The implementation of trauma systems to care for patients in LMICs could save millions of lives each year (Remick et al., 2014). While a multitude of trauma team training programs and clinical practice recommendations exist, there remains a gap in practice in how best to implement these programs and recommendations in low-resource, LMICs without formalized trauma systems.

IMPROVING TRAUMA CARE IN TANZANIA

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INTRODUCTION

- Trauma is a leading cause of death worldwide, with an estimated 5.8 millions deaths each year (Blair et al., 2017).
- The development of trauma systems, including formalized trauma team training and systematic triage assessment in developed countries, has reduced mortality due to injury.

BACKGROUND & SIGNIFICANCE

- Burden of trauma significantly more prevalent in low-middle income countries (LMIC) who bear over 90% of the global trauma burden (Kesinger et al., 2014).
- The implementation of trauma systems in LMICs could save millions of lives each year (Remick et al., 2014).
- World Health Organization (WHO) developed *Guidelines for essential trauma care,* the Basic Emergency Care (BEC) course and a multitude of supportive tools for site, triage and trauma assessments.
- Literature review noted a gap in research on how best to implement WHO trauma training and guidelines in LMICs

OBJECTIVE & AIMS

- **To improve trauma care through the creation of a strategic plan to foster trauma system development in a LMIC**
- **Explore barriers and facilitators to using open-access WHO trauma tools and guidelines**

METHODOLOGY

- **Design:** Development and implementation of evidence-based policies, procedures and supporting materials based on WHO trauma care guidelines
- **Sample:** Purposeful selection of hospital Chief Nursing Officer (CNO) and Emergency Department (EMD) nurses and physicians
- **Setting:** Single-center, 490-bed district hospital in a LMIC
- **Methods:** Plan presented to CNO, BEC course modified training provided, data collected two months later via semi-structured, open-ended interview with the CNO conducted via Zoom
- **Measures:** Adoption of developed policies and procedures, designation and training of trauma team, use of supporting WHO materials, designation of treatment areas and assessment of barriers and facilitating factors
- **Analysis:** Qualitative descriptive analysis with interview coding, categorization and formation of themes

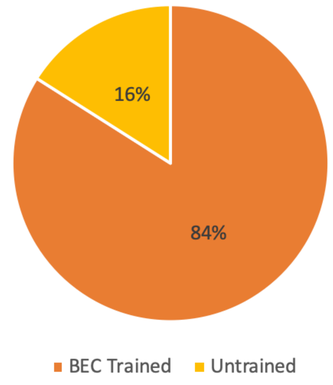
RESULTS

Three themes identified on qualitative descriptive analysis

1) Plan supportive of trauma care improvement as evidenced by:

- Trauma team development: **25 staff members designated to trauma team**
- Training via WHO BEC modified course in two 90-minute Zoom sessions
- Trauma team training: **84% designated staff trained; 90% RNs 10% MDs**
- Triage development with use of Triage Tool (Red, Yellow, Green tags)
- Creation of designated Triage and Resuscitation Areas
- Use of WHO tools supportive of international standards of trauma care
- Improved trauma system processes

Relative Distribution of BEC course completion among trauma team members



2)Facilitating factors for the implementation:

- *Growth and development* within EMD, district hospital, and region
- *Nursing Leadership* leading the change through clearly defined goals, collaboration and strong understanding of job duties
- *Strategically chosen staff* for trauma team to ensure 24-hour coverage and those who were characteristically self-motivated, committed, and energetic

3) Barriers to implementation:

- *Technological limitations* including remote training limitations and link challenges to both WHO guidelines, tools, and BEC course for trainees
- *Learner commitment* to remote training methods and independent study

DISCUSSION

- The project was supportive of trauma care improvement as evidenced by development of triage supporting rapid identification of critical patients, evaluation and stabilization in EMD with 24-hour trauma trained MD and nurse coverage and use of tools that support use of best evidence and international guidelines.
- As project was implemented during global pandemic, on-site training and travel was prohibited. While WHO provides open-access tools for trauma care improvement in low-resources settings, the feasibility of remote implementation of such tools remains unstudied.
- Project identified barriers in accessing web-based training and tools . Further studies on the feasibility of accessing and implementing WHO tools and training in LMICs are warranted.
- Strong leadership and professional collaboration are recommended for LMICs beginning development of trauma systems

IMPLICATIONS

- **Clinical Practice:** Strengthened through formal training of trauma team members and by equipping the team with clinical practice guidelines and evidenced based tools to support immediate improvements in trauma care delivery.
- **Patient care:** Fostered improvement of patient care through timely emergency trauma response and improved quality of care
- **Policy:** WHO site assessment identified physical, human and economic resources available and needed for basic trauma care capabilities which can be used to support hospital and regional policy development and resource allocation
- **Economy:** Financially feasible project utilizing WHO's free, open-access trauma training courses and tools; Fosters reduction of economic global trauma burden in Tanzania and among other low-resource, LMICs, with developing economies

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