dear colleagues

We would like to welcome you to the first national learning session of the Scottish Patient Safety Programme in Primary Care, which will provide a targeted, world leading, evidence-based range of effective tools, techniques and learning to improve patient safety.

Healthcare Improvement Scotland and NHS Education for Scotland are working in collaboration to support healthcare providers in Scotland to deliver high quality, evidence-based, safe, effective and person-centred care. Throughout this event you will learn about the tools and resources of the Scottish Patient Safety Programme in Primary Care, and how to support practices to implement this locally, ensuring more reliable care for patients.

As part of our continuing support for NHS boards to achieve the best standards of care possible, we recently undertook a series of regional workshops around Scotland, which were extremely well received by attendees, and show that primary care stakeholders throughout Scotland have already become actively engaged with the programme

This work is at the forefront of the NHSScotland Healthcare Quality Strategy, which declares an intention to put quality at the heart of all that the NHS does for the people of Scotland. The programme uses a combination of a breakthrough collaborative, implementation of care bundles in high risk processes, carrying out trigger tool case note reviews, safety climate surveys and patient involvement. The use of this combination of tools leads to improvements in the safety, knowledge and skills of staff, improved processes, with more efficient systems, better team working, less stress amongst staff and greater patient involvement. Practices need the collaborative to learn new skills, to be supported, encouraged and to learn from one another.

Susan Went Director of Evidence & Improvement Healthcare Improvement Scotland *Malcolm Wright* Chief Executive NHS Education for Scotland

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patients, GPs, practice managers, nurses, receptionists and comunity pharmacists.

get support not grief.

patient safety in primary care safety culture

trigger tool introduction

Patient care isn't as safe as you think. Implementing the trigger tool will help you narrow down and focus on the issues within your practice, reduce patient safety incidents, and support your practice to continue to deliver care you can be *proud* of.

A trigger tool is a simple checklist for a number of selected clinical 'triggers'. A reviewer looks for these triggers when screening medical records for patients who may have been unintentionally harmed.

The trigger tool facilitates the structured, focused review of a sample of medical records by primary care clinicians. What's more, it's quick! The 6-monthly reviews can take less than 2 hours.

Practices involved in the SIPC project have found the tool helps bring around a cultural shift in practice. Many people are resistant to the idea of change, for many reasons, including competing priorities, time limitations, and a 'we already do it fine' attitude. However, the trigger tool highlights areas for improvement – which should always improve patient safety. In the test sites, specific changes which were made in response to issues highlighted during reviews include:

- New protocol for recording adverse drug reactions
- Minimum annual full blood count checks for all warfarin patients
- Minimum annual Digoxin levels check
- Better systems for highlighting possible drug interactions when deciding the next dose of warfarin
- Much better at coding relevant read codes
- Checking and ensuring that locums are familiar with practice systems for warfarin patients

"It seemed a bit intimidating when we first had it presented to a large group. It's much easier to use in practice... remarkably effective tool for reflective analysis on patient safety and other clinical issues. It's created a lot of interest from other doctors in the practice as a tool for professional development and for appraisals "

Doctor Gordon Cameron GP, Edinburgh

trigger tool

Trigger Review Sum	mary Report
_	9864344862
Step One: Planning and Preparation	on
Name of Reviewer:	
Name of Practice:	
Profession: GP Partne	er GPST Locum/Sessional GP Salaried GP Practice Nurse
Date of Review: / (in dd/mm/yy format) /	Review Period: (e.g. 3 calendar months) Please select
What Patient Group did you select records from?	
Step Two: Review of Records	
Please aim to review 25 records from the it in one of the records. The number of h	chosen patient group. Tick one box (\checkmark) next to each trigger, each time you fi oxes is NOT related to the number of records
Trigger (a 'prompt' that may indicate a safety inc.	ident) Total
<u>></u> 3 consultations in 7 days	
New 'high' priority read code added	
New allergy read code added	
'Repeat' medication item discontinued	
Out of Hours / A&E attendance	
Hospital admission	
Hb <10.0	
eGFR reduction <u>></u> 5	
Optional Trigger	
Review of Findings Please briefly describe the patient incider using the scales below and then add the Description of Detected Patient Safety	nts that you detected. Next, judge the severity and preventability of each incid two scores in the 'priorty' column. Incidents* Severity Preventability PRIORITY
*Patient Safety Incident: "Any incident that cause (The definition encor	sed harm, or could have caused harm to a patient as a result of their interaction with health care" mpasses error, harm, adverse event, significant event and near miss)
1 Any incident with the potential to cause ha	rm. 1 Not preventable and originated in secondary care.
 2 Mild harm: inconvenience, further follow-up no harm occurred. 3 Moderate harm: required intervention or du 	2 Preventable and originated in secondary care OR not preventable and originated in primary care.

	8554344867
Sten Three: Reflection Action & Improvement	•
A Please describe any Actions/Improvements made DURING the review (e.g. updated coding, r	eviewed prescribiing)
B. What do you plan to do NEXT as a result of the trigger review findings? Use the 'priority' score relevant. Tick as many action boxes below as appropriate for each detected inicident. Write a brid planned actions or add any actions not covered by the suggestions below.	ores as a guide if of description of the
Specific Actions 1 2 3 4 5 Please describe:	
Significant event analysis	
Audit	
PDSA Cycle	
Feed back to colleagues/GP Trainer	
Make a specific improvement(s)	
Add to Appraisal documentation	
Submit a formal incident report	
Update or develop a protocol	
Practice Team:	
Please add any comments about the trigger review process	
Approximately what length of time (in hours) did the review and completing this report take?	Please select
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Planning & preparation etc

- Indicate the total number of reviewed records in this box. Once you have detected five patient safety incidents you do not need to review any more records.
- The suggested maximum number of records to review is 25, even if you have still not detected five patient safety incidents.
- The review time period is the number of full calendar months that you reviewed in each record. The same calendar months should be reviewed in each record.
- The usual number of months is three, although some reviewers may decide to review a longer period.
- To allow relevant correspondence to return from other health care colleagues, we suggest you allow at least a month after the review period and the date of review.
- The rationale for choosing a specific sub-population of patient records to review is that it increases the likelihood of detecting patient safety incidents. There is no single 'correct' group to choose. Examples of potential 'high risk' patient sub-groups are provided in the appendix.

