Shining a light on Medication Safety

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Outline of session

• Introduction

• Consider some of the current medication safety issues within Acute Medicine

• Make you think about how you can work in your AMU (and beyond) to reduce preventable harm due to medicines in the future
Medication Safety in the NHS

• Healthcare is complex where practitioners often have multiple competing urgent priorities

• Most medicines are used safely and effectively, but sometimes errors happen that can lead to harm to patients\(^1\)

\(^1\text{Safety in doses: improving the use of medicines in the NHS : NPSA 2007}\)
What drives me to improve safety?

“The volume of skills and knowledge has exceeded individual capabilities”

Atul Gawande on the challenge for Medicine in the 21st Century

“Don’t find fault, find a remedy, anybody can complain”

Henry Ford
What bothers you about Medication Safety?
Medication safety in the NHS

At the heart of future NHS challenges, 20% of people over 70 years old take five or more medicines. With an ageing population and multiple chronic medical conditions, these numbers will just keep increasing.

600,000 non-elective hospital admissions are due to medicines.

70% of these are preventable.

5 classes of medicine account for most admissions:
- NSAIDs
- Antiplatelets
- Anticoagulants
- Diuretics
- Antihypertensives

1 billion prescriptions are issued every year in primary care.

2,500 preventable deaths across all acute hospitals are due to medicines.

215,000 doses of medicines are administered every year in the average acute hospital, with 45,000 prescribing errors, 550 potentially fatal, and 40-100 dispensing errors.

1/2 million inpatient prescriptions every year in the average acute hospital.

97,000 patients admitted to all acute hospitals suffer from harm due to medicines.

97% of medication errors reported to the NHS result in no or low patient harm.
Drug-disease and drug-drug interactions: systematic examination of recommendations in 12 UK national clinical guidelines

Slobhan Dumbreck,1 Angela Flynn,1 Moray Naim,2 Martin Wilson,2 Shaun Trowell,1 Stewart W Mercer,1 Phil Alderson,1 Alex Thompson,1 Katherine Payne,1 Bruce Guthrie1

ABSTRACT

OBJECTIVE
To identify the number of drug-disease and drug-drug interactions for example index conditions within National Institute of Health and Care Excellence (NICE) clinical guidelines.

DESIGN
Systematic identification, quantification, and classification of potentially serious drug-disease and drug-drug interactions for drugs recommended by NICE clinical guidelines for type 2 diabetes, heart failure, and depression in relation to 11 other common conditions and drugs recommended by NICE guidelines for those conditions.

SETTING
NICE clinical guidelines for type 2 diabetes, heart failure, and depression.

MAIN OUTCOME MEASURES
Potentially serious drug-disease and drug-drug interactions.

RESULTS
Following recommendations for prescription in 12 national clinical guidelines would result in several potential serious drug interactions. There were 12 potentially serious drug-disease interactions between drugs recommended in the guideline for type 2 diabetes and the 11 other conditions compared with six for drugs recommended in the guideline for depression and 10 for drugs recommended in the guideline for heart failure. Of these drug-disease interactions, 27 (84%) in the type 2 diabetes guideline and all of those in the two other guidelines were between the recommended drug and chronic kidney disease. More potentially serious drug-drug interactions were identified between drugs recommended by guidelines for each of the three index conditions and drugs recommended by the guidelines for the 11 other conditions: 13 drug-drug interactions for drugs recommended in the type 2 diabetes guideline, 9 for depression, and 11 for heart failure. Few of these drug-disease or drug-drug interactions were highlighted in the guidelines for the three index conditions.

CONCLUSIONS
Drug-disease interactions were relatively uncommon with the exception of interactions when a patient also has chronic kidney disease. Guideline developers could consider a more systematic approach regarding the potential for drug-disease interactions, based on epidemiological knowledge of the comorbidities of people with the disease the guideline is focused on, and should particularly consider whether chronic kidney disease is common in the target population. In contrast, potentially serious drug-drug interactions between recommended drugs for different conditions were common. The extensive number of potentially serious interactions requires innovative interactive approaches to the production and dissemination of guidelines to allow clinicians and patients with multimorbidity to make informed decisions about drug selection.

WHAT IS ALREADY KNOWN ON THIS TOPIC
There is increasing recognition that clinical guidelines should better account for patients with multimorbidity. Many guidelines recommend drug treatments, but current guidelines rarely consider drug-disease or drug-drug interactions in these recommendations.

WHAT THIS STUDY ADDS
For the 12 guidelines examined, drug-disease interactions were relatively uncommon, with the exception of interactions when an individual has comorbid chronic kidney disease. Potentially serious drug-drug interactions were common, although the harm caused will depend on both how commonly different conditions are comorbid and the prevalence and severity of the harm caused by the interaction. Guideline developers need to more explicitly account for drug-disease and drug-drug interactions in people with multimorbidity and should use epidemiological evidence to identify when interactions are likely to be common and serious enough to require specific mention in a guideline. Guideline developers are currently limited by the use of paper-based guidelines. Adaptive electronic-based guidelines that allow interactive searching for specific conditions are a potential way forward to account for multimorbidity in guideline recommendations.
Question

• Do we take medicines seriously enough?
NHS England and MHRA collaboration on Medication Safety

1. NHS England focus on error (no harm, low, moderate, serious harm, SIs, Never Events)

2. MHRA focus on counterfeit / defective medicines or devices, “classic” ADRs and where medication / device error leads to harm
Stage Two: Resources
Addressing antimicrobial resistance through implementation of an antimicrobial stewardship programme
18 August 2015

Alert reference number: NIPSAP20150029
Alert stage: Two - Resources

Antimicrobial resistance (AMR) has long been a concern for both patients and healthcare workers. The potential for the development of resistance is influenced by the widespread and inappropriate use of antibiotics. This can lead to a decrease in the effectiveness of antibiotics and increased costs for healthcare systems.

