NHS
Bradford Teaching Hospitals
NHS Foundation Trust

NIHR | Yorkshire and Humber Patient Safety Research Collaboration

Six steps to de-implementation: A toolkit for leaders

About the authors:

The tool kit development team included researchers and public contributors (health care staff). The researchers consisted of de-implementation experts, behavioural scientists, health service researchers, and research nurses based at the Yorkshire and Humber Patient Safety Research Collaboration. The centre has substantial experience of de-implementation research.

Terms and conditions of use

By downloading these materials you agree that if you use the Six steps to de-implementation: A toolkit for leaders

- You will use it to support staff and improvement initiatives at your local organisation.
- You will provide feedback on your de-implementation initiative via the Case Studies link in Step 6.
- You will not use the toolkit materials for commercial purposes.
- You will not share the toolkit materials directly with third parties, and shall instead direct third parties to this website.

Funding:

This work is funded by the National Institute for Health and Care Research (NIHR) Yorkshire & Humber Patient Safety Research Collaboration (PSRC). The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

Document navigation

Six steps to de-implementation

Learn More

Further reading

Share your success

Icons:

Things you need to find out

Examples

Helpful tips

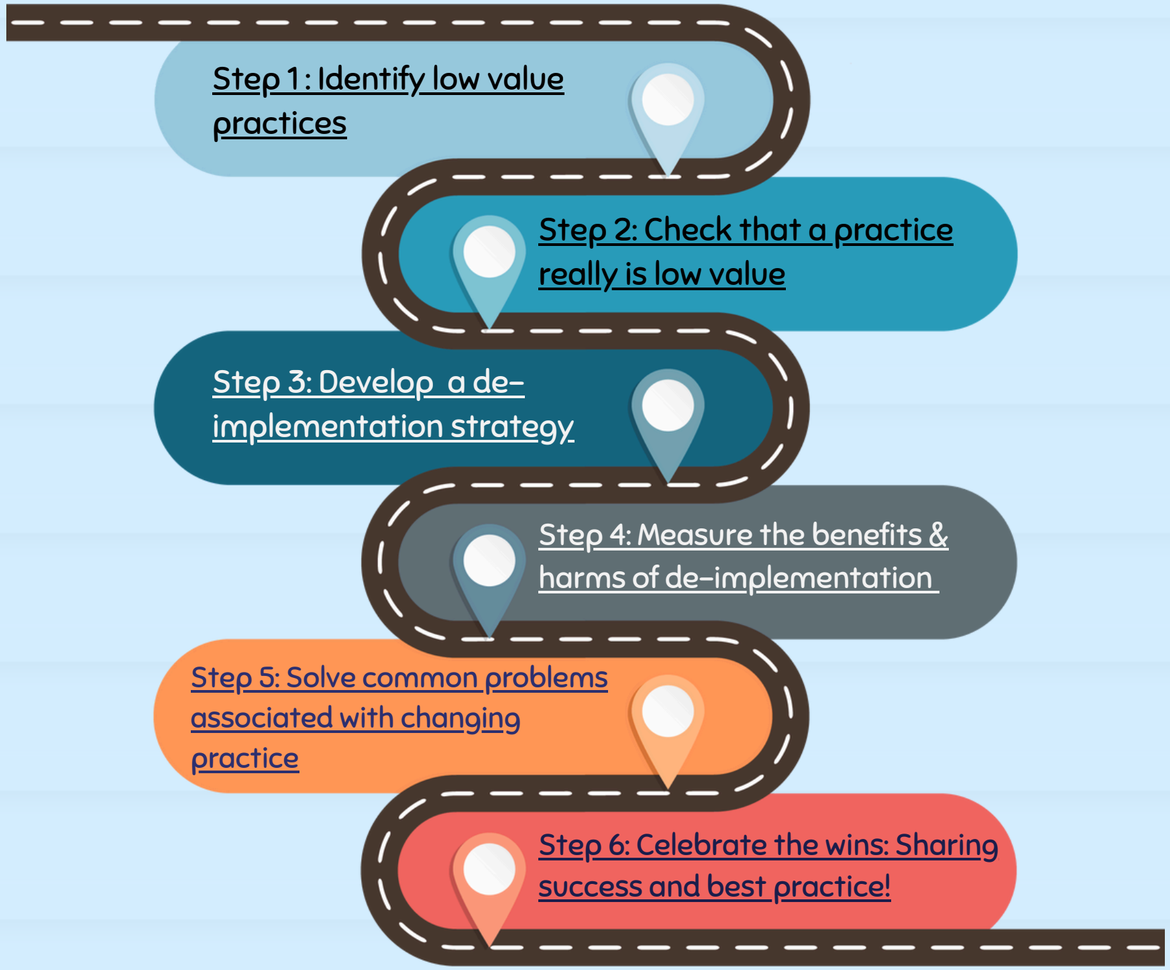
Learn More

Six steps to de-implementation: A toolkit for leaders

This guide is a resource to help you streamline the care you provide so that it reflects best practice. The toolkit will enable you to identify and safely reduce or stop low value practices using an easy-to-understand, **six-step plan based on current evidence.**

We will begin by helping you understand how to identify and prioritise the low value practices you want to reduce or stop. We will then guide you through planning a strategy to reduce or remove it: a process known as ‘de-implementation’.

