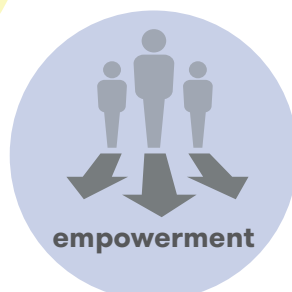**Quality Improvement Hub**

THE SPREAD AND SUSTAINABILITY OF QUALITY IMPROVEMENT IN HEALTHCARE

A resource to increase understanding of the 10 key factors underpinning successful spread and sustainability of quality improvement in NHSScotland

evaluation

culture

knowledge into action

leadership

measurement

innovation

change management

human factors

empowerment

engagement

www.qihub.scot.nhs.uk

www.healthcareimprovementscotland.org

Email: qihub@nhs.net

@NHS_QIHub
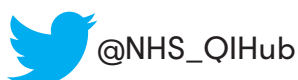
CONTENTS

INTRODUCTION

Background to this document

NHSScotland (NHSS) is a world leader in quality improvement (QI) and patient safety.

Although much progress has been made in support of the Healthcare Quality Strategy[1] and the 2020 Vision for Healthcare in Scotland[2], there is a need to increase the pace and scale of improvement.

But spreading and sustaining improvement is not easy.

Across the UK, a third of healthcare improvement projects never spread beyond their particular unit, a further third are embedded within their own unit and spread across an organisation, and a final third are spread across their own and other similar organisations[3].

This "law of thirds" emphasises how important it is to learn how to spread and sustain improvements across NHSScotland (NHSS).

Discussion with colleagues across NHSS on how to support the work of spreading and sustaining improvement highlighted the need to:

1.   Develop an accessible resource to help healthcare practitioners understand the key factors that impact on the successful spread and sustainability of improvement (this document).

2.   Understand in practice which factors are already being addressed well and which are presenting particular challenges. This is being taken forward by a practice review which is outlined in the Next Steps section of this document.

3.   Develop and test approaches to support staff to overcome the challenges. This will be taken forward using the learning from the practice review.

How to use this document

The resource has been written to be shared and discussed within teams, and to be used to develop change ideas on how best to spread and sustain improvements.

All 10 key factors are summarised in **Figure 2.** What each factor means, why it is key to success, and questions you might ask yourself are included.

We recommend that you consider each of the factors. This will enable you to gain a greater understanding of your current state and provide a basis for you to start considering spread and sustainability in future improvement plans.

You can print and display **Figure 2** as a reminder for yourself or to share with colleagues.

A jargon buster is also included which will allow you to check the definitions of any new terms.

The readings in the key message panel for each factor are hyperlinked to the full resource. If you are printing the document, there is a full reference and reading list at the end to assist you.

AUDIENCE
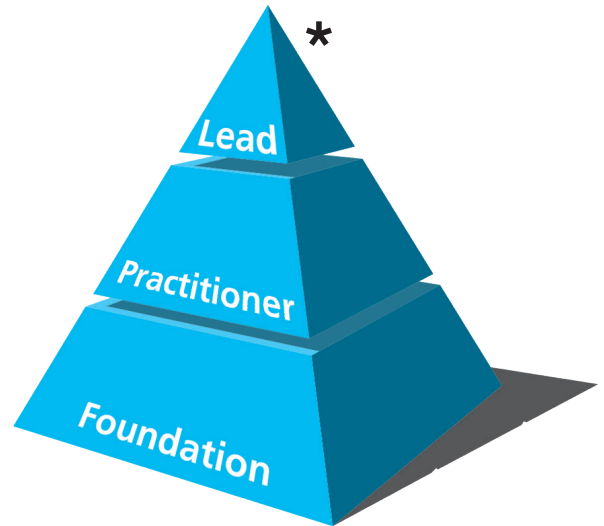
NHSS defines three key levels of a learning journey.

If you are working at practitioner level, involved in leading a team to improve service delivery in your local workplace, then this document is a resource for you. It is particularly relevant if you have operational responsibility over more than one service/setting.

It is anticipated that the foundation level, or staff working in clinical settings with exposure to improvement, will also benefit from the information within this resource. It will help them to find out more about what underpins the successful spread of QI work.

For those at a lead level, and who want to learn more about current frameworks that exist to help to support spread and sustainability of improvement, there is a useful guide which was developed by Healthcare Improvement Scotland (HIS) to assist:

> –Ibanez de Opacua A. Guide to Spread and Sustainability. Healthcare Improvement Scotland publication. UK 2013.

Key concepts and terms

Spread is 'when best practice is disseminated consistently and reliably across a whole system and involves the implementation of proven interventions in each applicable care setting[4]'.

Sustainability is 'when new ways of working and improved outcomes become the norm.' In other words, it is when an improvement has become an integrated and the mainstream way of working. It should withstand challenge and variation over time, through a process of continuous improvement[3].