The Australian Commission on Safety and Quality in Health Care (ACSQHC) has developed a three-year national program to address AMR. This program includes a national strategic plan for AMR and the development of local policies and guidelines.

Stage Two: Warning
Managing risks during the transition period to new ISO connectors for medical devices
27 March 2015

Alert reference number: NIPSAP20150050
Alert stage: One - Warning

From September 2015, newly designed external administration sets (drip sets) for all medical devices in the NHS funded care will be required to use the new ISO connectors. The new ISO connectors will replace the traditional NIBP connectors.

Different types of medical devices can be safely connected using ISO connectors. For example, an infusion pump can be connected to a syringe driver, allowing for precise and accurate dosing. The use of ISO connectors can also reduce the risk of infection, as they are designed to be compatible with a wide range of medical devices.

Stage Three: Directive
Standardising the early identification of Acute Kidney Injury
9 June 2014

Alert reference number: NIPSAP20150011
Alert stage: Three - Directive

Acute kidney injury (AKI) is a common complication in hospitalised patients, and early recognition and treatment can improve outcomes. The national guidance on AKI recommends the use of a 3+2 score system to identify patients at risk of AKI.

This score is calculated by assigning points for the presence of three or more of the following five risk factors: age over 60, duration of hospital stay over 48 hours, abnormal heart rate, abnormal blood pressure, and abnormal serum creatinine.

Actions
Who: All organisations providing NHS-funded care where skin infections are prescribed, dispensed, or administered

When: To commence immediately and be completed by 2 March 2015

Actions
Who: All hospitals and community services providing NHS funded care where Low Molecular Weight Heparins are prescribed, dispensed, or administered

When: To commence immediately and be completed by 2 March 2015

Actions
Who: Chiefs of Executive of NHS Trusts, Foundation Trusts, Ambulance Trusts & General Practitioners

When: To commence immediately and by no later than 31 October 2014 have a robust action plan developed to

Actions
Who: All providers of NHS funded community and inpatient healthcare

When: To commence immediately and no later than 8 May 2015

Actions
Who: NHS acute trusts and foundation trust and general practice pathology services

When: By 9 March 2015

Actions
Who: NHS acute trusts and foundation trust and general practice pathology services

When: By 9 March 2015

Actions
Who: NHS acute trusts and foundation trust and general practice pathology services

When: By 9 March 2015
Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes

NICE guidelines [NG5] Published date: March 2015

1 Recommendations

Terms used in this guideline
1.1 Systems for identifying, reporting and learning from medicines-related patient safety incidents
1.2 Medicines-related communication systems when patients move from one care setting to another
1.3 Medicines reconciliation
1.4 Medication review
1.5 Self-management plans
1.6 Patient decision aids used in consultations involving medicines
1.7 Clinical decision support
1.8 Medicines-related models of organisational and cross-sector working
The P.O.M.M.P approach

A possible framework to reduce patient harms due to medicines in the future?

Williams SD. Is a POMMP approach the way to move the medication safety agenda forward in your organisation?

A frail 94 year old man admitted to AMU with a collapse secondary to postural hypotension and epistaxis (INR 4.1)

PMH: Hypt, CKD, LVF, AF, Anaemia

Warfarin (last 5 years), Bumetanide 2mg, Bisoprolol 2.5mg, Ramipril 10mg, Simvastatin 40mg, EPO, Iron, Senna, Vitamin D (1 alpha)

Been admitted twice in last 2 months with injurious falls (i Head injury ii Large haematoma over R eye)

On both occasions CT Head revealed no intracranial bleed and mobility assessed by Physios (walks with a zimmer). Warfarin re-started

This admission both Warfarin and ACEI stopped after discussion with patient about likely risks vs benefits
Questions

• Could this admission have been avoided?

• Should there be a patient signed consent form for life long decisions about high risk preventative medicines such as anticoagulation detailing likely risks and benefits? (cf procedures/operations)
• 40 year old lady admitted with dizziness and ataxia
• Previously fit and well
• Had dental pain which Dentist thought was trigeminal neuralgia
• Started on Carbamazepine and dose continually increased by GP upto 800mg BD as pain not improving
• Cause of admission ?........
Question

• Could this admission have been avoided?
Medicines-related admissions

Although medicines play an important role in the management of chronic and acute illnesses, they can also be a significant source of unintended harm. It has been estimated that at least 5% of all hospital admissions are medicines-related,1,2 with adverse drug reactions (ADRs) directly leading to admission in 80% of cases, and an overall fatality rate of 0.15%.1,3 Medicines-related admissions (MRAs) are estimated to account for 4% of hospital bed capacity, and almost half are potentially preventable.1,2 This raises important patient safety and economic considerations.

This bulletin discusses the issue of MRAs including their detection, cross-sector reporting, contributory factors, and initiatives aimed at reducing those deemed to be avoidable.

What is a medicines-related admission?
Medicines-related admission is the term given to the hospitalisation of a patient that results from harm related to a medicine. There are several ways in which the use of medicines can cause harm to a patient. Firstly, medicines can cause unwanted side-effects (ADRs, including allergic reactions). These can occur even when a medicine is prescribed appropriately and used correctly, and may occur if the patient has been taking the medicine long-term, e.g., angioedema secondary to ACE inhibitors. Secondly, the potential for patient harm may arise due to errors or incidents involving prescribing (including inappropriate or over-treatment, and failure to prescribe the indicated treatment or under-treatment), dispensing, administering, reconciling, or monitoring of medicines. Lastly, harm may arise from poor adherence (correct or non-use by the patient, which may be intentional or non-intentional). Many studies of MRAs focus only on those related to ADRs and therefore, may underestimate their prevalence.