- Click **step 1,** If you want to **identify** practices for de-implementation.
- Click **step 2,** If you have **already identified** the practice



What are low value practices? Why are they a problem?

Low-value practices are tasks that have little or no evidence to support their benefits for patients and/or staff. These practices are often referred to as “low value care”. Almost a third of routine health care is of low value.

Low value practices can:

- use money and resources that could be used elsewhere
- create unnecessary work for staff
- cause delays
- harm patients

When we identify processes or tasks that are not essential to good care, there are often reasons why people want to keep doing them.

Example:

Double-checking medicines can help nurses feel less anxious about making a mistake when administering medicines to patients. However, there is no evidence that double-checking reduces medication errors.

De-implementation is the process of ***removing, reducing, restricting, rethinking or replacing*** low value practices. Strategies for de-implementation need to consider:

- the practice
- the practitioner
- the patient
- the wider context

Where do low value practices come from?

1 Identify low value practices

First, check the national guidelines – for example, Choosing Wisely campaigns or NICE 'do not do' recommendations. If there are no nationally defined practices that are known to be low value, use the questions below to speak to your team, and/or to patients.

Questions to use with staff to help them identify low-value practices:

- What practices are a waste of time?
- What practices do you often have to do that don't benefit patients?
- What practices do you find yourself often working around?
- What practices are duplicated?
- What practices are you required to do more frequently than is necessary?

Questions to use with patients to help identify low-value practices:

- What part of their care do they find frustrating or annoying?
- What part of their care is done repeatedly?
- What are the practices they don't see a reason for?

Examples from 'do-not-do' guidelines

- Anti-convulsants for the management of core symptoms of autism in adults.
- Using risk assessments to predict future suicide or the
- repetition of self-harm.
- MRI for the routine investigation of psychosis.

Examples from staff

- Double-checking medication.
- Intentional rounding.
- Application of falls risk assessments to all patients.
- Enhanced/1:1 observations in mental health settings.
- Physical restraint.
- Antibiotic prescribing for viral infections.

2 Check that a practice really is low value

You don’t want to stop doing something that is actually important according to the evidence, so now is the time to check:

- Consider involving your hospital librarian or information specialist and/or quality improvement team to help review the evidence, and consider whether there are likely to be any negative or unintended consequences for patient health or safety if you remove, reduce or replace the identified practice.
- Find out what others are doing, and make sure that any practices that are perceived to be low value (perhaps because they are repeated or duplicated) can be removed without affecting vital back-up systems or processes.

You can use the De-implementation Decision Grid (DDG) to help you think about next steps.

Some systems and processes are put in place to prevent errors and ensure patient safety when primary systems fail (for example, repeated patient identification checks). These are called vital redundancy

What if there is no evidence?

If there is no evidence of effectiveness for a practice, but it happens regularly and is valued by staff, then restricting, reducing or replacing it might be a better approach than stopping it.

When considering the evidence, here are some questions you should ask yourself and your team:

- Do most people agree that the practice is low value?
- Do some people disagree? If so, why?
- Does the practice have emotional value?
- To whom is the practice low value? (To staff, patients, and/or society in general?)
- Does the evidence say that the practice is effective or ineffective, or is there no evidence either way?
- Why is the practice effective/ineffective?

Use De-implementation Decision Grid (DDG)

Where to start?

Start your de-implementation journey with practices that are on the left-hand side in the DDG. If you have more than one practice, you will need to prioritise.

To prioritise the de-implementation, choose practices that tick many of these boxes:

- Practices that take up a lot of staff time
- Practices that are carried out frequently
- Practices that have the potential to increase inequalities in care
- Practices that take staff away from patient care
- Practices that could cause patients harm or make their experience of care poor

3 Develop a de-implementation strategy

There are three main stages to consider when developing your de-implementation strategy:

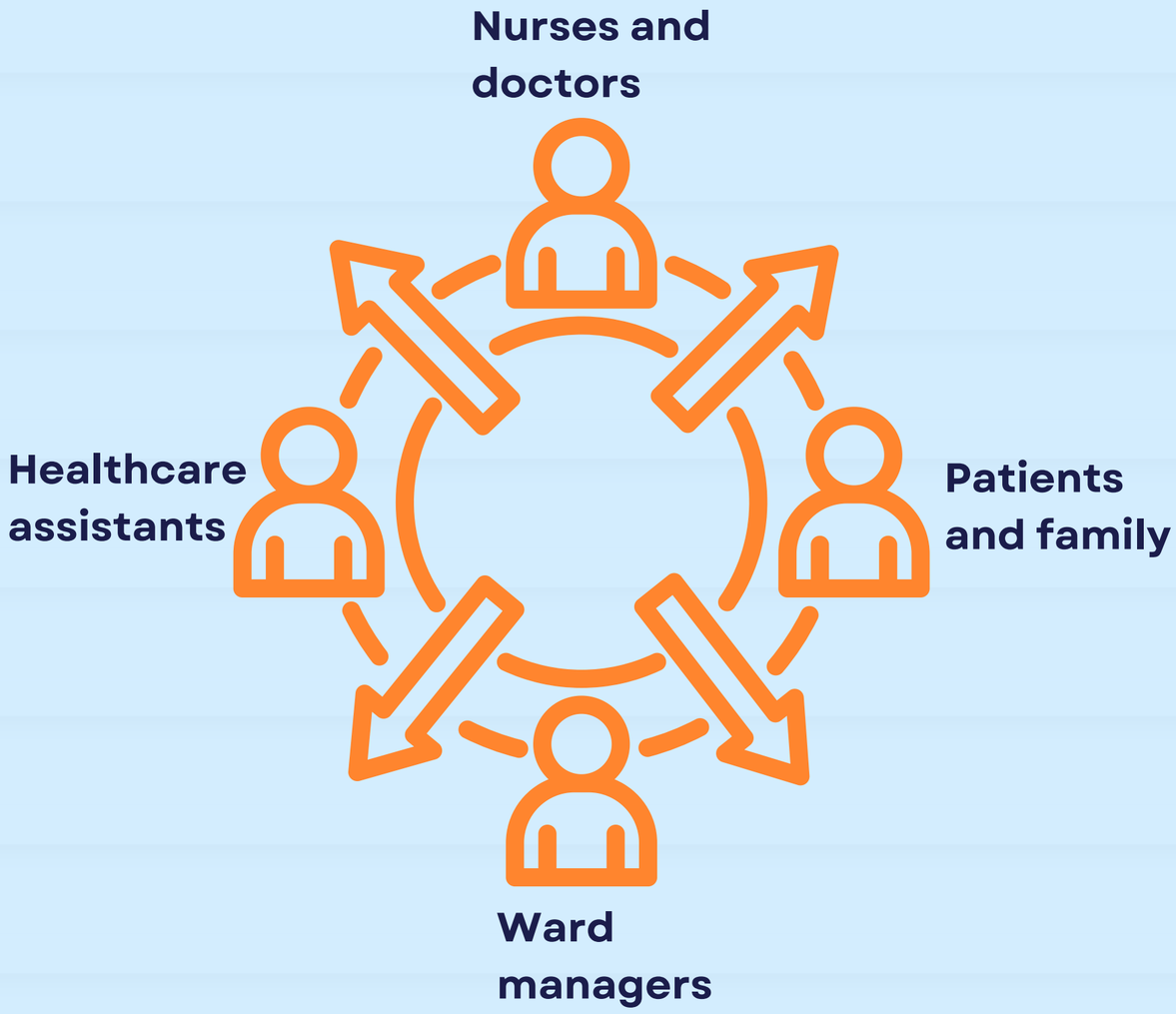
Stage 1: Identify your stakeholders
Stage 2: Identify their beliefs about low value care
stage 3: Create strategies

Stage 1: Identify your stakeholders

Think about who might have an interest in the practice you are trying to de-implement. They will include managers and staff associated with the practice, and patients/their advocates.

Example:

In a recent project aiming to reduce the double-checking of medications in hospitals, we found that staff from minoritised ethnic groups and from overseas were particularly concerned about reducing this practice because they felt more likely to be blamed or disciplined after a patient safety incident.



3 Develop a de-implementation strategy

Stage 2: Identify the beliefs and behaviours that sustain low value practices

The following questions will help you to consider the features and value of the behaviour that you are trying to de-implement, and what the challenges might be to changing people's behaviour. Knowing this is important for developing strategies that are likely to work well.

How to use Behaviour Change Theory

Thinking about the people who carry out the practice, find out:

- Is it protocol/policy/technology-driven?
- Is it easy to perform this practice? Or does it make the job easier?
- Are patients and other staff encouraging the practice?
- Do people have a strong belief that this is the right thing to do (because they perceive it as good care for reasons of safety, patient outcomes, or professional role)?
- Is it emotionally charged?
- Is it habitual?
- Does the practice continue because people do not have the skills and knowledge to do things differently?

3 Develop a de-implementation strategy

Stage 3: Work with stakeholders to create strategies to remove, restrict, reduce, replace or rethink the practice

We often think that changing behaviour is easy. If we tell people what to do, provide some information or guidance, they will do the ‘right’ thing. However, our behaviour is influenced by many things – for example, what other people do or want, whether something is easy to do, our feelings, our habits. The science of behavioural change theory can help here.

The **behavioural science reading resources** at the end of this guide will explain how behaviour change works, and give examples of its use in de-implementation. This will help you to think about what to focus on in your strategy.

You may have access to internal teams who can offer advice or help to deliver your chosen strategy – for example, an Improvement Team or a Safety Team.

If de-implementation of your chosen practice needs changes that are outside your control – for example, nationally mandated training for healthcare professionals – it is important to involve the right external stakeholders, such as policymakers, regulatory bodies, and organisational governance teams.

How to develop a de-implementation strategy

4 Measure the benefits and harms of de-implementation

It is critical that de-implementation is beneficial and does not increase harm to patients. You therefore need to choose relevant measures to evaluate the effectiveness of your de-implementation strategy. These measures must take account of the outcomes the de-implementation is designed to achieve, but also any potential negative or unintended consequences.

Ask stakeholders to help you identify evaluation measures. You can use:

Outcome measures to assess the results of de-implementation and its impact on patients.

Process measures to explore how systems and processes work to deliver your outcomes.

Balancing measures to check whether de-implementation has caused any unintended consequences.

You might also want to measure upfront and ongoing costs and savings. For this you can use 'unit costs' of health and social care: examples of unit costs are an hour of a nurse's time, or the cost of a specific medical test. This way, you can consider both upfront and ongoing costs – for example, staff time for training, and time and resources spent on developing new guidelines/protocols. Find out more about unit costs.

Providing results and feedback:
Agree intervals for collecting and reviewing data – for example, a weekly review for six weeks. Feed back to staff in weekly briefings and ask for their reflections on the de-implementation process. This will help to:

- sustain staff engagement and motivation
- develop evidence as part of the change process
- support continuous, data-based decision-making
- enable repeated use of the de-implementation strategy in a way that minimises potential risks and maximises the chances of success and sustained change

5 Solve common problems associated with changing practice

However well your de-implementation strategy is planned and executed, it is highly likely that issues will arise that you may not have predicted in advance. Common issues include:

- **People:** Staff may resist the change for many reasons. These might include not understanding the risks of continuing a low value practice or the benefits of stopping it tack of trust, or fear of losing a practice they value.

- **Resources:** Adequate practical and emotional resources are necessary for change. A culture of frequent, rapid change with limited perceived benefit and staff involvement can reduce staff's emotional resources or motivation to support de-implementation.

- **Planning:** A well planned strategy is important, but needs to have enough flexibility to accommodate unanticipated factors. For example, a specific contextual issue you were not aware of in the planning stage might mean that the de-implementation strategy or timeline needs to be revised.

How to use a model for improvement

6 Celebrate the wins: Sharing success and learning

Celebrating success should focus on helping staff understand what the benefits of de-implementing the practice are for themselves and for patients. The exact form of celebration is entirely at the leader's discretion – perhaps ask for ideas from the team.

To help share your success and best practices with others across the world, please create a record of your de-implementation in the Case Study Template provided in the link below:

De-implementation of low-value care: Case studies

We will use your contribution to build a library of case studies to help and inform other clinical leaders as they develop strategies for removing low value care.

Where does low value care come from?

When making changes or improvements, humans tend to add new things. They rarely take things away. This means that over the years, we introduce new practices without removing the old. This can become overwhelming for staff, leading to box ticking, ‘taskification’ and workarounds that can actually undermine the quality of patient care. It is much easier to avoid introducing low value practices in the first place than to de-implement them later (see Reading resources). So when you do an audit, develop a set of recommendations or implement changes or improvements, ask yourself the following questions:

- Is there potential for this to do more harm than good?
- Is it evidence based?
- Should I evaluate the impact before it becomes formal policy?

Using the De-implementation Decision Grid (DDG)

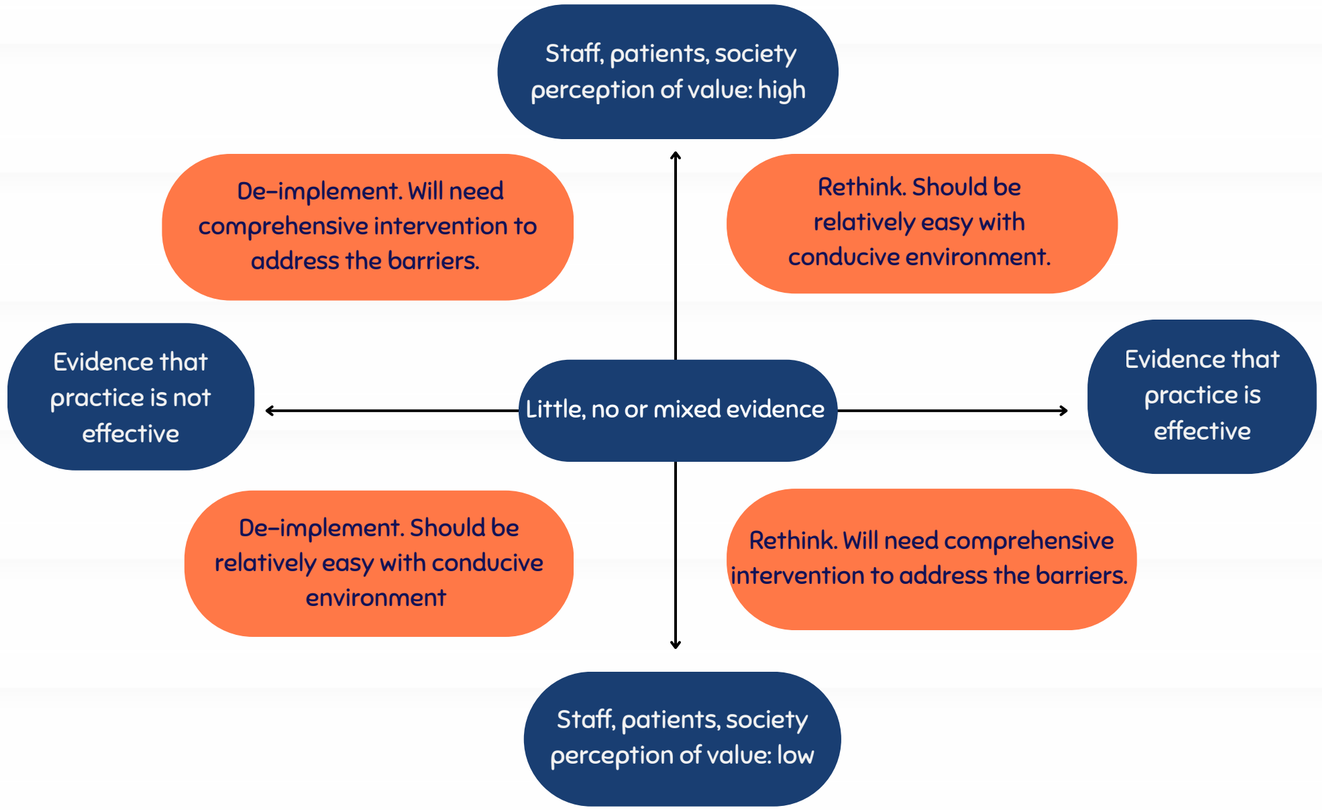
The De-implementation Decision Grid (DDG) is a useful tool to identify which practices are a priority for de-implementation.

There are two things to consider when you want to de-implement a practice:

- the strength of evidence for the practice
- the importance of the practice to staff or patients

To plot your practice on the grid, think about where to position it in relation to the evidence (on the horizontal line) and its emotional value (on the vertical line).

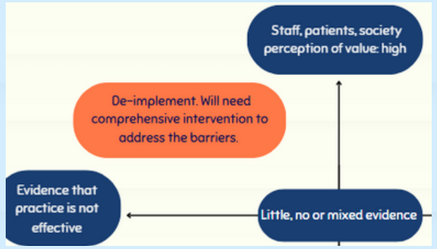
If your practice falls to the left of the DDG, de-implementation is likely to have benefits.



The four quadrants of your decision grid

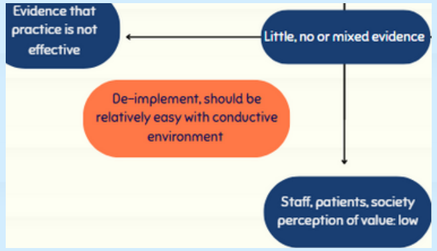
Quadrant 1 (top left):

Practices that fall in this quadrant should be ***reduced, removed, replaced or restricted***. They have limited value for patients (according to the evidence), but they may be valuable to staff, patients or society at large. This means that you will need to focus on making changes to staff perceptions, behaviours and/or resources to reduce or stop the practice. *An example is the double-checking of intravenous medication during administration.*



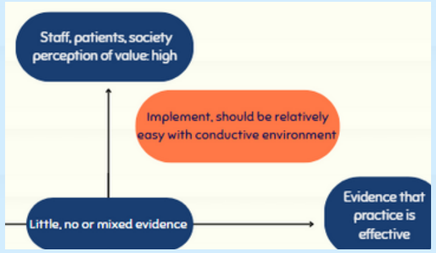
Quadrant 2 (bottom left):

These practices should be easier to remove because there is evidence that they are not effective, and that they don't have value for patients or society at large. Changing policy (so that these practices are no longer required) and raising awareness about the practices not being necessary might be enough to ***help staff stop***. *An example is the use of physical or pharmacological restraint in mental health settings.*



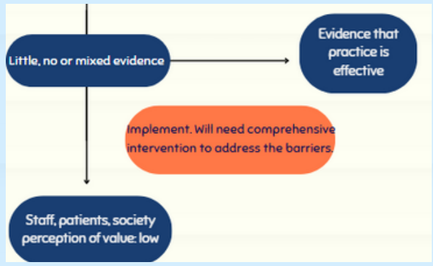
Quadrant 3 (top right):

These are generally practices that are of high value, and that are perceived as such by staff. However, they may not be implemented consistently, which can reduce their value. Here, the most appropriate action is to ***rethink*** and make sure that the resources and support necessary are in place to support these practices. *An example is providing asthma plans for people with asthma.*



Quadrant 4 (bottom right):

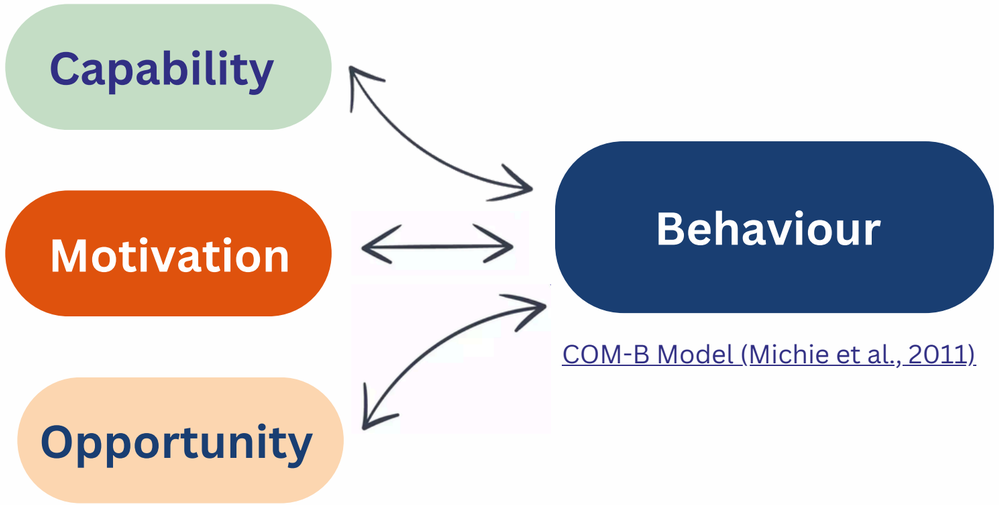
These practices are of high value according to the evidence, but for some reason they may not perceived as such by some staff or teams. The best approach here is to find out why these practices are perceived as low value and ***rethink*** these reasons. You might need to focus on changing 'hearts and minds' to make implementation successful. *Examples include the use of the surgical checklist or the sepsis bundle.*



Behaviour Change Theory

The COM-B framework is a well established, evidence-based psychological framework that can help identify the factors sustaining a practice. It is based on three concepts related to behaviour: ***Capability***, ***Opportunity***, and ***Motivation.***

The **COM-B Table** on the following slide shows you how the questions from **Step 3: Stage 2** map on to the concepts from the framework.



COM-B Model (Michie et al., 2011)

Example:

The practice of routinely using large incontinence pads for older patients on hospital wards is not always beneficial to patients. However, when staffing levels are poor and patients are frequently in need of the toilet, and where incontinence pads are in ready supply and there is no requirement to record their use, it is more likely that the practice will continue because the ***opportunity*** is there. If a nurse doesn't know or have the right skills to manage incontinence, they are likely to carry on doing what they usually do because they don't have the ***capability*** to take the most appropriate action. If nurses are fearful because they think patients are likely to fall when they try to get up and use the toilet, they are less likely to be ***motivated*** to reduce the use of large pads.

COM-B Table: Step 3 questions mapped on to COM-B concepts

Is it protocol/policy/technology-driven?	Opportunity
Is it easy to perform this practice? Or does it make the job easier?	Capability
Are patients and other staff encouraging the practice?	Opportunity
Is it emotionally charged?	Motivation
Do people have a strong belief that this is the right thing to do?	Motivation
Is it habitual?	Motivation
Does the practice continue because people do not have the skills and knowledge to do things differently?	Capability

Choose the right strategy for de-implementation

There are many ways to help stop or reduce the use of outdated or low value practices. As seen in the **Example De-Implementation Strategies Table** on the next page, these can include changing protocols, providing staff training, setting limits on access, and adjusting the environment to support new ways of working. It is also helpful to model the desired behaviour, give people the tools they need, and create a culture that supports change.

Other helpful strategies include using education and persuasion to shift mindsets, offering incentives or rewards, and sometimes applying pressure to stop old habits. In some cases, people may need support to ‘unlearn’ previous ways of working.

Choosing the right mix of approaches can make it easier for individuals and teams to let go of practices that no longer add value.

Example De-implementation Strategies Table

Example practices	Example intervention strategies
Q1: Is it protocol/policy/technology-driven?	
Electronic health records or prescribing systems require that two nurses sign off to confirm that they have both checked a medicine.	Restructure the physical environment by changing the electronic health record so that two nurses are not required to add their signature to show that they have double-checked the medicine.
Local policy requires completion of a falls risk assessment for everyone over the age of 65.	Change the policy to allow for assessment for only those people aged 65 or more who are frail or whose medicines or clinical condition are more likely to make them fall.
Q2: Is it easy to perform this practice? Or does it make the job easier?	
Routine use of large incontinence pads instead of helping patients with their toileting needs, to save time.	Share knowledge in a training video or other medium about the consequences of using large pads for patients (such as pressure sores, loss of continence, loss of dignity). Restructure the physical environment by making it more difficult to access large pads or to require an extra step to use them. Consider how you can influence staffing levels to enable staff to practice better management of incontinence.
Ordering nasogastric x-rays because it is easier than doing a pH check to check the correct positioning of a nasogastric tube.	Making the behaviour more difficult to perform can help to de-implement it, for example by requiring an additional step or sign-off. To reduce the use of x-rays for checking the position of a nasogastric tubes, radiographers in one Trust refused to do an X-ray check if there was no evidence that a pH check had been carried out first.

Example De-implementation Strategies Table

Example practices	Example intervention strategies
Q3: Are patients and other staff encouraging the practice?	
Patients asking for an antibiotic prescription for a viral infection. Staff request observations of patient behaviour when not clinically necessary to manage their own anxiety about potential self-harm incidents or fear of blame.	Provide information/educational content about health consequences of antibiotic overuse to staff and patients. Provide social and structural support; senior staff role-model the appropriate use of observations; agree and reinforce agreed criteria and parameters for the use of clinical observations; include reminders about appropriate use of observations in observation records.
Q4: Do people have a strong belief that this is the right thing to do?	
Non-sterile gloves use during patient appointment. Speech and language therapists stopping thickened fluids for patients with a problematic swallow.	Information about health consequences: Staff are trained in the correct and appropriate use of non-sterile gloves. Restructuring physical environment by restricting access. Substitution: Where staff feel uneasy or perhaps experience cognitive dissonance because they have long held beliefs that something needs to be done, offering an alternative or substitute practice may be appropriate. Graded task: The gradual reduction of something and monitoring of the outcome over time.