Review of records

• Tick one box each time you find a trigger in the record. Some triggers may occur more than once. Count the number of times each trigger was detected and indicate this in the 'total' column. For electronic summary forms the total will be updated automatically.

Explanation of 'Triggers'

- '≥3 consultations in 7 days' refers to the frequency of contact between a patient and her/his practice. Consultations may be face-to-face, home visits or by telephone and may take place with any member of the practice team.
- 'New high priority read code added' refers to any computer code added during the period of review considered to be a 'priority'. For example, in VISION software it would include any 'new problem' or a 'priority 1' code.
- 'New allergy read code added' refers to any allergy coded during the period of review. This trigger is similar to '9', but is considered separately because most software packages have a dedicated section for these kinds of codes.
- 'Repeat medication item discontinued' refers to any prescribed item discontinued during the period of review
- 'Out of hours/A&E attendance' refers to any out of hours or Accident & Emergency attendance by a
 patient during the period of review. Each attendance should be indicated by a 'tick' in the boxes next
 to the trigger. Where patients are transferred directly from the out-of-hours setting to A&E, only one
 tick should be made as the journey relates to a single episode of health care.
- 'Hospital admission' refers to any unplanned (e.g. emergency admission) or planned admission (e.g. elective surgery) for at least 24 hours during the period of review. The admission correspondence and the period just before and after the admission should be screened for the presence of potential patient safety incidents.
- 'Hb <10.0' refers to a haemoglobin of < 10.0 g/dl recorded during the period of review. It is a prompt to consider the possibility of a patient safety incident and general care of a patient and does not by itself signify error or harm.
- 'eGFR reduction ≥5' prompts the reviewer to screen the record for the presence of an eGFR measure recorded during the review period In practice, it may be necessary to compare this to a previous measure recorded prior to the review period to determine if there was a reduction or otherwise. If a reduction is indicated, screen the record for additional information to determine if a patient safety incident has occurred.
- There is no 'correct' number of triggers. The nature and type of pre-defined triggers are determined by the reviewer. Additional triggers may be added for the purposes of the review. For example, if the reviewer decides to review a sample of patients prescribed Warfarin then...? she/he may have specified a further trigger 'INR >5 or INR <1.8'.

Review findings

- Describe each detected patient safety incident in sufficient detail so that others can understand exactly 'what happened' and 'why it happened' if this is immediately apparent.
- Recording the gender and age of the patient concerned is helpful, but patient identifiers such as name and CHI numbers should not be included.
- Subjectively 'Priority Score' each patient safety incident by combining the severity and preventability scores. This is intended to help prioritize the order in which patient safety incidents are considered for action in 'Step Three' e.g. incidents with higher scores should arguably be a priority, although this remains at the discretion of the reviewer.
- During record reviews 'action' is often taken e.g. amending, adding or removing prescribed items; adding or amending clinical codes; recording entries or arranging for recommendations from other health care settings to be implemented; arranging further investigations, appointments or referring for further treatment. Please briefly document these types of actions in the box provided.
- A list of possible further actions is outlined. Please tick one box each time you plan to take that specific action e.g. if you plan to conduct significant event analysis for two patient safety incidents, tick two boxes next to this option.

Learning needs

- Please provide a detailed summary in this section about any other action you intend to take.
- Please describe any learning needs (personal, professional, team-based or interface issues) you considered or identified during the review process, where applicable.

safety climate

The patient safety problem

The safety of healthcare was highlighted as a significant problem in most modern healthcare systems, including the NHS, with the publication in the late 1990s of influential reports such as 'To err is human' and 'An organisation with a memory'. The key messages were that patients are frequently and avoidable harmed as a result of their health care and that organisations should "learn lessons' from these adverse events to maximise harm reduction. In response, a wide range of safety-related activities have been implemented by policy makers in the UK, with much of the focus on acute settings.

In comparison, primary care has received little attention, despite accounting for 90% of contacts with the NHS and around 750,000 GP consultations each day. Added to this is the increasing risk to patients caused by a combination of ageing populations, new technology, powerful medications, imperfect systems and increasing clinical complexity.

The limited evidence from a range of sources suggests that error and preventable harm in UK general practice are problem issues, but the scale and complexity makes it difficult to obtain a reliable measure. For example, incident reporting systems suggest an error rate of up to 75.6 per 1000 consultations, trigger reviews of patient records detected an overall harm rate of up to 9.4% (including incidents originating in secondary care), while diagnostic errors have been found in 2 to 4% of patients admitted to hospital and up to 20% of patients may be affected by adverse drug events. Although the majority of these patient safety incidents are minor or moderate in severity, some have more serious consequences, including hospital admission and even death.

Improving patient safety

Healthcare teams with a positive safety culture are more likely to learn openly and effectively from error and harm. The converse is true for a negative safety culture, which has been implicated as a causal factor in many organisational failures worldwide, including high profile NHS incidents. The prevailing safety culture also influences the priorities of every healthcare worker and helps to shape their discretionary safety-critical attitudes and behaviours.

A positive and strong safety culture is essential to improve and assure patient safety. Building a safety culture is therefore strongly promoted as an important activity for all NHS organisations. It is arguably even more desirable for UK primary care as the majority of health care is delivered in this setting.

Safety culture

Safety culture is commonly defined as 'the product of the individual and group values, attitudes, perceptions and patterns of behaviour that determine a team or organisations commitment to safety management.' It is widely accepted that every organisation and team have a culture which permeates all parts of it. While the influence of a culture cannot be observed directly, its impact becomes apparent in the behaviour of individuals. This is the reason for the well known and practical definition of safety culture as "the way things are done around here".

Safety climate

The term 'safety climate' refers to the measurable components of safety culture. Safety climate provides a snapshot of culture at a given moment in time. The terms 'culture' and 'climate' are often used interchangeably. Safety climate is thought to consist of a number of factors, for example, leadership, communication, workload, teamwork and safety systems.

Measuring safety climate

Safety climate has to be measured first before it can be understood or improved. High risk industries such as aviation, the nuclear energy and petro-chemical sectors have been measuring safety climate for many years. In health care, safety climate measurement is well established in secondary care settings in the United States, while there is progress in some acute hospitals in the UK. Safety climate is most commonly measured through questionnaire surveys.