Large scale change 'when multiple, system-wide interventions aim to improve efficiency, quality and patient outcomes[5]'.

Spread and sustainability are complex issues. This resource highlights a number of factors, both technical and social, which the literature suggests should be in place to successfully spread and sustain quality improvement.

These interact in distinct ways depending on the context and level at which they are applied in the system, e.g. organisational or Macro level, group or Meso level, and individual or Micro level[6].

*The QI Hub developed a Curriculum Framework to support all NHSS staff to identify the QI knowledge, skills and behaviours they need to support healthcare. More information can be found at: www.qihub.scot.nhs.uk

TEN KEY FACTORS

innovation	measurement	human factors	culture	change management
leadership	knowledge into action	engagement	evaluation	empowerment

Our methodology

There is a large evidence base which helps to present the range of multi-factorial challenges that surround any plans to spread and sustain the gains in quality improvement work.

We used the NHSS Knowledge Network (**www.knowledge.scot.nhs.uk**) to search medical databases and key quality and safety journals using 'spread', 'sustainability', 'large scale change', 'quality improvement', 'healthcare' and 'system' as search terms, in various combinations.

Reviews, both systematic and non-systematic, since the year 2000 and in the English language were included. This search produced eight articles which fit the criteria and these were examined to find the common factors that seemed to underpin success.

The factors extracted from the eight selected papers were assessed for how they might apply in NHSS through a consultation process with over 100 local subject matter experts. We had face-to-face meetings and WebEx's where we presented the common factors and evidence for discussion. Some were incorporated into one larger category; e.g., dissemination, communication and resources were relabelled 'knowledge into action' for the NHSS context.

Some factors were less emphasised in the literature but said to be important and emerging areas as reflected in the 2020 Vision and Quality Strategy for NHSS[1][2]. This included evaluation and empowerment, which the consultation process emphasised.

This resource represents the collective learning from both of these exercises.

Figure 1 summarises the 10 key factors which should be considered when working to spread and sustain quality improvement initiatives. Each of the 10 key factors is then described in more detail, on a separate page, and further reading is given.

Figure 1: Overview of studies investigating common factors that interact to influence spread and sustainability of change

evaluation

measurement human factors

change management

Perla, Bradbury, Gunther-Murphy, 2011[8]

Greenhalgh, Robert, Macfarlane et al., 2004[7]

leadership

culture engagement

innovation change management

culture measurement

change management human factors

Martin, Weaver, Currie et al., 2012[9]

human factors

culture knowledge into action

leadership

Buchanan, Fitzgerald, Ketley et al., 2005[10]

engagement

knowledge into action

engagement

measurement culture

human factors

Duckers, Wagner, Vos et al., 2011[11]

engagement change management

culture human factors

Benn, Burnett, Parand et al., 2009[12]

Norton et al., 2012[13]

knowledge into action culture

empowerment human factors

engagement culture

empowerment measurement

Weiner, 2009[14]

INNOVATION

Innovation refers to the notion of doing something different rather than doing the same thing better

What is important?

We need to continue improving quality of care for patients in safe, effective and person-centred ways

Key to success

There is clear benefit and innovation in the improvement

The Diffusion of Innovation[15] is an established theory which underpins the successful sustainability and spread of improvements. It reminds us to consider these vital elements: what is changing, where and for whom?

In essence, the diffusion of innovation theory tells us that those ideas which spread more rapidly than others have five core qualities that should be promoted[15]:

1. **Clear advantage** compared to current ways

2. **Compatibility** with current systems and values

3. **Simplicity of change** and its implementation

4. **Ease of testing** before making a full commitment, and

5. **Observability of the change** and its impact.

It highlights that the characteristics of the innovation, the process of innovation and who is 'taking up' the innovation all need to be considered when designing a plan to introduce and implement a change. The strategies that are needed to support and sustain innovations must be well planned and proactive, with a commitment to continuing effort through time[9].

The theory also describes the innovation adoption curve and reminds us that all professional groups have representatives from each category (see the diagram in the side panel).

Early adopters are those who embrace a change while laggards are more resistant and typically less engaged. It is important to remember that the same person can be an early adopter of one change and a laggard when faced with another.

When introducing an innovation, think about your potential early adopters and target your initial energy there to grow a critical mass of supporters. Early engagement with individuals with responsibility across different contexts will help you to spread beyond the original site.

KEY MESSAGES
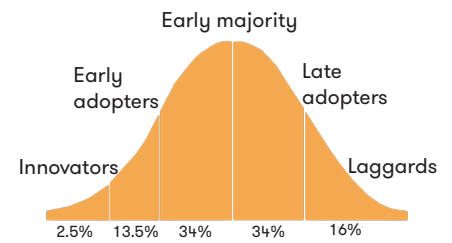
Innovation Adoption Lifecycle[15]

What are the benefits of the change?

What is the plan to articulate the benefits?

Who are your early adopters to support you in making the change?

