How to know our own complication rates (without lying to our patients)

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The 100,000 Lives Campaign: A Scientific and Policy Review

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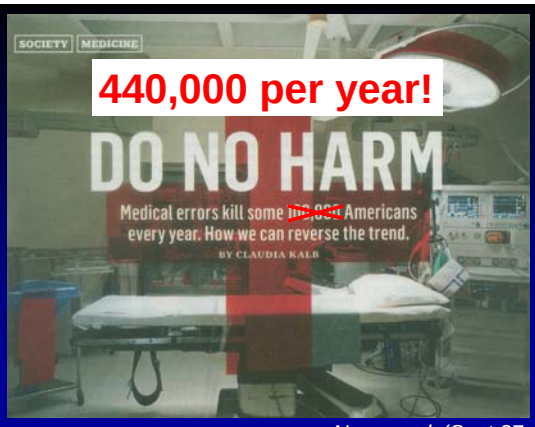
Table 1. The Six Practices ("Planks") in IHI's 100,000 Lives Campaign*

Practice	No. of Participating Hospitals†	Other Major Organizations Promoting/Mandating Practice‡	Strength of Evidence§
Rapid Response Teams	1,781	None	Relatively Weak
Medication Reconciliation	2,185	JCAHO	Weak–Medium
Prevent Central Line Infections	1,925	JCAHO	Strong
Prevent Surgical Site Infections	2,133	JCAHO, CMS	Strong
Prevent Ventilator-Associated Pneumonia	1,982	JCAHO, CMS	Strong
Evidence-Based Care for Myocardial Infarction	2,288	JCAHO, CMS, NQF	Strong

Jt. Comm. J. Qual. Patient Saf. 2006, 32:621-7.



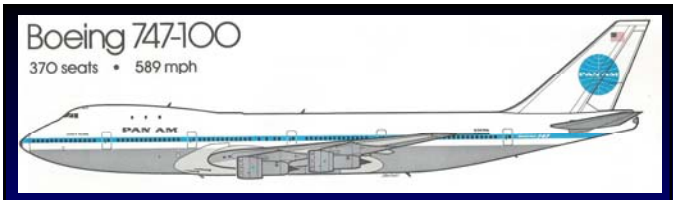
Newsweek (Sept 27, 2010)

Table 1 Leading causes of death in the United States[a]

1. Heart disease (~614 000 deaths per year)
2. Cancer (~591 000 deaths per year)
3. Medical errors (~440 000 deaths per year)

[a]Source:
- http://www.cdc.gov/
- *Journal of Patient Safety* 2013, 9:122–8

Stahel et al., *Patient Saf. Surg.* 2017,11:1.



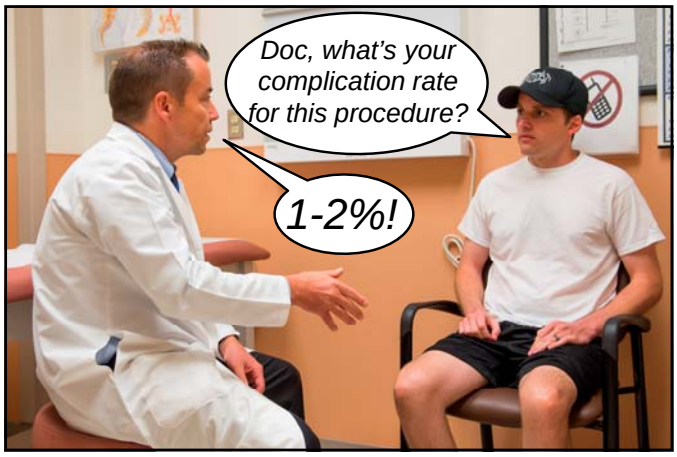
440,000 passengers ~ 1189 Jumbo jets

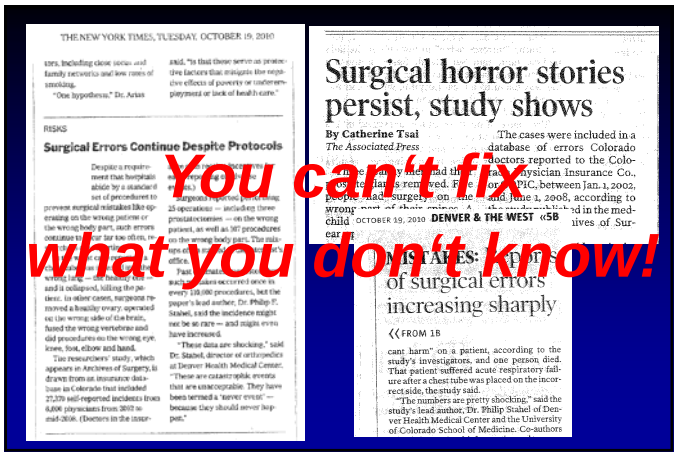
Extrapolates to **three** 747 crashes /day

Continuing year by year, in perpetuity?

