NHS Education for Scotland

Quality Improvement in Primary Care:

What to do and how to do it

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QI Tools

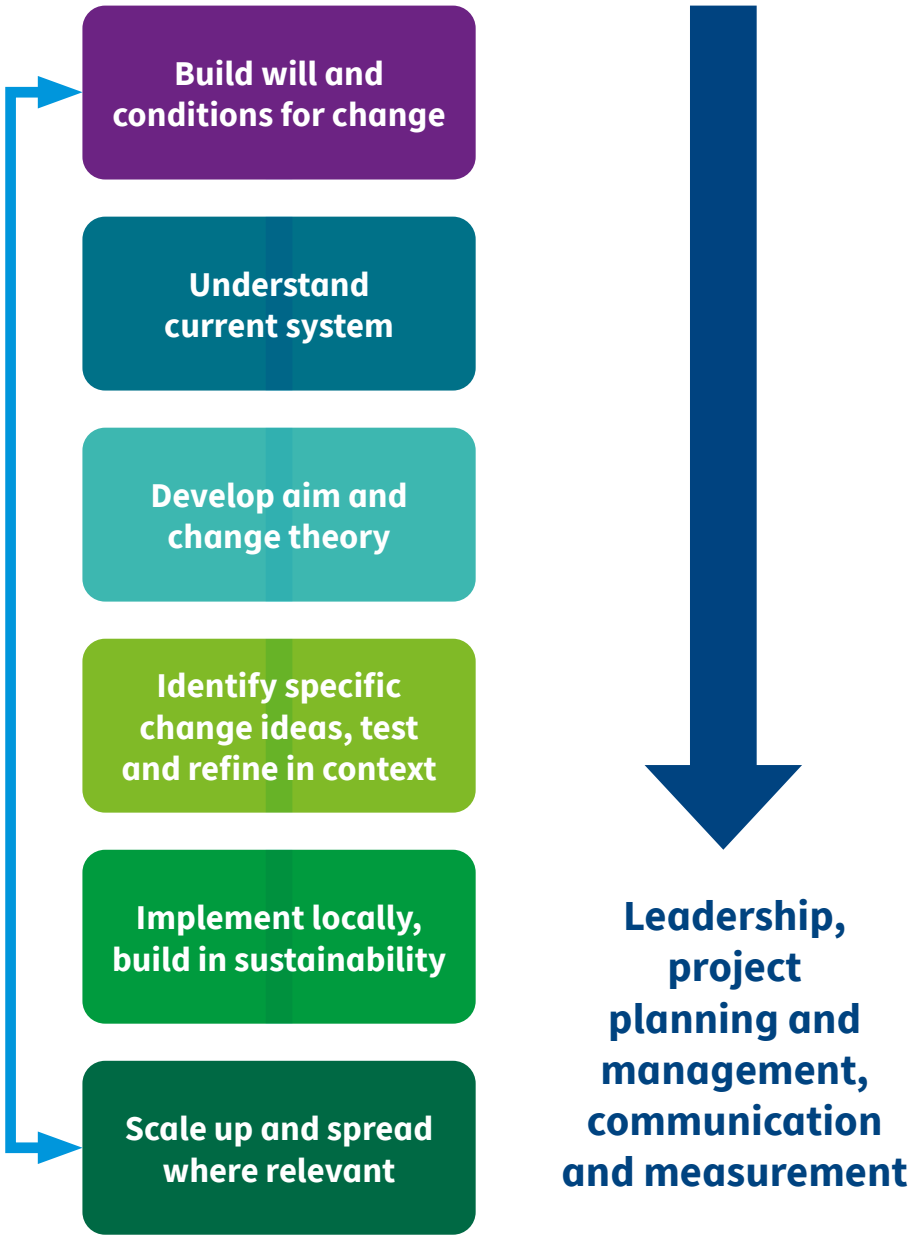
Ensuring patients receive care that is safe and of high quality is an essential part of modern healthcare. To help with this, there are growing numbers of evidence-based Quality Improvement (QI) methods that can help practitioners to assess and improve the care they provide. QI involves adopting a systematic approach that uses specific techniques to reflect, evaluate and improve care quality. However, for many, the experience of QI has often been felt to be "audit for audits sake" or a huge amount of work in an ever-increasing workload.

To make things easier, this resource describes several QI methods that will be useful for all members of the primary care team, including GP specialty trainees, who wish to better understand and apply QI thinking and tools more effectively. It will also be helpful in supporting the wider goals of GP Quality Clusters in Scotland and the Scottish Patient Safety Programme. Similarly, application of these methods also provides important evidence of QI activity within medical appraisal, specialty training and continuing professional development more generally for clinicians and managers alike.

Many GPs and others equate QI with only audit. If done properly audit remains a very useful QI method but there are a variety of methods that can be used to assess different problems and drive improvement. Understanding these methods (which are generally less complicated than most practitioners think) and knowing which are better suited to a particular problem is useful. Most methods, when properly understood and applied, do not require significant time investment and can potentially improve efficiency, effectiveness and safety of care processes. As GP Quality Clusters become more established understanding how different methods can be used to drive improvement in different areas of practice is essential.

It is hoped this is a guide that will support not only GP trainees but clinical educators, appraisers, qualified practitioners and other healthcare managers and support staff to plan and successfully complete QI projects.

How to use this resource: the QI journey



Your Quality Improvement journey involves a number of stages from agreeing your topic and getting buy-in to implementing and spreading change.

This resource describes and provides worked example of **QI methods** that provide a series of steps that need to be followed systematically to evaluate current care and implement changes as part of the improvement journey. You may wish to read the pages related to the QI method you are using, or compare different methods to choose the correct one for you.

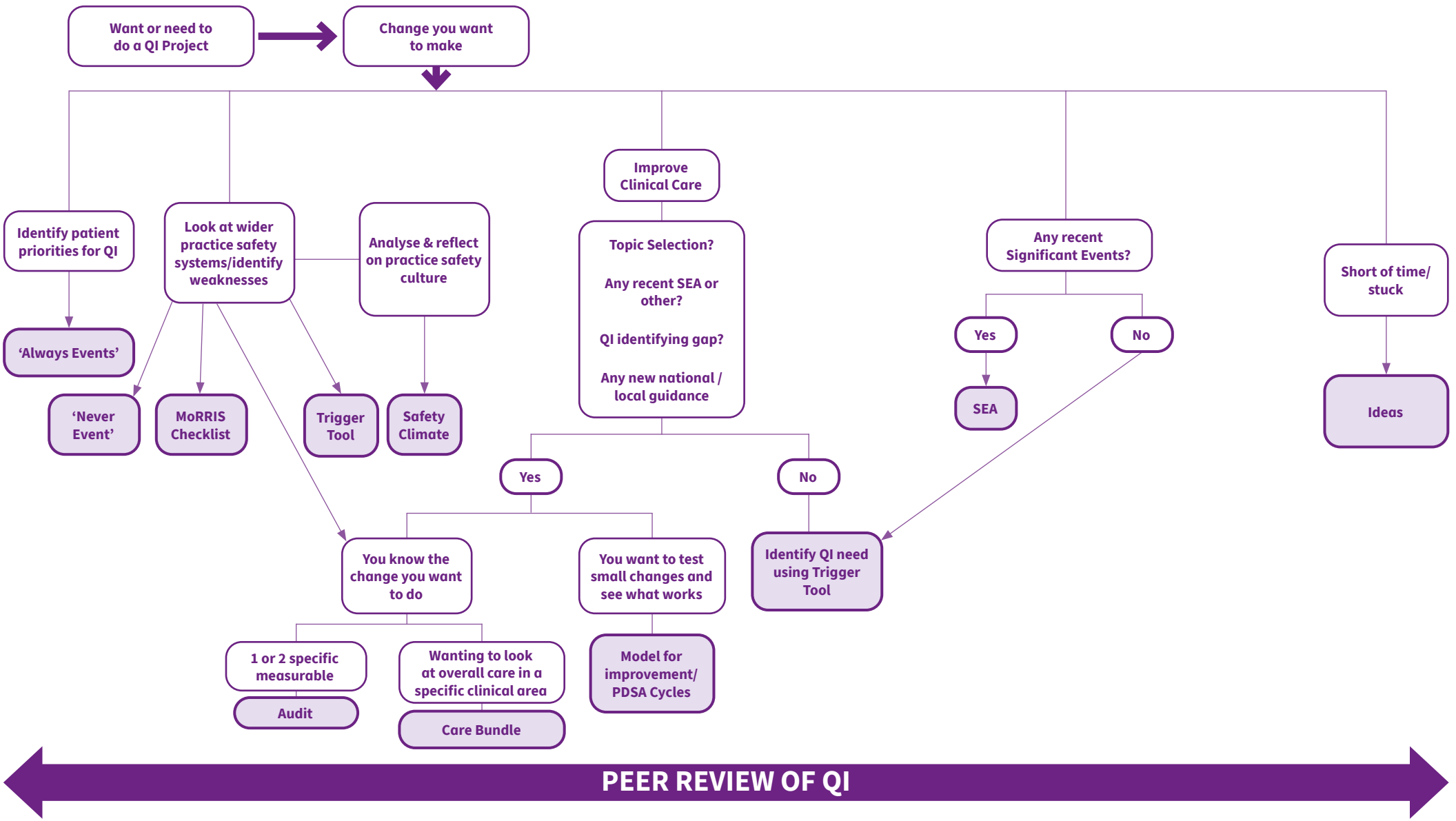
QI tools that support one (or more) of the stages of the QI journey are also included with worked examples. These can be used at each stage of your project or applied if you are stuck or need some help at a specific stage.

By combining the QI methods and tools in this resource to implement change, you can demonstrate leadership and teamwork.

If you are stuck for ideas, there is a flowchart that may help you choose a successful method and an ideas page.

We have compiled a list of Top Tips that are applicable to all QI activities. The Tips are based on the educational and research experiences and findings generated by the NES safety and improvement team over many years. Thinking through each of these will hopefully reduce some of the common pitfalls of undertaking QI. We would strongly recommend that you carefully read these through to gain related understanding before embarking on any QI project.

What Method do I choose?



*Note: this flowchart is a simplified guide, to help members of the primary care team identify different methods to use. It does not define the only ways these methods can be used, many of them can be used across the different domains. For example, all methods play into improving practice safety culture and PDSA and care bundles are often used together.

Need some help? QI tools to aid success

How do I choose a QI topic?

Stuck for ideas: Ideas page

Choosing from a number of ideas:
Prioritisation matrix

How do I involve the team?

Who do I need to involve?
Influence/Impact matrix

Getting buy-in:
Force Field analysis

Understanding the system:
Process mapping

Understanding why people work the way they do: STEW

What can we change?

What are the current problems?
Fishbone diagram

What areas of the current system can be improved?
Process mapping

What changes can help achieve aim?
Driver diagram

How do we implement changes?

Testing small changes:
PDSA cycles

Design of effective procedures

1. Identify and agree the issue for improvement

The topic chosen can come from reflection on your practice. For example, something that has gone wrong or ways to reduce your everyday work hassles? They can come from patient feedback. Numerical data can provide ideas. For example, how do aspects of the care you provide compare to other GPs in the practice or other practices in your cluster? Analysis of prescribing data may provide ideas for improvement and can be obtained from various sources (ISD, SPIRE, STU, prescribing advisers, local searches). Changes in guidance at a national or local level may provide ideas for change. Education may identify evidence that has changed. Joint learning with other practice (for example using Practice Based Small Group Learning) may identify aspects of care you can improve. If you are still stuck – there are some examples in the ideas page.

2. Involve as many relevant team members as possible

A common reason why projects fail to demonstrate improvement is because time has not been taken to involve the whole team at the outset. Patient care relies on input from multiple people within the practice, all of whom need to be on board with the project. The whole team should agree the topic is important and be convinced there is a need for improvement otherwise there is no point in moving forward.

3. Choose an adequate but manageable sample size

Sample size will be dictated by the method used; for example, PDSA cycles require several small samples. It will also be dictated by the time you have available, and the topic on which you are focusing. For example, a care bundle sample size will depend on the underlying clinical area: one on Disease Modifying Antirhematic Drugs (DMARDS) may include all the patients in the practice given the comparatively small numbers involved, while one on diabetes may need to take a sample of the patient population. If you are interested, further information on sample size can be found here.

4. Collect only relevant data

One common pitfall in QI projects is not sticking to the precise aims or measurements that were agreed at the start. Collecting extra data may be interesting (e.g. past medical history) but does not add value and can unnecessarily increase the workload of the project and cause confusion. Before starting, agree specific, relevant, logical measures with the team that are directly related to the QI aims. This directs what data will be collected and should explicitly demonstrate if there has been an improvement after an intervention or otherwise.

5. Consider how your improvements will be sustained

There is no point in successfully managing change and showing an improvement in care within the practice if it cannot be sustained in the long run. This is one of the most common feedback issues from NES when conducting peer review of audit and Significant Event Analysis reports. Crucially, this needs to be thought through at the start of the project. If a proposed change is too complicated for the practice to realistically continue at the end of the project there is no point in instituting it. Alternatively, if education is the only improvement intervention (for example, by telling people they need to learn something) initial improvement in compliance may not be sustained. This point ties in with wider team involvement – if team members don't "buy in" to what change is needed, why and how the improvement will be implemented, then the proposed change will not be sustained.

6. Consider sharing results

Sharing QI results is about informing wider system change rather than individual performance, characteristics or behaviour. Excellent QI work is being carried out in practices throughout Scotland, the results of which could help other practices to improve how they work and care for their patients. You may wish to share your completed QI project through your GP cluster or registrar group. It is highly likely to be relevant to them too, even if it is not immediately apparent to you.

Be SMART when agreeing objectives and measures

All QI projects should have SMART objectives which are:

- **S**pecific
- **M**easurable
- **A**chievable
- **R**elevant
- **T**ime limited

In the Model for Improvement, an **aim statement** is created that often takes the form of:

> Increase x by y% by z date in line with specific guidance/evidence/local need

When performing criterion based and care bundle audit, **criteria and standards** when put together generate SMART objectives.

> Criterion Patient who have x condition will receive y treatment
>
> Standard: We will reach z% by a specified date

This is a crucial area for successful QI as, if you get it wrong, it can make data collection difficult and comparison between data collections invalid. This can make it difficult to determine if the changes implemented (your hard work) have resulted in improvement. We see many projects like this where the objectives and measures are not SMART. Spending a bit of time at the planning stage agreeing SMART objectives and measures is time well spent.

