Attitudes and behaviors of hospital pharmacy staff toward near misses:

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Objectives

At the end of this presentation, participants will be able to:

– Define a near miss

– Describe the experience of Manitoba hospital pharmacy staff with near misses and reporting them
  – Does it happen frequently?
  – Do pharmacists and technicians feel differently about near misses and their reporting?

– Reflect upon ways to improve near miss reporting within a pharmacy workplace setting
Introduction

• Near miss
  – “An event that could have resulted in unwanted consequences, but did not because either by chance or through timely intervention the event did not reach the patient”¹

• Similar underlying failure processes as errors

Literature Review

- Near misses underreported
- Attitudes and behaviours towards error reporting has been evaluated in healthcare
- Factors influencing near miss reporting
  - “blame and shame” culture
  - too trivial to report
  - uncertainty in what is reportable
  - time constraints
  - reporting does not lead to change

Ideal safety culture within pharmacy?

Where we are…
- Pathologic culture
  - Self protection
  - No reason to disclose errors or near misses – poses threat to reputation of store or staff
  - No learning opportunities
  - No system changes, only individual changes

Where we should be…
- Generative culture
  - Errors are inevitable
  - Mistakes are learning opportunities
  - Knowledge obtained from error reporting is shared among pharmacies to increase overall quality across the health care system
Goal is to move away from blame and shame

- Who did it? ........... What allowed it?

- Punishment ........... Thank you for reporting!

- Errors are rare ........ Errors are everywhere!
Introduction

• Near misses are sometimes included as a subcategory of errors in studies that evaluate errors
  • Little investigation has examined hospital pharmacy staff

• WRHA – non-punitive, paper based error reporting system for any type of error or near miss

• Purpose – to develop and validate a survey to capture attitudes, behaviours and current reporting practices of pharmacy staff towards near misses
Methods

- Survey questions developed from literature
  - Field tested
- Focus groups and interviews – same domains

Sample

- Pharmacists and technicians at the “inpatients” pharmacy at a tertiary care hospital (medicine, surgery, women’s)
- Survey – all staff via workplace email - Web based survey
- Qualitative – purposeful sampling
  » Advertising via email, posters
  » Willing and available
Methods

- Survey
  - Descriptive (SurveyMonkey®, Excel®)
  - Reliability – factor analysis (SAS®)
  - Validity – comparison of survey response to qualitative data

- Qualitative
  - Semi-structured, open ended questions
  - Two investigators facilitated
  - Data transcribed (projector for focus groups)
  - Transcripts sent to participants
  - Both investigators used qualitative description\(^1\) to determine themes, final themes reached through consensus

- Informed consent to participate
Results

• Participants
  Survey
  • 36/55 responded (65.5%)
  • 20 (55%) pharmacists, 16 (45%) technicians
  Qualitative data
  • 11 participants (7 focus groups, 4 interviews)
  • 6 pharmacists, 5 technicians
Results

• Knowledge
  • 67% had experienced a near miss within 3 months
  • 10% reported a near miss with an occurrence reporting form
  • 19% had ever reported a near miss with the form

• Internal consistency reliability
  – Behaviour scale
    • All 11 items were retained (cronbach’s 0.88)
  – Attitudes scale
    • 23 of 42 items retained (cronbach’s 0.91)
<table>
<thead>
<tr>
<th>Themes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process changes can and do result from near misses</td>
<td>“tall man lettering, separate drugs, for example to separate sodium from calcium polystyrene sulfonate.”</td>
</tr>
<tr>
<td>Responsibility and accountability for my work and near misses</td>
<td>“I think the incident report form gets hair up on people’s backs. It really isn’t an incident, it’s a near miss.”</td>
</tr>
<tr>
<td>Minimizing – the error has been corrected, let’s move on!</td>
<td>“If we document every near miss that occurs, that’s a lot of paperwork.”</td>
</tr>
<tr>
<td>Need for education</td>
<td>“Are [pharmacy staff] taught to fill out those forms? I think they are just taught to deal with the situation and move on.”</td>
</tr>
<tr>
<td>Attributes of an ideal system</td>
<td>a simpler, more user-friendly, efficient form that was internal to the pharmacy department would encourage more frequent reporting</td>
</tr>
</tbody>
</table>
Conclusion

• We developed a reliable and valid survey to evaluate pharmacy staff attitudes and behaviours towards near misses

• Limitations
  • Responder bias
  • Lack of voice recording
  • Limited sample size

• Future work
  • Larger sample in Manitoba
Introduction

• We studied attitudes and behaviours of Manitoba hospital pharmacists and technicians toward near misses and near miss reporting.
Methods

• A web based survey of all pharmacy staff (excluding managers and students) at Manitoba hospitals with admitted patients was conducted for 4 weeks in 2009.