Safety climate questionnaire surveys

Safety climate surveys typically require the workforce to complete the self report questionnaires anonymously on a periodic basis. The individual scores are aggregated to provide a 'snapshot' of the overall safety climate and of those factors known to be important aspects of safety climate in the workforce, for example perceived effectiveness of team working, leadership or communication systems.

The hierarchical and organisation nature of the NHS potentially may allow safety climate to be examined, compared, monitored and improved at different levels, for example work groups, such as the nursing profession or administrative staff, and organisations, such as individual general practices, community health partnerships or NHS boards.

Requirements for successful measurement

- The support of all members of the practice team should be obtained before the survey.
- Data should be collected anonymously.
- The results should be disseminated to every member of the team.
- The results should be used to plan and to implement improvement initiatives.
- An appropriately validated and reliable questionnaire should be used.

GP-SafeQuest

GP-SafeQuest is a 30 item, validated questionnaire specifically designed to be used by all members of primary care teams in UK settings. It measures perceptions of safety climate and five safety climate factors: Leadership, Teamwork, Communication, Workload and Safety Systems. A major benefit is that it is also suitable for nonclinical and non-management staff groups who are often excluded from other safety climate studies.

Survey limitations

All safety climate surveys provide only a simplified, superficial and partial description of the actual safety conditions within teams and practices at a given time. Capturing the complexity and deeper, underlying aspects of safety culture may be difficult for a number of reasons, including:

- the quality (positive or negative) rather than the strengths of perceptions are measured
- the perceptions and attitudes of respondents may be influenced by unaccounted for educational, socio-economical and personal factors at the time of participating.
- a number of respondents in any culture survey are known to be 'unconscious' of their surrounding culture or to express an exaggerated attitude when prompted, and
- many respondents understandably lack awareness, experience and understanding of the 'safety culture' concept

Benefits of safety climate measurement

Measuring safety climate has various potential benefits which can be described at different levels or settings.

Individual team members

At individual team member levels, safety climate surveys may increase awareness of safety and safety related conditions and behaviours. It also allows an opportunity for them to share their perceptions with the team in general and management in particular.

Practice teams level

At practice team level, safety climate surveys may have application as a diagnostic and educational tool by:

- allowing primary care teams to measure their safety climate
- identifying their relative strengths and weaknesses by comparison to the regional aggregate
- prioritising, designing and implementing initiatives to build a stronger safety culture, and
- evaluating their progress through periodic surveys.

The full version of this document, along with references, is available on the NHS Education for Scotland website: http://www.nes.scot.nhs.uk/education-and-training/by-theme-initiative/patient-safety-and-clinical-skills/toolsand-techniques/safety-and-improvement-in-primary-care.aspx

Organisational level

At regional and NHS management level, the safety climate perceptions of different healthcare organisations and teams may be monitored, compared and potentially influenced over time.

Secondary care

Emerging clinical evidence from secondary care suggests that safety culture is associated with important clinical and healthcare worker outcomes. Studies have shown:

- significant reductions in reported medication errors
- fewer patient falls
- lower infection rates
- decreased staff turnover
- increased adoption of safe work practices, and
- increased job satisfaction.

Differences in perceptions

A consistent and main finding of the vast majority of safety culture surveys – irrespective of industry or setting – is that respondents considered 'management' because of seniority and/or management roles generally perceive their organisations' safety climate to be significantly more positive than those in the 'nonmanagement' group.

This finding has serious implications for patient safety, as the number of safety related incidents increases with the degree of variation in perception between various staff groups. In practice, determining which group's perceptions are closer to reality can be very difficult and even unhelpful. So, while it may be tempting to speculate or attempt to determine which staff group's perceptions is closer to reality, it is the degree of variation between the groups that should be considered.

In general practice, doctors have a multi-faceted organisational role as leaders, managers, educators and frontline clinicians. Arguably, this should provide them with sharper insights into the safety of patient care and related practice systems than other staff groups. However, a recent study has found significant differences between 'management' and 'non-management' in general practices in the West of Scotland. For a positive and strong safety culture to be built, perceptions of all primary care staff groups may first have to be aligned.

practical guidance

Who should complete the survey?

We recommend that all practice staff and anyone involved in or considered part of the practice team complete the survey. However, it remains the discretion of individual practices to decide who they invite to participate.

Getting started

- 1. The practice manager or nominated person accesses the webpage: www.healthcareimprovementscotland.org/safetyclimate.aspx and selects login
- 2. If this is the first time your practice has completed the survey, you will have to register. Otherwise, this 'login' details from a previous survey should be used. The username is the national practice code. There is a 'forgotten password' function if required.
- 3. Select the 'manage questionnaires' tab
- 4. Create a 'new batch'
- 5. Select 'Add another staff member'
- 6. Enter staff name, for example, John. Note: Do not enter email addresses, as automatically generated email may be blocked by spam filters.
- 7. Repeat steps 5 and 6 until the names of all team members have been entered, then select 'save staff' under Section 2.
- 8. Next to each name there will be text showing 'not completed' and a link to download and /or print a paper copy of the survey.
- 9. Download each individual invitation and either print them, or email them through your NHS email account.
- 10. Distribute to named individuals.

Completing the survey

- Each invitation has the link to complete the survey and an automatically generated unique code to allow participants to participate in the survey.
- When staff members complete the survey, the text next to their names will change from 'not completed' to 'complete' to allow monitoring of response rates. Updates occur automatically every time you login.

Generating your safety climate report

- Once all participants have completed their survey or an appropriate amount of time has elapsed, you should login and select 'manage questionnaires'.
- Click on the 'review' button for the current batch.
- Select 'download report' twice and the report will automatically be generated.
- You can save a copy (in .pdf format) for further discussion.

