Evaluating the role and contribution of innovation to health and wealth in the UK

A review of Innovation, Health and Wealth

Phase 1 Appendix

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RAND EUROPE

MANCHESTER 1824
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Published by the RAND Corporation, Santa Monica, Calif., and Cambridge, UK

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Preface

The 2011 *Innovation and Health and Wealth: Accelerating Adoption and Diffusion in the NHS* strategy set out the Department of Health's delivery agenda for spreading innovation at scale and pace throughout the NHS. The Department of Health Policy Research Programme commissioned a three year evaluation to determine whether the strategy is: (i) working as planned; and (ii) delivering its intended outcomes.

This Appendix accompanies the report *Innovation, Health and Wealth: A Formative and Summative Evaluation* (RR-1143-DHPRP). It provides a comprehensive overview of the findings from the first phase of the evaluation conducted by RAND Europe, in collaboration with Professor Ruth McDonald at the University of Manchester. The findings are presented separately by methodology: document review, interviews and surveys. For a synthesised narrative of the findings the reader should refer to the main report. The main report presents an assessment of progress towards the Innovation Health and Wealth strategy and its component actions. The main report draws conclusions related to the evaluation's key research questions and presents discussion of how to inform the NHS more fully through using case studies in the second phase of the evaluation to explore more deeply the issues identified here.

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Abbreviations

3ML	3 Million Lives
ABPI	Association of the British Pharmaceutical Industry
AHSN	Academic Health Science Network
BIVDA	British In Vitro Diagnostics Association
CCG	Clinical Commissioning Group
CEO	Chief Executive Officer
CLAHRC	Collaboration for Leadership in Applied Health Research and Care
CPRD	Clinical Practice Research Datalink
CQUIN	Commissioning for Quality and Innovation
GPRD	General Practice Research Database
HEE	Health Education England
HII	High Impact Innovation
HSCIC	Health & Social Care Information Centre
IHW	Innovation, Health and Wealth
iTAPP	Innovation Technology Adoption Procurement Programme
MHRA	Medicines and Healthcare Products Regulatory Agency
MIB	Medtech Innovation Briefing
NHS	National Health Service
NIC	NICE Implementation Collaborative
NICE	National Institute for Health and Care Excellence
NICE TA	NICE Technology Appraisal
NIHR	National Institute for Health Research
OHE	Office of Health Economics
OECD	Organisation for Economic Co-operation and Development

SBRI   Small Business Research Initiative

SHA   Strategic Health Authority

SSCIF   Specialised Services Commissioning Innovation Fund

TECS   Technology Enabled Care Services

UKTI   UK Trade & Innovation

Chapter 1   Document Review

Textbox 1 Key Findings from document review

The Innovation Health and Wealth (IHW) strategy outlined a broad range of actions that are highly heterogeneous in nature, ranging from long-term action to improve compliance with NICE guidelines and technology appraisals to shorter one-off actions, for example to establish the Clinical Practice Research Database (CPRD) datalink within the Medicines and Healthcare Products Regulatory Agency (MHRA).

In general the scope of individual actions was not clearly defined in the IHW strategy, making it hard to assess whether or not an individual action has been achieved. Potentially this problem was to be solved by the 'Task and Finish' groups which the IHW strategy specified would be set up to lead delivery of individual actions. However, for the majority of actions we have struggled to find any information demonstrating that these groups have been set up or any evidence of their ongoing activity. The lines of accountability for a number of actions remain unclear, and in some cases responsibility seems to have changed over time. The lack of clearly defined milestones and outcomes makes it difficult to evaluate progress.

There is no central database collating data related to actions outlined in the IHW strategy. While the Innovation Exchange web portal pulls together ongoing NHS activity on innovation, a number of actions in the IHW strategy are not listed, and additional actions are included – and their link to the IHW strategy is not specified. This makes it difficult to track overall changes to the strategy since the publication of IHW in 2011.

The volume of information available on the individual actions is limited, and for a number of actions we have been unable to identify any relevant documents. In cases where there appears to be no ongoing activity there is limited documentation to justify this.

The classification of actions into the eight themes is not always obvious, and in some cases actions, for example Academic Health and Science Networks (AHSNs), contribute to the objectives of multiple themes. It is therefore sometimes unclear how the actions come together to further the aims of the overall strategy. Likewise, some actions have proceeded more quickly than others, yet reasons for prioritisation are lacking.

Implementation of actions has been highly variable: 19 out of the 25 actions seem to have been implemented or are in progress. Implementation of actions is also not consistent across themes, particularly in the case of actions which contribute to development of staff.

The document review aimed to gather background information to inform the assessment of progress on IHW and its component actions and to identify the measures in place for monitoring and evaluating the IHW strategy.

In order to gain a more detailed understanding of the current level of progress towards the individual actions listed in the IHW report, we undertook a targeted review of the published evidence by manually searching the websites of organisations and initiatives involved in either the development or implementation of IHW and by following a snowballing technique, which involved checking the cited references within relevant publications. The search was complemented by a review of the documents retrieved through conversations with the steering group at the Department of Health and interviews with key informants.

The document review was not limited to the original 25 actions (31 actions if the six High Impact Innovations (HIIs) are treated as separate actions) identified in the 2011 IHW strategy (DH, 2011), because additional actions seem to have been brought under the IHW umbrella. These additional actions were identified in later publications such as, *Creating Change: IHW One*

Year On report (DH, 2012a) and the evaluation tender specification (DH, 2013c).

The findings are presented by theme, as outlined in the IHW strategy, and within a theme individual actions are presented alphabetically.

1.1. Previous evaluations of IHW

Few evaluations of IHW have been published and there is only a limited evidence base to draw on when looking for independent verification of the delivery of results. A report by LifeSciencesUK (LSUK, a consortium representing the human healthcare industry) provides a review of IHW actions (LSUK, 2014). It details mixed findings regarding IHW's implementation. Among the actions on which strong progress is reported is the Clinical Practice Research Datalink, which it states has provided valuable datasets to researchers, including in industry. However, LSUK found that actions such as aligning incentives, the NICE Implementation Collaborative, the Innovation Scorecard and transparency in local formularies had made little substantive progress in driving innovation. In a number of cases, including the Innovation Scorecard and aligning incentives, LSUK reported that a lack of clarity and transparency in the implementation of actions had hindered their impact. While LSUK's review does not map perfectly onto the aims of IHW, their overall conclusions represent a considered view of eight relevant initiatives from an industry perspective, with each given a positive, negative or neutral scoring (LifeSciencesUK, 2014):

Table 1. Overview of findings from the LSUK review

Action	Score
Academic Health Science Networks (AHSNs)	(n)
Aligning financial, operational and performance incentives	(-)
Clinical Practice Research Datalink (CPRD)	(+)
NHS Innovation Scorecard	(-)
NICE Implementation Collaborative (NIC)	(n)
Procurement	(-)
Specialised Services Commissioning Innovation Fund (SSCIF)	(-)
Transparency in local formularies	(n)

NOTE: (+) the report provides a positive appraisal of progress, (-) the report provides a negative appraisal of progress, (n) the report provides a neutral appraisal of progress

According to LSUK, a key reason for IHW's inconsistent results is the variable degree of engagement with industry partners. Across all actions, LSUK found that there had been strong engagement with industry during development and consultation phases. However, for a number of actions, including procurement and local formularies, it was found that engagement had diminished during subsequent phases of actions. Moreover, in the case of AHSNs, LSUK reported significant variation in different networks' willingness to engage with industry.

An earlier report by MHP Communications, published in late 2012, also gives a 'mixed picture' of the implementation of IHW (MHP, 2012). It highlights a 'worrying disconnect' between the local and national levels in terms of commitment to the initiative, noting that only 55 per cent of healthcare providers had received any communication from the NHS or the Department of Health regarding IHW, and only 25 per cent of providers had developed a plan to implement IHW. At the national level, it was found that only nine out of 26 national programmes due to be delivered by September 2012 had been fully implemented.

However, the MHP report also identifies a number of positive findings relating to the early stages of IHW's implementation, including that providers have been quicker to implement IHW actions which are linked to financial incentives such as the pre-qualification for Commissioning for Quality and Innovation (CQUIN) payments.

In contrast, the NHS's own report on IHW's first year was largely positive. Of the 31 actions identified in the initial IHW report, it found that 25 had been delivered, and the remaining six were on track for delivery (DH, 2012a). However, the report neither gives details of how the 25 had been delivered nor details of any progress towards the remaining six.

1.2. Theme 1: Reducing variation and strengthening compliance

The IHW strategy outlined three actions under theme one, which collectively were supposed to contribute to (DH, 2011):

> **Reduce variation** in the NHS, and drive greater **compliance** with NICE guidance.

In addition, *Creating Change: IHW One Year On* committed to establishing a Whistleblower hotline (DH, 2012a). An overview of these four actions is presented in Table 2. Note we have combined two of the actions (NICE Compliance Regime and Publication of NHS Formularies), since the publication of local formularies was one of the requirements introduced by the NICE Compliance Regime.

Table 2. Progress on actions to reduce variation and strengthen compliance

Action	Source	Priority for evaluation*	Aim	Status	Responsibility
NICE Compliance Regime (Publication of NHS Formularies)	IHW	Not specified	• Introduce a NICE Compliance Regime to reduce variation and drive up compliance with NICE Technology Appraisals (TAs) to support patients' access to NICE recommended medicines and technologies • Require that all NICE TA recommendations are incorporated automatically into relevant local NHS formularies in a planned way that supports safe and clinically appropriate practice • NHS organisations required to publish information which sets out which NICE TAs are included in their local formularies	Active	NICE
NICE Implementation Collaborative	IHW	High	To establish a NICE Implementation Collaborative to support prompt implementation of NICE guidance	Active; pilot stage	NICE
Whistleblower hotline	Creating Change	Not specified	To be established in 2013 to allow NHS staff to report cases of organisational non-compliance	Not implemented	Not identified

*NOTE: *Priority for evaluation as specified by the Department of Health (DH, 2013c)*

While the NICE Compliance Regime and NICE Implementation Collaborative (NIC) have both been introduced, we have not been able to identify any literature that demonstrates that progress has been made towards establishing a Whistleblower hotline. Further detail on the former two actions is summarised below.

The NICE Compliance Regime for Technology Appraisals

The NICE Compliance Regime was introduced in January 2012 to increase the timely implementation of NICE Technology Appraisals (TAs) throughout the NHS, thus ensuring that NHS organisations have local formularies that are fit for purpose and comply with statutory requirements (DH, 2012a).

To support implementation, NICE published '*Good Practice Guidance on Developing and Updating Local Formularies*' in 2012 (NICE, 2012a).[1] The guidance highlights the following as key priorities for implementation: include medicines with a positive NICE TA on local formularies within 90 days; avoid duplication of NICE evidence assessment for existing NICE TAs; and

publish local formulary information online in a clear and transparent way, so that patients/public and stakeholders can easily understand it (Hill, 2013). From 1 April 2013 the publication of local formularies has been a standard term and condition of the NHS contract (Nicholson, 2012a).

Compliance with NICE TAs is measured by the Health and Social Care Information Centre through the Innovation Scorecard (see Section 1.3).

The NICE Implementation Collaborative

The NICE Implementation Collaborative (NIC) was introduced in December 2012 to increase the uptake of NICE guidance (DH, 2012a), which includes TAs, clinical guidelines, medical technologies and diagnostics guidance, interventional procedures guidance and public health guidance (NIC, 2012). The NIC is a partnership between: the NHS; the life sciences industry; healthcare professional bodies; key health organisations; the public; and NICE (NICE, 2013a).[2] Intended to identify barriers to the uptake of NICE guidance and to develop implementation guidance and solutions for

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[1] From 2014, 'Good Practice Guidance' became known as 'Medicines Practice Guidelines'.

[2] Members of the NIC include: AHSNs, the Academy of Medical Sciences, the Academy of Medical Royal Colleges, ABPI, BIVDA, the Foundation Trust Network, the National Association of Primary Care, NHS Alliance, NHS Clinical Commissioners, NHS Commissioning Assembly, NHS Commissioning Board, NHS Confederation, NICE, Patients Involved in NICE, and the Royal Pharmaceutical Society.

NHS organisations, the NIC was formally launched in March 2013 with the publication of the Concordat. The NIC Concordat states that the NIC will (NICE, 2012b):

- Identify practical measures that support and promote timely and consistent implementation of NICE Technology Appraisals throughout the NHS in England;
- Work jointly to support and promote the adoption of all other forms of NICE guidance that apply to the NHS in England, and drive the uptake of innovation, in a way that is consistent with local health needs and priorities;
- Understand the barriers that restrict expected levels of implementation and uptake, including the requirement for Clinical Commissioning Groups (CCGs) to provide care for their populations taking into account local affordability and clinical need. The NIC will identify practice measures that its members and all organisations providing NHS services to patients can take to help overcome these barriers; and
- Support a culture shift within the NHS in favour of clinical and cost-effective innovation.

While the Concordat commits to publishing NIC's programme of work, little information seems to be available on the NIC's activities. Its work to date has focused on four pilots related to specific pieces of NICE guidance:

1. Denosumab for post-menopausal women with osteoporosis (NICE TA204) (NIC, 2013a).
2. Novel oral anti-coagulants for prevention of stroke in patients with atrial fibrillation (NICE TA 249 & 256) (NIC, 2013b).
3. Insulin pumps in type I diabetes mellitus (TA151) (NIC, 2013c).
4. Natriuretic peptide testing in heart failure (CG108) (NIC, 2013d).

The only pilot to have published an 'implementation guidance' to date (that we have been able to identify) is the NIC Consensus on novel oral anti-coagulants (NIC, 2014).

1.3. Theme 2: Metrics and information

Four key actions were outlined under theme two, which collectively aimed to contribute to the following objective:

> Working with industry, we should develop and publish better innovation uptake **metrics,** and **more accessible evidence and information** about new ideas.

In addition, as part of NHS England's actions to implement IHW, it has committed to the development and implementation of the Innovation Compass. An overview of progress towards the four IHW actions and the Innovation Compass is provided in Table 3.

Table 3. Progress towards actions on metrics and information

Action	Source	Priority for evaluation*	Aim	Status	Managed by
Clinical Practice Research Database (CPRD) datalink	IHW	Not specified	To establish CPRD, a new secure data service within the Medicines and Healthcare Products Regulatory Agency (MHRA)	Established March 2012	Medicines and Healthcare Products Regulatory Agency (MHRA)
Innovation Compass	NHS England**	High	To demonstrate how NHS organisations and health systems are currently innovating and how they can support improvements	Active; pilot stage	NHS England
Innovation Scorecard	IHW	High	To develop and publish an innovation scorecard to track compliance with NICE Technology Appraisals (TAs).	Active	NHS England (Health and Social Care Information Centre)
Web Portal (Innovation Exchange)	IHW	High	To procure a single comprehensive and publicly available web portal for innovation in the NHS	Active	NHS England
Which? Consumer campaign	IHW	Lower	To raise awareness among the public and patients of innovations in healthcare.	Not implemented	Not identified

*NOTE: *Priority for evaluation as specified by the Department of Health (DH, 2013c) ** The Innovation Compass was specified for inclusion in the evaluation tender documents.*

Figure 1. The Innovation Compass prototype
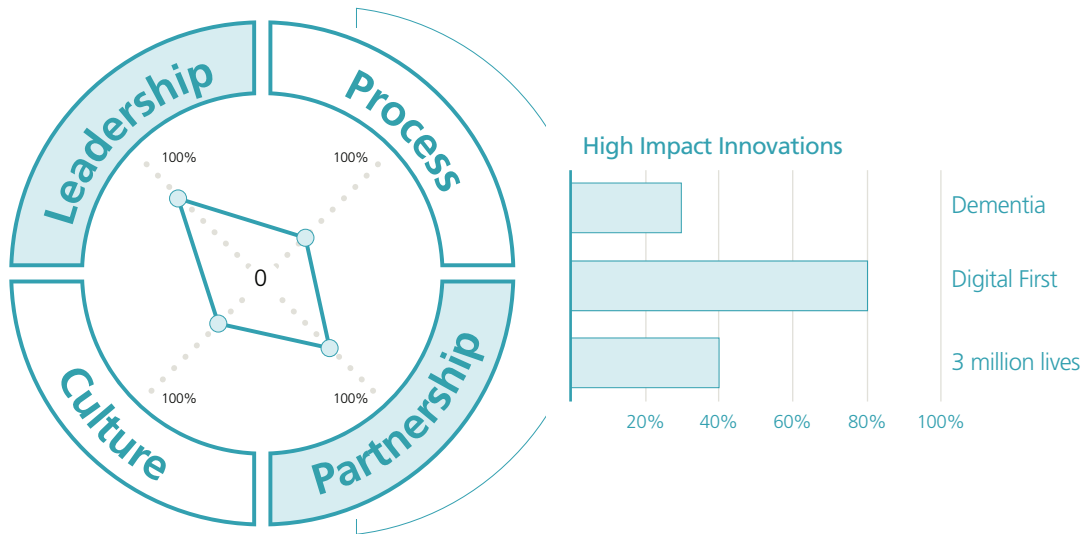
We have been unable to identify any documentation to suggest that the Which? campaigns have been implemented, nor reasons for the delay in their implementation. Progress towards the remaining four actions is detailed below.

Clinical Practice Research Datalink

Building on its predecessors, the General Practice Research Database (GPRD) and Research Capability Programme from the Department of Health, the Clinical Practice Research Datalink (CPRD) was successfully launched as a centre within the Medicines and Healthcare Products Regulatory Agency (MHRA) in March 2012 (MHRA, 2012).

The CPRD is jointly funded by the National Institute for Health Research (NIHR) and the MHRA, and managed by the MHRA (MHRA, 2014). It aims to improve the linkage of anonymised NHS clinical datasets and facilitate research (NIHR, 2015), and is a primary care database with links to other data sources, such as cancer registries, death registries and hospital event statistics (HES) (BU, 2015). Currently, the CPRD is the world's largest anonymised longitudinal primary care dataset, with 13 million patient records (5 million active) from 650 primary care practices (9 per cent) in the UK (NCI, 2014).

As the IHW strategy committed itself only to establishing this service, its ongoing contribution is not clear and no reference to the strategy is made in any of the MHRA documentation that we identified. However, we note that some positive progress has been made since the creation of the CPRD.

According to the MHRA 2013/14 Annual Report, the number of research studies that have used CPRD data has continued to grow (MHRA, 2014), and the list of published research studies available on the CPRD website demonstrates that the number of publications has been increasing year on year: from 94 in 2011 to 101 in 2012, 149 in 2013 and 181 in 2014 (CPRD). Additionally, the MHRA notes that its client base and number of collaborators has expanded, which is likely to have contributed to an increase in the financial resilience of the CPRD.

Conversely the expansion of the dataset to include more General Practices has not proceeded at the anticipated pace (MHRA, 2014). However, in March 2015 the CPRD announced that it is expanding its coverage to include an additional 97 practices which use the EMIS Web GP system.

Innovation Compass

The Innovation Compass is being developed as a self-assessment tool to allow organisations to (NHS, 2015c):

- Demonstrate how NHS organisations and health systems are currently innovating and how they can be supported to improve;
- Develop a clearer understanding of both organisational and system readiness in relation to accelerating the process of innovation, including adoption and diffusion on a wider scale; and
- Provide patients and the public with access to information about how NHS organisations are using innovation to improve service quality and increase choice.

A prototype has been developed by an international partnership led by South West Yorkshire Partnership NHS FT and the Yorkshire & Humber Quality Observatory (see Figure 1) (Ferguson). The tool is intended to be completed by CCG Boards and NHS provider organisations annually. It can be seen in Figure 1 that the innovation capability is split into four domains (culture, leadership, process and partnership). The tool calculates a score for each domain based on a number of indicator statements, and is also intended to be used to measure progress towards the High Impact Innovations (see Section 1.9).