How are MRAs detected and reported?
According to data from NHS Wales, MRAs accounted for 0.6% of hospital admissions from 2012 to 2013.4

Summary
- It is estimated that at least 5% of all hospital admissions are medicines-related; almost half are thought to be preventable.
- Harm related to medicines can result from adverse drug reactions; adverse incidents involving prescribing, dispensing, administration, or monitoring; or from poor adherence.
- Documentation of medicines-related admissions (MRAs) in inpatient records or discharge summaries is inconsistent; prescribers may not be aware of harm.
- The principles of prudent healthcare have relevance for minimising the risks of an MRA.
- Certain medicines and groups of patients are more likely to be involved in an MRA.
- Successful interventions to reduce the scale of the problem will need to involve primary and secondary care, as well as patients.

This represents a considerably lower prevalence than that of around 5% estimated from large observational studies and systematic reviews.1,2,5,6 This difference is likely to be due to MRAs not being consistently documented, coded, and reported as such in routine practice in the NHS.

The reasons for this under-recognition and under-reporting of MRAs may be multifactorial. Determining whether an admission is medicines-related can be complex and it may not be immediately recognised as such. Identification of an MRA will usually require a degree of clinical judgement, or perhaps background information to which hospital practitioners may not be party. One study found that the documentation of MRAs in inpatient records, including the discharge summary, were inconsistent and had communication gaps.7 Furthermore, International Classification of Diseases (ICD) codes related to medicines-related harm were rarely used, thus any work reporting a rate of MRAs based on collecting ICD-10 codes is likely to underestimate the true occurrence.
Medicines-Related Admissions (MRA) Process Map

- Suspected MRA (Complete or Partial)
  - Agreed with Physician
  - Sticker (or e-tag) in clinical notes with needed fields
  - At Discharge ICD codes applied. Drug Class + Reaction

- Incident Form (paper or electronic) completed
  - After Medication Safety Officer Review (MSO)

- NRLS/MHRA
  - Hospital MSO
  - Hospital Clinical Directorate
  - CCG/ Medicines Management Lead or MSO
  - GP Practice
  - Community Pharmacist / MSO

- Quarterly Data Feed

Learning Zone
LMC/LPC involvement

Clinical Coding

Learning from High Reliability Organisations (HROs)

High-Reliability Health Care: Getting There from Here

MARK R. CHASSIN and JEROD M. LOEB
The Joint Commission

describe an environment of “collective mindfulness” in which all workers look for, and report, small problems or unsafe conditions before they pose a substantial risk to the organization and when they are easy to fix
5 High Reliability principles in a HRO

- Preoccupied with failure
- Resist the temptation to simplify their observations and their experiences of their environment
- Sensitivity to operations
- Commitment to resilience “The hallmark of an HRO is not that it is error-free but that errors don’t disable it”
- Deference to expertise
Differences between Healthcare and HROs?

- Safety Management Systems
- Reporting culture (confidential anonymous reporting system)
- Risk of harm / death same for staff as for the “customer” in aviation & rail industries
- Defence design
- Training / Competency is an absolute
- If don’t meet standards, out of business (commercial pressure)
- Customer choice?
REFLECTIVE EVIDENCE FOLLOWING A MEDICATION ERROR

Please remember confidentiality when undertaking reflective work — DO NOT INCLUDE NAMES

This exercise is intended to help you reflect upon an incident which has occurred and to establish why the incident occurred. It is not about chastising you for making the error! You will be asked to consider what actions need to be put in place to reduce the risk of this type of error occurring again there by improving patient safety.

Undertaking reflection is a CPD requirement for Pharmacy; you should discuss this document with your line manager, or the person dealing with the error. It is suggested that you might then use this reflection on an error for a CPD entry.

Name

Grade

Drug Error Type:

<table>
<thead>
<tr>
<th>Drug omitted</th>
<th>Incorrect quantity</th>
<th>Drug expired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorrect dose</td>
<td>Incorrect formulation</td>
<td>Wrong patient</td>
</tr>
<tr>
<td>Wrong drug</td>
<td>Incorrect / No advice given</td>
<td>Incorrect label (Correct drug)</td>
</tr>
<tr>
<td>Wrong route</td>
<td>Wrong frequency</td>
<td>Other (please state)</td>
</tr>
</tbody>
</table>

Outcome for Patient:

Drug Name(s)

Brief description of what happened:

Contributory Factors: identify which factor(s) and rate importance

<table>
<thead>
<tr>
<th>Contributory Factor</th>
<th>Rank those that apply</th>
<th>Identify on scale how important this factor was in error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arithmetic error/miscalculation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication: Trust when system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication between ward staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication written documentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interruption/distraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge deficit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge misapplied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labelling error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of staff experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Look-alike/sound-alike drug name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal stress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protocol or policy broken</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill mix substandard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staffing levels reduced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock control substandard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workload high</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Any contributory not listed with rating. Also indicate if any factor led to another.

What could be done to prevent this type of incident from occurring again?

(This might involve redesigning the system to remedy the fault)

Your Personal Action Plan to prevent this type of incident occurring again.

(This could involve more training for you, reading policies etc)

Signature

Date

Signature of Line Manager

Date
Question

• Should there be a Prescribing competency assessment required for medical revalidation?

• Should there be a administration competency assessment required for nursing revalidation?
Several complications could explain this.

She's getting weaker.

Some meds could be interacting.

She's upset about going to a nursing home.
Medications Safety Thermometer

NEW! Export Function has been released, to find out how to export your raw data please read the Export Function Guide.

If you are new to the Safety Thermometer webtool and would like to get your organisation involved in the Medication Safety Thermometer please download the Initial set-up and the How to add data guides.

The Medication Safety Thermometer is a measurement tool for improvement that focuses on Medication Reconciliation, Allergy Status, Medication Omission, and identifying harm from high risk medicines in line with Domain 5 of the NHS Outcomes Framework.

As a point of care survey The Medication Safety Thermometer follows a three step process in order to identify harm occurring from medication error. Data are collected once a day each month and enable wards, teams and organisations to understand the burden of medication error and harm, to measure improvement over time and to connect frontline teams to the issues of medication error and harm, enabling immediate improvements to patient care. Data can be used as a baseline to direct improvement efforts and then to measure improvement over time.

