

Building a TQIP like program in the California state trauma system

Trauma Quality Improvement Program (TQIP)



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Measurement of Quality

Rapid infuser in ED
In-house CT tech
OR 24/7
Neurosurgeon
Trauma registry

Structure

Process

Trauma team
activation criteria
Massive transfusion
protocol
Performance
improvement
program

Outcome

Mortality
Rates of PE
Rates of unplanned
return to OR

TQIP



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ACS
tqip
TRAUMA
QUALITY
IMPROVEMENT
PROGRAM

The value proposition... the costs

- Registrar training & education
 - TQIP Trauma Registry specific sessions at the annual meeting
 - TQIP Online Course
 - Monthly educational experiences
 - Monthly TQIP staff calls
- Trauma medical director web conference following TQIP Reports
- External validation data review
- Statistical analyses, report generation
 - Online tool
- Annual meeting & registration



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...the benefits

- Demonstrates commitment to performance improvement
- Implementation of best practices leads to fewer complications & lower mortality
- Competitive edge in the emerging era of public reporting
- Registrar training to ensure more accurate injury, complication & comorbidity coding



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...the benefits

- Identification of opportunities to prevent one additional case of VAP
 - Cocanour, Surg Infect, 2005: \$52,000
 - Warren, Crit Care Med, 2003: \$11,897
 - Safdar, Crit Care Med, 2005: \$10,019
- “QI revenue”
-Much of the cost has been leveraged through current infrastructure



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Improving Quality

The best way to improve quality is to have a clear picture of what's currently happening.

Most hospital programs base their non-trauma quality improvement efforts on claims data and miss the clinical data needed to drill down and detect problem areas. Designated trauma centers must have a registry and contribute their data to the NTDB.

You can't improve a hospital's patient care if you can't measure it, and for that you need reliable



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Improving Quality

TQIP Data:

- Is collected from the patient's medical chart, not insurance claims that are shown to have limited information for quality purposes.
- Accounts for the health of the patient by defined comorbid conditions captured on each patient.
- Considers complications captured on each patient, using detailed definitions and criteria.



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Improving Quality

TQIP Data:

- Is risk-adjusted, meaning the analysis accounts for the health of the patient and factors such as age, obesity, smoking habits, diabetes and other factors that increase the risk of complications.
- Is case-mix adjusted, meaning it accounts for the complexity of operations performed to show more accurate national benchmarking for hospitals.



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Comparing the Data

Clinical vs. Administrative Data: Clinical Data tends to tell us more...

	NSQIP	Admin	% Missed by Admin
Total Complications	28%	11%	61%
SSI	13%	1%	97%
Wound Disruption	6%	1%	83%
UTI	6%	0%	100%
Mortality	3%	3%	0%



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Improving Quality

Improving quality of care helps you provide better patient outcomes, reduce costs, and is a critical element of real health care reform.



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The Program

- 163 centers and growing
- New pilot
 - Pediatric TQIP
- Project Teams
 - PI and Best Practices Project Team
 - TQIP Training Project Team
- Making a difference



