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The spread and adoption of healthcare innovations in North West London

Qualitative research report

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IMPERIAL COLLEGE
HEALTH PARTNERS

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Summary

Summary

This report presents the findings of a research study conducted by the Ipsos MORI Social Research Institute on behalf of Imperial College Health Partners (ICHP). This document presents the findings of qualitative research exploring the enablers and barriers to adopting and diffusing three healthcare innovations in North West London.

Ipsos MORI interviewed participants across three case studies:

1.   Coordinate My Care;

2.   Statutory Mandatory Streamlining Programme; and

3.   Novel oral anticoagulants.

This report discusses healthcare system-wide implications of the research, drawing on findings across the three case studies. Detailed findings related to each individual case study and supporting verbatim can be found in separate reports.

In total, 21 in-depth qualitative interviews were conducted by Ipsos MORI with a range of participants familiar with each innovation either face-to face or over the telephone. Interviews lasted between 20 and 75 minutes and were conducted between October 2014 and January 2015.

Key findings

The following table summarises the implications of the research for the health system within North West London.

Table 1: Implications of the research for the healthcare system

Implication of this research	Considerations for the system
Problem recognition	The need to increase awareness and understanding among staff of the challenge that the healthcare innovation is aiming to address in the first instance.
Culture of change management in the NHS	The need to overcome a general resistance to change in the NHS relating to discontinuing the current way of working.
Policy and guidelines, including specific local pathways and guidance	The benefits of a strong underpinning for an innovation in policy and the call for local policies and guidelines to show how innovations should be implemented at a local level.

Familiarity and knowledge of the innovation itself	The need to generate awareness and familiarity with the innovation cannot be overlooked as a key driver to adoption.
Training and information provision	The importance of training provision to introduce healthcare professionals to the innovation, continually improve skills and maintain competence, and allow staff to become 'champions' who can teach others and further spread the innovation.
Engagement between professions and organisations in the NHS	The value of engagement between professionals and organisations within the NHS for diffusing an innovation.
Responsibility	The need to spread responsibility for the innovation among professionals across a range of organisations, levels of seniority and job roles.
Resources	Ensuring that the right resources are available to assist the spread of the innovation, as well as releasing time to learn about the innovation.
Information Technology (IT)	Common concerns with the IT system across the NHS and how improvements relating to access and usability could significantly enhance the spread of healthcare innovation.
Patient involvement	The involvement of patients as a way of stimulating uptake of an innovation from the 'ground up'.
Incentives and rewards	Ensuring that incentives are tailored to both innovations and the particular audience being targeted – i.e. recognising that financial incentives may not be the most powerful type of incentive available – and building in the right incentives through strong early engagement.
Local adoption	Continual evaluation to learn from implementation of an innovation and make improvements to further spread uptake of the innovation.

Chapter 1: Introduction

1 Introduction

This chapter provides a brief background to the study including: brief details of the case studies on which this report is based; the aims and objectives for the research; and the research approach taken.

1.1   Background to the study

Imperial College Health Partners (ICHP) is the designated Academic Health Science Network (AHSN) for North West London. ICHP commissioned Ipsos MORI to carry out qualitative research exploring the factors influencing the adoption and spread of healthcare innovations specifically in North West London. The research focused on the diffusion of healthcare innovation when a new or existing product or service is actually adopted into practise, rather than on how new innovations are developed in the first place.

Three case studies were selected by ICHP to cover different types of innovation:

1   **Coordinate My Care (CMC):** CMC is an urgent care-planning tool, which provides online care plans for those at the end of life. It stores information such as diagnosis treatment plans, carer contact details, and other patient wishes. This innovation aims to tackle the difficulty of accessing key information about a patient's care needs out of hours.

2   **Statutory Mandatory (StatMan) Streamlining Programme:** This Programme seeks to address inconsistencies in the type and content of mandatory training trusts offer, as well as the duplication of this training for individuals who move trusts. This innovation aims to improve compliance for StatMan training in trusts.

3   **Novel oral anticoagulants:** Whereas warfarin has been licenced for use as an anticoagulant for over 50 years, apixaban, dabigatran and rivaroxaban are more recently developed 'novel' oral anticoagulants (NOACs). This innovation offers some improvements over warfarin, including a reduced need for blood monitoring.

Further background information on these case studies can be found in Annex A of this report.

