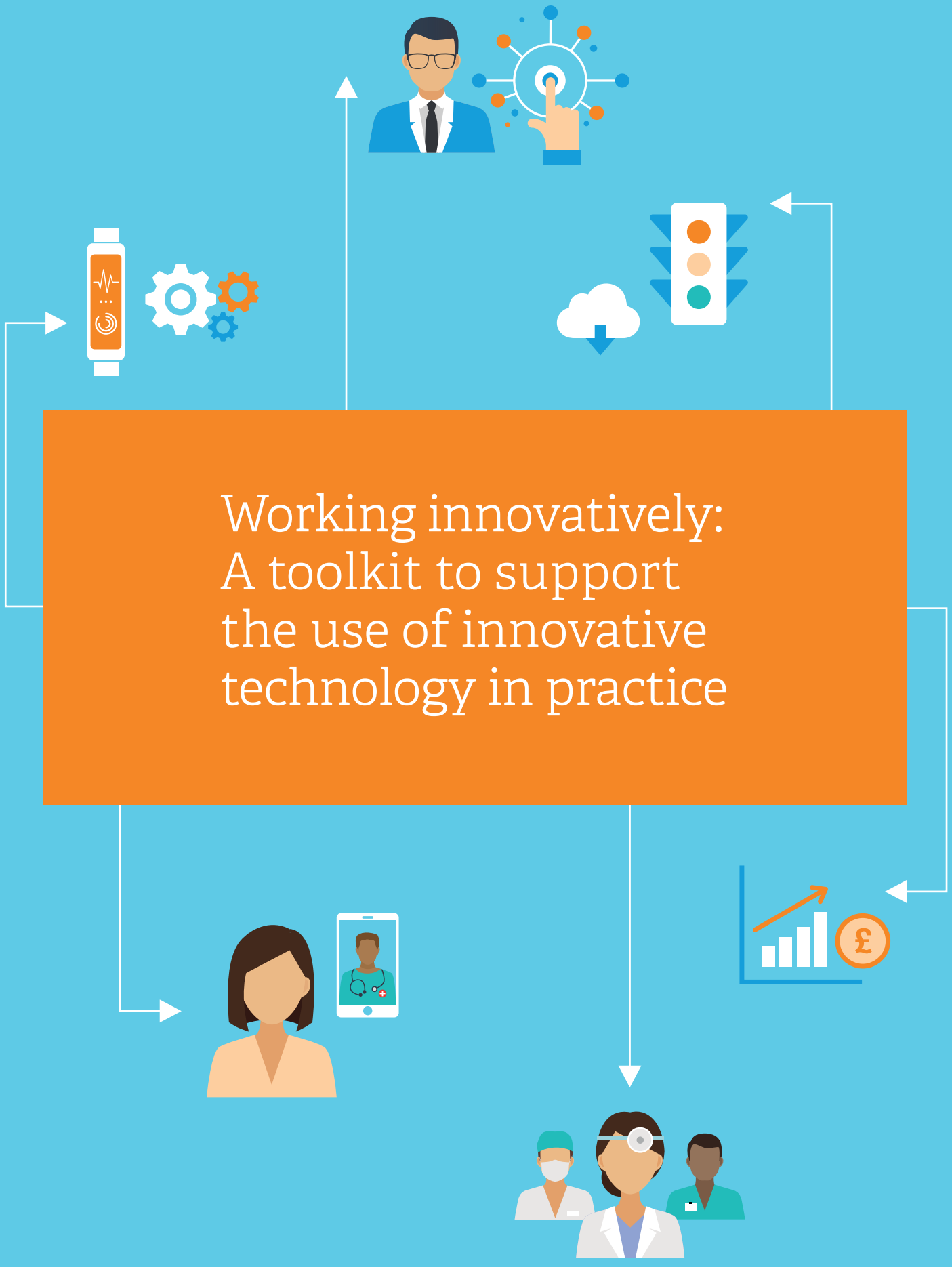


Working innovatively: A toolkit to support the use of innovative technology in practice

Baxter

Contents

About this toolkit

The value of innovation is relatively well understood by policy-makers, NHS leaders and patient groups. However, there is still a challenge in making it a reality and ensuring the effective adoption and spread of innovative technologies across the NHS. The financial and demographic demands being placed on the health service are often overwhelming and are perceived as a major barrier to introducing innovative technologies. However, with the right support, buy-in and momentum, these technologies can play a crucial role in meeting rising demand, improving patient outcomes and reducing costs.

In July 2018 Baxter brought together healthcare professionals for a workshop in Manchester to explore the impact of innovative technologies on patient care and the workforce and the barriers to implementing these technologies in the NHS. This toolkit has been developed in response to those discussions, building on the insights gathered at the workshop and further desk research. It aims to support those on the front line wishing to introduce and spread innovative technologies, with a particular focus on the role of these technologies in shifting care out of acute hospitals and enabling people to self-manage their conditions in a home or community setting.

It is not a step-by-step guide to system integration. Rather, it is intended to support those working on the frontline with tools and resources to understand where innovative technologies may provide solutions to individual and system challenges and to support the introduction and scale of these innovations. Different localities will be at different stages in their thinking about how innovative technologies can be used to improve services so some of the suggested steps and toolkit items will be more relevant and useful to some sites than others.

Toolkit overview

1. Overview: the benefits of innovative technologies in moving care closer to home

2. Understanding how innovative technologies can address healthcare challenges

3. Building a case for change

4. Embedding change

5. Monitoring and scaling innovation

What's next?

1. Overview: the benefits of innovative technologies in moving care closer to home

Healthcare systems around the world are grappling with increasing demand, escalating costs and rising public expectations. As the number of people who require care rises, this places huge pressure on already stretched acute health services. This has led to increased efforts across the NHS to introduce innovative technologies that help shift care out of acute hospitals and enable people to self-manage their conditions in a home or community setting. Self-management is a term used to include all the actions taken by people to recognise, treat and manage their own health.[1] They may do this independently or in partnership with the healthcare system.

Supporting effective self-management through innovative technology represents a promising strategy for treating and preventing complications related to long-term conditions. Innovative technologies can offer opportunities to improve privacy, free up more time for personal interactions, reduce costs, and make it easier for patients to navigate their own healthcare.

Importantly they can help support hard to reach groups. Critically, a number of innovative technologies transform the relationship a patient has with their condition – from a 'sick' to a self-management role where they take control.

Inevitably, there are barriers – both real and perceived – to the introduction and spread of innovative technologies. These include a lack of funding, governance concerns, evidence, technological literacy and capacity. Implementing new technologies will also need to overcome organisational inertia and resistance to change. Once achieved, it requires the spread of knowledge through training both for healthcare professionals and patients.

However, despite these barriers, the benefits of embedding innovative technologies to shift care out of acute hospitals and enable people to self-manage their conditions are considerable.

What do we mean by an innovative technology?

'Innovative' health technologies cover a range of potential solutions to the delivery of care, including digital solutions, diagnostics, medical devices and novel medicines.

The NHS has consistently recognised the value of innovative technologies to help close the gaps in health inequalities, care and quality, and funding and efficiency.[2] It ranges from single devices transforming patients' experience of care, through to large-scale projects which reimagine the way in which treatment is delivered. This includes empowering patients to manage their own health at their convenience. This toolkit is focussed on supporting those looking to roll out innovative medical technologies and digital solutions that change pathways of care.

2. Understanding how innovative technologies can address healthcare challenges

Innovative technologies can play an important role in addressing a range of complex healthcare challenges. Before introducing an innovative technology, it is important to identify where and how an innovative technology can address a specific challenge.

A good method for understanding this is to create a 'problem statement' that sets out the challenge in detail. In the context of the NHS, this could be improving patient care, increasing staff capacity or reducing costs for example. There is no fixed length or format for a problem statement although it is useful if they can be concise and clear to make a convincing case.

Stating the problem in detail makes it easy to identify the key, high-level requirements for the solution and to confidently know which goals the project objectives are supporting. It will also help to identify what innovative technology could help solve the problem.

Where you can find more information:

University of Sheffield, How to write a problem statement: https://www.sheffield.ac.uk/polopoly_fs/1.440722!/file/HowtoWriteaProblemStatement.pdf

NHS Improvement, Affinity diagram tool: https://improvement.nhs.uk/resources/affinity-diagram/

NHS Improvement, Fishbone analysis: https://improvement.nhs.uk/resources/cause-and-effect-fishbone-diagram/

NHS Improvement, 'Five whys' analysis tool: https://improvement.nhs.uk/resources/root-cause-analysis-using-five-whys/

NHS Improvement, Pareto analysis tool: https://improvement.nhs.uk/resources/pareto-analysis/

NHS Improvement, Scatter diagram: https://improvement.nhs.uk/resources/scatter-diagram-correlation/

A good problem statement will:

1

IDENTIFY
the problem

2

DESCRIBE
the part or parts of the organisation impacted by the problem – patients, carers, nurses, the health system etc.

