the DH, to support senior management and to generate more independent evidence and evaluation.</p>
<p>Issues and Ideas on Innovation Informing the NHS Next Stage Review - Jonathan Grant, Philipp-Bastian Brutscher, Annalijn Conklin, Michael Hallsworth, Anna-Marie Vilamovska, Evi Hatziandreu</p>	<p>This document briefing, prepared for the Department of Health, presents a 'think piece' on the key issues and ideas on innovation in the NHS. The objective of the work was to provide a challenge function for the Department of Health on its work around innovation for the NHS Next Stage Review. In summary, the paper identifies five key issues, and five key 'ideas', that the Department needs to consider in conceptualising an innovation policy for the NHS. These five ideas are: leadership and culture are both key, there is a need to Increase the price elasticity of health, information should be used to increase competition, prizes should be used to incentivise innovation, and procurement should be used to stimulate innovation.</p>
<p>MAKING CHANGE WORK - IBM</p>	<p>IBMs Making Change Work Study focuses on how to close the "Change Gap" - the disparity between expecting change and feeling able to manage it. Through surveys and face-to-face interviews with more than 1,500 practitioners worldwide – project leaders, sponsors, project managers and change managers – IBM gained practical knowledge about how to increase the likelihood of project success. This paper outlines the qualities of "change masters" - those who successfully meet project objectives, and "change novices" - those who do not. The detailed analysis of study results that achieving project success does not hinge primarily on technology – instead, success depends largely on people.</p>
<p>NHS Hampshire: Evaluation of Vantage Teledermatology (VTD) Pilot in Hampshire - PWC</p>	<p>NHS Hampshire conducted the first Vantage Teledermatology (VTD) pilot across six localities in the PCT. This paper outlines the potential financial and clinical benefits of the service, and gives recommendations to encourage the up take of VTD across the PCT - including provision assessment and service redesign, and the introduction of appropriate PCT controls including guidelines and contractual agreements.</p>
<p>Orthotic Service in the NHS: Improving Service Provision - JOHN HUTTON, MANJUSHA HURRY</p>	<p>This paper outlines the potential of orthotic service provision to achieve significant health, quality of life and economic benefits for the NHS if a comprehensive, integrated service can be provided, throughout the patient pathway. It highlights case studies, which they believe, if scaled, could save lives and money.</p>

Promoting and Embedding Innovation: Learning from experience - Lestyn Williams, Debra de Silva and Chris Ham	This report highlights areas which SHAs may wish to consider " for spreading innovation". These are: building on previous NHS experience of what has and hasn't worked, engaging frontline staff and mobilise commitment to change from within, adopt a campaigning approach to support action on key priorities, support leaders and innovators through training and creating slack, making it easier to find and share knowledge about innovations, learning from others with a track record of innovation, value and celebrating innovation and innovators, fostering links with the private sector, nurturing innovation brokers and champions and using incentives to drive innovations.
Pushing the boundaries: Evidence to support the delivery of good practice in audiology - NHS Improvement	During 2009/10, NHS Improvement worked with 18 pilot sites across England as part of the Department of Health (DH) National Audiology Programme to identify and share innovative ways to improve the quality of patient experience, increase productivity and sustain improvements over the long term. This publication was written to share the learning from this pilot phase of the NHS Improvement Audiology Programme. Through a series of case studies and examples, it aims to highlight areas of innovative and emerging good practice that can be used locally to deliver improvements for audiology patients and their carers. This report contains information for those professionals working in, commissioning or interfacing with, audiology services.
Research into the Barriers & Enablers of Innovation within NHS Ayrshire & Arran - Robert Macfarlane	This paper was submitted as part of a respondent's research project into the barriers and enablers of innovation within NHS Ayrshire & Arran. Overall, findings suggested that frontline staff do not fully understand what innovation is and innovators or people with an entrepreneurial spirit are poorly recognised and often the NHS doesn't know how to best manage these individuals. Lastly, it is not clear whose responsibility it is to find, nurture or support innovators and there are not enough clear systems or processes in place which help support initial ideas.
Seeing the Light - Audit Commission	This paper outlines key recommendations that the Audit Commission believe Local Authorities should adopt to innovate and improve services. It outlines the benefits of innovation, the importance of organisational culture, key drivers of delivering and implementing innovations, and lastly how to successfully disseminate innovation.
Service innovation: a virtual informal network of care to support a 'lean' therapeutic community in a new rural personality disorder service - MIKE RIGBY AND DALE ASHMAN	This article presents a brief overview of service user-led informal networks of care in therapeutic community practice and discusses the design and evolution of a new kind of network in one of the pilot services of the Department of Health National Programme for the Development of Services for People with Personality Disorder. The network discussed employs well-established internet messaging and chat room facilities uniquely structured and moderated to encompass therapeutic community principles and provide equality of access across a huge mixed urban and rural catchment area. The paper concludes that the success of this system in allowing challenging work to proceed in a much reduced therapeutic community programme may offer the prospect of many more community-based therapeutic communities to work at the heart of new personality disorder services.
Strengthening the spread of innovation in the UK's National Health Service - James Barlow (DRAFT: forthcoming in Stephen Osborne & Louise Brown (eds.) Handbook of Innovation and Change in Public Sector Services (Elgar, 2012))	This submitted draft chapter outlines the emerging research that offers clues about what precludes the sustainable adoption of healthcare innovation in public (non-profit) organisations delivering healthcare. It applies international healthcare research lessons to the NHS, and outlines the complexity of our healthcare system, issues around costs and financing, organisational structure, capacity for innovation, evidence based decision making and the need for effective communication and social networks.
The best of clinical pathway redesign - NHS Improvement	This paper outlines and showcases a range of innovations that have enabled patients to enjoy better health and well-being related to practical service improvements implemented across various clinical pathways. Some of the practical examples of service improvement have been endorsed by NICE as best practice.