The Medication Safety Thermometer from Haelo

Data are collected across the health economy in acute hospitals, community hospitals, intermediate care, care homes and district nursing services (for district nursing only where nurses administer medicines). The recommended sample on one day each month is 100% of patients on 5 surgical wards and 5 medical wards in acute care, and up to 290 patients for community services. However any organisation is welcome and encouraged to join the pilot and start collecting data with us on a smaller scale. Try it with one patient as a start and feedback to us your experience.

The first step requires the collection of data on the reconciliation of medicines, allergy status, number of regular medicines, medication omission, critical medicine omission and high risk medicines. These data are entered into the tool via the web-based form tool for transfer to the Medication Safety Thermometer.
<table>
<thead>
<tr>
<th>'Error Free’ Care</th>
<th>'Harm Free’ Care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>All Patients</strong></td>
<td><strong>Patients on High Risk Medicines</strong></td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td><strong>Step 2</strong></td>
</tr>
<tr>
<td>Patient information</td>
<td>If the patient is on any high risk medicines then answer additional questions Eg. Anticoagulant (Yes)</td>
</tr>
<tr>
<td>Medicines reconciliation</td>
<td>• Has the patient had a bleed? Yes/No</td>
</tr>
<tr>
<td>No. of medicines</td>
<td>• Has this person had Vitamin K? Yes/No</td>
</tr>
<tr>
<td>Medicines allergy status</td>
<td>• INR outside of limits (greater than 6) Yes/No</td>
</tr>
<tr>
<td>No. of omissions</td>
<td></td>
</tr>
<tr>
<td><strong>High risk meds</strong></td>
<td></td>
</tr>
<tr>
<td>-Anticoagulants</td>
<td></td>
</tr>
<tr>
<td>-Insulin</td>
<td></td>
</tr>
<tr>
<td>-Opiates</td>
<td></td>
</tr>
<tr>
<td>-IV or SC Sedatives</td>
<td></td>
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</tbody>
</table>
1. **A single measure of safety is a fantasy.** The search for simple metrics has sometimes led organisations to use a single specific measure, such as standardised mortality, as a generic indicator of safety performance. However, safety cannot be encapsulated in a single measure and such an approach gives false reassurance.

2. **Safety monitoring is critical and does not receive sufficient recognition.** Leaders at all levels need time to walk, to talk, to monitor and to intervene when necessary. Patients and carers play an essential role in safety monitoring but are an underused resource.

3. **Anticipation and proactive approaches to safety.** More evolved safety measurement systems combining both lagging (after the event) and leading (before an event) indicators. In healthcare leading indicators are still very rare.

4. **Integration and learning: invest in technology and expertise in data analysis.** Safety information is fragmented within NHS organisations and across the wider system. Probably the greatest challenge is to integrate it into a useable and comprehensible format.

5. **Mapping safety measurement and monitoring across the organisation.** Safety measurement and monitoring must be examined within each clinical setting. In each clinical context, we need to consider what kinds of harm are prevalent, what features of care must be reliable, and how we monitor, anticipate and integrate safety information.

6. **A blend of externally required metrics and local development.** Many measures indices should be agreed nationally or even internationally, though can be complemented by locally developed measures. But day-to-day monitoring, anticipation and preparedness are necessarily local activities, whether at the ward or board level.

7. **Clarity of purpose is needed when developing safety measures.** Healthcare regulators, national agencies and commissioners need to consider the purpose of safety measures. They need to beware of excessively complex data collection and must test safety measures before implementation.

8. **Empowering and devolving responsibility for the development and monitoring of safety metrics is essential.** Clinical units need the flexibility to develop measures that are relevant and adapted to their clinical context. Healthcare regulators need to move towards a goal-setting approach that allows organisations some flexibility in how they demonstrate that their care is safe.

9. **Collaboration between regulators and the regulated is critical.** The fragmentation of key safety information across multiple national and local stakeholders, combined with the complex regulatory landscape are potential threats to safety. Considerable resource is devoted to meeting multiple external demands, to the detriment of critical activities such as monitoring, anticipation and improvement.

10. **Beware of perverse incentives.** Some types of measurement introduce perverse incentives that can lead to box ticking or other unwanted behaviour. For example, imposing financial penalties may promote under-reporting or excessive focus on one type of harm. Instead, we need a more holistic approach to measurement and monitoring.
### Patient Safety Data on 'My NHS' website

<table>
<thead>
<tr>
<th>Hospital Name</th>
<th>Distance</th>
<th>Infection Control and Cleanliness</th>
<th>Care Quality Commission Inspection Ratings</th>
<th>Recommended by Staff</th>
<th>Safe Staffing</th>
<th>NHS England Patient Safety Notices</th>
<th>Patients Assessed for Blood Clots</th>
<th>Open and Honesty Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manchester Royal Infirmary</strong></td>
<td>1.6 miles</td>
<td>n/a</td>
<td>No relevant data available</td>
<td>OK</td>
<td></td>
<td>Good - All alerts signed off where deadline has passed</td>
<td>96% of patients assessed</td>
<td>OK</td>
</tr>
<tr>
<td>Oxford Road, Oxford Road, Manchester, M13 9WL Tel: 0161 276 1234</td>
<td></td>
<td></td>
<td>No rating Visit CQC profile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>As expected</td>
</tr>
<tr>
<td><strong>North Manchester General Hospital</strong></td>
<td>2.6 miles</td>
<td>OK</td>
<td>No rating Visit CQC profile</td>
<td>!</td>
<td>98%</td>
<td>Good - All alerts signed off where deadline has passed</td>
<td>96% of patients assessed</td>
<td>OK</td>
</tr>
<tr>
<td>Delaunays Road, Crumpsall, Manchester, Greater Manchester, M8 5RB Tel: 0161 795 4557</td>
<td></td>
<td></td>
<td>Among the worst with a value of 54%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>As expected</td>
</tr>
<tr>
<td><strong>Salford Royal</strong></td>
<td>3.1 miles</td>
<td>OK</td>
<td>Outstanding Visit CQC profile</td>
<td>!</td>
<td>98%</td>
<td>Good - All alerts signed off where deadline has passed</td>
<td>97% of patients assessed</td>
<td>Among the best</td>
</tr>
<tr>
<td>Salford Royal, Stott Lane, Salford, M6 8HD Tel: 0161 789 7373</td>
<td></td>
<td></td>
<td>Among the best with a value of 67%</td>
<td></td>
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</tr>
<tr>
<td><strong>Wythenshawe Hospital</strong></td>
<td>6.6 miles</td>
<td>OK</td>
<td>No rating Visit CQC profile</td>
<td>!</td>
<td>100%</td>
<td>Good - All alerts signed off where deadline has passed</td>
<td>96% of patients assessed</td>
<td>As expected</td>
</tr>
<tr>
<td>Southmead Road, Wythenshawe, Manchester, M23 9LT Tel: 0161 9887070</td>
<td></td>
<td></td>
<td>Among the best with a value of 72%</td>
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**We want your feedback**