Strikingly, in the 21st century, we still have to come to terms with the absurd reality that it is significantly safer to board a commercial airplane, a spacecraft, or a nuclear submarine, than to be admitted to a U.S. hospital [9–14]. What can surgeons do to protect their patients from the hidden dangers of an imperfect health care system?

Stahel et al., *Patient Saf. Surg.* 2017,11:1.





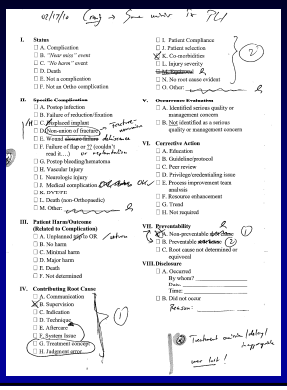
Denver Ortho QI process (until 2006)

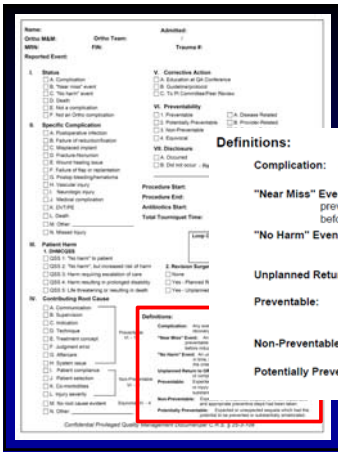
- Voluntary reporting of complications by individual providers
- Bimonthly M&M conference
- Discuss selected – severe – complications and sentinel events exclusively
- **Pitfall: Underreporting!**

Denver Ortho QI process (since 2007)

- Anonymous “real-time“ reporting of any suspected adverse ocurrence, including *no harm* and *near miss* events
- “No fault“ policy for reporting occurrences
- Reports managed by trauma coordinator
- Weekly QA meeting for “real time“ peer-review of reported occurrences.

How to design a “perfect“ QI process?





Definitions:

Complication: Any event that deviates from an anticipated uneventful recovery from illness or surgery

"Near Miss" Event: An unplanned event with the potential of resulting in a preventable injury, which was recognized and aborted in time before inducing patient harm.

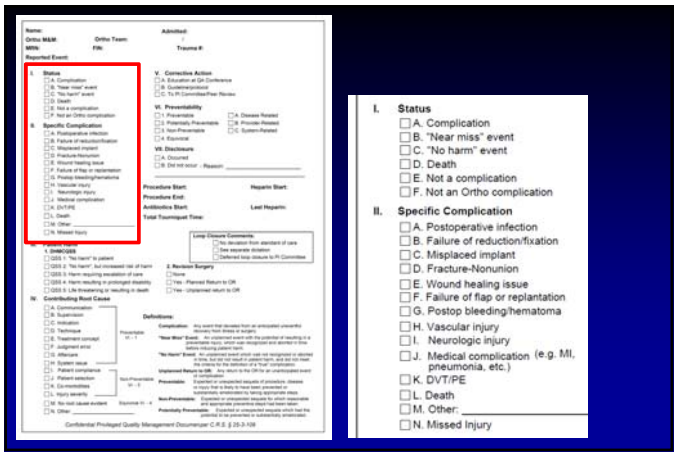
"No Harm" Event: An unplanned event which was not recognized or aborted in time, but did not result in patient harm, and did not meet the criteria for the definition of a "true" complication.

Unplanned Return to OR: Any return to the OR for an unanticipated event or complication

Preventable: Expected or unexpected sequela of procedure, disease or injury that is likely to have been prevented or substantially ameliorated by taking appropriate steps.

