

Improving Critically Injured Patient’s Outcomes Through Medical Education in Qatar

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Context:

Trauma is the leading cause of death and disability in the young adult population within the Gulf region, including the State of Qatar. The provision of consistent and high-quality trauma and critical care services has reduced the mortality and morbidity from trauma in numerous settings. Educational programs to enhance these services were previously unavailable at the Hamad General Hospital (HGH), the only tertiary and national trauma center in Qatar.

Problem:

Qatar is faced with the influx of thousands of expatriate workers who are not accustomed to the fast pace and built-up environment of a high-income and rapidly developing country. This has led to numerous injuries on the roads and in the workplace. A structured training program in the care of the critically ill and multiply injured trauma patients has heretofore been unavailable in the HGH.

Assessment of problem and analysis of its causes:

A significant number of trauma and injured patients will require advanced critical care services and be consumers of disproportionately high hospital resources in ICU's. Trauma outcomes are related to the availability of highly trained medical staff in trauma and critical care medicine. The baseline trauma mortality rate, prior of the establishment of the fellowship program, was 5%. The introduction of an advanced Accreditation Council of Graduate Medical Education (ACGME) structured Trauma & Critical Care (TCC) Fellowship Program at the HGH was expected to decrease the mortality rate and improve outcomes.

Intervention:

All trauma and critical care staff involved in the direct care of injured patients were enrolled in a 12 month advanced ACGME-structured TCC Fellowship Program at the HGH with the aim to train critical care physicians in the provision of consistent and high-quality trauma and critical care services.

Study design:

This was an observational study of the impact of an advanced educational and training program in trauma and critical care medicine on trauma mortality, length of stay and on established performance indicators developed by the Society of Critical Care Medicine prior to and after the implementation of the fellowship training program.

Strategy for change:

A review of the clinical impact of the advanced ACGME-structured TCC Fellowship Program in the trauma service at the HGH was conducted prior to after the second year of implementation of the training program to evaluate the trauma mortality and health care delivery to injured patients, using tools from the ICU Resource, Evaluation, and Patient Outcomes Rating Tool (ICU Report) ®.

Measurement of improvement:

The implementation of the TCC Fellowship Program in 2008, for physicians assigned to the trauma and critical care service at the HGH, has resulted in the following: a 30% reduction in hospital LOS [Fig 1] and 40% reduction in hospital mortality was observed in our trauma service [Fig 2].

Effects of changes:

The trauma mortality in our hospital has decreased from 5% to 3% representing a 40% sustained reduction in the last two years and a 30% reduction in LOS for our severely injured patients.

Lessons learnt:

The sustained enrolment of our staff in the TCC Fellowship Program was the key performance indicator of improved performance in our trauma program. We are establishing a similar training program for Emergency and Anaesthesia doctors who take care of severely injured patients in Qatar, to provide a more consistent and high-quality trauma and critical care service to all trauma patients regardless of their physical location within our institution.

Message for others:

Establishing an advanced ACGME-structured TCC Fellowship Program, for physicians taking care of injured patients, can result in measurably improved clinical outcomes.

All authors declare that they have no conflicts of interest.

Fig. 1: Length of Stay (Mean and Median, days) Trauma Patients Hamad General Hospital, Doha, Qatar (2010-2012), 1stQ

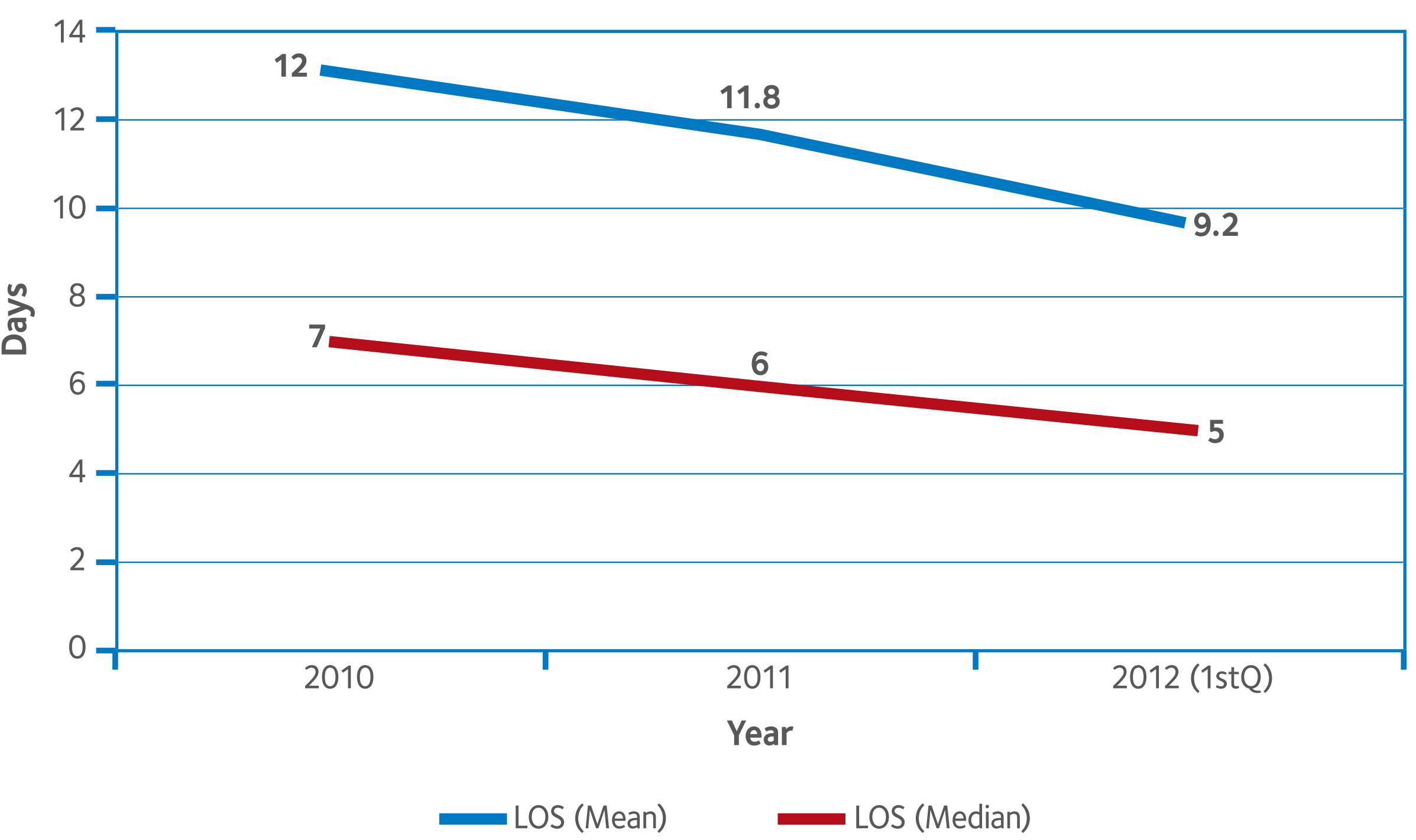


Fig. 2: Crude Mortality Rate (%), Trauma Patients



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