

## BETTER SAFETY NEEDS BETTER MEASUREMENT

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## Ten Years Later

- 2009 marked the 10<sup>th</sup> anniversary of the US Institute of Medicine report, *To Err is Human*
- 2010 is the 10<sup>th</sup> anniversary of *An Organization with a Memory*
- The Canadian Adverse Event study was based on data from hospital patients in 2000
- So....are patients safer now than they were a decade ago?
- How would we know?



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## Are Patients Safer in 2010?

- News stories continue to pile up
- Research identifies new lapses
- Efforts to improve safety can prove difficult to implement or lead to new failures
  - Checklists save lives, but not all surgeons want to use them
  - Restrictions in duty hours increase the importance of high fidelity handoffs
  - Electronic medical records have great promise but are slow to materialize



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## Do We Know if Healthcare is Safer?

“ the answer to this question is curiously elusive.... The main problem is that measurement and evaluation have not been high on the agenda. We believe that the lack of reliable information on safety and quality of care is hindering improvement in safety across the world....The careful attention to epidemiology and monitoring.. has been completely neglected when dealing with the quality of care..Unless serious efforts are made to develop reliable indices of safety and quality we will still be unable to answer the question posed by this paper in five years’ time.”



Vincent BMJ 2008;337a2426

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## Three Problems

- There are growing numbers of patient safety and quality indicators but still limited understanding of *what* they measure and *how* they relate
- Few organizations have adopted a strategic focus on measurement that helps them determine what to measure
- The links between measurement, improvement goals and actions are poorly developed




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## Acute Care Methods

Retrospective	Prospective	Concurrent
Medical Record Review	Rounds	Direct observation
Interviews	<u>Prospective Analysis tools:</u>	Check lists
Incident reporting systems	- FMEA (HFMEA)	Trigger tools
External audits	- Errors and Omissions assessment	Shift to shift reporting
Studies of claims and complaints	- Hazard Analysis	Medication reconciliation
Administrative data	- Fault Tree Analysis	
QA audits, autopsies, M&M	- Hazard and Operability Studies	
End of shift reporting	- Simulation	
Trigger tools	Safety Culture Assessment	

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## Steps Forward

1. Multiple measures provide a better picture
2. Create scorecards that include measures of context, culture and resiliency to help focus on systems, not just events
3. Design the measurement system to reflect strategic and operational aims
4. Include measures of patient experience
5. Relate local measures to broader views of safety across the continuum



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## So What Should We Measure?

- If different measures yield different information and inform different learning and improvement, then multiple types of measures are needed
- Dashboards and scorecards need to include a range of measures that inform operational and strategic priorities



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## Patient Safety and Quality Scorecard

- Organizations need two types of scorecards:
  - An operational scorecard that provides useful information at a **unit** or **program** level
  - A strategic scorecard that provides measures or **organizational** performance and is linked to strategic goals



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## Organizational (Strategic) Scorecard

- Limited numbers of measures, close to real time at monthly or quarterly intervals
- Big dot indicators
  - Hospital Standardized Mortality Ratio (HSMR)
  - Numbers of patient safety events
  - Measures of progress on strategic quality and patient safety goals (e.g, infections, adverse drug events, composite measure of process)
  - Patient satisfaction
  - Patient safety culture
  - Measures of process improvements or investments




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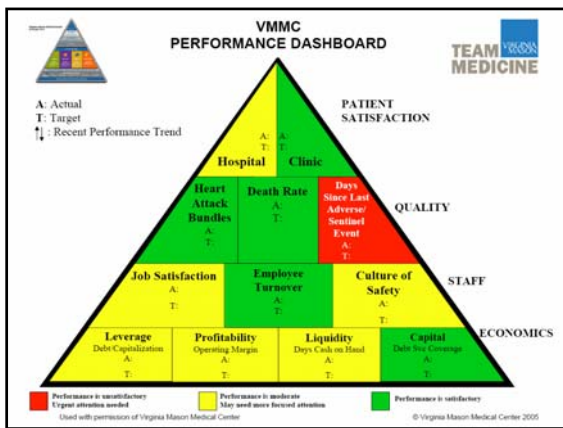
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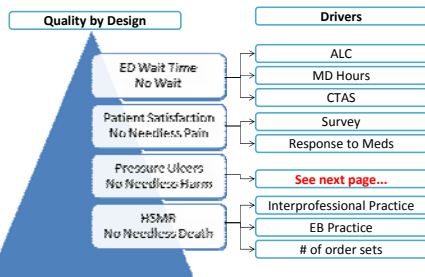
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## Quality by Design