Methods to generate SMART aims

While QI methods such as Learning Event Analysis, Trigger Review method and Always Events can on their own lead to change, these methods can also generate SMART objectives that require a different QI method. For example, an idea for an audit can be generated from a Learning Event Analysis.

How to make aims SMART

Proposed aim	Comment and possible improvement
To improve the management of asthma	Not specific consider: Patients under the age of 16 with asthma should have received a written asthma action plan within the last 12 months and this should be recorded in their notes in accordance with Asthma UK. Standard: 70% within the next year Dependent on your practice, you may consider a lower standard to make this achievable.
80% of patients attending for diabetes reviews should be happy with their care	Not measurable consider: Care enablement scores following diabetes reviews will be increased by 5% for Dr X over the next 12 months. You would have to also consider if this was achievable and relevant.
Patients should be seen at their designated appointment time	Probably not achievable consider: Patients should be seen within 15 minutes of their designated appointment time. You may wish to consider adding a target and time frame for achieving this when setting the standards (e.g. 90% of patient within 3 months).

Proposed aim	Comment and possible improvement
Within one year, 90% of patients requesting a routine diabetic review will be seen within 24 hours	Not relevant consider: Patients with diabetes will have been offered a review within the last 12 months. Standard – 95% aim to achieve within the next 12 months.
90% of patients with previous MI will be on the following medication: ACE, antiplatelet, beta blocker and statin	Not time limited consider: By (a specific date) 90% of patients with previous MI will be on the following medication: ACE, antiplatelet, beta blocker and statin.

From SMART to SMARTS

It has been suggested that in quality improvement an **S for sustainable** could be added so that at the start of a project you consider, not only the objectives, but also about the sustainability of improvements. For example consider the following aim.

> Patients on azathioprine should have their UE and LFT checked within the last year. Our standard is 90% and we wish to achieve this within 3 months.

If your objective is to be achieved and sustained then this requires more than a catch up project to contact patients and get them in for bloods. This requires developing a recall system, nominating a person to run this and regular audit to ensure the objective is being met.

Measurement plan

Aims define numerically the overall objective of the QI project. Measures specify exactly how you will collect and analyse data to determine if you reach your aim and if other unexpected outcomes arise.

Three types of measure are commonly considered:

- Outcome measures – links to the aim of the QI project
- Process measures – things that have to happen to achieve the desired outcomes
- Balancing measures – to determine if there are unexpected consequences elsewhere

Your goal is improvement not measurement so only measure what is needed for improvement.

When project time scales are short, it is often necessary to use process measures but you should consider how these will link to outcome measures.

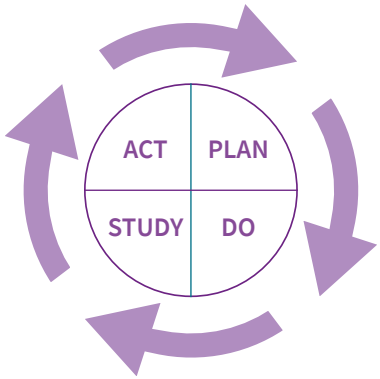
Outcome measure	Process measure	Balancing measure
Percentage of patients with diabetes who have an HbA1c in the last 12 months below agreed target	Percentage of patients who have had a diabetes review in the previous 12 months Percentage attendance rate at diabetes review appointments	Time until next free diabetes review appointment

Method 1: MODEL FOR IMPROVEMENT/PLAN-DO-STUDY-ACT (PDSA) CYCLES	
What is a PDSA cycle?	It is a simple tool used to accelerate improvement within organisations. It has two parts. First there are three fundamental questions that drive improvement: • What are we trying to accomplish? (Aim) • How will we know that a change is an improvement? (Measurement) • What changes can we make that will result in an improvement? (Changes) The second part is the implementation of change through Plan-Do-Study-Act (PDSA) cycles which test changes in a real world setting to determine if the change is an improvement.
Why would you choose this?	This is a QI method that allows you to test changes quickly in real world settings and test if the change is an improvement.
What is it useful for?	• It is a **prospective** method that allows the testing of ideas to see if they work in the real world before wider implementation.
What is it not useful for?	• If you know the change that needs to be made then measuring impact through audit may be simpler. • If a change has already been made, then other methods may be better to measure impact.
Who can do/lead it?	Anyone who understands the method – it needs a full team to contribute to answering the questions and PDSA cycles.

How do you do it?

Having identified the issues you want to improve:

1. Agree your aim which should be Specific, Measurable, Achievable, Relevant and Time limited (SMART).
2. Directed by your aim, you then establish your measures. These could include outcome, process and balancing measures.
3. Generate ideas if changes that can be tested. Many QI tools can help such as process mapping, Fishbone diagrams, Implement using PDSA cycles to try to achieve your aim.



PDSA cycles

These are a practical way of testing change in real life setting. They allow frequent, small changes to be evaluated for their effectiveness.

Plan - first plan the intervention (who needs to do what and by when), what you will measure and predict what will happen.

Do – Carry out the change – monitoring or capture feedback on what happens including unexpected events.

Study – Measure and analyse the impact of the intervention. Were your predictions correct? If not, why?

Act - if successful, consider testing elsewhere or scaling or spreading change. If not successful, consider what you can test next (adopt, adapt or abandon).

By implementing small tests of change (e.g. with a few patients) you can quickly test different changes in different settings.

Successful changes can then be tested at a larger scale and successful projects can be shared with other relevant areas of the health service.

Who else does it involve?	All relevant members of the team should contribute to setting aims, measures and designing and testing change.
Top Tips	• All normal Top Tips for QI apply here. • Define the aims as specifically as possible. • Break your improvement plan into manageable chunks. • A PDSA cycle cannot be too small, but it can be too big. • A PDSA cycle should be rapid – implementation should take from minutes to a maximum of a week. • Learn from small tests that don't work.
Further Info	Model for Improvement

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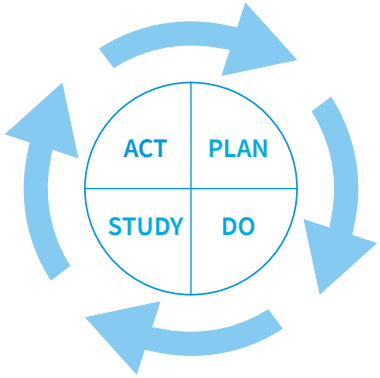

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Further Info	Model for Improvement

Example 1. Improving flu uptake in patients with chronic disease who are working (Based on the work of Dr Wilkie and Partners, Port Glasgow Health centre)

Uptake of the flu immunisation in patients with chronic disease in a GP practice is known to be very low (baseline uptake in this patient group was 30%).

Aim
To increase uptake of flu immunisation in to patients with relevant chronic disease to 90% by (a specific date) in line with national guidance.

Measurements
Percentage of patients with relevant chronic disease who have received the flu vaccination within the last 12 months.

Extra staff time requires.

Waiting time for nurse and health care assistant appointments.

Changes
These were discussed and tested through PDSA cycles.

PDSA cycle one: The flu clinic times were advertised widely in the practice waiting room and consulting rooms using posters. Predicted that patients would ask for vaccination and doctors would give opportunistically. Tested over two weeks - rates increased to 33%.

PDSA cycle two: The flu clinic hours were lengthened, new hours advertised on prescription message. Rates increased to 44%.

PDSA cycle three: Drop ins after surgery hours were added for people to attend for their flu immunisation. Rates increased to 50%.

PDSA cycle four: All remaining patients were personally telephoned, and, if reached, invited to attend for immunisation. Rates increased to 69%.

PDSA cycle five: Saturday morning clinics were organised, message added to remaining patient's scripts. Rates increased to 84%.

PDSA cycle six: All remaining patients were sent a text message inviting them to attend and making them aware of the extra clinics, including the Saturday morning ones. Rates increased to 92%.

The GPs and Practice nurses met after each cycle to discuss what was and wasn't working and to make appropriate changes. The results informed their approach to how the surgery offered flu vaccines to this group in the future. They concluded personal text message/phone contact and Saturday morning surgeries were important to get good coverage in this patient group.

2. Criterion Based Audit

What is criterion based audit?	This is what you will know as a standard audit. It involves selecting aspects of health care provided by the practice and systematically evaluating them against explicit criteria and agreed standards. Where indicated, changes are implemented at an individual, team or practice level to meet those standards. Further monitoring is used to confirm improvement in healthcare delivery.
Why would you choose this?	This method is helpful to evaluate 'real' practice against 'best' practice and improve quality in specific areas e.g. are we prescribing Direct Oral Anticoagulant (DOAC) as per best practice for patients with Atrial Fibrillation (AF).
What is it useful for?	• In a defined area with a small number of measurable criteria with scope for change e.g. looking at DOAC prescriptions for AF. • To benchmark performance against other practices when data is available. For example, comparing performance within GP clusters.
What is it not useful for?	• In a large area requiring measurement of a large number of criteria e.g. looking at quality of Diabetes care. • When you are unsure about what to change and may have to test different ideas.
Who can do/lead it?	Any clinician in the practice team who understands the method and is confident in applying it. A whole team approach will improve outcome.
How do you do it? (eight-stage cyclical process)	**1. Reason for choice of audit:** The topic chosen, and reasons for choosing, should be clearly defined, ideally with evidence to justify the potential change. This requires communication to the wider team to ensure commitment from all interested parties. **2. Criterion or criteria chosen:** Clear **criteria** (simple, logical statements that describe specific and measurable health care items or activities and can be used to assess its quality) need to be chosen at the onset. **3. Standards set:** Recent research and discussion with wider team should be used to develop standards (these quantify level of care to be achieved for criteria). **4. Preparation and planning:** Taking time to discuss the project with the whole team. **5. Data collection (1):** The criteria are used to collect initial data and should be summarised against the defined standard. **6. Change(s) to be evaluated:** The team to evaluate how their performance differs from their standard, and to discuss and decide on plans for change. These are then implemented for an agreed period of time before a second data collection. **7. Data collection (2):** These results should be summarised alongside the initial collection and presented to the team showing what change has been achieved. **8. Conclusion:** The team can then decide what further change is required and how this change can be sustained. Multiple audit cycles may be required to create sustainable change and 'normalise' new practice.

Who else does it involve?	All relevant members of the practice team involved in the specific criteria selected, whole team involvement important to ensure change occurs.
Top tips	• All normal Top Tips (listed on page four) for QI apply here. • Define specific criteria and avoid negative criteria. • Derive standards from professional consensus within the practice. • Formulate action plans that specifically address relevant problems. • 'Close the loop' by collecting data again after a defined period of time.
Further Info	The report template can be downloaded here.

Criterion Based Audit Example

Introduction

The use of direct oral anticoagulation medication (DOACS) is increasing. One of our patients had not had bloods checked in two years. Guidance on monitoring has been issued by NICE.

Criteria

These are based on NICE CKS guidance.
(https://cks.nice.org.uk/anticoagulation-oral)

1. Patients with normal renal function on rivaroxiban, dagibatran and apixiban DOACs should have had U&E and Full Blood Count (FBC) within the last 12 months.
2. Patients on DOACs with Estimated Glomerular Filtration Rate (eGFR) 30-60 should have U&E checked in the last six months.

Standards

A standard of 90% was agreed by the clinical team as some patients may cancel appointments and not have bloods taken within the time frame.

Preparation and planning

The project was discussed by GPs, nurses and the administration team.
No monitoring system was in place. One of the administrative team searched for all patients on DOACs and the date of last blood test and if the eGFR was recorded.

Data collection 1 – Jan 2016

Total number of patients on rivaroxiban, dagibatran and apixiban = 36

	Data collection 1 n (%)	Standard
Patients on DOACs with normal renal function	12	
On DOAC, normal renal function and U&E and FBC in last 12 months	5 (42%)	90%
On DOAC and eGFR 30-60	24	
On DOAC eGFR 30-60 and U&E and FBC in last six months	16 (67%)	90%

We have not reached our standard.

Changes implemented

After discussion of results between GPs, nursing staff and admin staff, those missing bloods were contacted and testing arranged. A new recall system was developed. A diary entry was created for all patients on DOACs. A monthly search would be carried out to identify new patients started on this medication – those who were on the drug without a recall code.

Data collection 2 Jan 2017

Total number of patients on rivaroxiban, dagibatran and apixiban = 48

	Data collection 1 n (%)	Data collection 2 n (%)	Standard
Patients on DOACs with normal renal function	12	18	
On DOAC, normal renal function and U&E and FBC in last 12 months	5 (42%)	17 (94%)	90%
On DOAC and eGFR 30-60	24	30	
On DOAC eGFR 30-60 and U&E and FBC in last six months	16 (67%)	28 (93%)	90%

We have improved from data collection one and reached our standard.

Conclusions

Although we have reached our standard there were still three patients who had not had bloods taken as per protocol. One of these had recurrent hospital admissions and actually had all the bloods taken in hospital, the other two patients had not attended for appointments. We have discussed how to arrange testing for them and they have now been contacted and agreed to attend. To maintain this change, we are instituting six monthly audit that the PM will carry out: all patients who do not have appropriate monitoring will be brought to the attention of a GP.

We have worked as a team to evaluate our performance and design and implement a sustainable change to improve the care for this group of patients.

Discussion on example

Some audits like this example require two data collections and can be completed relatively quickly. Others may require several small data collections (e.g. patients admitted to a nursing home should have a key information summary and anticipatory care plan completed within six weeks). The important thing is to demonstrate sustainable improvement, not how quickly the practice reaches its target. There may be several changes the practice needs to institute over consecutive cycles.

It is worth taking the time required to design the audit properly: cycles that are too small may not demonstrate measurable improvement, and ones that are too long may reduce momentum and motivation in staff.

As mentioned in the Top Tips section it is also important to sustain change once it has occurred. In the above example although the practice has demonstrated change, any improvement would be limited if the change was not sustained. They have demonstrated a plan to monitor this.