The Innovation Compass is currently being piloted in a number of AHSNs (NHS, 2015c). The aim of the pilots is to:

- Determine whether the Compass is fit for purpose as a diagnostic tool;
- Raise awareness of the Compass's conceptual model; and
- Inform approaches to the roll-out of the Compass.

It has not been possible to determine the current status of the pilots or to ascertain what the outputs of the pilots will be. Little information is available on the current use of the Innovation Compass.

Innovation Scorecard

As part of IHW's aim of reducing variation in, and strengthening compliance with, the uptake of NICE TAs (see Section 1.2), IHW committed to developing and publishing information on levels of compliance with NICE TAs to increase transparency and enable benchmarking (NHS, 2015e).

The development of the Innovation Scorecard was led by the Health and Social Care Information Centre, supported by a Task and Finish Group with NHS providers, Specialised Commissioning, Department of Health Commercial Medicines Unit, industry, the Office of Life Sciences, Business Innovation and Skills and the Cabinet Office (NHS, 2015e). The Innovation Scorecard was first published in January 2013 (reporting 2011 data) (Health and Social Care Information Centre, 2015). Since October 2013, the Scorecard has published quarterly information on compliance with NICE TAs. The latest data was published in January 2015 (reporting data up to June 2014).

The Scorecard data are available as interactive spreadsheets that allow users to access the data for particular organisations, interventions and time periods (HSCIC,

2015). The data are also presented in tables and charts to show local variation in the uptake of NICE TAs. For each of the Scorecard publications, an accompanying report describes the data, its sources and its limitations.

Since its introduction, the number of medicines covered by the Scorecard has increased, and it now displays utilisation over time for a wider range of medicines at both the national and 'Area Team' levels (ABPI, 2013).

However, a number of limitations remain. There is currently no central data collection mechanism underpinning the Scorecard, nor are data on the number of patients treated available centrally. The Innovation Scorecard is thus an experimental publication that presents data from a range of sources (HSCIC, 2015). Additionally an industry report in 2014 identified that 'there is a long way to go before patients and NHS stakeholders will be able to understand the Innovation Scorecard' (LifeSciencesUK, 2014). It is acknowledged that the development of the Scorecard is an ongoing process and both NHS England and HSCIC have requested feedback from users to support the future development of appropriate datasets (HSCIC, 2015).

Web Portal (Innovation Exchange)

The web portal was initially introduced in 2012, but was upgraded in 2014 and renamed the Innovation Exchange (MEDILINK, 2014).

It was designed to support and develop a community of innovators, where users can share their ideas and meet other people with similar interests and expertise (NHS, 2015d). The portal provides users with information on:

- Ten areas of work in innovation: Case Studies; NHS Innovation Challenge Prizes (see Section 1.5); Innovation Road Map; Innovation Scorecard (see above); NICE Implementation Collaborative (see Section 1.2); NICE Medtech Innovation Briefings (see Section 1.4); Strengthening Leadership for Innovation (see Section 1.8); Industry Council; and High Impact Innovations (see Section 1.9);
- Six sources of funding for innovation: Small Business Research Initiative (see Section 1.6); Innovation Leader Training Programme 2015; Innovation Accelerator (see Section 1.7); Regional Innovation Fund; Innovation Challenge Prizes (see Section 1.5); and Horizon 2020 (EU funding); and
- Test beds 2015.

For those actions not covered in this document review it is not clear if or how they are linked to the IHW

strategy. As of March 2015, the Innovation Exchange web portal had 5,651 registered users with 756 proposals and 275 ideas logged (NHS, 2015d). We have not been able to identify any documentation relating to the success of the portal.

Registering to the portal also gives users access to Innovation Connect. This is a web-based platform that allows individuals to submit their innovative ideas for review by NHS England. Specifically, Innovation Connect provides:

- A single reference point for NHS England innovation enquiries – providing expertise in innovation management;
- Assessment and signposting of innovations – rapid advice and referral to the most appropriate support; and
- Rapid identification of High Impact Innovations – supporting implementation with NHS organisations.

Within Innovation Connect there are two specific platforms: 1) Specialised Services Innovation Portfolio; and 2) Better Wheelchair Services for Today and Tomorrow. The review has not been able to identify any information documenting the success or uptake of Innovation Connect.

1.4. Theme 3: Creating a system for delivery of innovation

Three actions were identified in the IHW strategy with the collective aim of delivering progress towards:

> Establish a more **systematic delivery mechanism** for diffusion and collaboration within the NHS by building strong cross-boundary networks.

An overview of these three actions is presented in Table 4, and a more detailed summary of each action is provided below.

Academic Health Science Networks

Fifteen Academic Health Science Networks (AHSNs) were established in May 2013. Their objective is to translate research into practice, and to develop and implement integrated healthcare services (NIHR, 2015). AHSNs bring together healthcare providers, healthcare commissioners, academic institutions and life science industries to exchange knowledge, share best practice and expedite the evaluation and uptake of new innovations. The core objectives of AHSNs are to (NHS, 2015a):

- Focus on the needs of patients and local populations: support and work in partnership with commissioners and public health bodies to identify and address unmet medical needs, whilst promoting health equality and best practice;

Table 4. Progress on actions towards creating a system for delivery of innovation

Action	Source	Priority for evaluation*	Aim	Status	Managed by
Academic Health Science Networks (AHSNs)	IHW	High	To establish a number of AHSNs across the country	Established May 2013	NHS England
Sunset Review	IHW	Lower	To undertake a sunset review of all NHS/Department of Health-funded or sponsored bodies and make recommendations as to their future form and funding	Never publically published	n/a
Technology Adoption and Procurement Programme (iTAPP) (renamed Medtech Innovation Briefings)	IHW	High	NICE will take responsibility for the evaluation of medical devices and technologies currently managed through the iTAPP programme	Active	NICE

*NOTE: *Priority for evaluation as specified by the Department of Health (DH, 2013c)*

- Build a culture of partnership and collaboration: promote inclusivity, partnership and collaboration to consider and address local, regional and national priorities;
- Speed up adoption of innovation into practice to improve clinical outcomes and patient experience – support the identification and more rapid spread of research and innovation at pace and scale to improve patient care and local population health; and
- Create wealth through co-development, testing, evaluation and early adoption and spread of new products and services.

The creation of AHSNs has reportedly been welcomed by some in the academic literature, who consider that these bodies have the potential to bridge the gap between formal (top-down) pathways to innovation uptake, and informal (bottom-up) pathways (Anscombe, 2014, Blount et al., 2013, Stokes K et al., 2014). Fairman et al. (2013) note that the organisational form of each AHSN has been decided locally, with some choosing to be hosted by an NHS Trust, and others constituted as companies limited by guarantee (Fairman, 2013). In addition, the success of AHSNs is to be judged against measures that they themselves have proposed (Fairman, 2013). According to Fairman, this will make it more likely that innovation within the NHS is responsive to local demand, while also establishing formal links between local networks and NHS central management.

However information on AHSNs' progress towards their objectives is limited. There is an NIHR-funded research project in progress focusing on five AHSNs, using Social Network Analysis to map and quantify relationships, but the majority of this study is concerned with interviewing senior managers (Ferlie, 2013).

Research by the British In Vitro Diagnostics Association (BIVDA) found that AHSNs have made the most significant advances in large urban centres, which offer abundant opportunities for collaboration with industry (Summersgill, 2014). AHSNs in academic centres have also made strong progress. Moreover, it is suggested that strong engagement with AHSNs has the potential to affect service redesign and optimisation. BIVDA cites the example of the South London Health Innovation Network, which spans 12 local authorities, 11 Acute Trusts, 11 CCGs, 7 universities and 21 patient groups. BIVDA's research also found that AHSNs have taken advantage of the degree of local autonomy afforded them by identifying a highly diverse range of clinical priorities. However, BIVDA also noted that the impact of AHSNs could be jeopardised by funding cuts and varying levels of commitment.

Additional concerns are raised in a study by Ovseiko et al. (2014), who argue that the purpose of the new networks is to promote synergy between care, research and teaching (Ovseiko et al., 2014). However, accountability for the elements of this 'tripartite mission' remains separate. For example, accountability for patient care rests solely with the NHS, and is not shared by universities. This means that universities will continue to focus resources on research and teaching, the elements of the 'tripartite mission' for which they are held accountable, rather than working in partnership with the NHS towards a harmonised set of objectives. The creation of such a relationship would require joint accountability, which IHW stops short of establishing. Ovseiko et al. argue that this is illustrated by the reluctance of both the NHS and universities to employ 'physician scientists', who, they claim, are vital to the synergy envisaged by IHW, but are not viewed as cost-effective by organisations focused exclusively on either care or research.

Sunset Review

The IHW strategy proposed to commission a Sunset Review of all NHS/Department of Health-funded or sponsored innovation bodies in order to make recommendations for their future form and funding [IHW, 2011]. In the Department of Health's one-year-on review it was reported that 'the review of over 60 existing bodies in the system has now been completed, and its recommendations will be submitted to Ministers and the NHS CB by the end of 2012' (DH, 2012a). However in 2014, the Parliamentary Under Secretary of State in the Department of Health told Parliament that the department had no plans to publish the review (Gov, 2014a). As a result it has not been feasible to identify the impact of the review on the 'de-cluttering' of the innovation landscape.

Innovative Technology Adoption and Procurement Programme and Medtech Innovation Briefings

NICE took over responsibility for the Innovative Technology Adoption and Procurement Programme (iTAPP) in August 2013. Previously under the remit of the Department of Health, iTAPP was established to help the NHS identify and adopt innovative technology, by allowing manufacturers to submit information on new medical technologies for circulation throughout the NHS.

Since February 2014, NICE has performed a similar function through its Medtech Innovation Briefings

(MIBs), which provide clinicians, managers and procurement staff with information on new medical technologies, and are designed to streamline and improve local decisionmaking (NICE, 2013b). MIBs' purpose differs from NICE guidelines, in that they are supposed to provide objective information without making recommendations (NICE, 2015c).

MIBs are developed as part of the NICE Medical Technologies Evaluation Programme (MTEP), which is responsible for selecting and evaluating new or innovative technologies (NICE, 2015d). Unlike iTAPP, manufacturers cannot submit products for the specific purpose of having a MIB commissioned. Topics for MIBs are identified through MTEP's engagement with manufacturers, NHS England, partner organisations and horizon scanning reports (NICE, 2015c).

Information on the impact of MIBs is scarce. The number of briefings commissioned falls short of the yearly target of 40: 29 were published between February 2014 and April 2015, and a further nine are in development (NICE, 2015a). Early examples of MIBs included the NGAL Test for early diagnosis of acute kidney injury, and the Versajet II hydrosurgery system (NICE, 2014a, NICE, 2014b). Each briefing consists of details of the technology, a summary of its regulatory status and a detailed review of the available evidence (NICE, 2015b).

1.5. Theme 4: Incentives and investment

IHW identified four actions that would contribute towards:

*We should align organisational, financial and personal **incentives and investment** to reward and encourage innovation*

An overview of progress towards the four IHW actions is provided in Table 5.

Given that the action to extend Never Events was considered to be outside the scope of this evaluation, further details are not reported. Details on progress towards the remaining three actions are given below.

Aligning financial, operational and performance incentives to support the adoption and diffusion of innovation

The IHW strategy states that the goal of aligning incentives will be achieved by:

- Developing and introducing a shared savings formula to break down silo budgeting and encourage cross boundary working;
- Developing a tariff for assistive technologies (telehealth, telecare) that, like Australia and the US, would incentivise rather than block their rapid spread;
- Continuing work on tariff development, especially in relation to payment for outcomes, since an outcomes focus enables an innovative, cost-effective means of delivering outcomes to be incentivised directly through the tariff;
- Commissioning the NHS Improvement Body to work with the NHS to help make best use of existing local tariff flexibilities, including best practice tariffs at local level to support diffusion; and

Table 5. Progress towards actions on incentives and investment

Action	Source	Priority for evaluation*	Aims	Status	Managed by
Aligning incentives	IHW	Lower	To align financial, operational and performance incentives to support the adoption and diffusion of innovation	Active	Not identified
Innovation Challenge Prizes	IHW	High	Increase the profile of, and maintain investment in the prizes	Active	NHS England
Never Events	IHW	Outside scope	To extend the 'never events' regime and encourage disinvestment in activities that no longer add value	List updated in February 2012	NHS England
Specialised Services Commissioning Fund (SSCIF)	IHW	High	To establish a SSCIF to help speed up the integration of new innovations in clinical areas that are defined as prescribed specialised services	Suspended	NHS England

*NOTE: *Priority for evaluation as specified by the Department of Health (DH, 2013c)*

- Exploring options for an unbundled tariff for diagnostics and other scientific services that would drive fundamental changes in the way services are delivered, especially when new technology is utilised.

A report by LifeSciencesUK (LSUK) found that little progress has been made towards this action (LifeSciencesUK, 2014). It states that although major changes were made to the 'national tariff' and other aspects of NHS funding flows in 2013/14, these changes were largely irrelevant to the adoption of technology. LSUK also found that engagement with industry on this workstream diminished after its initial phase, and that there is confusion regarding the division of responsibility for different incentives between NHS England and Monitor. According to LSUK, these shortcomings have contributed to a lack of 'any substantive changes to support implementation of innovation'.

Innovation Challenge Prizes

NHS Innovation Challenge Prizes were established to 'encourage, recognise and reward front line innovation and drive spread and adoption of these innovations across the NHS' (NHS, 2015h). Each round of challenges covers a number of themes, within which entries must demonstrate significant improvements in service delivery, while showing that their innovation meets certain criteria in the following areas: patient outcome, value for money, impact, dissemination, timescales and measurability (NHS, 2015g).

The initial objective of announcing the second round of challenges, as stated in the IHW strategy, was achieved in June 2012 (NHS, 2012b). Since then a further four rounds have been launched. During this period the profile of the prizes has increased. The 2013 round drew a total of 106 entries – an increase of over 25 per cent since the first awards in 2010 (HSJ, 2013). However, there is no evidence that this can be attributed to actions taken under IHW.

In addition, the level of investment in the prizes has been maintained. The 2014/15 programme, which ran from September to November 2014, was worth £650,000 in prize money, in addition to over £100,000 of in-kind mentoring from industry partners (NHS, 2015g, NHS, 2015b). The size of the awards ranged from £10,000 to £100,000 in order to encourage both large- and small-scale innovations.

Specialised Services Commissioning Innovation Fund (SSCIF)

The multi-million pound SSCIF was intended to help speed up the integration of new High Impact Innovations in prescribed specialised services – a set of clinical areas that are commissioned directly by NHS England – and to help NHS Commissioning Bodies make more informed commissioning decisions, resulting in earlier access to innovative care for patients (NHS, 2013f, DH, 2012a, DH, 2011). The SSCIF was open to healthcare staff, manufacturers, clinicians, researchers, patient groups and commissioners.

SSCIF's launch was delayed from September 2012 to September 2013 and in October 2013 NHS England suspended the fund (Calkin, 2013, LifeSciencesUK, 2014). Its reasons for doing so have not been made public.

1.6. Theme 5: Procurement

The IHW strategy identified three key actions to improve procurement in the NHS that collectively should contribute to the following objective:

> Improve arrangements for **procurement** in the NHS to drive up quality and value, and to make the NHS a better place to do business.

An overview of progress towards the three IHW actions is provided in Table 6, and summarised in more detail below.

Intellectual Property Strategy

We have found no evidence to suggest that the NHS Intellectual Property strategy has been updated. The issue was raised by Virendra Sharma in a House of Commons written question on 17 June 2014 (Gov, 2014b). The response stated that 'NHS England has advised that, as part of the Innovation, Health and Wealth work programme, it has undertaken a review of the existing NHS intellectual property strategy and revisiting this as part of its refresh of Innovation, Health and Wealth that is currently being undertaken'. We have found no documentation to suggest that the Innovation Health and Wealth refresh strategy is underway.

Procurement Strategy

The Department of Health published a new procurement strategy, *NHS Procurement: Raising our Game*, in May 2012 (DH, 2012c). It identified six areas for

Table 6. Progress towards actions on procurement

Action	Source	Priority for evaluation*	Aim	Status	Managed by
Intellectual Property Strategy	IHW	Lower	To review the existing intellectual property strategy and develop a model for contracts that is fit for purpose	Not Published	NHS England
Procurement Strategy	IHW	-	To publish a strategy in 2012 to help the NHS achieve greater efficiencies Additionally committed to supporting the local showcase hospital programme	Published May 2012	Department of Health Healthcare Associated Infections Technology Innovation Programme
Small Business Research Initiative	IHW	High	To double investment in the SBRI to develop innovative solutions to healthcare challenges, and help drive growth in the UK SME sector	Active	AHSNs Eastern AHSN and Eastern Innovation Hub

*NOTE: *Priority for evaluation as specified by the Department of Health (DH, 2013c)*

improvement: levels of change; transparency and data management; NHS Standards of Procurement; leadership, clinical engagement and reducing variation; collaboration and use of procurement partners; and suppliers, innovation and growth.

In 2013, the Department of Health further refined its procurement strategy in *Better Procurement, Better Value, Better Care: A Procurement Development Programme for the NHS* (DH, 2013a). The new strategy identified four key initiatives: interventions to deliver efficiency and productivity gains; actions to improve data, information and transparency; an initiative to re-think clinician engagement in procurement; and support for leadership in procurement.

The IHW strategy additionally committed to supporting local showcase hospital programmes, which evaluate the effectiveness of medical technologies which are safe but do not yet have evidence of efficacy (DH, 2011). The scheme is managed by the Health Associated Infections Technology Innovation Programme and in total nine trusts around the country were selected to test a range of new healthcare-associated infection technologies. A series of reports have been published, which are available on the Department of Health's website, and an example of which is the most recent report on the use of Sage 2 per cent Clurohexidine Gluconate cloths for cleaning patients' skin prior to surgery (DH, 2012b). The programme pre-dates IHW and it has not been possible to establish from the document review what additional support the IHW strategy has provided.

Small Business Research Initiative for Healthcare

The IHW strategy committed the NHS to double its investment in the SBRI initiative. Since 2009, the SBRI had run a regional healthcare competition overseen by the Eastern Region Strategic Health Authority (SHA) (SBRI). It takes a competition approach to procurement, by releasing open calls to small- and medium-sized businesses to develop healthcare products that address unmet clinical needs that have been identified by the AHSNs (SBRI). Successful applicants receive fully funded development contracts to carry out feasibility and validation testing of their products within a clinical setting, which, if successful, are commercialised with the NHS acting as lead customer.

Following the abolition of SHAs on 31 March 2013, a national Task and Finish group determined that the newly formed AHSNs should manage the SBRI Healthcare Programme and that the Eastern AHSN and Eastern Innovation Hub should lead the programme (SBRI). The first competition under the management of the AHSNs was launched in September 2013 covering seven themes: cancer, cardiovascular disease, chronic obstructive pulmonary disease, diabetes, mental health, patient safety and research tools. The competition received 283 entries, 35 of which received feasibility contracts.

An evaluation by the Office of Health Economics (OHE) found that the programme has more than doubled since January 2013, with the number of competitions increasing from 10 between 2009 and December 2012 to 22 in the 18 months from September 2013, with a total of

57 contracts awarded (Livingstone, 2014). The Office of Health Economics (OHE) evaluation projected that the potential savings to the NHS from products supported by the programme would be between £388 million and £9 billion. Additionally, 44 per cent of companies that participated in the programme reported that they would not have been able to undertake their projects without the SBRI programme. Overall the contracted spending of the SBRI Healthcare Programme in 2013/14 was £11.3 million (SBRI, 2015a).

1.7. Theme 6: Developing our people

Three actions were identified under the sixth key theme of the IHW strategy, with the overarching objective that:

We should bring about a major shift in culture within the NHS, and develop our people by 'hard wiring' innovation into training and education for managers and clinicians.

In addition, one other action was identified in *Creating Change: IHW One Year On,* which stated that 'IHW is working with Health Education England to publish a 2013 framework to embed innovation in training and education programmes'. Progress towards these four actions is outlined in Table 7 and summarised in the text below.

'Hardwiring innovation into education' and 'joint industry and NHS training for senior managers' were considered to be outside of the scope of this evaluation. Progress towards the remaining two actions is outlined below.

Innovation Fellowship Scheme (NHS Innovation Accelerator)

The Innovation Fellowship Scheme was designed to '*inspire and support NHS leaders to champion innovation and develop "an innovative culture"*', which it aims to embed among NHS staff at all levels (NHS). The Scheme was launched in July 2013 with a call for applications to oversee the Fellowship (NHS, 2013d). According to correspondence received from our steering

Table 7. Progress on actions towards developing our people

Action	Source	Priority for evaluation*	Aim	Status	Managed by
Hardwiring innovation into education and competency frameworks	IHW	Outside scope	Ensuring that innovation is 'hardwired' into education criteria, training programmes and competency frameworks at every level To build innovation into competency frameworks such as Professional Skills for Government (PSG) and the Job Evaluation and Knowledge & Skills Framework (KSF), as well as job descriptions and performance appraisals for senior NHS managers	Not established	Not identified
IHW and Health Education England (HEE) framework	Creating Change	-	To publish a 2013 framework to embed innovation and training and education programmes, aligned to the academic and career frameworks of the NHS workforce	Not clear. HEE has published its own 'Research and Innovation Strategy'	Not identified
Innovation Fellowship Scheme (renamed NHS Innovation Accelerator)	IHW	Lower	To inspire and support NHS leaders to champion innovation and develop an innovative culture	Competition opened in January 2015	NHS England, UCL Partners and the Health Foundation
Joint industry and NHS training for senior managers – ITW Innovation Network	IHW	Outside scope	Establishing and jointly funding an industry and NHS training and education programme which would allow the most senior managers and clinicians to learn and train together with industry colleagues	ITW network established. No information on content or outputs	Not identified

*NOTE: *Priority for evaluation as specified by the Department of Health (DH, 2013c)*

group at the Department of Health and NHS England, the Innovation Fellowship Scheme has been renamed the Innovation Accelerator. Calls for applications to the Innovation Accelerator opened in January 2015. The programme will select up to 20 'pioneers' (NHS).

IHW and Health Education England framework

The *Creating Change: IHW One Year On* evaluation reported that IHW is working in partnership with Health Education England to promote innovation, through a framework that corresponds with existing NHS academic and career frameworks (DH, 2012a). Although the framework was due to be published in 2013, we have found no evidence that this has happened.

Health Education England (HEE) has produced its own *Research and Innovation Strategy* (HEE, 2014). The strategy, which was published in 2014, is designed to foster innovation through healthcare training and education. Specifically the strategy sets out how HEE will:

- Create an education and training system that is evidence based and underpinned by research and innovation; and
- Build the capacity and capability of our current and future workforce to embrace and actively engage with research and innovation.

1.8 Theme 7: Leadership for innovation

Four actions were outlined under the leadership for innovation theme:

> We should strengthen **leadership** in innovation at all levels of the NHS, set clearer priorities for innovation, and sharpen local accountability.

In addition, one other action was identified in *Creating Change: IHW One Year On*, which announced plans for an IHW Call for Action. An overview of progress towards these five actions on leadership for innovation is provided in Table 8.

Table 8. Progress towards actions on leadership for innovation

Action	Source	Priority for evaluation*	Aim	Status	Managed by
CCG legal duty	IHW	Lower	Clinical Commissioning Groups will be under a duty to seek out and adopt best practice, and promote innovation	Completed	
IHW Call for Action	Creating change	-	To launch an IHW call for action on 25th January 2013 To engage NHS staff at all levels in driving innovation	Event conducted	
Innovation Pipeline Project	IHW	-	To increase the adoption of and diffusion of proven technologies in areas of high clinical need To support the Innovation Pipeline Project, which will undertake 15–20 joint working projects between NHS providers and the Association of the British Pharmaceutical Industry (ABPI) and the Association of British Healthcare Industry (ABHI)	Launched in February 2012. Ongoing progress not clear	
NHS Operating Framework	IHW	-	To ask the NHS to prioritise the adoption and spread of effective innovation and good practice	Superseded	NHS England
Strengthening Leadership and Accountability	IHW	Lower	To strengthen leadership and accountability for innovation at the board level throughout the NHS, the Chief Executive of every NHS Commissioning Board will be personally responsible for facilitating research, innovation and adoption, and will be required to prioritise the spread of innovation in their commissioning plans	Strengthening Leadership and Accountability for Innovation published	

*NOTE: *Priority for evaluation as specified by the Department of Health (DH, 2013c)*

Clinical Commissioning Groups' legal duty

In March 2013 the duty of CCGs to promote innovation was incorporated into the Health and Social Care Act 2012 (Gov, 2012a)(Gov, 2012a)(Gov, 2012a) (Gov, 2012a). Section 26 of the Act includes the following provision: 'Each clinical commissioning group must, in the exercise of its functions, promote innovation in the provision of health services (including innovation in the arrangements made for their provision)' (Gov, 2013):

We have been unable to find any guidance on specific ways in which CCGs can fulfil this duty, or any evidence of CCGs being held to account for their actions with respect to this provision of the Act.

IHW Call for Action

Creating Change: IHW One Year On set out plans to launch the IHW Call for Action in January 2013, targeting an initial 100,000 staff at all levels of the NHS (DH, 2012a). The purpose of the Call for Action was to foster a '*grass roots movement to drive innovation*', engaging staff '*from the frontline to the boardroom*'. It was launched on schedule, at an IHW 'accelerated solutions' event organised by the now defunct NHS Institute for Innovation and Improvement (NHS, 2013c). The event was attended by around 100 senior NHS leaders.

We found no evidence documenting the impact of the IHW Call for Action, or whether it succeeded in reaching the 100,000 staff targeted.

Innovation Pipeline Project

According to the IHW document, the Innovation Pipeline Project was designed to 'increase the adoption of and diffusion of proven technologies in areas of high clinical need'. The strategy outlined 15–20 'joint working projects' between NHS providers and member organisations of Association of the British Pharmaceutical Industry (ABPI) and the Association of British Healthcare Industries (ABHI), to be undertaken by the end of 2013.

According to the *NHS Chief Executive's Annual Report 2011/12*, the Innovation Pipeline Project was launched in February 2012 (Nicholson, 2012b). However, we have not been able to find any evidence of resulting 'joint working projects'.

NHS Operating Framework

The NHS Operating Framework for 2012/13 emphasised the role of innovation (DH/NHS, 2011), but has been superseded by subsequent frameworks.

Strengthening Leadership and Accountability

According to the IHW document, Chief Executives of all NHS commissioning organisations, including the NHS Commissioning Board, are required to 'ensure that arrangements are in place to champion research, innovation and adoption' (DH, 2011). NHS England has published guidelines for these actors in a document entitled *Strengthening Leadership and Accountability for Innovation* (NHS, 2013g). The document provides a definition of innovation in the context of IHW, as well as guidance on 'driving innovation through patient focus', 'harnessing innovation through leadership' and 'delivery mechanisms for long-term success'.

Other than the above document, we were unable to find any evidence of Commissioning Board Chief Executives being held accountable for facilitating the adoption and spread of innovation.

1.9. Theme 8: High Impact Innovations

The objective of theme eight outlined in IHW was that:

> We should identify and mandate the adoption of **high impact innovations** in the NHS.

IHW identified six priority areas for innovation as High Impact Innovations (HIIs). In order to promote their implementation, compliance with these six HIIs became a pre-qualification for CQUIN from April 2013. In addition, as part of the implementation of IHW the NHS Commissioning Board produced a catalogue of potential innovations.

Table 9 below provides an overview of progress on the six HIIs identified in the IHW document, as well as the catalogue of innovations and CQUIN pre-qualification.

3 Million Lives (Technology Enabled Care Services)

The 3 Million Lives (3ML) campaign aimed to improve the lives of 3 million people with long-term conditions over a five-year period by accelerating the use of assistive technology. Originally implemented

Table 9. Progress towards High Impact Innovations

Action	Source	Priority for evaluation*	Aim	Status	Managed by
High Impact Innovations	IHW	High	Need to scan for those ideas which will deliver game-changing improvements and work systematically to spread them at pace. IHW identified six priority areas where work could be done to systematically spread good practice throughout the NHS	Active	NHS England (through the Innovation Exchange)
3 Million Lives			To rapidly accelerate the use of assistive technologies in the NHS aiming to improve at least 3 million lives over the next 5 years	Superseded by Technology Enabled Care Services (TECS)	
Fluid management monitoring technology			To launch a national drive to get full implementation of ODM or similar fluid management monitoring technology, into practice across the NHS	No information on the extent of uptake	
Child in a Chair in a Day			To launch a 'child in a chair a day' programme to transform the delivery of wheelchair services throughout the NHS	No information identified	
Increasing international and commercial activity			Require NHS organisations to explore opportunities to increase national and international healthcare activity and will host a summit with UK trade and investment in the new year	Exporting Healthcare conference held March 2015	
Reducing inappropriate face-to-face contacts			To work with the NHS to work towards reducing inappropriate face-to-face contacts and to switch to higher quality, more convenient, lower cost alternatives	Rapid review conducted in 2012	
Carers for people with dementia			Require the NHS to commission services in line with NICE-SCIE guidance on supporting people with dementia	Development of the 'Dementia Prevalence Calculator'	
CQUIN pre-qualification	IHW	High	To ensure compliance with the HIIs will become a pre-qualification requirement for CQUIN payments	Superseded by Service Development and Improvement Plan	n/a

NOTE: *Priority for evaluation as specified by the Department of Health (DH, 2013c)

by the Department of Health, the initiative was taken over by NHS England in April 2013. NHS England conducted a review which found that 3ML was at risk of failing of meet its target of reaching 100,000 new users in 2013 (Cashman, 2013). This led to a revised set of objectives and strategies for the implementation of the initiative. The new delivery model dropped the target of 100,000 new users, and decided to *focus on where energy already exists locally for delivery of 3millionlives'* instead of following the Department of Health's approach of implementing 3ML at selected 'pathfinder' sites (Price, 2013). In addition, the range of assistive technologies to be included in 3ML was expanded to include telemedicine and telecoaching, in addition to the original focus on telehealth and telecare (Cashman, 2013).

We found no information on progress under the new delivery model, and 3ML was superseded by the Technology Enabled Care Services (TECS) programme in September 2014 (NHS, 2014e). TECS provides NHS commissioners with guidance for effective adoption of assistive technologies. The NHS Commissioning Assembly has stated that TECS is designed to complement existing commissioning priorities, but no information has been published on specific actions or objectives for the programme. We found no information regarding progress on the implementation of TECS (NHS, 2015j).

Fluid management monitoring technology

The IHW document states that intraoperative fluid management has the potential to '*improve care for over 800,000 patients a year, and save the NHS at least £400m annually*'. The example given in the report is Oesophageal Doppler Monitoring (ODM), which is designed to assist anaesthetists during surgery by monitoring patients' fluid status and guiding the administration of drugs.

The launch of a programme to drive uptake of ODM and other fluid management technologies, scheduled for February 2012, was delayed until May of that year, when the NHS Technology Adoption Centre published its Technology Adoption Pack (TAP) on Intraoperative Fluid Management Technologies (MHP, 2012). Despite the publication of the TAP, the company that developed the technology, Deltex Medical, has raised concerns regarding the scale of its implementation. Concerns were also raised and debated in the medical literature about the evidence underpinning the requirements for its use (Ghosh et al., 2011, Minto and Struthers, 2012, Stevenson and Stoker, 2014, Campbell and Longson, 2012, Campbell, 2012).

Although the NICE guidelines on ODM support the IHW document's target of reaching over 800,000 patients a year (NICE, 2011), Deltex Medical submitted evidence to Parliament that the Technology Adoption Pack published to support ODM's implementation identified less than 10 per cent of that number (Gov, 2012b, NHS, 2012a).

We found no evidence of the extent to which ODM has been implemented in the NHS.

Child in a Chair in a Day

According to the IHW document, the Child in a Chair in a Day programme aims to deliver or procure services that ensure that a disabled child is provided with a suitable wheelchair within one day. This is to be achieved through collaboration with local stakeholders and provider organisations. The Child in a Chair in a Day website was launched in 2012 to support local organisations in implementing the programme, although this no longer appears to be active (NHS, 2013a). We found no further information on implementation of the programme or progress towards achieving its goals.

Increasing international and commercial activity

The IHW document outlines plans to help the NHS 'exploit the commercial value of its knowledge, information, ideas and people', in order to increase revenue and expertise, and 'drive growth in UK PLC'. However, the only specific action identified in the report is a summit, scheduled for 2012, to be organised jointly by the Department of Health, the NHS and UK Trade & Innovation (UKTI).

Available information on international and commercial activity with explicit links to IHW is limited. *Creating Change: IHW One Year On* makes reference to Healthcare UK, which was established in January 2013 as a joint initiative by the Department of Health, the NHS Commissioning Board and UKTI (DH, 2013b). Healthcare UK replaced NHS Global, which was hosted by the now defunct NHS Institute for Innovation and Improvement. According Healthcare UK's website, it works in over 100 countries to 'promote Britain's world leading healthcare sector to international customers' (Gov, 2015a, DH, 2013b). A recent example of this activity is Healthcare UK's work in support of the Exporting Healthcare conference, held in March 2015, which aimed at 'increasing opportunities for UK businesses to contribute in the global healthcare market' (Gov, 2015b).

Reducing inappropriate face-to-face contacts

The IHW document states that the 'Digital By Default' (later renamed 'Digital First') initiative aims to harness improvements in information technology in order to replace unnecessary face-to-face contact with '*high quality, more convenient, lower cost alternatives*'. A report on the aims and strategies of Digital First was published in March 2013. It details ten 'easy-win' initiatives, ranging from online appointment bookings to remote delivery of test results, and sets out pathways to the implementation of each initiative, leading to intended outcomes that feed into the overall objectives of Digital first. The report does not set timelines for the implementation of initiatives.

The Digital First website was launched in 2012, but no longer appears to be active. A rapid review of Digital First was published in October 2012 by the Institute of Digital Healthcare (Wyatt et al., 2012). The review assessed the feasibility of proposed initiatives, and informed the 2013 Digital First report. We found no evidence of any similar review having been conducted since the 2013 report. However, there are examples of individual Digital First

initiatives being implemented in the NHS. For instance, NHS England's National Pathology Programme has published a report that calls for the transformation of pathology services through digitisation (NHS, 2014c). The report outlines a range of digitisation initiatives, mainly in the areas of physician-patient interactions and information management, to increase efficiency and improve service in the field of pathology.

Carers for people with dementia

The IHW document calls for carers for people with dementia to have access to psychological therapies, which should be commissioned in line with NICE-SCIE guidance. *Creating Change: IHW One Year On* states that a data collection tool will be produced to measure support for carers at a local level. This led to the development of the Dementia Prevalence Calculator (DPC), which was commissioned by the Department of Health and developed by NHS South of England (DP, n.d.). The tool 'enables General Practices and commissioners to establish a baseline', which will allow them to improve diagnosis rates, as well as commissioning and service design (DP, n.d.).

Other than the data collection tool, we were unable to identify specific actions taken to implement this HII. Although there are a number of NHS initiatives which appear relevant to dementia carers, it is difficult to establish clear links between these initiatives and IHW.

Catalogue of potential innovations

The catalogue of potential innovations was launched by the NHS Commissioning Board in March 2013, following an open call for new innovations under IHW (NHS, 2014a). It provides information on 108 new innovations at various stages of development, none of which are officially sanctioned by the Commissioning Board. The intention is to drive the continued development of those innovations, with the ultimate goal of improving clinical outcomes. The catalogue includes potential innovations in the following domains:

- Preventing people from dying prematurely
- Enhancing quality of life for people with long-term conditions
- Helping people to recover from episodes of ill health or following injury
- Ensuring that people have a positive experience of care
- Treating and caring for people in a safe environment and protecting them from avoidable harm.

We were unable to find evidence of the catalogue being updated on an ongoing basis to include new innovations.

CQUIN pre-qualification

The CQUIN payment framework linked a proportion of healthcare providers' income to the achievement of locally decided goals. In accordance with the IHW report, the 2013/14 CQUIN guidelines stated that providers who did not comply with the HIIs are not eligible for these payments, which were set at 2.5 per cent of the value of the provider's contract (NHS, 2013b). An early evaluation by MHP found that providers have been quicker to implement IHW actions which are linked to financial incentives such as CQUIN payments (MHP, 2012).

However, the 2013/14 guidelines have since been superseded, and the 2014/15 version makes no mention of HIIs (NHS, 2014b). In place of the CQUIN pre-qualification, a new mandatory Service Development and Improvement Plan (SDIP) has been added to the NHS Standard Contract, which commissioners use for all contracts for healthcare services other than primary care. The SDIP requires providers to produce '*an agreed plan setting out improvements to be made by the provider to the services and/or services environment*' (NHS, 2013e). Providers who have not yet completed implementation of the HIIs must agree on an SDIP action designed to fully implement all HIIs relevant to their services (NHS, 2014d). As a result, compliance with HIIs is now mandatory rather than incentivised.

Chapter 2 Key informant interviews

Textbox 2 Key findings from interviews

Theme 1 Reducing variation and strengthening compliance
NIC outputs facilitate the implementation of new innovations, but the unaffordability of innovations act as a barrier

Theme 2 Metrics and Information
The Scorecard helps track the uptake of NICE recommendations, but is not currently widely used

While the web portal may facilitate the diffusion of innovation, in the absence of large-scale culture change it is unlikely to be widely used

The CPRD is a potentially useful tool, but buy-in from GP practices has been slow

Theme 3 Creating a system for delivery of innovation
AHSNs facilitate the adoption of innovation in different ways, but also face financial challenges

iTAPP is building capacity among manufacturers and the Medtech Briefings have been well received in the NHS

Theme 4 Incentives and investment
IHW's performance incentives are relatively weak

Theme 5 Procurement
The health SBRI is working well

Theme 8 High Impact Innovations
The pre-qualification CQUIN was unpopular

The prioritisation process for the selection of HIIs has been criticised

Cross-cutting themes
In addition to the key points regarding the eight IHW themes, a number of cross-cutting themes emerged from the interviews. The first was that innovation is essential for the sustainability of the NHS and that the NHS needs to change. The second was that incentives, both financial and non-financial, work against the aims of IHW. The third was that austerity is hampering innovation. NHS staff end up 'firefighting' rather than planning and making investments for the future, and budgetary constraints render cost-effective technologies unaffordable. The fourth was that culture change in the NHS is necessary, but also very difficult. Culture change may require both changes in attitudes towards innovation and working with non-NHS partners. The fifth was that frontline NHS staff are mostly unaware of much of the content of IHW.

The aims of the interviews were to:

• Understand the experiences and knowledge of stakeholders and any actions undertaken by them or others in relation to Innovation, Health and Wealth.
• Inform the selection of topics for further scrutiny in the next phase of the evaluation.

To this end, we asked interviewees what has happened so far, why particular activities have been undertaken and how they see the future of IHW and its objectives.

We undertook 37 interviews with key stakeholders between October 2014 and March 2015.

The Department of Health provided a list of initial interviewees to contact. Further interview contacts were undertaken following suggestions made by interviewees. These include, for example, the inclusion

of members of Collaborative Leadership in Applied Healthcare Research (CLAHRCs) to gain their perspectives on Academic Health Science Networks (AHSNs) and the inclusion of interviewees with an understanding of the Clinical Practice Research Datalink (CPRD) as a topic. Interviews were unstructured and did not follow a topic guide, allowing for reflexive questioning.

