



Controversies in Patient Safety: Hallmarks of a Field in Formation

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What Should We Aim for?

- No Needless Deaths
 - No Needless Pain or Suffering
 - No Unwanted Waits
 - No Helplessness
 - No Waste
-For Anyone

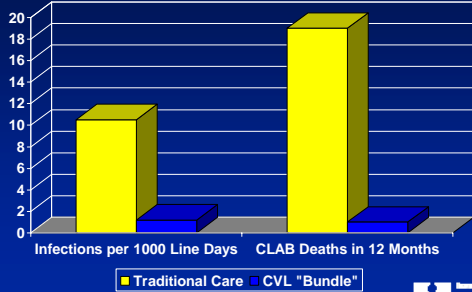


Preventing Central Line Infections

- Hand hygiene
- Maximal barrier precautions
- Chlorhexidine skin antisepsis
- Appropriate catheter site and administration system care
- No routine replacement



Central Line Associated Bloodstream Infections (CLABs) (from Rick Shannon, MD, West Penn Allegheny Health System)



100k *lives* Campaign

SOME IS NOT A NUMBER. SOON IS NOT A TIME.

Components of a Campaign

- Platform
- Communications
- Field Operations
- Measurement
- Fund-Raising



The Campaign Platform

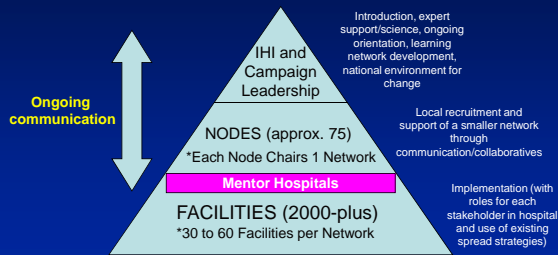
The 100,000 Lives Planks

- Rapid Response Teams
- Reliable Care for Acute Myocardial Infarction
- Medical Reconciliation
- Prevent Central Line Infections
- Prevent Ventilator Associated Pneumonias
- Prevent Surgical Site Infections

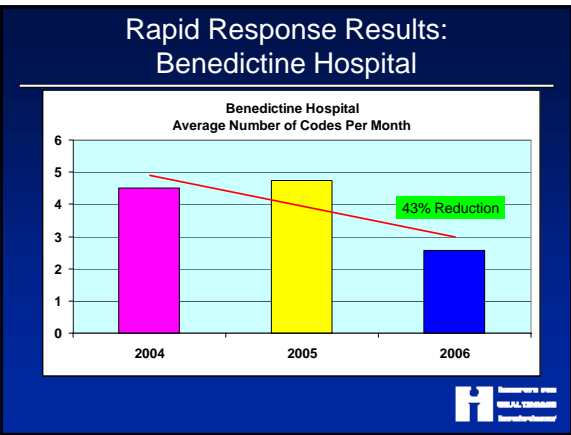


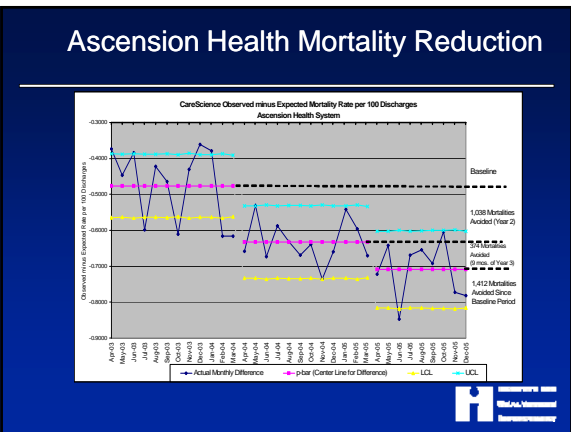


Campaign Field Operations Structure: "Nodes"









The 100,000 Lives Campaign Scorecard

- An estimated 122,000 lives saved by participating hospitals (through work on the Campaign but also through other improvements and work on complementary initiatives)
- Over 3,100 hospitals enrolled
 - Over 78% of all discharges
 - Over 78% of all acute care beds
 - Over 85% of participating hospitals sending IHI mortality data



The 100,000 Lives Campaign Scorecard

- Participation in Campaign Interventions:
 - Rapid Response Teams: 60%
 - AMI Care Reliability: 77%
 - Medication Reconciliation: 73%
 - Surgical Site Infection Bundles: 72%
 - Ventilator Bundles: 67%
 - Central Venous Line Bundles: 65%
 - All Six: 42%



We Aim to Achieve Care That Is...

