

EMS and FLEX Performance Improvement

EMS and FLEX Working Together to Improve Health in Rural Communities

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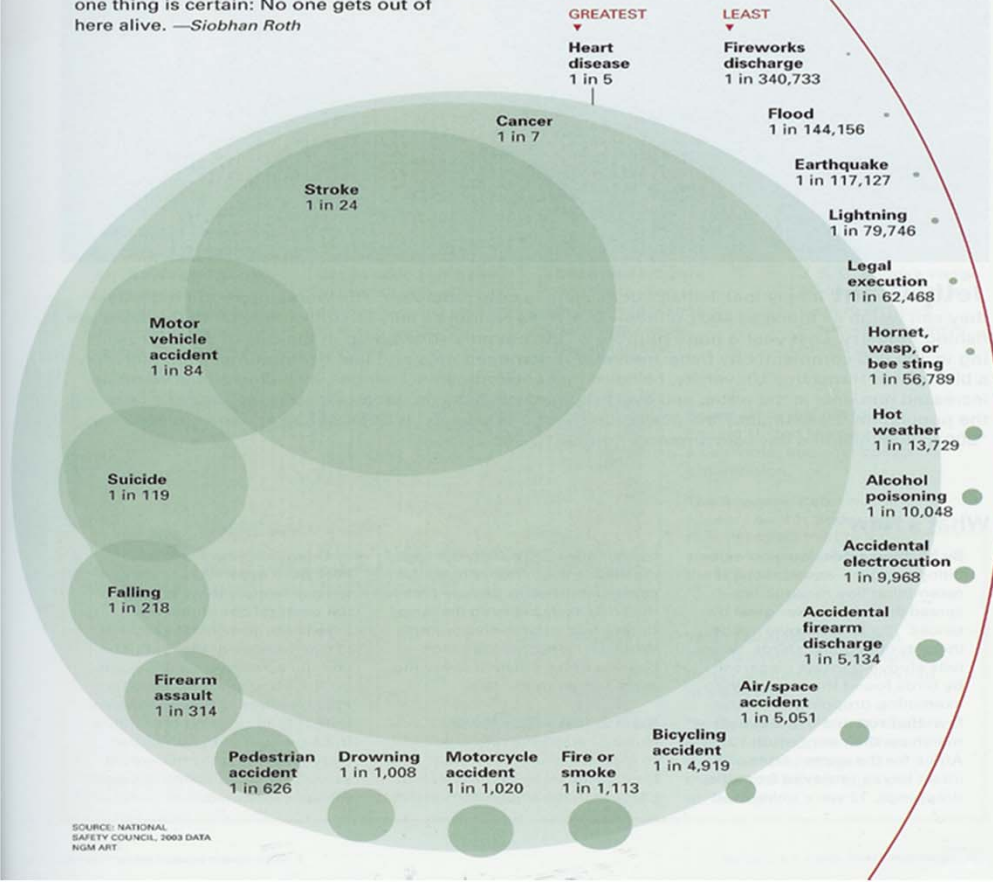
The Public Health Model

- RHPI
 - Improve financial, quality and operational performance through comprehensive performance improvement activities, assessments and/or consultations
 - Focus on process and financial performance
 - Substance Abuse
 - Behavioral Health
 - IT
- EMS/FLEX Partnership-Utah
 - To reduce morbidity and mortality of time sensitive diagnosis to residents of rural communities in Utah.

Ways to Go

When and how death will arrive can rarely be predicted, but statistics reveal what holds the greatest chance of ending a life. Riding a motorcycle, for example, is far riskier than playing with fireworks, statistically speaking. This chart shows what the lifetime probabilities are of a U.S. resident dying in a relatively common event, such as a pedestrian accident, or a less common but larger scale catastrophe, such as an earthquake. No matter what the cause, one thing is certain: No one gets out of here alive. —Siobhan Roth

Total odds of dying, any cause
1 in 1
(100%)



