NHS Education for Scotland

Quality Improvement in Primary Care:

What to do and how to do it

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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. 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.

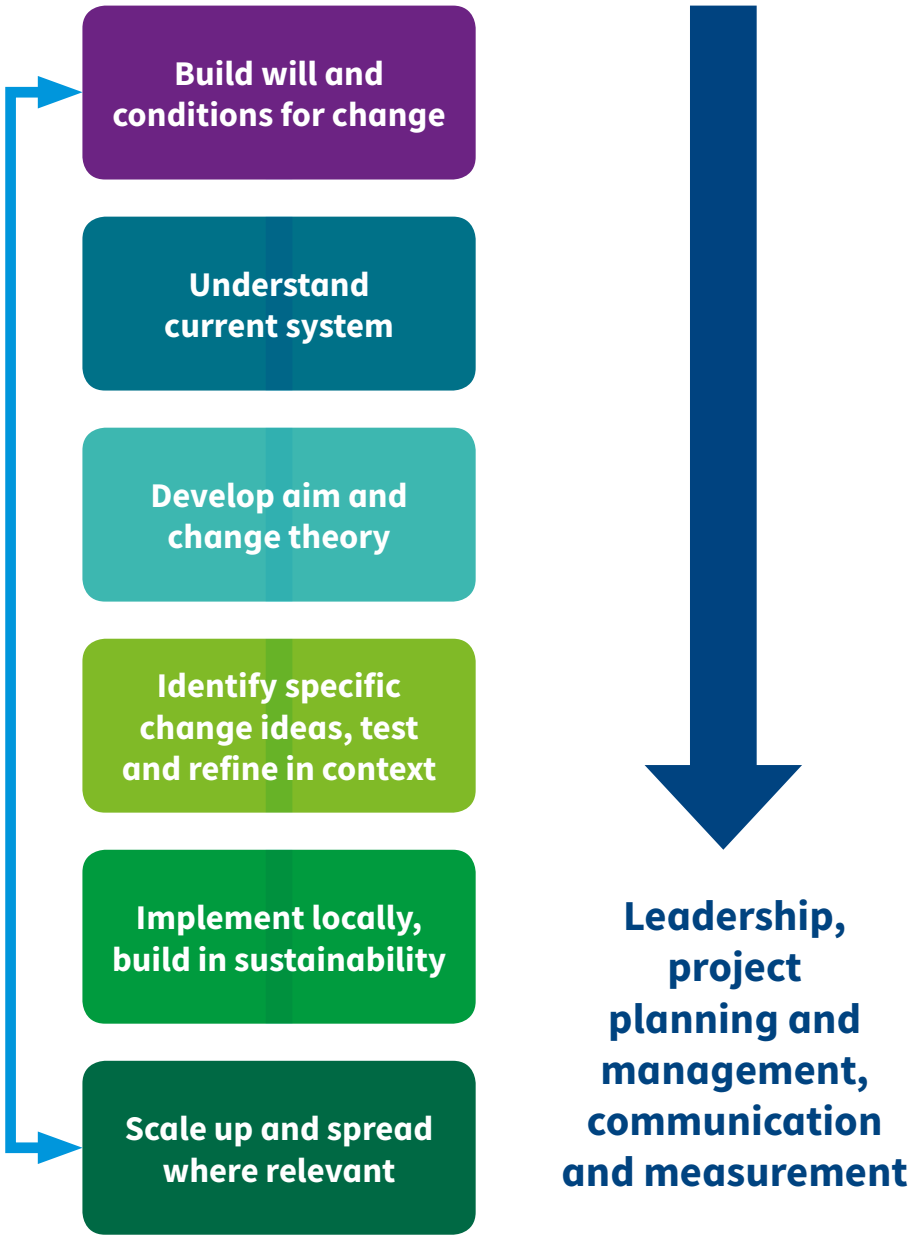
To make things easier, this resource describes several QI methods that will be useful for all members of the primary care team, including GP specialty trainees, who wish to better understand and apply QI thinking and tools more effectively. It will also be helpful in supporting the wider goals of GP 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, when in fact there are a wide 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 in the long run. As GP Quality Clusters become more established understanding how different methods can be used to drive improvement in different areas of practice is essential.

A brief guide and worked example for each method are described including why you would choose this particular approach, who it involves, how to do it and Top Tips for successful completion. In addition, there is a chart that may help you choose a successful method and an ideas page if you are stuck or are in need of inspiration.