3

IMPACT
Describe how the problem specifically impacts those parts of the organisation and/or how the problem negatively impacts the goals of the organisations.

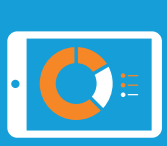
4

KEY QUESTIONS
to ask when identifying the problem include:

- What is broken or not working?
- What evidence demonstrates that patient care is being affected?

- What will happen if we 'do nothing'?
- Why do we need to respond now?

- What is the driver or cause?



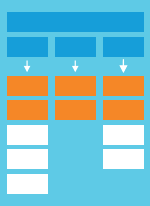
- What is the effect or consequence?

What evidence demonstrates the relationship between the cause and the effect?

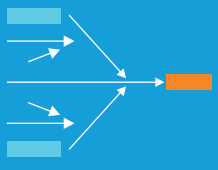
5

There are a number of exercises which can be useful in identifying the problem you want to solve, such as:

An affinity diagram
This will help in brainstorming ideas and/or group them into themes.



A cause and effect (fishbone) diagram
This can be used to visually summarise the findings of the affinity diagram.



A 'five whys' analysis
This will help identify why things are happening. This tool simply involves asking 'why?' several times over. It helps to develop a questioning attitude.

1. 2. 3. 4. 5.

A Pareto analysis tool
This can quickly identify the major causes of a problem.

A scatter diagram
This can be used to study the relationship between two variables. It shows what happens to one variable when the other variable changes.

3. Building a case for change

Once a problem has been clearly understood, it is possible to articulate what the solution can be. In many cases, innovative technologies can play a critical role in solving a problem, whether through changing care pathways or bringing care closer to home. This may require additional resource to be identified and allocated. However, even when the evidence base is strong, this can often be challenging to achieve.

A compelling business case is a critical tool in changing minds and implementing change.

The purpose of a business case in this context is to provide the justification for undertaking additional investment in services or a rethink of how resources are distributed within a local health economy or local organisation. It sets out the costs of investment and the anticipated benefits, offset by identified risks. Budget holders can review the investment priority against other investment proposals. The business case should contain all that is necessary to decide on additional investment.

There are lots of good templates for building a business case. The following is one suggested structure, but the exact structure will depend on an organisation's procedures and priorities.

Where you can find more information:

NHS Digital, Business Case Template: Large Investment: https://digital.nhs.uk/binaries/content/assets/legacy/pdf/i/f/community_working_mobile_template.pdf

Nursing Times, How to write a robust business case for service development: https://www.nursingtimes.net/roles/specialist-nurses/how-to-write-a-robust-business-case-for-service-development/7018842.article

King's Fund and Health Education England, Building a business case: https://kfh.libraryservices.nhs.uk/high-profile-health-libraries/making-the-case-advocacy/building-a-business-case/

Royal Pharmaceutical Society, How to put together a strong business case: https://www.pharmaceutical-journal.com/careers-and-jobs/careers-and-jobs/career-feature/how-to-put-together-a-strong-business-case/11115884.article?firstPass=false

Improvement and Development Agency, Valuing Health: developing a business case for health improvement: https://www.local.gov.uk/sites/default/files/documents/business-case-literature--848.pdf

HM Treasury, Public sector business cases – Delivering public value from spending proposals: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/469317/green_book_guidance_public_sector_business_cases_2015_update.pdf

Suggested structure for building a business case:

1

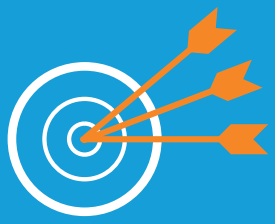
EXECUTIVE SUMMARY

A short summary of the key arguments and rationale

2

OBJECTIVES

Establishing the goals that will be achieved by making the change



3

CURRENT SITUATION

Utilising the problem statement to highlight the need for change or the adoption of a new approach or technology and laying out relevant demographic information

4

OPTIONS APPRAISAL

Setting out a range of potential service and technological options, including impact assessment, benefits assessment, patient experience and outcomes, highlighting the most effective and beneficial solution

7

OTHER SECTIONS

The inclusion of other sections will depend on the context of local services

6

TIMINGS

An expected timeline for delivery including key milestones and a timescale for a return on investment

5

FINANCIALS

An overview of the anticipated cost of introduction and any potential cost savings as a result

4. Embedding change

Getting the green light on a new innovative technology is not the end of the process. Embedding a different system – particularly one using a new piece of technology – into clinical practice can be as hard as getting it adopted in the first place.