READING:

1. For knowledge

'Disseminating Innovations in Health Care', a short paper by Don Berwick

2. For practice

'Top ten dissemination mistakes', a list of what not to do and some useful tips

MEASUREMENT

All improvement will require change, but not all change will result in improvement

What is important?

We need to measure changes to determine which demonstrate improvement and by how much

Key to success

Staff are able to use real time data to drive improvement

Understanding why and what to measure is vital at the beginning of any QI project. Measurement (focusing on both numbers and on experiences) helps to explore the critical factors behind a successful change in order to both sustain it and then replicate that success elsewhere[8].

The Model for Improvement provides a useful framework around which to structure improvement activity to ensure the best chance of achieving your goals. It is based on three fundamental questions[16] (See the diagram in the side panel).

To demonstrate if a change is an improvement and be able talk to individuals and teams about the impact of the change, you need the ability to measure its impact. The crucial question is "what difference has the change made?". The Model for Improvement enables you to test the change using small scale cycles (Plan, Do, Study, Act) and to build knowledge of whether the change has resulted in an improvement.[17]

The seven steps to measure improvement are:

1. **Decide** on your aim
2. **Choose** your measures
3. **Confirm** how to collect your data
4. **Collect** your baseline data
5. **Analyse** and present your data
6. **Meet** to decide what the data is telling you
7. **Repeat** steps four to six (incorporating learning from each test of change)

The key is that staff own their data and are encouraged to use it regularly to inform testing and implementation of the change. Data can help to motivate teams and crucially it should include the impact of the change on both people's outcomes and their experience of using the service.

KEY MESSAGES

1. What are we trying to accomplish?

2. How will we know that a change is an improvement?

3. What changes can we make that will result in improvement?
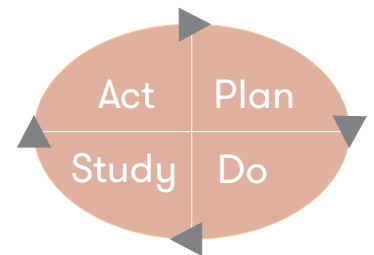
Model for Improvement

Do you have existing data you can use?

How will you collect your data?

How are you going to analyse and communicate the results?

READING:

1. For knowledge

'Three Faces of Performance', a paper by Leif Solberg et al., to give you a foundation

2. For practice

'The How-To-Guide for Measurement for Improvement', a guide from Patient Safety First

HUMAN FACTORS

Understanding why errors occur and tackling poor design and procedures is key to improvement

What is important?

We need to design systems and processes that take into account what we know about human behaviour

Key to success

Understanding why common errors are happening and then redesigning the process with steps in place to prevent the errors

The science of human factors (HF) seeks to understand how to optimise the way individuals behave, teams work, equipment and settings are designed, and how organisations function. Human factors sits at the intersection of psychology and engineering. It requires a close partnership with healthcare experts.[18]

Between 70-80% of healthcare errors can be attributed to a breakdown in non-technical skills. These involve decision making, communication and teamwork, leadership, and situation awareness.

James Reason is the forefather of Human factors and he describes a "Swiss Cheese" accident model (see side panel). This demonstrates how defences, or the things we put in place to stop bad things happening, can fail. Only when errors all line up, will there be an accident. Human factors methods can help us learn about how we recover from error chains once they begin and how we can feed this knowledge back into the design of our processes.[20]

Human factors is not new but it has been slow to be integrated into the 'way we do things around here' in healthcare. Leaders play a key role in understanding the risks in the system and supporting the learning and new ways of working.

There are seven Human factors which are integral to managing risk in healthcare:

1. **Stress** - We need to learn when and how stress negatively impacts performance
2. **Fatigue -** Even experts are more prone to errors when they are tired
3. **Cognitive workload** - Cognitive aids, such as checklists, free up thinking space
4. **Design** - The way we move, think and behave should be considered
5. **Equipment** - Poor user feedback and lack of device maintenance can lead to errors
6. **Teams** - We rely on teams but "group think" can result in poor decisions
7. **Culture** - Sometimes accepted norms must be challenged for best results

KEY MESSAGES

Organisational factors

Safe supervision

Preconditions

Unsafe acts

Bang
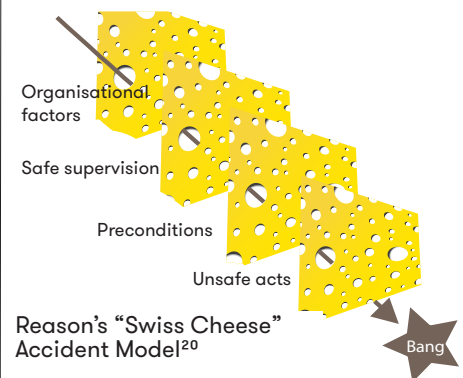
Reason's "Swiss Cheese" Accident Model[20]

Are there changes you can make to the design of the process that will reduce the likelihood of errors?