3. Clinical Care Bundles

What is a Clinical Care Bundle?	A care bundle is a small number of health care interventions grouped and measured together. This method allows practices to measure several evidence based criteria where the goal is to achieve compliance with ALL components simultaneously. An example would be auditing diabetes care and measuring the percentage of patients whose Blood Pressure, HbA1c and cholesterol are all at or below target levels. The care bundle approach is essentially an aggregated version of criterion-based audit.
Why would you choose this?	This method audits compliance with several components of care (or audit criteria). Individual compliance may be high but overall bundle compliance low. Regular auditing and review can increase compliance, improving overall care.
What is it useful for?	To measure and evaluate quality of care in an area where there are several standards all of which need to be met for good quality care to be achieved.
What is it not useful for?	A small number of specific criteria, an audit may be better. If there are specific criteria whose compliance is more important than others.
Who can do/lead it?	Any relevant member of clinical or administrative staff who understands the method.
How do you do it?	• Choose a clinical condition or aspect of patient care as the bundle topic. • Select, create or adapt a number of bundle components (usually 3-5). • The practice team or health care worker may already be delivering some or all of the bundle components. Plan how those bundle components (if any) that are not already being delivered can be implemented in practice. • Measure compliance with each component and with the overall bundle after a suitable period of time. The measure is binary – 'yes' or 'no'. All components have to be delivered before the bundle can be considered as complete. If one component is not relevant/not applicable (e.g. action for an abnormal result) then this counts as meeting the criterion (see example). • Analyse or reflect on your findings. Are there substantial differences between individual components and overall bundle compliance? If there are, should you consider and implement change/improvement? Is it possible to measure or infer the impact of the bundle on patient outcomes? • Measure compliance with each component and with the overall bundle again. Compare the findings with the previous results and consider whether further action is required to improve or sustain reliable care delivery.
Who else does it involve?	All relevant members of the practice team.

Top Tips	• All normal Top Tips (listed on page four) for QI apply here. • Report overall compliance – but remember analysis of individual criteria within the bundle may direct change. • Formulate action plans that specifically address the gaps identified.
Further Info	Clinical Care Bundles

Care Bundle Example

This example uses the Scottish Patient Safety Programme DMARD care bundle. A local practice decided to use this to measure overall quality of care for their DMARD patients. The following measures are identified for each patient. The rationale for each measure can be found here.

- **Measure 1:** Appropriate tests are carried out in correct time scale. Has there been a full blood count in the past 12 weeks Azathioprine (AZA) eight weeks Methotrexate (MTX) as per local guidance?
- **Measure 2:** Appropriate action taken for any abnormal results in previous 12 weeks. If any abnormal results in previous 12 weeks White Blood Count (WBC < 4, neutrophils <2, platelets <150, Alanine Transferase (ALT) >x2 normal upper limit (>60) has action been recorded in the consultation record?
- **Measure 3:** Blood tests reviewed prior to prescription. Is there a documented review of blood tests prior to issue of last prescription?
- **Measure 4:** Appropriate immunisation. Has the patient ever had or declined a pneumococcal vaccine?
- **Measure 5:** Patient asked about any side effects following last time blood was taken.

▸ **Have all measures been met?**

The records of all patients on DMARDS were accessed and how each one complied with each measure was recorded. The data was then collected and tabulated. The table below shows the results for 10 patients.

Patient	Appropriate test?	Appropriate action if abnormal results	Blood tests reviewed prior to prescription	Appropriate immunisation	Patient asked about side-effects?	All measures met?
1	Y	N/A	Y	N	Y	N
2	Y	N/A	N	N	Y	N
3	Y	Y	N	N	Y	N
4	Y	N/A	N	N	Y	N
5	Y	N/A	Y	Y	Y	Y
6	Y	N/A	Y	N	Y	N
7	Y	N/A	N	Y	Y	N
8	N	N/A	Y	N	Y	N
9	Y	N/A	N	N	Y	N
10	Y	Y	Y	Y	Y	Y
Total no.	9	10	5	3	10	2
Prop (%)	90	100	50	30	100	20

Implemented changes

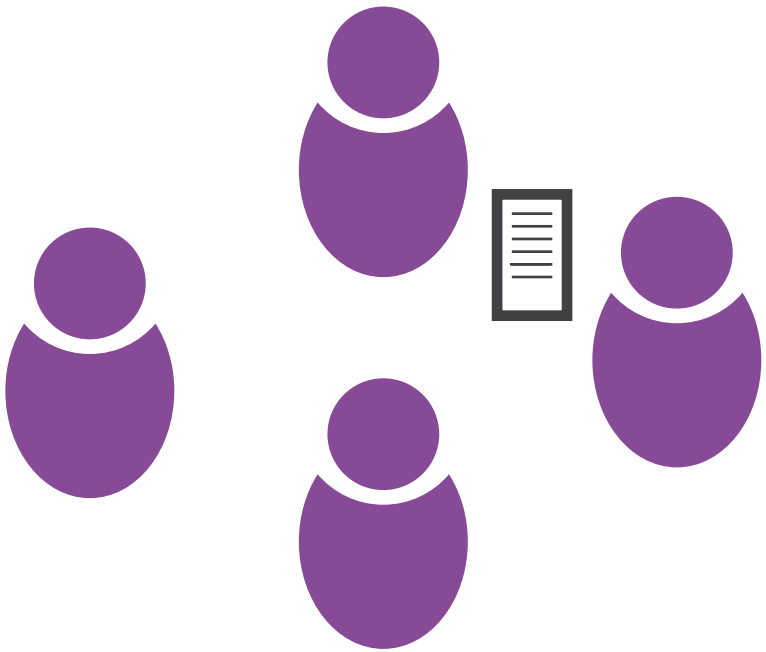
The practice discussed the findings and designed changes to their systems. The first change implemented was the use of an electronic template to guide actions at review appointments. The impact of this was evaluated by a further care bundle audit of 10 patients seen at review appointments.

4. LEARNING (significant) EVENT ANALYSIS

What is Learning Event Analysis?	Learning Event Analysis (previously called Significant Event Analysis), is a retrospective educational activity where those involved in an event, reflect on and analyse the event at a structured team meeting. Learning events can be events where something has gone wrong or nearly gone wrong (so-called "near misses") – for example, test result communication issues or prescription errors. Alternatively, they can be episodes where there was good care. This team discuss the scenario, explore the contributing factors and their relationships, reflect on and prioritise learning, share good practices and identify actions for improvement. LEA presents an opportunity for teams to review events using a People-Activity-Environment (PAcE) Analysis approach based on Human Factors principles. By reviewing complex system interactions, rather than solely focusing on personal responsibility, a greater systems-based understanding of how significant events occur can be obtained, as well as their impact on performance (e.g. patient safety, efficiency, productivity) and people's wellbeing (patient and staff health, safety, satisfaction, experiences).
Why would you choose this?	This QI method directs care teams to analyse, reflect and learn from studying an event. This leads to changes to improve the care system.
What is it useful for?	• It is an established learning method in primary care settings that uses reflection and analytical skills to support improving patient safety. • It is about looking at the wider system interactions using a PAcE Analysis to understand why events occurred and learning from them.
What is it not useful for?	It is not a method that seeks to criticise the actions of individuals and organisations or apportion blame.
Who can do/lead it?	The event analysis should be led (and written-up) by someone directly involved in the incident where possible.

4. LEARNING (significant) EVENT ANALYSIS

How do you do it?	• Identify and prioritise an event for analysis. • Collate as much factual information on the event as possible; including written records. • Convene a meeting to discuss and analyse the significant event. • Undertake a structured PAcE analysis of the significant event: o Explore impact and potential impact of event. o Identify contributing factors by exploring the interactions between, the people involved, the activity they undertake and the wider environment within which they work. o Identify learning from event (e.g. at individual, practice, Board levels). o Agree actions to improve systems. • Monitor any changes agreed and implemented. • A written record (report) of every LEA is undertaken. • The findings from the report should be shared and reviewed with GP team members.
Who else does it involve?	It should involve all relevant members of the primary care team, including all appropriate non-clinical staff, for effective communication and to ensure learning is shared with all involved parties.
Top Tips	• All normal Top Tips (listed on page four) for QI apply here. • Avoid medical domination of meetings that may accidentally exclude non-clinical staff from participating effectively. • Action from LEAs should be concrete and clear and agreed by discussion of the whole team prior to writing the LEA up. • Remember 'positive' events and learning from everyday care, which are often not chosen due to care teams perceiving greater value in resolving 'negative' issues. • Reports should not contain details that allow identification of patients (such as initials). Indeed staff involved should be referred to as 'nurse A', 'Dr B', 'admin C', 'pharmacist D'.
Further Info	More information can be found here. The report template can be downloaded from here.



About the Significant Event

Please describe what happened

Patient attended a practice nurse for his flu vaccine. Asking questions about his blood pressure and if the nurse would check it while he was in. Accompanied by wife who also asked if she could get a flu vaccination. Accidentally given the pneumococcal vaccine.

What was the impact or potential impact of the event?

The patient was not due the pneumococcal vaccine and developed a red sore arm. Significant anxiety for the GP trainee. Inconvenience for the patient to return for another vaccination. Loss of faith in the practice. Potential for complaint. Potential to not be immune to flu.

If this has happened once, could others have received the wrong vaccine?

Contributory Systems Factors

Please outline the different factors that contributed to WHY the event happened.

People Factors Nurse competent but new to the practice. Trying to be helpful. Tired after 3 hours vaccinating patients. Distracted as patient asking about blood pressure and wife asking about her vaccinations.

Activity Factors Long clinic - checking procedures become automatic and less effective. Vaccines stored together in nurse's room fridge. Both vaccines look very similar and on same shelf.

Environment Factors Five minute appointments, small room with poor lighting. Vaccines on same shelf. Pressure to get through as many patients as possible.

Please describe how these factors combined to make the event happen.

Distraction and fatigue combined with the set up of the room, the similarity of vaccines and organisational pressures to lead to the event.

Did you identify these factors on your own or with input from other colleagues?

These factors were identified by the whole team during a SEA review meeting.

Lessons Learned

What lessons have been learned from the analysis of this event?

Cannot safely perform the same task for three hours. There are risks in how vaccines and medications are labelled. You need to be aware of situations where you may get distracted and try to eliminate the distraction before undertaking important tasks. For example, not allow relatives in the room or make it clear that you can only discuss vaccinations.

What learning needs have been identified (at the individual, care team, and organisational levels, where appropriate)?

Individual – how to be more assertive with patients. Care team – set up of clinics including the positioning of vaccines. Organisation – safe ways to organise work – shorter clinics with breaks and variability are safer.

Action Plan for Improvement

How have you minimised the chances of this even happening again?

Vaccine storage has been changed. Lighting improved. Clinics made shorter with more variability.

Patients are reminded when booking a vaccine appointment that the appointments are short and will not include opportunity to discuss other concerns.

Who is responsible for ensuring that these actions are implemented and how will these be monitored and sustained in practice?

Storage changed by nurses.

Practice manager arranging lighting upgrade – due in 14 days.

New clinic structure agreed and will be tested in one week by the nursing team.

Information to patients updated.

5. Trigger Review Method (TRM)

What is the Trigger Tool method?	The Trigger Review Method (also known as a trigger tool) allows primary care clinicians to review small samples of the electronic medical records of high risk patient groups (e.g. patients over 75 with multi-morbidity) for previously undetected patient safety incidents, hazards and near misses in a structured, focused, rapid and active manner.
Why would you choose this?	This QI method aims to rapidly identify previously undetected patient safety incidents in a particular patient group. This allows these to be rectified and the design of changes to prevent recurrence.
What is it useful for?	This method allows practices to identify avoidable harm that may previously not have been recognised. It involves a quick, focused review of a sample of notes so gives an idea of how practices are performing across a whole population.
What is it not useful for?	• This is not a useful method to review a specific incident, another method that allows reflection and change on specific incidents would be better. • It identifies potential harm and can result in changes being agreed and implemented but often other QI methods can be used to make changes and improve quality (e.g. Criterion Based Audit or the Model for Improvement).
Who can do/lead it?	This method involves reviewing electronic case notes and can be done by any appropriately trained clinician. Administrative staff can support this by conducting searches and even identifying 'triggers'.
How do you do it?	**Planning and preparation** The team should meet and decide on the aim of the review which will inform how records are sampled and what triggers are used. Triggers are easily identifiable flags, occurrences or prompts in patient records that alert reviewers to potential adverse events that were previously undetected. **Systematic Review of the Records** Clinical notes are reviewed and the following information collected. Is a trigger present? If so has harm occurred and what is the severity? Finally, was the detectable harm preventable and where did it originate? There are standard proformas available that can make this process easier. **Reflection and Further Action** Depending on what incidents are picked up immediate action may be required (e.g. medication change). The results should be shared and discussed with the whole practice team so that individual and practice learning needs can be identified. Evaluating and sustaining change is important, using the same method and repeating the process regularly is necessary to ensure this.
Who else does it involve?	The whole practice team should be involved in sharing of results to allow for individual and collective learning needs to be identified.
Top Tips	• All normal Top Tips (listed for page four) for QI apply here.
Further Info	An example of the proforma that practices can use for their reviews is found here.

Example of Trigger Review Method

An example of the findings of a trigger tool and how that information was used is described below.

Population selected: Patients ≥75 years and on cardio vascular disease (CVD) register 25 sets of notes reviewed and 28 triggers found from 12 patients.

The following patient safety incidents were found:

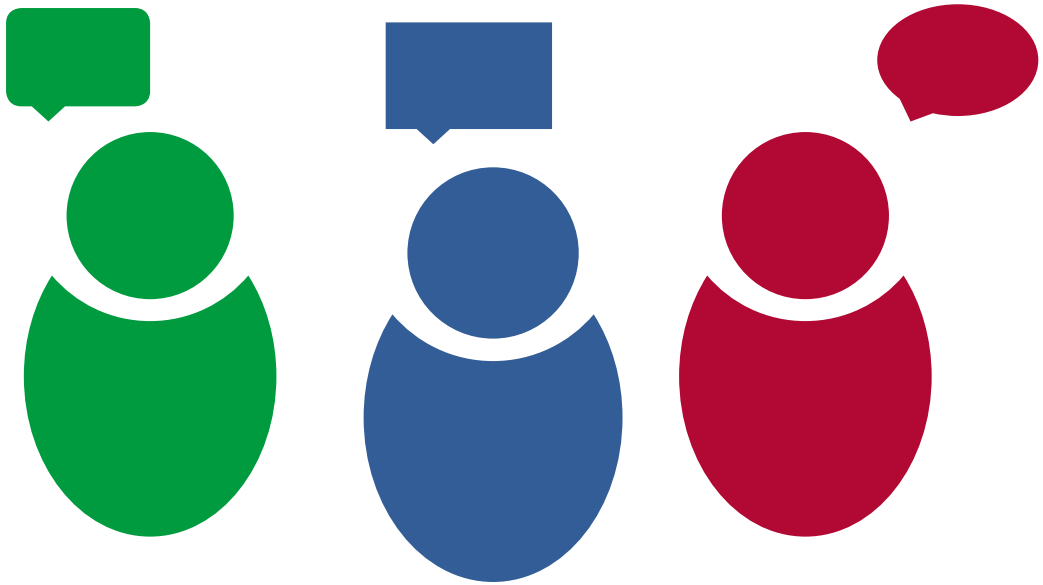
1. Patient presented with lethargy not known to be diabetic. HbA1c taken and was raised (HbA1c = 7.1). No action taken.
2. Prescribed ramipril on recommendation of hospital. Patient had a vasovagal episode resulting in overnight admission. Ramipril stopped.
3. Dihydrocodeine requested and prescribed too frequently.
4. On NSAID for gout but had known Chronic Kidney Disease (CKD) 3. eGFR last year was 44. Dropped to 34 when on NSAID for gout.