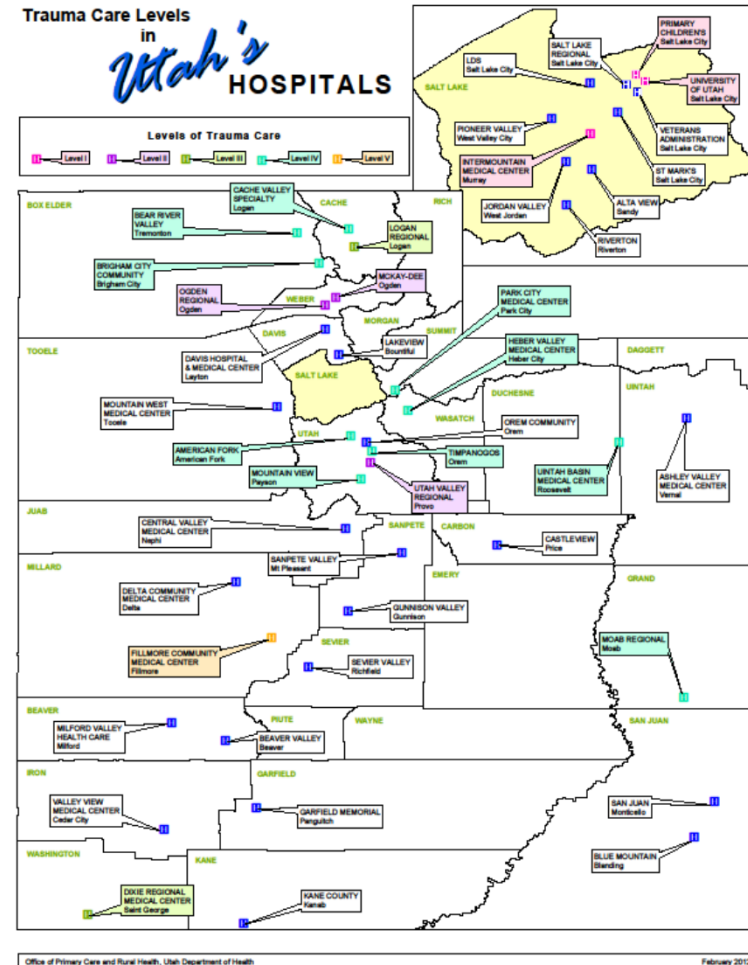
SOURCE: NATIONAL SAFETY COUNCIL, 2003 DATA
NGM ART

Utah EMS/Flex Goals

- Make available RTTDC training to CAH and rural hospitals
- Sponsor Medical Director training and certification for CAH/Rural EMS Medical Directors
- Host a leadership forum for EMS and CAH/rural hospitals focusing on opportunity to improve interventions for time sensitive trauma, stroke and STEMI patients in rural communities.
- Plan and implement a statewide performance improvement process for CAH/rural hospitals and EMS agencies.