- Safe
- Effective
- Patient-centered
- Timely
- Efficient
- Equitable



IHI's "No Needless" List

- No needless deaths
- No needless pain
- No helplessness
- No unwanted waiting
- No waste
- ...for anyone



The Next Campaign

Reduce Harm



The Next Campaign

Reduce Harm...

but what do we mean by "harm?"



Our Definition of Medical Harm

Unintended physical injury resulting from or contributed to by medical care (including the absence of indicated medical treatment), that requires additional monitoring, treatment or hospitalization, or that results in death.

Such injury is considered harm whether or not it is considered preventable, whether or not it resulted from a medical error, and whether or not it occurred within a hospital.



The Next Campaign

Reduce Harm...

but how much harm will we reduce?



Logic Chain: Step 1

How Many Admissions per Year
in the US?

37 Million Admissions

Source: The AHA National Hospital Survey for 2005




Logic Chain: Step 2

How Often Are Patients Injured by Care?

40 to 50 Patient Injuries per 100 Hospital Admissions


Source: IHI "Global Trigger Tool" Guiding Record Reviews



The "NCC – MERP" Framework

- A. The capacity to cause error
- B. Did not reach the patient
- C. Did not cause the patient harm
- D. Required monitoring to confirm it resulted in no harm to the patient and/or required intervention to preclude harm
- E. Required intervention**
- F. Required hospitalization**
- G. Permanent patient harm**
- H. Sustain life**
- I. Patient's death**

Source: Index of the National Coordinating Council for Medication Error and Reporting and Prevention
<http://www.nccmerp.org/pdf/index/Colo2001-06-12.pdf>





Category "E"

Temporary Injury from Care Requiring Intervention

EXAMPLE OF AN "E"

"An elderly woman was started on antibiotics for a skin infection without taking into consideration she was on an anticoagulant. She got an injection, and that led to a large and painful bleed into her thigh muscle."

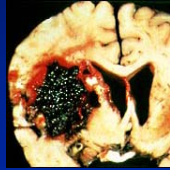



Category "I"

Injury from Care Contributing to
or Causing the Patient's Death

EXAMPLE OF AN "I"

"A 55 year old bus driver
needed anticoagulation for
atrial fibrillation. Three days
after starting, he suffered a
massive bleed into his brain
– a stroke. He died six days
later."



"Global Trigger Tool"

Finding Injuries of Severity
"E" through "I"



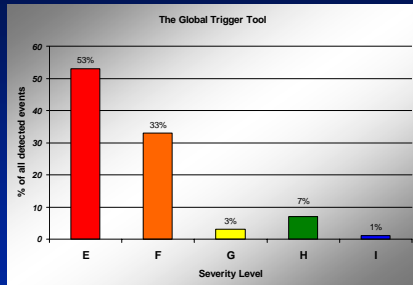
Why Do We Find So Many?

40 to 50 Injuries per 100 Admissions

- Include Levels "E" through "I"
 - Most others start at "F"
- Global Trigger Tool increases efficiency of search
- Do not distinguish "preventable" from "non-preventable" given current knowledge
- Include out-of-hospital events that lead to admission



The Global Trigger Tool at LDS Hospital Review by Brent James



35.1%
of all admissions
had
at least one
adverse event

9.1%
of all
hospital
admissions
resulted from
outpatient
care-associated
adverse events

- LDS Hospital; 325 patients; October 2004;
- Seven trained abstractors; all charts independently reviewed twice



Logic Chain: Step 3

How Many Injuries in the US?

$$\begin{aligned}
 &37 \text{ Million Admissions} \\
 &\quad \times \\
 &40 \text{ Injuries per 100 Admissions} \\
 &= \\
 &\mathbf{15 \text{ Million Injuries per Year}}
 \end{aligned}$$

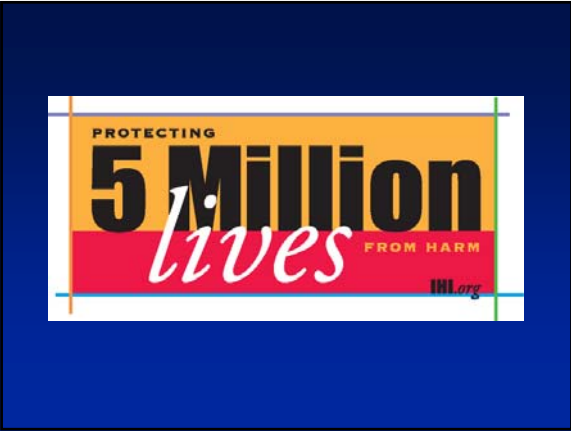


Logic Chain: Step 4

If we could replicate best performance across the existing Campaign population, how many injuries might we expect to avoid?