Driving change through clinical champions

Delivery is likely to be more successful if the local clinical community supports the change. A key element of growing and maintaining momentum around a new approach is therefore bringing the wider clinical community on board as early as possible.

A passionate clinical champion, with strong credibility and a willingness to 'sell' the innovation to colleagues, partners and patients is essential to the process.

Being a clinical champion means getting out and about in the organisation, letting people know what is going on and telling others about the benefits of deploying an innovative technology.

Below are key considerations that clinical champions should have in mind at the outset of any innovation change project.

Key considerations for clinical champions:[3]

1

GAIN BUY-IN

How to gain buy-in to the implementation plan

2

WORK WITH CHANGE

How to work with change managers to ensure services are able to adapt to the new ways of working

3

BENEFIT OWNERS

How benefit owners within affected services can own the realisation of benefits

4

ENGAGE PATIENTS

How patients can be engaged to create standard operating procedures to ensure deployment is successful

5

MEET REQUIREMENTS

How to ensure policies and procedures are in place that meet security and operational requirements

6

TRAINING

How training and deployment can support the innovation

Supporting key stakeholders to understand and implement change

Enthusiasm for change can be difficult to maintain. If people are regularly dropping out of meetings or not doing the things they committed to doing, the momentum of the project may decline. However, there are ways to keep the momentum going.

Understanding stakeholders is vital to this. Stakeholders are any people who will be affected by the project, directly and indirectly. In clinical engagement terms, the stakeholders are all those clinical staff who will be affected by the project.

Sometimes it may be required to communicate with staff who do not have clinical roles but whose work has a direct impact on clinical care such as ward clerks, secretarial staff, clerks and coding staff. The below classification put forward by NHS Improvement can be a useful guide. It was originally created for industry but has useful parallels for grouping stakeholders in healthcare.[4]

Using the '9 Cs' to establish stakeholders:

1

COMMISSIONERS:
those who pay the organisation to do things

2

CUSTOMERS:
those who acquire and use the organisation's products

3

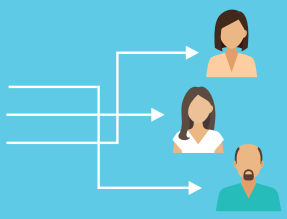
COLLABORATORS:
those with whom the organisation works to develop and deliver products

4

CONTRIBUTORS:
those from whom the organisation acquires content for products

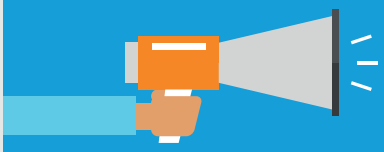
5

CHANNELS:
those who provide the organisation with a route to a market or customer



6

COMMENTATORS:
those whose opinions of the organisation are heard by customers and others



7

CONSUMERS:
those who are served by our customers, i.e. patients, families, users

8

CHAMPIONS:
those who believe in and will actively promote the project

9

COMPETITORS:
those working in the same area who offer similar or alternative services

These stakeholders should be prioritised in terms of power, influence and the extent to which they are affected by the project or change.

Once stakeholders have been identified and prioritised, it is possible to plan how to engage with them.

The findings from the questions below compiled by NHS Improvement can be can be used to devise a communications plan and a briefing note for stakeholders.[5]

Questions to ask in this context include:

1

FINANCIAL OR EMOTIONAL INTEREST

What financial or emotional interest do they have in the outcome of your work? Is it positive or negative?

2

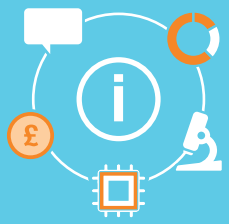
MOTIVATION

What motivates them most of all?

3

INFORMATION

What information do they want from you?



4

COMMUNICATING

How do they want to receive information from you? What is the best way of communicating your message to them?

5

CURRENT OPINION

What is their current opinion of your work? Is it based on accurate information?

6

INFLUENCERS

Who influences their opinions generally and who influences their opinion of you? Do some of these influencers therefore become important stakeholders in their own right?

