Open Book
Learning from close calls and adverse events

Reviewing trigger tool notes to uncover harm

This first trigger tool* Open Book report focuses on cases from a hospital setting. Trigger tools are also used in primary care. The aim of this report is to encourage reflective learning using harm triggers identified in one organisation. Other organisations are likely to have similar cases. We offer questions to prompt next steps in identifying and addressing the underlying systems cause(s) of harm.

> *'All healthcare organisations will, if they look, discover numerous incidents and deviations from best practice. Safe organisations actively seek out such incidents, and respond by attempting to harness the learning to influence their future functioning.'*
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> (Vincent C, Burnett S, Carthey J. 2013. *The measurement and monitoring of safety.* London: The Health Foundation.)

Trigger identified: Haemoglobin decrease of greater than 25 percent

Harm found: Delayed recognition and treatment of gastrointestinal bleeding associated with continued use of anticoagulant drugs.

Over a four-day period, a patient experienced abdominal discomfort, black stools, nausea and a 30 percent drop in haemoglobin. Anticoagulants were continued during this time.

The anticoagulants were then stopped and the patient began a therapeutic dose of omeprazole.

A gastroscopy revealed multiple duodenal ulcers.

In retrospective review, these interventions were delayed by three days.

Questions prompted:

- What systems are in place to identify patients at risk of gastrointestinal bleed?
- Are there check points in your system to review ongoing appropriateness of medication?
- What systems could alert staff to gastrointestinal bleeding for earlier intervention?

Trigger identified: Laxative use

Harm found: Severe constipation associated with opioid administration.

A patient who was receiving regular oral and intravenous opioids received laxatives for two days but then refused further laxatives. The documentation was unclear as to the reason for the refusal.

The patient then had no bowel motion for eight days. Although laxatives were charted 'as required', no other treatment was prescribed or offered.

Questions prompted:

- What is the rate of harm from constipation in your organisation?
- Does your organisation have a consistent system for monitoring and addressing constipation?
- What information do you give patients receiving opioids to ensure they are aware of the importance of bowel monitoring and laxative use?

** See next page for a description of trigger tools.*

Trigger identified: Raised urea or creatinine (>2x baseline)

Harm found: Impaired kidney function due to inadequate monitoring of fluid balance and serum creatinine levels.

Over six days, a patient was intermittently nil by mouth while waiting for a procedure.

During that time the patient occasionally received intravenous fluid. The intravenous fluid was documented, but oral intake or urinary output was not.

Blood tests to check creatinine levels were not requested.

Creatinine rose from a normal baseline by 40 percent to become abnormal.

Questions prompted:

- Is it clear to all clinical staff in your organisation which patients require fluid balance monitoring?
- How does your organisation ensure consistent documentation for fluid balance?
- What systems does your organisation have in place to identify patients experiencing recurrent postponement of procedures, to ensure they are monitored appropriately?

Trigger identified: Healthcare associated infection

Harm found: Hospital acquired wound infection.

A patient developed a wound infection after joint replacement surgery.

The patient was started on antibiotics, but no swabs were taken for microbiology culture.

Wound swabs taken one month later showed bacteria resistant to the antibiotics prescribed.

The patient required readmission, further surgery and lifelong antibiotic treatment.

Questions prompted:

- What is the agreed procedure for wound surveillance in your organisation?
- Are there differences in wound surveillance dependent on the specialty involved?

Commission comment

- Trigger tools typically identify common everyday harm that does not reach the threshold for reporting.
- By providing a 'window' on the system, such harm can expose system weaknesses and inform opportunities for learning and improvement.
- Trigger tool methodology is used in hospitals at organisational level. It is also applicable at service level or within clinical units.
- Trigger tool methodology is also applicable in general practice settings as a way of reviewing systems and processes of care.

Trigger tools

A trigger tool is a simple, validated and cost-effective methodology that uses a systematic record review process to identify, quantify and track patient harm.

A randomly selected set of patient records is reviewed on a routine basis using predetermined triggers as 'flags' for patient harm. Finding a trigger prompts a more in-depth search of the record to confirm if harm has occurred. Identified harm is documented and classified according to severity and type.

Data are analysed to identify patterns of harm to patients and rates of harm in organisations, and to inform improvement activity at practice level.

Griffin FA, Resar RK. 2009. *IHI Global Trigger Tool for Measuring Adverse Events* (Second Edition). IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement.