Discussion of clinical case study:
Annette Curtain, 01/01/1935

Trigger tool findings

An example of how a completed 'trigger review report summary' sheet may have looked like has been attached (appendix 1) and will be referred to during the case discussion.

We will discuss this case by considering the same questions a reviewer would have been asking themselves during the process.

1. Can triggers be detected?

Five **different** triggers can be detected. However, the **total number** of triggers that can be found in the record during the three month review period is nine. Seven of the nine triggers may help to detect incidents of harm and two (the OOH visit and discontinuation of Bendroflumethiazide) does not.

2. Did a patient safety incident or incidents occur?

There are at least four patient safety incidents with some evidence to support that the patient may have suffered harm.

- **Incident 1**: The patient suffered side effects from Amlodipine
- **Incident 2**: Symptomatic hyperkalaemia secondary to Ramipril which required hospitalization
- **Incident 3**: Cellulitis (phlebitis) secondary to IVI cannulation
- **Incident 4**: Antibiotic associated diarrhoea secondary to Flucloxacillin

There were two triggers that could have helped the reviewer to find incident 1 ('adverse drug event' and 'discontinuation of repeat medication'). Incident 2 was signposted by four different triggers: frequency of consultation, A&E attendance, hospital admission and potassium >5.2. Incident 3 could have been detected by two triggers: 'frequency of consultation' and 'hospital attendance'. Incident 4 was only signposted by one trigger – 'frequency of consultation'. The implication is that reviewers do not necessarily have to find every trigger and that some incidents may have more than one trigger which helps to detect it.

Some reviewers may have detected 'another' patient safety incident, i.e. the adverse drug reaction to Cocodamol. However, this incident occurred outwit the period of review (February to April 2010).

3. How serious were the incidents? (Judge the severity)

Incident 1:

This incident should be graded as '2' (mild harm). Some reviewers have (rightly) expressed the opinion that swelling (even excessive swelling) is a recognized side effect of Amlodipine and that it is not possible to know beforehand which patient will develop symptoms. However, the focus of the trigger review is simply to detect incidents, and not to decide whether an error occurred. A useful question to ask is: 'Would I have liked this to happen to me or my family?' Focusing attention on an incident (even a perceived 'normal' drug side effect) may lead to unexpected findings and improvement opportunities in some cases.

Incident 2:

This incident should be graded as '4' (prolonged, substantial or permanent harm, including hospitalization). Even if a patient was asymptomatic but required observation in hospital as a direct result of their medical care an incident should still be graded as '4'. In this case, the patient made a complete recovery and was discharged a few days later.

Incident 3:

This incident should be graded as '3' (moderate harm). One could argue that a minority of patients *will* develop phlebitis after cannulation. It is also possible that the phlebitis might have been an inflammatory response to administered medication rather than iatrogenic infection. The aim of the review is not necessarily to decide whether an error occur. If the reviewer asked: 'Would I have liked this to happen to me or my family.' the answer would hopefully have been 'no'.

Incident 4:

It is not clear from the record (intentionally) whether the medical treatment (Flucloxacillin) was responsible for the symptoms (diarrhoea). As a general principle incidents should not be documented if the reviewer is uncertain. However, if the incident was documented, the severity grading would be '2' (mild harm).

4. Were the incidents preventable? (Judge preventability)

The preventability scale (1-4) requires the reviewer to also consider whether the incidents originated in primary or secondary care.

Incident 1:

The preventability score is '2', because the incident originated and was managed entirely in primary care. In this specific example one may also argue that Amlodipine (or any other calcium channel blocker) was probably not the 'best' second line drug to use in combination with a diuretic. This interpretation would give a preventability score of '3' (potentially preventable and originated in primary care). However, even if a different anti-hypertensive to Amlodipine had been prescribed, it may very well have been necessary to consider it as a third line treatment in the future.

Incident 2:

The preventability score is '4' (preventable and originated in primary care). Hyperkalaemia is a well known potential complication of ACE inhibitors and cannot always be foreseen or prevented. However, there are several potential errors that can be identified in this scenario that may have contributed to this incident. If these errors had not occurred it is likely that the patient would not have required hospitalization:

- Ramipril was commenced at a relatively high dose of 10 mg. Reasonable practice would have been to commence with a lower dose (especially in the elderly) with careful titration over time.

- More than two weeks passed before the patient attended for a general review and renal function check. In some instances delays may be related to patient factors but in this scenario the GP documented the required time interval.

- The most recent renal function blood result prior to commencing Ramipril was taken eighteen months before. It would have been helpful to have repeated this test to obtain a baseline before commencing treatment.

- The laboratory phoned the result through just before the surgery's closing time. The GP tried to contact the patient but in the end only managed a review the next day. However, It is unclear how much (if at all) this delay affected the outcome.