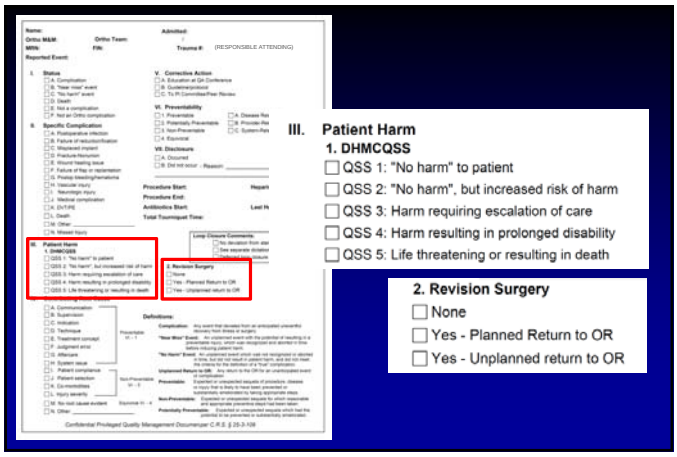
Non-Preventable: Expected or unexpected sequela for which reasonable and appropriate preventive steps had been taken

Potentially Preventable: Expected or unexpected sequela which had the potential to be prevented or substantially ameliorated.



I. Status
- ☐ A. Complication
- ☐ B. "Near miss" event
- ☐ C. "No harm" event
- ☐ D. Death
- ☐ E. Not a complication
- ☐ F. Not an Ortho complication

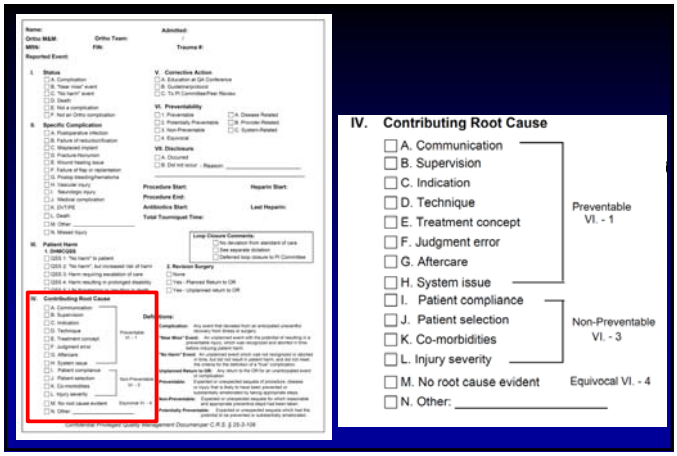
II. Specific Complication
- ☐ A. Postoperative infection
- ☐ B. Failure of reduction/fixation
- ☐ C. Misplaced implant
- ☐ D. Fracture-Nonunion
- ☐ E. Wound healing issue
- ☐ F. Failure of flap or replantation
- ☐ G. Postop bleeding/hematoma
- ☐ H. Vascular injury
- ☐ I. Neurologic injury
- ☐ J. Medical complication (e.g. MI, pneumonia, etc.)
- ☐ K. DVT/PE
- ☐ L. Death
- ☐ M. Other: _____
- ☐ N. Missed Injury



III. Patient Harm

1. DHMCQSS
- ☐ QSS 1: "No harm" to patient
- ☐ QSS 2: "No harm", but increased risk of harm
- ☐ QSS 3: Harm requiring escalation of care
- ☐ QSS 4: Harm resulting in prolonged disability
- ☐ QSS 5: Life threatening or resulting in death

2. Revision Surgery
- ☐ None
- ☐ Yes - Planned Return to OR
- ☐ Yes - Unplanned return to OR

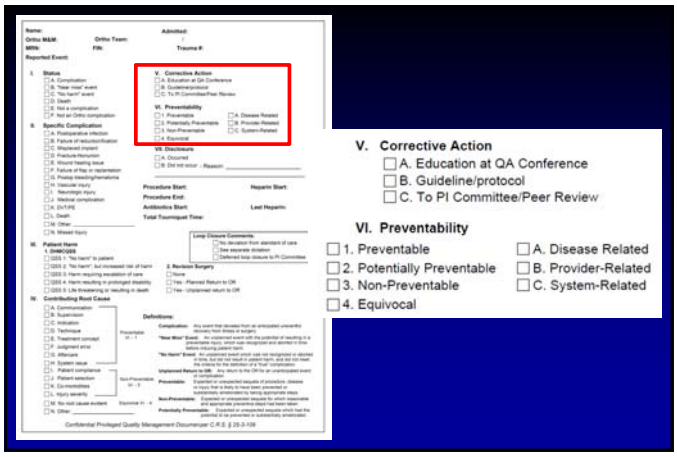


IV. Contributing Root Cause

Preventable VI. - 1
- ☐ A. Communication
- ☐ B. Supervision
- ☐ C. Indication
- ☐ D. Technique
- ☐ E. Treatment concept
- ☐ F. Judgment error
- ☐ G. Aftercare
- ☐ H. System issue

Non-Preventable VI. - 3
- ☐ I. Patient compliance
- ☐ J. Patient selection
- ☐ K. Co-morbidities
- ☐ L. Injury severity

Equivocal VI. - 4
- ☐ M. No root cause evident
- ☐ N. Other: _____



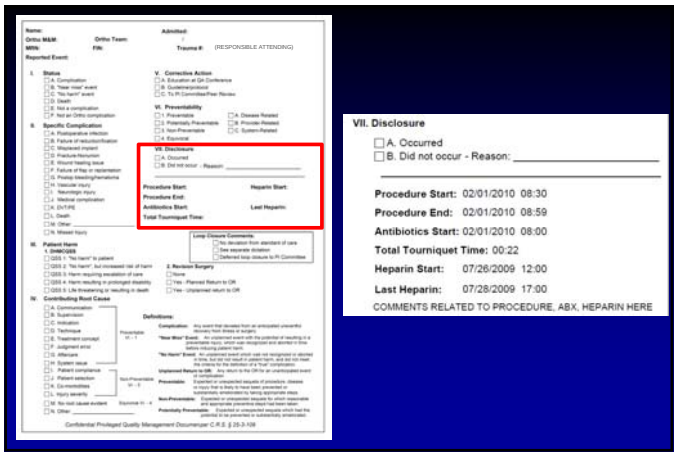
V. Corrective Action

- ☐ A. Education at QA Conference
- ☐ B. Guideline/protocol
- ☐ C. To PI Committee/Peer Review

VI. Preventability

- ☐ 1. Preventable
- ☐ 2. Potentially Preventable
- ☐ 3. Non-Preventable
- ☐ 4. Equivocal

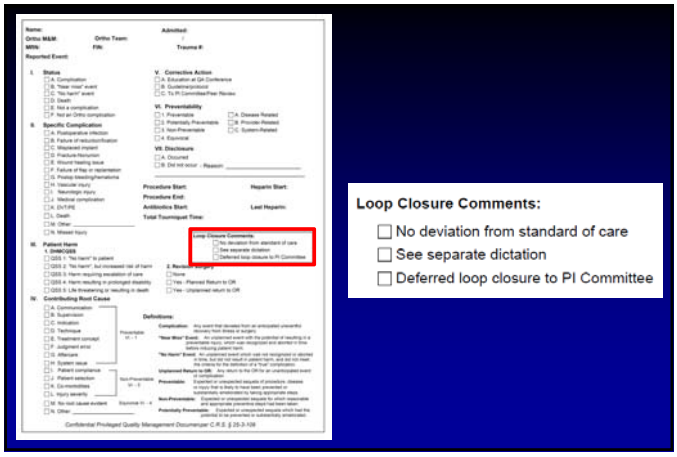
- ☐ A. Disease Related
- ☐ B. Provider-Related
- ☐ C. System-Related



VII. Disclosure

- ☐ A. Occurred
- ☐ B. Did not occur - Reason: _____

Procedure Start: 02/01/2010 08:30
Procedure End: 02/01/2010 08:59
Antibiotics Start: 02/01/2010 08:00
Total Tourniquet Time: 00:22
Heparin Start: 07/26/2009 12:00
Last Heparin: 07/28/2009 17:00
COMMENTS RELATED TO PROCEDURE, ABX, HEPARIN HERE



Loop Closure Comments:

- ☐ No deviation from standard of care
- ☐ See separate dictation
- ☐ Deferred loop closure to PI Committee

Examples of M&M loop closure comments:

Action Items

Education and discussion at Ortho M&M

The review of postoperative x-rays revealed the adequate reduction and fixation modality. The patient developed a hyperopic nonunion which required exchange nail fixation.

Loop Closure

Discussed at Ortho M&M. The initial surgery was performed according to the standard of care and development of a nonunion is a known complication for these types of injuries. No further action necessary, loop closed.

Action Items

Education and discussion at Ortho M&M

The patient followed up in a delayed fashion with our hand/-microvascular team. Critique was raised that there was a delay in onset of adequate treatment.

Loop Closure

Education and discussion at Ortho M&M. Dr. Kyros Ipaktchi offered to take the lead of designing a standardized protocol for ortho consultation in the AUCC including protocols for initiating nonoperative treatment of cases which do not warrant an ortho consultation. Issue to remain open.

