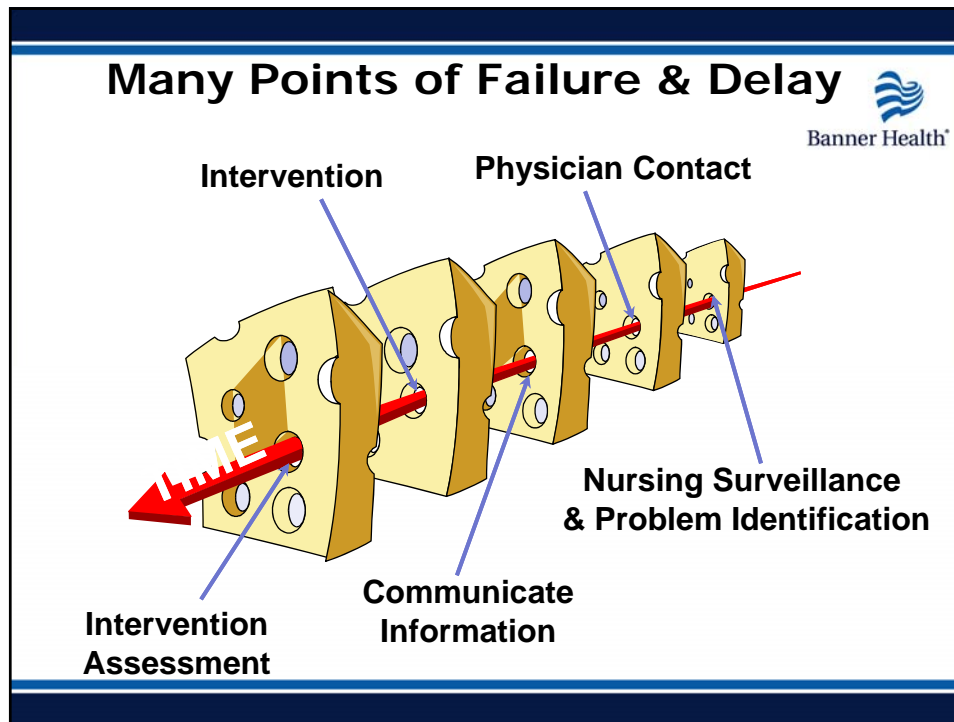Banner Health

Errors, Outcomes and ICU Medicine

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ICU is the most complex and therefore most "at risk" unit in the hospital

(Critical Care Medicine Vol 23 (2) 1995 294-300)

- 178 Activities per patient per day
- 1.7 errors per patient per day
- "…a serious or potentially detrimental error occurred twice a day,"

Many Points of Failure & Delay

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Intervention

Physician Contact

TIME

Nursing Surveillance & Problem Identification

Communicate Information

Intervention Assessment

Isn't 99% accuracy pretty good?

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"If we had to live with 99.9% , we would have: 2 unsafe plane landings per day at O'Hare, 16,000 pieces of mail lost every hour,32,000 bank checks deducted from the wrong account every hour."

W.E. Deming

JAMA Vol 272 (23), 21 Dec. 1994, 1851-57

Culture and Process

"While the proximal error leading to an accident is in fact, usually a "human error," the causes of the error are often well beyond the individuals control. ***All humans err frequently*** . Systems that rely on error-free performance are doomed to fail."

JAMA Vol 272 (23), 21 Dec. 1994, 1851-57

How Do We Fix It?

- Reduce reliance on memory
- Improve information access
- Error proofing
- Standardization
- Buffers
- Efficient feed-back control

JAMA Vol 272 (23), 21 Dec. 1994, 1851-57

How Do We Fix It?

- Institutionalize Process Re-engineering
- Institutionalize Cultural Reform
- Maximally leverage domain expertise

Intensivist Involvement in ICU Care and Outcomes

Multiple studies over demonstrate convincingly that daily intensivist involvement with critically ill patients leads to:

- Improved survival
- Shortened LOS
- Reduced complications

JAMA, Nov 6 2002-Vol 288, No 17 2151-2162
Effective Clinical Practice Nov/Dec 2000 Vol 13 #6 284-289

The Brutal Facts

1. A widening physician and nurse supply-demand gap
2. A growing percentage of novice practitioners
3. Loss of patients due to inadequate RN staffing and physician coverage
4. Unreliable care delivery that harms patients