1.2   Research objectives

The overall focus of this research was to explore the diffusion of specific healthcare innovations in North West London. The objectives for this qualitative study were:

- to gain insight into the barriers and enablers affecting the adoption and spread of the three healthcare innovations;

- to identify, where possible, ways in which the three innovations can be further diffused within healthcare settings in North West London; and

- to explore key themes emerging across the case studies that have an implication for the diffusion of innovation in North West London more generally.

This report focuses on the final objective of the study – the key themes that have emerged across the three case studies. Individual reports on the findings of each of these case studies are available separately.

1.3   Research approach

The research was guided by a desk review of current evidence and guidance on the diffusion of healthcare innovation at a national and international level. The desk review recommended that it would be appropriate to use the Global Diffusion of Healthcare Innovation (GDHI) framework to structure the study. More information about this framework can be found in Annex B.

Qualitative case studies were used for this research to enable an in-depth 360° understanding of each innovation, and ensuring that a range of different perspectives were included and triangulated.

In total, 21 in-depth interviews were conducted with a range of participants familiar with each innovation either face-to face or over the telephone. Interviews lasted between 20 and 75 minutes and were conducted between October 2014 and January 2015 by Ipsos MORI.

The sample of participants for this research was provided by ICHP. Participants were recruited for a voluntary interview by members of the research team at Ipsos MORI. The following tables outline details of those who took part in each case study.

Table 2: Participants in the CMC case study by job role

Roles	Number of interviews
CMC team member	1
Clinical Nurse Specialist	3
GP (including one CCG chair)	2
Consultant in Palliative Medicine	1
London Ambulance Service senior paramedic	1
Total number of interviews	8

Table 3: Participants in the HR Streamlining case study by job role

Roles	Number of interviews
StatMan Streamlining Programme representative	1
HR professionals from a range of organisations participating in the StatMan Streamlining Programme	5
Total number of interviews	6

Table 4: Participants in the NOACs case study by job role

Roles	Number of interviews
Specialist anticoagulation pharmacist	3
General Practitioner (GP)	2
Specialist anticoagulation nurse	1
CCG Director	1
Total number of interviews	7

1.4 Interpreting the results of this study

Qualitative research is not designed to provide statistically reliable data, but is designed to be illustrative, detailed and to reflect the perceptions, feelings and behaviours of people taking part.

When interpreting this data, it is important to note that the number of interviews conducted around each case study was small. This means that results cannot be extrapolated to represent North West London as a whole, but provide some insight into the experiences of specific individuals for further consideration. Some of the themes commented on in this report will only have been mentioned by a small number of individuals.

Neither is it possible to say that the findings are representative of the views of specific organisations. It should also be noted that due to the nature of the research recruitment, an equal opportunity for all organisations across in North West London to participate was not possible. It is possible that those taking part were more engaged with and familiar with the innovations than others in North West London may be.

Chapter 2: Implications for the healthcare system

2   Implications for the healthcare system

This chapter discusses the main implications of the research for North West London, drawing out where findings around the diffusion of the innovations have implications for the wider system. Case study examples are used to illustrate the points being made.

2.1   Acceptance of the challenge the innovation is addressing

Across the case studies, it was clear that the diffusion of an innovation is more successful where professionals understand and accept the issue that the innovation is attempting to address.

For example, the challenge of compliance with Statutory Mandatory training (StatMan) and the benefits of the Streamlining Programme were accepted by HR professionals, which provided the impetus for them to take the project forwards in their own organisations.

However, where the rationale for change was not outlined overtly, this could create some hesitance to change. For example, doctors who are unclear of the relative benefits of a novel oral anticoagulant (NOAC) over warfarin are likely to continue with the current therapy rather than considering the alternatives.

This has system wide implications for the diffusion of innovation: the rationale for implementing an innovation and the evidence base underpinning its introduction are central to obtaining initial buy-in.

2.2   Challenge of discontinuing the old ways of working

Even when the need for change is accepted, however, an innovation can be difficult to implement within the NHS. Despite challenges relating to compliance and inconsistencies in the provision of StatMan training being well known, participants noted a general resistance to organisational change that can be difficult to overcome in order to discontinue the old way of working. Even the leads within trusts were sometimes discouraged by the scale of the changes required to restructure training systems in their organisations.