How can you design the process so that it encourages people to sustain the new way of doing things?

READING:

1. For knowledge

'Understanding adverse events', a paper by Prof James Reason describing his model

2. For practice

'Implementing human factors in healthcare', a guide by Patient Safety First

7

CULTURE

Culture reflects the attitudes, beliefs, perceptions and values that employees share

What is important?

We must be aware of fundamental beliefs in our culture and work to change those which block QI work

Key to success

Seek to understand the role of culture on our behaviours and ability to deliver improvements

Culture is often defined as "the way we do things around here". Schein[21] highlighted the major impact culture has on how organisations function. He identified three key levels to explain how we experience culture:

1. **Artefacts** – the things we see, e.g. the way people dress at work
2. **Values** – the things we say; e.g., what the organisation's say
3. **Beliefs** – the things we think and feel; e.g., what really drives us

Hofstede[22] added a powerful message that culture is something an organisation "has" rather than "is." It therefore can be adjusted in a positive or negative direction. Yet culture is a difficult thing to change.

As well as the levels described above, three layers of culture exist. There are national, organisational and professional attitudes and values within which groups and individuals function:

1. **National** – How our country of origin or residence impacts on us
2. **Organisational** – How our place of work expresses its values on us
3. **Professional** – How the group that we belong to influences us

Different settings and specialities within a healthcare environment will also have their own set of shared fundamental beliefs.

Understanding these can help us identify both barriers and enablers to the spread of a change. For example, you may need to highlight different aspects of the improvement to appeal to the values of different groups. Getting respected leaders from each key professional groups to endorse your change can be a way of using group cultures to enable sustainability.

One of the first steps to improving the culture we work in is to understand the impact of our own beliefs, values and artefacts.

KEY MESSAGES

Artefacts
Values
Beliefs
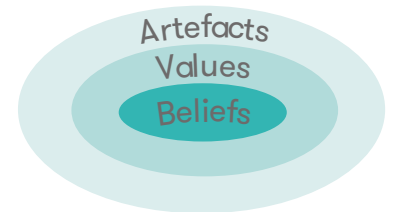
Schein's 3 levels of culture[21]

What words describe the culture you want?

What needs to be done to move to the new culture?

What different cultures exist in your setting and how will you package change to appeal to each of their values?
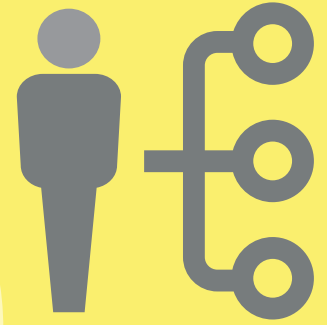
READING:

1. For knowledge

'Organisational culture and quality of health care', a paper by Huw Davies et al.

2. For practice

'Quality Improvement - Sustainable in any culture?' a report by Healthcare Improvement Scotland

CHANGE MANAGEMENT

Change management is how you transition individuals, teams and organisations to a desired future state

What is important?

We must acknowledge both the technical and social aspects of change and improvement efforts

Key to success

People are supported to understand the problem a change is attempting to fix and are involved in designing and testing the solutions

QI in healthcare depends on both technical and social change. The technical aspects surround the nature of the change itself and the social aspects focus on how people feel about doing it.

There can be a tendency to concentrate on the technical issues and forget about the social elements. However, the latter are critical to supporting, driving, and sustaining change.[24]

It is important to understand the psychology behind change. Knowing what matters to people involved in making change happen can help maintain their willingness and energy for change.

When introducing change, Lawson and Price[26] propose four basic conditions that are important for success:

1. **A compelling story**, because employees must see the point of the change and agree with it

2. **Role modelling**, because they must also see senior colleagues they admire behaving in the new way

3. **Reinforcing mechanisms**, because systems, processes, and incentives must be in line with the new behaviour, and

4. **Capability building**, because employees must have the skills required to make the desired changes

Successfully spreading a change requires leaders to recognise the technical and social aspects of change in both the testing and spread sites.

This may mean adapting the original implementation plan to address issues specific to a site(s) where the improvement is being spread[27].

KEY MESSAGES

Focusing

Energizing

Reinforcing
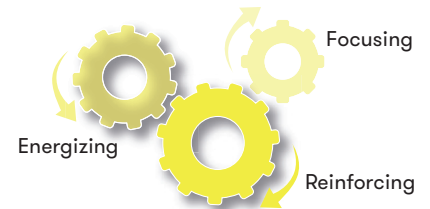
What are the technical and social elements that need to be considered in terms of the proposed change?

If someone is resisting the change, have you taken the time to understand why?

Is there anything you need to do differently to address the concerns of those resisting the change?

READING:

1. For knowledge

'Organisational change management', a review of change models, Bristol University

2. For practice

'The Hard Side of Change Management', a paper by Sirkin et al to give you some tips

LEADERSHIP

A good leader makes the status quo feel uncomfortable (push) and the future look attractive (pull)

What is important?