Next steps

Conducting a safety climate survey and generating a report for your practice team are important steps in building a strong and positive safety culture. We strongly encourage practices to disseminate the report to everyone in their team and to reflect on and discuss the findings during a dedicated meeting. A guide to help you 'make the most of your safety climate report' is available at *www.nes.scot.nhs.uk*

general points

- Reports can only be generated after at least 3 individual questionnaires have been completed.
- Once a report has been downloaded, practice team members who have did not complete the survey will be unable to unless a new 'batch' is created.
- Individual responses are not available to ensure participant anonymity.
- The demographic questions within the final section of the survey are to allow comparisons between different regions and participant characteristics.
- The report includes a comparison of your results with all other practices who undertook the survey within the preceding 6 months. It also compares current perceptions with results of your previous surveys (if applicable).

facilitation guidance

GP-SafeQuest – making the most of your team's safety climate report

The safety climate report is an important step in building a strong and positive safety culture in your practice, but it is not the end point. The next steps are to:

- share the results with all the members in your team, including those who did not participate
- discuss and reflect on the findings in the report, a practice team meeting is the ideal setting for this
- repeat the survey after a suitable period of time

This guide has been designed to help practices interpret the results in their safety climate reports and to facilitate team-based discussions. You may use, part or none of this guide, or adapt in depending on your own unique requirements.

Step 1 Identify the number of team members that participated in the survey.

Reflective question and potential implications:



Step 2

Identify a safety climate factor or factors in Section 1 of the survey (for example 'workload') that the team perceived as positive in the practice. Do not consider other practices' scores yet

Reflective question and potential implications:

What evidence is there that this perception accurate perception and reality do not quite 'match up'.	ely reflects reality? Sometimes a positive
Why is this factor perceived as important? How has allow members to reflect on practice and team stre	it been achieved? This question is helpful to engths.
What learning points are there and what actions ca	an he taken so that perceptions of this factor will
remain positive or which is transferable to other are	eas of the practice?

Step 3

Identify the safety climate factor in Section 1 that the team perceived least positive in the practice. This does not necessarily imply that the perceptions were 'negative'. Do not consider other practices' scores yet.

Reflective question and potential implications:

What evidence is there that this perception accurately reflects reality?
Why is this specific factor perceived in a less positive manner?
What actions (if any) could be taken to improve perceptions in this area? This may not always be
possible or desirable and you should also consider competing practice priorities.

Step 4 Compare your team's safety climate and factor results with those of other practices. Try to identify those factors with the largest differences.

Reflective question and potential implications:

Do your team's perceptions of safety climate of any safety climate factor in particular seem substantially more positive or negative than the average for other practices? While differences do not imply 'better or worse' or 'right or wrong' they provide opportunities for further reflection	
Why is this factor perceived as important? How has it been achieved? This question is helpful to allow members to reflect on practice and team strengths.	
What proof (if any) is there to substantiate the observed differences?	

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Step 5

Compare the results for the different staff groups in Sections 2 and 3 (managers vs non-managers and clinical vs non-clinical). Try to identify substantial differences in perception between them.

Reflective question and potential implications:

Are there 'obvious' differences between the staff groups? Are one staff group's perceptions generally more positive than the other or is there a difference for only one or two factors? A large difference for a single factor usually indicates an important underlying cause. The size of the difference should be the focus. It can be difficult and counter-productive to try and establish which group is 'right'.

Why are there differences in perceptions between the staff groups? Allow individual staff members to offer their opinions.

How can perceptions be aligned?

Step 6 Compare this survey's results with any previous reports (if applicable)

Reflective question and potential implications:

Are there 'obvious' differences in safety climate or factor perceptions which have developed over time?
If yes, what are the implications for the team and should further action be taken?

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Step 7

Summarise the main points from the discussion and confirm the team's consensus. Agree the 'next steps' within a suitable time frame.

safety climate definitions

Factor definitions

Workload	covers impairment of performance by excessive workload, staffing levels, time constraints, and expectations of staff when working under pressure.
Communication	covers the degree to which discussion between team members at all levels are open and honest, staff's perceived freedom to question management decisions and whether staff are kept up to date with current developments and vision of leaders for the practice.
Leadership	covers whether existing hierarchies are perceived to have detrimental effects on work, the consequences for staff that highlight significant events, the effectiveness of leadership within teams, whether leaders are open to suggestions for improvement and attitudes towards rules and formal procedures.
Teamwork	covers the perceived importance of teamwork, level of mutual respect and support within teams, whether disagreements are dealt with effectively and reported job satisfaction.
Safety systems & learning	covers the degree to which practices encourage reporting of significant incidents, existence of procedures to prevent patient safety incidents, participation of all staff members in the development of protocols, risk assessment and significant event analysis, the extent to which practices assess latent threats and pro-actively safeguard staff and patients' safety.

Staff definitions

Management	includes GP partners and practice managers.
Non-management	includes all other practice employed staff
Clinical	all medical, nursing and phlebotomy staff employed by the practice as well as clinical staff employed by the NHS board (district nurses).
Non clinical	includes all other practice employed staff.

General definitions

Practice	the general practice which is undertaking this survey.
Significant event	any event thought by anyone in the team to be significant to the care of patients or the conduct of the practice.
Team members	all types of GP's, GP trainees, practice staff, practice nurses and practice managers, regardless of their working pattern or whether they are self- employed or employed by the practice.
Attached team members	community health nurses, district nurses, social workers, health visitors and other such staff.
Practice leadership	GP partners and practice managers.

Negative questions

Please note: a small number of questionnaire items are purposefully phrased in a negative manner. Your response to these items will therefore be 'reversed', with a 'low score' indicating a positive perception.



do you know which drug in primary care is most likely to give you the greatest heartache?

patient safety in primary care safer medicines

what is a care bundle?

Reliability in health care is a failure-free operation over time. This equates to ensuring patients receive all the evidence-based care they are entitled to receive.¹

A care bundle is a structured way of improving processes of care to deliver enhanced patient safety and clinical outcomes.² In relation to care bundles, this means ensuring that patients receive optimum care at every contact.

The process for achieving reliability is to test individual measures to ensure they are the correct measures, and then implementing this set of measures (a care bundle). Therefore, the key measure in a care bundle is the score which measures the level of compliance with all measures for all patients.

The care bundle data collection tool is a way of sampling whether optimum care is being delivered. This approach is therefore very different from traditional auditing approaches that are designed to identify whether individual measures are being implemented.

What makes up a care bundle?

- 4-5 measures
- All or nothing compliance
- Measurement done by a clerk if possible
- Encourage local definition/customisation
- Mix of easy and hard
- Spread over patient's journey
- Designed for 95% reliability
- Backed by scientific evidence
- Creates teamwork and communication
- Multiple functions of care essential for desired outcome

evidence base

- 1. Institute for Healthcare Improvement, Improving the reliability of health care, Innovation Series 2004
- 2. Bowie, P. Reporting and learning from harmful events Practice Nurse 19 November 2010

warfarin bundle

Warfarin can cause serious *harm* and needs careful prescribing and monitoring. This intervention will allow you to measure your processes for prescribing and monitoring of warfarin to help you identify how you can deliver safer health care for these patients.

Are your patients receiving all elements of the warfarin bundle?		yes	no	
	01	Warfarin dose is prescribed according to local guidance? Is there evidence that the last advice on warfarin dosing given to patient followed current local guidance or uses computer assisted decision-making, for example Dawn or INR star software?		
	02	INR test is planned according to local guidance? Is there evidence that the last advice on the interval for blood testing given to patient followed current local guidance or uses computer assisted decision- making, for example Dawn or INR star software?		
	03	Patient complying with dosage instructions? Has patient been taking the advised dose since last blood test?		
	04	INR is taken according to previous recommendation? INR is taken within 7 days of planned repeat INR?		
	05	Patient receives regular education? Patient education recorded every 6 months?		
	06	Have all the above measures been met?		

warfarin rationale

01 Measure Warfarin dose is prescribed according to local guidance? Is there evidence that the last advice on warfarin dosing given to patient followed current local guidance or uses computer assisted decision-making, for example Dawn or INR star software? Rationale The use of a dosing algorithm can significantly improve anticoagulant control. Computerized dosing has been shown to increase the overall percentage time for which patients are in their target INR range and in some studies to reduce the frequency of testing of patients. Furthermore, it has been shown to significantly reduce the risk of bleeding and thromboembolic events and overall is a more cost-effective option to manual dosing. Evaluation of computerized decision support for oral anticoagulation management based in primary care. Source Fitzmaurice, D.A., Hobbs, F.D., Murray, E.T., Bradley, C.P. & Holder, R. British Journal of General Practice, (1996) 46, 533–535. Effect of computer aided management on the quality of treatment in anticoagulated patients: a prospective, randomized, multicenter trial of APROAT (Automated Program for Oral Anticoagulant Treatment). Manotti, C., Moia, M., Palareti, G., Pengo, V., Ria, L. & Dettori, A.G. Haematologica, (2001) 86, 1060–1070. A multicentre randomised clinical endpoint study of PARMA 5 computer assisted oral anticoagulant dosage. Poller, L., Keown, M., Ibrahim, S., Lowe, G., Moia, M., Turpie, A.G., Roberts, C., van den Besselaar, A.M., van der Meer, F.J., Tripodi, A., Palareti, G. & Jespersen, J. British Journal of Haematology, (2008a) 143, 274-283. An international multicenter randomized study of computer-assisted oral anticoagulant dosage vs. medical staff dosage. Poller, L., Keown, M., Ibrahim, S., Lowe, G., Moia, M., Turpie, A.G., Roberts, C., van den Besselaar, A.M., van der Meer, F.J., Tripodi, A., Palareti, G., Shiach, C., Bryan, S., Samama, M., Burgess-Wilson, M., Heagerty, A., Maccallum, P., Wright, D. & Jespersen, J. Journal of Thrombosis and Haemostasis, (2008b) 6,935-943. Screening computer-assisted dosage programs for anticoagulation with warfarin and other vitamin K antagonists: minimum safety requirements for individual programs. Poller, L., Roberts, C., Ibrahim, S., Keown, M., Ageno, W., van Den Besselaar, A.M.H.P., Fitzmaurice, D., Harenbeg, J., Kitchen, S., Lowe, G., Moia, M., Palareti, G., Tripodi, A., Turpie, A.G.G. & Jespersen, J Journal of Thrombosis and Haemostasis, (2009) 7, 1736. The cost-effectiveness of computer-assisted anticoagulant dosage: results from the European Action on Anticoagulation (EAA) multicentre study. Jowett, S., Bryan, S., Poller, L., Van Den Besselaar, A.M., Van Der Meer, F.J., Palareti, G., Shiach, C., Tripodi, A., Keown, M., Ibrahim, S., Lowe, G., Moia, M., Turpie, A.G. & Jespersen, J. Journal of Thrombosis and Haemostasis, (2009) 7, 1482–1490 Effect of a simple two-step warfarin dosing algorithm on anticoagulant control as measured by time in therapeutic range: a pilot study. Kim, Y.K., Nieuwlaat, R., Connolly, S.J., Schulman, S., Meijer, K., Raju, N., Kaatz, S. & Eikelboom, J.W. Journal of Thrombosis and Haemostasis, 2010 8, 101–106.

Measure	INR test is planned according to local guidance? Is there evidence that the last advice on the interval for blood testing given to patient followed current local guidance or uses computer assisted decision-making, for example Dawn or INR star software?
Rationale	The use of a dosing algorithm can significantly improve anticoagulant control. Computerized dosing has been shown to increase the overall percentage time for which patients are in their target INR range and in some studies to reduce the frequency of testing of patients. Furthermore, it has been shown to significantly reduce the risk of bleeding and thromboembolic events and overall is a more cost-effective option to manual dosing.
Source	 Evaluation of computerized decision support for oral anticoagulation management based in primary care. Fitzmaurice, D.A., Hobbs, F.D., Murray, E.T.,Bradley, C.P. & Holder, R. British Journal of General Practice, (1996) 46, 533–535. Effect of computer aided management on the quality of treatment in anticoagulated patients: a prospective, randomized, multicenter trial of APROAT (Automated Program for Oral Anticoagulant Treatment). Manotti, C., Moia, M., Palareti, G., Pengo, V., Ria, L. & Dettori, A.G. Haematologica, (2001) 86, 1060–1070. A multicentre randomised clinical endpoint study of PARMA 5 computer assisted oral anticoagulant dosage. Poller, L., Keown, M., Ibrahim, S., Lowe, G., Moia, M., Turpie, A.G., Roberts, C., van den Besselaar, A.M., van der Meer, F.J., Tripodi, A., Palareti, G. & Jespersen, J. British Journal of Haematology, (2008a) 143, 274–283. An international multicenter randomized study of computer-assisted oral anticoagulant dosage vs. medical staff dosage. Poller, L., Keown, M., Ibrahim, S., Lowe, G., Moia, M., Turpie, A.G., Roberts, C., van den Besselaar, A.M., van der Meer, F.J., Tripodi, A., Palareti, G., Shiach, C., Bryan, S., Samama, M., Burgess-Wilson, M., Heagerty, A., Maccallum, P., Wright, D. & Jespersen, J. Journal of Thrombosis and Haemostasis, (2008b) 6,935–943. Screening computer-assisted dosage programs for anticoagulatin dosage: results from the European Action on Anticoagulation (EAA) multicentre study. Jowett, S., Bryan, S., Poller, L., Roberts, C., Ibrahim, S., Keown, M., Marpei, A.G., & Jespersen, J. Journal of Thrombosis and Haemostasis, (2009) 7, 1736. The cost-effectiveness of computer-assisted anticoagulant dosage: results from the European Action on Anticoagulation (EAA) multicentre study. Jowett, S., Bryan, S., Poller, L., Yan Den Besselaar, A.M., Van Der Meer, F.J., Palareti, G., Shiach, C., Tripodi, A., Keown, M., Ibrahim, S., Lowe, G., Moia, M., Turp