Similarly, in the NOACs case study, prescribers' greater familiarity with warfarin and the way in which patients taking warfarin are monitored led to higher levels of caution when prescribing a NOAC. This led to a preference for warfarin among some clinicians as they perceived to be 'safer'.

This points to a need for culture change, and raises the question of how to develop a more 'nimble' and open-minded NHS in North West London. Where there were barriers to discontinuing the old way of working, they tended to vary depending on the innovation and how it was being implemented. The barriers also tended to be multiple: for example, for NOACs, concerns about safety impacted on their implementation, but so did issues around the cost and responsibility for supplying NOACs.

One way of overcoming resistance to change was to harness the innovation to more well-established processes. For example, in the Coordinate My Care (CMC) case study, some participants spoke about connecting the spread of CMC as part of an ongoing drive to become paperless and adopt new electronic methods to help discontinue the old way of working.

Another way of overcoming resistance to change is through linking innovations to national and local policies, as well as providing guidelines to assist local implementation of wider policies.

2.3   Linkage to policies and guidelines

The case studies demonstrated that there were benefits to linking an innovation with current healthcare policy and guidelines. It increased the salience of the innovation and helped professionals to accept there was a challenge to address (or that something could simply be done better). For example, CMC is linked to a number of policies and guidelines, and this increased support for it among professionals. Similarly, the Skills for Health Core Skills and Training framework assisted the implementation of the StatMan Streamlining Programme.

However, linkage to policies and guidelines was not always successful in isolation to drive the diffusion of innovation. Although NOACs have been recommended by the National Institute for Health and Care Excellence (NICE), by itself this has not been sufficient to increase adoption. Indeed, in the CMC and StatMan Streamlining Programme case studies, an underpinning of policy and guidelines was not the key enabler for the innovation. This suggests that there are other stronger enablers and barriers to the adoption of innovations, but that this linkage can still be beneficial in contributing to the adoption of an innovation,

In addition, across the case studies there were occasions where disconnect had occurred between a national policy and what that means for local healthcare providers. Participants said that while national evidence and guidance is often available, there is a delay in translating this into what it means locally.

Where local policy had been created, its translation could also be too localised, for example to a specific hospital or trust. This could lead to inconsistency across North West London that inhibited the adoption of an innovation. For example, protocols for prescribing NOACs vary across organisations and this adds confusion for those potentially seeking to prescribe them. While one hospital may have a certain approach to the implementation of NOACs, another hospital may have a slightly different approach.

There was, therefore, a strong call for local policies and guidelines to show how innovations should be implemented in practice. A need was identified for pathways to work across a wider geographical area to ensure that an innovation is applied more consistently. This provides greater clarity for professionals about how an innovation should work on the ground in their area, as well as ensuring it is uniformly implemented and helping practitioners from different care settings work together more effectively.

However, it is also important for staff to know about the policy and guidelines, and this links to a need for generating awareness and familiarity with an innovation in order for it to spread.

2.4   Generating awareness and familiarity with the innovation

On a number of occasions throughout the case studies, it was noted that awareness of the innovation itself cannot be overlooked as a key influencing factor. For example, awareness of CMC has up until now been more concentrated among professionals who work specifically in palliative care, limiting its impact.

However, generating awareness of the innovation is not enough to stimulate uptake alone. While professionals consulted in this research spoke about an increase in awareness of NOACs and the evidence supporting them, it was pointed out that ensuring knowledge and therefore competence in prescribing these drugs across the system still had some way to go.

In particular, there was variable awareness of NOACs across prescribers. General Practitioners (GPs) were highlighted as a group less familiar with NOACs, which in turn meant they were less comfortable prescribing them. While training for GPs had been provided, it had been too infrequent or inconsistently attended to increase knowledge. Their counterparts in secondary care had perhaps had more training opportunities, but also more of a desire to make use of them.

This highlights an important point; that some staff will require more support and encouragement than others when diffusing an innovation. In the NOACs case study, as GPs are generalists, it is logical that specialists in secondary care will be more open to change and learning about new therapies. Similarly, non-palliative care specialists may need additional encouragement and persuasion to use CMC as it is less salient for them on a day-to-day basis. Implementing an innovation may therefore require different strategies for different groups of staff.