We need to embrace leadership that sacrifices self-interest and puts quality and safety at the centre of all we do

Key to success

Leaders who can combine technical QI skills with effective interpersonal and relational skills

Delivering sustained improvement needs leaders who are able to combine their technical QI skills with effective interpersonal and relational skills.[28]

As part of this, leaders must be skilled in facilitating others to contribute their views, expertise, and ideas. They must also be able to understand the impact of their own behaviour and its influence on others.

The quality of the communication between leaders and followers is also pivotal to the success of spreading and sustaining QI.

The concepts of 'adaptive leadership' and 'distributed leadership' have important implications for the effective delivery of healthcare.

Adaptive leadership describes the approaches needed when change requires fundamental changes in attitudes, values or beliefs.[29]

Distributed leadership recognises that formal and informal leaders exist at every level of the system and all have the ability to positively drive the spread of change.[30]

The literature discusses planes of engagement within five categories[31]:

1. **Social** (energy of personal relationships and connections)
2. **Spiritual** (energy of the value of work and inspiration)
3. **Psychological** (energy of courage, trust and feeling safe)
4. **Physical** (energy of action and making progress),
5. **Intellectual** (energy of evidence and reasoned arguments)

Leadership needs to connect and foster the most positive elements of each of these 'planes' in order to increase the level of engagement, commitment and motivation of staff.

KEY MESSAGES
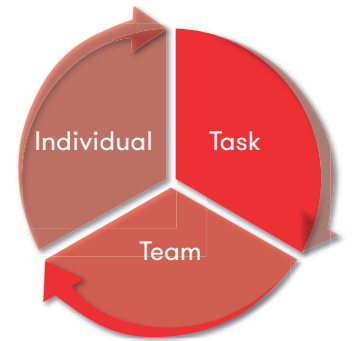
How have you connected with stakeholders to enable them all to contribute views, expertise and ideas?

How are you planning to communicate to stakeholders any improvements you make?

READING:

1. For knowledge

'The Theory Behind the Practice', an introduction to adaptive leadership by Heifetz

2. For practice

'Leading Change: Why Transformation Efforts Fail', paper by John Kotter[27]
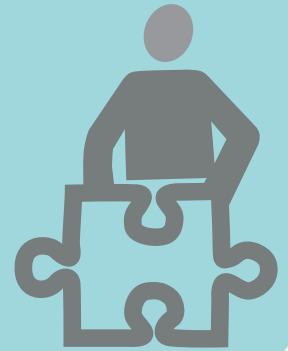
KNOWLEDGE INTO ACTION

We must create knowledge by combining research, practice and the experience of staff and service users

What is important?

We need to understand how to translate and embed our best ideas and evidence

Key to success

Knowledge and resources of all kinds are accessible, used and shared

NHSScotland must keep striving to be a 'learning organisation' which continuously tests experience and transforms it into knowledge. This knowledge should be accessible to the whole organisation and relevant to its core purpose.[32]

Huber[33] discusses three different levels of knowledge use that are necessary within a system:

1. **Acquisition** is the creation of skills, insights and relationships
2. **Sharing** is the dissemination of what has been learned
3. **Utilisation** is the integration of learning into practice

The NHSS Knowledge into Action strategy[34] sets out an aim which goes beyond accessing and organising information to 'enabling practitioners to apply knowledge to frontline practice to deliver better healthcare and embedding the use of knowledge in quality improvement'.

Knowledge Into Action combines three types of knowledge:

4. **Research** - The know what; e.g., tapping existing evidence
5. **Experience** - The know who; e.g., capturing user testing
6. **Practice** – The know where; e.g., understanding system variation

Spreading QI work relies on practical knowledge being widely understood, shared and used.[34]

There are a number of online resources and tools, delivered through clinical, QI and knowledge management networks to support what is called knowledge mobilisation.

The QI Hub web site is a key resource designed to support this: **www. qihub.scot.nhs.uk**.

KEY MESSAGES
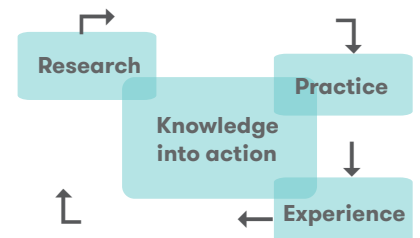
Research → Practice
Knowledge into action
← Experience

What knowledge supported your innovation and where did it come from?

What methods could you use to share knowledge to support other QI teams to spread the improvement?

READING:

1. For knowledge

'A knowledge management model: implications for enhancing quality in health care', a key paper by Orzano

2. For action

'Knowledge translation of research ', a paper by Grimshaw that explains the impact of dissemination approaches

11

ENGAGEMENT

Large scale engagement is the best way to guarantee large scale change

What is important?

