Why Algorithms are Important

a.k.a. – Building Reliability into your Rapid Response System

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- Algorithm – (noun) a logical step-by-step procedure for solving a mathematical problem in a finite number of steps, often involving repetition of the same basic operation
- Reliability – (noun) dependable, able to be trusted to do what is expected or has been promised

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What Does it Take to Build Reliability?

- PREVENT failure (a breakdown in operations or functions)
- IDENTIFY and MITIGATE failure: Identify failure when it occurs and intercede before harm caused by failures that are not detected and intercepted
- REDESIGN the process based on the critical failures identified.

Rapid Response System

1. Event Detection and Response triggering
2. Crisis response component
3. Process Improvement Component
4. Governance/Administrative Structure

DeVita, et al; Findings of the First Consensus Conference on Medical Emergency Teams: Critical Care Medicine June, 2006, Volume 34, No. 9 2463-2478

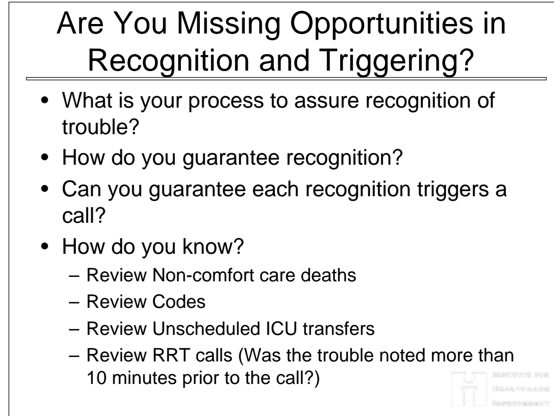
Event Detection and Response

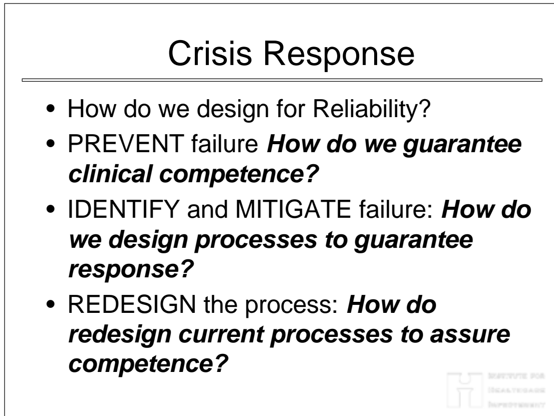
- How do we design for Reliability?
- PREVENT failure ***How do we Prevent missing deterioration?***
- IDENTIFY and MITIGATE failure: ***How do we design processes to identify and intercede before harm is done?***
- REDESIGN the process: ***How do redesign current processes to prevent further missed opportunities?***

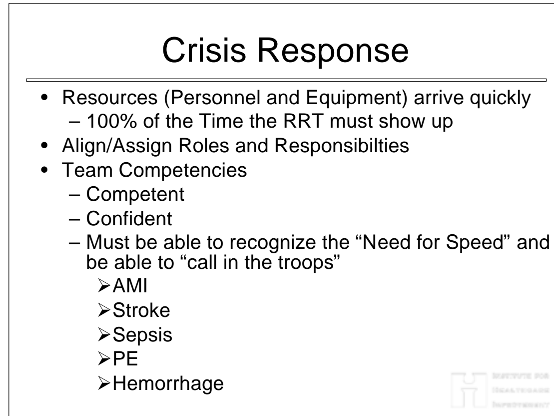
Event Recognition

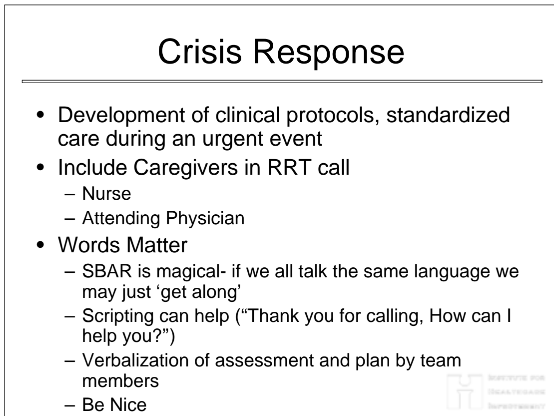
- Early Warning System
  - Design a Process to prioritize patients at risk
  - Look at a current processes and adapt (color coded graphic sheet, IT opportunities, etc)
  - Utilize tools to alert caregivers
  - IT can alert you to trouble
- Expand your “referral base”
  - Make sure everyone is on the lookout for deteriorating patients
  - Anyone can call the RRT
  - Families can be the best ‘watch dog’