2.5   Providing training and information about innovations

The previous section demonstrates that training is an important mechanism through which awareness and familiarity with the innovations was generated. It had a role for:

- initially introducing healthcare professionals to the innovation and educating them about it;

- maintaining competence by improving skills in relation to the innovation; and

- enabling staff to become 'champions' who can teach others and further spread the innovation.

As already noted, training on NOACs had been provided – albeit that there was variation in uptake – and participants reported that awareness and familiarity had improved over time, partly as a result of this training.

The maintenance of training over time was also felt to be an influencer on the implementation of an innovation. For example, in the CMC case study, participants said that regular training meant that they were kept informed about changes to the system – without this, people could forget how to use the system and become more easily frustrated, potentially leading them to stop using it.

From within the healthcare system, there was also a potential role for champions within the innovations. For example, 'haematology champions' were identified in the NOACs case study; the enabling influence of subject matter experts was identified in the HR case study; and the training of palliative care specialists into 'super users' to enable cascade training was explored in the CMC case study. Champions would enable faster diffusion of the innovation by creating more points through which awareness and familiarity can be spread.

However, champions can only be created through the provision of appropriate training, as well as releasing experts to appropriately administer their knowledge to others. Through this, users can encourage adoption of the innovation more widely among their colleagues, thus improving the spread of the innovation.

2.6   Networking, engagement and sharing best practice

Related to this point was another common theme to emerge from the research – the importance of engagement between professionals and organisations within the NHS for diffusing an innovation.

For example, this worked well in the StatMan Streamlining Programme in terms of the regular group meetings among those on the programme. It enabled them to share best practice, to increase confidence around implementing new ideas, and to provide evidence for them to secure buy-in from others within their organisations.

However, the healthcare system is relatively fragmented and this can negatively impact on the diffusion of innovation. The CMC and NOACs case studies both demonstrated that the diffusion of an innovation could be improved where engagement was strengthened.

For example, engagement between the teams involved in caring for people with a CMC record could improve the quality of the record and therefore patient outcomes, and also potentially provide a feedback loop that incentivises staff to keep creating and maintaining records. For NOACs, a lack of communication between primary and secondary healthcare settings has had implications for patient care. Better engagement would therefore not only improve care for individual patients, but at a higher level, could also enable specialists to better support GPs.

2.7   Spreading ownership of implementation across the system

Linked to the need for strong engagement and networking, the research found that an innovation had more potential to spread where responsibility was perceived to be shared within and across organisations.

For example, staff working in HR noted that broadening responsibility for compliance with StatMan training to others including individuals, line managers and the Board, can help enable compliance.

2.8   Providing the appropriate level of resource

Linked with the goal of spreading ownership for an innovation across different professional groups were barriers in relation to having the time and/or staff resourcing in order to take up an innovation.

Again, this theme touched all three care study areas: the administrative burden of CMC was explicitly mentioned as a barrier; in the NOACs case study, perceived low levels of training were often related to the capacity of GPs to attend and/or consultants to deliver it; and in the HR case study, releasing staff to participate in training was an important consideration for increasing compliance.

As discussed above, releasing time for training, as well as ensuring that training is in place to educate healthcare professionals about the innovation, was noted as being particularly important.

As well as the training provided, the time and effort staff are able to dedicate to its implementation was also raised as a key issue. The system may want to consider:

- somehow coordinating innovations so that staff are not required to put their energy into many innovations at the same time;

- focusing on innovations that will result in reduced resource required for the tasks it affects; and

- using resource intelligently, for example delegating tasks to administrative staff wherever possible.

In order to work within these resourcing challenges, it was crucial to create a smooth path for the innovation, to make it as easy as possible for staff to adopt it.

2.9   Creating a smooth path for the innovation

Another common theme from the research was where the adoption of innovations had been successful, a 'smoother' path had been created for those taking it up. This would involve the removal of 'sticking points' that have the potential to slow the uptake of the innovation.

For example, in the CMC case study it was noted that the provision of log-ins quickly after the training sessions provided momentum and maintained participants' interest in the innovation. In the HR case study, the use of technology that made monitoring and benchmarking possible meant that it was easier for HR, staff, line managers and the Board to access important information quickly and easily.

There were also examples where this had not worked well in practice. For example, NOACs are more complicated for GPs to prescribe than warfarin. This is partly due to greater familiarity with warfarin, and also because there are different types of NOACs, used for different indications. Since GPs are generalists, this information needs to be communicated to them clearly and succinctly, in an easily accessible way – a provision that so far does not seem to have been met.