We need to support mobilisation for improvement across a diverse set of health and social care stakeholders

Key to success

Everyone with a vested interest, across all levels and roles, has a voice in the improvement team

QI in healthcare can be considered as a social movement and we can learn from this theory to help to spread and sustain improvements. Engagement requires connection with people's emotional (feeling), cognitive (thinking) and behavioural (doing) styles.

Those in a social movement have shared beliefs and a sense of solidarity from engaging in a common project.[35] This directs us to think about what we might do to actively co-create those conditions.

It is important to identify who your key stakeholders are and what their interests and beliefs are. Leaders who understand how to spread ideas ensure that they align their objectives with the personal values, beliefs and interests of stakeholders. Crucial to engaging people and keeping them connected is reminding them why the work is needed.

Social movement theory can also inform us about the four sources of organisational energy[36]:

1. **Connection** refers to how far people see and feel a link between what matters to them and what matters to the organisation

2. **Content** refers to how far the actual tasks people do are enjoyable and challenge them

3. **Context** is how far the way the organisation operates and the physical environment in which people work make them feel supported

4. **Climate** refers to how far the way we do things around here encourages people to give of their best

To spread and sustain QI, it is vital to engage people by explaining why the issue is important and continually articulate the positive impacts on patient care. Gawande[37] explains that ideas that help both staff and patients spread quickest.

KEY MESSAGES

Emotional

Behavioural   Cognitive
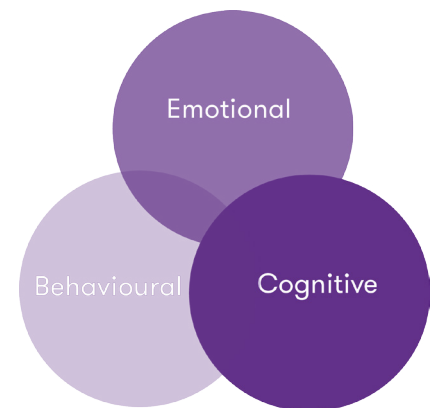
How are you connecting with people to remind them why the work is needed?

How will you help people to feel they are part of the change and have an important role to play?

READING:

1. For knowledge

Social movements lessons, a paper by Bate et al.

2. For practice

'Engage to mobilise', web resources from the

NHS Change Model

EVALUATION

Evaluation is vital to our understanding of which methods and innovations work to improve quality

What is important?

We need evidence as to what changes have been made, and when and how they made an impact

Key to success

Developing plans from the outset to understand how activities, outputs and outcomes link and ensuring learning and feedback loops are in place

In complex systems like healthcare, improvements result from a combination of the innovation, how it was implemented, and the context in which the work took place. Understanding why and how a change delivered an improvement in a particular context can provide useful information about how to then spread that change more widely.[38]

Key questions to consider as part of the evaluation process include[39]:

1. **Did it achieve its objectives** and, if so, at what cost?

2. **Why** were **some innovations more successful** than others?

3. **What** were the **factors and conditions** critical for success?

Methods to help collect this sort of information and share it are an important part of the evaluation process. The concept of an outcomes chain[39] (see the diagram in the side panel) helps to organise thinking at the start of your QI planning process.

By deciding what your short (e.g., test), medium (e.g., implement) and long (e.g., spread) term outcomes should be, you can match these against inputs (e.g., what you need), activities (e.g., what you will do), outputs (e.g., what your products will be) and, finally, reach (e.g., who your target audiences are). Any successes can then be assessed and shared with others.

In this way, having an evaluation framework for your work can help to guide you in the right direction and stay connected to your aims and audience. But it is also about having vital feedback to inform future QI.

Creating the conditions for improvement requires understanding the current context.[41] There is a need to invest time and resource in more evaluation work across NHSS to support our learning about the conditions that help and hinder our attempts to improve care delivery.

KEY MESSAGES

How do you currently evaluate your QI work?

How do you capture feedback from staff, patient, carers and act on your learning?

Long-term outcomes

Medium-term outcomes

Short-term outcomes

Reach

Outputs

Activities

Inputs

READING:

1. For knowledge

'Lessons from the Health Foundation's programme evaluations', Mary-Dixon Woods et al.'s top ten tips

2. For practice

NHSScotland Knowledge Network, Test of Change Evaluation frameworks and tools

13

EMPOWERMENT

The degree of person-centredness in a system is reflected in superior decision making, design and care

What is important?

We must listen to the experiences and views of people who provide services and people who use services to drive improvement

Key to success

Hear, listen and respond to the voices of staff, patients and carers when attempting to improve services
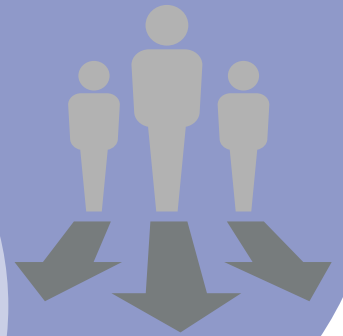
Empowerment is about both the people who work in organisations and the people who use the services provided by it.

