Implementing a Trauma Registry In Gujarat, India
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Charutar Arogya Mandal in Karamsad, Gujarat, India

Gujarat, India:
- State in the northwest corner of India
- 80% of the population is vegetarian
- State has banned alcohol
- State is known for its conservative policies, industrial population, and as the birthplace of Mahatma Gandhi and current Prime Minister Modi

Establishing a Trauma Registry

The first step in implementing a registry in India was running a pilot trauma registry to learn what were the main challenges in starting a registry in a new country. Over three months, trauma counselors collected pilot data on the injured patients in the Emergency Department.

This summer, we analyzed that pilot registry data, discovering that collecting the data on components like injury severity scores was feasible, but there were many challenges to collecting the type of data we needed consistently for each patient.

Background & Objectives

Background: A sustainable trauma registry at Charutar Arogya Mandal (CAM) would be the first trauma registry at a rural hospital in India. Establishing a Trauma Registry at CAM in Gujarat involves a multi-faceted approach: study the epidemiology of injury in their region, measure trauma care outcomes, create injury prevention interventions, provide basic training in trauma care, and help establish a regional trauma system.

Objectives: Implement a trauma registry at CAM and conduct community-based surveys to estimate community-wide burden of mortality and long-term disability due to road traffic accidents. Combining hospital-based data from the registry with community-based data from the community burden of injury assessment will provide a deep understanding of the epidemiology of injury, treatment, and subsequent outcomes in the population of rural Gujarat. Over two years, we are accomplishing these goals through three aims.

Study Design

Aim 1: Burden of Injury Assessment

In villages in the region near CAM, we plan to survey households about their injuries from the past 3 years. Our findings will be the foundation of a regional approach to trauma care and will help establish community-based interventions to reduce the burden of injury in the region.

Aim 2: Establishing a Trauma Registry

We first implemented a pilot trauma registry to collect data to inform the longitudinal registry we will establish. A Trauma Registry Executive will oversee registry data collection, facilitate education and interdepartmental collaboration throughout the hospital.

Aim 3: Trauma Training for Healthcare Workers

Information on injury patterns and survival gathered through Aims 1 and 2 will help focus emergency services efforts in geographical areas where they are most needed, and allow for integration of pre-hospital services into a larger trauma system. A roadmap for developing a sustainable trauma registry with minimal data to be collected can be expanded to other hospitals in the region to create a statewide trauma registry for comparison of outcomes.

Future Steps and Recommendations

Based on the pilot registry data and qualitative interviews, I recommended that the casualty medical officers assume the responsibility of trauma registry data collection. In addition, the registry form should be integrated into the patient chart. There is substantial support from the ED staff to enable successful integration of these changes into the ED which will improve the probability of sustained trauma registry success.

The keys to alleviating the barriers encountered with the pilot registry will be education, monitoring and retraining. The Trauma Registry Executive will be in the ideal position to oversee and execute the education and monitoring necessary to begin a registry in an area where the concept of a trauma registry is foreign.

Initial Findings:

To further understand the pilot registry results, we developed a qualitative interview for internal quality improvement. I interviewed trauma counselors, who have roles similar to social workers, casualty medical officers (CMO’s), who are the full-time emergency department physicians, ED nurses, and residents about their experiences with the registry.

The results were very encouraging. Almost every person surveyed supported having a registry in their hospital. Consensus among the CMO’s and trauma counselors revealed that CMO’s have the time, training and willingness to collect the data for the registry, and should therefore replace the trauma counselors who collected the pilot registry data, but lack proper medical training for registry data collection. Nearly everyone surveyed liked the format, clarity, completeness, and organization of the registry form - to such a degree that many requested that the form be integrated into patient charts.

Barriers to Trauma Registry Implementation:

We also, however, encountered numerous areas that posed challenges to implementing a trauma registry. In addition to many physicians and health professionals having no knowledge of what a registry is, there is also a lack of infrastructure to support a registry. Without someone with official duties to collect registry data, lack of agency and lack of accountability led to incomplete and inconsistent records. The pilot trauma registry only has records for 33% of patients who fit injury criteria. Of those records, many data points crucial to a registry, like vital signs, number of injuries, or patient outcomes, are simply not recorded.

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