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 NHS Education for Scotland (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.

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.

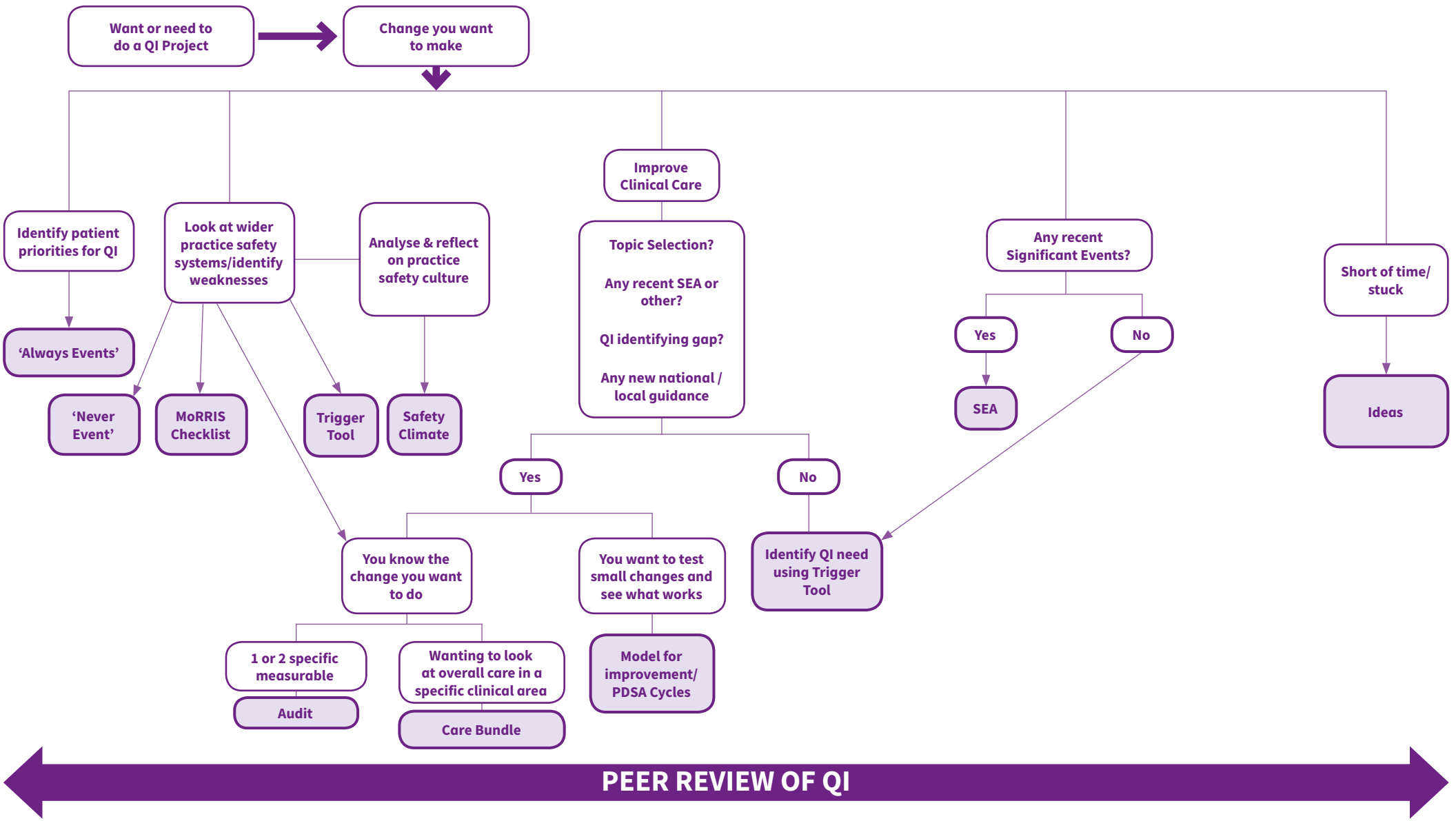


This booklet describes several QI methods and top tips that map to the improvement journey as shown in the diagram. Some methods are particularly helpful in certain parts of the 'journey'.