The aim of the interviews was to solicit interviewees specifically in areas relating to IHW where we felt they had particular expertise. This approach provided considerable depth to the analysis presented here, but it also removes the possibility of quantifying interview responses as a whole (since each interviewee covered different ground). Therefore, throughout the report, we do not attempt to quantify interviewees' comments. The expertise of the interviewees is detailed in Table 10 below.

Table 10. Overview of interviewees' expertise

Expertise	Number Interviewed
Pharmaceutical DH	1
IHW Board	1
SBRI Healthcare	1
iTAPP/Med Tech	1
CCG	1
Innovation Challenge Prizes	1
Leadership & Accountability	1
NICE Compliance Regime	2
Innovation Scorecard	1
Innovation Exchange	1
Industry	3
TECS (3 Million Lives)	8
Carers	1
AHSNs	5
CLAHRCs	4
Health Education England	1
IHW Policy	2
CPRD and Innovation Compass	1
NICE Implementation Collaborative	1
Total	37

The interviewees were mainly relatively senior staff who were in a good position to comment on various aspects of IHW, but were wholly or largely removed from frontline care. Therefore, the findings cannot be said to represent the views of NHS staff generally.

The interview findings related to the eight IHW themes are elaborated in the remainder of this section.

2.1. Theme 1: Reducing variation and strengthening compliance

Interviewees saw the NICE Implementation Collaborative (NIC) as a useful mechanism for producing outputs to facilitate the implementation of innovations. However, some identified affordability as a major barrier to the implementation of NIC outputs, and NICE recommendations more generally. Some interviewees expressed concerns that the NIC's very limited budget restricts the volume and speed of work that can be undertaken.

2.2. Theme 2: Metrics and information

According to interviewees, the Innovation Scorecard has demonstrated an increase in the uptake of NICE recommendations. The Scorecard is evolving and improvements to its content and presentation are ongoing. While frontline professionals are potential users of the Scorecard, interviewees report that it is unlikely that it is being accessed widely at present.

Interviewees had mixed views as to whether the web portal has been a useful development. While some interviewees welcomed it, critics suggested that portals which require busy NHS staff to act proactively would be unlikely to succeed and that there are examples of such portals having failed in the past. Some interviewees were also of the view that on-site, as opposed to virtual, assistance would be required to implement innovative practices. Given the necessity of large-scale culture change, the portal is unlikely to be widely used.

Interviewees report that the Clinical Practice Research Datalink (CPRD) is a potentially powerful tool, but that, at present, only 9 per cent of GP practices provide access to their data. Work is ongoing to increase participation in, and use of, the CPRD.

2.3. Theme 3: Creating a system for delivery of innovation

From the interviews, it became apparent that the 15 Academic Health Science Networks (AHSNs) are pursuing their objectives in a way that is tailored to their local contexts. There is currently an NIHR-funded research project focusing on five AHSNs, using Social Network Analysis to map and quantify relationships (Ferlie, 2013). However, the majority of that study is based on interviews with senior NHS managers.

Interviewees were cautiously optimistic about AHSNs. Most acknowledged the need for AHSNs, but were also concerned that the limited funding provided and the need to self-generate funds would skew their priorities. Some interviewees suggested that current austerity measures would make obtaining funding difficult. Others suggested that AHSNs were still 'finding their feet' and that it's too early to comment on their progress and future prospects.

NICE has taken responsibility for the iTAPP programme, fulfilling a similar role through the NICE Medical Technologies Evaluation Programme (MTEP), and interviewees reported that NICE is making good progress on building capacity among manufacturers to comply with NICE requirements. Additionally, interviewees reported that the Medtech bulletins have been well received by NHS staff.

2.4. Theme 4: Incentives and investment

Most interviewees identified problems related to financial incentives. It was reported that, in some cases, commissioners and providers have worked together to develop pathways and payment regimes outside the national tariff arrangements. However, interviewees noted that there is scope to do much more on this front.

Most interviewees viewed the requirement to achieve financial balance on an annual basis as a key obstacle to the implementation of innovative practices. Interviewees reported that the generation of savings in other sectors or organisations, while the NHS bears the cost of innovation, acts as a disincentive for the NHS to implement innovations.

Interviewees also suggested that performance incentives for IHW, compared to some other activities, such as national targets, which include achieving financial balance, are weak. National targets are clear and measurable, whereas performance incentives for IHW are less so. As one interviewee noted, no one gets sacked for failing to implement IHW.

One interviewee that mentioned the NHS Innovation Challenge Prizes viewed the prize programme as successful at increasing numbers of applications for the prizes and the quality of the ideas submitted.

Few interviewees had experience of the Regional Innovation Fund, but one suggested that it was not the best way to allocate resources for innovation. The interviewee reported that there were problems concerning

lack of expertise amongst the panel members responsible for evaluating a diverse range of bids, as well as well as what they identified as an excessive amount of time needed for writing bids.

2.5. Theme 5: Procurement

Interviewees saw the SBRI as successful in terms of its impact on knowledge, innovation, employment, and enabling companies to leverage additional (non-SBRI) funding and commercialisation of innovations.

2.6. Theme 6: Developing our people

Health Education England staff are involved in embedding innovation in education and training for the NHS workforce. Since the organisation is relatively new, this process is in its early stages. Recent changes at NHS England have meant that HEE links were not well established, although things have improved following the NHS England reorganisation.

2.7. Theme 7: Leadership for innovation

Despite inclusion in the Operating Framework, a new duty for CCGs and publication of the 'Strengthening Leadership and Accountability for Innovation at Board level throughout the NHS' guide, interviewees reported that these aspects of IHW had not had their intended impact. Interviewees acknowledged that innovation is essential for the sustainability of the NHS. At the same time, they noted that short-term pressures and priorities were in danger of crowding out innovation. Interviewees thought that more could be done to disseminate and embed the learning contained in the guide on strengthening leadership and accountability for innovation.

2.8. Theme 8: High Impact Innovations

Interviewees reported that the pre-qualification CQUIN was generally unpopular.

There were various activities related to the Technology Enabled Care Services (TECS) programme, formerly known as the 3 Million Lives programme, which interviewees reported were having a high impact on individuals. Often these were coordinated by local champions working around the system, rather than being

mainstreamed. Interviewees agreed that there is much more potential to use TECS. Patients often have little knowledge of what is available and much more could be done by the NHS and industry to raise their awareness.

Some interviewees suggested that the HII process was flawed either because they disagreed with the interventions prioritised or because local providers were already performing well in these areas and other topics would have been preferred.

Chapter 3   Survey Data

Textbox 3 Key findings from the survey

The survey findings present a mixed picture. Progress since 2011 has been variable within each of the eight IHW themes – and for many actions it is still too early to measure their impact. Some headline findings from across the IHW themes are highlighted below.

Theme 1 Reducing variation and strengthening compliance
Survey respondents perceived the NHS as performing poorly in this area (limiting unwarranted variation in care), particularly among non-frontline staff, but respondents rated compliance with guidance from NICE, the related innovation process, much more positively.

Theme 2 Metrics and Information
Few respondents without existing knowledge of IHW had heard of IHW actions relating to this theme. Very few respondents made any positive comments.

Theme 3 Creating a system for delivery of innovation
Academic Health Science Networks stand-out from the survey as an IHW action that respondents (including frontline staff) had heard of and/or considered a facilitator of the adoption and diffusion of innovation in the NHS.

Theme 4 Incentives and investment
Few respondents considered that the performance for the NHS in regards to this theme was positive, or that there had been any improvements since 2011

Theme 5 Procurement
The Small Business Research Initiative, which focuses on 'discovery' rather than innovation adoption and diffusion, was broadly viewed positively. Improved collaborations between the NHS and industry were an area where respondents reported positive progress.

Theme 6 Developing our people
Well over a third of survey respondents to this question considered that there had been an improvement in the culture of innovation among NHS staff since 2011

Theme 7 Leadership for innovation
Respondents highlighted that local rather than national initiatives are often more successful, and did not always view national leadership of IHW from within NHS England positively.

Theme 8 High Impact Innovations
Respondents identified strong limitations with the HII programme, including particular concerns about its implementation and the selection of HIIs.

Cross-cutting themes
Barriers to the implementation of IHW were identified from across the whole programme. Recurring themes included high-level concerns about: the overall IHW objectives and its strategy for achieving them, lack of engagement with IHW among frontline staff, difficulties in measuring progress both towards improvement in innovation adoption overall and towards individual IHW actions. The culture and structure of the NHS were also seen as barriers: frontline staff do not identify innovation as part of their caring role, and a lack of funds reduces financial risk taking and overall investment in innovation.

Overall, respondents recognised the value and importance of the ideas behind IHW, but many also had negative perceptions, particularly around implementation and perceived slow and limited progress. There was disagreement among respondents and no clear consensus about what the best steps for improvement would be.

3.1. Methods

An online survey of key innovation stakeholders was undertaken with the over-arching aims of identifying progress to date and collecting views on the design, implementation and delivery of IHW and its actions.

3.1.1. Sampling frame identification

In order to identify providers, commissioners and other key stakeholders, including representatives of industry, the following groups, individuals and organisations were included in the survey sampling frame and invited to respond:

- **Organisations commissioning or delivering health services** (Foundation Trusts, Specialist Hospitals, Public Health Organisations, CCGs).
- **Academic organisations** (CLAHRCs, AHSNs).
- **Respondents and panel members from previous innovation reviews** (respondents to the NHS Chief Executive on the spread of innovation review, Innovation in the NHS: call for evidence and idea – Expert Panel Members).
- **National senior individuals within the NHS** (NHS England National Clinical Directors, HSJ Top 100, NHS England Board, Contacts listed in Personalised Health and Care 2020).
- **NICE** (NICE Senior Management Board, Organisations involved in the NICE Implementation Collaborative).
- **Innovation and IHW-specific contacts** (External Advisory Group for IHW, innovation contacts suggested by the Department of Health, key individuals mentioned in IHW or from the Literature Review).

A single individual (the CEO or Head) was identified for all foundation and specialist hospitals, Public Health organisations, AHSNs and CLAHRCs in England, and the CEO and Chief Medical Officer for CCGs. For all other organisations and groups, all individuals were included.

Email contact details for all identified individuals were found through public websites searches, except for a small number of the innovation and IHW-specific contacts suggested by the Department of Health, who had previously been involved in IHW activities and had agreed to be contacted (and for whom email addresses may not have been in the public domain). Repeat searches for contact details were made where initially identified email addresses were no longer active.

The resulting strategy identified a survey sampling frame which contained contacts from senior, innovation-interested NHS and healthcare industry, representing all regions.

In addition, initial survey contacts were asked to forward details of the survey on to relevant innovation, frontline or clinical staff in their organisation, with the specific aim of increasing responses from people directly involved in patient care.

3.1.2. Survey design

Survey questions were designed to evaluate progress in IHW towards the implementation of the IHW actions and progress towards the eight IHW themes. Respondents were also asked questions about the organisation where they work, their role and their knowledge of IHW. Across processes and activity within each of the eight IHW themes, survey respondents were asked about their perceptions of the current situation in the NHS, changes since 2011 and changes that they thought could be attributed to IHW. For each theme respondents were asked to rate each part of the theme (for example, two separate questions were asked within theme 1 "*Reduce variation in the NHS, and drive greater compliance with NICE guidance*", one about limiting unwarranted variation, and the second, separately about compliance with NICE guidance. Questions about performance (i.e. how well the NHS is doing) were split from questions about innovation processes (i.e. how well activity within each theme is progressing). Open questions were asked about eight high-priority IHW actions, specified by the Department of Health.

The survey was tested among senior members of staff within RAND Europe, the University of Cambridge and the Department of Health, and revisions made to questions where appropriate.

Nine actions initially identified as part of IHW (SSCIF, Better wheelchairs, NHS innovation hubs, Never events, Which campaign, Sunset review, IP strategy, NHS pipeline project, Hardwiring into educational curricular) were dropped from the survey as they were identified in personal communications from NHS England either as never implemented, carried out but not published (the Sunset review) or as no longer a part of IHW.

3.1.3. Survey mailout

The survey link was emailed, with a personalised introduction from Tom Ling, a senior research leader at

RAND Europe, and co-PI of this evaluation, and an invitation to respond from Professor Sir Bruce Keogh. The first email invitation was sent in early February 2015, and three reminders were sent at weekly intervals, until the survey closed to responses in the first week of March 2015.

3.1.4. Analysis

Quantitative survey responses were summarised using percentages, for all respondents,, stratified by whether respondents had heard of IHW or not, and whether or not they had direct involvement in patient care. Qualitative analysis of the free text responses identified and summarised the key themes highlighted by survey respondents. Quantitative analyses were carried out using Microsoft Excel 2010. For each question, all respondents that gave a valid response were included in the analysis; overall response rates varied between questions.

3.2. Survey respondents

From an initial 1,038 possible contacts identified, 217 people clicked through to the survey, and 179 survey responses were received. Numbers of responses per question varied across the survey, with 140 responses to specific questions about IHW actions and the current situation and 40 responses to more in-depth questions about change since 2011. Of the 217 survey respondents, 116 were from individuals identified in the sampling frame and 101 stemmed from the request to people to snowball the survey within their organisation.

Survey responses overwhelmingly came from people already interested in innovation. After excluding initial contacts where emails were not deliverable, and alternative email addresses could not be found, the overall response rate was 16 per cent (typical for online surveys) (Ipsos, 2010), but requests sent more generally (to hospital CEOs and CCGs) had very low response rates (<5 per cent), while the response rate from AHSNs and the NICE board was over 50 per cent. All regions of England were represented (see Figure 2) and there were respondents from all employer groups (see Figure 3). Some 38 per cent of respondents reported frequent contact with patients, 36 per cent reported occasional contact and 26 per cent reported no contact as part of their role; 15 per cent of respondents were involved with writing IHW, while 25 per cent had not heard of IHW before receiving the survey.

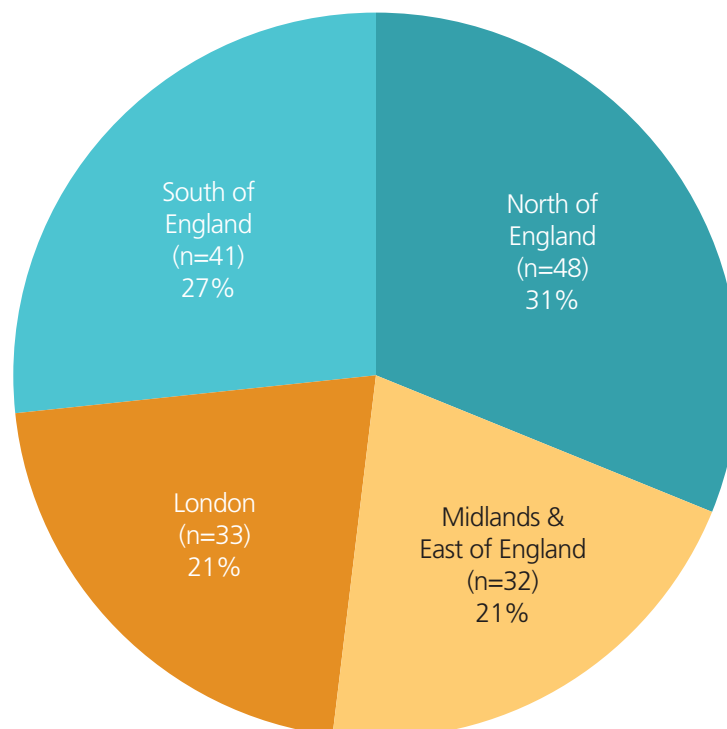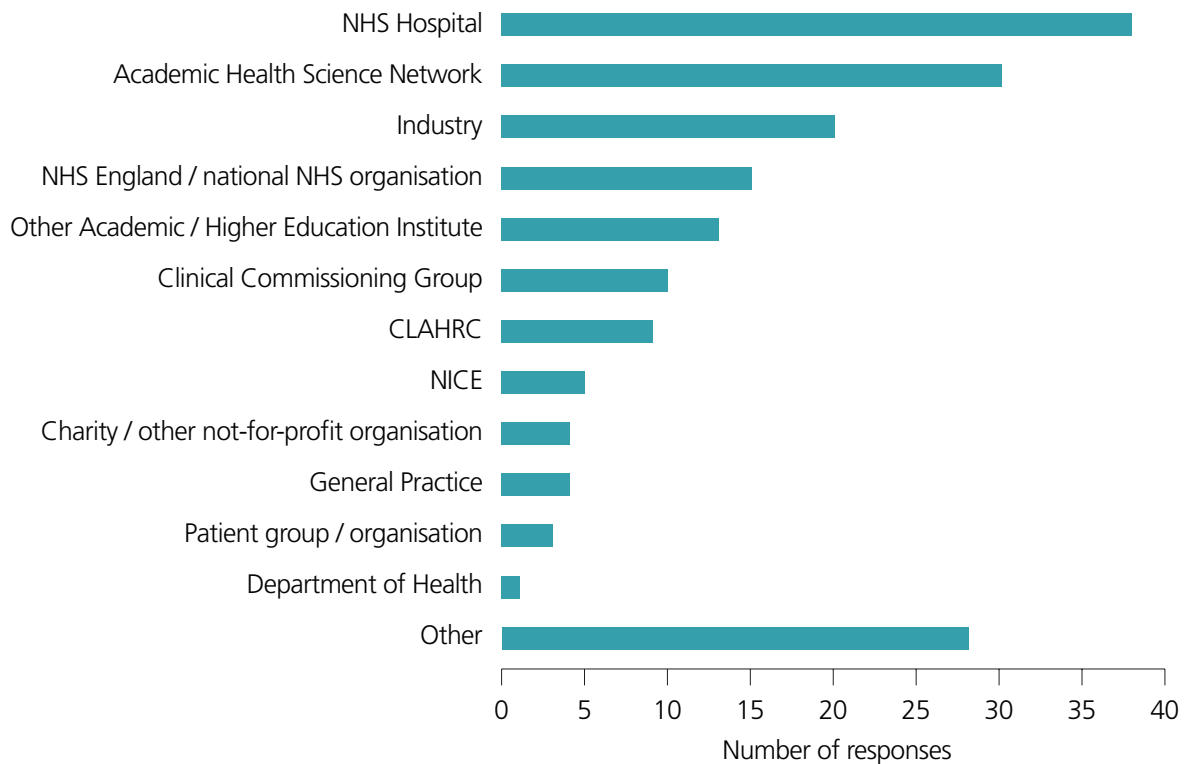**Figure 2. Number of respondents, by region**

Figure 3. Number of respondents, by employing organisation

Note: 'Other' affiliations were specified as social enterprises (7), joint affiliations (5), management consultancy (4), other national public sector bodies (4), independent consultants (3), and other (5)

3.3. Survey findings: awareness and evaluation of actions, current situation and change since 2011

3.3.1. Awareness and evaluation of actions

Awareness of IHW actions varied among respondents, from 33 per cent reporting having heard of Innovation Connect to 91 per cent having heard of AHSNs (see Figure 4).

Across all actions, people who had heard of IHW before receiving the survey were more likely to have heard of each action than those with face-to-face contact with patients (see Figures 5 to 12).

AHSNs and the SBRI were the two actions respondents were most likely to rate as working well, with alignment of financial, performance and operational incentives and legal duties for CCGs as the areas respondents considered to be working least well (see Figure 13).

Some of the IHW actions have only been recently implemented and are still in their infancy, which our survey findings confirm; although survey responses mostly came from people with high levels of interest and awareness of IHW, knowledge of many of the actions was still low, and lower still among respondents who have face-to-face contact with patients. AHSNs and the SBRI were clear outliers and were perceived more positively, but for many actions respondents reported that they did not know how well they were working. Across all actions perception of overall progress was limited.