7

WINNING SUPPORT

If they are unlikely to be positive, what will win them around to support your project?

8

MANAGING OPPOSITION

If you don't think you will be able to win them around, how will you manage their opposition?

9

OTHER STAKEHOLDERS

Who else might be influenced by their opinions? Do these people become stakeholders in their own right?

Getting training needs right

Training is critical. It should be provided to all staff interacting with a new innovation before it is introduced, alongside real-time support once it is in place. As systems become easier to use, training needs for routine use should subside.

It takes time to fully implement roles that require training or re-training. It is important not to assume that someone taking on a new role will immediately be working at the same capacity as those who have traditionally carried out the role.

Trained staff should be on hand to assist during any transition to a new innovation. It is also important to put in place an ongoing training plan for new starters and locums and ensure any new roles are continually monitored. It is easy for those who take up extended roles to feel unsupported and not use some of the new skills they may have developed, even with training.

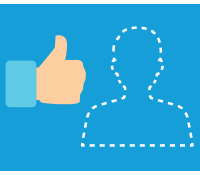
To encourage support for staff, it is important to:[6]

1. Assess the workforce: identify who does what in the current process

2. Identify where new roles may be needed or where a role must be amended

3. Ensure that other potential solutions are considered and why role redesign is the best option

4. Agree opportunities for new or redesigned roles that could be developed with additional skills or training

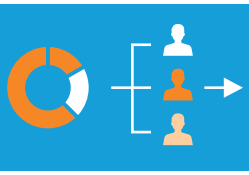


5. Define protocols and guidelines that will allow a wider range of professionals with the appropriate skills to provide the appropriate care

6. Agree a training and development plan

7. Work with staff to understand how new ways of working can be sustained in the longer term

8. Agree an action plan for initial testing of the new roles and then more widespread implementation



As well as workforce training, training for patients and services users should be considered. A good example of an analogous training programme is the Expert Patient Programme.

Further information on patient training can be found in the additional information links.

Four key principles to encourage changes[7]

1

MAKE IT EASY:
Small details that make a task more challenging or effortful can make the difference between doing something and putting it off – sometimes indefinitely

2

MAKE IT ATTRACTIVE:
Attracting attention and incentivising behaviour are important for prompting people to behave in a new way and maintain behaviour change

3

MAKE IT SOCIAL:
People are social creatures. We are influenced by what those around us do and say, often more than we are consciously aware of

4

MAKE IT TIMELY:
The same offer or 'prompt' to change behaviour made at different times can have different effects

Where you can find more information:

NHS Improvement, Action planning: https://improvement.nhs.uk/documents/2188/develop-your-action-plan.pdf
NHS Improvement, Responsibility charting: https://improvement.nhs.uk/resources/responsibility-charting/
NHS Improvement, Bullet-proofing: https://improvement.nhs.uk/documents/2145/project-charter.pdf
NHS Improvement, Stakeholder analysis: https://improvement.nhs.uk/resources/stakeholder-analysis/
NHS Improvement, Communications Matrix: https://improvement.nhs.uk/resources/communications-matrix/
NHS Employers, Managing staff through change: http://www.nhsemployers.org/~/media/Employers/Publications/Managing%20staff%20through%20change.pdf
NESTA, Supporting self-management: A guide to enabling behaviour change for health and wellbeing using person- and community-centred approaches: https://media.nesta.org.uk/documents/rtv-supporting-self-management.pdf
Self-management UK: https://www.selfmanagementuk.org/
NHS Improvement, Role redesign: https://improvement.nhs.uk/documents/2155/role-redesign.pdf
Behavioural Insights Team, EAST, Four simple ways to apply behavioural insights: https://www.behaviouralinsights.co.uk/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf
NHS Digital, Mobile Technology Investment Toolkit: https://digital.nhs.uk/services/mobile-technology-investment-toolkit

5. Monitoring and scaling innovation

The process does not end when an innovative technology has been implemented. An investment in a programme of organisational change may be needed to make sure the innovative technology becomes embedded in practice. This requires a culture that is receptive to change and an environment where all staff feel empowered to spot opportunities to improve.

Once the change is fully implemented, it is important to monitor it to ensure the original aims and benefits are being realised - with new ways of working continuing rather than the old ways being reverted back to.

Producing a highlight report for everyone involved in the innovation at regular intervals is useful in keeping the project team updated on progress. Sharing learnings – both good and bad – with colleagues and other departments also helps the organisation make the most out of learning from the experience of completed projects.

