

Long-term analysis of incident reporting in the perioperative setting

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Objective

- About one in ten hospitalized patients are harmed because of adverse events (AEs).
- At least 50% of these events are considered preventable.
- Surgical related AEs are amongst most common in-hospital AEs.

We assessed perioperative incident reporting over a 10-yr-period, to identify targets that require adaptive efforts for further improvement of patient-safety.

Methods

- Incident data were analyzed in a Dutch university hospital over three periods:
 - Historical Group (HG) 2009-2012,
 - Pre-Covid Group (PCG) 2015-2020, and
 - Covid Group (CG) 2020-2022.
- Voluntarily perioperative incident reporting is done by using a semi-structured digital form in the Hospital Incident Management System.
- Predefined reported causative factors were categorized as human, organizational, technical and patient-related.

Results

- A total of 4,811 incidents (2,546 AEs and 2,265 'near-miss events') were reported in 209,030 operations (2.3%).
- The average reporting rate decreased over the years (HG: n=854, 3.8%; PCG: n=356, 1.7%; CG: n=235; 1.3%).
- Although the clinical consequences of AEs increased for the PCG in comparison with the HG, it decreased in CG (Fig. 1).
- Most reported incidents were related to communication, equipment and treatment. Communication-related incidents decreased between HG and PCG, while Equipment-related incidents increased (Fig. 2).
- A total of 9,151 causes were reported. Human factors remained the most common mentioned cause. Technical related issues increased as causative factor (8%) (Fig. 3).

Conclusion

- Analysis over the years shows that communication improved according to the perception of the reporters, possibly as a result of robust implementation of the perioperative care-pathway and Crew Resource Management (CRM) training.
- Despite an increase in human factor causes in the CG, the clinical consequence for patients just decreased.
- The increasing equipment and technical related incidents urge a need for focused efforts.
- Long-time analysis seems useful for further improvement of patient safety by identification of changed targets.

Figure 1. Patient consequences of AEs (n=2,546)