Practice Action

1. Discussion and agreement on protocol for diagnosing diabetes and handling of HbA1c results.
2. Change to labelling used on bloods from the diabetes clinic to ensure these are easily identified.
3. Alteration of EMIS template to show issuing frequency on the right-hand side of the prescription.
4. Training of admin staff to highlight when generating repeat prescription.
5. Educational session on management options for gout.
6. The case where the patient was admitted after prescribing ramipril was reviewed. This was not thought to be preventable as management was considered appropriate, for example, bloods and blood pressure had been recently checked, the patient warned about the side effects and risk of intercurrent illnesses such as diarrhoea and vomiting illnesses.

What is an 'Always Event'?	An 'Always Event' is something patients identify that they believe should ALWAYS happen when they interact with healthcare services, professionals and staff groups. However, they must fulfil all the criteria below in terms of being: • A healthcare interaction, process or outcome that is judged by patients, carers or relatives to be a highly important determinant of care quality and experience. • Unambiguous and specific to enable reliable measurement. • Consistently deliverable to applicable patient groups by all relevant health care organisations, teams and individuals. • Feasible as part of routine health care delivery. The Always Event QI method involves patients generating these ideas and being involved in design and implementation.
Why would you choose this?	Acting on patient feedback is problematic and not always possible (particularly national survey findings). Generating 'Always Events' is arguably a more person-centred approach to QI that enables staff to engage locally with patients to enable them to drive the direction of improvement within the practice. Always Event can identify ideas for change that can be immediately be implemented or can be used with other QI methods, for example the Model for Improvement or Criterion based audit. Always events can be used to involve hard-to-reach patient groups in the co-design of service improvements which may promote greater buy in.
What is it useful for?	• Identifying improvement areas that are of direct importance to their patients (rather than just what the practice thinks is a priority). • Offers a different perspective on proposed changes.
What is it not useful for?	• Implementing changes the practice wish to make. • It is not a patient feedback tool or a care opinion resource.
Who can do/lead it?	Any member of the primary care team can collect data from specific patient groups or sub-populations. Need patient involvement in Always Event generation and the implementation of change.

How do you do it?	**Select a Patient Group or Practice System:** • **Collect data:** Ask patients to complete a short paper questionnaire or interview patients to identify: "What is so important to you that it should always happen when you attend surgery X". Alternatively, it can be more focused: "What is so important to you that it should always happen when you decide to order a prescription?" Collect three free text replies. There is no correct number of patients to survey; collection should continue until you are not getting any "new" responses, usually 20 are sufficient. • **A project team**, with representatives from patients and staff is useful for the next steps. • **Analyse responses:** Group responses into similar themes. • **Generate possible 'Always Events' (between 1 and 3):** these should summarise themes and use patient's own words where possible e.g. "I want to be given a reason if my prescription request has been rejected" • **Assess candidate 'Always Events' against criteria** • **Measure event** Once 'Always Event' generated measure if you are delivering it. • **Design changes with patients and staff.** Patients may have suggested changes in the initial survey, if not ask a small group or survey more widely to identify how you could change systems to deliver the Always Event. • **Re-measure** to ensure change has been an improvement.
Who else does it involve?	Appropriate team members (e.g mix clinical and administrative) to collect and analyse data. Patients can be surveyed, can vote on suggestions or a small patient group can be established.
Top tips	• All normal Top Tips for QI apply here. • Before starting ensure team buy in to 'Always Event' concept, and ensure happy to be directed by patient choice (even if unexpected).
Further Info	Always Events



Based on work by Dr K Grossett at the Carins Practice, Shettleston Health Centre, Glasgow

Data collection

A practice wished to assess the system for patients ordering prescriptions. The PM asked patients, “What is so important when you order or collect prescriptions that it should ALWAYS happen?” They were asked for three responses. After 20 patients, they found that no new suggestions were being given. They arranged the responses into themes. One theme related to the availability of the prescription when they attended to collect.

The following candidate AE was suggested:
“When I come to collect my prescription I want it to be ready and available.”

It was felt that this fulfilled all the criteria.

“When I come to collect my prescription, I want it to be ready and available.”		
1	Is this a healthcare interaction, process or outcome that is judged by patients, carers or relatives to be a highly important determinant of care quality and experience?	✓
2	Is this unambiguous and specific to enable reliable measurement?	✓
3	Is this consistently deliverable to applicable patient groups by all relevant health care organisations, teams and individuals?	✓
4	Is this feasible as part of routine health care delivery?	✓

Designing and completing a QI project

The practice designed a QI project using the ‘Always Event’. They measured the number (and percentage) of ordered prescription that are available at reception for patients to collect and aimed for a standard of 95%. They measured baseline data over three days and 292 patients attended to collect repeat prescriptions and 269 (92.1%) were ready.

The practice team looked at which prescriptions weren’t ready and the reasons why. They also looked at, and discussed their prescription ordering system with all relevant team members. They discussed findings with a small group of volunteer patients and identified areas for improvement. These included proactively advising patients that their repeat prescription request was too early, and introducing a system to inform patients that prescriptions had been declined by the GP and that review was required. On a subsequent data collection 258 out of 259 (99.6%) prescriptions were ready. This was felt to be a success and improvement was maintained. Staff also reported reduced workload at reception.

What is the General Practice Safety Checklist?	Many significant events in general practice are related to a lack of timely checking processes and inadequately designed practice work systems. The MoRISS Checklist Tool for General Practice is a comprehensive checklist designed by GP teams that allows practices to take a systems based approach to related monitoring, learning and improvement.
Why would you choose this?	This method can be used to ensure current systems are up to date and adequate, and to proactively identify systems hazards that, if not addressed, could cause harm to patients, visitors and the GP team.
What is it useful for?	• It is useful to proactively identify areas for improvement and to ensure that current practice systems are safe.
What is it not useful for?	• It is not useful for retrospectively analysing particular incidents – LEA is a better tool. • It is a tool that identifies potential system problems, not specific details. An audit/care bundle may be better for analysing QI in criterion-specific areas. • Due to the large variation between practices it is useful to drive improvement within the individual practice organisation and to measure practice improvement towards the standards. A practice could measure highly but miss critical things in just one area therefore simply comparing overall score between practices is not helpful. Although this is a tool for individual practices to use, within a local context, e.g. a cluster group, it may be helpful to compare practices as local variation could highlight areas for individual practice improvement and identify ways to achieve improvement.
Who can do/lead it?	Anyone with adequate understanding of current practice processes and of each individual domain. Different members of the practice team may be more appropriate for different sections. The PM may have a safety leadership role in coordinating implementation of the checklist.
How do you do it?	• The practice team should agree together to use the checklist each domain has specific methods to best measure it. These involve documentation review, observations and spot checks. • After completing the checklist, the findings should be discussed with the practice team and agreement made on how to modify systems to reduce potential for harm. • The checklist should be applied once every three months to ensure safety issues remain up to date.
Who else does it involve?	It involves the whole team being willing to review and implement changes as indicated by regular use of the checklist.

Practice checklist Top Tips	• All normal Top Tips for QI apply here. • Different team members will have different expertise in the various domains. Use the most appropriate member. • To work optimally the checklist should be reviewed three monthly.
Further Info	MoRISS Checklist Tool • The current checklist can be accessed here.

The checklist is available online and can be accessed here and to understand the different domains it is recommended that time should be taken to read through it.

Several practices in Ayrshire agreed to use the checklist in their practice and share results as part of a QI project. An example of how evidence was recorded and of some of the areas highlighted, across the practices, and actions taken, are shown below.

Domain and Item	Category	Compliant	Evidence	Actions/comments	Follow up
Medication Safety (Prescription pads) Pads securely stored	Mandatory	N	Pads in drawer but not locked.	Changes to drawer.	1/12
Medication safety (controlled drugs) Securely stored	Mandatory	Y	Stored in locked cabinet Checked cabinet locked and key in key safe.		3/12
Housekeeping (Infection control) Premises are cleaned in line with practice policy	Essential	N	Premises cleaned unsure about toys	We no longer have soft toys, play table is wiped – not sure about books. Will speak to cleaners	2/12

Domain and Item	Category	Compliant	Evidence	Actions/comments	Follow up
Housekeeping (stocking of clinical rooms) Sharps containers are available, correctly assembled, not over filled, out of reach of children and do not contain inappropriate waste	Mandatory	Y	All clinical rooms have small bins out of reach on worktops.		3/12
Housekeeping (Infection Control) ALL staff trained in standard infection control precautions	Essential	N	All clinical staff aware but the non-clinical staff are not.	Training arranged.	3/12
Medication Safety (Vaccinations) Evidence of expiry date rotation	Essential	N	Nurses check, however there is no system in place.	Stock requires to be checked and rotated, need system in place – discuss with nurse.	1/52

8. Assessing Local Safety Climate

What is the assessment of local safety climate?	Safety climate has been defined as "the way we do things around here" and is thought to shape the way that workers respond to safety critical incidents and systems. Assessment of safety climate is a method for any health care team to measure or diagnose the prevailing safety culture. The responses from this assessment can then be used to facilitate a reflection discussion within the group and promote learning around system wide issues that inform local safety culture.
Why would you choose this?	Organisations with a positive safety climate are more likely to learn openly and effectively from mistakes and alter their working practices appropriately. This tool encourages an open dialogue to facilitate change in safety related issues throughout the workforce hierarchy. The reflective discussion may prompt changes to safety systems within the practice, but could also be used to bring suggestions to the health board level. This could be through the sharing of reflective discussion reports at GP cluster level.
What is it useful for?	• Measuring and benchmarking of an organisations safety climate score so that this can be monitored and influenced or improved over time. • Facilitation a whole practice dialogue on the areas of safety to be addressed by the practice and encourage solutions to this throughout the workforce.
What is it not useful for?	• Not useful to tackle a known specific issue – a more targeted QI project might be more helpful. • Rapid QI projects – Comparison of safety climate scores will take a minimum of two cycles of the safety climate assessment process to allow time for the changes suggested to be implemented. This might be from three months, but perhaps more likely on an annual basis. • Very small practices with less than three staff members.
Who can do/lead it?	Anyone with a list of current staff members can undertake the distribution of the safety climate assessment invitations to complete the online questionnaire. The facilitation of discussion of the results would be led by a PM or partner.
How do you do it?	• The safety climate uses a 30-item questionnaire that has been psychometrically validated. The survey is administered via a bespoke online system managed by Healthcare Improvement Scotland (HIS). The safety climate lead encourages staff to complete the online questionnaire within a practice defined timescale. The online system would create a summary practice report upon the completion of the time window. The lead would then be tasked with arranging and facilitating a whole practice meeting to discuss the results and aims for the future – ways that the practice could make constructive or positive changes. The safety climate lead or PM would then create a reflective summary report to document the meeting and agreed changes to be implemented.

Who else does it involve?	The whole practice is involved; from administrative staff, healthcare assistants, nursing staff, medical staff and any practice management staff. District nurse and health visitor staff may be included if appropriate for that practice.
Safety climate assessment Top Tips	• Involve as many individuals as possible. Everyone with regular contact or a role within the practice should be invited to take part. This ensures that all potential issues are tackled and that differing or diverse viewpoints are included. This creates a more genuine overall picture of the safety climate and will provide the best discussion points for the reflective discussion meeting. • From the reflective discussion meeting, decide on a 'wish list' for action and decide on the priorities for each improvement. It may be improvements can be made to systems or processes within the practice, but other changes may require dialogue with health board or similar organisations.
Further Info	Safety Climate Survey

Example of an assessment of local safety climate

Year One

Practice team decide on lead for safety climate e.g. PM

PM collates the email addresses of all staff members to be invited to complete the online survey.

PM registers and the logins in to complete the distribution of online survey here.

PM decides on a reasonable period of time for the completion of the survey, based on practice size e.g. two weeks.

Individuals complete the online survey of 30 questions.

The PM can observe the number of participants that have completed the survey by login into the administration website.

The safety climate report can be generated once a minimum of three participants have completed the survey. The survey will contain the practices responses as well as a comparison to all other practices that undertook the survey in the last six months for comparison purposes.

The PM then schedules a meeting for all those that completed the survey to discuss the findings and suggests area for improvement.

Example reflective report:

Safety climate report 2016/17

…We noticed that there was lower score in the workload section, particularly from the reception staff. We discussed ways to improve this and decided on a change to practice policy and to only give results on the phone in the afternoon, to free up time in the morning…

…Communication for short messages was felt to be an issue across the board, with different staff members giving messages in different ways e.g. verbal, handwritten notes, e-messaging. We agreed to utilise the electronic messaging service as the primary communication method…

…We felt we could improve the teamwork within the practice. We hope to do this by conducting monthly whole practice meetings and undertaking a team-building event together…

Year two

The PM completes the process as per year one, but this year comparison can be made with last years scores and areas that have improved or those with areas for further improvement can be assessed.

What are ‘Never Events’?	A ‘Never Event’ is: • Known to cause severe harm to patient, or has potential to do so. • Is largely preventable by a healthcare professional, team or organisation. • Can be clearly and precisely defined. • Can be detected. • Is not the result of an unlawful act. A list of 10 validated ‘Never Events’ for General Practice is available. There is also a list of many other serious events that don’t quite reach the ‘Never Event’ criteria but which are preventable, practices may also wish to look at this list.
Why would you choose this?	This QI method allows teams to analyse systems to prevent or minimise the harm caused by events which are known to have the potential to cause significant harm to patients. **Prevention:** teams analyse their systems before an unwanted event has occurred and consider if they can be improved to prevent events. **Recovery:** apply methods to quickly identify events that have occurred to reduce the risk of harm. For example, regular audit can be used to ensure methotrexate is monitored correctly or identify patients who were inappropriately prescribed unopposed oestrogen before harm occurs.
What is it useful for?	To look prospectively at current systems for serious patient safety incidents and create system change to minimise hazards and reduce the risk of patient harm.
What is it not useful for?	If the event has already happened it is better to do a Learning Event Analysis. If you have a specific criterion to measure then an audit may be more suitable. • Practices may have other areas that they consider as priorities.

