

Developing a Trauma Intermediate Care Unit at a Rural Level II Trauma Center

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Introduction

As an American College of Surgeons verified level II trauma center in a rural setting, the trauma center's annual trauma registry volume exceeds 2100 patients. Each year, volume and patient acuity continue to increase. As a result, the trauma center must continually evaluate resource allocation and throughput to ensure appropriate levels of care are provided to the trauma population. As part of this continuous evaluation, an opportunity to decrease Intensive Care Unit (ICU) length of stay and to open ICU beds for more critical patients was identified. Key stakeholders initiated discussions to assess the feasibility of a dedicated Trauma Intermediate Care Unit (IMCU). The group concluded the unit would be beneficial and with the support of hospital leadership, the work began. The multidisciplinary team worked over several months to successfully plan and implement the Trauma IMCU. The steps taken are defined in this presentation, in hopes other trauma centers could replicate the process.

Team Members

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Objectives

- Assess the need of an intermediate care unit within the trauma program.
- Summarize the key steps to implement an intermediate care unit in an organization.
- Recognize the interdisciplinary nature of the planning phase.



Project Design

Prior to implementation, the following factors were noted: increased Surgical/Trauma Intensive Care Unit (STICU) length of stay (LOS) in the trauma population, increased unplanned admissions to STICU, and the 16-bed STICU consistently at capacity. Informal discussions were held amongst the trauma program leadership team, who agreed the hospital could benefit from a trauma IMCU. During this period, an informal poll of key stakeholders was conducted to determine if the trauma volume could support the opening of the IMCU, as well as maintain the competencies for the nursing staff.

Data

Trauma registry data was analyzed for NGMC's FY19 and FY20:

- 11% of all trauma registry patients had Trauma IMCU days
- Decrease in ICU LOS for trauma admitted patients by an average of 1.1 days from FY19 to FY20
- 53% of total Trauma IMCU patients were 65 and older
- Most common MOI for patients admitted to Trauma IMCU were falls (50%) and MVA (42%)
- Top 3 injuries for Trauma IMCU: TBI, chest trauma and spinal cord injury.

Discussion

An interdisciplinary team met frequently prior to implementation to discuss progress and barrier identification. An accountability tracker was utilized for task management and delegation. Barriers were addressed during these meetings, which included: cost approval, equipment procurement, and time. At the meetings, the team discussed education planning, recruitment, and interim staffing plans during the heavy educational requirement. The trauma center found that it was feasible to train staff up from medical surgical to intermediate care, therefore, fifteen nurses were transferred and trained from the medical surgical trauma unit. This was accomplished by removing staff from the schedule to allow for attendance to classes, orientation in the STICU, and participation in simulation. Following months of planning, the twelve-bed Trauma IMCU was successfully opened. The trauma center continues to evolve the Trauma IMCU.

Evolution

After a few months, it was recognized that the Trauma IMCU RNs were not being fully utilized, particularly related to medication management. This led to a revision in the approved medications that could be given in the Trauma IMCU. As the COVID-19 pandemic created bed capacity challenges, the Trauma IMCU was utilized creatively to manage post tPA patients from the emergency department, freeing up essential Surgical/Trauma ICU beds. The educational preparedness and equipment resources in the Trauma IMCU allow for continuous evaluation of how the unit can best meet the needs of the trauma center.

Conclusions

Early collaboration with key stakeholders and administration made this project a success. Frequent meetings with clear deliverables and the utilization of a task manager tool allowed for identification of barriers and rapid resolution throughout the planning period. A steady cadence was established that allowed for a timely and successful project implementation. The strong emphasis on a nursing education was a key factor. Other essential elements include administrative support and deep interdependence among all stakeholders. Key stakeholders included, but were not limited to respiratory therapy, physical therapy, pharmacy, cardiac monitoring unit, medical director, education services, human resources, and STICU leadership.

This collaborative work positively impacted patient safety, staff engagement and finances. The potential savings after one year is approximately \$1,720,184.40.

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