<p>The Inconvenient Truth About Change Management - Scott Keller and Carolyn Aiken</p>	<p>This paper looks into why "change programs" fail, understanding employee attitudes and management behaviour and the biggest barrier. Conventional change management prescribes addressing these behavioural and attitudinal changes by putting in place four conditions: a) a compelling story, b) role modelling, c) reinforcement systems, and d) the skills required for change. The authors believe that it is these prescriptions which make things "fall apart." They argue that the inconvenient truth of human nature is that people are irrational in a number of predictable ways, and rational managers who attempt to put the four conditions in place by applying their "common sense" intuition typically misdirect time and energy, create messages that miss the mark, and experience frustrating unintended consequences. There is a need to understand the irrational (and often unconscious) nature of how humans interpret their environment and choose to act to ensure change.</p>
<p>The next leg of the journey: How do we make High Quality Care for All a reality? - Helen Bevan, Chris Ham, Paul E Plsek</p>	<p>This paper gives a review of the outputs of the Next Steps Review; focusing not on the 'what' of the specific proposals, but the 'how' of executing and delivering the anticipated changes. It outlines useful approaches which could be adopted, and what can be learnt from other aspects of public sector reform, looking at drivers such as performance management, incentives, user shaper services & strengthened capability of leadership and the workforce. The paper also outlines international case studies, and assesses the implications of Lord Darzi's "High Quality Care for All" policy recommendations.</p>
<p>The Relationship between Investments in Advanced Imaging Technology, Better Disease Prevention and a Leaner, More Cost Effective NHS - Association of Healthcare Technology Providers for Imaging, Radiotherapy and Care</p>	<p>This paper identifies numerous patient pathways that could be transformed with further investment in advanced imaging technologies, at the same time contributing to reducing the overall cost of care. It is argued that prudent investment in developments will result in faster, more accurate, safer and less invasive tests. The authors argue that technological investment will be central to QIPP and the delivery of the NHS five year strategies, "NHS 2010-2015 from Good to Great".</p>
<p>Turning best practice into common practice: Annual Report - Yorkshire and Humber HIEC</p>	<p>This annual report details Yorkshires and Humber's HIEC progress during the first year. The report outlines the current themes their work is focused on: Long Term Conditions, Maternal & Infant Health & Care and Patient Safety, and outlines their work completed to date.</p>
<p>Unlocking creativity in public services - Jane Steele and Kerri Hampton</p>	<p>This report discusses how public services can generate creativity to produce sustained public value, within a framework of accountability. It draws on a literature reviews, development interviews, research interviews and case studies. The report concludes that there exists the potential, as well as the need, for more creativity in public services. Public service organisations have proven their ability to initiate and implement innovations in their own work, and that creativity in public services is a collaborative process, not the product of isolated or atypical mavericks, and much can be done to foster this collaboration. To effect this creative change, the public sector need to be alert to opportunities for creative change, ensure that the essential ingredients for creativity are in place, support and manage the creative process and provide leadership to develop a climate for creativity inside an organisation and its external relations.</p>
<p>Working beyond Borders: Insights from the Global Chief Human Resource Officer Study - IBM</p>	<p>To better understand the boundaries that confine the workforce – and how to move beyond them – IBM conducted nearly 600 face-to-face interviews with HR executives and workforce strategists in diverse industries and institutions around the world, with input via surveys from more than 100 executives. The paper found that, while organisations continue to develop and deploy talent in diverse areas, the rationale behind workforce investment is changing. Unlike the traditional pattern of movement – in which companies in mature markets seek operational efficiency through headcount growth in emerging economies – IBM see workforce investment moving both ways. There is a need to combine efficiency with creativity, and nurturing these capabilities will require organisations to focus on cultivating creative leaders, mobilising their workforces for speed and flexibility and capitalising on collective intelligence.</p>