We'll continually add to this performance information, listen to what you want, and work to make it as clear as possible. Contact us to suggest any improvements or provide any feedback.
<table>
<thead>
<tr>
<th></th>
<th>Sort by distance</th>
<th>Staff who stated the incident reporting procedure was fair and effective</th>
<th>Potential under-reporting of incidents resulting in death or severe harm</th>
<th>Potential under-reporting of incidents</th>
<th>Proportion of reported incidents that are harmful</th>
<th>Consistency of reporting to the NRLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Within the middle range with a value of 2%</td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Within expected range</td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
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<tr>
<td><strong>Manchester Royal Infirmary</strong></td>
<td></td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Within the expected range</td>
<td><img src="https://https://example.com/ok.png" alt="OK" /></td>
<td>Within expected range</td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
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<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Within the middle range with a value of 2%</td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Within expected range</td>
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<td><strong>North Manchester General Hospital</strong></td>
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<td>Within the middle range with a value of 2%</td>
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<td><strong>Salford Royal</strong></td>
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<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Among the best with a value of 1%</td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Within expected range</td>
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<td><strong>Wythenshawe Hospital</strong></td>
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<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Within the middle range with a value of 2%</td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
<td>Within expected range</td>
<td><img src="https://example.com/ok.png" alt="OK" /></td>
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</table>

**We want your feedback**

We'll continually add to this performance information, listen to what you want, and work to make it as clear as possible. Contact us to suggest any improvements or provide any feedback.
Number of Medication Incidents reported to NRLS per 100,000 episodes of care (April – Sept 14)

UHSM 271 (average 290) for Non Specialist Acute Trusts
Focus on preventable admissions

Trends in emergency admissions for ambulatory care sensitive conditions, 2001 to 2013

Ian Blunt
Negativity is TOXIC
Protect yourself!

weighingthefacts.blogspot.com
So how you can work in your AMU (and beyond) to reduce preventable harm due to medicines in the future?
Solutions - Hierarchy of effectiveness

**Stronger Actions**
- Change cultural approach
- Architectural / physical plant or equipment changes
- Standardise and usability testing of equipment or care plans
- Simplify the process and remove unnecessary steps

**Moderately Strong Actions**
- Effective use of skill mix
- Eliminate look and sound-a-likes
- Eliminate / reduce distractions
- Checklist / cognitive aids

**Weaker Actions**
- Double checks
- Warnings and labels
- New procedure / policy
- Re-Training focused on an individual not cohort

From: C Lee, K Hirschler. How to make the most of actions and outcomes
Physical barrier: Better picture of bins where can only place certain types of waste.
Thanks for listening, any questions?

Our Team Our Ethos

Our message is simple, we need you to be our eyes and ears. The risks associated with medicines are obvious but unfortunately occur all too frequently in a busy day, as we are all human and all make mistakes.

The multidisciplinary medication safety group exists to find remedies to faults in the medication system. We want you to tell us what medication issues you deal with every day that you know cause problems, or are even a potential fatal accident waiting to happen, and we will try to remedy them! If we don’t know about it we can’t help, so please report it via HIRS.
So how you can work in your AMU (and beyond) to reduce preventable harm due to medicines in the future?

• Multidisciplinary Medication Safety Groups
• Encourage reporting but look for system changes and personal reflection
• Safety Huddles
• Worry lists
Questions

• Do we take medicines seriously enough?

• Should there be a patient signed consent form for life long decisions about high risk preventative medicines such as anticoagulation detailing likely risks and benefits? (cf procedures/operations)

• Should there be a Prescribing competency assessment required for medical revalidation?

• Should there be a administration competency assessment required for nursing revalidation?
Types of Medication Incidents
Reason’s Model of Error

Unsafe acts

Intended actions

Unintended actions

Violations

Routine Reasoned Reckless Malicious

Rule, Knowledge Based errors

Skill based errors

Mistakes

Lapses

Memory failures

Slips

Attentional failures
A promise to learn
– a commitment to act

Improving the Safety of Patients in England

National Advisory Group on the Safety of Patients in England

Patients First and Foremost
The Initial Government Response to the Report of The Mid Staffordshire NHS Foundation Trust Public Inquiry

August 2013
This overview considers how the NHS has performed over the current parliament in relation to patient safety. We look at data relating to reported incidents and harm, episodes of care free of certain types of harm, and patient and staff perceptions of safety.

**Key points**

- Harm caused by health care affects every health system in the world; the NHS is no exception. Research from the UK suggests that around 8-12% of admissions to hospitals will involve an adverse event, resulting in harm to the patient. Between half and one third of these adverse events are thought to be preventable. Similar figures are reported in international studies.