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The Future

State and System

- We are working to include level 3 and smaller centers



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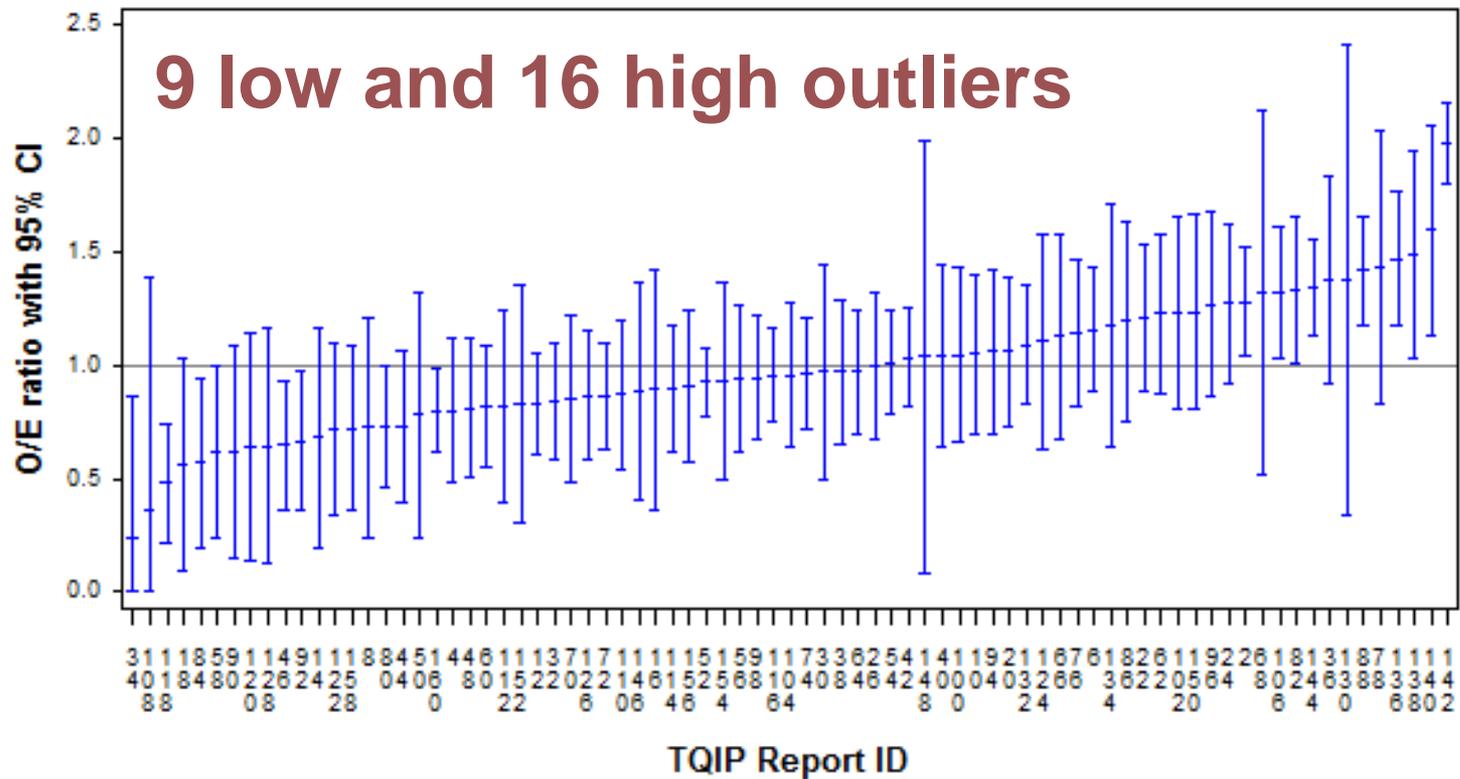
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Elderly Patients

Risk Adjusted Mortality: Elderly patients (even # centers)