- Always Events and the Trigger Tool Review Method are particulary useful to help build the will and conditions for change. This is achieved by demonstrating the impact on patients and the practice of current system performance and how this could be improved.
- Significant Event Analysis (SEA) is useful in building will and conditions for change but through the exploration of how different contributing factors interacted in significant events it also helps understand the current system.
- In audit and the Model for Improvement/Plan Do Study Act (PDSA) methods, the defined objectives and measures help develop an aim and change theory and specific change ideas.
- Both audit and the Model for Improvement/PDSA methods allow testing change locally with a consideration of sustainability and spread of change.

All the QI methods described allow a demonstration of leadership and teamwork and this is described further in the top tips section.

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.

1. Agree an important topic

We would recommend that the topic chosen should, if possible, come from a recognised gap in current practice, or as a response to new local or national need or guidance. Gaps in practice can, be identified after a significant event, or from a clinical encounter, or from ideas and suggestions from colleagues. An example may be that during a routine surgery appointment a GP realises a 39-year-old woman has been receiving the Oral Contraceptive Pill (OCP) 'on repeat' without review for the last three years. This led to a QI project looking at OCP prescribing in the practice in women over 35.

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 not measuring the defined criteria, 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

SMART objectives are important on two levels. The first is that one of your learning objectives may be completion of a QI project. This is a SMART objective as completing, for example, a Significant Event Analysis is specific (there is a specified way to complete it), measurable (you can measure when it is completed), achievable (you should be able to complete it), relevant (a topic should be chosen that is relevant to your work) and time limited (you can set a time frame for completion).

The second level is equally important and relates to agreeing what is to be measured. When performing criterion based and care bundle audit, criteria and standards when put together should generate SMART objectives. This is a crucial area for successful audit 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.

The outputs from other methods in this booklet such as the Trigger Tool method, the Monitoring of Risk and Improving System Safety (MoRISS) checklist, Always Events and Significant Event analysis should also generate SMART objectives and measures.

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, if your objective was:

> Patients on azathioprine should have their Urea and Electrolytes (U&E) and LFT checked **within the last 12 months**. Our standard is 90% and we wish to achieve this within three 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.

Examples of objectives and measures

Objective/measure	Comment and possible improvement
To improve the management of asthma.	This is not a SMART objective/measure. An area of asthma management could be chosen to make a specific and measurable objective. **Consider:** Patients under the age of 16 with asthma should have received a written management plan within the last 12 months and this should be recorded in their notes. Dependent on your practice, you may consider a lower standard to make this achievable.
Patients should be seen at or near their appointment time.	This is not specific and therefore, not measurable. **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 patients within three months)
Hormone Replacement Therapy (HRT) prescribing should conform to guidelines.	This is not a SMART objective/measure. To which guideline does this refer? **Consider:** Patients receiving HRT should have their blood pressure recorded within the last 12 months. You may wish to consider adding a target and time frame for achieving this when setting the standards (e.g. 90% of patients within three months).
Patients requesting an appointment will be seen within 24 hours.	This may be specific and measurable but is it relevant and achievable?
Patients prescribed clopidogrel should have the duration of treatment recorded in the prescription instructions.	This is specific, measurable, achievable (for most practices) and may well be relevant (to stop people taking the medication for longer than required). By stating a standard and a time frame for achieving this it would make this a SMART objective.