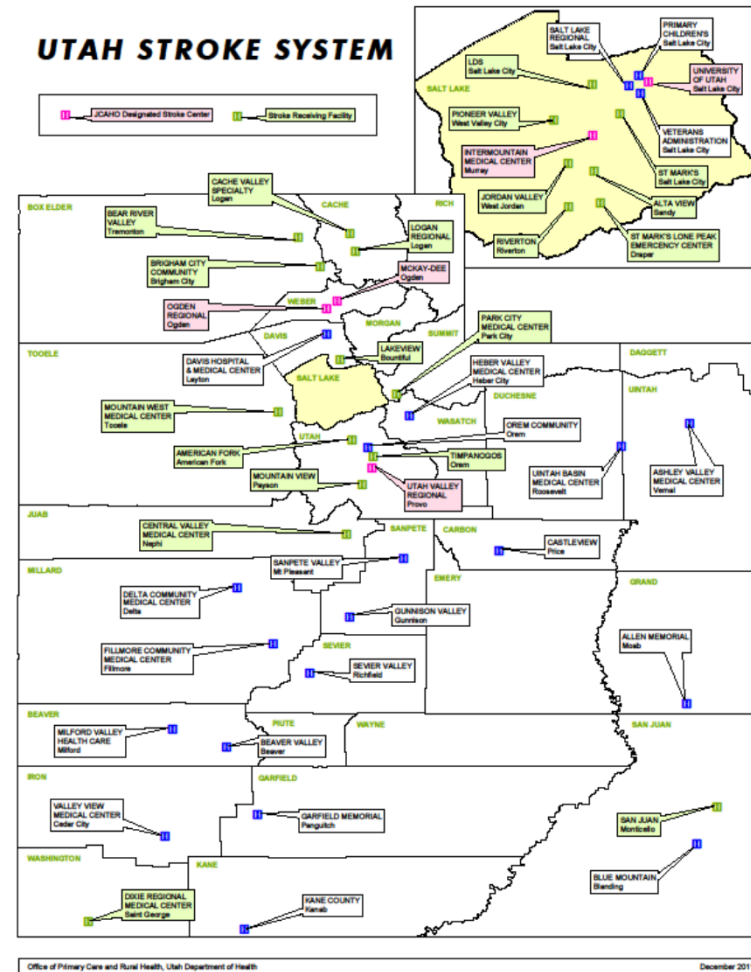
Time Sensitive Diagnosis

- Trauma
 - 20% of population live in rural areas
 - 66% of fatalities
 - Designation of CAH/Rural Hospitals as Trauma Centers
 - Fluid Resuscitation Training



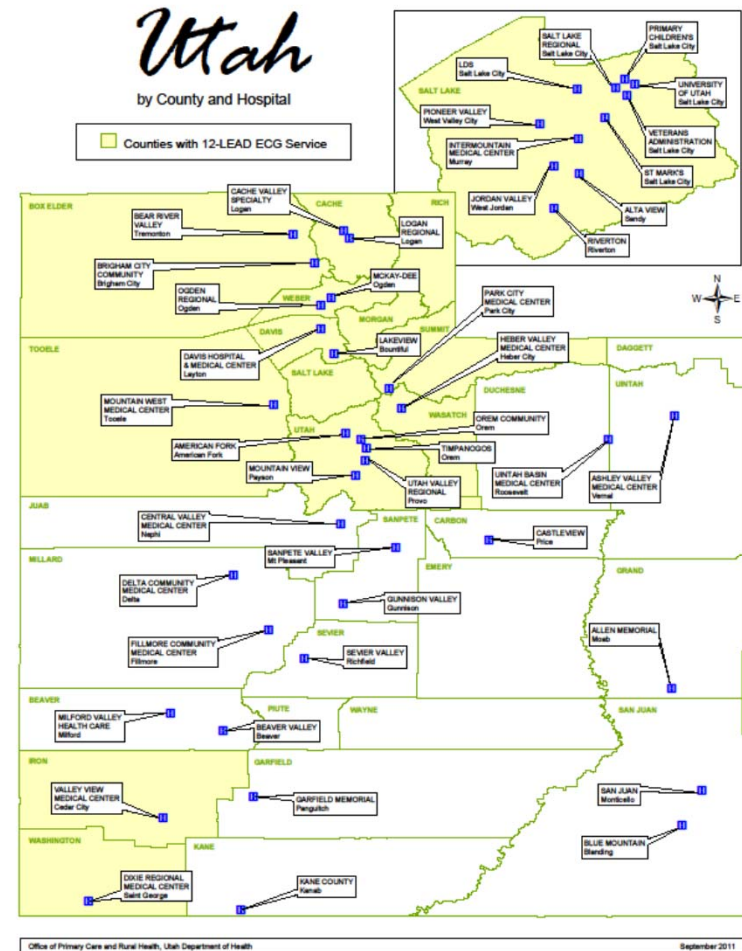
Time Sensitive Diagnosis

- Stroke
 - 70% Stroke is Ischemic
 - 3 hour window of opportunity for thrombolytic intervention
 - Stroke Tool Kit
 - Hub and Spoke System
 - Drip and ship to primary stroke center
 - EMS and CAH/Rural opportunity for appropriate intervention



Time Sensitive Diagnosis

- STEMI
 - 90 Minute door to balloon time
 - Thrombolytic therapy if appropriate
 - Develop treatment guidelines for STEMI in CAH/Rural hospitals



Utah Preventable Mortality Study

- Analysis of all traumatic deaths in Utah for the year 2005
- Looking for preventable contributions to trauma deaths from:
 - EMS
 - ED
 - Hospital Care
- Most common “Opportunities for Improvement”
 - IV fluid resuscitation
 - Airway Management
 - Documentation



Sanddal T, et al. *J Trauma* 2011;70:970

Why Performance Improvement?