*indicates that the center has no deaths

#indicates that the center has no deaths and the upper limit of CI is above 3



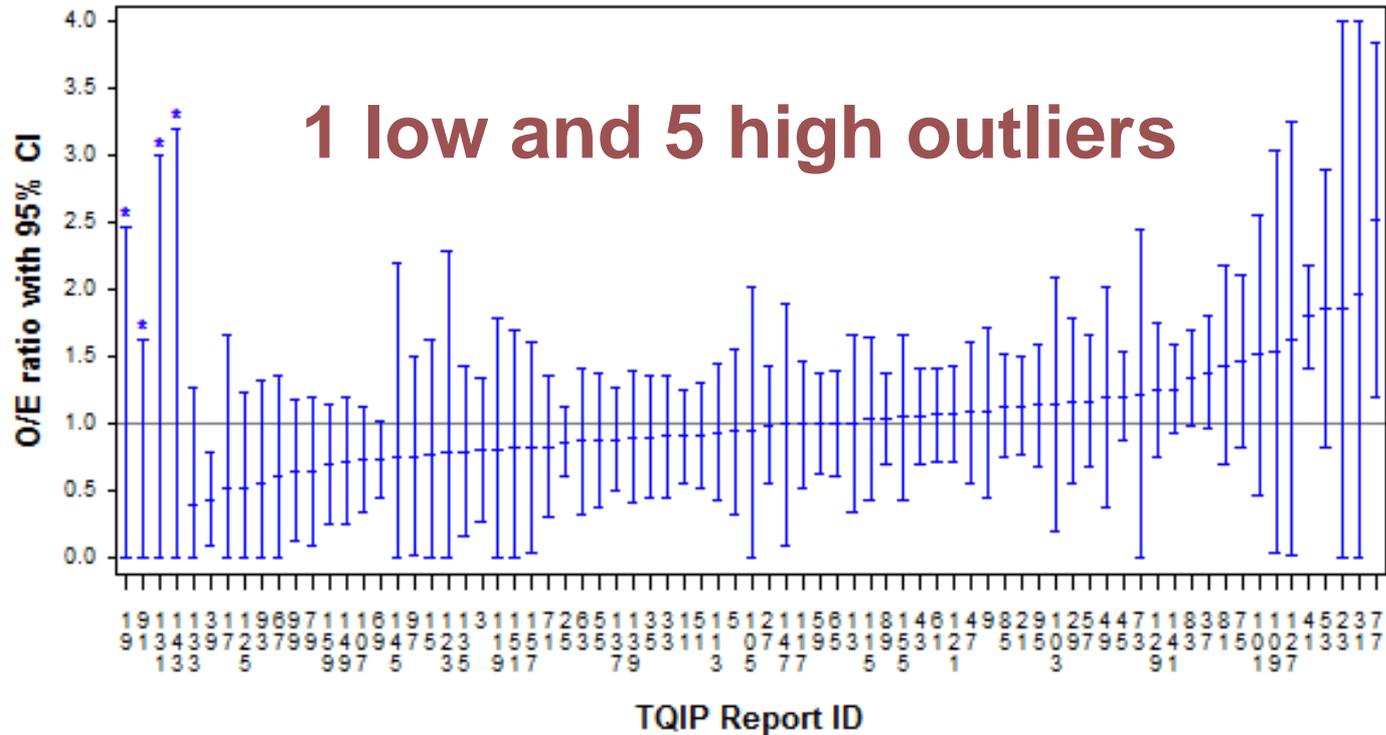
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Elderly Patients, Blunt Multisystem Injury

Risk Adjusted Mortality: Elderly patients, blunt multisystem injury(odd # centers)