3.3.2. Current situation in the NHS

Performance

The survey asked about the adoption of innovative processes, products and technologies. Respondents highlighted that the NHS was doing most well at the adoption of innovative products, and least well at the adoption of innovative technologies. Some 60 per cent of respondents viewed the NHS as poor at limiting unwarranted variation in care (see Figure 14).

Respondents who had not heard of IHW and those with face-to-face contact with patients consistently reported a more positive view of IHW (see Figure 15, which presents the findings for adoption, comparing respondents with and without face-to-face patient contact).

Figure 4. Percentage of respondents who had heard of each IHW action, grouped by theme

Horizontal stacked bar chart showing percentage of respondents who had heard of each IHW action, grouped by theme (1–8).

Theme	Action	I have heard of this	I have not heard of this
1	NICE Compliance Regime	~64	~36
1	NICE Implementation Collaborative (NIC)	~67	~33
2	Innovation Compass	~42	~58
2	Innovation Connect	~33	~67
2	Innovation Exchange	~51	~49
2	Innovation Scorecard	~52	~48
3	Academic Health Science Networks (AHSNs)	~91	~9
3	NICE Medtech Innovation Briefings	~51	~49
4	Align financial, operational and performance incentives	~54	~46
4	NHS Innovation Challenge Prizes	~68	~32
4	Regional Innovation Fund	~75	~25
5	Small Business Research Initiative	~56	~44
6	NHS Innovation Fellowship Scheme / NHS innovation accelerator	~67	~33
7	Legal duties for CCGs to promote innovation	~66	~34
7	Strengthening leadership for innovation at board level	~60	~40
8	High Impact Innovations	~65	~35

● I have heard of this   ● I have not heard of this

%

Figure 5. Percentage of respondents who had heard of each IHW action in Theme 1, broken down by their knowledge of IHW

● I have heard of this action   ● I have not heard of this action

Figure 6. Percentage of respondents who had heard of each IHW action in Theme 2, broken down by their knowledge of IHW

● I have heard of this action   ● I have not heard of this action

Figure 7. Percentage of respondents who had heard of each IHW action in Theme 3, broken down by their knowledge of IHW

- I have heard of this action
- I have not heard of this action

Figure 8. Percentage of respondents who had heard of each IHW action in Theme 4, broken down by their knowledge of IHW

- I have heard of this action
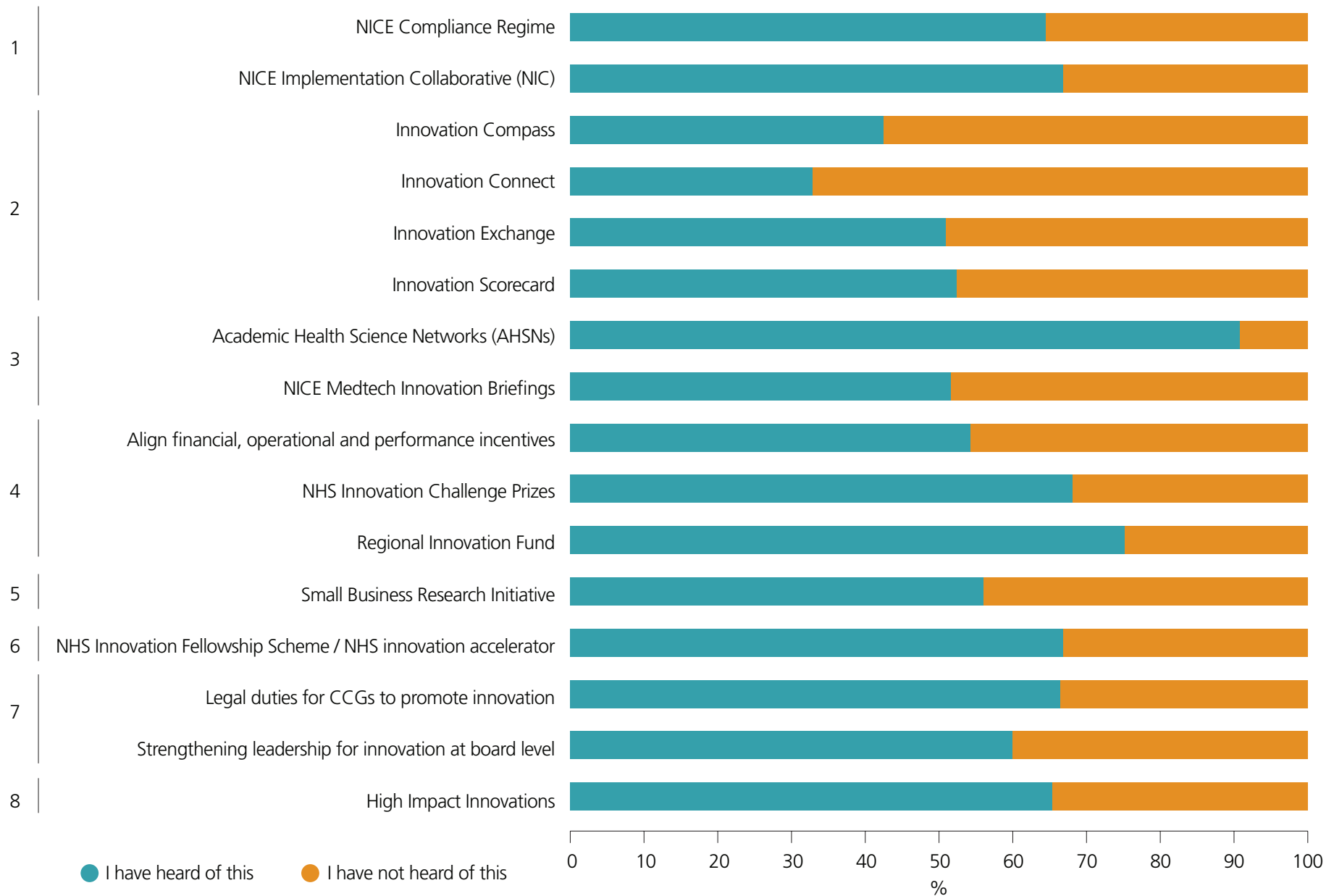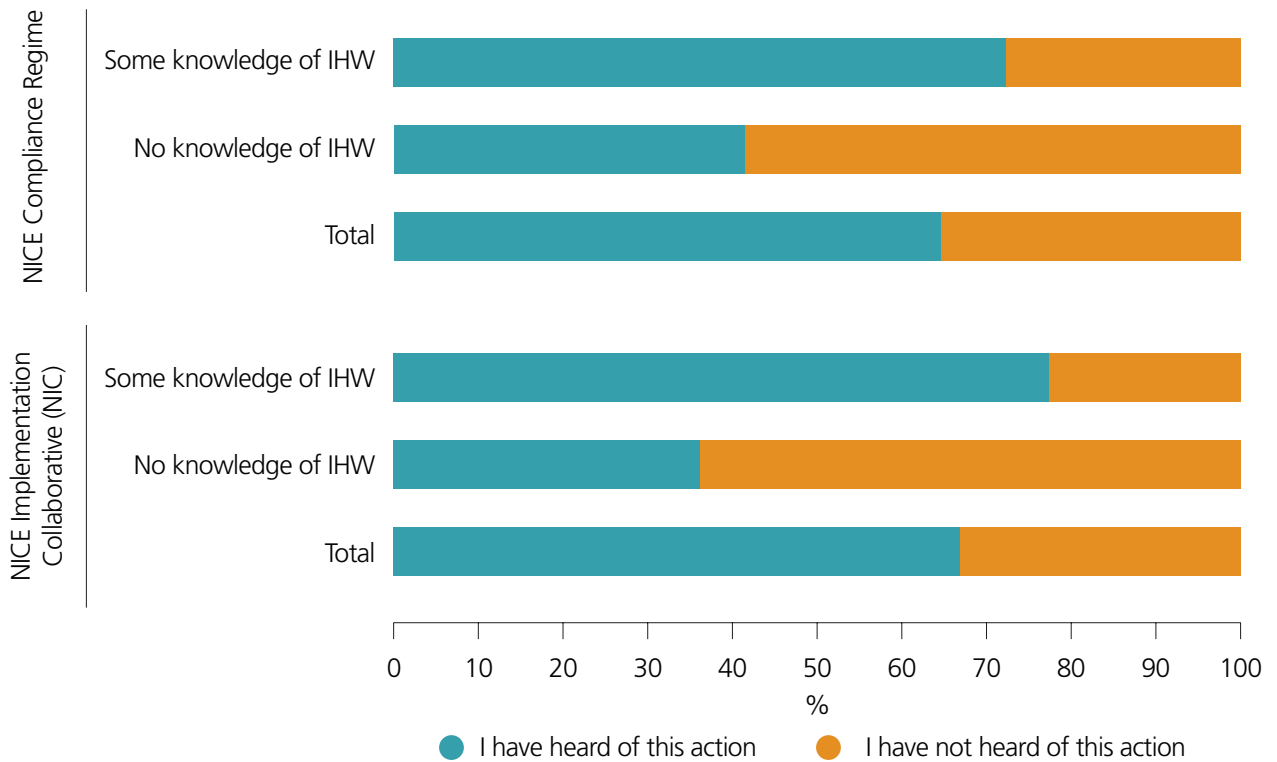- I have not heard of this action

Figure 9. Percentage of respondents who had heard of the IHW action in Theme 5, broken down by their knowledge of IHW
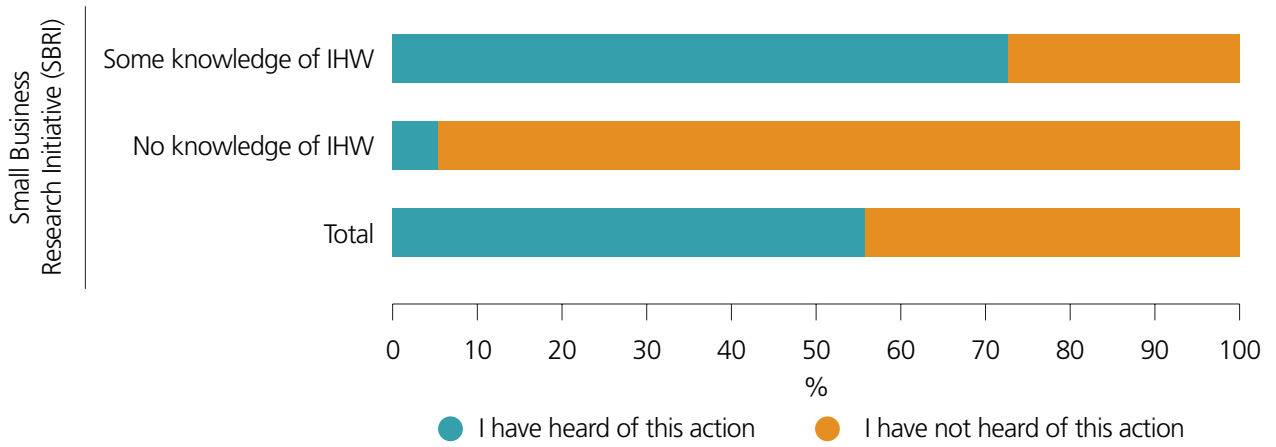
Figure 10. Percentage of respondents who had heard of the IHW action in Theme 6, broken down by their knowledge of IHW
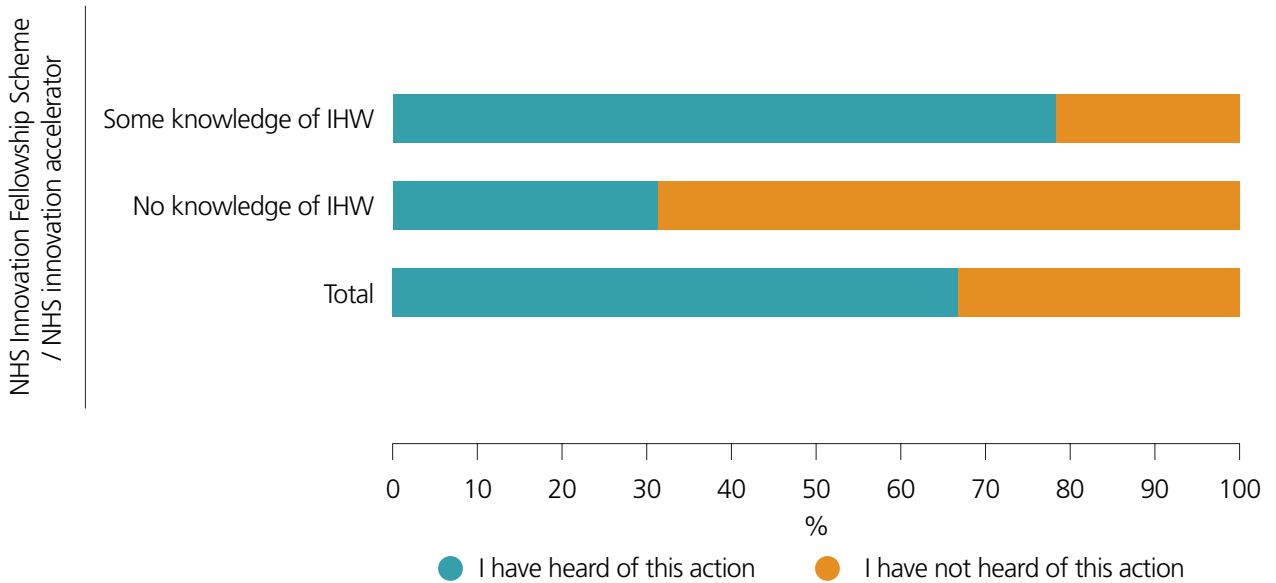
Figure 11. Percentage of respondents who had heard of each IHW action in Theme 7, broken down by their knowledge of IHW
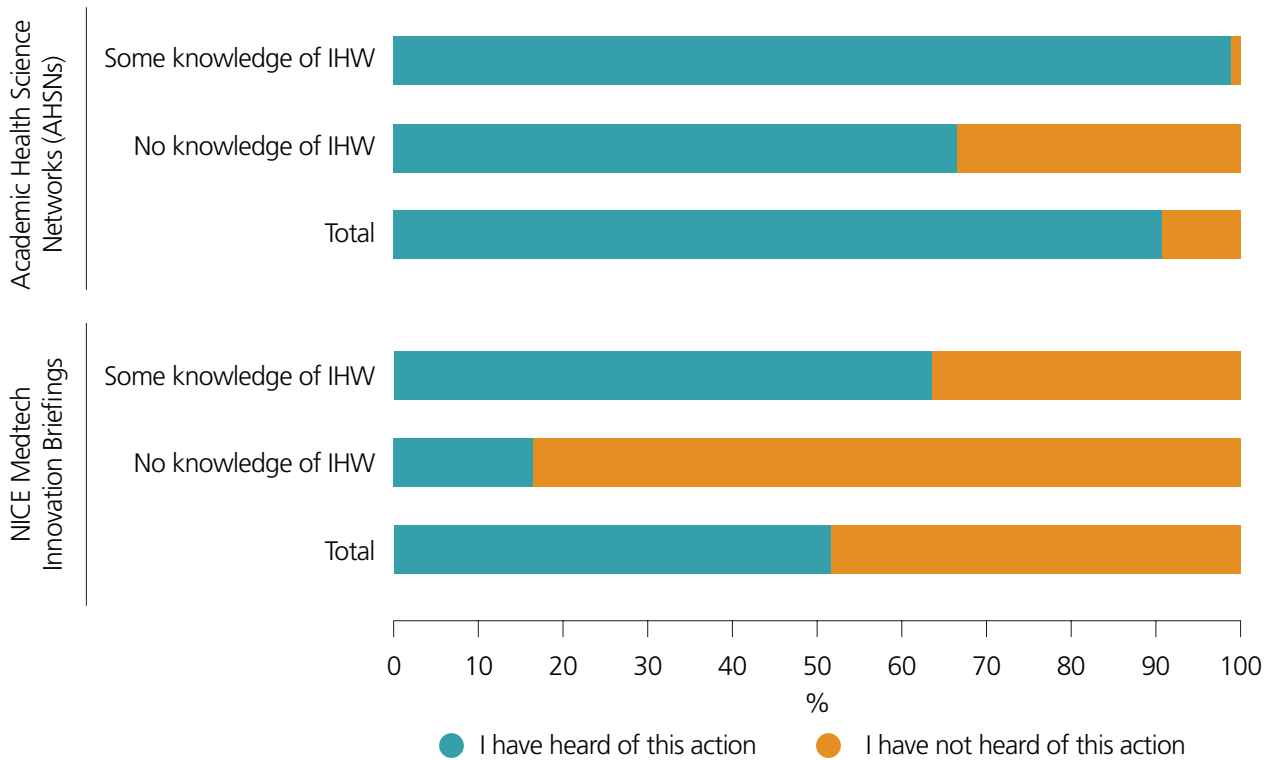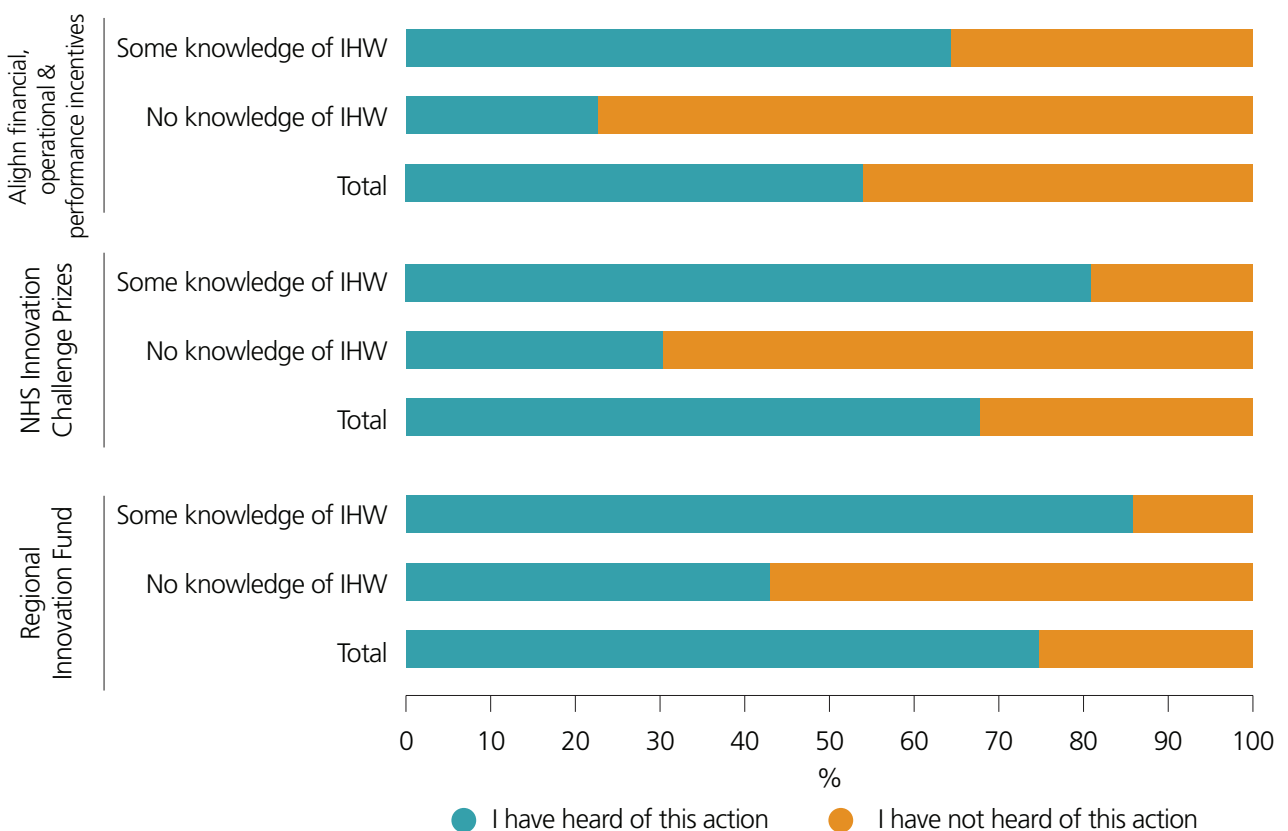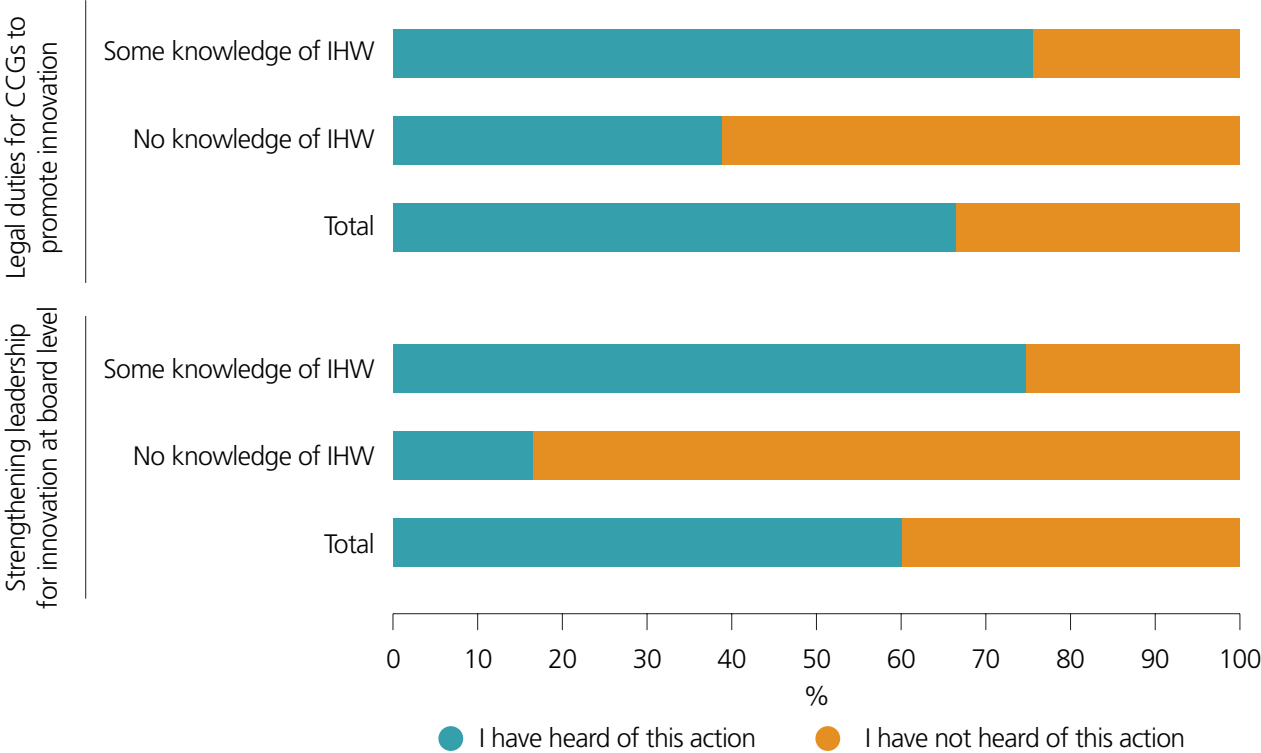