How do you do analyse systems to try to prevent serious events?	**Choose a system:** Identify organisational priorities using evidence of previous events or personal relevance to your team e.g. system for taking bloods and actioning results. Make sure all front-line team members who know the system are involved. **Understand the system:** Consider process mapping as a team. **Analyse the system:** Identify and prioritise hazards. This can be done using: o PAcE analysis: using a simplified human factors framework to determine hazards that could lead to patient safety incidents and the reasons why these hazards are present. o Structured What If Technique (SWIFT): Team method used after process mapping where teams brainstorm and ask "what if.." at each stage. **Implement change:** as a team plan how to change the system in a sustainable way to ensure identified hazards don't lead to harm. **Sustain change:** Discuss how the team will ensure this change is sustainable and appoint someone to be responsible. Consider whether regular audit is required.
Who should be involved?	Including as many members of the practice team is crucial to ensure all aspects of the practice system are understood.
Top Tips	• All normal Top Tips (listed on page 9) for QI apply here. • Choose a system that is relevant to the practice using the list of ten 'Never Events' in general practice. • Ensure change is sustainable and acceptable to all members of the practice team. • After change, has been instigated reflect and identify any problems or unintended consequences. Use audit or other method to ensure change sustained.
Further Info	Never Events

Example of System Improvement to Minimise Risk of a 'Never Event'

A practice team meeting takes place every month. The 'Never Event' concept was discussed, and the practice is concerned about the potential consequence of a specific 'Never Event' occurring related to HRT prescribing.

Following discussion – they realised that there are few safeguards in place to prevent the prescribing of unopposed oestrogen in a woman with an intact uterus and safe practice relies solely on clinician knowledge and accurate prescribing. The doctors and practice staff identified areas for improvement:

Action	Outcome
Baseline data collection	HRT prescription – on acute prescription or repeat. Coding for hysterectomy, IUS Practice list of HRT generated.
Template is designed	E.g. BP, BMI, risk factors and contraindications.
Staff education	Tutorials with prescribing protocol. Trainees, all GPs and practice nurses involved.
Pharmacy input	Brands prescribed in names rather than generic, limited number of brands used and local formulary preparations and doses simplified into 1st, 2nd and 3rd choices.
Audit	Of all current HRT users, and then arranged to have frequent checks of prescribing three monthly.
Practice leaflet designed	To give to patients with duration of treatment and general HRT advice.
Practice policy change	E.g. six months' prescriptions, use of pharmacy text, codes for IUS with the expiry date in alert.

During any prospective analysis of the potential 'Never Events', the practice must be mindful that there is the potential to prevent serious patient safety incidents, but there may well be the discovery of patients who have come to harm or potential harm. Part of the process should include actions to rectify any problem areas. In this example the practice found one patient with six months of prescribed unopposed oestrogen, they arranged immediate gynaecology review, but in the process also improved the systems for future patients.

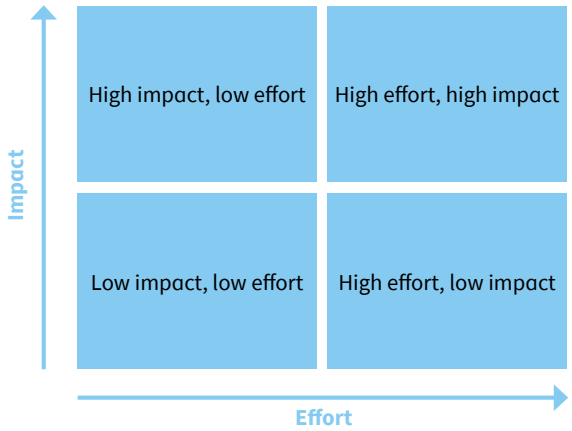
10. Peer Review as a Quality Improvement Tool

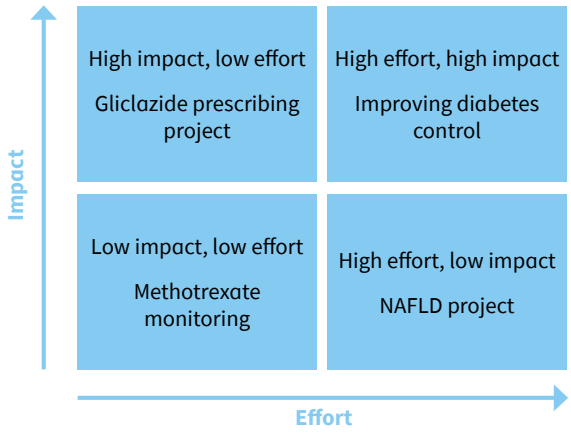
What is Peer Review?	Definitions vary, but from a formative educational QI perspective, NES provides one model that offers an **external evaluation of completed QI reports by trained colleagues using validated review instruments**. Its purpose is to enhance learning through developmental feedback on aspects of improvement projects undertaken by GPs and their practices.
Why would you choose this?	Peer review encourages reflection and evaluation of completed QI projects which aims to increase the impact of future projects. NES research and evaluation has shown a wide variation in the standards of QI initiatives such as Criterion Based audits and LEA reports. This can lead to missed opportunities to learn and make sustained improvements in the quality of patient care. Peer review allows you to affirm that your improvement project meets professional expectation and offers feedback on any other areas of potential learning and improvement not detailed in the QI report. It is also an effective means to confirm good practice (especially for portfolio learning entries in GP training and GP appraisal).
What is it used for?	• Quality assured evidence for core categories in the Scottish appraisal system. • Independent, unbiased feedback to help drive change and improvement in practice. • Identifying learning needs and acting as a 'double-check' on standards and opportunities for rapid improvement within practice.
What is it not useful for?	It is not useful as a summative judgement on the quality of an individual's or a team's performance.
Who can do/lead it?	NES has a team of trained clinicians who will review LEAs, audits, video consultation and other QI projects.
How do you do it?	• Individual clinicians and managers submit their project reports to NES. • The reports are screened for confidentiality issues before being sent to two members of a trained peer group who undergo six monthly calibration. • The report is assessed independently by each peer, aided by a validated assessment instrument. • Developmental, constructive and confidential comments on the standard of the project are returned to a peer review coordinator who then collates the feedback and passes on a written report to the submitting individual. • Typically, the feedback confirms the project to be of a good standard or highlights potential areas for improvement.
Who else does it involve?	Peer review is not mandatory – it involves the clinician choosing to submit their anonymised QI work which is then reviewed by the NES team.

Peer Review Top Tips	We suggested reading the peer review feedback instruments so that those submitting projects are aware of how they will be assessed.
Further Info	All peer review templates can be found here: https://learn.nes.nhs.scot/683/patient-safety-zone/primary-care-patient-safety-resources

QI Tools

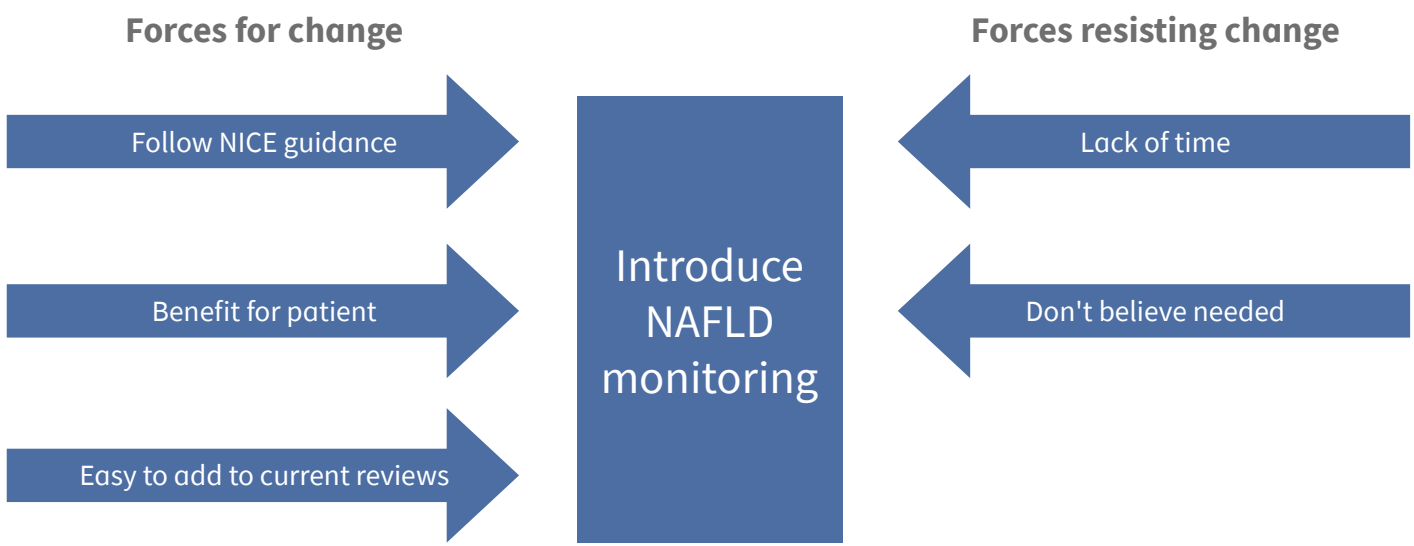
QI Tool 1: Prioritisation Matrix

What is it?	A structured, visual process to rank projects or ideas in order of importance.
Why use it?	This QI tool helps teams to agree on their QI project topic. Teams often have a number of ideas for topics for improvement projects. Once a topic is chosen they can have different ideas about changes that should be tested. A prioritisation matrix helps to decide which projects to choose and what changes to test first. Its use can help to build buy-in and communicate why projects or changes have been chosen.
Who can do it/lead it?	Should be a team activity led by a facilitator.
How do you do it?	• Draw a 2 x 2 matrix on a whiteboard or flipchart. • Label axes - y (vertical) = impact and x (horizontal) = effort. • Write improvement ideas on sticky notes. • Place these on the matrix (either the team discusses and agrees where each goes or everyone gets to place each idea where they want). • Review where they have been placed to agree project or change ideas. • The top left are quick wins, with more difficult projects as you move to the right. 
Top tips:	• Involve the whole team. • Try to remove emotion and preconceived ideas. • Don't select too many ideas from the top right as these are more challenging ideas and momentum can get lost unless there are also some quick wins.

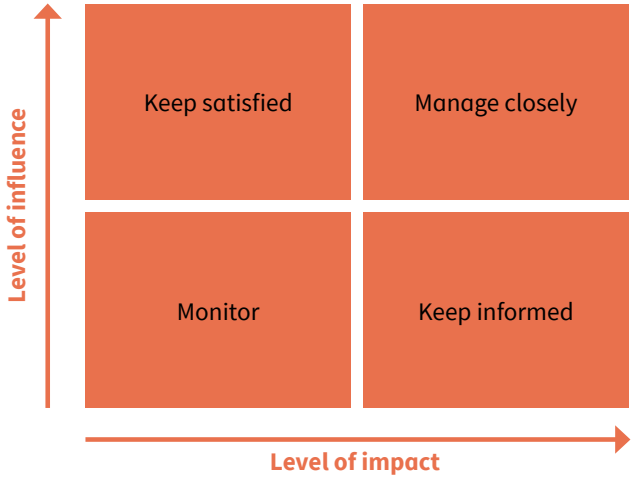
More information	QI zone
Example	A GP cluster wanted to agree a topic for improvement. There were a number of ideas including: • Increasing the percentage of patients with well controlled type 2 diabetes. • Reducing gliclazide use in those with good diabetes control to reduce the risk of hypoglycaemic episodes. • Improving the management of Non Alcoholic Fatty Liver Disease (NAFLD). • Improving blood test monitoring for those on methotrexate. Diabetes was very prevalent in the area and the practices thought that the diabetic control of patients was not as good as it had been in the past. A significant event had been discussed at the previous meeting where an elderly lady was admitted following a hypoglycaemic episode. This was thought to be due to gliclazide. All practices had robust methotrexate monitoring system following discussion of a significant event the previous year and the introduction of an area wide search to identify patients that had not received adequate monitoring. None of the practices had systems to monitor NAFLD. A prioritisation matrix was used to get agreement on the topic for improvement.  They agreed to start the project to reduce gliclazide prescribing in those with good diabetes control. However, they also agreed that more data was needed on diabetes management and that this may be a longer term project on which they could jointly work.

QI Tool 2: Force Field Analysis

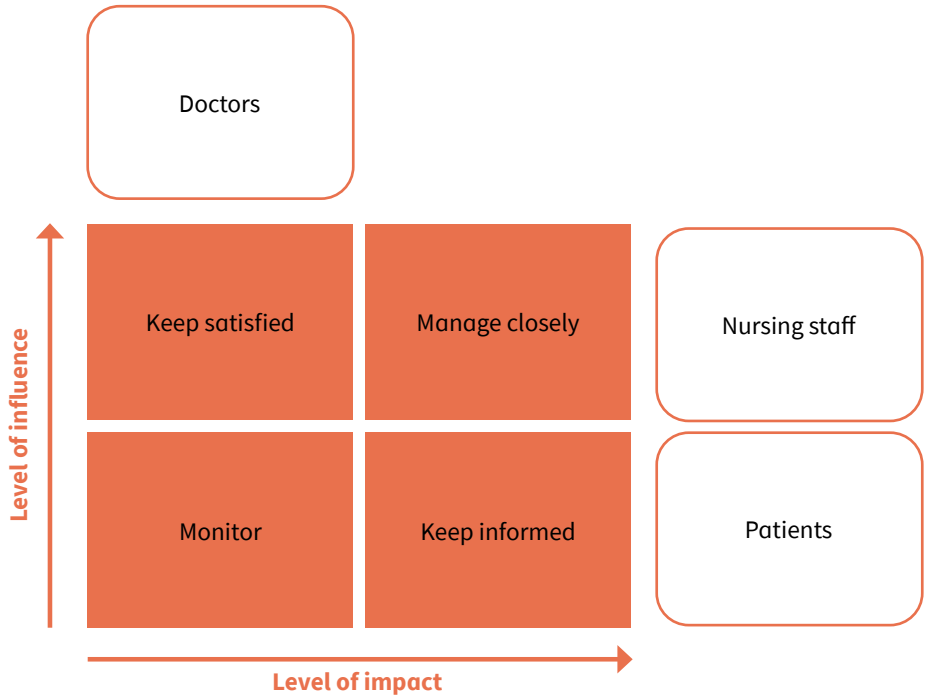
What is it?	A QI tool used to list, discuss and assess various forces for and against a proposed change with your team.
Why use it?	This QI tool helps build will and the conditions for change. It is useful when there is a difference of opinion about the proposed change idea. If the whole team are in agreement it might not be the most useful tool to use. • Identifies the forces for and against a proposed change. • Ensures the whole team is involved and opinion considered. • Structured approach useful to explore differences of opinion within the team on the merits of undertaking a QI project.
Who can do it/lead it?	Anyone in the team can facilitate this discussion and fill in the diagram.
How do you do it?	1. Identify the goal or change and write it in a box in the middle of a blank piece of paper/whiteboard. 2. Discuss the evidence for what is proposed – guidance/evidence, baseline figures, patient stories. 3. Identify the forces for the change. These could come from the team or due to external influences, e.g. policy change. Write these on the left side of the paper. 4. Identify the resisting forces. Write these on the right side of the paper. 5. Either: a. Assign scores to each of the forces based on how important the team feels they are from one (weak) to five (strong). You can add scores for and against. b. Draw different size arrows for each 'force' to illustrate its importance. 6. You can use the outcome of the Force Field Analysis in two ways: to decide whether to progress with the change or to think about how the team can strengthen the driving forces and weaken the resisting forces.