*indicates that the center has no deaths

#indicates that the center has no deaths and the upper limit of CI is above 3



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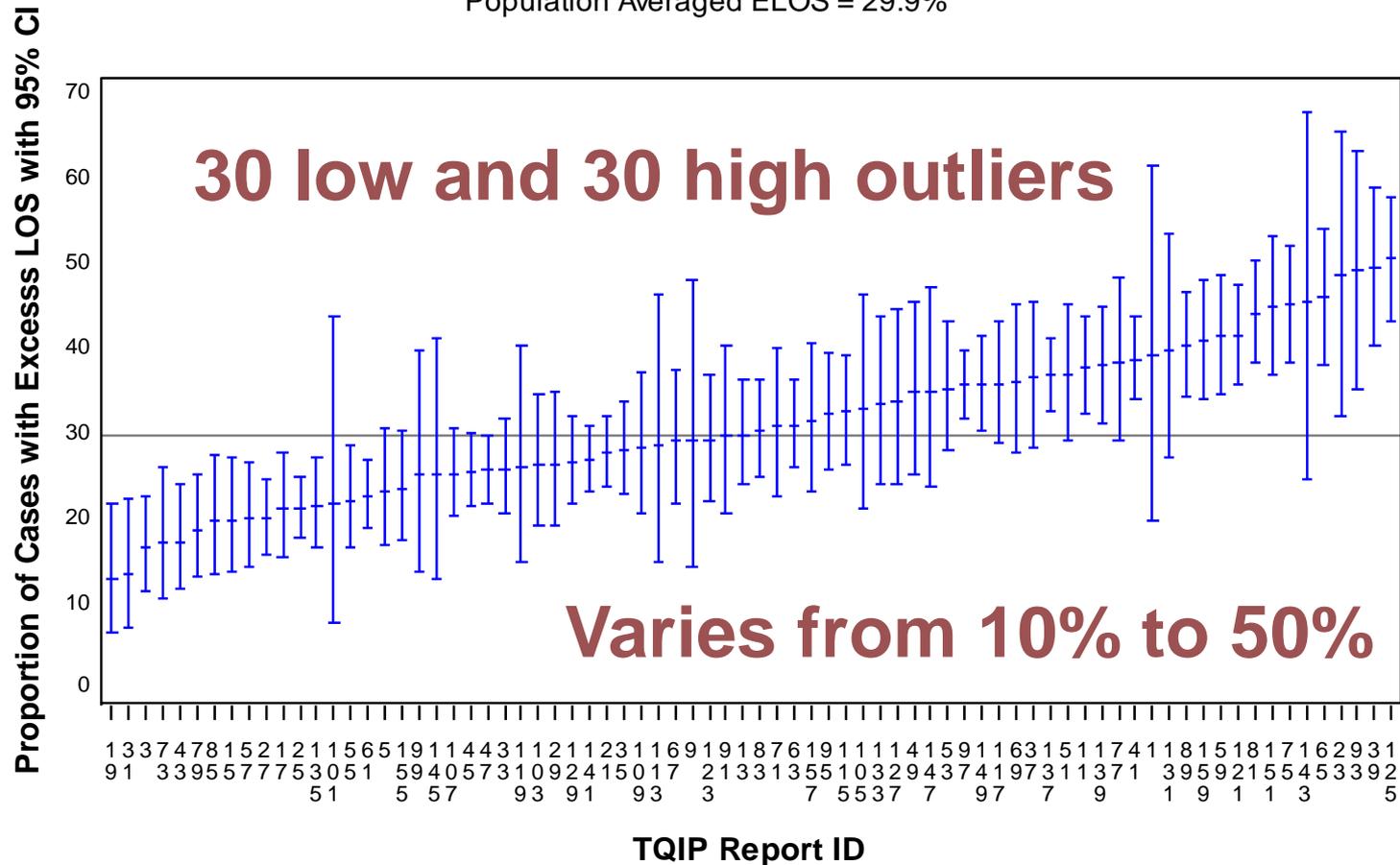
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Elderly Patients: ELOS

Risk Adjusted Excess Length of Stay: Elderly patients (odd # centers)