• Survey respondents were asked about experience with and attitudes and behaviours toward near misses with a previously validated survey.
Methods

• Internal consistency reliability for survey scales was determined using factor analysis and Cronbach’s alpha.

• Differences between pharmacists and technicians were compared with Fisher’s Exact tests for categorical data and t tests for survey scales.

• Data were collected with Surveymonkey® and analysis was conducted in SAS®
Results

• Of 37 hospitals, 1 large tertiary care centre declined to participate.

• Of approximately 500 pharmacy staff, 122 (25%) responded (Table 1).

• The majority (62% overall; technicians 48% vs. pharmacists 73% p<0.008) had experienced a near miss in the past 3 months (Figure 1).

• Only 27% of respondents had ever reported a near miss with an occurrence reporting form.
## Demographic characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job title</strong></td>
<td></td>
</tr>
<tr>
<td>Pharmacist</td>
<td>66 (54.1)</td>
</tr>
<tr>
<td>Technician</td>
<td>56 (45.9)</td>
</tr>
<tr>
<td><strong>Length of time in current position</strong></td>
<td></td>
</tr>
<tr>
<td>Less than two years</td>
<td>18 (14.8)</td>
</tr>
<tr>
<td>Two to seven years</td>
<td>38 (31.1)</td>
</tr>
<tr>
<td>Greater than seven years</td>
<td>66 (54.1)</td>
</tr>
<tr>
<td><strong>Type of employment</strong></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>94 (77.7)</td>
</tr>
<tr>
<td>Part time</td>
<td>27 (22.3)</td>
</tr>
<tr>
<td><strong>Type of shifts</strong></td>
<td></td>
</tr>
<tr>
<td>Days only</td>
<td>66 (54.5)</td>
</tr>
<tr>
<td>Rotation (evenings and days)</td>
<td>51 (45.4)</td>
</tr>
<tr>
<td><strong>Practice location</strong></td>
<td></td>
</tr>
<tr>
<td>Urban (Winnipeg)</td>
<td>90 (73.8)</td>
</tr>
<tr>
<td>Rural (non-Winnipeg)</td>
<td>32 (26.2)</td>
</tr>
</tbody>
</table>
Experience with near misses

- Involvement with a near miss: 38.5% 40.2%
- Discussed a near miss with a co-worker: 36.4% 39.3%
- Discussed a near miss with a manager/supervisor: 54.9% 35.3%
- Reported a near miss with an occurrence reporting form: 83.5% 14.9%

Percent

- 0 times
- 1-2 times
- 3 or more
Experience with near misses

<table>
<thead>
<tr>
<th>Situation</th>
<th>Percent</th>
<th>Definitely</th>
<th>Possibly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussing with co-worker</td>
<td>55</td>
<td>32.1</td>
<td></td>
</tr>
<tr>
<td>Discussing with supervisor/manager</td>
<td>44.9</td>
<td>17.8</td>
<td></td>
</tr>
<tr>
<td>Reporting with form</td>
<td>6.4</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Discussing with co-worker</td>
<td>56.1</td>
<td>18.5</td>
<td></td>
</tr>
<tr>
<td>Discussing with supervisor/manager</td>
<td>58.3</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Discussing with supervisor/manager</td>
<td>49.5</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>Reporting with form</td>
<td>39.8</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>Discussing with co-worker</td>
<td>30.6</td>
<td>35.5</td>
<td>40.2</td>
</tr>
<tr>
<td>Discussing with supervisor/manager</td>
<td>35.5</td>
<td>35.5</td>
<td>40.2</td>
</tr>
<tr>
<td>Reporting with form</td>
<td>4.6</td>
<td>4.6</td>
<td>4.6</td>
</tr>
</tbody>
</table>

* Statistically significant

<table>
<thead>
<tr>
<th>Incident</th>
<th>Percent</th>
<th>Definitely</th>
<th>Possibly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrong strength selected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrong medication selected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorrect placement of medication</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Attitudes towards near misses

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree / Agree N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping to improve patient safety is my responsibility as a pharmacy staff member.</td>
<td>97 (95.1)</td>
</tr>
<tr>
<td>Medication errors are a serious problem in health care.</td>
<td>95 (93.1)</td>
</tr>
<tr>
<td>Understanding why near misses happen can help to prevent medication errors from happening.</td>
<td>95 (94.1)</td>
</tr>
<tr>
<td>I could learn from near misses that occur at other hospitals or pharmacy sites.</td>
<td>90 (88.2)</td>
</tr>
<tr>
<td>Others can learn from my near misses.</td>
<td>89 (87.3)</td>
</tr>
<tr>
<td>Near misses do not impact patient safety procedures because patients are not harmed.</td>
<td>6 (5.9)</td>
</tr>
<tr>
<td>Near misses do not teach us as much about improving patient safety as medication errors do.</td>
<td>8 (7.9)</td>
</tr>
<tr>
<td>I can improve patient safety by telling others about near misses.</td>
<td>78 (78.2)</td>
</tr>
<tr>
<td>Near misses tell us as much about how an error is prevented as they do about how an error is caused.</td>
<td>82 (82.0)</td>
</tr>
</tbody>
</table>
## Attitudes towards near misses

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree / Agree N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telling others about near misses is a waste of my time because nothing would change despite my efforts.</td>
<td>5 (5.0)</td>
</tr>
<tr>
<td>Telling others about near misses is as important as telling others about medication errors.</td>
<td>74 (73.3)</td>
</tr>
<tr>
<td>Pharmacy staff members should tell others about near misses.</td>
<td>78 (77.2)</td>
</tr>
<tr>
<td>I would feel uncomfortable talking about a near miss with a co-worker.</td>
<td>11 (10.8)</td>
</tr>
<tr>
<td>Telling others about near misses leads to system changes that improve patient safety.</td>
<td>72 (70.6)</td>
</tr>
<tr>
<td>I would feel uncomfortable talking about a near miss with my supervisor/manager.</td>
<td>23 (23.0)</td>
</tr>
<tr>
<td>If I tell others about a near miss, they will think I’m not good at my job.</td>
<td>13 (12.7)</td>
</tr>
<tr>
<td>Other pharmacy staff members don’t talk about near misses, so I don’t either.</td>
<td>9 (8.8)</td>
</tr>
<tr>
<td>In my pharmacy department, system changes to improve patient safety occur after near misses are discussed with others.</td>
<td>53 (52.5)</td>
</tr>
<tr>
<td>If I am involved in a near miss, it is my fault.</td>
<td>31 (30.7)</td>
</tr>
</tbody>
</table>
Discussion

- Similar near miss behaviors and attitudes between hospital pharmacists and technicians.
- Hospital pharmacy staff feel that near misses are important and useful learning tools.
- They experience numerous near misses daily, but generally only discuss with co-workers.
- Some staff feel individual responsibility for near misses
Discussion

• Pharmacy staff appreciate need to learn from near misses to improve pharmacy processes

• Reasons for non-reporting
  • Workload, paperwork
  • Feelings of personal responsibility
  • Lack of understanding of how studying near misses can improve patient care

• Evolution – informal discussion with peer
Discussion

- Education required
  - Near miss definition
  - Non-punitive nature of reporting
  - Benefits of reporting and discussing
- Pharmacy staff desire feedback about process changes made as a result of near miss reporting
- Efforts to create a simple, anonymous system
Limitations

• Responder bias

  – Technicians > pharmacists
    • Hard copies of surveys available
    • rural and urban, nearly 50% technician respondents, suggesting that both populations were adequately represented
What things can impact reporting?

- Information campaigns and managers who engage in process improvement activities have been shown to increase health care staff’s likelihood of
  – Incident reporting
  – Offering solutions
What would improve incident reporting in Canadian community pharmacies?

- Pilot survey - most important characteristics: anonymity and ability to learn from others
- No difference: managers, pharmacists or technicians

Framework

- Individual-perceived self-efficacy – can I deal with this?
- Medication incident process capability – easy? anonymous? learning?
- Medication incident process support – local buy in? Open discussion?
- Organizational culture – generative, not pathologic
- Management support – encourage, train, resources, discuss
- Regulatory authority support – e.g. apology letter can’t be used in litigation
- Implication to the patient
Feedback from incident reporting

- All levels of an organization
- Appropriate mode of delivery
- Relevant to local workplace
- Integrated within safety systems
- Sensitive to different requirement for different users
- Empower front line staff
- Capacity for rapid action
- Available to reporters and stakeholders
- Established, continuous clearly defined processes
- Part of work routine
- Lead to visible improvement
- Credible
- Preserve confidentiality
- Supported by senior level
- Contribute to learning
Context WRHA

• Quality and patient safety is reviewing the current incident reporting process

• Numerous stakeholder meetings through all aspects of health care

• Our data has been fed back
Context WRHA Pharmacy

• Raise awareness

• Residency project plan to pursue a non-punitive pharmacy only near miss reporting system to determine impact on near miss reports

• No need for different strategies for pharmacists and technicians
Conclusion

• We observed similar behaviours and attitudes between hospital pharmacists and technicians, although reporting of near misses was low.

• Education of pharmacy staff and managers about near misses may help to encourage reporting.
Acknowledgements

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