- The NHS has made great progress in tackling some specific causes of harm in hospitals. The number of people developing infections such as MRSA as a result of their care has remained low during this parliament. The proportion of patients receiving care that is free of four common adverse events, including pressure ulcers, has increased from 91% in July 2012 to 94% in February 2015.

- Staff reporting of hospital safety incidents continues to improve. There has been a sustained increase in the reporting of incidents during this parliament, while the percentage of staff saying they have witnessed an incident has remained roughly the same. This suggests that the proportion of hospital incidents going unreported has declined.

- Some warning signs are emerging among the NHS workforce. During this parliament, the percentage of staff who say there is a blame culture in their organisation has risen, as has the percentage of staff who have reported feeling unwell because of work-related stress. Around 40% of patients feel there aren’t always enough nurses on duty to care for them.

- We don’t know how safe health care services are outside of hospital. There is little published evidence from which to draw conclusions about levels of harm in primary and community care. Less than 1% of all reported incidents are in primary care, despite 90% of all patient contact taking place there, suggesting significant underreporting of harm in this care setting.

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Please note: This briefing does not provide an exhaustive review of all of the available information on patient safety in the English NHS. It has focused on using measures that are readily available at a national level and for which data are available over the course of this parliament.
<table>
<thead>
<tr>
<th><strong>Common patient safety terms</strong></th>
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<tbody>
<tr>
<td><strong>Patient safety</strong></td>
<td>The avoidance of harm caused by health care.</td>
</tr>
<tr>
<td><strong>Adverse event</strong></td>
<td>An event or omission that arises during care causing harm to a patient.</td>
</tr>
</tbody>
</table>
| **Harm**                       | A negative effect of health care, regardless of whether it is evident to the patient. There are various types of harm, which can have physical and psychological effects:  
  - Delayed or inadequate diagnosis (for example, misdiagnosis of cancer).  
  - Failure to provide appropriate treatment (for example, not providing rapid thrombolytic treatment for stroke).  
  - Side effects of treatment (for example, complications after surgery).  
  - Over-treatment (for example, drug overdose).  
  - General harm (for example, dehydration).  
  - Psychological harm (for example, depression following surgical complication). |
| **Hazard**                     | A condition or event that can lead to harm. |
| **Risk**                       | An assessment of both the likelihood of a hazard occurring and the severity of the consequences. |
| **Lagging indicators**          | Measures of safety-related outcomes after an event has occurred. |
| **Leading indicators**          | Measures of conditions that can help predict whether a harmful event will occur. |
| **Safety or quality?**         | Most definitions of quality include safety as a core component. As more problems associated with health care have come to be seen as unacceptable, they have been increasingly described as safety issues rather than quality issues. For instance, health care associated infection used to be seen as an unfortunate consequence of health care, but is now regarded as both unacceptable and preventable. |
Medicines Optimisation

Patient-centred approach

Principle 1
Aim to understand the patient’s experience

Principle 2
Evidence based choice of medicines

Principle 3
Ensure medicines use is as safe as possible

Principle 4
Make medicines optimisation part of routine practice

Improved patient outcomes

Aligned measurement & monitoring of medicines optimisation
Is balancing the Prescription Equation your key to medication related admissions avoidance?

“If we just keep adding, and not subtracting, we just multiply the medication problems”
• Culture is to an organisation what personality is to an individual

• Safety Culture can cause people to make decisions to do things contrary to their policies, their training and sometimes even their better judgement

• A more positive patient safety culture is associated with fewer adverse events in hospitals Mardon et al J Patient Saf 2010;6:226-32
UHSM Medication Safety Group 5 year Strategic Objectives

Aim: To continually and forever reduce patient harm due to medication within UHSM

Target Implementation dates: Red April 2014 - April 2016 April 2016 - April 2019

1 Measure and report potential and actual medication patient harms to foster a sense of ownership of the Medication Safety agenda at Clinical Directorate & individual ward level

- Produce monthly directorate & ward Medication Safety dashboards including HIRS data, Medication Safety Thermometer data (limited doses, Medicines Reconciliation completion rates, harms due to high risk medicines) and error-free IDS discharge rates (link with new Service Line reporting arrangements)

2 Improve learning from Medication Incidents at both Trust and directorate/ward level

- Further encourage an open & learning culture towards reporting Medication Incidents via regular Medication Safety circulars to all Health Professionals
- Simplify the HIRS reporting form and clarify which incidents MUST be reported
- Implement regular Directorate medication HIRS meetings (Concerns of Care: Universal Practitioner Solutions (CCUPS)) with medical, nurse, pharmacist champions to identify solutions to problems
- Always use physical and natural barriers, in preference to human and administrative ones, to trap medication errors whenever possible
- All Health Professionals to receive feedback that Medication incident occurred and to complete reflective learning piece with opportunity to offer any solutions to the problem
- Purchase stamps for all prescribers, with their name and registration number, to ensure the feedback process works (until EPMA in place)
- Implement a policy ensuring the consistent use of coaching and capability policies for all Health Professionals involved with serious and/or repetitive errors. Clear reckless or malicious behaviour will be dealt with by Trust Disciplinary policies

3 Provide better education about Medication Safety for all Health Professionals

- Design a dedicated Medication Safety section on UHSM Academy Learning Hub webpage and use social media to help learning
- Introduce targeted competency based assessments for new staff (Prescribing for Doctors/Non-Medical Prescribers, Dispensing for Pharmacy staff, and Medication Administration for Nurses)

4 Invest in IT

- Introduce an Electronic Patient Record
- Introduce Electronic Prescribing & Medication Administration (EPMA) system with 24/7 Clinical Decision Support to help identify drug-disease, drug-drug, drug-laboratory interactions
- Introduce 24/7 electronic access to GP medication/allergy records
- Introduce bar coding medication administration systems
- Purchase IV smart pumps for high risk areas (Paediatrics, Oncology, Cardiothoracic)
- Introduce Dispensing & labelling robots
- Introduce remote clinical checking of prescriptions by Pharmacy 24/7

