A summary of recent safe medication practice research, reports and publications

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Recent regulator and statutory body activity

- Insulin pens: NovoPen Echo and NovoPen 5 (certain batches) and risk of hyperglycaemia
  - due to cartridge holder weakening when exposed to certain household chemicals


Recent regulator and statutory body activity

- Error with the barcodes on selected batches of 8 medicinal products by Focus Pharmaceuticals - Distribute to Pharmacy and Wholesaler level
  

- MHRA seizes more than 100 unreliable HIV home-testing kits
  
  https://www.gov.uk/government/news/mhra-seizes-more-than-100-unreliable-hiv-home-testing-kits

- MHRA reclassifies Dovonex Psoriasis Ointment (calcipotriol)
  
Pharmacovigilance Risk Assessment Committee (PRAC)

- PRAC confirms there is no consistent evidence of a difference in risk between plasma-derived and recombinant factor VIII medicines

No clear and consistent evidence exists of a difference in risk between plasma-derived and recombinant factor VIII medicines

- PRAC recommends modified-release paracetamol be removed from the market

Overdose complex and difficult to manage with modified-release products
Recent regulator and statutory

- FDA Drug Safety Communication recommends separating dosing of sodium polystyrene sulfonate from all other oral drugs
  
  https://www.fda.gov/Drugs/DrugSafety/ucm572484.htm

- US FDA to re-evaluate prescription opioid medications to treat cough in children
  
  https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm572466.htm
National guidance, publications and resources

• NICE Bites: Parkinson’s disease
  https://www.sps.nhs.uk/articles/nice-bites-parkinsons-disease/

• Physical health of people in prisons
  https://www.nice.org.uk/guidance/qs156

• Candida auris within the United Kingdom: updated guidance published
This month’s papers - overview

• Clinical Practice Guideline: Safe Medication Use in the ICU

• Do User-Applied Safety Labels on Medication Syringes Reduce the Incidence of Medication Errors During Rapid Medical Response Intervention for Deteriorating Patients on Wards? A Systematic Search and Review

• Physical Health and Drug Safety in Individuals with Schizophrenia

• The prevalence of medication-related adverse events in inpatients-a systematic review and meta-analysis

• Adverse Events Following Immunization: Will It Happen Again?
Background
Wake Up Safe is a quality improvement initiative of the Society for Pediatric Anesthesia that contains a de-identified registry of serious adverse events occurring in pediatric anesthesia. The aim of this study was to describe and characterize reported medication errors to find common patterns amenable to preventative strategies.

Methods
In September 2016, 6 years’ worth of medication error events were analyzed. Medication errors were classified by:
1. medication category;
2. error type by phase of administration: prescribing, preparation, or administration;
3. bolus or infusion error;
4. provider type and level of training;
5. harm as defined by the National Coordinating Council for Medication Error Reporting and Prevention; and
6. perceived preventability.
Medication Errors in Pediatric Anesthesia: A Report From the Wake Up Safe Quality Improvement Initiative

Results
- Data was submitted on 2087 adverse events.
- Containing details of 276 medication errors.

The most common error type was:
- accidental administration of the wrong dose (N = 84), followed by
- syringe swap (accidental administration of the wrong syringe, N = 49).
- 57 (21%) reported medication errors involved medications prepared as infusions as opposed to 1 time bolus administrations.

Over 80% of reported medication errors reached the patient and more than half of these events caused patient harm. 15 events (5%) required a life sustaining intervention. Nearly all cases (97%) were judged to be either likely or certainly preventable.

Conclusions
The findings characterize the most common types of medication errors in pediatric anesthesia practice and provide guidance on future preventative strategies. Many of these errors will be almost entirely preventable with the use of prefilled medication syringes to avoid accidental ampule swap, bar-coding at the point of medication administration to prevent syringe swap and to confirm the proper dose, and 2-person checking of medication infusions for accuracy.
Implementation of safeguards to improve patient safety in chemotherapy

Purpose
To evaluate the effectiveness of safeguards introduced in the process of using cytostatic agents for increasing the safety of oncology patients.

Methods
Prospective hospital study conducted in two stages, before and after the implementation of safeguards:
• staff training,
• standardized procedures,
• computerized prescription,
• pharmaceutical validation,
• implementation of bar codes, and
• a new manual on drug interactions.

Medication errors (MEs) were actively recorded during the process of administering chemotherapy in the Medical Oncology Department. The study classified MEs by the stage of the medication process in which they occurred and assessed their severity.
Implementation of safeguards to improve patient safety in chemotherapy

Results

500 patients, 250 before implementing safeguards and 250 afterward, were included in this study. Out of all patients included before, 43.1% had at least 1 error, compared to 27% of those included later.

Table 1 – Classification of MEs by stage of the process at which they were detected.

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of MEs detected Before</th>
<th>No. of MEs detected After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescription Errors</td>
<td>125</td>
<td>55</td>
</tr>
<tr>
<td>Validation Errors</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Preparation Errors</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>Dispensing Errors</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Administration Errors</td>
<td>0</td>
<td>30</td>
</tr>
</tbody>
</table>

After the safeguards were introduced, all MEs that could have caused harm or required monitoring of some kind were prevented.

Conclusions

Implementing safeguards in the hospital’s cytostatic treatment cycle is useful for preventing MEs. Computerized prescription, pharmaceutical validation, and the creation/dissemination of proper work procedures are effective barriers that keep MEs from reaching the patient. Administering chemotherapy with a bar-code system facilitates error detection at this stage of the cycle and prevents them from reaching the patient.