Example De-implementation Strategies Table

Example practices	Example intervention strategies
Q5: Is it emotionally charged?	
CT scans for children after minor head trauma.	Substitution: If the practice avoids people (staff and patients) experiencing anxiety or fear about what might happen then staff need strategies to cope with this if the practice is going to be removed. Substitution with an alternative practice may sometimes be appropriate. Coping strategies: Safety Netting – the doctor might ask the parents to bring the child back if specific symptoms occur.
Stopping prescriptions of preventative medicines where risks outweigh the benefits, for example in people with limited lifespans (e.g. advanced dementia, end of life care). Note: Fundamentally, a culture that supports staff and patients following incidents and avoids blame is essential. Defensive practices are related to fear of blame and many of these represent low-value care.	Graded task: The gradual reduction of something and monitoring of the outcome over time. Encouragement and support, particularly from senior clinicians or managers, can also help to reduce staff anxiety. This could include daily discussion during morning rounds/safety huddles.

Example De-implementation Strategies Table

Example practices	Example intervention strategies
Q6: Is it habitual?	
Continuing physiological observations for people who are fit for discharge/going home.	Prompts can be used to interfere with or interrupt the usual behaviour. Social support: daily evaluation/discussions during morning rounds/safety huddles.
Nurses just 'doing' for patients, unrequested – personal care such as shaving, putting socks on.	Nurse education about the benefits of encouraging/enabling patient independence and risk of creating dependence.Patient education or instructions on how to perform the behaviour. Explore with staff the reasons for 'doing for' – for example, it could be part of their professional value system, which drives the behaviour.
Q7: Does the practice continue because people do not have the skills and knowledge to do things differently?	
Assessing appropriate time to remove indwelling catheter after surgery.	Rehearsal of new skills required to do the new thing, or modelling of behaviour by others.
GPs lacking sufficient experience and skills to negotiate reduced opioid prescribing for people with long-term (chronic) pain.	Instruction on how to perform a behaviour.

Useful tips when developing your de-implementation plan

Use behaviour substitution	Replacing an unwanted practice with a more appropriate alternative can be an effective way to encourage lasting change. This technique allows staff to maintain a familiar routine while adopting evidence based alternatives.
Reduce a habit	If a person does an action without thinking (for example, brushing teeth) it can be quite difficult to stop the practice. You might need to think about reminders, cues or other prompts that you can put in the environment. For example, change the proforma that the staff member usually completes, and rehearse the new practice a few times.
Unlearning practices	If people have a strong belief in what they have been doing and it has become part of their value system (for example, part of what they think makes them a good healthcare professional), being told that they can no longer do it can cause resistance, and they will continue with the practice.
Combine multiple strategies	A multi-faceted approach that includes strategies such as education, staff training, and support through leadership may be more effective than single interventions. Combining strategies increases the likelihood of sustainable change.
Provide reassurance	Staff may feel uncertain or even resistant when asked to stop doing something they have been trained to do or believe benefits patients. Communicate clearly that de-implementation is a gradual process and provide space for questions and discussion.