This smooth path sometimes related to information technology, improvements in which could greatly impact on how easy it is for staff to implement an innovation.

2.10   Making improvements to information technology (IT)

Another common theme to emerge across the case studies were challenges in relation to information technology (IT). There were a number of different areas in which improvements could significantly enhance the diffusion of innovation:

- provision of more user friendly and up-to-date systems;

- improved access to IT systems and hardware; and

- better linkage between IT systems.

In the CMC case study, the IT system was difficult for participants to use and they described a lengthy process for completing records. This was a barrier to the diffusion of the innovation as it required more resource and could be frustrating for users. Improved usability may therefore increase completion rates. In the NOACs case study, meanwhile, some participants believed that GPs were still unable to prescribe NOACs as they were 'red flagged' on the IT system. These types of problems are significant barriers to the diffusion of innovation as staff may become frustrated and lose enthusiasm, particularly those who may have been less committed to it in the first place.

Access to IT systems and hardware was raised in both the CMC and StatMan Streamlining Programme case studies. In the CMC case study, wider access would increase the number of settings in which records can be created, updated and used by professional. For example:

- remote access to the NHS N3[1] network would enable staff to update records remotely;

- NHS N3 network access for organisations in the community would enable these care providers to update and access patients' records;

- access to records by paramedics when in the field would enable them to check patients' wishes more easily; and

- allowing patients and carers to access records would enable them to drive the innovation from a demand perspective.

Similarly, while the implementation of e-learning was recommended as part of the HR Streamlining Programme, staff could not always access computers in order to complete it. In order to overcome this, participants suggested providing access to more portable hardware such as tablets.

Improving access to IT therefore emerged as an area that could significantly enhance the diffusion of innovations by enabling more people to engage with them.

This also applies to improved links between different IT systems, which was flagged as an area that would make innovations more efficient. For example, in the CMC case study, professionals needed to record information on another system as well as CMC, and to access both systems

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[1] N3 is the national NHS broadband network

when looking for patient information. Similarly, in the HR case study, participants suggested that more consistent use of the Intra Authority Transfer (IAT) technology across trusts would make it easier to monitor StatMan training as staff transferred across trusts.

Overall then, there was a need to better integrate IT systems within North West London. As well as integrating IT systems, there may also be a requirement for improved development of IT systems, for example, to ensure they are user-friendly and do not create extra work for healthcare professionals using them, as well as to expand access so that more people can engage with innovations and do so more easily.

2.11   Patient involvement

As touched on briefly above, one group who could impact on the diffusion of innovation are patients themselves, through increasing demand for an innovation.

In both the CMC and NOACs case studies, increased patient involvement was said to have the potential to stimulate further uptake of the innovation; the CMC team planned to allow patients access to their records to create demand, while national policy had suggested that patient decisions play a role in whether they wish to stay on warfarin or would prefer a NOAC.

In this way, patient demand can be seen as stimulating innovation from the 'ground up'.

2.12   A range of incentives can be used depending on who needs to be incentivised

Another element affecting the uptake of an innovation was the incentive provided to those using it. Through discussions, it emerged that incentivising uptake of an innovation could be integral to its success, but these incentives would differ across innovations and the particular audience being targeted.

There were mixed views of the importance of financial incentives to the spread of an innovation. While in some case studies, such as CMC, it was recognised that the use of a financial incentive can encourage an organisation to take the 'first step' to implement it, this might not be effective over the long term unless the incentive continues.

There was strong evidence to suggest that incentives for individual practitioners can be powerful for stimulating an interest in an innovation over time. One of the strongest examples of this was providing evidence that the innovation is useful, and that use of the innovation over time can lead to positive patient outcomes.

This leads into a wider point, that is, the extent to which staff feel rewarded by the extra effort they are putting into master and use a new innovation. Building in individual incentives and rewards may help ensure that innovations are sustainable over the longer term. Linked to this, a better understanding of the drivers to uptake of a specific innovation through undertaking early engagement with potential users means that these incentives can be more effectively built into the innovation from the outset.

2.13 Continual local adaption and learning

A final common theme that emerged across the case studies was in relation to the extent to which continual improvement has happened for the innovations.