Population Averaged ELOS = 29.9%

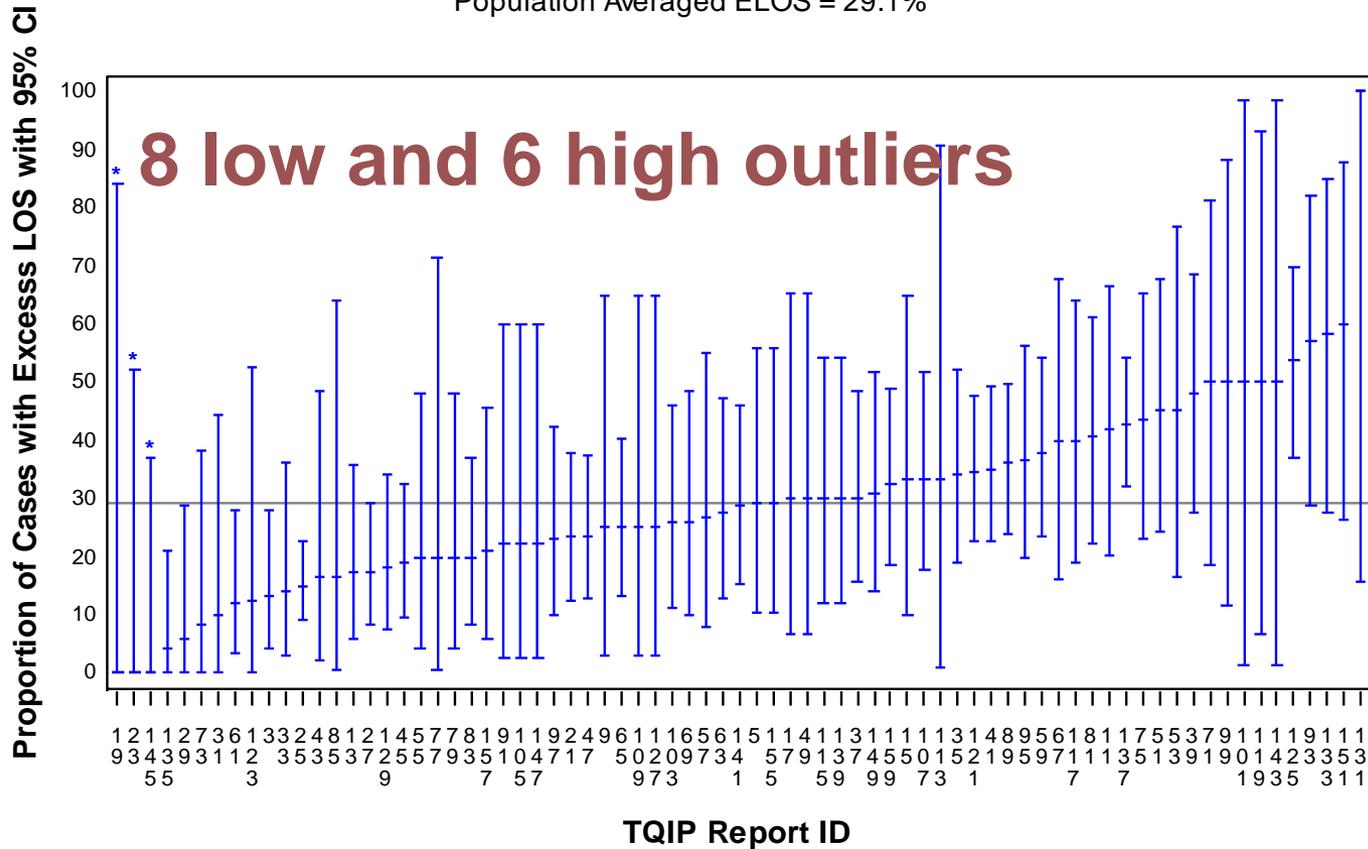


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EOS Elderly Patients, Blunt Multisystem Injury

Risk Adjusted Excess Length of Stay: Elderly patients, blunt multisystem injury (odd # centers)
Population Averaged ELOS = 29.1%



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State/system level TQIP

Reports can be specified for optimal use at state level.

