

## Trauma Service Sustains Performance Improvement Initiative with Missed Injury Rate in Comparison to Published International Data

**PROBLEM:** Trauma surgeons initially evaluate patients through primary and secondary surveys to identify injuries but, due to the complexity of managing severely injured patients, missed injuries occur. A Trauma Tertiary Survey (TTS) is believed to reduce the missed injury rate. A systematic review shows 34% reduction in missed injuries after implementation of TTS, with a post-TTS missed injury rate of 1.5%<sup>1</sup>.

**AIM:** The aim of this project was to reduce the risk of missed injuries in trauma patients at Hamad General Hospital, which improves outcomes, reduces hospital stay and costs, and improves patient and family satisfaction.

**INTERVENTION:** In 2010, the Trauma Surgery Service initiated a performance improvement process that requires a TTS on every hospitalized injured patient within 24 hours of admission. The TTS includes the repetition of primary and secondary surveys, along with review of laboratory data, radiographic studies and the medical record with emphasis on mechanism of injury and co-morbid factors, as well as the plan of care. Completion and documentation of the TTS is monitored and reported daily. Missed injury rates subsequent to the TTS are measured.

### RESULTS:

- This performance improvement project resulted in sustained post-TTS missed injury rates that are better than published benchmark data (1.5 %) for four consecutive years as illustrated in Graph 1 and Table 1 (0.7% in 2010; 0.5% in 2011; 0.4% in 2012; 0.2% in 2013).
- Injury and undiagnosed diseases detected through the TTS are managed or referred to specialty services, which promotes communication between healthcare providers and promotes patient-centered care.
- The findings reflect the provision of quality care for injured patients at Hamad General Hospital

Graph 1 Missed Injury Rates

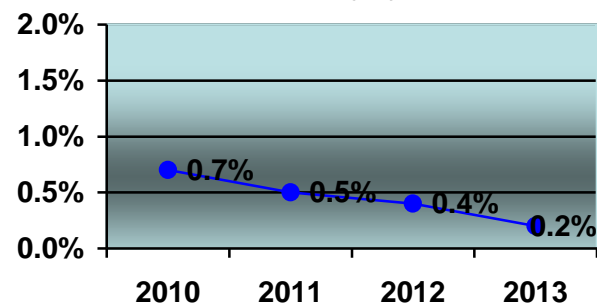


Table 1 Numbers and Rates for Missed Injuries

	2010	2011	2012	2013
Number of missed injuries	10	8	7	3
Number of patients hospitalized $\geq 24$ hours	1403	1697	1665	1678
<b>Missed Injury Rate</b>	<b>0.7%</b>	<b>0.5%</b>	<b>0.4%</b>	<b>0.2%</b>

### LESSONS LEARNED:

- Persistent performance of the TTS within 24-hours of trauma patient admission minimizes the risk of missed injuries during hospitalization.
- The TTS is an integral component of high quality trauma patient care.

<sup>1</sup> Keijzers et al: The effect of tertiary surveys on missed injuries in trauma: a systematic review. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 2012 60:77