For example, participants in the CMC study noted that in response to initial difficulties with the speed for accessing the system, they were provided with smart cards that allow swipe access to reduce the time taken to log on. Another example of this could be found in the StatMan case study. Here, engagement with other trusts that were part of the Streamlining Programme allowed additional innovations to take place within organisations, such as the provision of e-learning.

In this way, continual improvement to a healthcare innovation may allow it to be more responsive to the needs of those who are implementing it in practice.

However, in order to achieve this, many of the other influencing factors, such as engagement with users, training provision, IT infrastructure and resources to implement the innovation must be in place. Without this, the impetus from staff involved in the adoption and spread of the innovation to continue with it may not be fostered.

The following chapter provides some concluding thoughts about the findings of this research, as well as a summary table of the implications and what these mean for the system as a whole.

Chapter 3: Conclusions

3 Conclusions

The case study research has highlighted a range of implications for the healthcare system in North West London. When looking at what these implications mean for the diffusion of innovation across North West London, the barriers and enablers to the adoption and spread of innovations proved to be interdependent.

For example, in the case of CMC, even if better access to the system is provided, those who do not have the administrative support to input the relevant data into the system may not use the tool. Even if GPs are informed that NOACs have been removed from the 'red list' of specialist drugs that cannot be prescribed they may still lack the knowledge and confidence to recommend them to their patients. Even if those attending the StatMan streamlining programme are wholly bought into the need for change in the system, they may require further changes in their organisation, such as Board level involvement, to have the authority to implement them.

While the purpose of this research was not to present a hierarchy of enablers and barriers to be addressed, there were some factors that emerged as consistently important across all three.

One of the most striking barriers was the need for a better method for both informing practitioners about innovations in the system, and ensuring they are adequately prepared with the knowledge that empowers them to use the innovation. Problem recognition, awareness generation, education and training were discussed across all three case studies. In particular, training was valued for its ability to not only prepare professionals for implementing an innovation, but also to spread it. For example, the use of 'cascade training' (where healthcare professionals train each other in an innovation) emerged as a strong example of how innovations can be spread more quickly or widely within an organisation.

Resource to implement an innovation was also a strong theme across the research. While financial incentives were felt to be appropriate for some of the innovations, for the most part, having time, staffing, and the necessary equipment to adopt an innovation was more immediately concerning to those on the frontline.

Information technology (IT) was also consistently mentioned as a barrier and enabler. While there were examples in the research of where local adaptions to IT had helped to spread an innovation, issues around a lack of access and a joined-up IT system across the NHS held back some innovations from reaching their potential.

The strong need for local policies and best practice examples to describe how to implement an innovation was also a strong theme in the research. Many participants said that while national policies can stimulate problem recognition, without clear, shared local pathways giving practical instructions of how innovations should be applied, the process can stall.

Underpinning many of the above themes was a sense that spreading responsibility for the implementation of an innovation across different organisations, job roles and seniority increases the chances of an innovation's success in practice – as long as there is strong engagement among these individuals. In addition, the need to overcome a general resistance to change in

the NHS relating to discontinuing the current ways of working should be presumed as potentially affecting any innovation being introduced.

3.1   Summary of the implications for the system

The following table provides a summary of the implications for the healthcare system.

Table 5: Implications of the research for the healthcare system

Implication of this research	Considerations for the system
Problem recognition	The need to increase awareness and understanding among staff of the challenge that the healthcare innovation is aiming to address in the first instance.
Culture of change management in the NHS	The need to overcome a general resistance to change in the NHS relating to discontinuing the current way of working.
Policy and guidelines, including specific local pathways and guidance	The benefits of a strong underpinning for an innovation in policy and the call for local policies and guidelines to show how innovations should be implemented at a local level.
Familiarity and knowledge of the innovation itself	The need to generate awareness and familiarity with the innovation cannot be overlooked as a key driver to adoption.
Training and information provision	The importance of training provision to introduce healthcare professionals to the innovation, continually improve skills and maintain competence, and allow staff to become 'champions' who can teach others and further spread the innovation.
Engagement between professions and organisations in the NHS	The value of engagement between professionals and organisations within the NHS for diffusing an innovation.
Responsibility	The need to spread responsibility for the innovation among professionals across a range of organisations, levels of seniority and job roles.
Resources	Ensuring that the right resources are available to assist the spread of the innovation, as well as releasing time to learn about the innovation.
Information Technology (IT)	Common concerns with the IT system across the NHS and how improvements relating to access and usability could significantly enhance the spread of healthcare innovation.

