

Using FMECA to improve patient safety during hospital moves and evacuations



Laurence Schumacher, PharmD^{1, 2,*}; Florian Berthaudin, MSc^{1,*}; Anne-Laure Blanc, PharmD; Cédric Blatrie, PharmD²; Anthony Staines, PhD^{3, 4}; Pascal Bonnabry, PharmD, PhD^{1, 5}; Nicolas Widmer, PharmD, PhD^{1, 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.

RATIONALE

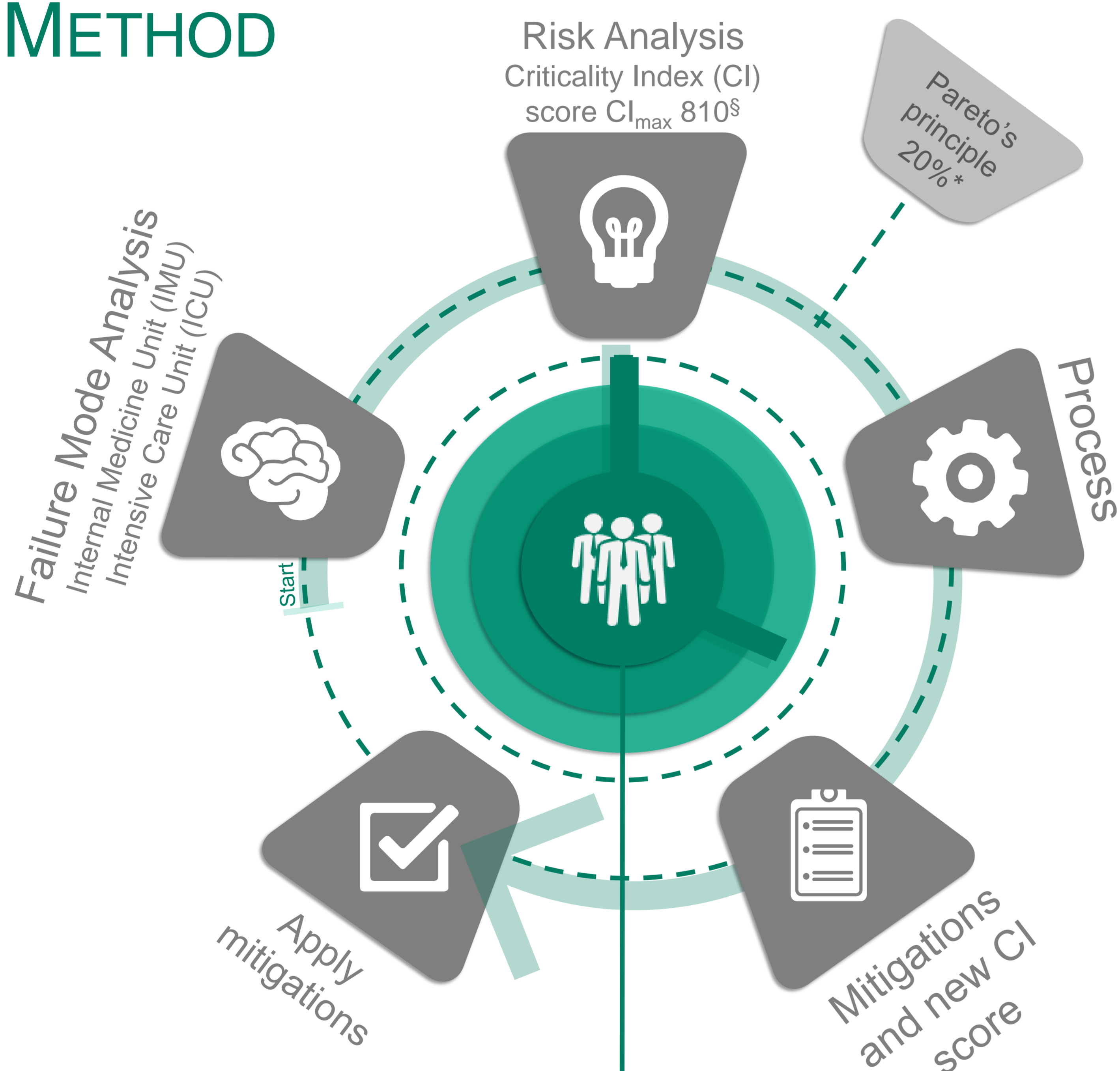
Experiences of hospital moves are rare, but they present similarities with emergency situations such as hospital evacuations. Failure Modes, Effects, and Criticality Analysis (FMECA) was used to anticipate the failure modes which might affect patient safety during hospital moves or evacuations.

CONCLUSION

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

§ Williams et al., Hospital pharmacy. 1994;29(4):331-2, 4-6, 9

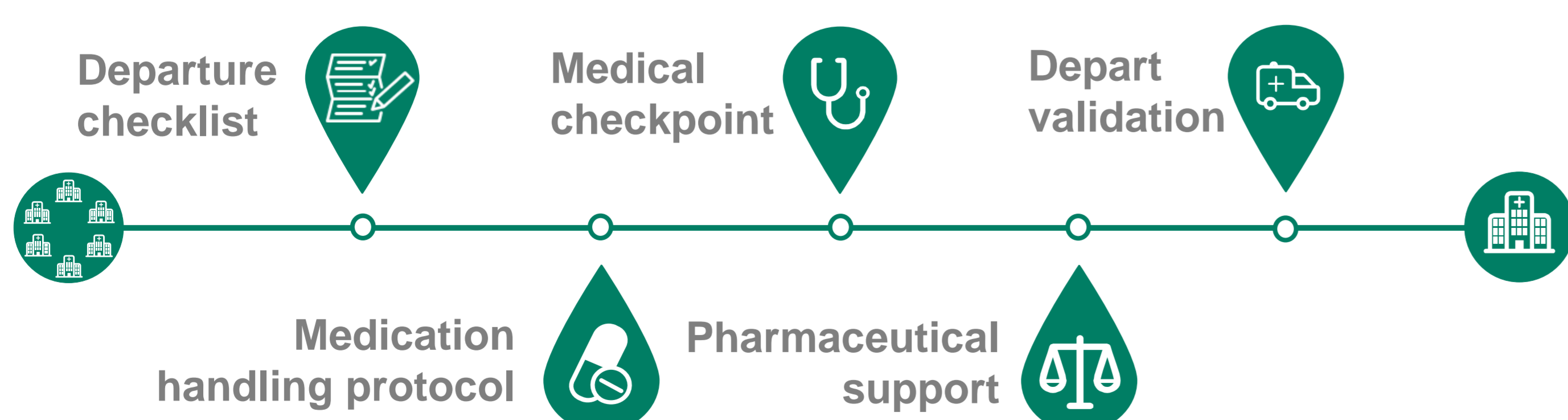


Failure Modes, Effects, and Criticality Analysis (FMECA) was carried out by a multidisciplinary team:

- Physicians
- Nurses
- Pharmacists
- Logistics manager
- Manager
- Patient safety officer

* Pareto's principle = 20% of failures with the highest Criticality Index scores were selected and analyzed in the 3rd session to determine improvements.

MOVE PROCESS



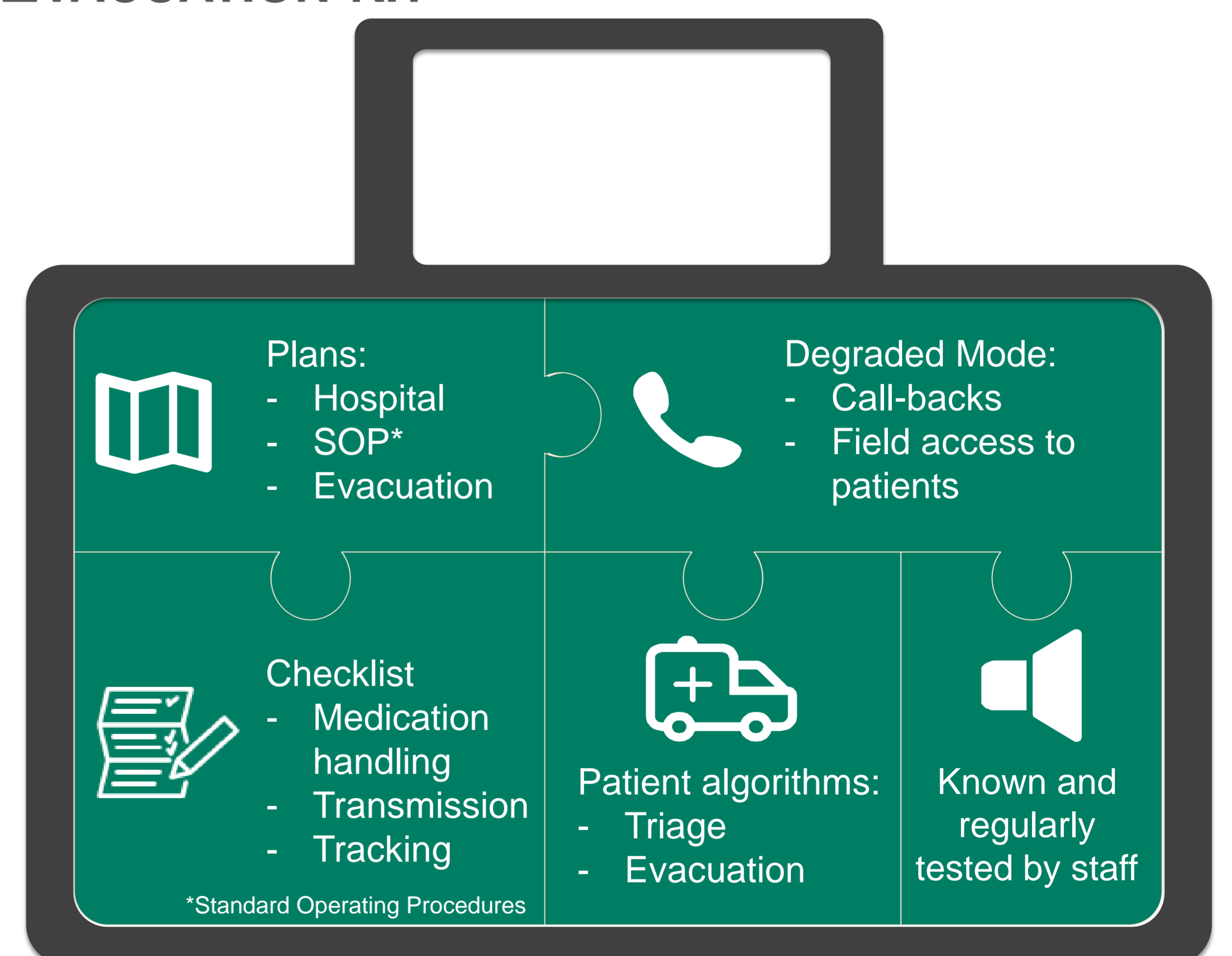
RESULTS

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

Team met three times (7 hours in total)

	Move	Evacuation
Failure modes	59	68
Analyzed	12	14
Averages initial Criticality Index scores	IMU 160 (105–294) ICU 201 (125–343)	IMU 319 (245–504) ICU 592 (441–810)
↓CI score after mitigations	IMU 32 (-80%) ICU 49 (-76%)	IMU 194 (-39%) ICU 282 (-25%)

EVACUATION KIT



Contact : info@disaster-pharmacy.ch