Top tips:	• Allow everyone to contribute regardless of whether you agree. • Use a large enough piece of paper or whiteboard so that the ideas aren't limited by space. • Be clear about the aims of the force field analysis to prevent disagreements and arguments. • Accept the outcome of the analysis even if it goes against what you believed would happen.
More information	QI zone
Worked GP example:	A GP practice was considering starting a recall system to monitor patients with Non Alcoholic Fatty Liver. They used Force Field analysis at a practice meeting to discuss whether this was a project they wanted to tackle.  It promoted team discussion of the evidence supporting this choice of QI topic. Importantly, it ensured that all views were heard so that people who did not support this choice could discuss their concerns. After discussion, the team were able to agree that there were greater forces for change than against. This QI tool is useful to help teams to agree on the proposed QI topics and ensure there is buy-in from the team at the start of the project. It can be revisited during the project to ensure buy-in is maintained.

QI Tool 3: Influence/Impact Grid

What is it?	A tool that helps to identify the stakeholders with the highest influence and the highest impact on a project.
Why use it?	This QI tool helps understand who to involve in the planning and execution of a QI project. It is useful when planning a project that will involve many team members, including those that are "higher" up than the project lead, e.g. GP partner, practice manager etc. • Identifies the level of involvement needed for different groups in the project planning and implementation. • Helps to build an understanding of the project by communicating with the right people early. • Getting input from high impact stakeholders at the start of the project can help increase the chance of success. • By understanding the views and needs of high influence/impact stakeholders, project leads can anticipate difficulties that may occur and manage these before they become an issue.
Who can do it/lead it?	Best done by the project lead during the planning phase.
How do you do it?	1. Brainstorm and make a list of anyone who would be affected by the project. 2. Add these people to your influence/impact grid from least influential to most influential and least impact to most impact. 3. Use the grid to help understand where you should focus your time. 

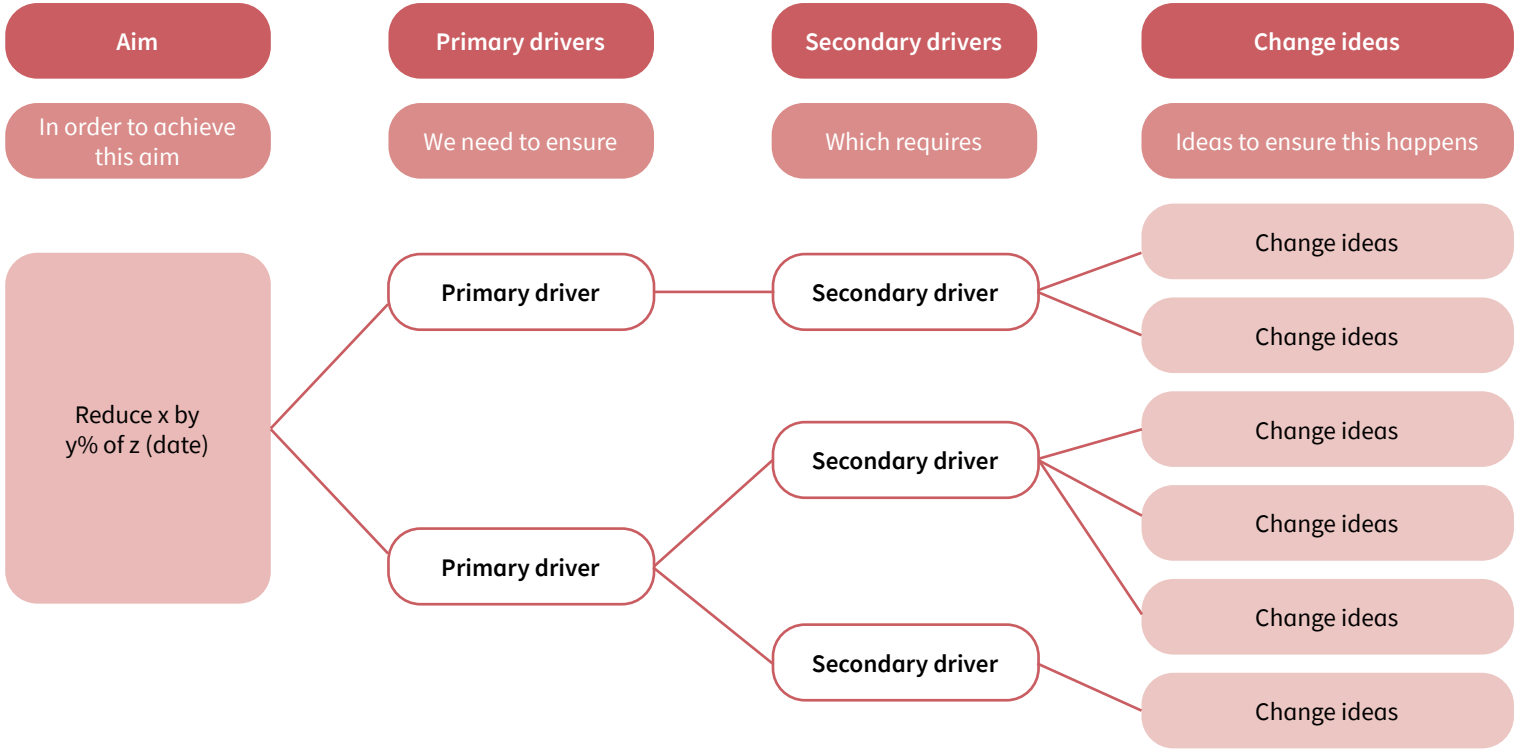
Top tips:	• Involving others in the brainstorming phase can help identify stakeholders you may not have considered. • When deciding the impact and influence a person has think about how easily they could block your project
Worked GP example:	When introducing a new recall system for a chronic disease. It was clear that it would have a high impact for patients and so they needed to be kept informed. Nurses would have a high level of influence on the success of the project and it would impact on their work greatly. It had a lower level of impact on doctors, but they had a high level of influence.



What is it?

A visual tool that logically connects the aim of the improvement project with the change ideas through the different drivers for change.

- **Project aim** quantifies what better will look like, for whom and by when.
- **Primary drivers** identify the key areas of a system that need to change to meet the aim. They are often associated with processes, infrastructure, culture and people.
- **Secondary drivers** break primary drivers down to identify interventions to positively influence the primary drivers.
- **Change ideas** are specific ideas that teams can test to see if they influence the secondary drivers and ultimately the aim.



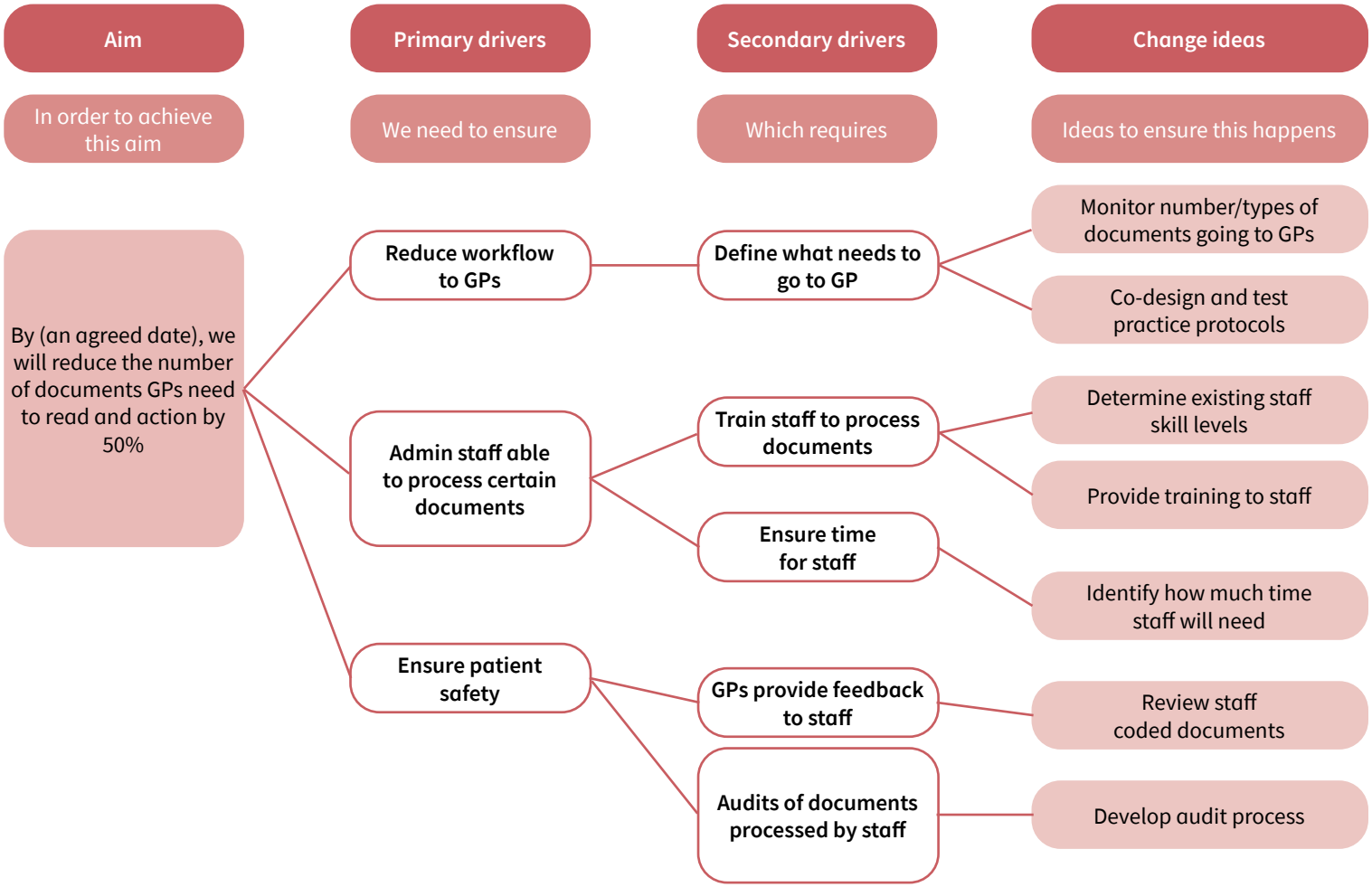
QI Tool 4: Driver Diagram

Why use it?	This QI tool helps to involve your team to agree and visualise a plan for your improvement project.
What is it useful for?	• Generating a shared understanding of the improvement project. • Visualising how various ideas for change interact and lead to the aim. • Identifying the parts of the system that need to change. • Generating and agreeing the most important change ideas. • Developing outcome, process and balancing measures.
Who can do it/lead it?	Best led by someone familiar with using driver diagrams. It needs input from the whole team: clinical and administrative staff; attached staff; linked organisations (e.g. community pharmacy and nursing homes) and patients.
How do you do it?	• Bring together the team to capture ideas from multiple perspectives - what do we need to change to achieve our aim? • Record on sticky notes and cluster ideas to identify the primary drivers for change. • Identify secondary drivers – ideas on sticky notes that influence the primary drivers. • Link the aim, primary and secondary drivers. • Ask the group to suggest change ideas for each secondary driver. • Prioritise change ideas according to which is likely to have the highest and/or quickest impact. • Consider what you need to measure to demonstrate that change ideas have been implemented (process measures) and have impact (outcome measures). • Consider measuring unexpected outcomes (balancing measures).