Approximately 3.5 Million

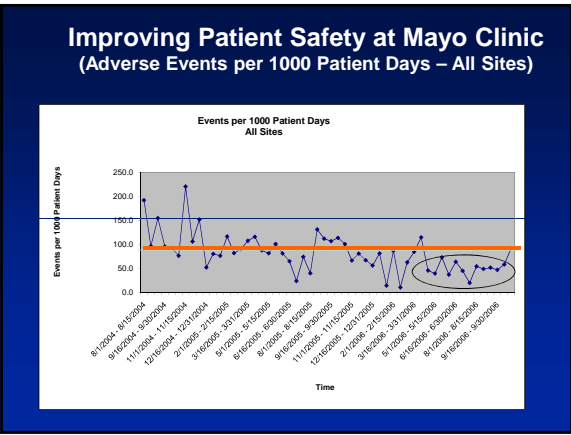




"The 5 Million Lives Campaign"

- Lives "Bettered"
- Lives "Unharmed"
- "Safer" Lives





The Campaign Platform

The 100,000 Lives Planks

1. Rapid Response Teams
2. Acute Myocardial Infarction
3. Medical Reconciliation
4. Central Line Infections
5. Ventilator Associated Pneumonia
6. Surgical Site Infection

The 5 Million Lives Planks

7. Pressure Ulcers
8. Congestive Heart Failure
9. High Alert Medications
10. Surgical Complications ("SCIP")
11. Methicillin-Resistant *Staphylococcus aureus*
12. "Boards on Board"



5 Million Lives Campaign The "Planks" – Starter Set

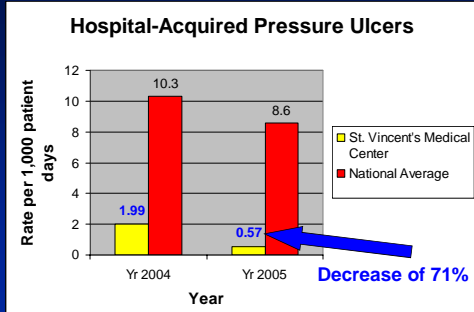
- Prevent Pressure Ulcers



Pressure Ulcers



An Example of What Is Possible... St. Vincent's Medical Center



Source: Joint Commission Journal on Quality and Patient Safety: The Clinical Transformation of American Health: Eliminating All Preventable Injuries and Deaths. *Clinical Excellence Series* David B. Poyer, M.D., Sanford F. Tolchin, M.D., Ann Hendrich, M.S., R.N., Clarence S. Thomas, M.D., Anthony R. Tersigni, Ed.D.

5 Million Lives Campaign The "Planks" – Starter Set

- Prevent Pressure Ulcers
- Prevent Methicillin-Resistant *Staphylococcus aureus* (MRSA) Infections



MRSA



5 Million Lives Campaign The "Planks" – Starter Set

- Prevent Pressure Ulcers
- Prevent MRSA Infections
- Prevent Harm from High-Alert Medications



Burden of High-Alert Medications

- Anticoagulants
- Sedatives
- Narcotics
- Insulin

40 to 50 Injuries per 100 Admissions Overall
"F" to "I" - 25% Are Due to Medications
"E" to "I" – 50% Are Due to Medications

**58% of Medication Injuries Are
Due to High-Alert Medications!**

5 Million Lives Campaign The "Planks" – Starter Set

- Prevent Pressure Ulcers
- Prevent MRSA Infections
- Prevent harm from High-Alert Medications
- Reduce Surgical Complications – Adopt "SCIP"





www.medqic.org/SCIP

Reducing Surgical Complications

1. Surgical Site Infection Prevention
2. Beta Blockers for Patients on Beta Blockers prior to Admission
3. Venous Thromboembolism (VTE) Prophylaxis
4. Ventilator-Associated Pneumonia Prevention
5. Teamwork and Culture



5 Million Lives Campaign The "Planks" – Starter Set

- Prevent Pressure Ulcers
- Prevent MRSA Infections
- Prevent Harm from High-Alert Medications
- Reduce Surgical Complications – Adopt "SCIP"
- **Deliver Reliable, Evidence-Based Care for Congestive Heart Failure**



The Governance Intervention

Six Things All Boards Should Do to Improve Quality and Reduce Harm

1. Setting Aims
2. Getting Data and Hearing Stories
3. Establishing and Monitoring System-Level Measures
4. Changing the Environment, Policies, and Culture
5. Learning... Starting with the Board
6. Establishing Executive Accountability



Two "Must Dos"

- **An Initial Chart Audit for Harm**
 - A review of 20 to 40 randomly chosen patient charts from the prior month to document all types and levels of injury.
- **A "Deep Dive" Case Study**
 - Conduct a detailed, personal investigation of a significant patient injury in the hospital, including interviewing the involved patient, family, and staff.