- Level I and II outcomes:
 - Mortality
 - LOS
 - Complications
 - Transport time
 - ED to OR time
- Level III outcomes:
 - Mortality
 - Transfer status
 - Time to transfer/ED LOS



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State/system level TQIP

- The advantages:
 - Evaluation of system performance
 - EMS outcomes via linkage between EMS and trauma center data
 - With substantial participation, states can compare themselves to other similar jurisdictions



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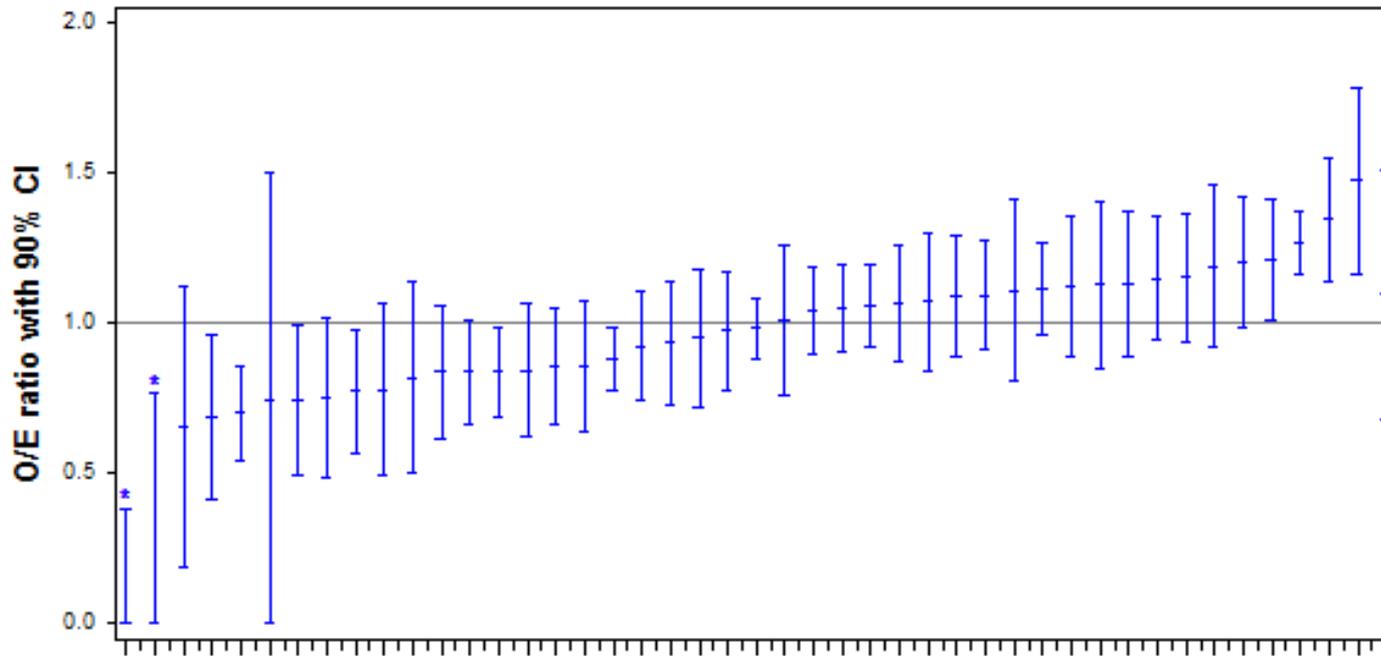
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California

Risk Adjusted Mortality: All Patients



49/73 centers, 13 level I, 28 level II, 8 level III trauma centers
18,500 patients with mortality of 7%



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What are we doing now?

- State data base similar to NTDB
 - Not all LEMSAs currently contribute data
 - We need 100% participation
- Current reports have up to 30% missing data elements
 - Data needs to be complete and accurate from all centers
 - We need a mechanism to verify data accuracy
 - We need statisticians and epidemiologists to analyze data
 - We need meaningful data reports
- We have regions but no regional reports
 - We need to be able to ask appropriate system questions
 - We need to be able to get data to answer the questions



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STAC report on time from ED to OR by region

