

Choosing Patient Safety Interventions for Your Hospital

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Making Health Care Safer

A Critical Analysis of Patient Safety Practices

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- Concise, evidence-based reviews of over 80 specific patient safety practices
- Over 125,000 copies obtained from AHRQ since publication in July 2001

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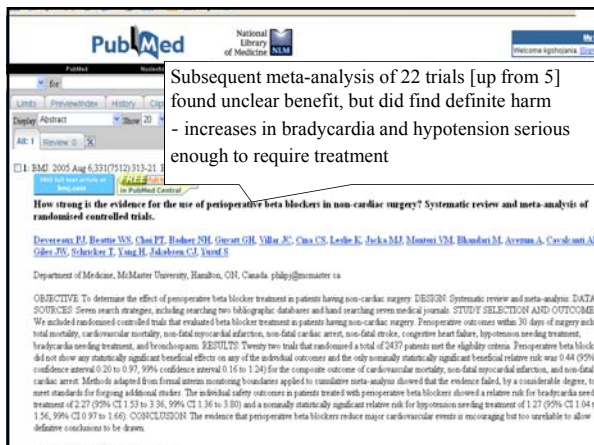
Part I. Overview
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Unfortunately, evidence base in patient safety can change quickly

Many practices with high ratings in
2001 now have serious questions

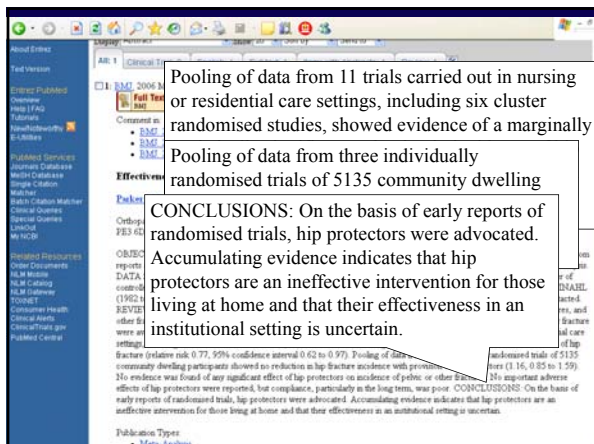
Peri-operative beta-blockers to reduce cardiac complications of non-cardiac surgery

- 5 randomized trials at time of AHRQ report
 - Total patients ~ 600 across all 5 trials
 - Substantial benefit: 1 major event averted for every 4-8 patients treated
- Not an impressively large evidence base by standards of most cardiology research, but much more robust than most patient safety research
 - Received 2nd highest evidence rating in AHRQ report



Hip protectors to reduce fall-related injuries in frail elders

- At time of AHRQ report: 1 meta-analysis and 4 additional RCTs showing ~60% relative reduction in hip fractures
 - some concerns about compliance and skin irritation
 - but low cost and relatively easy to implement
 - Received 14th highest rating overall



Other Examples

- Rapid response teams, teamwork training
 - Both with randomized trials suggesting no benefit
- Less clinical interventions have fared even worse
 - Still no evidence that incident reporting has any benefit
 - Ditto for root cause analysis
 - Multiple surveys of “safety culture,” but only 1 with any relationship to safety outcomes
 - Lots of evidence involving implementation problems (CPOE, bar-coding, infection control practices)

Current State of Patient Safety

- Few established, highly effective interventions
 - most things either don’t work or we don’t know if they work
- Promising interventions are often costly and complex
- They may even create new problems

But we still need to act!

Framework for Choosing Patient Safety Initiatives

- Scope of the problem being targeted
 - Combines prevalence and severity
- Evidence for effectiveness of the intervention
 - Combines strength of evidence and magnitude of effect
- Feasibility: Costs & complexity
- Need for vigilance
 - implementation problems, new errors or other collateral effects
- Generation of Momentum - synergy with other existing or planned efforts at your institution

Most Importantly: Lots of safety problems

→ Pick ones that you will succeed at solving!

Suggested Plan: Balanced diet

- Some “low hanging fruit”
 - Strong evidence + easy to implement
- Projects that will generate momentum
 - E.g., executive walkrounds, RRTs
- Plan for bigger projects down the road
 - E.g., implementing computerized provider order entry

Examples of Low Hanging Fruit

- 1) Reducing central line-related infections
- 2) Ultrasound guidance for central line insertions
- 3) Automatic stop orders for Foley Catheters
- 4) "Read-back" for critical telephone communication

An intervention to decrease catheter-related bloodstream infections in the ICU. NEJM 2006

Catheter-related bloodstream infections per 1000 catheter-days decreased from 2.7 at baseline to 0 at 3 months after implementation of the study intervention ($P \leq 0.002$)...