Appendix B: list of respondents

This is a list of the 224 responses that were included in the analysis and agreed to have their response published. These responses are available on the Department of Health website.

3M Health Care Limited
Abbott Vascular
Abies Ltd
Accenture
Advancing Quality Alliance
AIME
Alere Ltd
American Pharmaceutical Group's
Amgen
Anglia Ruskin University
Association for Clinical Biochemistry
Association of British Healthcare Industries Ltd
Association of Medical Research Charities (AMRC)
Association of the British Pharmaceutical Industry
AstraZeneca PLC,
Audit Commission
Austin, Chris
Basingstoke and North Hampshire NHS Foundation Trust
Baxter Healthcare Ltd
Berkshire Healthcare NHS Foundation Trust
Berry, Robert

BIVDA (The British In Vitro Diagnostics Association)
Boston Scientific
Bowers, Lynne
Bradford Teaching Hospitals NHS Foundation Trust
British Association of Social Workers
British Heart Foundation
British Psychological Society
British Standards
BT Health
Business Skills and Innovation (BIS)
Cambridge Institute for Research Education and Management
Cambridge University Health Partners
Cancer Research UK
Care Quality Commission
Centre of Excellence for Life Sciences
Cerner
Cisco IBSG (Internet Business Solutions Group)
CLAHRC Directors of the NIHR CLAHRCs
CLAHRC Peninsula
Clinical Research Network
Colchester Hospital University NHS Foundation Trust

College of Optometrists, the Local Optical Committee Support Unit and the Optical Confederation
Commissioning and System Management Directorate
Company Chemists' Association
Cure Parkinson's Trust
Deltex Medical
Department of Health Informatics Directorate
Derbyshire Community Health Services NHS Trust
Design Council
Devon Partnership NHS Trust
DocCom
Docobo Ltd
Dotted Eyes Ltd
Dundas, Jane
Dyson
East of England NHS Innovation Council
Ellis Developments Ltd
Emergence
Emotional first aid
Enabling Environments
Esri (UK)
European Medicines Group
Exmoor Plastics Ltd
Ford, Gary
Foundation for Assistive Technology (FAST)
GE Healthcare
GlaxoSmithKline UK

Gower, Sandy
Health Foundation
Healthcare at Home Ltd
HealthTech and Medicines KTN
HEART UK
HIEC West Midlands (North)
HIEC East Midlands HIEC
HIEC Greater Manchester
HIEC Lancashire and Cumbria
HIEC Lancashire and Cumbria
HIEC NE & Central London
HIEC North East
HIEC SOUTH LONDON HEALTH INNOVATION AND EDUCATION CLUSTER
HIEC South West
HIEC Thames Valley
HIEC Wessex HIEC Partnership
HIEC West Midlands Central
HIEC West Midlands South
HIEC Yorkshire & Humber Health Innovation & Education Cluster
Homerton University Hospital NHS Foundation Trust
Hospedia Ltd
Human Genetics Commission
IBM
Imperial College Business School
Independent Healthcare Innovation Consultant
Inditherm plc

