GLOBAL TRIGGER TO IMPROVE AUTOMATED CAPTURE OF COMPLICATIONS

RSNA – 2024

LEARNING OBJECTIVES

- Discuss the current status of self-reporting of complications in medicine

- Describe the causes of why self-reporting of complications is low

- Introduce a novel automated tool to improve the detection of complications

BACKGROUND

- 10% of hospitalized patients experience an adverse event

- Around 50% of these complications occur during invasive disciplines such as surgery and other procedural specialty

- Medical errors in interventional radiology (IR) result from various causes, including procedure complexity, patient factors, workflows, provider experience, organizational expertise, and the specific safety measures in place

- Identification of improvement opportunities heavily depends on self-reporting

- We present the status of self-reporting of complications and discuss a novel automated process to improve the identification of adverse events

CURRENT STATUS

- Previous studies have shown that 75% of errors occurred during the procedure of which 55-84% were preventable

- The underreporting of errors leads to repeat occurrences of adverse events without corrective processes

- Capturing these medical errors is vital for improved patient outcomes.

- Only 20% of the medical errors are self-reported

- 90% – 95% of reported complications result in no harm to patients

Adverse Events

Legend: ■ AEs during procedures ■ Preventable ■ Self reported
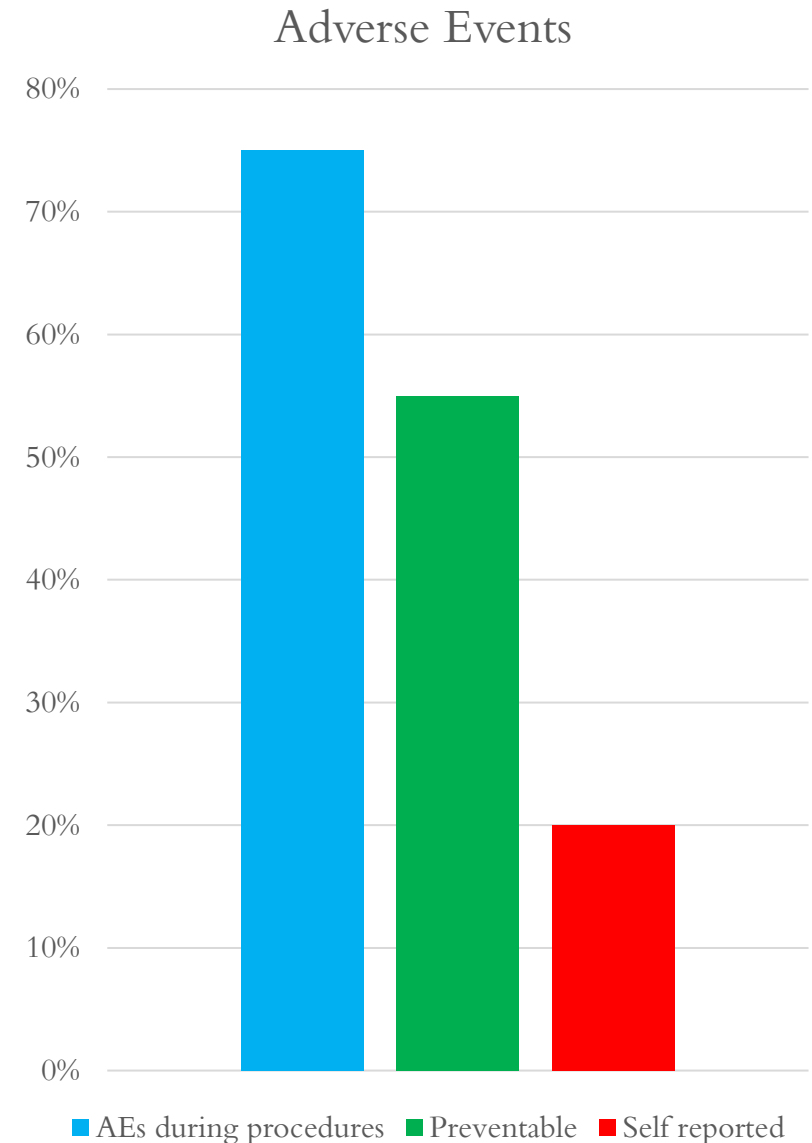
CAUSES OF LOW SELF-REPORTING OF COMPLICATIONS IN INTERVENTIONAL RADIOLOGY

- Subjectivity in Identifying and Classifying Complications

- Additional Time and Effort Required for Self-Reporting (Systematic Element)

- Absence of a Structured Follow-up Process

- Fear of Stigma and Professional Repercussions

GLOBAL TRIGGER

- Hospitals need better systems to identify and address harm-causing events
- This will allow for the implementation and testing of solutions to minimize harm
- Global Trigger relies on the automated identification of complications using billing data, based on the association between ICD-10 codes (indications for procedures) and CPT codes (procedure codes)
- Effective method for detecting outliers (complications)
- If the CPT codes do not align with the ICD-10 codes, a chart review is triggered to investigate the reason for additional procedures and identify any underlying complications
- An AI-driven dashboard identifies outliers weekly, triggers chart reviews, and minimizes reliance on self-reporting

KEY ELEMENTS

1) Triggers: clues in the medical record that suggest an adverse event might have occurred

- Unplanned transfers to higher levels of care

- Certain medications or tests

- Abnormal lab results that point to potential problems

2) Retrospective chart review

- Systematically review patient charts to identify triggers

- Typically involves a sample of records from a specific time period

- Detects adverse events or complications not immediately apparent

- Uncovers underreported incidents

KEY ELEMENTS

3) Identification & Classification of AEs

• Confirm whether an AE has occurred

• Classify the event by severity and preventability

• Helps assess the scope of patient harm

• Identifies areas where care improvements are needed

• Guides targeted safety interventions

4) Quality Improvement Measures to Minimize Future Adverse Events

• Identifies areas where care improvements are needed

• Guides targeted safety interventions to minimize similar adverse events in the future

RESOURCES

– Rawf, F., Alsafi, A., Zia, A., Darzi, A., Bicknell, C. D., & Hamady, M. S. (2015). Medical Errors in IR: Where Are We? A Systematic Review. Journal of Vascular and Interventional Radiology, 26(11), 1741–1743. https://doi.org/10.1016/j.jvir.2015.07.004

– IHI Global Trigger Tool for Measuring Adverse Events: IHI. Institute for Healthcare Improvement. (n.d.).
https://www.ihi.org/resources/Pages/Tools/IHIGlobalTriggerToolforMeasuringAEs.aspx

THANK YOU!