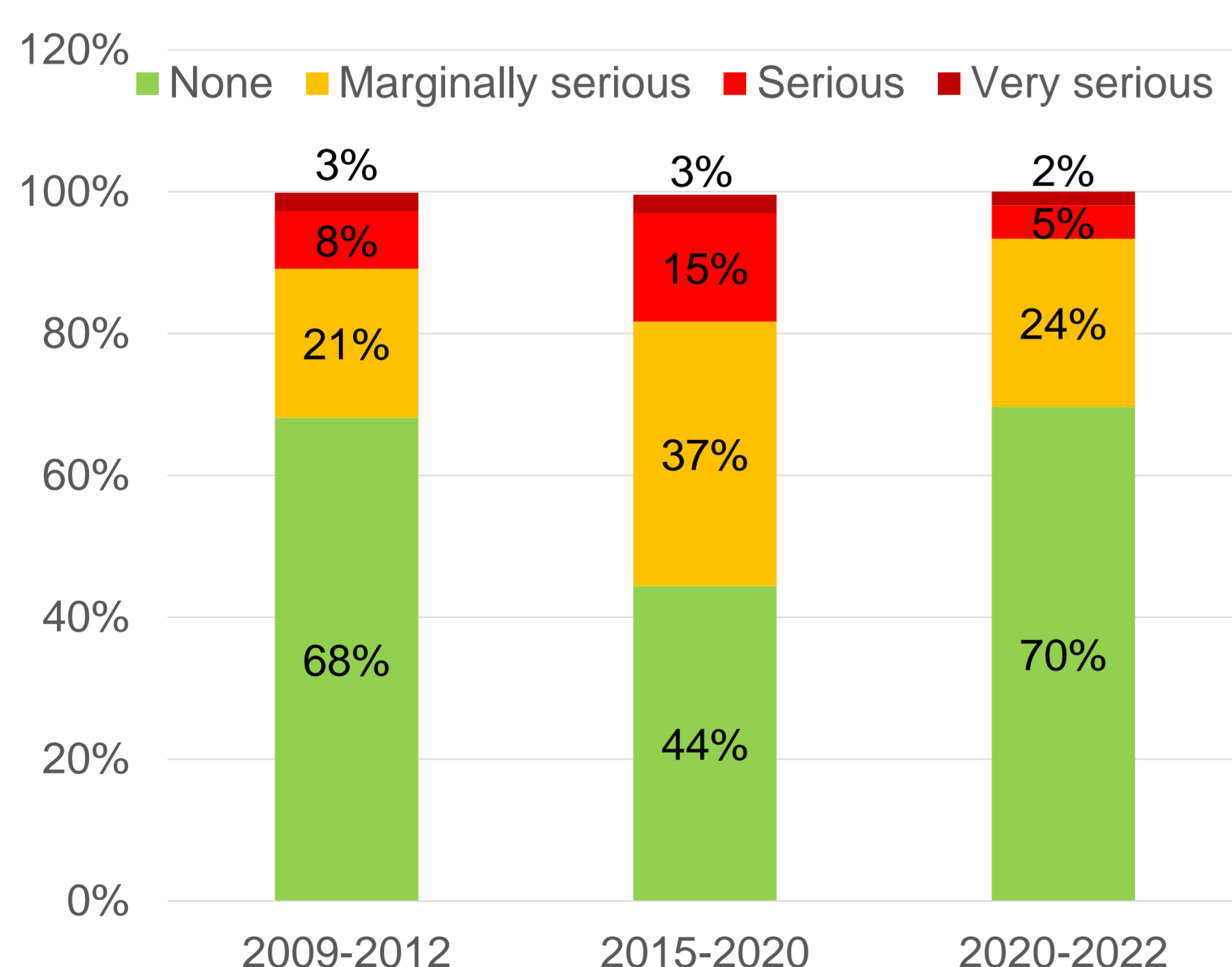


Figure 2. Type of incidents (n=4,811)