5 Ensure safer and more secure storage of medicines

- Introduce keyless medicine storage cupboards, in particular controlled drugs cupboards
- Introduce automated electronic dispensing drug cupboards for use out of hours

6 Manufacture or purchase safer preparations of High Risk Medicines

- Manufacture or purchase ready to use / ready to administer IV preparations
- Risk assess all high risk medicine contract changes
- Manufacture or purchase individual daily theatre medication packs for Anaesthetists

7 Engage patients with the Medication Safety agenda

- Appoint a patient representative onto the Medication Safety Group
- Increased the uptake of self-medication by patients by 25%
- Publish patient harms due to medication on the UHSM intranet page

8 Extend the working hours of Pharmacy

- Introduce a seven day a week Clinical Pharmacy service for admissions units & intensive care areas

9 Publish more research into Medication Safety

- Publish with the University of Manchester Pharmacy, Medical and Nursing Schools and Manchester AHSN (Current themes include IV Medication errors, feedback to junior doctors about sub optimal prescribing decisions and HP attitudes to the Medication Safety Thermometer)
Deaths in UK hospitals

- Retrospective case record review, of 1000 adult deaths at acute hospitals in 2009 by trained physicians
- 131 patients experienced problem contributing to their death
- 5.2% of deaths had a 50% or greater chance of being preventable (Extrapolates to 11,859 in all English Hospitals)

Table 5 Types of problems in care that contribute to patient death (More than one option may apply for each patient).

<table>
<thead>
<tr>
<th>Type of problem in care (%)</th>
<th>Preventable deaths n=52</th>
<th>Non-preventable deaths n=79</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Monitoring*</td>
<td>40 (31.3)</td>
<td>25 (18.0)</td>
</tr>
<tr>
<td>Diagnosis†</td>
<td>38 (29.7)</td>
<td>30 (21.6)</td>
</tr>
<tr>
<td>Drug or fluid related‡</td>
<td>27 (21.1)</td>
<td>30 (21.6)</td>
</tr>
<tr>
<td>Technical problem§</td>
<td>8 (6.3)</td>
<td>26 (18.7)</td>
</tr>
<tr>
<td>Infection related</td>
<td>9 (7.0)</td>
<td>22 (15.8)</td>
</tr>
<tr>
<td>Resuscitation</td>
<td>0 (0)</td>
<td>3 (2.2)</td>
</tr>
<tr>
<td>Other</td>
<td>6 (4.7)</td>
<td>3 (2.2)</td>
</tr>
</tbody>
</table>

*Failure to act upon results of tests or clinical findings, set up monitoring systems or respond to such systems or increase intensity of care when required.
†Missed, delayed or inappropriate diagnosis as a result of failure to perform an adequate assessment of patient's overall condition including appropriate tests or lack of focused assessment when required.
‡Side effects, inappropriate use, failure to give prophylactic care, anaphylaxis, etc.
§Related to an operation or procedure whether on ward, in a diagnostic suite or in theatre and including inappropriate or unnecessary procedures.
2015/16 General Medical Services (GMS) contract Quality and Outcomes Framework (QOF)

Guidance for GMS contract 2015/16

March 2015

April 2014

AVOIDING UNPLANNED ADMISSIONS
ENHANCED SERVICE: PROACTIVE CASE FINDING AND CARE REVIEW FOR VULNERABLE PEOPLE

GUIDANCE AND AUDIT REQUIREMENTS

A programme of action for general practice and clinical commissioning groups

NHS England Gateway reference: 01520

www.bma.org.uk/gpc
www.nhsemployers.org
www.england.nhs.uk

Publications Gateway Reference Number 03099
How CQC regulates:

### NHS GP practices and GP out-of-hours services

**Provider handbook**  
March 2015

<table>
<thead>
<tr>
<th>Outcome measures and safety events</th>
<th>Information from people who use services and the public</th>
<th>Information from and about staff</th>
</tr>
</thead>
</table>
| • Prescribing indicators – safe prescribing/effective prescribing indicators.  
• Safeguarding referrals and alerts.  
• Selected QOF indicators.  
• Secondary care activity; e.g. emergency admission rates for long-term conditions, A&E attendance rates, referral rates to secondary care.  
• Vaccination rates.  
• Screening uptake – e.g. breast, cervical cancers.  
• Patient safety incidents. | • Responses from General Practice Patient Survey.  
• People’s experiences shared with CQC.  
• Feedback left on NHS Choices, and other feedback sites (e.g. www.taligreatcare.org).  
• Complaints.  
• Feedback from local Healthwatch. | • Concerns raised by staff to CQC.  
• Fitness to practise referrals and cases. |
20 In Consent: patients and doctors making decisions together, we say:

- For a relationship between doctor and patient to be effective, it should be a partnership based on openness, trust and good communication. Each person has a role to play in making decisions about treatment or care.

21 Together with the patient, you should make an assessment of their condition before deciding to prescribe a medicine. You must have or take an adequate history, including:

- any previous adverse reactions to medicines
- recent use of other medicines, including non-prescription and herbal medicines, illegal drugs and medicines purchased online, and
- other medical conditions.

22 You should encourage your patients to be open with you about their use of alternative remedies, illegal substances and medicines obtained online, as well as whether in the past they have taken prescribed medicines as directed.

23 You should identify the likely cause of the patient's condition and which treatments are likely to be of overall benefit to them.

24 You should reach agreement with the patient on the treatment proposed, explaining:

- the likely benefits, risks and burdens, including serious and common side effects
- what to do in the event of a side effect or recurrence of the condition
- how and when to take the medicine and how to adjust the dose if necessary, or how to use a medical device
- the likely duration of treatment
- arrangements for monitoring, follow-up and review, including further consultation, blood tests or other investigations, processes for adjusting the type or dose of medicine, and for issuing repeat prescriptions.