Investment in analytics may be needed to learn effectively from data collected in clinical and non-clinical systems. This is likely to improve operational and clinical processes as well as population management and treatment optimisation. This may not be a quick or cheap solution, but the potential for long-term gain is enormous. It should be considered as part of the business case.

The following are key considerations healthcare professionals should have in mind when monitoring and scaling the delivery of an innovative technology.

Where you can find more information:

NHS Institute for Innovation and Improvement, Managing the human dimensions of change: Personal and organisational development: http://www.qihub.scot.nhs.uk/media/162203/human_dimensions_of_change.pdf

NHS Improvement, Lessons learnt: https://improvement.nhs.uk/documents/2128/lessons-learnt.pdf

Delivery considerations for scaling an innovative technology

1

ONGOING BENEFITS

How to ensure on-going benefits management of the change with the appropriate governance

2

MAXIMISE

How to maximise internal communications

3

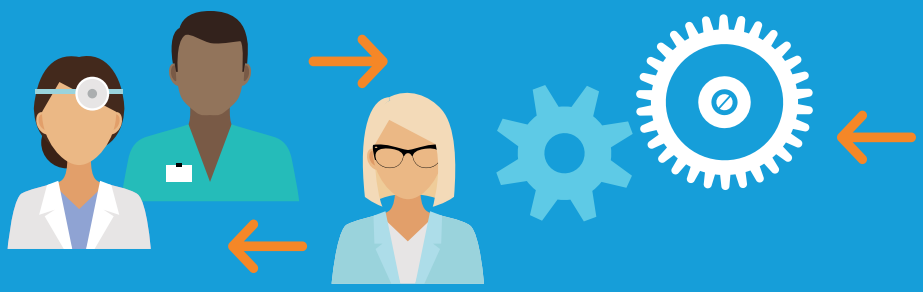
PERFORMANCE

How performance will be reviewed on a regular basis

4

STAFF INPUT

How to ensure staff input and collaboration



7

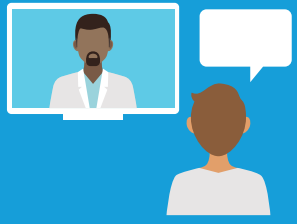
OWNERSHIP

How to embed operational ownership

6

TRAINING AND SUPPORT

What training and support is required



5

MONITORING

How does the innovative technology need to be monitored to ensure that it meets safety and assurance criteria

Case studies: moving care closer to home through innovative technologies

Case study: myCOPD[8]

Chronic obstructive pulmonary disease (COPD) is a long-term respiratory condition (most commonly chronic bronchitis and emphysema) that is among the top five causes of death, leading to 24,000 deaths a year. It is also the second most common cause of hospital admissions with direct NHS healthcare costs of £800 million. As COPD has no cure, effective symptom management is essential.

myCOPD is a web-based application accessible on almost any device that connects to the internet. It is a self-management programme that helps patients manage their condition more effectively, through education, symptom tracking, inhaler technique coaching and pulmonary rehabilitation, 24-hours a day. It also enables clinicians, local healthcare providers and CCGs to access a dashboard to monitor and manage their patients remotely at an individual and population level, monitor exacerbation burdens in real-time and review potential inequalities in healthcare to plan support services effectively.

Launched in January 2015, and joining the NHS Innovation Accelerator in July 2015, myCOPD has proven to correct 98% of patient inhaler errors without clinical involvement, doubled the rate of recovery from acute exacerbations, provided the same outcomes as class-based pulmonary rehabilitation classes, improved patient symptom scores and reduced time in delivering the annual review by 50%.

A CCG with an average COPD population of

5,000

patients would expect to make savings in the first year alone of over

£200,000

To-date myCOPD is being used nationally with CCGs, hospitals, community teams and primary care. All are delivering myCOPD to patients who are newly diagnosed with COPD, patients being discharged from hospital, patients at their annual review and for those unable to attend class-based pulmonary rehabilitation.

