



Building Data Infrastructure for Blood Programs

Zain G. Hashmi, MD FACS

Assistant Professor of Surgery

Division of Trauma and Acute Care Surgery

University of Alabama at Birmingham

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Problem 1

Prehospital blood programs have expanded rapidly across the US, but the data infrastructure needed to measure utilization, implementation, and outcomes across programs has not kept pace



How many eligible patients receive blood?



What outcomes are associated with utilization?



Where are the geographic gaps?

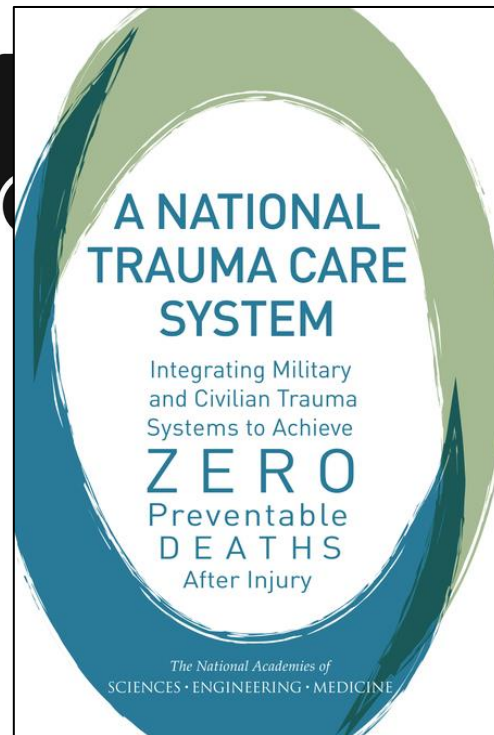


What is the variation in utilization and outcomes?

Injuries

Problem 2

Prehospital and in-hospital data remain fragmented across disparate systems, preventing longitudinal assessment of blood utilization and patient outcomes



Patient-level linkages are not possible between national registries for prehospital and hospital-based care.

Problem 3

Current datasets lack additional, more granular, data to meaningfully understand variations in care delivery and outcomes

Time-to-interventions

Blood inventory

Laboratory parameters

**Dynamic response to
resuscitation**

Characteristics of a Sustainable Blood Data Infrastructure

Standardized Definitions

Longitudinal Patient Tracking

Multi-center Participation

Existing Workflow Integration

**Quality Improvement
Feedback**

Assessment of Prehospital Blood Transfusion and Inhospital Outcomes Across ACS-TQIP Centers (BLOOD-QIP)

Multi-center, prospective, TQIP-based, 2-year pilot study linking prehospital and inhospital data



PI: Hashmi

Co-Is: Holcomb, Jenkins, Kerby

Assessment of Prehospital Blood Transfusion and Inhospital Outcomes Across ACS-TQIP Centers (BLOOD-QIP)

Primary Objective:

To determine the proportion of hemodynamically unstable patients arriving at a TQIP-participating center who received prehospital blood transfusion

Secondary Objectives:

- 1) Feasibility of multi-center, prospective, TQIP-based data collection**
- 2) Impact of prehospital blood on inhospital process measures and clinical outcomes**

Assessment of Prehospital Blood Transfusion and Inhospital Outcomes Across ACS-TQIP Centers (BLOOD-QIP)

Inclusion Criteria

Standard TQIP Inclusions AND

- Hypotension ($SBP \leq 90\text{mmHg}$) AND Tachycardia ($HR \geq 108$) at the scene or during transport to this hospital OR
- Hypotension ($SBP \leq 70\text{mmHg}$) at the scene or during transport to this hospital

Exclusion Criteria

Standard TQIP Exclusions AND

- Interfacility transfers

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ACS TQP Research Pathways

Trauma Research Registry (TRR)

Primary use: Collect new study-specific data prospectively and append it to corresponding NTDS/TQP records.

Project management

Study Recruitment

TRR configuration

Data Collection and Research
Dataset Creation

~ 30 new variables from ePCR/EMR + standard NTDS variables

Assessment of Prehospital Blood Transfusion and Inhospital Outcomes Across ACS-TQIP Centers (BLOOD-QIP)



Regulatory Approvals

Data Collection Years 1 & 2

Data Analysis

Longer Term Vision

**Feasibility
studies**



**Sustainable expansion
towards national
surveillance**



**Learning Health
Environment
(QI/benchmarking)**

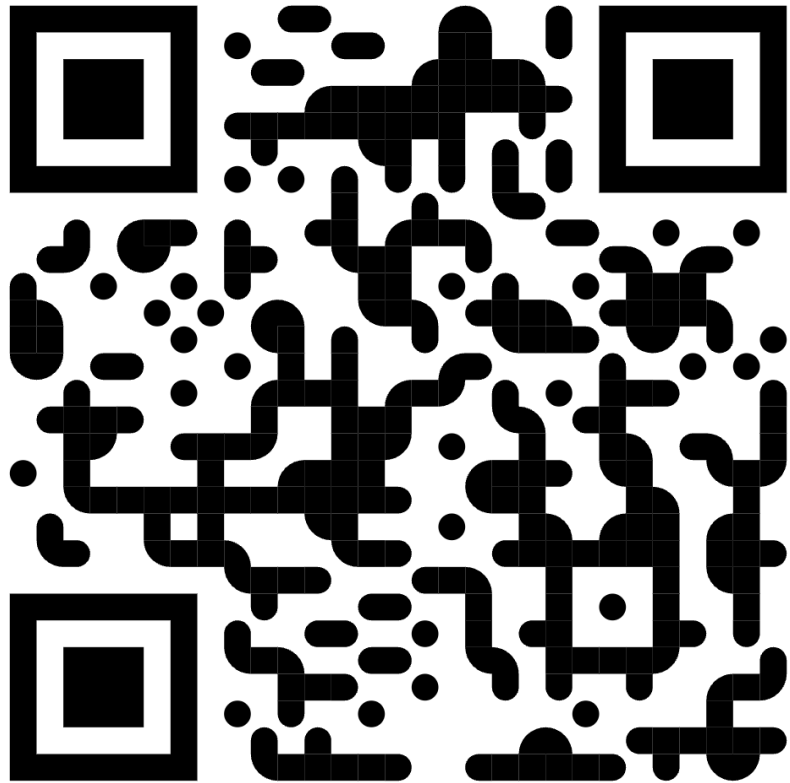
Takeaways

If we cannot measure (blood utilization/outcomes), we cannot improve it

Sustainable surveillance requires linking existing (and adjunctive) prehospital and inhospital data

Leveraging existing national trauma dataset offers a low-friction path toward scalable implementation

Interested in joining BLOOD-QIP?



Scan the QR code to
send us a quick email

UAB THE UNIVERSITY OF
ALABAMA AT BIRMINGHAM.



Thank you

mhashmi@uabmc.edu