Using FMECA to improve patient safety during hospital moves and evacuations

Laurence Schumacher, PharmD1, 2,*; Florian Berthaudin, MSc1, *; Anne-Laure Blanc, PharmD; Cédric Blatrie, PharmD 2; Anthony Staines, PhD3, 4; Pascal Bonnabry, PharmD, PhD1, 5; Nicolas Widmer, PharmD, PhD1, 2

1 Center for Emergency and Disaster Pharmacy, Institute of Pharmaceutical Sciences of Western Switzerland, Geneva, Switzerland; 2 Pharmacy of Eastern Vaud Hospitals, Vevey, Switzerland; 3 Patient Safety Unit, Riviera–Chablais Hospital, Vevey, Switzerland; 4 IFROSS Institute, University of Lyon 3, Lyon, France; 5 Pharmacy of Geneva University Hospitals, Geneva, Switzerland.

* These two authors contributed equally.

Experiences of hospital moves are rare, but they present similarities with emergency situations such as hospital evacuations. Failure Modes, Effects, and Criticality Analysis (FMECA) was used to anticipate the failure modes which might affect patient safety during hospital moves or evacuations.

This study highlighted the value of using an FMECA of patient safety during hospital moves and evacuations. Moreover, preparing for a hospital move could provide useful knowledge about and an opportunity to test mitigation actions to be included in hospital evacuation procedures.

**METHOD**

**RESULTS**

6 buildings, 400 beds, 2 wards: Internal Medicine Unit (IMU) and Intensive Care Unit (ICU)

Team met three times (7 hours in total)

<table>
<thead>
<tr>
<th>Failure modes</th>
<th>Move</th>
<th>Evacuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Analyzed</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Averages initial Criticality Index scores</td>
<td>IMU 160 (105–294)</td>
<td>ICU 201 (125–343)</td>
</tr>
<tr>
<td>1 CI score after mitigations</td>
<td>IMU 32 (-80%)</td>
<td>ICU 49 (-76%)</td>
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<tr>
<td>ICU 592 (441–810)</td>
<td>IMU 194 (-39%)</td>
<td>ICU 282 (-25%)</td>
</tr>
</tbody>
</table>

**EVACUATION KIT**

Plans:
- Hospital
- SOP
- Evacuation

Degraded Mode:
- Call-backs
- Field access to patients

Checklist
- Medication handling
- Transmission
- Tracking

Patient algorithms:
- Triage
- Evacuation

Known and regularly tested by staff

Contact: info@disaster-pharmacy.ch