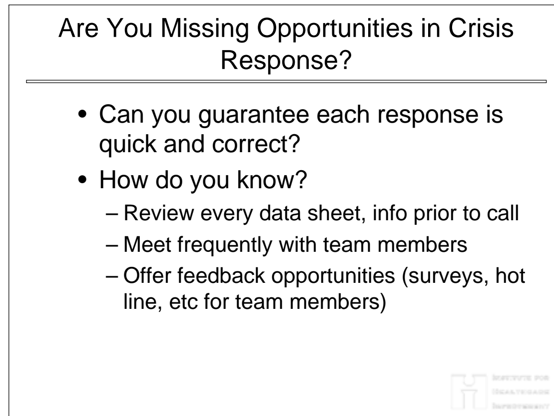
Response Triggering
• Pulling the Trigger is hard- Culture Matters!
– The person who makes the call must feel safe
– Realize "It is all about relationships"
– Design processes to "put people together"
– Design Opportunities for Learning
• Improvement opportunities:
– Education Plans – "Education is great, but not sufficient"
– Non-judgmental debriefings
– Skills labs, Simulation using patient scenarios
– Documentation tools improvement
• Numbers matter
– The more calls, the more opportunities to rescue
– Mortality rate seems to decrease at 25 calls/1000 discharge

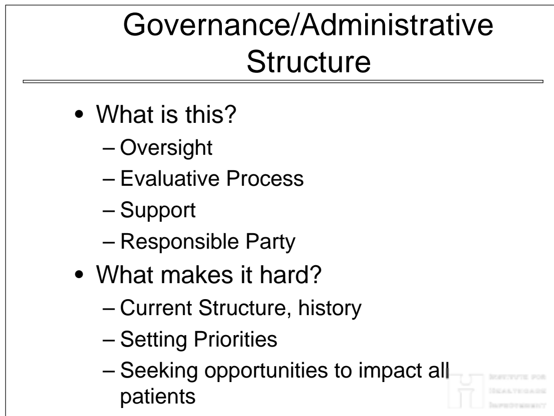

Are You Missing Opportunities in Recognition and Triggering?
• What is your process to assure recognition of trouble?
• How do you guarantee recognition?
• Can you guarantee each recognition triggers a call?
• How do you know?
– Review Non-comfort care deaths
– Review Codes
– Review Unscheduled ICU transfers
– Review RRT calls (Was the trouble noted more than 10 minutes prior to the call?)

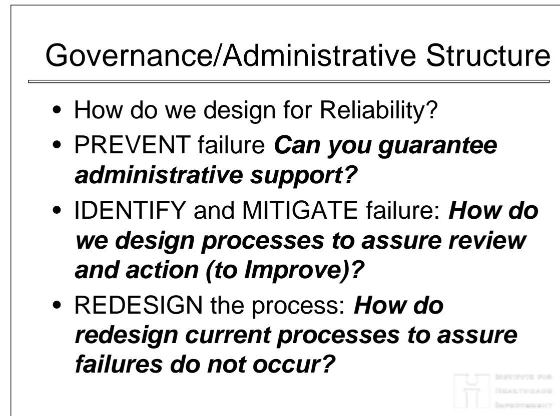

Crisis Response
• How do we design for Reliability?
• PREVENT failure How do we guarantee clinical competence?
• IDENTIFY and MITIGATE failure: How do we design processes to guarantee response?
• REDESIGN the process: How do redesign current processes to assure competence?

