Making sense of adverse incidents in ways which are meaningful to MSOs and MDSOs

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February 2016
Workshop Overview

- Introduction

- ‘Setting the Scene’ David Gerrett

- Group work

- Feedback from group work

- Summing up
Introductions

- Yogini Jani – Medications Safety Officer (MSO)
  - Pharmacy
  - Lead Pharmacist for Medication Safety
  - Medications Safety Committee

- Alyte Podvoiskis – Medical Device Safety Officer (MDSO)
  - Medical Physics and Biomedical Engineering
  - Head of Quality and Governance
  - Medical Devices Committee
Making sense of adverse incidents in ways which are meaningful to MSOs and MDSOs

MSO/MSDO conference 2016

Dr David Gerrett
NHS England
Senior Pharmacists
Patient Safety

8 February 2015
Working together MSOs and MDSOs for patients

We will discuss:
• [Medicines] PSIs directly involving devices
• Examples from reports to the NRLS
• Implications from what we now know
• The future in how we learn from these events
## PSIs directly involving devices

<table>
<thead>
<tr>
<th>Reported MD01</th>
<th>Reported Level of Harm</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration / supply of a medicine from a clinical area</td>
<td>No Harm: 46 Low: 9</td>
<td>57</td>
</tr>
<tr>
<td>Other</td>
<td>No Harm: 12</td>
<td>12</td>
</tr>
<tr>
<td>Preparation of medicines in all locations / dispensing in a pharmacy</td>
<td>No Harm: 17</td>
<td>17</td>
</tr>
<tr>
<td>Prescribing</td>
<td>No Harm: 13 Low: 1</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>88 No Harm 9 Low 3</td>
<td>100</td>
</tr>
</tbody>
</table>
From 2014 dataset of 190,619 medication safety incidents

<table>
<thead>
<tr>
<th>Reported MD01 and The Identified Theme</th>
<th>Reported Severity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration / supply of a medicine from a clinical area</td>
<td>Low: 2</td>
<td>2</td>
</tr>
<tr>
<td>administration omission due to use of 2 MDS/blister packs</td>
<td>No Harm: 8</td>
<td>8</td>
</tr>
<tr>
<td>Cardiac Monitor - Patient Refused to be monitored following administration of overdose</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>chemotherapy Pump did not function before and during radiotherapy</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Delayed administration due to patient using urine bottle at bedside</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Delayed Cannulations</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Infusion pump failure during administration</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>MRI - ADR to contract during procedure</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>No patient label on infusion pump nor on patient’s wrist</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Syringe Driver Failure during drug administration</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Syringes and needles supply omission following discharge</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Drug locker kes missing</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Preparation of medicines in all locations / dispensing in a pharmacy</td>
<td>Low: 2</td>
<td>2</td>
</tr>
<tr>
<td>Fax machine - wrong pharmacy</td>
<td>No Harm: 2</td>
<td>2</td>
</tr>
<tr>
<td>Robot Dispenser - Power failure</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>
Chemotherapy Pump did not function before and during radiotherapy

Patient arrived for third treatment of RT [radiotherapy] with 5FU [5 fluorouracil] pump in situ. Treatment protocol states pump should be running continuously while patient is receiving radical RT. Patient mentioned prior to third treatment that the pump, although fitted, has not been running since it was put on at [hospital]. Patient reported that he has telephoned chemo outpatients at but they have assured it will 'start working'. Phoned chemo outpatients here for advice; they are unable to look at the pump as it was fitted at [another place]. Contacted Dr for advice who informed staff to treat the patient and he will phone and follow up so patient pump is running for further treatments.
PSIs directly involving devices

Robot Dispenser - Power failure

No power to speedcase 2 [robot dispenser], not able to use visualisation screen to access medicines at all. Several attempts made to restart speedcase unsuccessfully.
PSIs directly involving devices

Syringes and needles supply omission following discharge

Patient discharged from Hospital. First seen by District Nursing team on [date]. Patient husband disclosed that his wife should be having an injection twice daily and that District Nursing team should be administering it. I read through the discharge referral with him and there was no mention of request to administer any injections. When supplies provided to patient on discharge were checked there were ampoules of Octreotide and a sharps box but no needles or syringes.
administration omission due to use of 2 MDS/blister packs

(Reported by Pharmacy) Pt admitted to [place] on [Date], had all medicines in a blister pack, except Clozapine, which was in a separate blister pack on its own. Pharmacist endorsed drug chart that Clozapine was in a separate pack and verbally handed over to nurses to use that for administering Pt night time doses. Pt transferred to [location] at 0400hrs on Saturday [Date]. Has not been given Friday nights Clozapine. Another Pharmacist was asked to supply medicines for Pt on Saturday morning, she endorsed drug chart further to indicate that the Clozapine should be given from the blister pack, it was clearly identifiable as it was the only drug in that pack. Pharmacist saw Pt on Monday [date] at approx 1000hrs and Clozapine had not been given at all and 'S' documented on drug chart for Friday, Saturday and Sunday. Clozapine was in blister pack in Pt POMs locker. Pt stated she had been hearing voices in her head that morning. Clozapine is an antipsychotic which has very stringent restrictions on supply and monitoring. It is known to cause agranulocytosis, and because of this Pts have to undergo a slow titration of dosing. Initially they have blood tests every week, but this then decreases to every 2 weeks and then every 4 weeks. Once a 'green light' is given on a blood test, the supply Pharmacy is allowed to dispense a specific limited amount of Clozapine. Missing more that 48hrs of Clozapine means having to restart the titration all over again and having blood tests done more regularly.
So we can say.....