“The significant problems we face cannot be solved at the same level of thinking we were at when we created them.”

Albert Einstein

- That which is not measured cannot be improved.
- Assume Good Intent—we all want to do a good job.
- Would I want me and my system taking care of my family?

What is Performance Improvement?

According to the American College of Surgeons, performance improvement emphasizes a continuous multidisciplinary effort to :

- 1. Measure** system performance
- 2. Evaluate** system performance
- 3. Improve** system performance

PI is directly associated with patient care and outcomes

Internal/External Performance Improvement (PI) Guidelines

Structure

1. Availability of EMS Services
2. Timely response
3. Equipment Reliability
4. Adequate Staffing
5. Credentialing
6. Community Access to EMS System

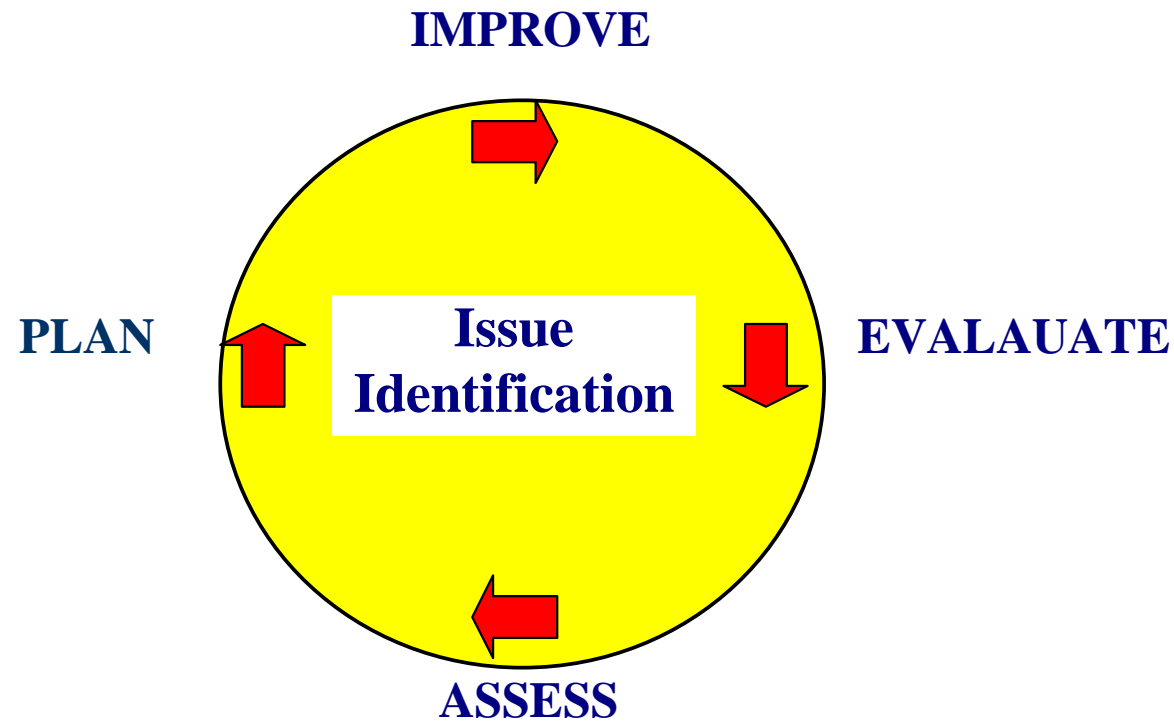
Process

1. Patient Care Outcome-run sheets
2. Skills performance

Outcome

1. Improvement of patient condition
2. Compliance with protocols
3. Evaluation of Procedures
4. Q/A process

Process Management Model



Performance Improvement

Why Do State Level PI?

- Objective: To engage providers of pre-hospital EMS care, ED care, and hospital care in a performance improvement and patient safety effort across the continuum of care.

Next Steps

- Fluid resuscitation was first but others to come
- Regional & state-based feedback will be provided on system measures for use in improvement activities

Regionalization

- Organize into regions of performance excellence for the purpose of implementing regional PI/PS between hospitals and EMS agencies

Why Regionalization?