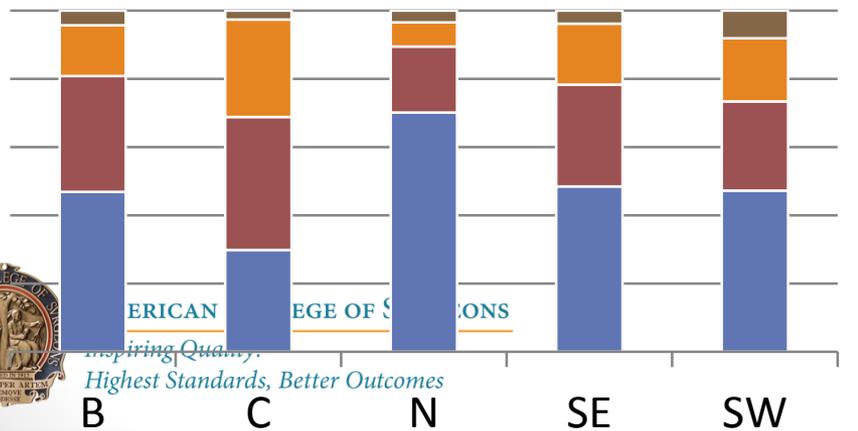
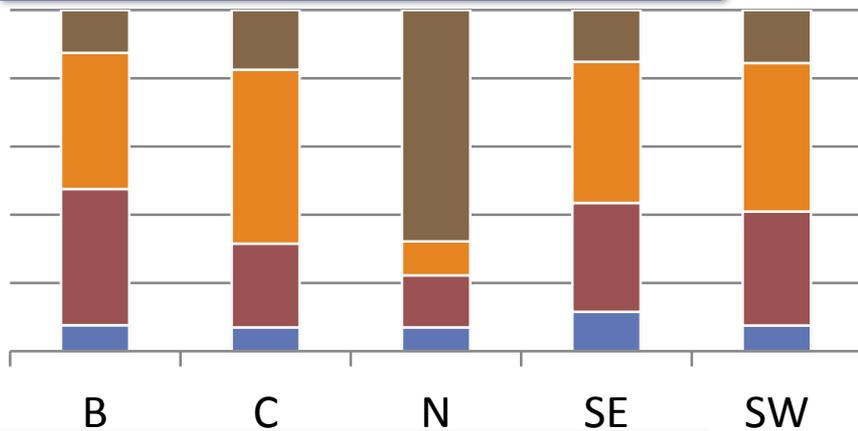
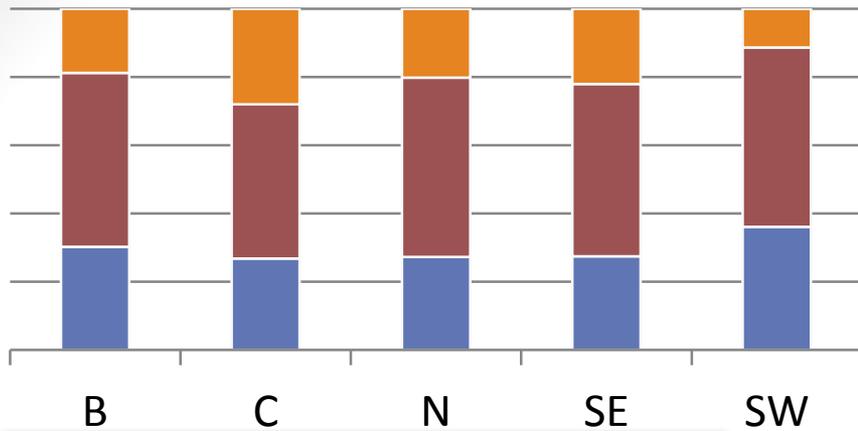


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What should our state system goals be?

- 100% access
 - All LEMSAs now have a trauma plan but only 25 of 32 have at least one trauma center in their jurisdiction
 - We need to know about patients at non-trauma centers
- Efficient pre hospital transport
 - We need accurate field transport time data
- Safe and rapid transfer process for higher level of care
 - We need uniform transfer processes that we can measure
- Excellent care
 - We should track risk adjusted outcomes



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