Patient involvement	The involvement of patients as a way of stimulating uptake of an innovation from the 'ground up'.
Incentives and rewards	Ensuring that incentives are tailored to both innovations and the particular audience being targeted – i.e. recognising that financial incentives may not be the most powerful type of incentive available – and building in the right incentives through strong early engagement.
Local adoption	Continual evaluation to learn from implementation of an innovation and make improvements to further spread uptake of the innovation.

Annexes

Annex A

The case studies

More details are provided in this section of the report for each of the three case studies:

- Coordinate My Care;

- Human Resources Streamlining Programme; and

- Novel oral anticoagulants.

Case Study 1: Co-ordinate My Care

Coordinate My Care (CMC) is an urgent care-planning tool, which provides care plans for those at the end of life. It allows people with chronic health conditions and/or life-limiting illnesses the chance to express their preferences for treatment, especially what they would like healthcare professionals to do for them in an emergency.

The care plan consists of an online tool which healthcare professionals update after they have obtained patient consent to do so. Professionals who can access the tool include staff in the ambulance control hub, NHS 111 operators, and professional groups such as doctors, nurses, care home staff and hospice staff.

The information stored on the care plan contains details of the patient's diagnosis and information relating to their treatment, the contact details of their carers, and their wishes should their condition deteriorate. The main benefit of CMC is that the details are all stored online so that when the information is required urgently, healthcare professionals are able to access it, even if out-of-hours.

Case study 2: Statutory and Mandatory Training Streamlining Programme

The Statutory Mandatory (StatMan) Streamlining Programme aims to standardise trusts' approach to statutory mandatory training. Specifically, it seeks to address inconsistencies in the type of training trusts offer, the duplication of training, and the content of training courses. It aims to release time for clinical staff to care and ensure that training programmes are as efficient as possible.

The programme includes activities such as benchmarking the StatMan training that is offered versus that offered at other trusts, listening to staff, and standardising processes. As part of the programme, trusts agree to adopt the Skills for Health Core Skills and Training Framework (CSTF). In addition, trusts are invited to use e-learning for StatMan training and report their compliance.

Case study 3: Novel oral anticoagulants

As acknowledged by the National Institute for Clinical Excellence (NICE) (2014[2]), there are four oral anticoagulants licensed for use in the UK: warfarin, apixaban, dabigatran, and rivaroxaban. Whereas warfarin has been licenced for use as an anticoagulant for over 50 years, apixaban, dabigatran and rivaroxaban are more recently developed 'novel' oral anticoagulants (NOACs).

NOACs are indicated for similar purposes to warfarin, that is, the prevention of blood clots in patients at risk of clotting – most commonly, those diagnosed with atrial fibrillation (AF[3]). Apixaban, dabigatran, and rivaroxaban are licenced for preventing blood clots and stroke as well as to avoid clots forming following elective hip or knee replacement surgery in adults (NICE 2014[4]). In addition, rivaroxaban can also be used for the treatment of pulmonary embolism (PE[5]) and deep vein thrombosis (DVT[6]).

The purpose of this case study was to explore the perceived enablers and barriers to the usage of a NOAC as an alternative to warfarin.