Top tips	• Use a template such as on the QI zone • Process mapping, fishbone diagrams and other tools can work well with driver diagrams to understand the current systems and identify change idea. • Sometimes working forward from a change idea can help understand the primary and secondary drivers for change. • The headings in the driver diagram template can be thought of as: o In order to achieve this aim (Aim) o We need to ensure (Primary drivers) o Which requires (Secondary drivers) o Ideas to ensure this happens (Change ideas)
More information	QI zone

Example

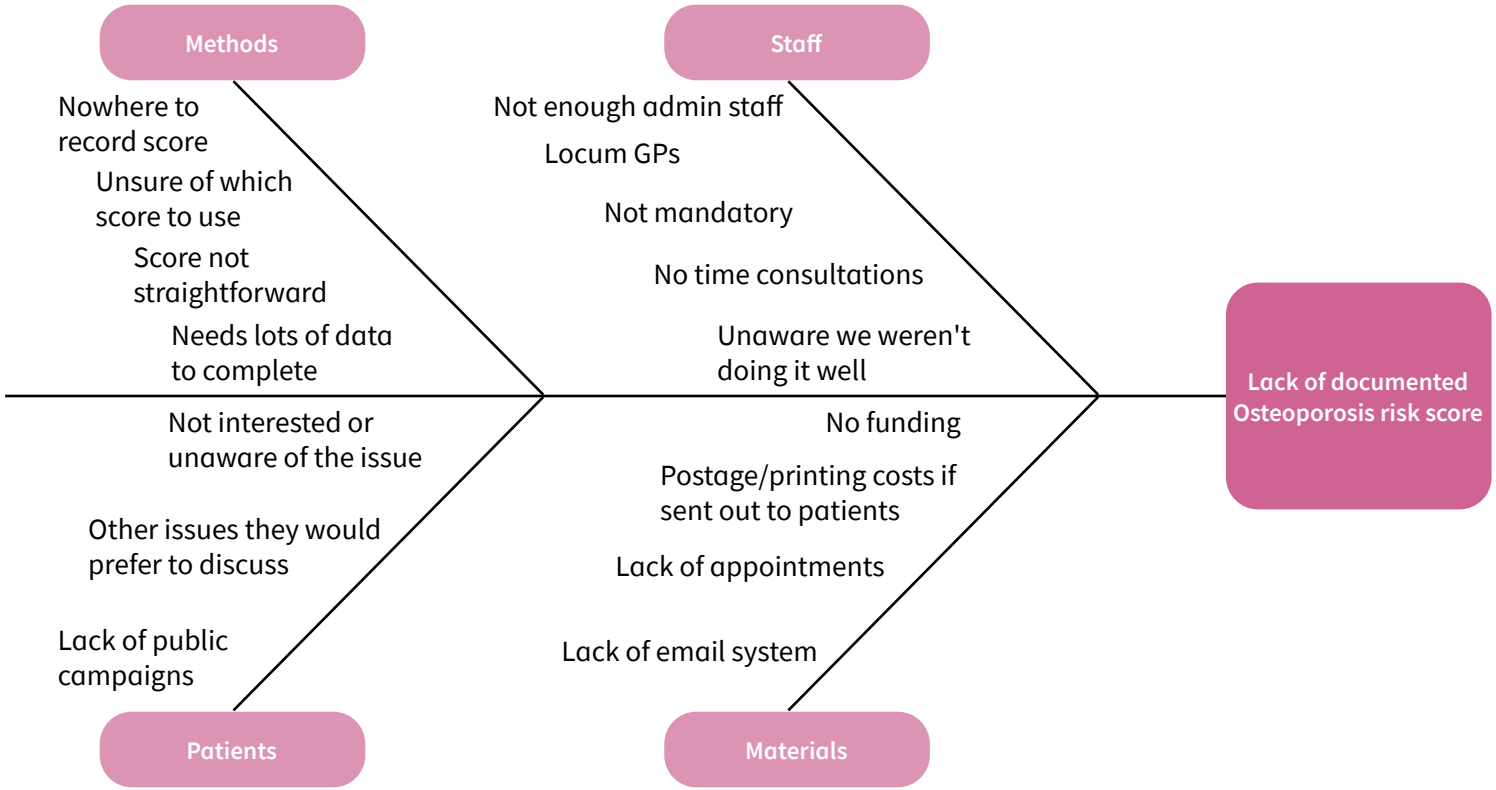
A practice wished to reduce the number of documents that GPs had to read and action. They brought the team together and brainstormed ideas about how to achieve this. They identified the following primary drivers, secondary drivers and change ideas. These ideas were subsequently tested through a series of PDSA cycles.



QI Tool 5: Fishbone Diagram or 'Cause and Effect Diagram'

What is it?	A diagram that helps teams to identify and understand the potential contributing factors to the problem a team are trying to address.
Why use it?	This QI tool helps to understand the current system and identify change ideas. It is useful when the problem is known but the contributing factors are multi-factorial. • The whole team should contribute - identify issues from different perspectives. • Gives a visual representation. • Helps to identify change ideas and develop an improvement plan. The fishbone diagram isn't useful when the problem is not known, or when the solution to a problem has already been identified.
Who can do it/lead it?	Anyone can lead/facilitate.
How do you do it?	1. Identify the problem and write it in the problem statement box on the right-hand side of the diagram. 2. Decide on how to categorise the contributing factors, i.e. name your "fish bones". Typical headings for GP include Staff, Patients, Methods/Procedures, Environment, and Resources. You may find that other headings are identified during the brainstorming process. 3. Brainstorm to identify contributing factors to the problem. Ask all participants to write their ideas on sticky notes (a new sticky note for each idea). It may be worthwhile giving people time to think/identify issues prior to the meeting. 4. Place each of the sticky notes beside the appropriate 'fishbone'. Sometimes this will spark more discussion and further ideas generated. 5. The team can use the diagram to agree improvement interventions.
Top tips	• Allow everyone to have their ideas documented, don't disregard them if you disagree. • Gather facts about the problem, not opinions. • If team members disagree on the contributing factors, gather more facts. • Leave the fishbone diagram in a communal space so team members can add to it anonymously. • Take a photo to include in your project report.

More information	QI zone
Worked GP example:	Below is an example of a fishbone diagram used to identify issues that contribute to a lack of documented osteoporosis risk scores. The diagram documents the contributing factors identified by the team which can then be used to identify an improvement plan.



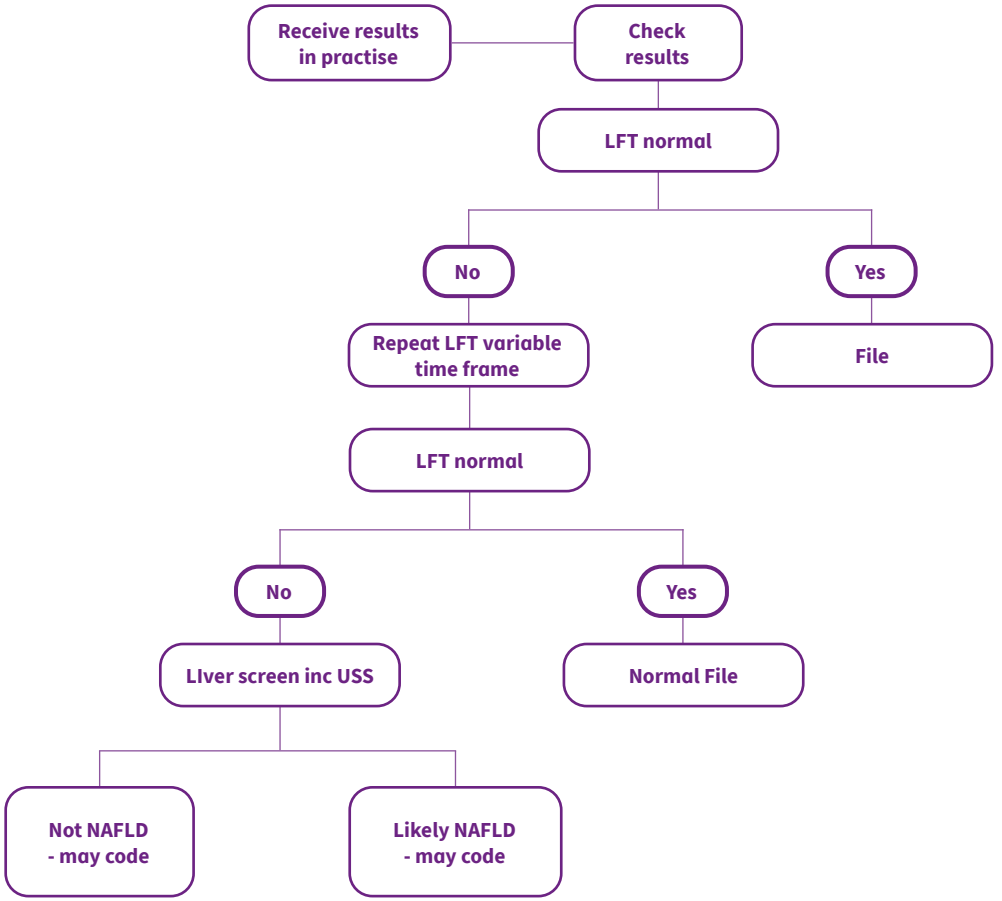
The Fishbone diagram is a useful QI tool that is quick and easy to complete. It adds value to any QI project by involving the entire team. This ensures each member feels involved and valued and importantly identifies potential problems and solutions from their perspective. Using the Fishbone diagram will help to identify worthwhile improvement targets that can be taken forward by the appropriate member of the team.

QI Tool 6: Process Mapping

What is it?	A visual representation of a process from start to finish including the sequence of steps and yes/no decision points.
Why use it?	This QI tool helps to understand the current system and identify change ideas. • Gives a visual representation of all the steps in an existing process. • Aids team understanding of the full process. • Helps to identify change ideas. • Can be used to plan and visually represent a new process. • Identify how a process is actually happening (rather than what is believed to be happening).
Who can do it/lead it?	Anyone involved in the change management project can draw a process map but it must involve the whole team so that the actual process is modelled and not what one person believes happens.
How do you do it?	1. Identify the first and last step in the process and document. Conventionally these are represented in an oval shape. 2. Identify all the tasks and decision points in the process. Conventionally tasks are represented in a rectangle and decision points in a diamond. 3. Ensure all members involved in the process review the process map to check accuracy. 4. Analyse the completed map for unnecessary work, duplication, bottlenecks, delays etc. This information can be used to plan a change.
Top tips	• This works best as a group exercise. • It can be useful to initially use post-it notes as these can be moved. • Make sure the map is agreed by the whole team before moving on. • If a process is particularly complex, separate process maps may be required for individual steps to help break these down and understand each step in more detail.
More information	QI zone

Worked GP example:

A practice used process mapping to understand their current system for processing Liver Function Tests.



The process map helped the team to visualise exactly what the process was and who was involved. They identified that GPs had different systems for when they would repeat blood test and when they would code diagnoses. From this a protocol was developed and liver screen bloods set included in the test ordering system.

QI Tool 7: Plan Do Study Act (PDSA) Cycles

What is it?	A tool used to test an idea and assess its impact.
Why use it?	This QI tool is used to implement small scale tests of change. PDSA cycles can help to identify flaws and improve proposed change before rolling it out. It is useful when it is not clear how you will implement change, when you wish to test something or when you need to convince people that something will work before implementing at a larger scale. It is not useful if you have one simple change to make such as changing the type of inhaler people are taking.
Who can do it/lead it?	The structured nature of PDSA benefits from one person overseeing it and directing the team. This will often be the project lead.
How do you do it?	**Plan**: Have a clear objective or "aim statement". What questions do you want answered by carrying out this cycle? Predict what you think will happen when you implement the change. How will you do it? Who will do it? When and where will you do it? Who is responsible for each step? **Do**: Carry out the plan. Document any issues, feedback or observations. **Study**: Analyse the outcome and compare it to your predictions. Summarise the findings. **Act**: Use the outcome of your first test to adapt your change. Consider if you need to adapt or abandon the project. Are you ready to implement at a larger scale or will another PDSA cycle help?
Top tips	• Be prepared to be flexible and alter the project based on the outcomes. • Involve the team at all stages. • Using recording sheets makes the project write up easier.
More information	QI zone which includes PDSA template

Worked GP example:

Aim (overall goal for this project)			
Increase the number of females >65 and males >75 in the practice with a documented osteoporosis risk score to 50% over the next 6 months.			
Change idea			
Use a questionnaire to collect patient data required for risk score.			
PDSA objective: Describe the objective for this PDSA cycle	**What questions do you want answered for this test of change?**		
To determine if the qFracture risk score would be suitable for a questionnaire.	1. Is it time consuming? 2. Is it easy to complete? 3. Would patients be able to complete it? 4. Would admin staff be able to calculate score?		
Plan			
Predict what will happen when the test is carried out	**Measures to determine if prediction succeeds**		
I predict this scoring system will be time consuming and challenging for admin staff to interpret.	1. Time taken to complete questionnaire 2. If questionnaires were complete or incomplete 3. If admin staff could calculate the score without the help of a clinical staff member		
List the tasks needed to set up this test of change	**Person responsible**	**When to be done**	**Where to be done**
1. Design questionnaire using qFracture 2. Recruit patients to complete the questionnaire 3. Teach admin staff how to calculate score	Person X	During the month of X	Work
Do	**Describe what happened when you ran the test.**		
The questionnaire was tested with three staff members and three patients.			
Study	**Describe the measured results and how they compared to the predictions.**		
100% of patients found the questionnaire time consuming and complicated. 100% of admin staff were unable to calculate a risk score and use this to interpret the risk. Staff could not interpret the score and passed on to GPs/clinicians.			
Act	**Describe what modifications in the plan will be made for the next cycle from what you learned.**		
Test if the FRAX score would be easier to use.			

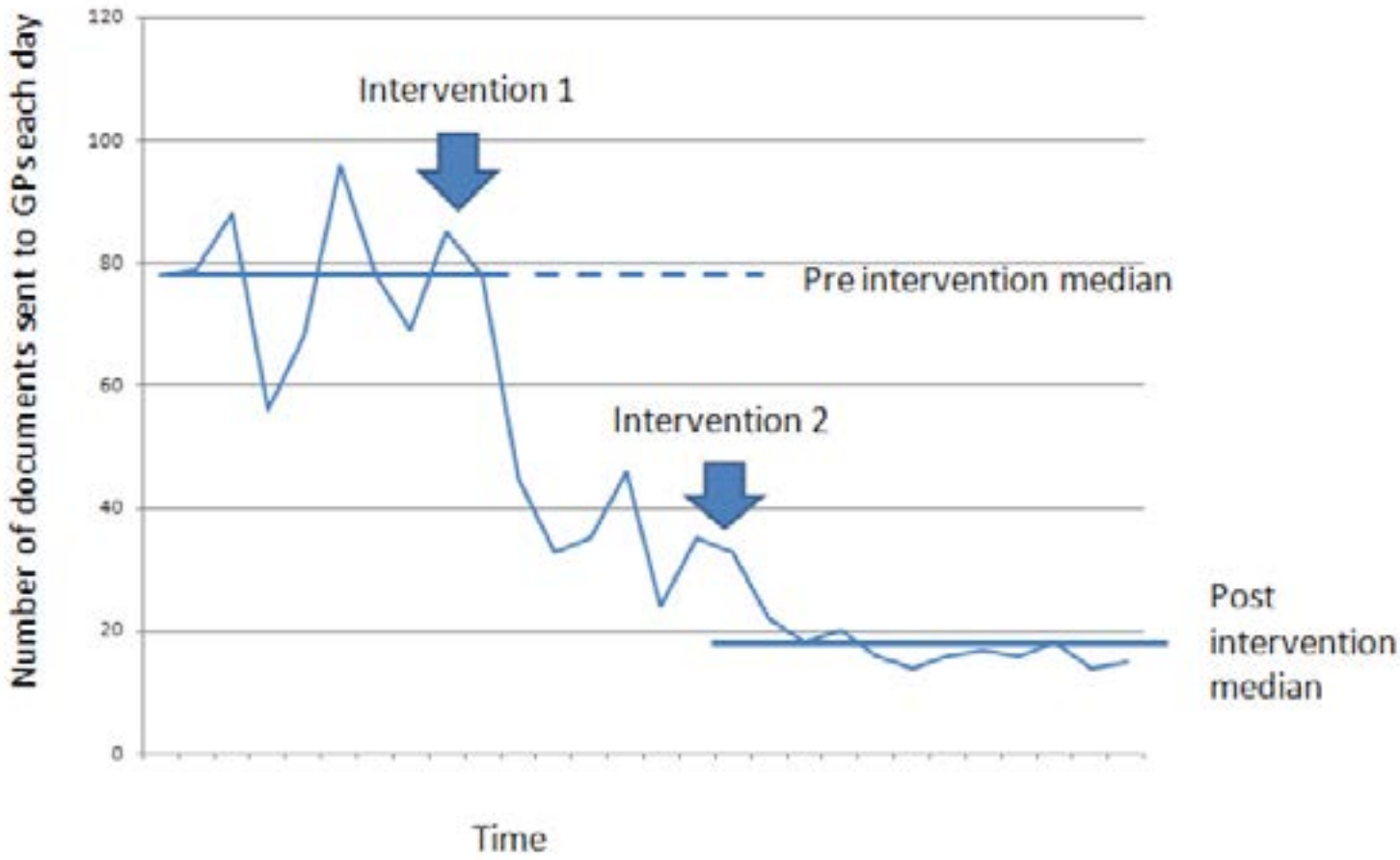
The PDSA cycle allowed the team to test the proposed questionnaire prior to sending to more patients. It was not suitable in its current form and it was adapted. A further 4 PDSA cycles were carried out before the team were happy to send out the questionnaire to patients. The value of using the PDSA tool was being able to test and adapt the change prior to rolling it out. Although PDSA cycles are time consuming it allowed the team to be sure the implemented change would be effective, therefore saving time in the long run.