Re-CAP

- Medical errors are real

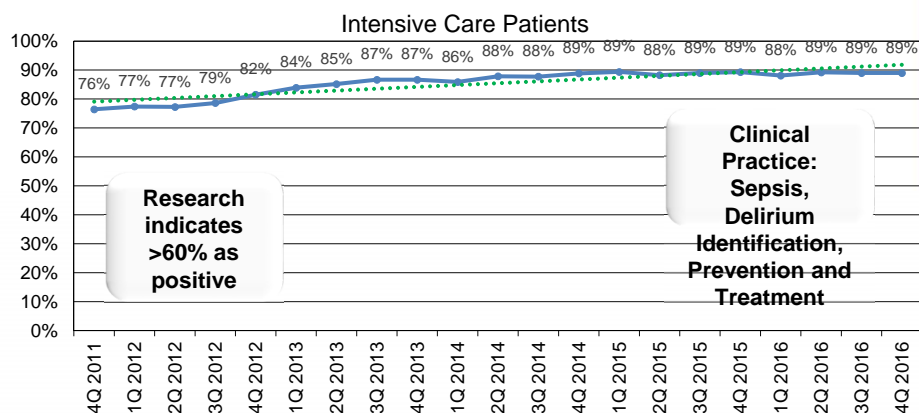- We can do Better

- Re-engineering is key

- ICU has high yield
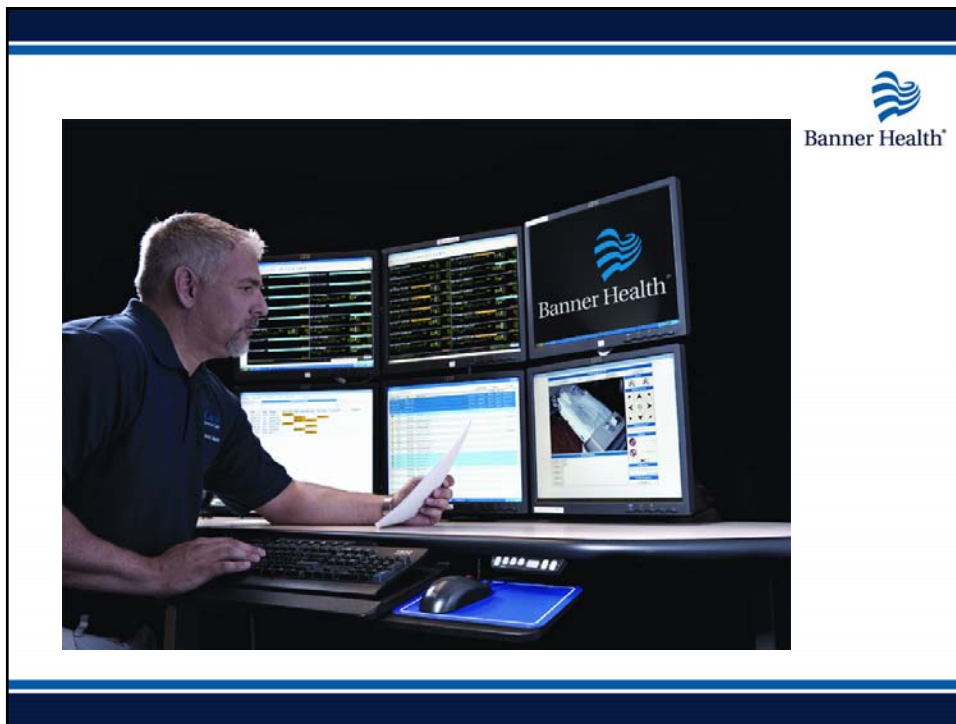
iCare Responsibilities

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- Respond to requests for help from bedside care team
- Monitor for adverse trends and interrupt before they become adverse outcomes
- Monitor and support "Best Practices" compliance
- AHP, teaching, mentorship
- Use Metrics to improve practice

Delirium and Coma Free Days

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Intensive Care Patients

Research indicates >60% as positive

Clinical Practice: Sepsis, Delirium Identification, Prevention and Treatment

Clinical Performance Analytics, Accessed 01/15/2016
CP Metric Schema

Benefits for TeleICU

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Lives Saved

ICU Days Saved

Hospital Days Saved

Cost avoided

Conclusion

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- "To Err is Human"
- We can improve outcomes in our ICU's
  - Improve survival
  - Reduce length of stay
  - Reduce "outliers"
- We can leverage currently available technology to do better by our patients and society

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