Disclosure and Reporting of Surgical Complications: A Double-Edged Sword?

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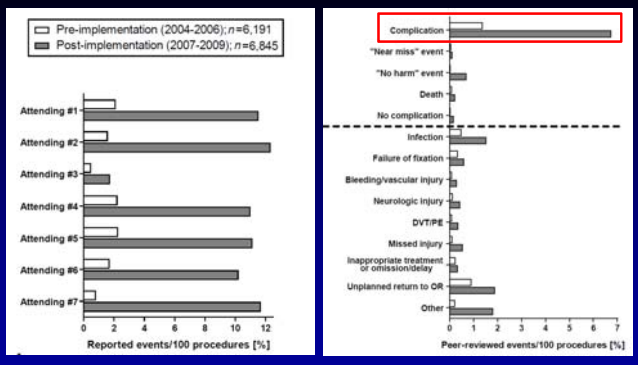
Stahel PF et al., *Am. J. Med. Qual.* 2010, 25:398-401.



Stahel PF et al., *Am. J. Med. Qual.* 2010, 25:398-401.

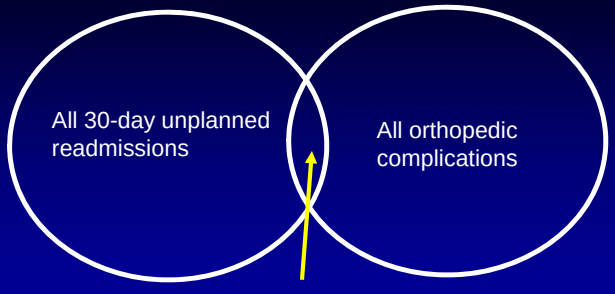
How to improve the QI process?

- Meta-analysis of “clusters“ of specific tracer adverse events (e.g. PEs) to modify and improve sfaety protocols in orthopedics.
- The search for the “Holy Grail“: Provider-independent reporting of adverse events.
- Is the filter of 30-day unplanned readmissions a sensitive tool to identify postoperative complications?

30-day uplanned readmissions

- N=1,474 readmissions of orthopedic patients.
- **n=142** orthopedic complications (9.6%)
- n=103 return to OR (ortho QI filter)
- n=39 at risk of falling through ortho QI reporting filter (2.6%)

30-day uplanned readmissions



Only **2.6%** of all ortho complications caught by 30-day readmission filter.

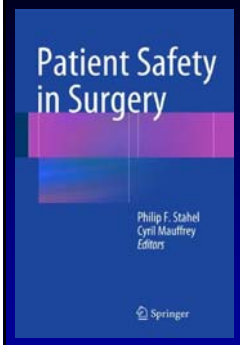
The ultimate conundrum: Reporting of complications!

Journal Reporting of Medical Errors*

The Wisdom of Solomon, the Bravery of Achilles, and the Foolishness of Pan

Joseph G. Murphy, MD; LeAnn Stee, BA; Marian T. McEvoy, MD; and June Oshiro, PhD

Murphy JG et al., *Chest* 2007, 131:890-6.



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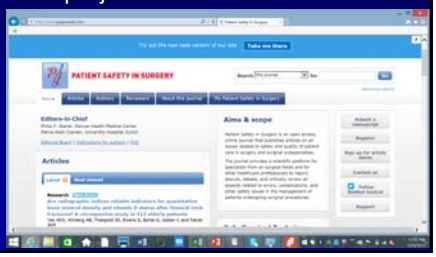

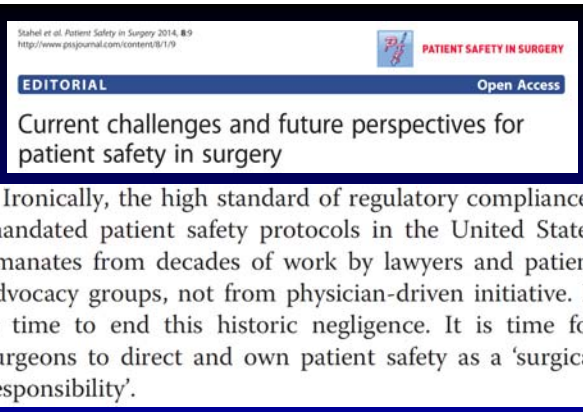

Stahel PF et al., *Patient Saf. Surg.* 2014, 8:9.

A pragmatic solution:
Credible leadership & role modeling!

Does anybody have any questions for my answers ?

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