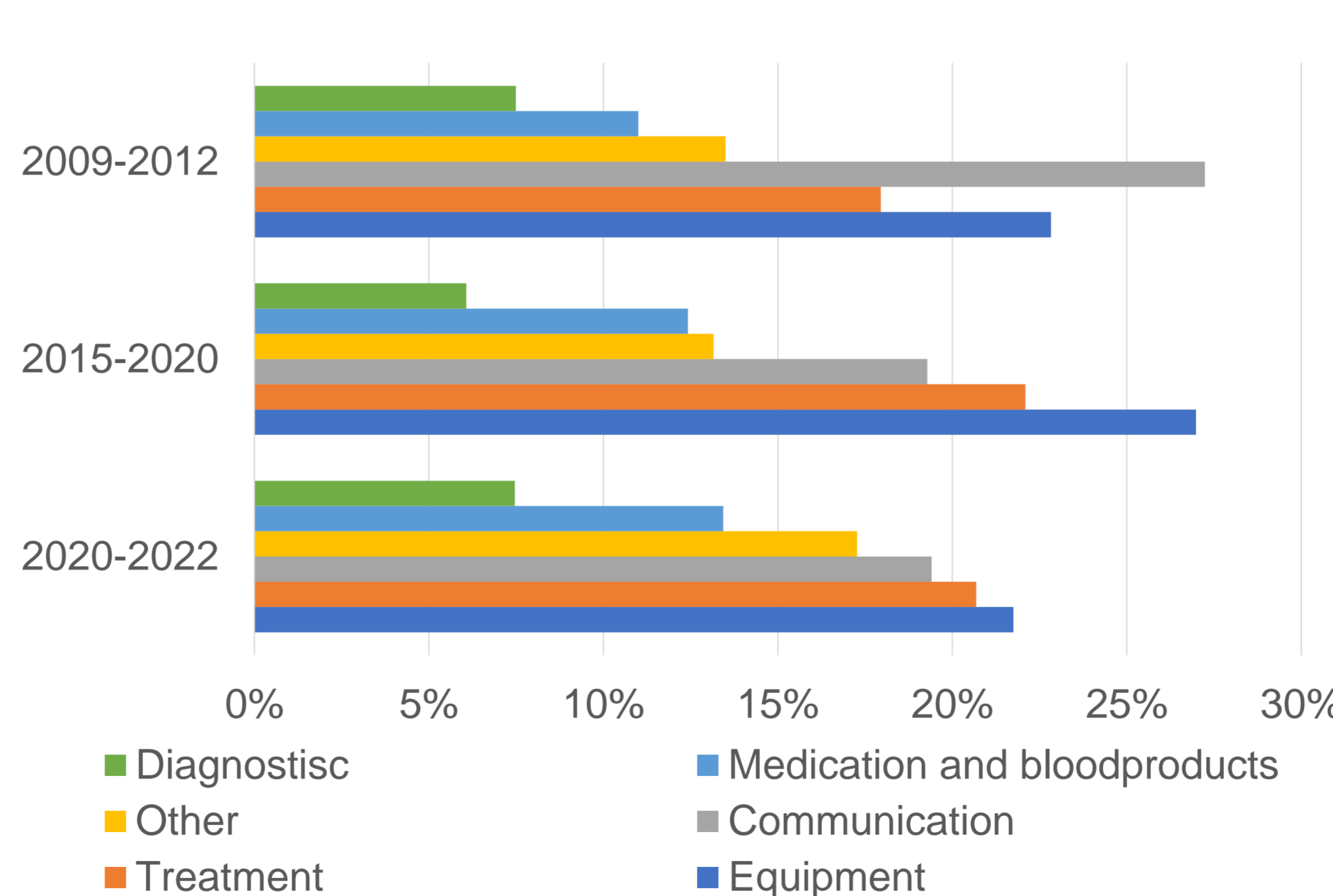
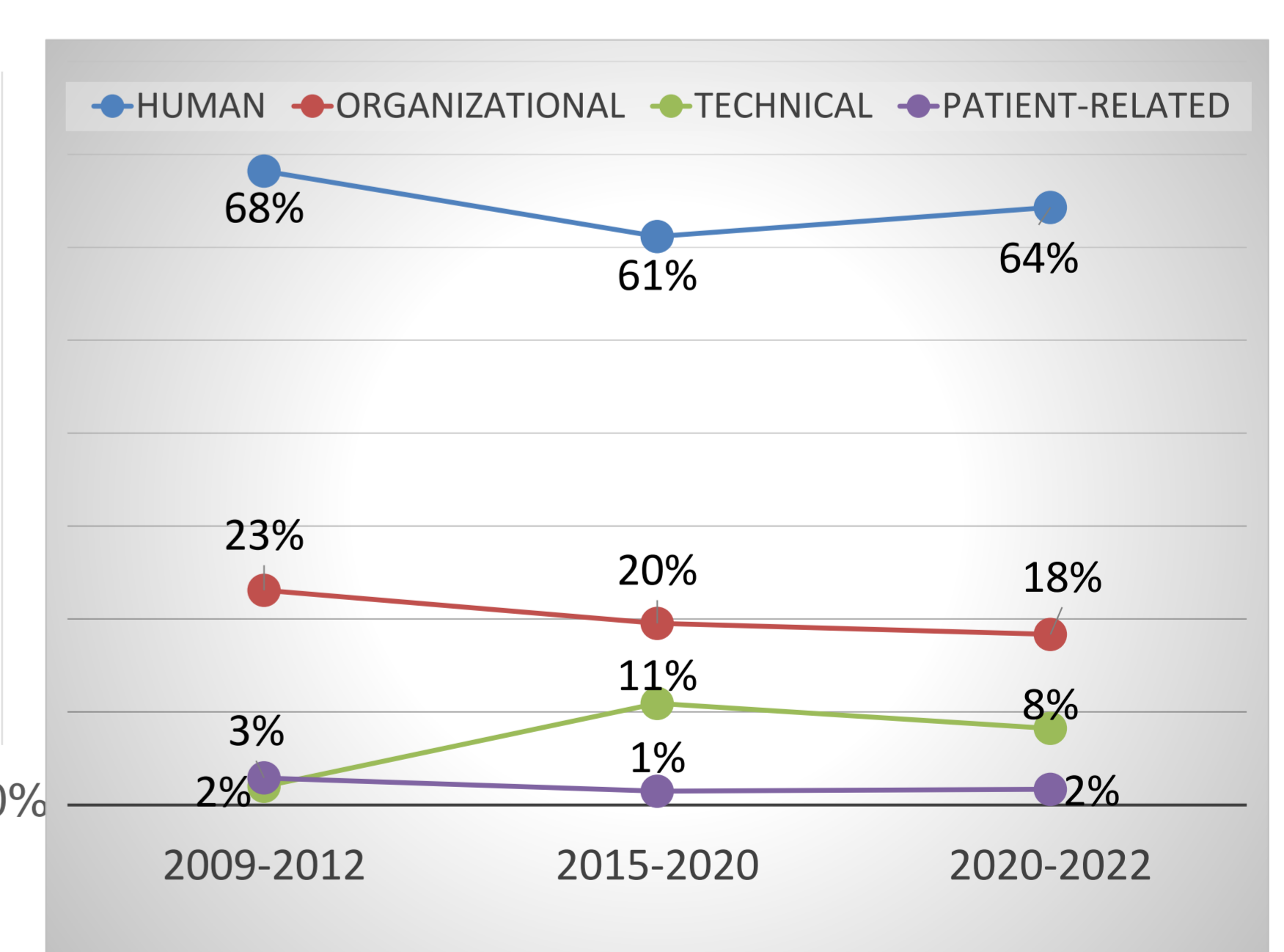


Figure 3. Causes of Incidents (n=9,151)



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