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[2] http://cks.nice.org.uk/anticoagulation-oral#!topicsummary
[3] Atrial fibrillation (AF) is caused by irregular electrical impulses in the heart which usually lead to a faster, irregular heartbeat. Turbulent blood flow can lead to the formation of blood clots in the upper chambers of the heart. If these clots break free, they can travel in the bloodstream to the brain which might cause a stroke.
[4] http://cks.nice.org.uk/anticoagulation-oral#!topicsummary
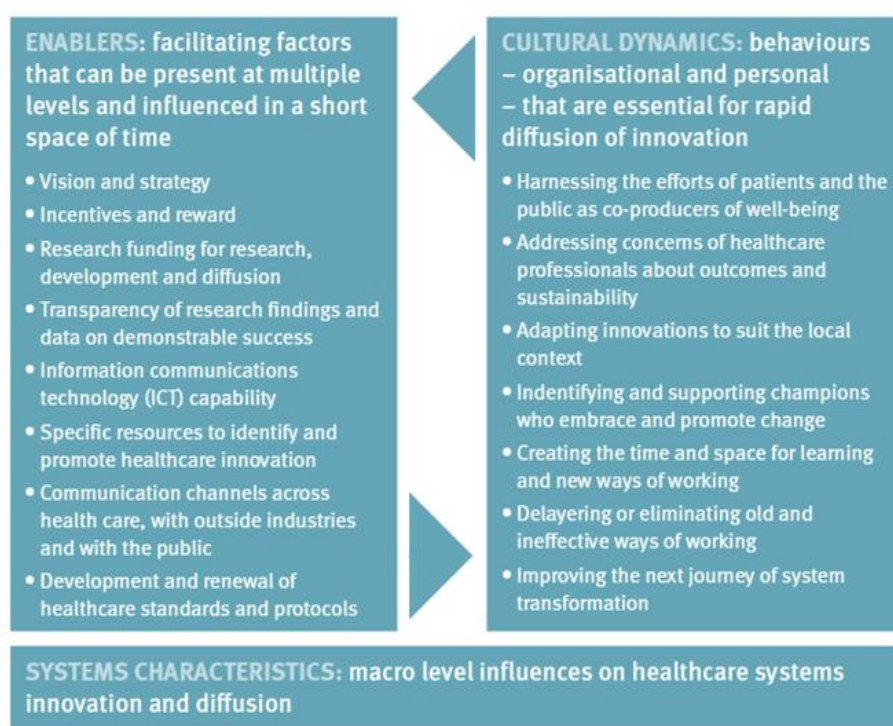[5] Pulmonary embolism is a blood clot in the major artery of the lungs.
[6] Deep vein thrombosis is a blood clot that has formed within a deep vein, usually in the legs.

Annex B

Underpinning the research: the Global Diffusion of Healthcare Innovation Framework

The Global Diffusion of Healthcare Innovation (GDHI) report (IGHI 2013[7]), is based on a study of healthcare innovation in eight countries around the world. It provides a conceptual framework of the key influencing factors affecting the spread of healthcare innovation. The GDHI framework for diffusion of healthcare innovation discusses how innovation and diffusion are affected by three levels of influence. These are defined as 'systems characteristics', 'enablers' and 'cultural dynamics'. A summary of the GDHI framework can be found below.

Figure 1 – The Global Diffusion of Healthcare Innovation framework

ENABLERS: facilitating factors that can be present at multiple levels and influenced in a short space of time

- Vision and strategy
- Incentives and reward
- Research funding for research, development and diffusion
- Transparency of research findings and data on demonstrable success
- Information communications technology (ICT) capability
- Specific resources to identify and promote healthcare innovation
- Communication channels across health care, with outside industries and with the public
- Development and renewal of healthcare standards and protocols

CULTURAL DYNAMICS: behaviours – organisational and personal – that are essential for rapid diffusion of innovation

- Harnessing the efforts of patients and the public as co-producers of well-being
- Addressing concerns of healthcare professionals about outcomes and sustainability
- Adapting innovations to suit the local context
- Indentifying and supporting champions who embrace and promote change
- Creating the time and space for learning and new ways of working
- Delayering or eliminating old and ineffective ways of working
- Improving the next journey of system transformation

SYSTEMS CHARACTERISTICS: macro level influences on healthcare systems innovation and diffusion

'Systems characteristics' are institutional and environmental factors which collectively determine the context in which healthcare innovators can either thrive or struggle. 'Enablers' are the specific characteristics that allow and encourage innovation to be facilitated. 'Cultural dynamics' are certain behaviours, beliefs and practices that are necessary to permit the diffusion of innovation at the front line. These enablers, cultural dynamics and systems characteristics identified in the GDHI framework were explored in this primary research.

The desk review identified additional enablers and barriers to the diffusion of healthcare innovation in the literature, which were also explored in the primary research. These included probes around the commissioning structure; the impact of procurement; the existence of a

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[7] Institute of Global Health Innovation, (2013), From innovation to transformation, A framework for diffusion of healthcare innovation, Imperial College London

common strategy or vision for the innovation; and the complexity and structure of social networks in supporting the spread and acceptance of new ideas. The discussion guide for the interviews included prompts on these aspects for use by the interviewer where relevant.

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