From the small randomly chosen sample we know there are a significant number of incidents that require both MSO and MDSO to work in partnership to ensure safe use of medications and of devices.

If we take the 190,519 incidents from 2014 and an error rate of 13% was to be assumed there are 24,767 incidents where in the 2014 dataset of medication safety incidents. We ‘could’ add these to the 46,876 devices incidents of 2014.

…BUT….how do we identify these in the medication PSI NRLS dataset?

…then…what about the more severe harm?
Review of 2014 reported deaths

2014 dataset
- A review of all deaths reported in 2014 n=136 (un-validated)

- A total of 47% (n=63) of these deaths contained mention of some type of medical device

- Reasons for this high figures related to the serious harm reports often describe injectable medicines, pumps, resuscitation, cannulation, oxygen, monitoring etc. of patients which all involved the use of a device.
PSIs directly involving devices

PSIs with Reported outcome Death

Patient in cardiac arrest found to have oxygen tubing incorrectly attached to tracheostomy.

Visited patient as had call from patient ‘s relative that patient in pain and nausea . Palliative patient . On syringe driver . Staff member drew up whole ampoule of morphine sulphate 10mg in 1ml and 0.25ml (6.25mg) of levomepromazine. Drawn up in 1ml syringe

Patient admitted with chest sepsis from [hospital]. Commenced on 2L oxygen, IV antibiotics / nebulisers / steroids / fluids that morning. Oxygen prescribed to aim for sats 88-92% given background of known asthma however oxygen extremely low on 1st ABG. Very frail and poorly at this point . Oxygen increased from 2L to 3L / min cautiously by myself . In my absence however another staff member within the department increased oxygen to a non rebreath mask at 10L / min . By the time patient was post tooked 1 hour later they were drowsy , hypercapnic & acidotic. Patient died later that night after we never managed to reverse the Type 2 reparatory failure. Reported outcome Death
The future in how we learn from these events

- When we come across a PSI remember to look for the medication and the devices interplay
- Identify key themes that link medicines and devices, the solution may be a combination of both.
- Encourage MSOs and MDSOs to collaborate on mutually beneficial enterprises
- Step one – MDSOs know your MSO, MSOs know your MDSO
- And for MSOs that are MDSOs know……️
The future in how we learn from these events

If you remember only one thing after 10 minutes its that……

Medicines are commonly administered through devices and it may take two (MSO+MDSO) to really understand the multiple factors involved in error and to minimise future harm to patients
Workshops
Case Study - Introduction

- Smiths Medical, Cadd-Solis VIP 2120
- Ambulatory infusion pump
- Used in Chemotherapy Unit for 5 years
- Medication delivered via cassettes filled by Pharmacy

- Spate of incidents:
  - Pump registered infusion complete
  - Medication remaining in cassette

- Conclusions:
  - Unknown cause: pump delivery & cassette filling within tolerance
  - Possibly related to margins of error
  - Not clinically significant
  - No further incidents
Case Study - Findings

- Barriers:
  - Incidents recorded on Datix as ‘Medication’ incidents
  - Little/no device details provided in Datix reports
  - Cassettes not retained

- Opportunities:
  - Information sharing
  - Incident investigation on multiple fronts
  - Timeliness of conclusions

- Recommendations:
  - MDSO/MSO access to respective Datix reports
  - Closer collaboration of MSO/MDSO
Learning from incidents: Medication infusion devices

A number of wrong infusions dose errors have been reported potentially due to infusion device issues.

If you think an infusion device has contributed to an incident:

- Check the device number and document it in the incident report.
- Keep the device aside if possible and send to the medical physics department at the earliest opportunity.
- Complete the details on the white form and attach it to the device.

For further information about medical device safety, contact: Alyte Podvoiskis mdso@uclh.nhs.uk
Group work

- Please get into groups
- Ensure both MDSO and MSOs are represented
- Discuss scenario provided (or select one of your own)
- Complete the worksheet provided
- Select spokesperson
- 30 minutes
Scenario 1

- Patient under care of haem-oncology and requiring a PCA for analgesia. I was called to stop the background on the PCA whilst on call at the weekend.
- The prescription was for 2mg/ml oxycodone subcutaneously. The bag in the PCA contained 200mg oxycodone per 100ml sodium chloride 0.9%.
- The nursing documentation suggested that almost 3 bags (300mL) had been used over the past 5 days with a total of 520mg in keeping with the correct dose prescription.
- However the only setting the PCA can be set at is 1mg/mL.
Scenario 2

- Patient receiving day 2 of chemotherapy. He has a 24 hour infusion of hydration (3000mL) with mesna in addition.

- This bag was started on Friday at 10:10 (all relevant checks completed and double checked)
- On Saturday at 10:30 patient’s pump alarming – read that the volume of 3000ml delivered.
- On checking the actual connected bag was pretty full – bag weighed 2178 mil.

- Patient reports pump whirring and no alarms overnight
- On saturnday mornign pump checked and showing an hour remaining.
Group Work Feedback

- Spokesperson to provide feedback
- 10 minutes
Summing up

- Hopefully everyone has gained some insight into how to improve MDSO/MSO working

- Please hand-in worksheets

- Content will be collated and shared at MSO and MDSO WebEx’s

- Thank-you for attending this workshop