It can be defined along four key areas[42]:

1. **Meaning** - fit between the requirements of a role and beliefs

2. **Competence** - individual's capability to perform activities with skill

3. **Self-determination** - autonomy to choose behaviours for success

4. **Impact** - degree an individual can influence key outcomes at work

Staff not empowered to identify problems and develop ideas are unlikely to have the energy and will to expend effort on QI work.

Patients and carers asked for feedback that is then not acted on are unlikely to actively contribute again.

Kanter[43] describes how work behaviours and attitudes are shaped in response to an individual's position and the circumstances within their organisation. He defines power as the ability to "get things done"; which often reflects upon informal power structures like alliances with peers.

In an organisation where empowerment is not the norm a deliberate and systematic approach is needed to create the time and space for:

1. **Listening** to the voice of staff and of service users.

2. **Involving** them in the process of deciding where to focus improvement work

3. **Involving** them in the process of picking which changes to test and then making and evaluating those changes

KEY MESSAGES
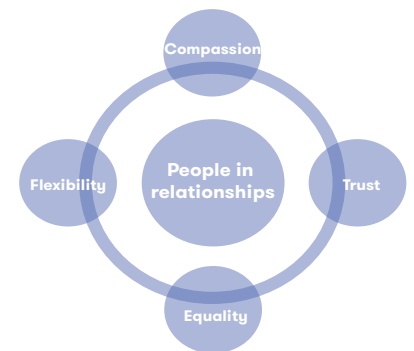
How do you engage with staff, patients and carers to hear about their experiences and ideas for improvements?

How much are people able to influence the process of improvement work?

READING:

1. For knowledge

'Involving patients in improving safety', a short Health Foundation report

2. For practice

'Tapping frontline knowledge,' Luther and Resar show how empowerment can help

SUMMARY

This resource highlights ten factors which are vital to plan for at the outset of improvement work to optimise spread and sustainability. The factors were identified through search terms used to interrogate medical databases and key quality and safety journals. Subject matter expert consultation was used to refine them (see **Figure 1**).

Figure 2 shows all of the ten factors together to give you a summary of what each one means, why it is key to success, and to provide questions to help you think about how to apply that factor in your own improvement work.

Successfully spreading and sustaining improvements means overcoming numerous challenges, such as: awareness of why the change is needed; ensuring that those involved have a desire to support and participate in the change; knowledge of how to bring about the change; the ability to implement new skills and behaviours; and, redesigning processes to sustain the change. We must focus on all these challenges at all levels of a system in order to understand, identify and tackle any gaps in our ability to successfully spread and sustain improvement work.
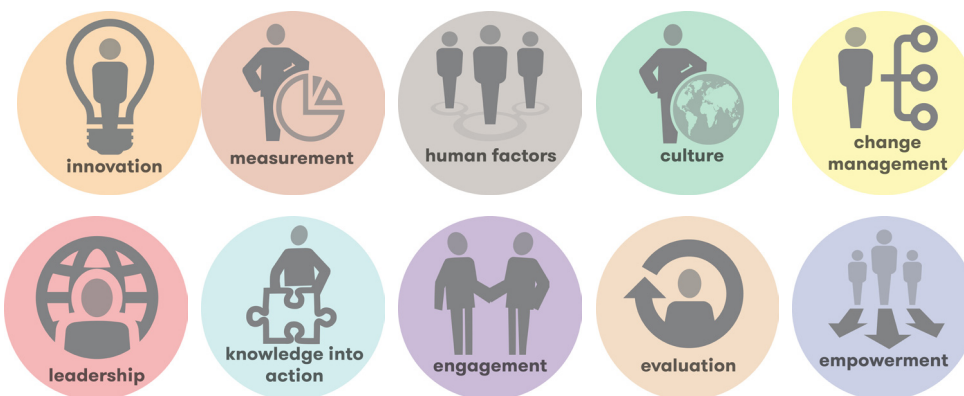
Next steps

The Practice Review

The QI Hub will undertake a review of spread and sustainability practice in NHSS. This review will gather together case study evidence of successes and failures around the spread and sustainability of QI work. Developing home-grown case studies will broaden our understanding of how to develop specific support tailored for NHSS. The review will occur in a small sample of territorial boards. For each key factor we will get examples of what is working well and where the challenges exist. We will also look to discover what tools and models are currently being used to help to spread and sustain improvement gains. Finally, we will consider whether any additional tools and guidance need to be developed to help staff in spreading and sustaining improvement.

New resources will be promoted via the QI Hub Twitter page @NHS_QIHub and the QI Hub web site **www.qihub.scot.nhs.uk**

HELPFUL GUIDES

1. IHI Framework for Spread. Massoud, Nielsen, Nolan. A Framework for Spread: From Local Improvements to System-Wide Change. IHI White paper. USA, (2006).