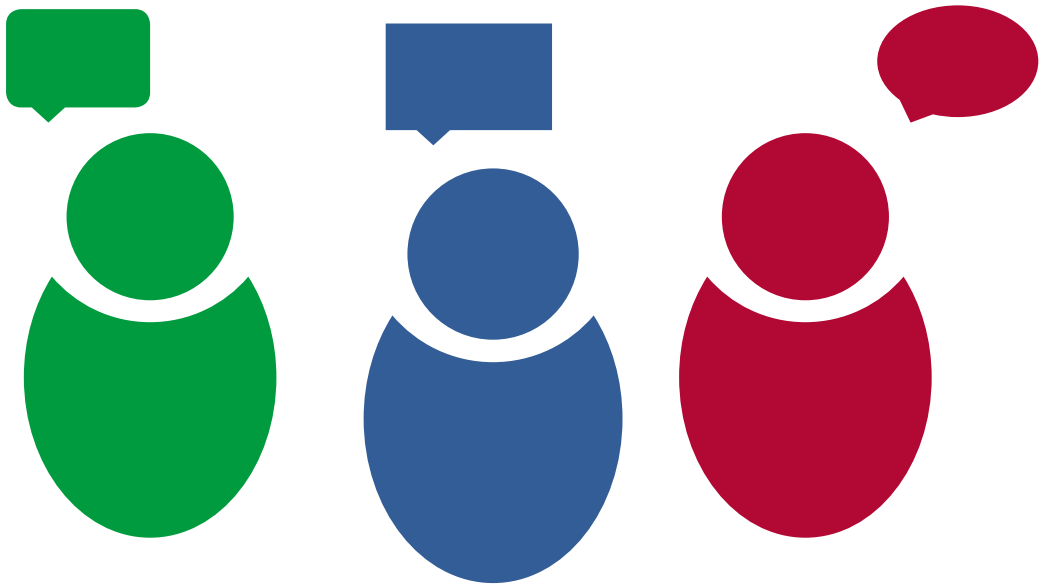
Objective/measure	Comment and possible improvement
Patients on the combined oral contraceptive pill should have an annual review.	This could be made more specific and relevant by describing what the components of an annual review consists. Patients on the combined oral contraceptive pill should: • Blood pressure should be recorded within the last 12 months. • Smoking status should be recorded within the last 12 months. • If the patient is a smoker, advice on smoking cessation strategies should be given and recorded in the notes within the last 12 months. • The patient's Body Mass Index (BMI) should be recorded within the last 12 months. These components could be measured separately or bundled together to form a care bundle. By stating a standard and a time frame a SMART objective can be created. Other audit criteria could be devised to define actions for patients with a raised BMI, BP or who are smokers – following UK Medical Eligibility Criteria (UKMEC) guidance. By stating a standard and a time frame for achieving this it would make this a SMART objective.
Staff should check all patients' dates of births.	This is not specific and therefore, not measurable. When should they do this and how? **Consider:** When should they do this and how. It may be relevant in certain situations. Consider: When making an appointment, administrative staff should use two forms of identification (name and date of birth) to ensure the appointment is created for the correct patient. By stating a standard and a time frame for achieving this it would make this a SMART objective.

1. Generating ‘Always Events’ to drive QI

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.
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 from their perspective.
What is it useful for?	It enables practices to identify the areas of QI that are of direct importance to their patients (rather than just what the practice thinks is a priority).
What is it not useful for?	‘Always Event’ generation provides a baseline for QI, it is not a QI method in itself. Once ‘Always Events’ are generated a QI method needs to be identified to facilitate change and measure improvement.
Who can do/lead it?	Practice managers (PM), or another appropriate member of the primary care team, can collect data from specific patient groups or sub-populations.

1. Generating ‘Always Events’ to drive QI

How do you do it?	**Select a Patient Group or Practice System:** • **Collect data:** Either ask patients to complete a short paper questionnaire, or use a staff member to interview patients. The question asked depends on the system studied and can be very general: “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 is should always happen when you decide to order a prescription?” Collect three answers with 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 is sufficient. • **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:** Look at the event from patient’s perspective, look at practice systems and try and link to them. See if it is possible to measure and finally if feasible. • **Measure event:** Once ‘Always Event’ is generated design QI project to measure if you are delivering on it.
Who else does it involve?	It will involve appropriate team member (normally PM) to collect data, and appropriate team members to analyse responses. Team review is helpful to assess candidate ‘Always Event(s)’ against criteria. Whole team input essential in designing QI project, buying into the importance of focusing on a particular ‘Always Event’ and agreeing to any changes required.
Top tips	• All normal Top Tips (listed on page four) 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 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.

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. • Measuring criteria where there is little/no scope for change unless auditing that are at standard.
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.

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.

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 providing high quality diabetes care. The care bundle approach is essentially an aggregated version of criterion-based audit.
Why would you choose this?	Compliance with individual components of care (or audit criteria) can be high but overall bundle compliance low. Regular auditing and review can increase this 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