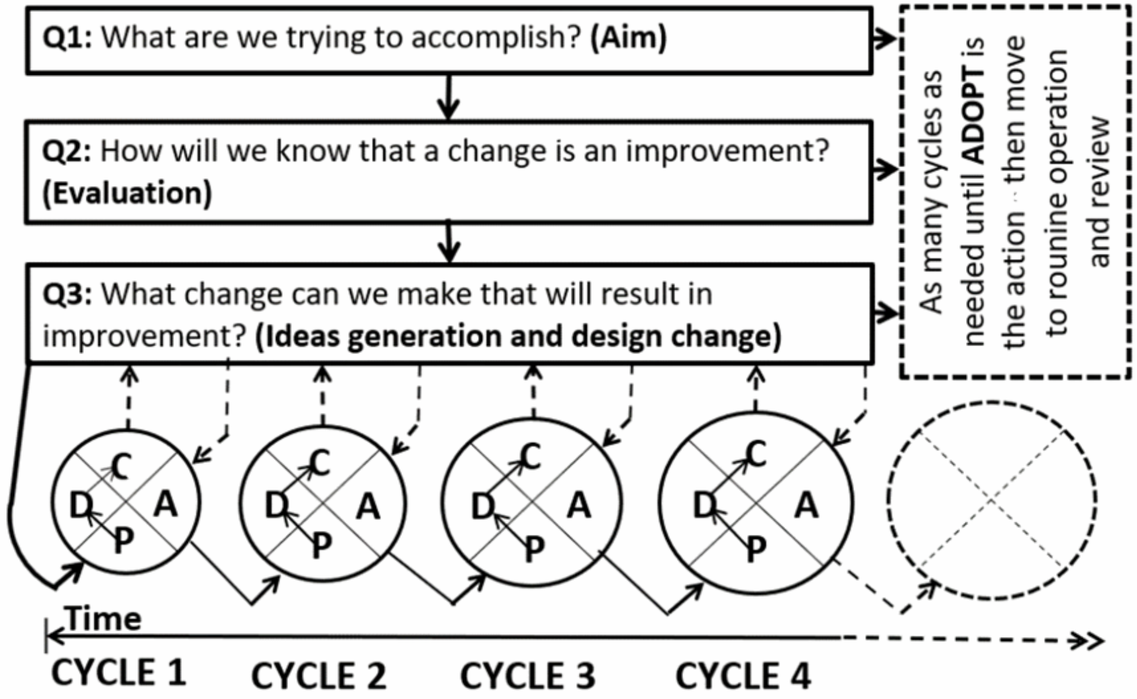
Useful tips, continued

Engage patients in the process	Patient involvement is useful when low value care persists because of patient expectations or demands, and when trying to influence staff, as they can reassure staff that they support letting go of the practice concerned. Educating and involving patients can help align their understanding with evidence based practice and enable them to support appropriate de-implementation.
Foster staff and patient interaction	Sometimes educating patients is not sufficient to drive change. Interaction between the patient and staff in the form of shared decision-making can facilitate open communication. This empowers patients to take an active role in their care by discussing options and understanding risks and benefits.
Promote equity	How might your de-implementation strategy address potential inequities between staff and/or patients? You may need to address this when you explore the origins of a low value practice, or when you consider your stakeholders, or in the potential outcomes of your de-implementation (see Reading resources).
Provide continuous feedback	Related to the point above, if staff and patients can see the benefits of the change (through data) or personal impact (i.e. more time to spend with patients/on other important tasks), they are more likely to feel that it is OK to let go of the practice (see section below on measuring the benefits and harms).

Using a Model for Improvement

Langley et al's Model for Improvement (see Reading Resources) is widely used in healthcare to support safe, systematic, data-driven change in practice – specifically the Plan Do Check Act (PDCA) element of the model (sometimes known as Plan Do Study Act, or PDSA cycle).

The colleagues you are trying to influence may already be familiar with this model, or have previous experience of using it. Measuring the effects (benefits and harms) of the change being implemented whilst simultaneously recognising and addressing barriers or problems along the way are an integral part of this model. The diagram on the right provides an explanatory version of the original model that you may find useful.



Explanatory version of the Model for Improvement (Janes and Delves-Yates, 2022).

Reading resources

Do-not-do list/Choosing Wisely :

- Garner S, Littlejohns P. Disinvestment from low value clinical interventions: NICEly done? BMJ. 2011;343:d4519. doi: 10.1136/bmj.d4519.
- Levinson W, Kallewaard M, Bhatia RS, Wolfson D, Shortt S, Kerr EA, et al. 'Choosing Wisely': a growing international campaign. BMJ Qual Saf. 2015;24(2):167–174. doi: 10.1136/bmjqs-2014-003821.

Using behaviour change models

- Michie S., van Stralen M.M. and West R. (2011) The behaviour change wheel: a new method for characterising and designing behaviour change interventions. Implementation Science. 6:42. doi:10.1186/1748-5908-6-42
- French S.D., Green S.E., O'Connor et al. (2012) Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework. Implementation Science. 7:38. doi.org/10.1186/1748-5908-7-38
- Michie S., Atkins L., and West R. (2014) The behaviour change wheel: A guide to designing interventions. Surrey: Silverback Publishing
- Taylor, N., Lawton, R., Slater, B., & Foy, R. (2013). The demonstration of a theory-based approach to the design of localized patient safety interventions. Implementation Science. 8:1-14. doi.org/10.1186/1748-5908-8-123.

Unlearning practices

- Helfrich C.D., Rose A.J., Hartmann C.W. et al. (2017) How the dual process model of human cognition can inform efforts to de-implement ineffective and harmful clinical practices: A preliminary model of unlearning and substitution. Journal of Evaluation in Clinical Practice. 24:198-205. doi:10.1111/jep.12855.

Reading resources

Where does low value care come from and why is it a problem?

- Rae A., Provan D., Weber D.E. and Dekker S.W.A. (2018) Safety clutter: The accumulation and persistence of ‘safety’ work that does not contribute to operational safety. Policy and Practice in Health and Safety. 16(2):194-211. doi.org/10.1080/14773996.2018.1491147

Promoting equity

- Helfrich C.D., Hartmann C.W., Parikh T.J. and Au D.H. (2019) Promoting health equity through de-implementation research. Ethnicity & Disease. 29(1):93-96. doi:10.18865/ed.29.S1.93

Solving common problems/Model for Improvement

- How to Improve: Model for Improvement | Institute for Healthcare Improvement – A fundamental guide to the origins and application of The Model for Improvement
- Janes G., Delves-Yates C. (2023) Quality Improvement in Nursing | SAGE Publications Ltd – A practical guide to applying the Model for Improvement through every stage of the improvement process, with examples of support application by healthcare staff in their own practice contexts.
- Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. (2009) The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd edition). San Francisco: Jossey-Bass Publishers.