Innovation Challenge Prize Expert Panel
Innovation Hub - TRUSTECH
Innovation Hub MidTECH Ltd
Innovation Unit
Innovations Hub - NHS London
Innovations Hub - NHS South East
Intellect
iSOFT A CSC Company
JERA consulting
Johnson & Johnson
Juvenile Diabetes Research Foundation
Kirklees Community Healthcare Services
Knight, Paul
Learning Clinic
Leeds Community Healthcare NHS Trust
Leeds Teaching Hospitals NHS Trust
Lilly UK
Lincolnshire Community Health Services NHS Trust
Macfarlane, Robert
Manager and Lead Clinician Orthopaedic Interface Service
Manchester Academic Health Science Centre
Map of Medicine
McMillan, Philip
Medicines & Healthcare products Regulatory Agency
MedilinkWMM
Medipex Ltd

Medtronic International
MEDWAY PCT
MEND Central Limited
Merck Sharp & Dohme Limited
Minns, Julian
National Cancer Action Team
National Clinical Commissioning Network Lead
NATIONAL HIEC NETWORK RESPONSE
National Innovation Centre
National Institute for Health and Clinical Excellence NICE
National Life Sciences Innovation Delivery Board
National Physiology Diagnostics Board and the SHA Lead Scientists' Network
National Screening Committee Programme Office
National Specialised Commissioning Team
National Training Programme in Laparoscopic Colorectal Surgery (Lapco)
NHS Blackpool
NHS Bolton
NHS Confederation
NHS Connecting for Health
NHS Improvement
NHS Institute for Innovation and Improvement
NHS Supply Chain
NHS Technology Adoption Centre
NIHR Medicines for Children Research Network
Norfolk and Norwich University Hospital
North West London HIEC and North West London CLAHRC

Northumberland, Tyne & Wear NHS
Nottingham University Hospitals NHS Trust
Nottingham University/Nottinghamshire Healthcare NHS Trust - Institute of Mental Health
Nottinghamshire Healthcare NHS Trust
Novartis Pharmaceuticals UK Limited
Parston, Greg
Patel, Reena
Pfizer UK
PHG Foundation
Queen's Nursing Institute
RAND Europe
Renfrew Group International
RIM/BlackBerry
Roche Diagnostics Limited
Roche Products Limited
Royal Academy of Engineering
Royal College of General Practitioners
Royal College of Nursing
Royal College of Obstetricians and Gynaecologists
Royal College of Physicians
Royal College of Physicians (Joint Advisory Group on GI Endoscopy)
Royal College of Psychiatrists
Royal Liverpool and Broadgreen University Hospitals NHS Trust
Royal National Institute of Blind People
Royal National Orthopaedic Hospital
School of Paediatrics, North Western Deanery

SFA Ltd
SHA Innovation Leads group
SHA NHS East Midlands
SHA NHS North West
SHA NHS South Central
SHA NHS West Midlands
SHA NHS Yorkshire and the Humber
SHA North Western Deanery (part of NHS Northwest)
SHA South West
Sheffield Teaching Hospitals NHS Foundation Trust and the Devices for Dignity Healthcare Technology Co-operative
Shire Pharmaceuticals Ltd
SIMUL8 Corporation
Singleton, Stephen
Sonar Informatics Limited
South Devon Healthcare NHS Foundation Trust
South East Health Technologies Alliance
Southampton University Hospitals Trust
Southend Borough Council
Specialised Healthcare Alliance
SPF Ltd.
Stanley Powell Associates
Steve Turner Innovations - Community Interest Company
S vret, Nikki y
Technology Strategy Board
The Optima Corporation
Tomorrows Medicines Ltd

Trillian Ltd
Tunstall Healthcare
Turning Point
UCL Partners, Academic Health Science System
UK Genetic Testing Network
University Hospitals Birmingham NHS Foundation Trust
University of Birmingham
University of Central Lancashire
University of Kent
University of Portsmouth
Unlimited Potential
URC University Research Co
Urology Trade Association

Vantage Diagnostics
Vernacare Ltd
Warrington PCT
Warwick University, Institute for Digital Healthcare
Wellcome Trust
West of Scotland Cancer Centre
West, Richard
Weston Area Health Trust
WG Consulting Healthcare Ltd
Wye Valley NHS Trust
Yaxley, Julie
York Health Economics Consortium Ltd
Young Foundation

Appendix C: Detailed description of methodology

The Call for Evidence and Ideas was publicised to the NHS and stakeholders through a number of newsletters and personal invitations. These included a set of questions⁸, enquiring about what actions could be taken at a local and national level to encourage and stimulate the successful adoption and diffusion of innovations throughout the NHS.