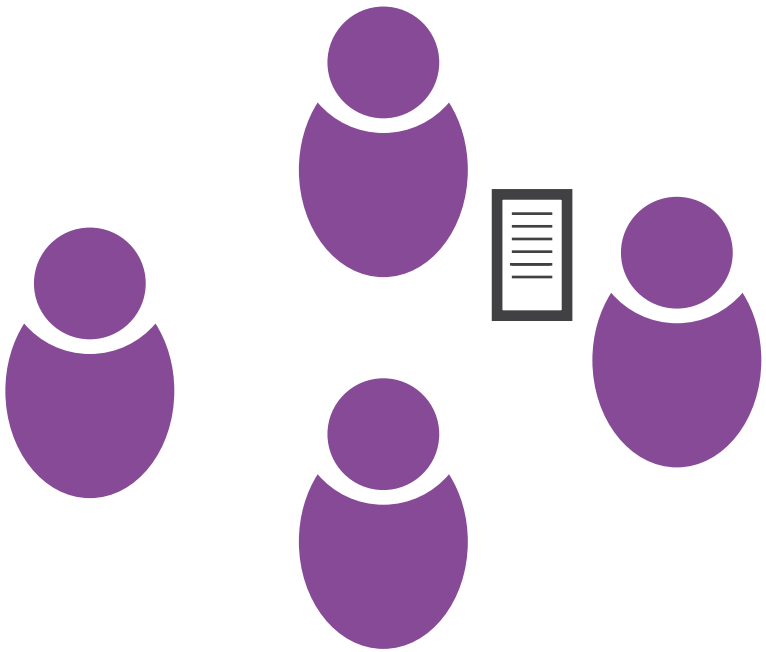
The practice discussed the findings and designed changes to their systems. The first change implemented was the use of an electronic template to guide actions at review appointments. The impact of this was evaluated by a further care bundle audit of 10 patients seen at review appointments.

4. Significant Event Analysis

What is Significant Event Analysis?	As a retrospective educational intervention, the SEA technique involves a structured team meeting, whereby participants reflect on and analyse identified significant events (e.g. test result communication issues, prescription errors.) This allows the team to discuss the scenario, explore the contributing factors and their relationships, reflect on and prioritise learning, share good practices and identify any onward actions. The **SEA** presents an opportunity to review significant events using a systems-focused 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?	A reflective learning technique to review significant events to improve quality and safety of care systems and practice team performance.
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. Significant Event Analysis

How do you do it?	• Identify and prioritise a significant 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 SEA 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.
Significant Event Analysis Top Tips	• All normal Top Tips (listed on page four) for QI apply here. • Avoid medical domination of meetings that may accidently exclude non-clinical staff from participating effectively. • Action from SEAs should be concrete and clear and agreed by discussion of the whole team prior to writing the SEA 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.
Further Info	More information can be found here. The report template can be downloaded from here.



About the Significant Event

Please describe what happened

GP received a needle stick injury from a discarded sharp left on the desk. Health care support worker (HCSW) was asked to help with busy flu clinic, practice nurse in room one so HCSW used GP consultation room. At 5.30pm, staff member asked for all yellow bins to be out of the rooms for collection the next day. Bins and sharps bins removed as per protocol, and sharps bins sealed. Practice nurse room locked for the evening. Duty doctor still on site. Patient arrived at 5.55pm and asked for a flu jag quickly before he left to travel the following day, HCSW had one left on the desk – gave the injection, but did not know where the unused sharps boxes were. She left it on the GP desk. She expected to be first in the morning – and thought she would dispose of the sharp as soon as the nurse room reopened. GP had arrived early, moved paperwork onto desk and inadvertently got needle stick injury in the process.

What was the impact or potential impact of the event?

Significant anxiety for the GP, inconvenience of time to firstly sort out the immediate problem of the needle stick, then the time to analyse the event. In addition, the impact for the patient who had to be contacted, both inconvenience and then testing/anxiety and potential for discovery of significant disease. Impact in employment status for the individual who discarded the sharp.

Contributory Systems Factors

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

People Factors HCSW trying to be helpful and save patient a second trip. Staff trying to be efficient in removing the bins from the rooms the night before. Patient arriving 25 minutes after the drop-in clinic scheduled to finished, practice nurse left at 5.30pm on this evening.

Activity Factors HCSW competent to perform flu vaccination, but usually in her own environment, with a trolley including her sharps bin. Additional clinic and put into an unfamiliar room. The additional tasks of fitting in the patient outwith the normal vaccination process caused a different approach by the HCSW.

Environment Factors HCSW on temporary contract, eager to please, GP workload and stress, arrived early to try to get paperwork done before surgery starts. Practice culture of firefighting, everyone under pressure. HCSW brought in to cover sick leave, induction inadequate, not aware of sharps storage or key for nurse's room.