Measure	Patient complying with dosage instructions? Has patient been taking the advised dose since last blood test?
Rationale	Clearly the practice has to ensure that the patient is informed of the correct advice regarding warfarin dosage for the patient to be able to comply with the advice.
Source	Best practice

Measure	INR is taken according to previous recommendation? <i>INR is taken within 7 days of planned repeat INR?</i>
Rationale	Patient's regular attendance for blood testing is associated with better anticoagulation control.
Source	Prompt repeat testing after out-of-range INR values: a quality indicator for anticoagulation care. Rose AJ, Hylek EM, Berlowitz DR, Ash AS, Reisman JI, Ozonoff A. Circ Cardiovasc Qual Outcomes. 2011 May 1; 4(3):276-82. Epub 2011 Apr 19.

Measure	Patient receives regular education? Patient education recorded every 6 month?
Rationale	There is good evidence that improved patient knowledge and understanding of the use of warfarin improves anticoagulation control.
Source	 Relationship between patients' warfarin knowledge and anticoagulation control. Tang EO, Lai CS, Lee KK, Wong RS, Cheng G, Chan TY. Ann Pharmacother. 2003 Jan; 37(1):34-9. Effect of a warfarin adherence aid on anticoagulation control in an inner-city anticoagulation clinic population. Nochowitz B, Shapiro NL, Nutescu EA, Cavallari LH. Ann Pharmacother. 2009 Jul; 43(7):1165-72. Epub 2009 Jun 23. A structured teaching and self-management program for patients receiving oral anticoagulation: a randomized controlled trial. Working Group for the Study of Patient Self-Management of Oral Anticoagulation. Sawicki PT. JAMA. 1999 Jan 13;281(2):145-50.

warfarin data collection tool

	Bundle measure	patient 1	pati	ent 2	patient	۳ ۳	atient 4	pati	ent 5	
		yes no	yes	ou	yes n	o Y	es no	yes	ou	number out of 5
01	Warfarin dose is prescribed according to local guidance? Is there evidence that the last advice on warfarin dosing given to patient followed current local guidance or uses computer assisted decision-making, for example Dawn or INR star software?									
	comments/discrepancies/actions									
02	INR test is planned according to local guidance? Is there evidence that the last advice on the interval for blood testing given to patient followed current local guidance or uses computer assisted decision-making, for example Dawn or INR star software?									
	comments/discrepancies/actions									
03	Patient complying with dosage instructions? Has patient been taking the advised dose since last blood test?									
	comments/discrepancies/actions									
04	INR is taken according to previous recommendation? INR is taken within 7 days of planned repeat INR?									
	comments/discrepancies/actions									
05	Patient receives regular education? Patient education recorded every 6 month?									
	comments/discrepancies/actions									
06	Have all the above measures been met?									
	Overall compliance									

dmards bundle

(Disease-Modifying Anti-Rheumatic Drugs)

This intervention will allow you to measure your processes for prescribing and monitoring of these drugs to help you identify how you can deliver *safer health care* for patients on these drugs.

Are y	ou delivering all elements of our DMARDs bundle?	yes	no
01	Appropriate tests are carried out in correct timescale? Has there been a full blood count in the past 12 weeks (AZA) 8 weeks (MTX) as per local guidance?		
02	Appropriate action taken and documented for any abnormal results in previous 12 weeks? If any abnormal results in previous 12 weeks [WBC < 4, neutrophils <2, platelets <150, ALT >x2 normal upper limit (>60)], has action been recorded in the consultation record?		
03	Blood tests reviewed prior to prescription? Is there a documented review of blood tests prior to issue of last prescription?		
04	Appropriate immunisation? Has the patient ever had pneumococcal vaccine?		
05	Patient asked about any side effects following last time blood was taken?		
06	Have all the above measures been met?		

dmards rationale

Measure	Appropriate tests are carried out in correct timescale? Has there been a full blood count in the past 12 weeks (AZA) 8 weeks (MTX) as per local guidance?
Rationale	As with other DMARDs, General Practitioners provide a DMARD monitoring service for patients receiving these drugs. Current recommendations are weekly or fortnightly blood tests whilst dose escalation is in progress and for 6 weeks after the last dose alteration, thereafter blood tests monthly. Tests required are the same as those for oral methotrexate i.e. FBC and LFT's each visit and U&E's 6 monthly. A letter from Secondary Care should document where monitoring is longer than a six week period e.g. the patient is stable.
Source	Rheumatology Local Policy BSR/BHPR guideline for disease-modifying anti-rheumatic drug (DMARD) therapy in consultation with the British Association of Dermatologists Due to the difference in monitoring identified in the local Rheumatology Guideline and Dermatology Guideline a local decision (including discussions with general practices at the first learning set) was made to set monitoring for the bundle at 6 weeks.