Respondents were invited to submit their responses through two channels: a Department of Health email address (health.innovation@dh.gsi.gov.uk) or an online form hosted on the Department of Health website. The open call ran from the end of June until the end of August 2011, although responses were included in analysis.

and followed the steps set out below.

Excluded responses

Criteria for exclusion from analysis and a coding framework were developed to ensure that no relevant information was excluded. There were two stages of exclusion as follows:

Stage 1:

1. E-mails that were part of on-going e-mail exchanges where the initial e-mail had already been registered
2. Duplicates of responses that had already been registered
3. Technical questions inquiring further information, e.g. where to send responses
4. Non-related emails, e.g. questions not about the Innovation Review.

Stage 2:

Responses which were included on the register after Stage 1 were then assessed for analysis. Responses were considered as unsuitable for analysis for the following reasons:

1. Requests for further information e.g. meeting requests, holding emails
2. Short non-specific responses e.g. I have a great idea, give me a call
3. Responses covering innovation but not the innovation review. E.g. sales pitches, requests for funding

Coding framework

A coding framework was developed to analyse the responses based on the main themes that emerged from an online survey of innovators carried out between April and May 2011. This initial framework was tested and refined using the first forty responses to the Call for Evidence and Ideas. This resulted in 14 themes, detailed in the main body of the report.

C

oding process

Actions proposed by respondents were attributed to a sub-category. Where the action was too general to be attributed to a category, it was assigned to the relevant high level code. Where possible the coding process differentiated whether actions were for *national, local, partner, all, or not specified* and any learning from elsewhere. Quotes were recorded within a database to support where actions were placed within the framework.

⁸The full set of questions is reproduced at the beginning of this report.

For example, if a respondent wrote that silo budgeting was a barrier to the spread of innovation, this would be assigned to the category “the need for joined up budgets within organisations” which forms part of the code for funding mechanisms. However if a respondent wrote that silo budgeting hindered the spread of innovation but the solution to this is better training for commissioners, it would be coded within training education and support under the relevant category.

Quality assurance

To ensure consistency between different ‘coders’ (four in total) 10 per cent of responses were double coded and then compared during a weekly meeting. These discussions ensured that the ‘coders’ were analysing responses in the same way. All complex responses were double coded. Complex responses were defined as those that were over ten pages long or particularly detailed; these were either identified prior to analysis or flagged as complex by the coder. A total of 35 responses were double coded.

Appendix D: Glossary

This glossary covers the 14 main themes featured within the report, the organisational groupings used in the analysis, as well as some specialist terms used throughout the rest of the report.

Academic Institutions	Primarily universities but some independent research organisations
Actions	Actions or recommendations identified to help the adoption and diffusion of innovation in health and care
Adoption	Putting new ways of doing things and putting into practice across the NHS
Creating pull	Relates to actions that increase the demand for new innovations within the NHS
Diffusion	Systematic uptake or copying across the service
Funding and budgeting	Encompassing actions around changes to payment mechanisms to help the spread of innovation
Grey literature	"[Grey literature is] that which is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers."
Horizontal knowledge exchange	Actions around sharing information across all levels of health and care
Industry sector	For profit organisations (divided into pharmaceutical sector, medical technologies, diagnostics and other (consultancies, or lobby groups))
Innovation	"An idea, service or product, new to the NHS or applied in a way that is new to the NHS, which significantly improves the quality of health and care wherever it is applied."
Innovation pathway support	The innovation pathway refers to the lifecycle of an innovation; from invention – adoption – diffusion
Invention	Finding new ways of doing things
NHS Local	Local NHS organisations, including foundation Trusts, PCTs, and community providers
NHS National	National NHS organisations (including internal Department of Health groups)
NHS Systems	Organisations that cross levels of the NHS structure such as networks, hubs (e.g. HIECs)
Patient demand	Any actions that call for greater patient pressure for the NHS to adopt and diffuse innovation
Push	Similar to the supply of innovations, push refers to innovators actively promoting and diffusing their innovations
Risk management	The need to manage risk and attitudes to failure to achieve greater innovation diffusion

&failure	
Spread	Systematic uptake or copying across the service.
Staff engagement	Actions that call for greater staff involvement in the innovation pathway
Supply factors	Actions around the supply / availability of innovations