Figure 12. Percentage of respondents who had heard of the IHW action in Theme 8, broken down by their knowledge of IHW
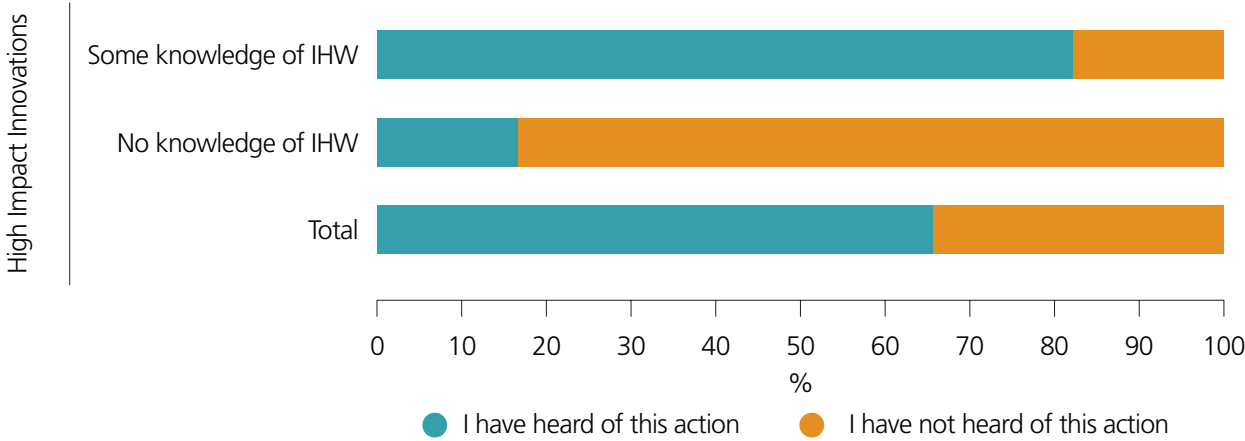
Figure 13. How well respondents who had heard of each IHW action thought the action was working, grouped by theme

● Mostly it is working well   ● Don't know how well it is working   ● Mostly it is not working well

%
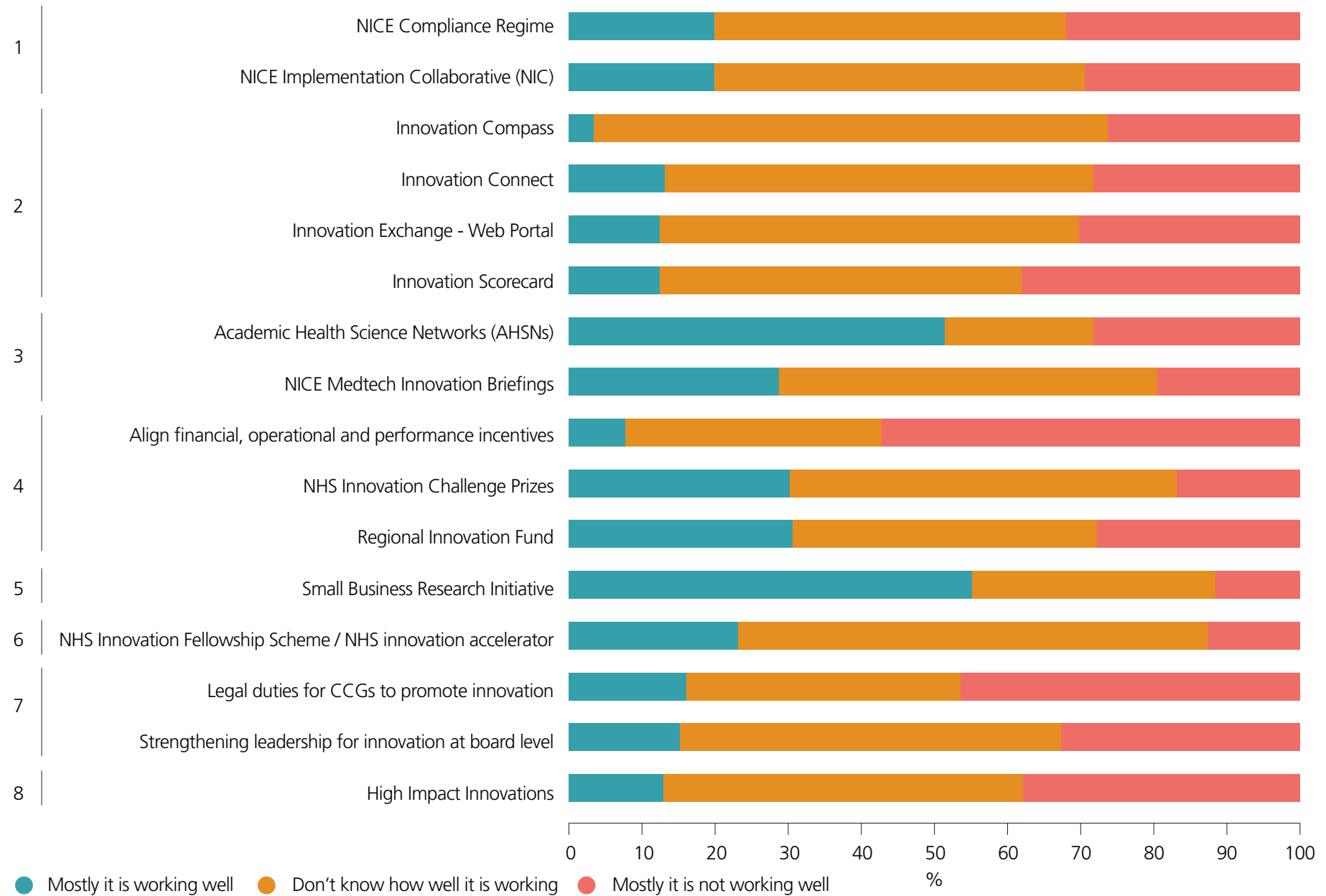
Figure 14. How respondents rated NHS performance in each area, grouped by theme

Figure 15. How respondents rated NHS performance in each area from Theme 8, broken down by whether they have face-to-face contact with patients / service users
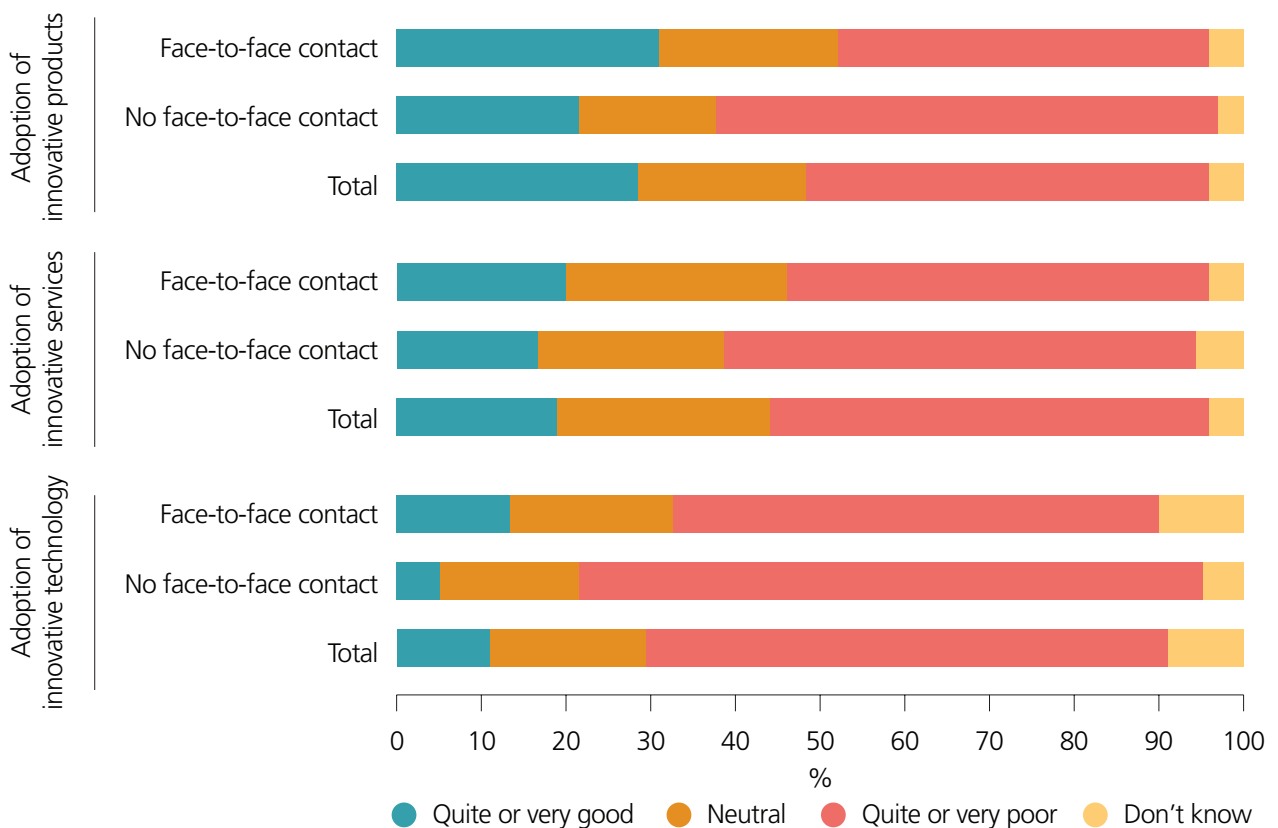
3.3.3. Areas of activity

Compliance with NICE guidance was the area of activity identified as working best, with availability of metrics to assess innovation uptake and financial management strategies identified as working least well (see Figure 16). There was variation within themes: in the case of theme 2, access to evidence about innovations was rated substantially more highly than access to evidence about innovation uptake; within theme 8, identification of High Impact Innovations was identified as working more positively than requirements for their adoption in clinical practice.

3.3.3. Change since 2011
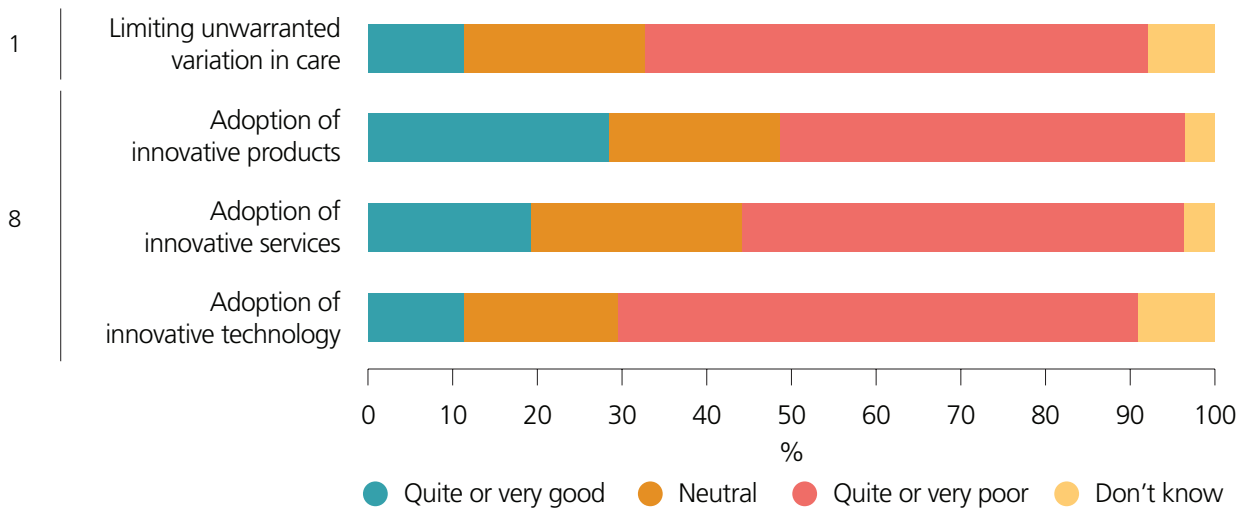
Across some areas of activity, 8 per cent (financial management strategies) to 53 per cent (compliance with guidance from NICE) of respondents identified positive change since 2011, while across other areas of activity, 4 per cent (access to information about new products and services) to 30 per cent (priorities of NHS staff) reported a worsening situation (see Figure 17).

3.3.4. Contribution of IHW to change since 2011

Only a minority of respondents reported that IHW has contributed to change since 2011 (0–32 per cent positive change and 0–10 per cent negative change) across thematic areas (see Figure 18).

3.4. Survey findings: responses to in-depth questions about specific IHW actions

In-depth, free text questions were asked about eight IHW actions, or groups of actions. In this section the full text of the question asked is given followed by a summary of the responses.

3.4.1. Academic Health Science Networks

Question: How well do partnership models work? How have AHSNs helped progress IHW actions? How have they led to more optimal spread of innovation? How can AHSNs improve their effectiveness and efficiency?

Although AHSNs were mentioned frequently in responses to other questions, only 12 respondents added additional information in response to this question.

Survey responses to this question were broadly positive, although three respondents reported that AHSNs were medium- to long-term investments and that it is still early days in terms of exploring their impact.

Regarding how AHSNs are working, four respondents identified that they were key to creating a link between industry and the NHS (although one respondent from an AHSN added that this was '*not on the scale that industry would have liked or the NHS will significantly benefit from*'). Another respondent from an AHSN identified that these links were occurring at the local level, but that the '*mechanisms available to work with industry are resource intensive and restrictive.*' Financial insecurity for AHSN organisations was identified as a second area of difficulty. However, respondents also reported that AHSNs face funding challenges, which may act as a barrier to achieving their objectives. One respondent highlighted '*Partnership models take a long time to develop and evolve, and there are strong academic interests that dominate the AHSNs which have to be countered. The AHSNs have had limited impact to date, yet have had very significant funding which they have spent on infrastructure and expensive staff. For AHSNs to be more effective and efficient they should focus on doing a few things better and have targets / outcomes that are quantifiable and unambiguous. They are too thinly spread with a large agenda, added to the challenges they have faced over funding and sustainability.*'

3.4.2. NICE Implementation Collaborative

Question: How well does the collaborative model work? What barriers and enablers have been discovered? How well is learning across the system being shared?

In total, 48 survey respondents provided a written comment related to the NIC. In general, respondents welcomed the introduction of the NIC and considered its concept to be good. However, a number reflected that the initiative was still in its 'infancy' and reported that it has not yet had a significant impact on frontline activity. A number of respondents noted that this lack of impact in the NHS resulted from a low level of awareness of the initiative, both overall and particularly among frontline staff. For example, one respondent from an AHSN remarked that the NIC is '*not well understood or visible on the shop floor*'. This point is underlined by the fact that 23 (48 per cent) out of the 48 respondents explicitly stated that they were unaware of the NIC. A number of survey respondents considered that the NIC lacks the necessary resources, both financial and human (in terms of senior leadership and individuals' capacity), to make significant progress.