Measure	Appropriate action taken and documented for any abnormal results in previous 12 weeks? If any abnormal results in previous 12 weeks [WBC < 4, neutrophils <2, platelets <150, ALT >x2 normal upper limit (>60)], has action been recorded in the consultation record?
Rationale	 Action to be taken if: WBC <4.0x10/l Neutrophils<2.0x10/l Platelets<150x10/l ALT> x2 upper limit of normal Unexplained fall in albumin Rash or oral ulceration New or increasing dyspnoea or cough MCV>105fl check B & folate and treat appropriately Significant deterioration in renal function reduce dose or discuss with rheumatologist Abnormal bruising or sore throat withhold until FBC available
Source	Rheumatology Local Policy BSR/BHPR guideline for disease-modifying anti-rheumatic drug (DMARD) therapy in consultation with the British Association of Dermatologists Differences were noted in the abnormal results ranges in the Tayside Rheumatology guideline and the British Society guidelines for WBC. It was decided to follow the Tayside guideline with abnormal results WBC<4.

Measure	Blood tests reviewed prior to prescription? Is there a documented review of blood tests prior to issue of last prescription?
Rationale	No patient should receive a repeat prescription if the monitoring has been inadequate.
Source	Good Practice.

Measure	Appropriate immunisation? Has the patient ever had pneumococcal vaccine?
Rationale	Methotrexate is an immunosuppressant and increases the risk infections, even with a normal blood count. Therefore it is recommended pneumococcal (pneumovax) and annual flu vaccines should be given whilst on this treatment. Patients commencing parenteral methotrexate normally will have been taking oral methotrexate so vaccinations should be up to date, however vaccination status should always be confirmed prior to therapy commencing by the physician initiating this therapy. Due to the immunosuppressive action of methotrexate, "Live" vaccines should be avoided.
Source	Rheumatology Local Policy

Measure	Patient asked about any side effects following last time blood was taken?
Rationale	Importance of Patient Involvement in the programme.
Source	Quality strategy SIPCS application – The Health Foundation – Closing the Gap

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	Bundle measure	patient 1	patient 2	patient 3	patient 4	patient 5	
		yes no	number out of 5				
01	Appropriate tests are carried out in correct timescale? Has there been a full blood count in the past 12 weeks (AZA) 8 weeks (MTX) as per local guidance?						
	comments/discrepancies/actions						
6	Appropriate action taken and documented for any abnormal results in previous 12 weeks? If any abnormal results in previous 12 weeks						
	two control the consultation record?						
	comments/discrepancies/actions						
03	Blood tests reviewed prior to prescription? Is there a documented review of blood tests prior to issue of last prescription?						
	comments/discrepancies/actions						
04	Appropriate immunisation? Has the patient ever had pneumococcal vaccine?						
	comments/discrepancies/actions						
05	Patient asked about any side effects following last time blood was taken?						
	comments/discrepancies/actions						
90	Have all the above measures been met?						
	Overall compliance						

medicines reconciliation

Medicines reconciliation across the interface can cause both patients and staff unnecessary stress, and *waste time and resources*. If both primary and secondary care undertake the set of interventions below, systems and processes will be improved.

In GP Are vo	<i>practices</i> ou delivering all elements of our medicines reconciliation bundle?	ves	no
01	Has the Immediate Discharge Document (IDD) been workflowed on the day of receipt?		
02	Has medicines reconciliation occurred within 2 working days of the IDD being workflowed to the GP or Pharmacist?		
03	Is it documented that any changes to the medication have been acted upon?		
04	Is it documented that any changes to the medication have been discussed with the patient or their representative within 7 days of receipt?		
05	Have all the above measures been met?		

To improve hospital processes will require the primary care team to work with an acute team. Additional sets of measures for secondary care are available on our website.

practical guidance

Sample of patients

The sample of patients to be included in the data collection is as follows:

- all patients who have been discharged from an acute medical admission, and
- all patients over 75 years of age who have been discharged from an inpatient stay from anywhere (for example surgical admission, geriatric admission)

Each month, obtain 10 consecutive Immediate Discharge Documents (IDDs) within the above sample of patients once they have been processed by the clinicians. Apply the following measures to each of the discharge documents.

Measure 1

Has the Immediate Discharge Document (IDD) been workflowed on the day of receipt?

- Practices may have to start date stamping the date of receipt on the IDD's that are received in practice manually. For those received electronically, the date received is recorded.
- Tick yes if the IDD has been workflowed (using docman assigned to the appropriate GP or pharmacist) on the day of receipt.
- Tick no if the IDD has not been workflowed on the day of receipt.

Measure 2

Has medicines reconciliation (as defined below) occurred within 2 working days of the IDD being workflowed to the GP or Pharmacist?

- Medicines reconciliation is defined by Institute for Healthcare Improvement (IHI) as: "The process of obtaining an up-to-date and accurate medication list that has been compared with the most recently available information and has documented any discrepancies, changes, deletions or additions resulting in a complete list of medication accurately communicated".
- A Read code is available within the practice clinical system to identify when medicines reconciliation has occurred, practices may wish to start using this Read code #8B318.
- Tick yes if medicines reconciliation as defined by IHI has occurred within 2 working days of the IDD being workflowed to the GP or pharmacist.
- Tick no if medicines reconciliation has not occurred within 2 working days of the IDD being workflowed to the GP or pharmacist.

Measure 3:

Is it documented that any changes to the medication have been acted upon?

- There is a list of Read codes available to help with recording when any changes to the patient's medication have occurred. Practices may wish to start using these:
 - #8B316 Medication Changed
 - #8B3A1 Medication Increased
 - #8B3A2 Medication Decreased
 - #8B313 Medication Commenced
 - #8B3A3 New Medication Commenced
 - #8B3R Drug Therapy Discontinued
 - #8B396 Treatment Stopped alternative therapy undertaken
 - #67IM. Advice to GP to Change Patient Medication
- Tick yes for all discharges with changes required that were documented in the patient's record.
- Tick no for all discharges with changes required that were not documented in the patient's record.
- Tick n/a for all discharges where there are no changes to the medications.

Measure 4:

Is it documented that any changes to the medications have been discussed with the patient or their representative within 7 days of receipt?

- Using the clinical system, identify if it is documented that any changes to the medications were discussed with the patient or their representative. Again there is a Read code available that practices may wish to use to record this, #8B3S0.
- Tick yes for all discharges with changes discussed with the patient or their representative documented.
- Tick no for all discharges with changes discussed with the patient or their representative not documented.
- Tick n/a for all discharges that have no changes to the medications.