QI Tool 8: Run Chart

What is it?	A run chart is a line graph showing data plotted over time.
Why would you choose to use it?	A run chart is a simple way to plot your results over time to identify patterns. It can show if changes you have implemented have resulted in sustained improvement.
What is it useful for?	It is a useful way to visually present results to demonstrate the effects of changes.
Who can do it/lead it?	It only takes one person to produce the run chart but it should be shared so that all involved in the project can review progress.
How do you do it?	• They can be created easily in software packages such as Excel. • On the y (vertical) axis you plot the result of your measurements (process, outcome or balancing measures). • On the x (horizontal) axis you plot time. • Add your data points. • Often patterns can be seen just be looking at your results. • After adding 10 data points, a median line can be added. • Run chart rules can be used to describe the data in more detail such as identifying shifts and trends (see more information). • Adding a median line for baseline (before intervention) data and for post intervention data can help demonstrate the effect of changes.
Top tips	Measuring small numbers regularly allows you to monitor progress on your run chart. Share your results with the team. For example, displaying results in the practice is useful to demonstrate to the whole team how the project is progressing.
More information	QI Zone https://www.youtube.com/watch?v=yIml8GFrGuI for simple tutorial.

Example

A practice implemented changes to the management of documents to reduce the number requiring GP action. Their run chart showed a sustained improvement after the intervention.



Each practice in the cluster compared their run charts and discussed the effectiveness of different changes they had implemented.

What is it?	A set of principles to structure team discussions to understand work within healthcare systems. This is essential to analyse events, identify improvement priorities and to develop and implement change ideas.
Why use it?	These principles helps to understand the current system and identify ideas for change. Healthcare systems consist of lots of interactions between people, equipment, the physical environment and outside influences. In these type of systems (called complex socio-technical systems) people often have to adapt how they work in order to get the job done. This means there is a difference between *work-as-done* (by those that do the work) and *work-as-imagined* (by those distant from the work e.g. management or working in other sectors). The STEW principles help to involve teams to understand the realities of work, which is essential when analysing an event or planning change.
Who can do it/lead it?	Someone with knowledge of the STEW principles who has basic facilitation skills. It is essential to involve the whole team to truly understand *work-as-done*.
How do you do it?	• At all times focus on the system as a whole and not individual components. Agree boundaries of analysis (e.g. the practice/the community setting). • Seek input from multiple perspectives – all members of the team involved in the work. • Consider work conditions – how do these influence what people do? o Demand (to do a task) and capacity (to complete the task). o Resources for the work – availability, usability. o Guidance/protocols. • Analyse interactions and flow o What other tasks interact with the one being done? o How does this affect flow of work (patients, information etc.)? • Use this information to explore why decisions make sense at the time. • Explore how people vary how they work due to the above reasons. o Is this variation helpful? – if so, how can it be supported (build variation into protocols, share knowledge of how people adapt)? o Is it unhelpful? – then how can it be dampened? Is this an area of work that needs stricter procedures?

Top tips	These principles can augment other QI methods and tools. For example, they can: • Help understanding of how tasks link together and influence each other that can improve process maps. • Uncover the way people really work to help understand problems in a Fishbone diagram. • Highlight ideas for change. • Influence choice of measures as some variability may be desirable.
More information	PS zone Publication
Worked example	A practice wanted to increase the efficiency and safety of their handling of special prescription requests to involve their newly appointed practice based pharmacist. The following is an extract relating to one issue discussed using the STEW principles. Foundation concept • To ensure the correct prescription is available when the patient needs it. Multiple perspectives • Administrative staff – described problems with the different ways patients used the system, the ways GPs process requests, arranging medication reviews and solving problems with community pharmacies. • Patients – described frustration with delays and not knowing if prescription issued. • Practice manager – wanted to standardise the process. • GPs – described why they had different ways to deal with requests. • Community pharmacy – explained how delays influenced their processes, especially for compliance aids. • Practice pharmacist – wanted to learn all about the process to determine the best ways to work.

Worked example

Work conditions

- Demand/capacity – demand much greater on a Monday than a Friday, shorter turnaround for special requests as opposed to other tasks such as medication reconciliation.
- Demand/capacity – requests for prescription reviews greater than capacity to provide.
- Resources/constraints – Often information in notes missing (e.g. GP does not specify review interval for medication), no practice guidance for processing special requests.
- Certain medications considered more 'risky'. Strong analgesics, DMARDs, lithium, anticoagulants.

Interactions and Flow

- Often patient review needed which delays process.
- Practice pharmacist may need to discuss requests with GPs, community pharmacy, secondary care, patients and ccarers. This could further delay process.

Why decisions make sense at the time

- GPs have similar but different thresholds for arranging reviews. They allow a variety of responses – issue, issue with note to arrange review, issue half quantity, telephone patient immediately, don't issue. They will make the decision based on demand and capacity at that time and perceived risk.
- GPs don't specify review interval as expect the special request to come back to them.
- Patients do not know the difference between a repeat prescription and a special request and so order and expect them to be processed in a similar way.
- Pharmacies need to make compliance aids up in advance and so order early.

Worked example	
	Performance variability • Thought useful to have a variety of responses and allow choice based on conditions. For example if several clinical staff members are on annual leave then can delay reviews. However, certain medications that are riskier and should follow a defined protocol. Following this analysis, the practice developed and tested a protocol to guide the pharmacist. This did not specify every action needed but gave options that can be useful in different situations. It included leading indicators of potential trouble, such as 'risky' medication and actions needed for these. They altered the pharmacists work template to include more special request time at the start of the week and more medication reconciliation time at the end. They built in time to discuss problems with GPs which also was a way to discuss relative merits of options. They developed and tested ways for the administrative staff to communicate decisions to patients and ensured the administration staff who dealt with prescriptions sat beside the pharmacists so they could discuss problems relating to patients or community pharmacies.

QI Tool 10: Designing Work Procedures

What is it?	Procedures are written instructions, checklists or flowcharts describing a logical step-by-step way of doing things.
Why use it?	Procedures may be needed when designing and implementing new ways of working as part of a QI project. They may make changes more sustainable and easier if procedures are appropriately adapted for new settings. Procedures can standardise and simplify what you do and reduce risk and frustration.
Who can do it/lead it?	Anyone can write the procedure but it needs to involve those that do the work and have different perspectives on the work.
How do you do it?	Ensure a Procedure is needed, what is the problem that needs fixed? • Is it a safety critical, complex or important task? • Is it rarely performed? • Could inexperienced team members have to do this task? • Must you comply with good practice? • Do you have a clear improvement goal? Involve the whole team • Gather different perspectives. • Ensure frontline team involved in co-design, implementation and review. Identify the hazards • Consider what can go wrong – think about people, tasks, tools and technology, physical environment, organisation of work, external influences. Capture work-as-done • Procedures need to reflect 'Work-as-Done' (the realities experienced by the frontline), rather than 'Work-as-Imagined' (by those beyond the frontline). • Capture the positive ways in how people adapt to their work leads to better Procedures.

How do you do it?	Make it easy to follow • Good visual design is essential. • Don't assume that people know what is meant. • Use short, simple language. Test it out • Ask people who will use it and have different levels of experience to test and review. Train people • Train people to use it and ensure new team members receive training. Put it into practice • Ensure it is used – name it properly, make it easy to access, keep in good condition in clinical areas. Keep it under review • Monitors for gaps between work-as-imagined and work-as-done.
Top tips	Review the guidance for: https://www.ergonomics.org.uk/common/Uploaded%20files/Publications/CIEHF-guidance-on-human-centred-design-of-work-procedures-document.pdf

Worked example

At the start of the COVID pandemic the 'Designing Work Procedures' guidance was used to write procedures for the use of electronic health records and other Information and Technology (IT) systems in a community COVID hub.

Ensure a Procedure is needed, what is the problem that needs fixed?

- It is critical for safety that staff can use all the IT systems. New care setting and IT unfamiliar to many GPs, nurses and administrative team members. There was a lot of tacit knowledge – with staff who had more experience with the IT helping several members of staff during each shift.

Involve the whole team

- The various processes were discussed with administrative and clinical team members. One experienced member of each staff group, one with very little experience and one who had been using system for 2-3 weeks were observed.

Identify the hazards

- Discussion with management identified what had gone wrong in the past. During observation, staff identified what could go wrong and how they reduced the risk of these causing problems.

Capture work-as-done

- During observation, wrote every activity required by various clinicians and explored why they adopted particular approaches.

Make it easy to follow

- Visual design and layout (flow charts) tested with frontline workers to make sure it is easy to follow.

Worked example	
	Test it out • Draft procedures given to frontline workers to follow during shift. Asked to annotate changes, and provide useful hints and tips. Reviewed by management to ensure complies with their governance. Train people • Incorporated into induction pack and is part of induction process. Put it into practice • Available as interactive PDF on each computer terminal and on regional NHS intranet. Paper copy laminated and at each terminal. Keep it under review • Procedure to be reviewed with software updates and ongoing feedback process available to users to allow continued updates.

It is preferable that ideas for QI are generated from your own experience. For example, you may wish to perform an audit after analysing a significant event or seeing a patient whose care you feel could be improved. We have included a few examples for QI projects that may give you examples that may give you some ideas or help you plan projects relevant to your practice.

Care Bundle Audit

DMARDS – example in Care bundle section.

Children under 16 with asthma should have:

1. Height recorded in last 12 months.
2. Predicted peak flow recorded in the last 12 months.
3. Volumatic device available at home.
4. Written asthma management plan.
5. Review within four weeks following any admission within the last 12 months.

Women on the combined oral contraceptive pill should have:

1. BMI recorded in the last 12 months.
2. Blood pressure recorded in last 12 months.
3. Smoking status recorded in last 12 months.
4. Recorded that patient asked about migraine contraindication within last 12 months.

Patients with an MI should be on:

1. Suitable antiplatelet as defined by local or national guidance.
2. Beta blocker.
3. ACE inhibitor.
4. Statin.

Within six weeks of admission to a nursing home, patients should have:

1. A key information summary completed.
2. Record DNACPR status.
3. An ACP completed.

Criterion based Audit

The criterion chosen should be SMART ie Specific, Measurable, Achievable, Realistic and Timely.

Medication

- Patients on Tamoxifen should not concurrently be prescribed SSRIs.
- Patients on 5-Amino Salicylate Acid (e.g. mesalazine) should have appropriate renal monitoring (using local or national guidance).
- Patients prescribed HRT who have an intact uterus should be prescribed HRT that contains both oestrogen and progesterone or have an appropriate intrauterine device.
- Patients on terbinafine should have positive microscopy or culture prior to commencing treatment. Alternatives may be patients on terbinafine should have treatment review at 3-4 months in line with NICE guidance or should have LFT blood monitoring 4-6 months after commencing treatment.

Disease areas

- **Inflammatory bowel disease**
  - Patients with inflammatory bowel disease for greater than 10 years should be offered colonoscopy surveillance in line with NICE guidance.
  - Patients with inflammatory bowel disease over the age of 50 should have a fracture risk assessment (NICE osteoporosis guidance).
- **Psoriasis**
  Patients with psoriasis should have an assessment of cardiovascular risk as per SIGN 121.

- **Diabetes**
  Adult patients on treatment for diabetes should know their target HbA1c.
- **Mental Health**
  - Adults with a diagnosis of bipolar disorder should have an annual physical health check including BMI and fasting glucose.
  - Patients with severe mental illness should have smoking status documented.
  - Patients with a diagnosis of dementia should have fitness to drive advice recorded.
- **Practice systems**
- Drugs held in doctor's bag will be in date.
- Consultations should start within 15 minutes of designated time.
- Mid-stream urine samples should be sent for microbiology as per local guidance – should be made more specific based on guidance.
- In date, emergency supplies of adrenalin are available in the practice.
- Urgent cancer suspected referrals should be sent within two working days of agreement of referral with patient.

PDSA cycles

All criterion and care bundle audits above would be suitable for using PDSA cycle to quickly test small changes and drive related improvements.

Trigger Review Method

- Specific shared characteristics:
  - Nursing home patients
  - Older than 75
  - Recent falls
- Chronic Disease Areas:
  - COPD
  - Diabetes
  - Heart Failure
- High risk Medications
  - Warfarin
  - Insulin
  - Methotrexate

Lots of other examples are available via the Scottish Patient Safety Programme website.

The Primary Care Trigger Tool: Practical Guidance

Other Resources:

Practice Based Small Group Learning (PBSGL)

Educational resources that enhance knowledge and result in changes in clinical practice also contributes to quality improvement. Further information is available here.

For GP Trainers

As well as the GP Practice Safety Checklist a further checklist specifically for training practices has been developed for use within the first three months of a GP trainee starting. It is available here.

The Health Foundation has created a booklet "Quality Improvement made simple", found here, that expands on all these points further. Information can also be found on the Healthcare Quality Improvement partnership website at HQIP

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