Figure 16. How well respondents think each area of activity works, grouped by theme

Bar chart showing responses grouped by theme (1–8) for the following areas of activity:

1. Compliance with guidance from NICE
2. Access to information about new ideas, products and services
   Access to evidence about new products and services
   Availability of metrics to assess innovation uptake
3. Communication about innovation within the NHS
4. Organisational performance incentives
   Priorities of NHS staff
5. Collaborations with industry / the NHS as a place to do business
   Financial management strategies
6. Training and development for clinical staff
   Training and development for managers
   Organisational culture within NHS that supports innovation
7. Local accountability for the adoption and diffusion of innovations
   Leadership in innovation at all levels
8. Identification of high impact innovations
   Requirements for the adoption of high impact innovations

Legend:
- Quite or very well
- Somewhat
- Not at all
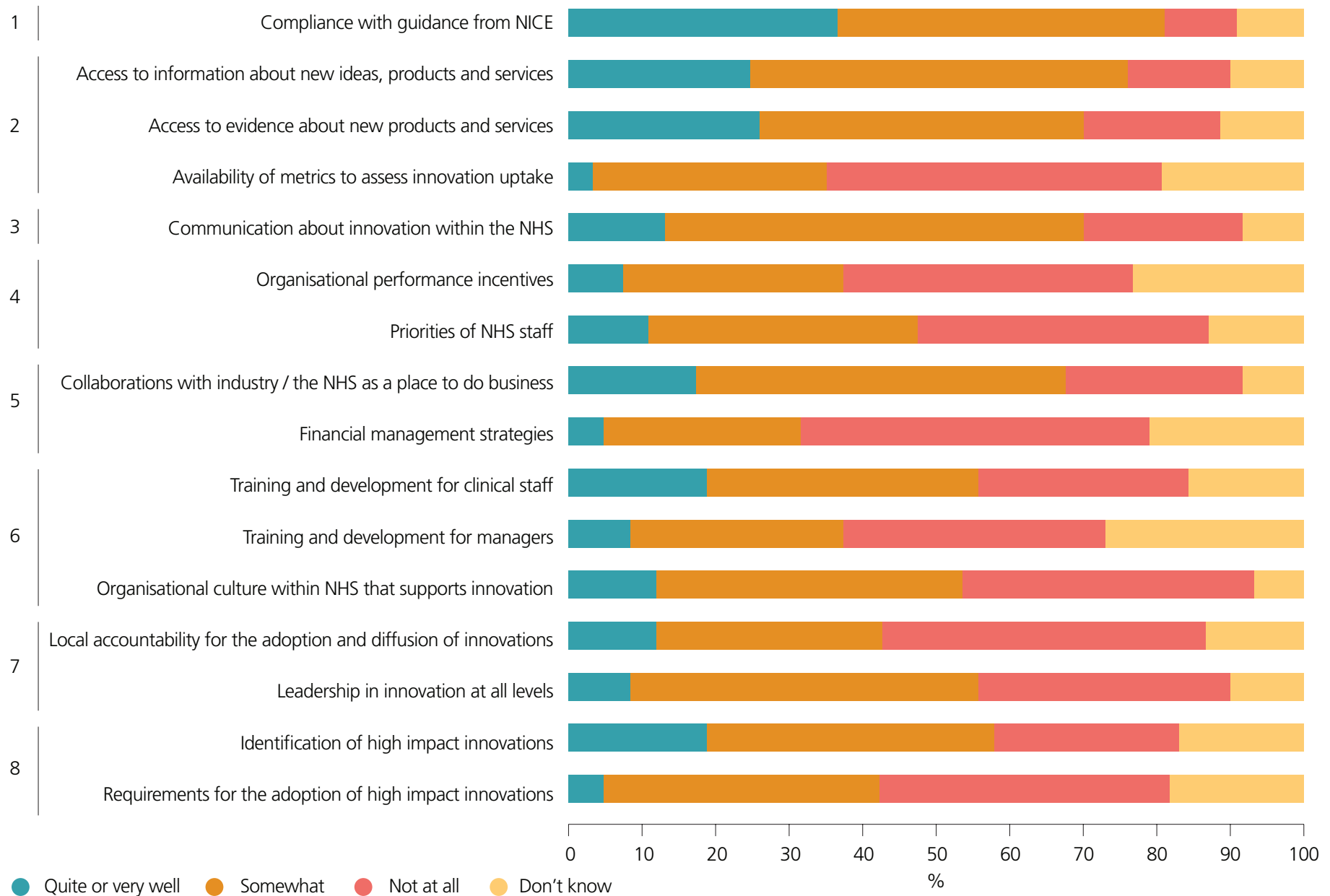- Don't know

X-axis: 0 to 100 %

Figure 17. How respondents think each area has changed since 2011, grouped by theme

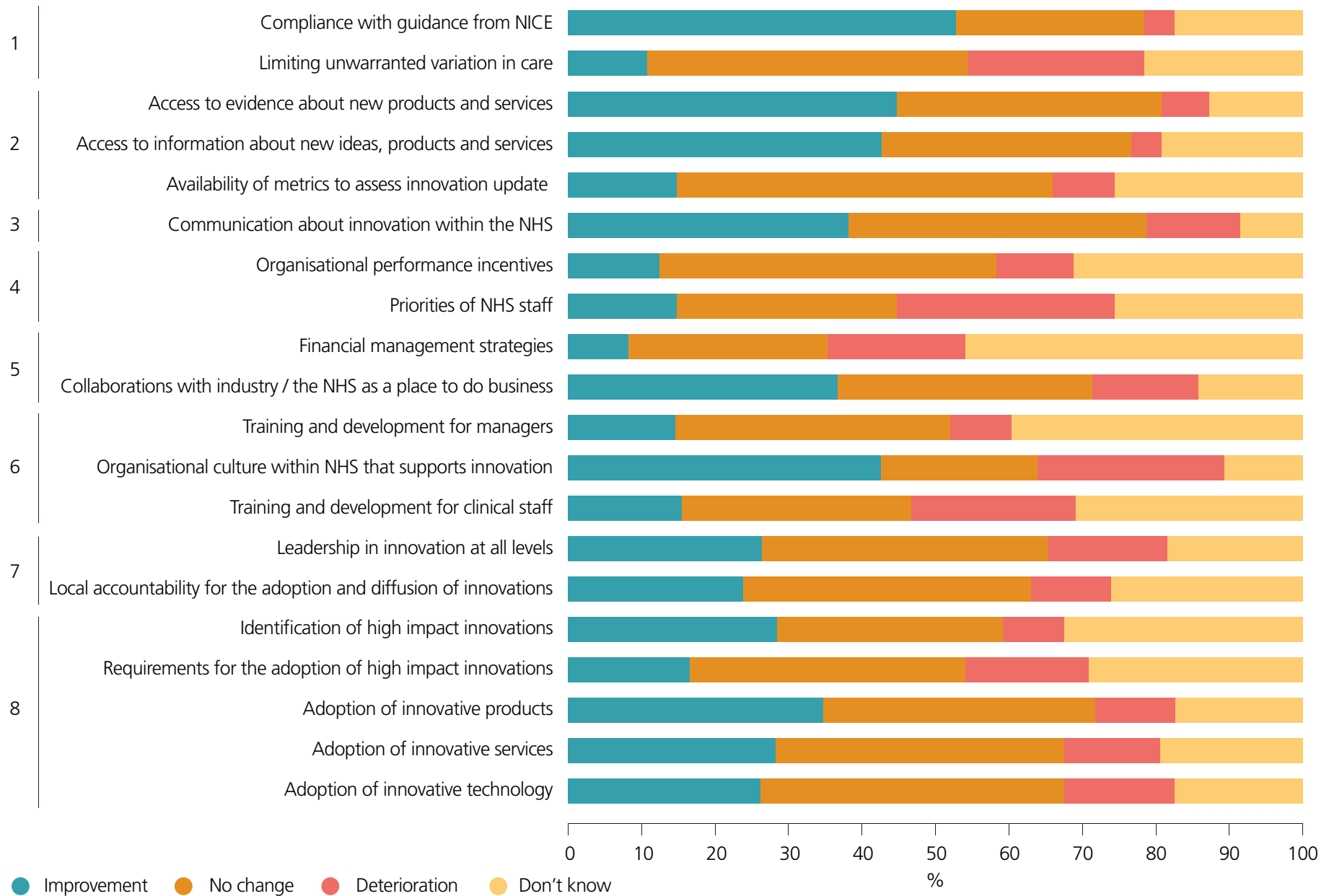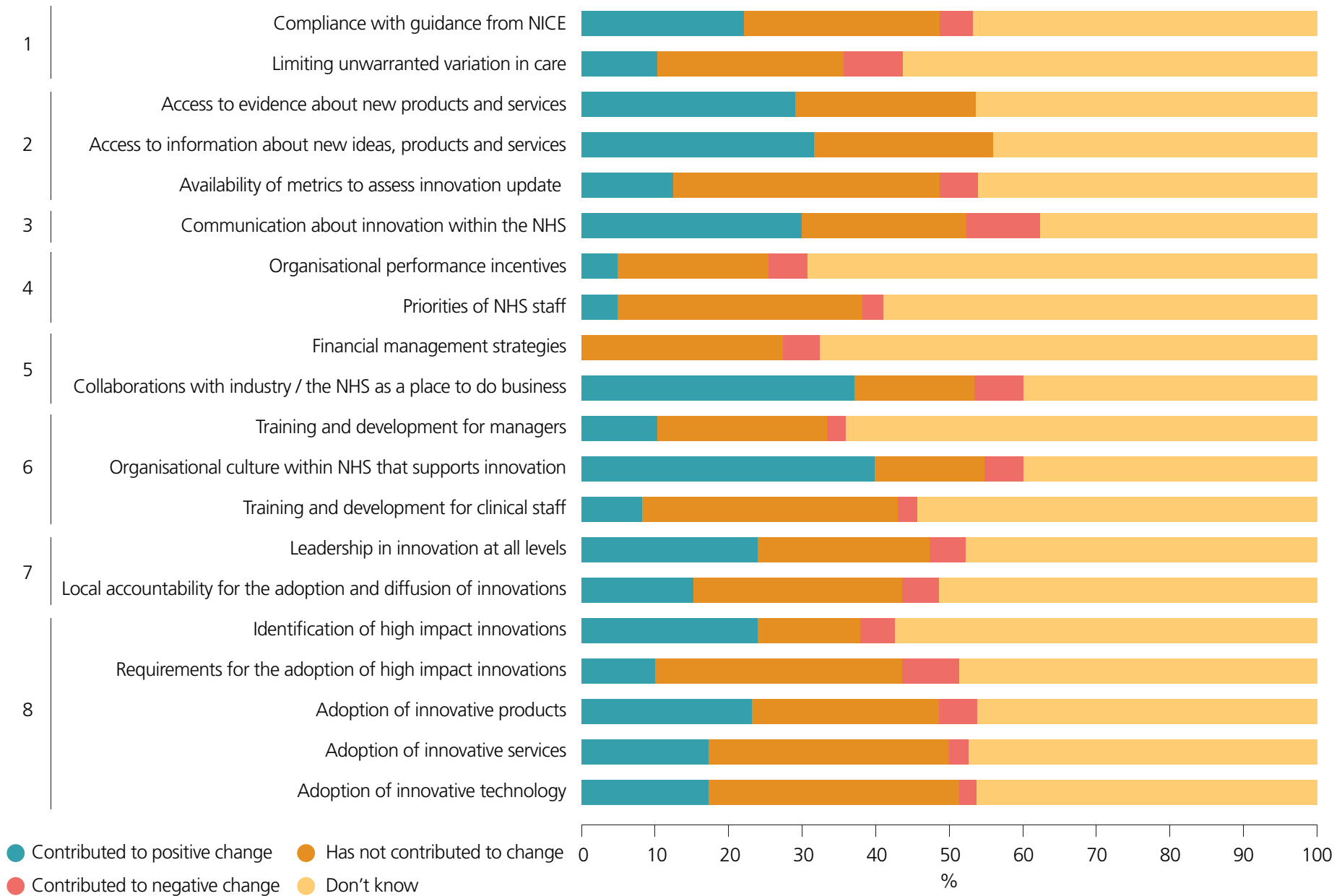**Figure 18. How respondents rate the contribution of IHW to the change in each area since 2011, grouped by theme**

Legend:
- ● Contributed to positive change
- ● Contributed to negative change
- ● Has not contributed to change
- ● Don't know

Two AHSN respondents stated that the approach to the NIC has been misdirected, reflecting that '*showcasing is of limited value*' given that '*sustainable innovation adoption is highly context specific*' and '*knowing or discovering barriers is not a helpful approach*' and that '*factors are highly context specific and do not readily translate across the health system*'. One of these respondents suggested that the role of the AHSNs to engage with NIC has not been fully exploited: '*positioning of AHSNs as "honest brokers" (to inform system leaders / industry as to why NICE TAs / other are not adopted and how to make progress) remains an emerging opportunity not yet grasped.*'

A number of respondents considered that the NIC has been too narrow in its approach. For example, one industry representative felt that '*on the device side this [NIC] has been difficult and disappointing. I think there has been some limited success in pharma*'. Another industry representative suggested that '*it should have closer to 8–10 projects running every year [...] the selection criteria for projects isn't always clear and seems to follow national priorities – should the NIC not focus at least 25–50% of its time and projects on lower priority areas that nevertheless impact a significant patient population across the country?*'. It is interesting to note that respondents only referenced the novel oral anti-coagulants and Denosumab pilots. Finally, one member of an AHSN commented that:

This was an initiative that was really desperately needed, so I welcome its formation. I would still like to see more done. As a clinician I still want all new guidance to come with some thought about possible implementation models backed up by quality improvement science tools that describe the 'how to implement' methodology.

3.4.3. Innovation Scorecard

Question: How has the scorecard been used?

In total, 46 survey respondents provided written comments related to the Innovation Scorecard. Almost half of the respondents to this question (22 of 46, 48 per cent) were unaware of the Innovation Scorecard, and the majority (17 of the remaining 24 respondents, 71 per cent) considered that the Scorecard has either not been used or is underused. Reasons given for its underuse included that: it is difficult to access and understand; the presentation is too dense and confusing; it is too clumsy; and there are methodological issues associated with it. A respondent from the Department of Health noted that '*work's underway to make it more accessible, which may increase its impac*t'.

A number of respondents reported that the Scorecard is not being used as intended. For example, one respondent from NHS England thought that it has been used for naming and shaming, while another respondent from an AHSN stated that it has not raised the transparency of variance issues that it was designed to promote.

Suggested improvements included: taking a more rounded approach rather than isolating specific interventions; introducing factors that strengthen the interpretation of the Scorecard data (e.g. demographic adjustments); removing percentage growth as measure; and increasing accountability so that it has an impact on behaviour.

3.4.4. High Impact Innovations

Question: What is the penetration of HIIs?

There were 32 responses to this question, of which 18 (56 per cent) identified limited or no progress in this area. Five respondents highlighted that the initiative seemed to have started well, but that there was limited ongoing progress.

Five respondents noted particular issues relating to the initial choice of the HIIs, with two specifying that the uptake of HIIs is related to local needs and that central choices of HIIs are unlikely to be helpful in all settings.

Three respondents identified further issues related to the 'top-down' selection of HIIs, with one respondent from an AHSN highlighting that it '*is not a good model for adoption*'.

Three respondents identified a lack of data on the uptake and outcomes of HIIs, and one noted that this was a particular concern because of the link between HIIs and CQUIN payments. Two additional respondents identified that, for some trusts, the emphasis has been on obtaining the funding linked to HIIs, without actually increasing adoption (i.e. problems with 'gaming').

3.4.5. Small Business Research Initiative

Question: What has been the link between SBRI, spread of innovation and health gain? How has SBRI impacted on the number of innovations sold? How many jobs have been created?

Of the 34 responses to this question, 28 (82 per cent) included positive comments about the SBRI, particularly as a partnership model with industry and as a

source of funds; however, respondents also highlighted areas where there were limitations.

Two respondents gave the example of job creation linked to the SBRI (related to the Polyphotonix development in the North East, funded in part with an SBRI grant).

Three respondents pointed out that, for many projects funded, it is too soon to tell whether the scheme has been successful (a long lead in time), and that there would be the potential in the future for a single successfully funded project to have very large gains (although no projects are at this stage yet).

Three respondents highlighted issues related to the criteria and processes for evaluating the bids for funding, with one respondent from industry expanding this point to challenge more broadly the areas that were funded: *'Good source of funds for SMEs - main problem is that it focuses on unmet clinical need which discounts opportunities for disruptive innovation which is where the biggest gains will be.'*

Finally, however, three respondents also pointed out that, although the scheme was successful, it is not really about the adoption and diffusion of innovation in the NHS, as the impact is more upstream in funding development. One respondent from a national NHS Innovation organisation highlighted this point: *'Although SBRI in principle is an excellent scheme and mechanism to identify and develop solutions to NHS problems, the biggest challenge is that once a new product or service has been developed, it still has to overcome the hurdle of being adopted (purchased and implemented) by NHS organisations. I do not believe there is much evidence of SBRI innovations being adopted / purchased by the NHS and thus having any impact on day to day operations and thus patient care.'*

3.4.6. Innovation Compass

Question: What is the best way for the Compass to be used to enable organisations to support innovation?

In general, awareness of the Innovation Compass among respondents to this question was very low; 32 of 41 respondents (78 per cent) reported that they had not heard of the Compass or were unclear of its contribution to supporting innovation. Of the remaining respondents, the majority reported that the Innovation Compass is not used. A potential barrier to its use, identified by a member of an AHSN, was the fact that *'the compass is seen as very cumbersome and time consuming by organisations'*. Similarly, two respondents (one from an

NHS Hospital and the other from an AHSN) suggested that the Innovation Compass is *'a bureaucratic tool with little use'* and that *'it is a distraction and an irrelevance to senior leadership'*, respectively. Conversely, two respondents had a more positive opinion; one respondent from NICE considered that it has '*connected SMEs to the right part of the health system*', while the other, a member of an AHSN, thought that it has created *'an area for discussion and shared vision building across a region'*.

3.4.7. Innovation Exchange / Connect

Question: How much is the portal being used? How is portal content developing over time? How has the portal helped more optimal spread of clinically and cost effective innovation?

A quarter of respondents to this question (10 of 39, 25.6 per cent) reported that the web portal, known as the Innovation Exchange (and formerly known as Innovation Connect), is not being widely used. Potential reasons given for this included the belief that the portal has a low level of visibility and that the applicability of the portal as a tool for clinical staff is not clear. For example, one AHSN respondent commented that '*the portal is great for early adopters like myself. But it is not yet in common use by most NHS staff. I think more communications is needed and case examples spread through other routes*', while an industry respondent suggested '*the tool is valuable but not known enough. The level of utilisation of this tool as a way to learn about innovation by grassroots NHS staff is not clear*'. The lack of visibility of the portal is highlighted by the fact that the majority of respondents (23 of 39, 59 per cent) stated that they had not heard of the portal or were unaware of how much it is being used. Two respondents commented that it is difficult to use; an NHS Hospital respondent identified some practical issues, that it '*does not allow revisions and removal of items that are not applicable any more. I also wasn't able to access other organisations' innovations and projects*'.

3.4.8. NICE Medtech Innovation Briefings

Question: How are these being used?

The majority of respondents to this question, (25 of 40, 62.5 per cent), had not heard of MIBs. In terms of how MIBs are being used, interestingly a respondent from NICE stated that, within NICE, it's not clear how they are being used in the UK. Two respondents, one from an AHSN and the other from NHS England, identified MIBs as a tool used by industry; the AHSN respondent

stated that the MIBs '*are of interest to industry who see them as very valuable but more need to be commissioned to give a larger impact back to the NHS*'. Interestingly this view was not supported by three industry respondents who considered '*industry has not embraced them as the impact they have is not quantified and they carry no real leverage to secure implementation*' and that '*these are pointless as have no recommendations*'.

3.5. Survey findings: IHW actions as enablers of progress and barriers to IHW action implementation

3.5.1. Contribution of IHW actions

> Question: Have any IHW actions been particularly important contributors to any of these areas? [the IHW key themes]

Of the 35 respondents to this question, 11 (31.4 per cent) identified at least one IHW action as an important contributor to the eight key themes of IHW; 15 (42.9 per cent) could not identify any such action and 9 (25.7 per cent) felt unable to answer the question. Table 11 below provides an overview of the actions highlighted by respondents.

Table 11. Actions contributing to key IHW themes

Action	Number of respondents mentioning action
Establishment of AHSNs (falls within the theme: Creating a system for delivery of Innovation)	9
SBRI (falls within the theme: Procurement)	2
NICE compliance regime (falls within the theme: Reducing variation and strengthening compliance)	2
NHS Challenge Prizes (falls within the theme: Creating a system for the delivery of innovation)	1
Industry council and sector boards (falls within the theme: Developing our people)	1
CQUIN targets (falls within the theme: High Impact Innovations)	1

The key impact of AHSNs, according to respondents, was an improved relationship between the NHS and industry. This was noted by one respondent from NHS England and three from AHSNs. However, one of these AHSN representatives stated that progress has not been on the scale envisaged by IHW. A fourth respondent

felt that AHSNs had achieved little beyond establishing a solid foundation for future impact. Other respondents did not provide details of the impact of AHSNs.