Incident 3:

When there is insufficient information in the medical record to make a judgement, assign the lower score. In this case, the preventability was judged as '1' (not preventable and originated in secondary care). If the health care worker who performed the cannulation had not followed best practice then the incident would have scored '2' (preventable and originated in secondary care). Even if an immediate judgement cannot be made, awareness of harm may have other benefits. For example, if this practice had a number of similar cases it might alert them to a safety risk in their local hospital.

Incident 4:

This incident (if the reviewer had decided to include it) should be graded as '2' (not preventable and originated in primary care). From the available information it seems unlikely that the event could have been prevented and the choice to prescribe an antibiotic appears appropriate.

Trigger Review Summary Report

Step One: Planning and Preparation

Please complete:

Name of Reviewer:	**Dr. Dowell**	**Name of Practice**	**Wellcome Medical Practice**
Date of Review	**2nd June 2010**	**Profession** (please circle)	**GPST**
No. of Records Reviewed	**1**	**Review Period** (e.g. 3-months)	**Feb-April 2010**
What Patient Group did you select records from?	**Patients ≥75 years and on hypertension register**		

Step Two: Review of Records

Please aim to review 25 records from the chosen patient group. Tick one box (✓) next to each trigger each time you find it in one of the records.

Trigger (A 'prompt' that may indicate a safety incident)																					Total
≥3 consultations in 7 days	X	X																			2
New 'high' priority read code added																					
New allergy read code added	X																				1
'Repeat' medication item discontinued	X	X																			2
Out of Hours/A&E attendance	X	X																			2
Hospital admission	X																				1
Hb <10.0																					
eGFR reduction ≥5																					
Potassium > 5.2	X																				1

REVIEW FINDINGS:

Please briefly describe the patient safety incidents that you detected. Next, judge the severity and preventability of each incident using the scales below and then add the two scores in the 'priority' column.

Description of Detected Patient Safety Incidents	Severity	Preventability	PRIORITY
1. Adverse drug reaction secondary to Amlodipine	2	2	4
2. Hyperkalaemia secondary to Ramipril – required hospital admission	4	4	8
3. Phlebitis (cellulitis) secondary to IVI cannulation	3	1	4
4. Antibiotic associated diarrhoea, secondary to Flucloxacillin	2	2	4
	☐	☐	☐

Severity Scale:	
1	Any incident with the potential to cause harm
2	Mild harm: inconvenience, further follow-up or investigation to ensure no harm occurred.
3	Moderate harm: required intervention or duration for longer than a

Preventability Scale:	
1	Not preventable and originated in secondary care
2	Preventable and originated in secondary care OR not preventable and originated in primary care
3	Potentially preventable and originated in primary care

4	day Prolonged, substantial or permanent harm, including hospitalization	4	Preventable and originated in primary care

Patient Safety Incident:
"*Any incident that caused harm, or could have caused harm to a patient as a result of their interaction with health care*"
(The definition encompasses error, harm, adverse event, significant event and near miss)

Step Three: Reflection, Action & Improvement

A. Please describe any Actions/Improvements made DURING the review (e.g. updated coding or prescribing)

B. What do you plan to do NEXT as a result of the trigger review findings?

(Use PRIORIITY scores to guide you - tick as appropriate)

Incident 2 has the highest 'priority'. It originated in primary care and was considered to be preventable. Further, specific actions are based on this incident only.

Specific actions	✓	✓	✓	✓	✓	Please describe:
Significant event analysis		X				A significant event analysis of incident 2 will be undertaken.
Audit		X				An audit of all patients prescribed ACE/ARB repeat medication will be undertaken to ensure they have had appropriate renal function monitoring.
PDSA Cycle						
Feed back to colleagues	X	X		X		The clinician who initiated Ramipril at a higher than recommended dose will be informed.
Make a specific improvement(s)						
Add to Appraisal documentation	X	X	X	X		I plan to add this review, subsequent SEA and audit as documentary proof for appraisal
Discuss with Educational Supervisor						
Update or develop a protocol		X				The practice protocol dealing with monitoring of hypertension and antihypertensive medications will be reviewed

C. Please describe identified Personal, Professional or Practice Team Learning Needs:

Personal:
I found it interesting and concerning how one error (the prescription error in incident 2) led to a cascade of events and resulted in at least two further patient safety incidents (incidents 3 and 4). Even when incidents seem to originate in secondary care, I will in future try to follow them back to the initial, 'root cause'.

Professional:
I plan to review our local antibiotic prescribing policies, dosage and duration of antibiotic prescribing and how the possibility of clostridium difficile infection should be investigated in primary care.

Practice Team:
The practice team will help to adapt the current protocol specifying how hypertension and antihypertensive medications should be monitored. We should also consider how we can best deal with investigation results that are phoned in.

Please add any comments about the trigger review process:

Finally, approximately what length of time (in minutes) did it take you to review all records? **15 mins.**