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3. NHS Institute Sustainability Model. Maher, Gustafson, Evans. NHS Sustainability Model. (former) NHS Institute for Innovation and Improvement. UK, (2010).

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Figure 2: The 10 factors explained! What to start thinking about and asking about in terms of QI spread and sustainability

Key factors	What is important?	Key to success	Questions for you
INNOVATION	We need to continue improving quality of care for patients in safe, effective and person-centred ways	There is clear benefit and innovation in the improvement	What are the benefits of the change? What is the plan to articulate the benefits? Who are your early adopters to support you in making the change?
MEASUREMENT	We need to measure changes to determine which demonstrate improvement and by how much	Staff are able to use real time data to drive improvement	Do you have existing data you can use? How will you collect your data? How are you going to analyse and communicate the results?
HUMAN FACTORS	We need to design systems and processes that take into account what we know about human behaviour	Understanding why common errors are happening and then redesigning the process to prevent the errors	Are there changes you can make to the design of the process that will reduce the likelihood of errors? How can you design the process so that it encourages people to sustain the new way of doing things?
CULTURE	We must be aware of fundamental beliefs in our culture and work to change those which block QI work	Seek to understand the role of culture on our behaviours and ability to deliver improvements	What words describe the current culture you want? What needs to be done to move to the new culture? What different cultures exist in your setting and how will you package change to appeal to each of their values?
CHANGE MANAGEMENT	We must acknowledge both the technical and social aspects of change and improvement efforts	People are supported to understand the problem a change is attempting to fix and involved in designing and testing the solutions	What technical and social elements need to be considered in terms of the proposed change. If someone is resisting change, have you taken the time to understand why? Is there anything you need to do differently to address the concerns of those resisting the change?
LEADERSHIP	We need to embrace leadership that sacrifices self-interest and puts quality and safety at the centre of all we do	Leaders who can combine technical QI skills with effective interpersonal and relational skills	How have you connected with stakeholders to enable them all to contribute views, expertise and ideas? How are you planning to communicate to stakeholders any improvements you make?
KNOWLEDGE INTO ACTION	We need to understand how to translate and embed our best ideas and evidence	Knowledge and resources of all kinds are accessible, used and shared	What knowledge supported your innovation and where did it come from? What methods could you use to share knowledge to support other QI teams to spread the improvement?
ENGAGEMENT	We need to support mobilisation for improvement across a diverse set of health and social care stakeholders	Everyone with a vested interest, across all levels and roles, has a voice in the improvement team	How are you connecting with people to remind them why the work is needed? How will you help them feel part of the change and have an important role to play?
EVALUATION	We need evidence as to what changes have been made, and when and how they made an impact	Develop plans from the outset to understand how activities, outputs outcomes link and ensuring learning and feedback loops are in place	How do you currently evaluate your QI work? How do you capture feedback from staff, patient, carers and act on your learning?
EMPOWERMENT	We must listen to the experiences and views of people who provide services and people who use services to drive improvement	Hear, listen and respond to the voices of staff, patients and carers when attempting to improve services	How do you engage with staff, patients and carers to hear about their experiences and ideas for improvement? How much are people able to influence the process of improvement work?

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JARGON BUSTER

TERM	DESCRIPTION
Co-create	Describes a decision-making and consultation process that involves those who are impacted upon by any changes processes being included in design.
Conditions for improvement	The things that influence an improvement and its effectiveness, which are in the surroundings but not part of the intervention itself.
Empowerment	The process of increasing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes.
Foundation level	All people working in NHSScotland have ideas that can improve the way things are done. Staff working at foundation level will be functioning as part of a team to improve service delivery in their own workplace.
Group think	A psychological phenomenon that occurs within a group of people, in which the desire for harmony can impact detrimentally on decision making.
Implementation	Active and planned efforts to mainstream an innovation or improvement within a setting.
Knowledge mobilisation	Refers to moving available knowledge from formal research into active use.
Lead level	Staff working at this level will lead improvement teams, and promote and facilitate improvement strategies across their healthcare organisation.
Learning organisation	An organisation in which people at all levels, individually and collectively, are continually increasing their capacity to produce the results they care about – in this context, because they want to help patients.
Micro level	The micro or individual level deals primarily with people's daily actions/interactions
Meso level	The meso or team level deals primarily with group delivery and performance.
Macro level	The macro or organisational level deals with large scale system and policy impacts.
Non-technical skills	The cognitive and interpersonal skills that underpin effective team work.
Practitioner level	Staff working at practitioner level will be leading a team to improve service delivery in their own local workplace.
Situation awareness	Being aware of what is happening around you and understanding how information, events, and your own actions will impact your objectives.
Stakeholder	People with a vested interest and usually impacted in some way by change.
Subject matter expert	A person who is an expert in a particular area or topic. In this case, quality improvement science and practice within NHSScotland.
Systematic	Done according to a fixed plan or system; methodical.