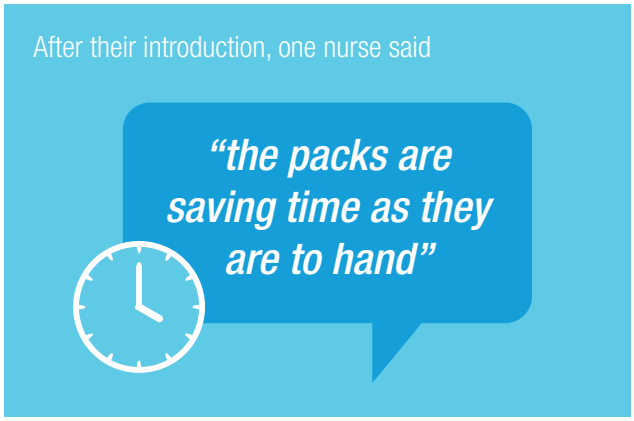
Case study: Sepsis packs[9]

Wirral University Teaching Hospital NHSFT sought to change how they approached the assessment and treatment of sepsis.

During a sepsis training session, it was agreed that sepsis packs should be made available on triage trolleys.

Each pack would contain blood culture bottles, routine blood bottles, IV cannulation packs, venous gas sample bottles and the current sepsis pathway. They would be made up by the clinical support workers that re-stock the triage trolleys and they would be stored in a sepsis box in the triage areas.

These were adopted by the Emergency Surgical Assessment Unit (ESAU) and the Ambulatory Care Unit (ACU).



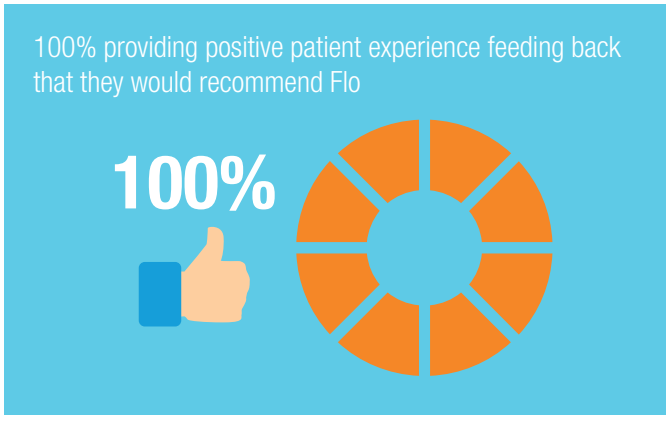
One deputy sister said "due to the sepsis packs our awareness to recognising and treating sepsis has intensified".

Case study: Enabling supported self-management of wound care[10]

Supporting citizens to be a more active partner in their care is part of a national, regional and local strategy for quality and sustainability of the NHS, acknowledging the impact that patients can have on their own health care if supported, educated and enabled to self-manage. By focusing on improving patient adherence, clinical outcomes can improve at a faster rate.

Pennine Care Adult Community Nursing Services identified opportunities to promote self-management in the wound care pathway, utilising persona based text-messaging technology (Flo) to provide support and extend best practice self-management guidance to patients in between direct face-to-face contacts. Flo offered previous evidence of supporting clinically driven behavioural change in patients to improve their clinical outcomes, the methodology of which could be realistically applied locally.

Commencing in Summer 2015, the first patient experiences and outcomes were evaluated with 100% providing positive patient experience feeding back that they would recommend Flo.



Service capacity was created by a 53% reduction in required nursing contacts for those patients supported via Flo, enabling the team to focus on more complex patients. No unplanned visits were required, supporting safe practice. Staff reported positively regarding the revised care pathway, appreciating the support that Flo offered with improvements to the patient experience. Staff felt it released more time to care and improved their job satisfaction.

What's next?

We hope that this toolkit has inspired you and given you some of the tools you will need to implement change in your own organisation to support the spread on innovative technology.

Below are some additional resources we hope you will also find useful:

Advancing Quality Alliance, A Sense of Urgency, A Sense of Hope: Building a culture and system for continuous improvement: https://www.aquanw.nhs.uk/resources/a-sense-of-urgency-a-sense-of-hope-building-a-culture-and-system-for-continuous-improvement/63006

King's Fund, Adoption and spread of innovation in the NHS: https://www.kingsfund.org.uk/sites/default/files/2018-01/Adoption_and_spread_of_innovation_NHS_0.pdf

NHS England, Change Model Guide: https://www.england.nhs.uk/wp-content/uploads/2018/04/change-model-guide-v5.pdf

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- Gina Riley, Acting Divisional Nurse Director, Watersmeet Health Centre
- Dr Tracey Vell MBE, Associate Lead - Primary Care and Community Care, Greater Manchester Health and Social Care Partnership

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