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

The lack of clear sharps policy and procedure was highlighted in this event. The importance of the sharps bin being available for each time a needle is used, and the availability of staff training in these procedures. Every staff member from the GP, the HCSW or the receptionist that took the bins out of the rooms was doing their best to make difficult circumstances better, however the combination of these good intentions had an adverse outcome.

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?

Lessons from admin:

Yellow bins for collection can be removed the night before collection – but the sharps bins are the responsibility of the practice nursing staff. Sharps policy needed to be updated and shared with admin staff who had no training. Patients can be demanding – but at times it is the right thing to say no.

Lessons from HCSW

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

Safety checks and normal flu vaccination policies are to keep patients and staff safe from harm. The clinic closure time is to allow availability should there be a reaction to the injection – and the closure of the drop in at 5.30pm, is to allow any immediate reactions to be apparent. Sharps procedures were reiterated, and the storage of the bins/lids and keys to practice nurse room.

GP learning regarding needle stick injury and appropriate post exposure prophylaxis policy, familiar with occupational health department.

Whole team level – awareness of practice culture leaning towards wanting to please the patient and avoid complaints rather than patient safety and staff wellbeing. Individual learning for both practice nurse (PN) and HCSW regarding sharps storage, training and induction.

Action Plan for Improvement

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

(Outline your Action Plan for Improvement and how you have implemented it together with the role and contribution of the wider care team, where appropriate. If you have yet to take action or judge that no action is necessary, please justify why this is the case).

Action Plan

1. Full team had training on safe sharps. Bin size changed to 2.5L in clinical rooms.
2. Sharps and needle stick policy shared with all staff, practice manager (PM) collected data until all staff had passed eLearning module.
3. Time of collection of yellow bins changed to be mid-day rather than during consulting times.
4. HCSW given own trolley with all equipment, and sharps bin.
5. PN start and finish times logged with PM, and policy to not over book or over run flu clinic.
6. Practice opted to no add-on's or extra vaccinations and to ensure second member of staff must be on site for any injections or procedures.
7. GPs met to discuss work load issues – opted to reduce number of consultations by two per day per GP to allow some admin or catch up time. Workload audit commenced in January for one week – to be repeated following changes.

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

(Outline your role and contributions and those of the wider care team, where appropriate).

Practice nurse and PM will monitor yellow bins, hopefully no further needle stick. Other 'Never events' discussed at practice level and plans for next protected learning time to consider practice systems.

5. General Practice Safety Checklist (Monitoring Risk and Improving System Safety – MoRISS Tool)

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 – SEA 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 (listed on page four) 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

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 particapants that have completed the survey by login into the adminstration website.

The safety climate report can be genereated 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…

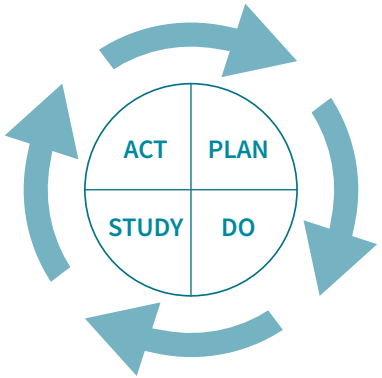
…Communication for short messages was felt to be an issue across the board, with different staff members giving messages in different ways e.g. verbal, handwritten notes, e-messaging. We agreed to utilise the electronic messaging service as the primary communication method…

…We felt we could improve the teamwork within the practice. We hope to do this by conducting monthly whole practice meetings and undertaking a teambuilding 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.

7. 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: three fundamental questions, which can be addressed in any order and the Plan-Do-Study-Act (PDSA) cycle to test changes in real work settings. The PDSA cycle guides the test of a change to determine if the change is an improvement. After testing the change, it is then implemented before being shared. This method is best understood by looking at an example.
Why would you choose this?	It is a simple tool that allows you to test changes in real world settings and test if the change is an improvement.
What is it useful for?	• It is a **prospective** tool to drive and accelerate change allowing change to be tested in real life settings.
What is it not useful for?	• It does not replace models already in place in organisations. • 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?	Firstly, you must set an aim (What are we trying to accomplish?) which should be SMART. Directed by your aims, you then establish your measures – how will you know a change is taking place. Small changes can then be selected and PDSA cycles used to get you closer to your aim.  **PDSA cycles** These are a shorthand way of testing change in real life setting. They allow frequent small changes to be evaluated for their effectiveness. Changes can be altered, or other changes tested in a short space of time. This can be a very practical way of driving change in 'real life' settings. The example below describes the process. 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.
PDSA Top Tips	• All normal Top Tips (listed on page four) for QI apply here. • Answer 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

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 who are working is known to be very low. One practice in Inverclyde used PDSA cycles to increase uptake of flu immunisation in this group. Their baseline uptake in this patient group was 30%.