Some problems with study: 1) missing data for approx 40% of ICU months; 2) CRBSIs definition open to bias and no corroborating blood culture results

Specific Interventions Similar to IHI Central Line "Bundle"

<ul style="list-style-type: none"> • Hand disinfection • Full-barrier precautions • Site preparation with chlorohexidine • Avoiding femoral site • Removing unnecessary central lines 	<ul style="list-style-type: none"> • Hand disinfection • Full-barrier precautions • Site preparation with chlorohexidine stick • Full sterile drape • Dress site with kit, biopatch, and medicated disc
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Pronovost et al. *NEJM* 2006 IHI bundle. Jain et al. *Qual Saf Health Care*. 2006.

Framework for Choosing Patient

Affects < 1% of all hospitalized patients, but greater than 0.01%

- Scope of the problem being targeted [Medium]
- Evidence for effectiveness [Medium]
- Feasibility [Medium]
- Possibility of new errors [Low]
- Momentum - synergy with other existing or planned efforts [Low to Medium]

A not-so-evidence-based strategy that has low cost and little possibility for harm

Read back protocols for important telephone communications (critical labs, verbal orders)

Annals of Internal Medicine
Established in 1927 by the American College of Physicians

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ACADEMIA AND CLINIC
 QUALITY GRAND ROUNDS
 Series Editors: Robert M. Wachter, MD

The Wrong Patient
 Mark R. Chassin, MD, MPP, MPH and
 June 2007 | Volume 136 Issue 11 | P. 1603-1608

67 y.o. woman admitted to a teaching hospital was mistakenly taken for an invasive cardiac procedure intended for another patient.

Among all types of medical errors, cases in which the wrong patient undergoes an invasive procedure are sufficiently distressing to warrant special attention. Nevertheless, institutions underreport such procedures, and the medical literature contains no discussions about them. This article examines the case of a patient who was mistakenly taken for another patient's invasive electrophysiology procedure. After reviewing the case and the results of the institution's "root-cause analysis," the discussants discovered at least 17 distinct errors, no single one of which could have caused this adverse event by itself. The discussants illustrate how these specific "active" errors interacted with a few underlying "latent conditions" (system weaknesses) to cause harm. The most remediable of these were absent or misused protocols for patient identification and informed consent, systematically faulty exchange of information among caregivers, and poorly functioning teams.

Summary of Events

Juan Morris (a pseudonym) is a 67-year-old woman admitted to a teaching hospital for cerebral angiography. The day after that procedure, she mistakenly underwent an invasive cardiac procedure. The patient, a native English speaker and high school graduate whose daughter is a physician, had been well until several months earlier, when she fell and struck her head. Magnetic resonance imaging (MRI) of the brain showed a large cerebral aneurysm. The interventional radiology service admitted her for cerebral angiography.

Read Back Protocol for Telephone Communication

- Scope of the problem being targeted [High]
- Evidence for effectiveness [Low]
- Feasibility [High]
- Possibility of new errors [Low]
- Momentum - synergy with other existing or planned efforts [Low]

Feasible intervention that affects many patients and has little downside

Interventions that may generate momentum

- Executive Walk rounds
- Rapid Response Teams

Executive Walk Rounds

- Senior executives conduct weekly visits to different areas of the hospital
 - joined by physician and nurse leaders
 - Informal sessions with frontline staff in each area
- Asks specific questions about troubling events, factors or systems issues that led to these events, suggested solutions
 - Should be non-judgmental
 - Should have plan for returning later to give follow-up

Frankel et al. *Jt Comm J Qual Saf*, 2003& 2005
Thomas et al. *BMC Health Serv Res*, 2005

Executive Walk Rounds

- Scope of the problem being targeted [Variable]
- Evidence for effectiveness [Low]
- Feasibility [Medium]
 - Can be quite time/labour intensive
- Possibility of new errors/collateral effects [Medium]
 - Decreased morale if not done right or if loop not closed on any problems
- Momentum - [Medium to High]

Rapid Response Teams—Walk, Don't Run. *JAMA* Oct. 4, 2006

Despite the problems with evidence for RRTs, they can boost morale (especially for nurses) and lay ground work for other interventions that improve safety or quality

Rapid Response Teams

- Scope of the problem being targeted [Medium to High]
- Evidence for effectiveness [Medium]
- Feasibility [Medium]
 - Costly and labour intensive, but not complex
- Possibility of new errors/collateral effects [Low]
- Momentum - [Medium to High]

Summary

- Point is not the specific ratings
- Point is that the categories provide a framework for making judgments about key factors in the decision to choose a particular candidate patient safety intervention
 - E.g., to choose RRT over executive walk rounds
 - E.g., to choose from among different “low hanging fruit”

Key Take Home Point

- Key to remember that there are lots of safety problems and potential safety interventions
- Better to thoughtfully pick one or two that will likely work at your hospital than to pick multiple interventions just because recommended by others
 - Implementation issues can differ between hospitals
 - Interest from clinicians, hospital administrators also may vary