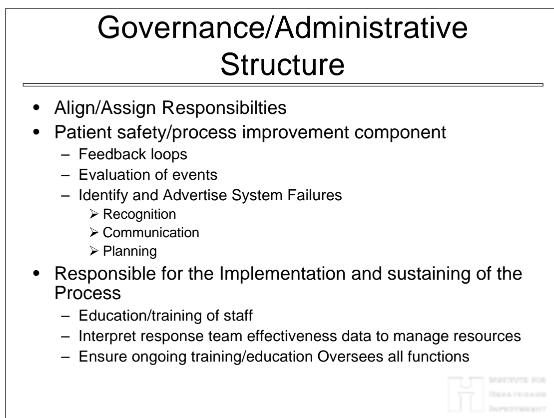

Crisis Response
• Resources (Personnel and Equipment) arrive quickly
– 100% of the Time the RRT must show up
• Align/Assign Roles and Responsibilties
• Team Competencies
– Competent
– Confident
– Must be able to recognize the "Need for Speed" and be able to "call in the troops"
➢AMI
➢Stroke
➢Sepsis
➢PE
➢Hemorrhage

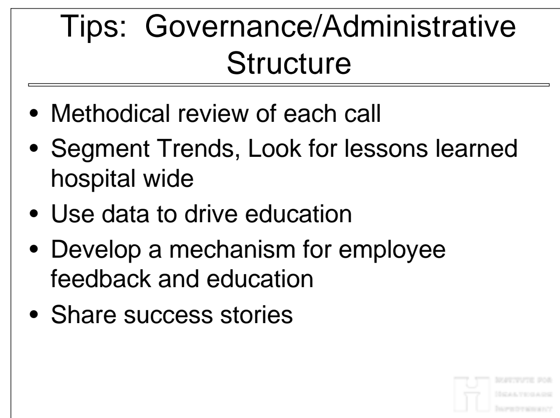

Crisis Response
• Development of clinical protocols, standardized care during an urgent event
• Include Caregivers in RRT call
– Nurse
– Attending Physician
• Words Matter
– SBAR is magical- if we all talk the same language we may just 'get along'
– Scripting can help ("Thank you for calling, How can I help you?")
– Verbalization of assessment and plan by team members
– Be Nice

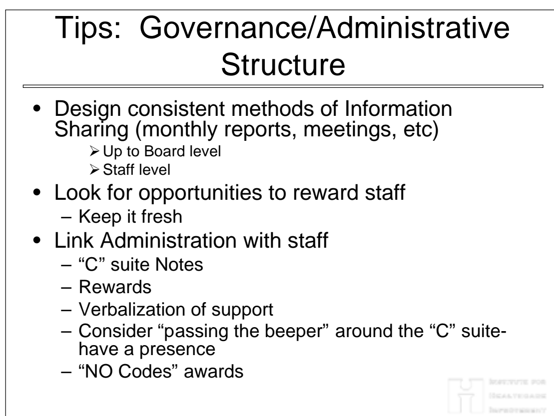

Are You Missing Opportunities in Crisis Response?
• Can you guarantee each response is quick and correct?
• How do you know?
– Review every data sheet, info prior to call
– Meet frequently with team members
– Offer feedback opportunities (surveys, hot line, etc for team members)


Governance/Administrative Structure
• What is this?
– Oversight
– Evaluative Process
– Support
– Responsible Party
• What makes it hard?
– Current Structure, history
– Setting Priorities
– Seeking opportunities to impact all patients


Governance/Administrative Structure
• How do we design for Reliability?
• PREVENT failure Can you guarantee administrative support?
• IDENTIFY and MITIGATE failure: How do we design processes to assure review and action (to Improve)?
• REDESIGN the process: How do redesign current processes to assure failures do not occur?


Governance/Administrative Structure
• Align/Assign Responsibilties
• Patient safety/process improvement component
– Feedback loops
– Evaluation of events
– Identify and Advertise System Failures
➢ Recognition
➢ Communication
➢ Planning
• Responsible for the Implementation and sustaining of the Process
– Education/training of staff
– Interpret response team effectiveness data to manage resources
– Ensure ongoing training/education Oversees all functions


Tips: Governance/Administrative Structure
• Methodical review of each call
• Segment Trends, Look for lessons learned hospital wide
• Use data to drive education
• Develop a mechanism for employee feedback and education
• Share success stories


Tips: Governance/Administrative Structure
• Design consistent methods of Information Sharing (monthly reports, meetings, etc)
➢ Up to Board level
➢ Staff level
• Look for opportunities to reward staff
– Keep it fresh
• Link Administration with staff
– “C” suite Notes
– Rewards
– Verbalization of support
– Consider “passing the beeper” around the “C” suite- have a presence
– “NO Codes” awards