PDSA cycle one: The flu clinic times were advertised widely in the practice using posters and doctors opportunistically immunising these patients. Rates increased to 33%.

PDSA cycle two: Patient with LTC who were of working age had a message added to their prescription inviting them to attend. Rates increased to 40%.

PDSA cycle three: The flu clinic hours were lengthened, new hours added to prescription message. Rates increased to 44%.

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

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

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

PDSA cycle seven: 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. These meetings were regular with small changes made at each one. 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.

Example 2. Hospital based: Coagulation tests in A&E department – example of how simple PDSA cycles can have a significant effect:

(Example taken from Murphy E, MacGlone S, McGroarty C. A novel approach to improving coagulation sample ordering in an emergency department BMJ Qual Improv Report 2015)

An Emergency department recognised that many of the coagulation samples ordered on admission were not necessary. A baseline data collection over one week showed that only 17% were actually clinically indicated.

PDSA cycle one: Education session for nursing staff as questionnaire of staff had revealed many felt they weren't aware of indications.

PDSA cycle two: Department protocol revised and distributed to staff, and displayed around ED.

PDSA cycle three: Coagulation bottles removed from all areas of Emergency Department (ED) except resus.

Each change was carried out over a relatively short period. The first two were found to have limited impact on the number of tests inappropriately ordered. This was due to several factors, not least the fact that other specialities requested many of the tests, and the high turnover of medical staff in the ED and other specialities. Removing the bottles provided a huge drop in the number of unnecessary blood tests ordered, with over 70.1% of ordered tests being appropriate. This was expected to save the NHS almost £100,000 over one year (Murphy 2015).

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.
How can they be prevented?	**Prospective methods:** Allows teams to analyse their systems before an unwanted event has occurred and consider if they can be improved. **Retrospective methods:** Audit and care bundle analysis, with regular review, can be used to ensure practice systems are meeting required standards and to recover if a 'Never Event' happens to prevent patients experiencing harm. e.g. performing a monthly audit to ensure methotrexate is monitored correctly or identify patients inappropriately prescribed unopposed oestrogen before harm occurs.
Why would you consider 'Never Events'?	It allows a team based approach to prospectively identify and reduce the potential for hazards leading to patient safety incidents, and to create systems change to ensure that if a 'Never Event' occurs it does not lead to patient harm.
What is considering 'Never Events' useful for?	To look prospectively at current systems for serious patient safety incidents and minimise hazards identified to reduce the risk of 'Never Events'.
What is it not useful for?	• Practices may have other areas that they consider as priorities. • If the event has already happened it is better to do a Significant Event Analysis. If you have a specific criterion to measure then an audit may be more suitable.
Who should be involved?	Including as many members of the practice team is crucial to ensure all aspects of the practice system are understood.

How do you do Prospective Hazard Analysis?	**Choose a system:** Use organisational priority, evidence of previous error or personal relevance to your team to choose a specific system 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 The Significant Event Framework: 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 consider what potential problems may be at each stage by asking "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.
'Never Event' Top Tips	• All normal Top Tips (listed on page four) 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.

9. 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 method allows a practice to analyse the care given to a certain group of patients and identify areas of improvement.
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 but does not instigate change: other methods can be used to make changes and improve quality.
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. The practice can use the information to calculate a harm rate which can be serially measured. 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.

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?	NES research and evaluation has shown a wide variation in the standards of QI initiatives such as criterion audits and SEA 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 SEAs, audits and video consultation.
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	Peer Review The audit peer review instrument can be found here. The SEA peer review instrument can be found here.

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 Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) status.
3. An ACP completed.

Criterion based Audit

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

Medication

- Patients on Tamoxifen should not concurrently be prescribed SSRIs.
- Patients on five – 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 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 results in changes in clinical practice also contributes to quality improvement. PBSGL groups, which run across Scotland are an example of such a resource. 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 with 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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