Measure 5

Have all the above measures been met (compliance with full bundle)?

- Tick yes for all IDD's with all four yes boxes ticked.
- Tick no for all discharges with any no boxes ticked.
- Any IDD with n/a ticked should be counted as a yes.

medication reconciliation collection tool

	Bundle element	patient 1	patient 2	patient 3	patient 4	patient 5	patient 6	patient 7	patient 8	patien	t9 p	oatient 10	
		yes no	yes I	no y	es no	number o							
01	Has the Immediate Discharge Document (IDD) been workflowed on the day of receipt?												
	comments/discrepancies/ actions												
03	Has medicines reconciliation occurred within 2 working days of the IDD being workflowed to the GP or Pharmacist?												
	comments/discrepancies/ actions						5	C	Ŋ				
03	Is it documented that any changes to the medication have been acted upon?				<u> </u>	5							
	comments/discrepancies/ actions												
04	Is it documented that any changes to the medication have been discussed with the patient or their representative within 7 days of receipt?												
	comments/discrepancies/ actions												
02	Have all the above measures been met?												
	Overall compliance												

to save a lot of bother with written comunication, simply follow our advice to the letter.

patient safety in primary care

safety at the interface

written communication

For outpatient communication GP practices to check:

GP pr	actices to check:	yes	no
01	Has the outpatient letter been reviewed by the appropriate clinician within 2 working days?		
02	Has the change in the management plan been clearly implemented?		
03	Is there documented evidence that the patient has been notified of the change in the management plan?		
04	Have all the above measures been met?		

To improve hospital processes will require the primary care team to work with an acute team: additional sets of measures for secondary care are available on our website.

GP practices have *safe and reliable* systems for handling written communication received from external sources.

The sample of patients to be included in the data collection is:

- all patients who have attended a secondary care outpatient clinic and have been discharged with a change of treatment, medication or management plan.
- Each month, obtain 10 letters with a change of treatment, medication or management plan. Apply the following measures to each of the consultant letters.

Measure 1

Has the outpatient letter been reviewed by the appropriate clinician within 2 working days?

'Appropriate clinician' is defined as a GP/ Pharmacist/Duty Doctor, for example however the practice process is set up for reviewing outpatient department letters.

If practices encounter problems when GPs are out of the practice unexpectedly, for example on sick leave, it may be necessary to implement systems to overcome this, such as a 'buddy system' where each GP has a depute or buddy identified, so that administrative staff know who to pass the outpatient letter to when the named GP is off.

- Answer yes if the record shows that the letter has been reviewed by the appropriate clinician (or their depute/buddy) within 2 working days of receipt.
- Answer no if the record shows that the letter has been reviewed by the appropriate clinician (or their depute/buddy) outwith the 2 working days of receipt.

Measure 2

Has the change in the management plan been clearly implemented?

'Management plan' is defined as a course of treatment/medication advised by the consultant. This could involve the prescription of new medicines, changes to existing medicines (such as changes to dose or frequency) and the stopping of medicines that the patient has been taking prior to the clinic appointment.

- Answer yes if the record shows that the patient is getting the treatment recommended by the consultant.
- Answer no if there is no record that the patient is getting the treatment recommended by the consultant.
- Answer no if the record shows that the patient's treatment has not been changed following receipt of the letter.

Measure 3

Is there documented evidence that the patient has been notified of the change in the management plan?

 Answer yes where there is evidence that the changes have been discussed with the patient and/or their representatives.

Measure 4 Have all measures been met?

- Answer yes for all letters with all three "Yes" answers
- Answer no for all letters with any "No" answers.

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	Bundle measure	patien	t1	patient 2	pati	ent 3	patier	nt 4	patient	.5 pč	itient 6	pati	ient 7	patie	ent 8	patien	t 9	patient	t 10	
		yes	, on	ves no	yes	ou	yes	ou	yes r	lo ye	ou s	yes	ou	yes	ou	yes	ou	yes	ou	number out of 5
01	Has the outpatient letter been reviewed by the appropriate clinician within 2 working days?																			
	comments/ discrepancies/actions																			
02	Has the change in the management plan been clearly implemented?																			
	comments/ discrepancies/actions																			
03	Is there documented evidence that the patient has been notified of the change in the management plan?																			
	comments/ discrepancies/actions																			
04	Have all the above measures been met?																			
	Overall compliance																			

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Just like people, systems and processes get sick too.

Improvement tools can help diagnose system problems within your practice.

patient safety in primary care

improvement tools

improvement model

Developing objectives for improvement work

You may find it useful to identify what you want to achieve from your improvement work.

The Improvement Model's *three fundamental questions for achieving improvement* provide a useful framework for developing your objectives.

Q1	What are we trying to accomplish? What is the overall aim of what we are doing? What are we hoping to improve? e.g. increase the range of ways in which patients can access care, improve how we use skills of team members, use our appointment capacity better.	
Q2	How will we know that a change is an improvement? What will tell us that our changes make things better than they were before? What can we measure that will demonstrate that our changes are actually an improvement? What data (opinions, observations, process data and results) will be useful?	
Q3	What changes can we make that will lead to an improvement? Include all the ways that you can work towards your objective, so that you can develop plans for PDSA (plan, do, study, act)cycles. Think about what has worked for other people, what ideas you have yourself and innovative approaches.	

pdsa cycle planning sheet

Nan	ne	Date
Plan		
01	Overall objective that this cycle links to?	
02	Specific objective for this cycle?	
03	What are you going to do?	
04	Who will be involved?	
05	Where will it take place?	
06	When will it take place?	
07	What do you predict will happen?	
08	What are you going to measure in this cycle?	

pdsa cycle progress sheet

Do	Complete this as you carry out your cycle. Keep notes on what happens.	
Study	Complete this part when you have completed your cycle, having gathered your data and reflected on what happened. Include expected and unexpected results.	
Act	Record what you will take forward from this cycle, or what you will do differently next time. What other tests or cycles will you do?	

patient safety in primary care it's no trouble at all





online resources

For more information, including all the tools and resources required to implement the programme, please visit our website: **www.healthcareimprovementscotland.org/pspc.aspx**



Further supporting documentation developed by NHS boards is also available on our shared knowledge space: *www.knowledge.scot.nhs.uk/spsp-pc.aspx*