Trillium Health Centre, Mississauga ON, 2009

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### ICU Scorecard

Domain	Definition	Example From Department of Anesthesiology
How often do we harm patients?	Measures of health care acquired infections	Catheter-related bloodstream infections Surgical site infections
How often do we provide the interventions that patients should receive?	Using either nationally validated process measures or a validated process to develop a new measure, what percent of patients receive evidence-based interventions?	Use of perioperative beta blockers Elevation of the head of bed, peptic ulcer disease and deep venous thrombosis prophylaxis, and glucose <110 mg/dL in mechanically ventilated patients Rates of postoperative hypothermia in neurosurgery and abdominal surgery patients.
How do we know we learned from defects?	What percent of months does each area within the institution learn from mistakes?	Monitor percent of months in which the area creates a shared story (Fig. 1)
How well have we created a culture of safety?	Annual assessment of safety culture at the unit level	Percent of patient care areas in which 80% of staff report positive safety and teamwork climate Pronovost, et al. 2006

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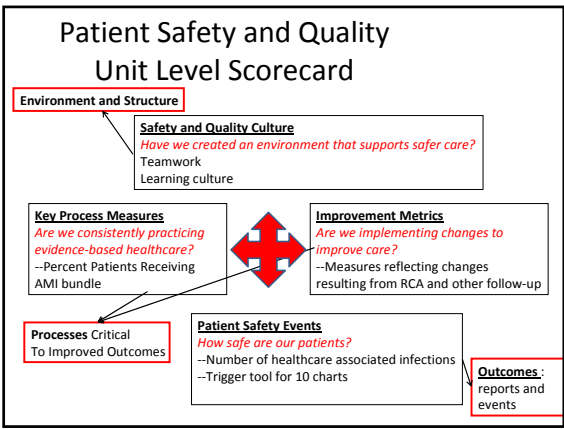
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- ### Some Issues
- A mixture of context, outcome and process measures is informative
  - There should be linkage between unit and organizational scorecards
    - Organizational priorities should be reflected in local measures where relevant
    - But not all measures can roll up
  - Focus on actionable data and learning
  - Not all useful information is quantifiable

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## Linking Measurement and Learning

<b>Data</b>	Descriptions of structure and or processes	Event reports or process observations	Adverse event reports (e.g., from confidential reporting system)	Process measures and indicators (e.g., AMI bundle)	Outcome measures and indicators
<b>Types of Failure Identified</b>	Poor design	Healthcare errors	Adverse events	Omissions or process errors	Cumulative adverse events
<b>Examples of Organizational Learning and Improvement</b>	Failure Modes and Effects Analysis (FMEA)	Education; process redesign	Root cause analysis	Education; process redesign	Signal to examine more fine grained data

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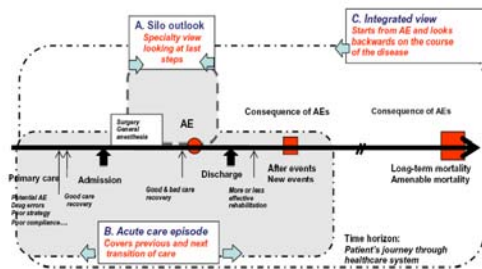
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## Measurement Across the System




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## Some Components of Risk Resilient Systems

- Awareness of risks
- Sensitivity to operations
- Enhanced teamwork and communications
- Flexibility and responsiveness
- Smart design of technology and work systems

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## Conclusions

- The growing numbers of patient safety measures challenge healthcare organizations to develop a strategic approach to measurement
- Rather than escalating the numbers of measures, organizations need to select a variety of measures that reflect current performance, critical processes and ongoing learning
- Measures need to be developed in a top down and bottom up fashion and linked to organizational and unit goals.



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