Responses regarding other actions were generally less detailed. The SBRI was credited by an AHSN representative with contributing to facilitating collaboration with industry. A respondent from an NHS hospital attributed the impact of CQUIN targets to their connection with financial incentives. Respondents also provided general comments on the impact achieved by IHW as a whole, with an industry representative crediting IHW with fostering positive engagement between the NHS and industry. However a manager from NHS England commented that currently '*the disengagement of NHS England from the research system results in poor pull through of evidenced innovations.*' A respondent from Public Health England highlighted increased awareness of innovation among clinicians and managers.

3.5.2. Barriers to IHW actions

> Question: Have you encountered any specific barriers to the implementation of any of these actions?

IHW objectives and strategy

Over a quarter of respondents (27 of 105, 25.7 per cent) highlighted a lack of clarity in IHW's aims, strategy and structure. Of those, 13 stated that NHS England had failed to adequately communicate the objectives of either IHW overall or of individual actions, with four (three CLAHRC members and one NICE representative) focusing on the absence of specific goals for AHSNs. In addition, seven respondents stated that this was compounded by the absence of a clear strategy for the implementation of IHW, while a further seven highlighted confusion stemming from the proliferation of initiatives as a barrier to individual actions. One NHS England manager commented that '*There is too much variation and inadequate direction.*'

Engagement with IHW

The strongest theme among answers to this question, however, was a lack of engagement with IHW at the local level. This was highlighted by a third of responses to the question (35 of 105, 33.3 per cent). Most felt that this was applicable at all levels of the NHS, while four respondents (two from NHS hospitals, one from NHS England and one from Healthcare UK) specifically highlighted a lack of engagement from NHS managers. Respondents suggested a number of reasons for

staff's failure to engage with IHW, chief among which was a general lack of awareness of IHW throughout the NHS, which was noted by 11.4 per cent (12 of 105) of respondents. A further eight respondents (7.6 per cent) stated that NHS staff do not have the time and energy to engage with IHW in addition to carrying out their core job functions. One NHS hospital employee commented that finding the time is '*nearly impossible*' for those in a clinical role, while an NHS England manager identified similar difficulties for '*exhausted managers*'.

Where staff did have the capacity to engage with IHW, some respondents suggested that they lacked the will to do so. This was highlighted by two AHSN managers. A further four respondents pointed to a lack of effective incentives and sanctions. One CCG member stated that it was unclear how their CCG should align financial incentives for the uptake of innovation, while an industry manager noted that the lack of alignment of incentives at the local level was a barrier to IHW actions. Another industry representative argued that incentives, such as CQUIN payments, could be employed more effectively to drive the uptake of innovations. On the subject of sanctions, industry representatives stated that the NICE compliance regime '*needs to have more teeth*', and that there is a '*lack of clear local and national accountability in the NHS*'.

Measuring progress

Five respondents (4.8 per cent) commented that this is exacerbated by the absence of an adequate means of measuring progress. For example, an industry representative noted that it is unclear how the uptake of HIIs and CCGs' promotion of innovation are measured, while an AHSN member suggested that measures of progress should be linked to patient outcomes. Three respondents (an NHS England innovation lead and two industry representatives) highlighted problems with the Innovation Scorecard, remarking that it is not well understood, that it is not suited to specialised services and that staff are resistant to using it.

Culture and structure of the NHS

Seven respondents (6.7 per cent) stated that NHS culture is hostile to innovation. An AHSN respondent commented that the '*top-down culture*' of the NHS '*stifles innovation*', while a management consultant highlighted the impact of a '*not invented here*' attitude to innovation adoption. The latter was supported by a representative of the health informatics industry who identified a culture of '*passing the parcel*' instead of taking responsibility for innovation. Three respondents (from industry, academia and NHS England) highlighted the impact of an ingrained attitude to investment in innovation. The respondent from academia highlighted continuing risk-aversion and '*suspicion of anything commercial*' within the NHS, while the industry representative stated that '*Too often there is a sense that innovation is a cost to be managed rather than something that can be transformational to outcomes and that can drive efficiency*.' Moreover, an industry manager stated that these aspects of NHS culture are evident in the working of AHSNs.

A further eight respondents (7.6 per cent) stated that the complex and changing structure of the NHS is a barrier to IHW actions. A key result of this, according to respondents across various sectors, has been a lack of the type of collaborative working envisaged by IHW. An NHS England respondent noted an overall lack of '*connectivity*', while a respondent from an academic institution remarked that this reflects the '*fragmentation, competition and distraction by the reorganisation associated with the new NHS*'. Two industry representatives and an employee of an academic institution noted that, despite the establishment of AHSNs, the NHS still does not willingly engage with their respective sectors. A respondent from a think tank stated that this has obstructed cross-sector knowledge exchange.

Funding

Some 17 respondents (16.2 per cent) identified either the level or the management of funding as barriers to IHW actions. Of those respondents, 11 stated that too little funding was available to foster change on the scale demanded by IHW. Some gave examples of specific initiatives being under-resourced, namely: AHSNs (mentioned by one respondent from NHS England and one from industry), the SBRI (mentioned by one AHSN manager) and the NIC (mentioned by two industry representatives). In addition, four respondents raised concerns about access to sustained funding. A respondent from an NHS hospital and an AHSN manager noted that the level of funding originally available has been reduced, while an NHS England nurse stated that funding to support IHW actions has tended to be short term. This uncertainty was shared by a respondent from an academic institution. Two respondents (one from NHS hospital management and one from an academic institution) also stated that more general financial pressures (i.e. pressures not specific to IHW) increased the difficulty of implementing IHW actions.

Respondents also raised concerns regarding the management of funding. An AHSN representative stated that CCGs' allocation of funding tends to focus on short-term priorities. Respondents felt that funding went to a narrow range of recipients, with one respondent from a community interest company and one from a social enterprise stating that they were either ineligible or overlooked for funding. Furthermore, a respondent from a think tank highlighted a lack of investment in early-stage innovation. Two respondents (one from a community interest company and one CLAHRC member) stated that funding was slow to be released.

3.6. Survey findings: final question, overview

Question: 'Reflecting on the IHW strategy and actions and this survey, do you have any final thoughts or comments regarding IHW and innovation in the NHS?'

73 responses were received to this final survey question. Respondents covered specific topics (such as the uncertainty around continuity of funding for AHSNs) but there were also cross-cutting themes across responses and respondent groups. Specifically, responses were made about the strategy itself, how it has been implemented, and barriers to implementation, as well as uncertainty around the future. Responses about the strategy and implementation to date gave a more consistent picture, but views were divergent on how it should best be implemented and about the specific barriers faced.

There were five positive responses about the IHW vision. For example, one respondent stated that: *'The strategy was innovative in its own right and it had a good understanding about the system problems that prevent adoption and innovation in the NHS.'* [NHS Hospital]

However, there were negative comments from many respondents about issues around implementation and progress in IHW to date. For example, one respondent from an NHS hospital stated that, *'It's not clear how it is helping anything on the ground'* while another respondent from a CLAHRC said, *'I'd forgotten it existed'*. Industry respondents were particularly critical. For example, one industry respondent reflected on IHW, *'Very disappointing frankly. Far too much is devoted on jobs for the boys'* and another noted that IHW was a *'Missed opportunity, both for industry and the NHS'* [Industry]

Respondents identified many barriers to implementation, most frequently (five respondents) that the strategy was not backed by sufficient finances and that financial concerns are themselves a barrier to innovation. For example, one respondent stated that: *'On the front line, there is extreme fatigue and disillusionment. In managerial areas there is huge anxiety about financial and governance risk. Rather than stimulating innovation, in many cases these issues obstruct it.'*

However, respondents also highlighted other barriers in addition to those identified in the initial IHW strategy, including the lack of 'quick wins' and the difficulty of coordinating and working together across diverse stakeholders. Additionally, one academic noted that, *'Getting all the corner shops to pull in the same direction would be a challenge at the best of times'*

Leadership at a national and local level was identified in responses to this question and across the survey as key to IHW progress. Five responses identified particular concerns about leadership for innovation from within NHS England. Two responses identified strong local leadership for AHSNs as key to local success, while one respondent from an NHS hospital identified local NHS political rivalries as a barrier to progress. One respondent highlighted that IHW was simply not high priority for policymakers: *'Most of the actions have lack of clarity of purpose, relevant priority and ownership. This includes the lack of appropriate resource to effect change, suggesting that the actions are not a high enough priority (otherwise the resource would have been found) and that policy was neither embedded across departments nor accepted as relevant by directorate leaders.'*

Three respondents also identified how the connection between 'health' and 'wealth' in an NHS strategy, and using innovation to improve care, was not universally positively perceived: *'The connection between care and its variation and the use of innovations to raise the baseline has been clumsily handled. Healthcare is primarily interested in care and not creating wealth.'* [NHS Hospital] and *'Feels like it's excessively focused on industry at present'* [National policy organisation]

Some respondents, however, reported that positive steps had been made towards implementing IHW, despite challenging contexts: *'Considering the upheaval in the NHS in the intervening period it is surprising any progress has been made.'* [AHSN]

There was disagreement among respondents about how IHW should best be implemented, ranging from those who think that incentives and levers need to be improved and pathways need to be well defined, to those identifying the need for more flexible approaches:

'Allow some spontaneity, tempered with clear lines of responsibility.' [NHS Hospital]

There was also disagreement about how IHW should be implemented through the actions – from an over-arching framework to a suggestion that a far narrower focus would be a better approach: *'There are a large number of IHW actions and some kind of over-arching framework showing how each relates to the innovation pipeline would be very useful.'* [Academic institution] and *'Stop spinning all these initiatives out. Pick no more than three, support them, get them known and make them work.'* [Academic institution]

Finally, in terms of moving forward, four respondents identified concerns that IHW has been superseded by, or overlapped with, the Freeman review and the new NHS Five Year Forward View: *'As a strategy I feel that it has been forgotten/consigned to history, as part of the Nicholson regime. […] It needs to be linked to Five Year Forward View so as to breathe new life into it.'* [NHS hospital]

Chapter 4   Full Survey Wording

[Welcome page]

Innovation Health and Wealth (IHW) was launched in 2011 to 'deliver sustainable change that puts innovation at the heart of everything the NHS does.' Overall, the IHW strategy was designed to accelerate the adoption and diffusion of innovation across the NHS.

RAND Europe, an independent, not-for-profit, public policy research institute, and the Manchester Business School have been commissioned by the Department of Health to evaluate the IHW programme.

Responding to this survey gives you a direct opportunity to contribute to and change the future development of the IHW programme. The survey should take about 15 minutes to complete. Responses will be anonymised.

If you would like to give additional feedback, or if you have any questions about the contents of this survey or the wider evaluation, please do not hesitate to contact Tom Ling at RAND Europe by email IHWEvaluation@rand.org

Thank you very much for your participation.

Section 1: Your background, role and knowledge of IHW

Which answer best describes your awareness of the IHW programme?

- I have a good level of awareness of IHW
- I have heard of IHW, but only in general terms
- I had not heard of IHW before receiving this survey

Were you involved in writing or developing IHW before it was published in 2011?

- Yes
- No

Please mark the answer below that best describes the organisation where you work:

- Department of Health
- NHS England / national NHS organisation
- NICE
- NHS Hospital
- Clinical Commissioning Group
- General Practice
- Ambulance Trust
- Academic Health Science Network
- CLAHRC
- Other academic/higher education institute
- Industry
- Patient group / organisation
- Charity / other not-for-profit organisation
- Other, please specify

Do you have face-to-face contact with patients / service users as part of your job?

- Yes, frequently
- Yes, occasionally
- No

We are asking people to share this survey within their organisation, and because of this, we would like to know a bit more about who has answered, in order to understand responses from different groups

What is your occupational group?

- Occupational Therapy
- Physiotherapy
- Radiography
- Pharmacy
- Clinical Psychology
- Psychotherapy
- Arts Therapy
- Other qualified Allied Health Professionals

- Support to Allied Health Professionals
- Other qualified Scientific and Technical or Healthcare Scientists
- Support to healthcare scientists
- Medical / Dental – Consultant
- Medical – General Practice
- Medical / Dental – In Training
- Medical / Dental – Other
- Emergency Care Practitioner
- Paramedic
- Emergency Care Assistant
- Ambulance Technician
- Ambulance Control Staff
- Patient Transport Service
- Public Health / Health Improvement
- Commissioning managers / support staff
- Nurse – Adult / General
- Nurse – Mental health
- Nurse – Learning disabilities
- Nurse – Children
- Midwives
- Health Visitors
- Nurse – District / Community
- Other Registered Nurses
- Nursing auxiliary / Nursing assistant / Healthcare assistant
- Approved social workers / Social workers / Residential social workers
- Social care managers
- Social care support staff
- Admin & Clerical
- Central Functions / Corporate Services
- Maintenance / Ancillary
- General Management
- Other occupational group, please specify

Within your occupational group, broadly what level is your current role?

- Senior
- Mid-level
- Junior
- Other, please specify

What is the first half of the postcode of the place where you work?

Section 2: IHW actions

In terms of delivery, IHW focuses on a number of actions linked to the IHW aims. These actions range from specific pledges to implement high-impact innovations, to actions which may have much broader impact.

Please click here for details about each action [hyperlink to a description of each IHW action]

Even if you haven't heard of Innovation Health and Wealth, we would like to know whether you have heard of any of these actions, and if you have, whether overall, you would consider that they are working well, or not.

[Actions]

- NICE Medtech Innovation Briefings
- Strengthening leadership for innovation at board level
- Legal duties for CCGs to promote innovation
- Innovation Scorecard
- Align financial, operational and performance incentives
- Innovation Compass
- NHS Innovation Fellowship Scheme / NHS innovation accelerator
- NHS Innovation Challenge Prizes
- Small Business Research Initiative (SBRI)
- NICE Implementation Collaborative (NIC)
- High Impact Innovations
- Academic Health Science Networks (AHSNs)
- Innovation Exchange – Web Portal
- Regional Innovation Fund
- NICE Compliance Regime
- Innovation Connect

[Response options]

- I have heard of this; mostly it is working well
- I have heard of this; mostly it is not working well
- I have heard of this; I do not know how well it is working
- I have not heard of this

Have you had direct experience of working on, participating in, managing or implementing any of these actions, since 2011?

- Don't know
- No
- Yes, please specify

Have you encountered any specific barriers to the implementation of any of these actions?

Do you have any comments about these actions, and how well they are working?

[Some optional more specific questions about AHSNs, NIC, the Innovation Scorecard, High Impact Innovations, SBRI, the Innovation Compass, Innovation Exchange / Connect and the NICE Medtech Innovation Briefings are asked at the end of this survey]

Section 3: Key themes

IHW identified the following eight key themes:

1. We should **reduce variation** in the NHS, and drive greater **compliance** with NICE guidance
2. **Working with industry,** we should develop and publish better innovation uptake metrics, and more accessible evidence and information about new ideas
3. We should establish a more systematic delivery mechanism for diffusion and collaboration within the NHS by building **strong cross-boundary network**
4. We should align organisational, financial and personal **incentives** and investment to reward and encourage innovation
5. We should improve arrangements for **procurement** in the NHS to drive up quality and value, and to make the NHS a better place to do business
6. We should bring about a major **shift in culture** within the NHS, and develop our people by 'hard wiring' innovation into training and education for managers and clinicians
7. We should strengthen **leadership** in innovation at all levels of the NHS, set clearer priorities for innovation, and sharpen local accountability
8. We should identify and mandate the adoption of **high impact innovations** in the NHS

The following pages ask about the current situation in the NHS, any change since 2011, and any contribution of IHW towards change in these areas

Section 3: Key themes

How would you rate the current performance of the NHS in the following areas from these key themes?

[Areas]

- Adoption of innovative technology (e.g. new computer software)
- Adoption of innovative products (e.g. new drugs, diagnostic tools or devices)
- Adoption of innovative services (e.g. new ways of delivering care)
  Limiting unwarranted variation in care

[Response options]

- Very good
- Quite good
- Neither good nor poor
- Quite poor
- Very poor
- Don't know

How well do the following processes or areas of activity from these key themes work at the moment, in order to support the adoption and diffusion of innovation in the NHS?

[Processes or areas of activity]

- Communication about innovation within the NHS
- Organisational performance incentives
- Identification of High Impact Innovations
- Priorities of NHS staff
- Training and development for managers
- Financial management strategies
- Collaborations with industry / the NHS as a place to do business
- Access to information about new ideas, products and services
- Leadership in innovation at all levels
- Availability of metrics to assess innovation uptake
- Training and development for clinical staff
- Local accountability for the adoption and diffusion of innovations
- Access to evidence about new products and services
- Compliance with guidance from NICE

- Organisational culture within the NHS that supports innovation
- Requirements for the adoption of High Impact Innovations

[Response options]

- Very well
- Quite well
- Somewhat
- Not at all
- Don't know

How would you rate overall change in each of these areas, in line with the overall IHW aim of accelerating the adoption and diffusion of innovation in the NHS, since 2011? And how would you rate the contribution of IHW (overall, or through any of the IHW actions) to this?

Areas]

- Communication about innovation within the NHS
- Organisational performance incentives
- Identification of High Impact Innovations
- Priorities of NHS staff
- Training and development for managers
- Financial management strategies
- Collaborations with industry / the NHS as a place to do business
- Access to information about new ideas, products and services
- Leadership in innovation at all levels
- Availability of metrics to assess innovation uptake
- Training and development for clinical staff
- Local accountability for the adoption and diffusion of innovations
- Access to evidence about new products and services
- Compliance with guidance from NICE
- Organisational culture within the NHS that supports innovation
- Requirements for the adoption of High Impact Innovations
- Adoption of innovative technology (e.g. new computer software)
- Adoption of innovative products (e.g. new drugs, diagnostic tools or devices)
- Adoption of innovative services (e.g. new ways of delivering care)
- Limiting unwarranted variation in care

[Response options: Change since 2011]

- Improvement
- No change
- Deterioration
- Don't know

[Response options: How has IHW contributed]

- Contributed to positive change
- Has not contributed to change
- Contributed to negative change
- Don't know

Have any IHW actions been particularly important contributors to any of these areas?

Section 4: Case studies

In the next stages of this evaluation RAND Europe will be undertaking in-depth case studies into specific local economies and/or IHW actions to understand what works well and to understand how IHW has been implemented across the country

Do you have any suggestions about topics where a case study might provide particular insight?

Section 5: IHW actions: in-depth questions (optional)

Please answer the questions below where you have particular interest or experience

Academic Health Science Networks

> How well do partnership models work?
> How have AHSNs helped progress IHW actions?
> How have they led to more optimal spread of innovation?
> How can AHSNs improve their effectiveness and efficiency?

NICE Implementation Collaborative

> How well does the collaborative model work?
> What barriers and enablers have been discovered?
> How well is learning across the system being shared?

Innovation Scorecard

> How has the scorecard been used?

High Impact Innovations

> What is the penetration of HIIs?

Small Business Research Initiative

> What has been the link between SBRI, spread of innovation and health gain?
> How has SBRI impacted on the number of innovations sold?
> How many jobs have been created?

Innovation Compass

> What is the best way for the Compass to be used to enable organisations to support innovation?

Innovation Exchange / Connect

> How much is the portal being used?
> How is portal content developing over time?
> How has the portal helped more optimal spread of clinically and cost effective innovation?

NICE Medtech Innovation Briefings

> How are these being used?

Section 6: Final questions

Reflecting on the IHW strategy and actions and this survey, do you have any final thoughts or comments regarding IHW and innovation in the NHS?

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