- You know what issues your communities face?
We need to hear from you!
- Information will flow both directions
- Face to face interaction with stake holders in a geographical or referral based system

UTAH TRAUMA REGIONS



So Far...So Good-Trauma

- Utah County Executive Trauma Council
 - ED Physicians, ED Managers, Administrators, Trauma Surgeons, and EMS Representatives in Utah, Summit, Wasatch, and Juab Counties meet quarterly to review trauma PI and issues.
 - Fluid Resuscitation Training



So Far...So Good STEMI

Jordan Valley
MEDICAL CENTER

EMERGENCY PATIENT UPDATE

▶ Patient Name: A., M. Age/Sex: 48 y M Date: 3/21/11

▶ Responding Agency: SJFD #61 (B shift)

▶ Crew: Chad Jensen, Andrew James, Mike Richards,
Weston Walker

▶ Dispatch/at scene/transport times: 2012/2016/2025

▶ P12L obtained/received times: 2022/2023

▶ EMS arrival to hospital: 2038

▶ Code STEMI initiated: 2024

▶ Patient arrived in cath lab: 2114

▶ Reperfusion Time: 2131

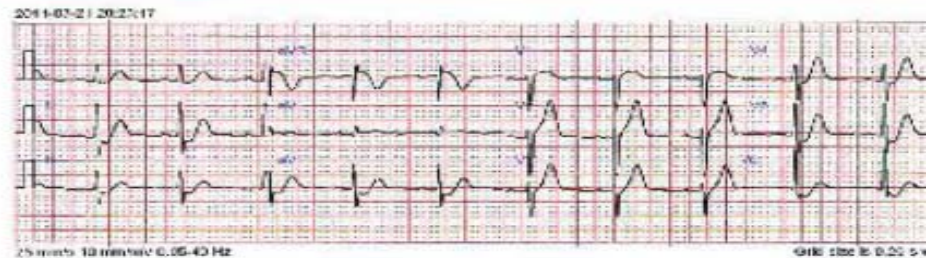
▶ Door to Balloon Time: 53 minutes

▶ 911 call to Balloon Time: 79 minutes

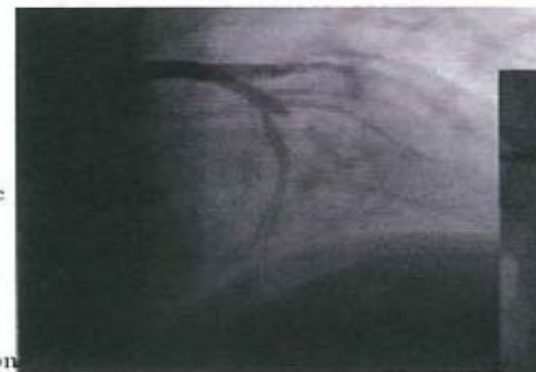
▶ **Case details and outcome:** Mr. A had sudden onset of CP while exercising, with weakness, SOB, diaphoresis and called EMS. Upon arrival, EMS acquired 12 lead EKG, transmitted to JVMC and Code Stemi initiated from patient's home. O2, IV, NTG and morphine given en route to ED. Meds given in ED.

Angiography showed 100% LAD occlusion. Angioplasty and a stent were placed with good results. Patient was d/c to home on 3/23/11 with instructions to f/u with cardiology in 1 week

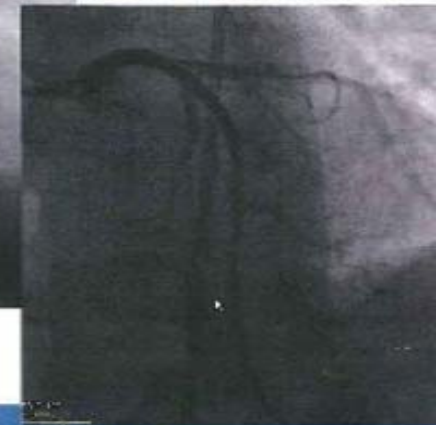
▶ **Great Job SJFD!!!!**



Before - 100% LAD occlusion



After - LAD Stent Plac



Next Steps

- Continue Regionalization Initiative
- Provide continued resources to CAH/Rural Hospitals and EMS agencies
- Continue designation of CAH/Rural Trauma Centers, Stroke Receiving Facilities
- Develop STEMI protocols for CAH/Rural Hospitals

Questions?



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