5 Million Lives Campaign

The "Planks"

- Prevent Pressure Ulcers
- Prevent MRSA Infections
- Prevent Harm from High Alert Medications
- Reduce Surgical Complications – Adopt "SCIP"
- Deliver Reliable, Evidence-Based Care for Congestive Heart Failure
- Get Boards on Board



Some Tough Lessons about “Full Scale” Improvement

- **Going to full and public scale...**
 - ...subjects you to criticism you may never hear about from people whom you will never meet.
 - ...leads to misinterpretation by well-meaning reporters that you cannot correct.
 - ...invites speculation about your motives and intentions to which you cannot reply.
 - ...impedes sincere and open shared exploration of subtle questions.
 - ...worries academicians, especially.
 - ...induces jealousy that you cannot assuage.



Skeptical Questions

- Are there really so many harms from care?
- Is the measurement approach (record reviews guided by the Global Trigger Tool) valid and reliable?
- Is attribution of success to the Campaign possible? Is it overstated?
- Can hospitals (or IHI) properly evaluate their own success?
- Are the “planks” sufficiently evidence-based to be spread widely?
- Is IHI a proper leader for a Campaign?
- Will this distract health care from other useful improvement work?



Controversies

1. **The threshold for action – When is a promising change in process or design “good enough” for widespread deployment?**



Controversies

2. Measuring effects – How can we assess the impact of changes on patient safety overall? And, to what degree is attribution of progress to specific changes possible or necessary?



How Often Are Patients Injured by Care? Review by Brent James

	<u>Sample Size</u>	<u>Injury Rate</u>	<u>% Judged Preventable</u>	<u>% Life Threatening or Fatal</u>
<i>HMPS (1984 data)</i>	~34,000	3.7%	58%	13.6%
<i>Utah-Colorado (1992 data)</i>	15,000	2.9%	53%	6.6%
<i>Australian AE (1992 data)</i>	2,353	16.6%	69.8%	22.3%
<i>Australian AE at LDSH</i>		10.2% (?)		
<i>Canada AE (2000 data)</i>	3,745	7.5%	36.9%	20.8% (fatal)



Johns Hopkins Researchers

“Given the equivocal evidence supporting the effectiveness of RRT programs, with the largest best-designed study showing no benefits, it is unclear why there is such interest in implementing this intervention and making it a care standard...”

Winters BD, Pham J, Pronovost PJ. Rapid response teams – walk, don't run. *JAMA*. 2006; 296: 1645-1647.



Primum non nocere

“When harm is underway, proceed urgently to learn how to stop it, and act urgently on the learning.”



Controversies

3. Professional education – What is the fair share and proper design of safety training for professional development at each stage of training and life-long learning?



Controversies

4. Regulation – When is the “hard edge” of regulation and requirement helpful to safety, and when is it an impediment or technically harmful?



Controversies

5. Personal responsibility – Does the systems view of safety supplant the notion of individual responsibility? How can these two ideas successfully co-exist?





Controversies

7. Cost – Does making care safer save money, or not? If it does, for whom?



Impact of SSI

	Infected	Uninfected
Mortality (in-hospital)	7.8%	3.5%
ICU admission	29%	18%
Readmission	41%	7%
Median initial LOS	11 Days	6 Days
Median total L.o.s.	18 Days	7 Days
Initial excess cost	+\$3,644 (median)	
Total excess cost	+\$5,038 (median)	

*Pairs matched for procedure, NNIS index, age
*General inpatient surgical population; 22, 742 procedures included
Kirkland. *Infect Control Hosp Epidemiol.* 1999;20:725.



Controversies

7. The level of aspiration – How safe can care get? What are the theoretical limits?

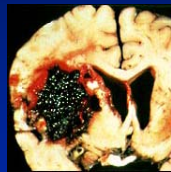


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EXAMPLE OF AN "I"

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Seven Controversies

The Hallmarks of a Field in Formation

- The Threshold for Action
- Measuring Effects
- Professional Education
- Regulation
- Personal Responsibility
- Cost
- The Level of Aspiration – How Safe Can Care Get?



Some Good News about “Full Scale” Improvement

- Going to full and public scale...
 - ...can open up enormous positive feeling, spirit and generosity.
 - ...can be inclusive, attractive, and affirming to thousands of people.
 - ...can invite creative local adaptations.
 - ...can use peer-to-peer support effectively.
- Generosity abounds
- People want to have hope



Eleanor Roosevelt

“You must do the thing you think you cannot do.”