25 The amount of information you give to each patient will vary according to the nature of their condition, the potential risks and side effects and the patient's needs and wishes. You should check that the patient has understood the information, and encourage them to ask questions to clarify any concerns or uncertainty. You should consider the benefits of written information, information in other languages and other aids for patients with disabilities to help them understand and consider information at their own speed and to retain the information you give them.

26 You should also provide patients' carers with information about the medicines you prescribe, either with the patient's consent or, if the patient lacks capacity to consent, if it is in their best interests.

27 It is sometimes difficult, because of time pressures, to give patients as much information as you or they would like. To help with this, you should consider the role that other members of the healthcare team, including pharmacists, might play. Pharmacists can undertake medicines reviews, explain how to take medicines and offer advice on interactions and side effects. You should work with pharmacists in your organisation and/or locality to avoid the risks of overburdening or confusing patients with excessive or inconsistent information.

28 You should also refer patients to the information in patient information leaflets (PILs) and other reliable sources of relevant information. PILs are useful supplements to the information you give patients about their medicines, but they are not a substitute for that information.

29 Sometimes patients do not take medicines prescribed for them, or do not follow the instructions on the dose to take or the time medicines should be taken. You should try to understand the reasons for this and address them by providing reassurance and information, and by negotiating with the patient to reach agreement on an appropriate course of treatment that they are able and willing to adhere to.

30 You must contribute to the safe transfer of patients between healthcare providers and between health and social care providers. This means you must share all relevant information with colleagues involved in your patient's care within and outside the team, including when you hand over care as you go off duty, when you delegate care or refer patients to other health or social care providers. This should include all relevant information about their current and recent use of other medicines, other conditions, allergies and previous adverse reactions to medicines.

31 It is essential for safe care that information about medicines accompanies patients (or quickly follows them, for example on emergency admission to hospital) when they transfer between care settings.

32 If you prescribe for a patient, but are not their general practitioner, you should check the completeness and accuracy of the information accompanying a referral. When an episode of care is completed, you must tell the patient's general practitioner about:

- changes to the patient's medicines (existing medicines changed or stopped and new medicines started, with reasons)
- length of intended treatment
- monitoring requirements
- any new allergies or adverse reactions identified unless the patient objects or if privacy concerns override the duty, for example in sexual health clinics.
Important academic references

- 11.2% patients had adverse drug events (ADEs) causing hospital admission (47.6% preventable)
- Patient age, time since starting new medicine and total number of medicines independently predictors of admission
- Antiplatelets, anticoagulants, diuretics, ACE inhibitors and anti-epileptics major culprits

Important academic references

• 6.5% UK hospital patients admitted due to Adverse Drug Reactions (ADRs) (72% preventable)  
  \[\text{Pirmohamed et al BMJ 2004;329:15-19}\]

• Preventable drug related problems accounted for 3.7% of hospital admissions. Antiplatelets, Diuretics, NSAID’s accounted for 50% of all admissions  
  \[\text{Howard et al BJCP 2007;63:136-4}\]

• 20.8% patients readmitted to hospital due to ADR within 1 year of first admission. Diuretics & Antiplatelets most frequent culprits  
  \[\text{Davies EC et al BJCP 2010;70:749-55}\]
BUT under recognised because under reported?

- International Classification of Disease (ICD) coding from hospital databases are not reliable for identifying ADRs. Hohl CM, Karpov A, Reddekopp L et al. ICD-10 codes used to identify adverse drug events in administrative data: a systematic review. J Am Med Inform Assoc 2014;21:547–557

- Only 9% of adult patients admitted to a UK hospital with a confirmed medication-related harm (ADRs, medication errors, non-adherence) had a related ICD code documented. Reynolds M et al. A descriptive exploratory study of how admissions caused by medication-related harm are documented within inpatients’ medical records. BMC Health Service Research 2014; 14: 257
Polypharmacy and medicines optimisation
Making it safe and sound

Authors
Martin Duerden
Tony Avery
Rupert Payne

Polypharmacy: Guidance for Prescribing

October 2012

Developed by The Model of Care Polypharmacy Working Group
Quality and Efficiency Support Team
Scottish Government Health and Social Care Directorates

Version 2 - corrected only when electronic - to be updated September 2013
And there are plenty of tools to help

- NICE Medicines Optimisation guidance
- Kings Fund, Scottish and Welsh Polypharmacy documents (CPPE focus too 2016)
- Seven steps to managing polypharmacy: Specialist pharmacy Services document
- No Tears Using the NO TEARS tool for medication review, T Lewis. BMJ 2004;329:434
We have some evidence

A review of the ways that healthcare professionals can improve the use of suitable medicines for older people

Published:
7 October 2014

Authors:
Patterson SM, Cadogan CA, Karse N, Cardwell CB, Bradley MC, Ryan C, Hughes C

Primary Review Group:
Effective Practice and Organisation of Care Group

Taking medicine to treat symptoms of chronic illness and to prevent worsening of disease is common in older people. However, taking too many medicines can cause harm. This review examines studies in which healthcare professionals have taken action to make sure that older people are receiving the most effective and safest medication for their illness. Actions taken included providing pharmaceutical care, a service provided by pharmacists that involves identifying, preventing and resolving medication-related problems, as well as promoting the correct use of medications and encouraging health promotion and education. Another strategy was computerised decision support, which involves a programme on the doctor's computer that helps him/her to select appropriate treatment.

This review provides limited evidence that interventions, such as pharmaceutical care, may be successful in ensuring that older people are receiving the right medicines, but it is not clear whether this always results in clinical improvement.

Authors' conclusions:
It is unclear whether interventions to improve appropriate polypharmacy, such as pharmaceutical care, resulted in clinically significant improvement; however, they appear beneficial in terms of reducing inappropriate prescribing.