# Toward the Goals of Harm Avoidance and Waste Reduction

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## Two types of Harm

**Lack of Safe Systems**

**"Benevolent Injustice"**

## Objectives

- Understand the scope of the problem that harm and waste currently pose in our health care system
- Think about ways we can change culture around patient safety
- Contemplate "benevolent injustice" as a source of harm
- Contemplate waste as "tyranny of the everyday", and "tyranny of the exceptional"
- Propose strategies for reducing harms and waste

"I'm taking the Hudson…."

## What is harm?

- "any unintended physical injury resulting from …medical care (or absence of) resulting in additional monitoring, treatment or hospitalization and/or death."

Joint Commission Journal on Quality and Patient Safety 38(7) 2012

## Lessons from Aviation

- "I think medicine is about 50 years behind the aviation industry when it comes to systems safety. Back then, we were only too happy to blame crashes on a bunch of dead pilots"

(Chesley "Sully" Sullenberger, White Coat Black Art CBC)

- Key learning: safe systems, culture of learning and improving without blame

## 1977 Tenerife Disaster

KLM Boeing 747 crashes on take-off into taxiing jet

583 dead

Strict authority hierarchy (crew)

Communication barrier

Non-standard radio communication

Beginning of transformation of aviation, starting with "crew resource management"

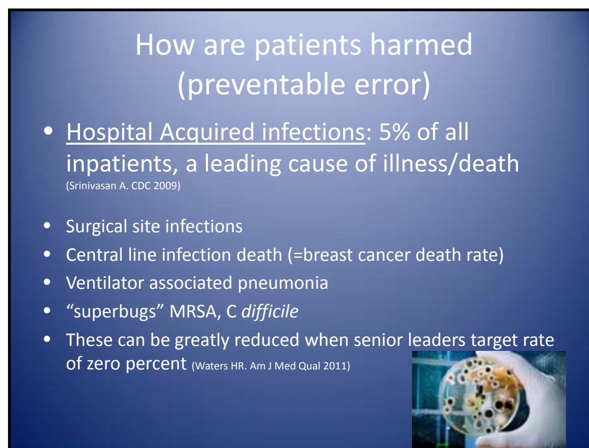
(Haerkens M et al. Crew resource management in the ICU…Annals of Intensive Care 2012)

Your reflexes seem pretty good, Mr. Hart!

## Crew resource management

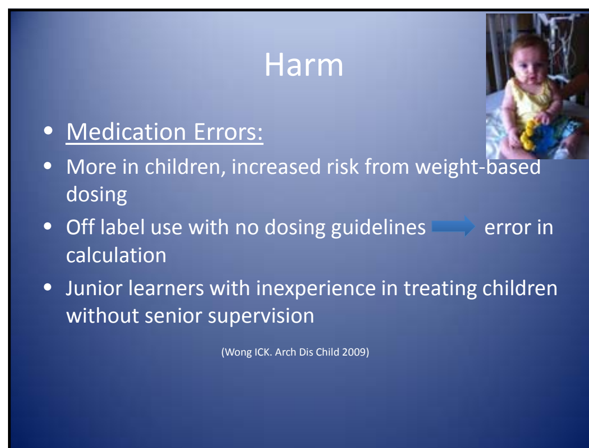
- Team roles
- Effective checklists
- Actual ICU video footage (black box)

1) short, clear non-blaming: "Doctor, I'm not sure we did all the checks."
2) key word to add value: "Doctor, I'm not comfortable with that decision."
3) Last resort: "Stop the procedure." (Haerkens et al. 2012)




## Scope

- "To Err is Human" (1999) IOM
- 44,000-98,000 deaths from medical error annually USA (4,000-10,000 Canada?)
- Few jumbo jets a week
- Guns don't kill people….



## Why?

- Cognitive errors: normalcy bias; confirmation bias; anchoring;
- Complexity: multiple specialists, medications
- Paper orders
- **Communication Failure**

## Waste

- Financial waste in the system estimate to be 30-50% of all health care system costs (still preserving all beneficial treatment to all)

1/3 behavioral issues
1/3 clinical inefficiencies
1/3 operational efficiencies

(Brody H. NEJM 366;21:May 24, 2012
PricewaterhouseCoopers' HRI 2011
James B. HarperBusiness 2011)

## Benevolent Injustice

- Beauchamp and Childress: "promoting the welfare of patients-not merely avoiding harm-expresses medicine's goal, rationale, and justification." (Principles of Biomedical Ethics 5th Ed.)
- Well-intentioned treatment results in unintended harm (neurological debilitation or technological dependence)

## Tyranny of the Everyday

- CBC
- Virtually every emergency and hospital admission, periodic health exams
- Cost: $17-24 ($20), with all staff costs, could be $200 X 700,000=
- $14 M-$140 M/ year

## Evolution of Benevolent Injustice

- Poor prognostication
- Overtreatment
- Acquiescing to parental/SDM demands

(Catlin A. Advances in newborn care 2009).

## Tyranny of the Exceptional

- Baby V: multiple anatomical abnormalities of bladder/pelvis/hips/ intestines/genitalia
- Developed chronic lung disease; trach/vent
- Young parents insist continually "everything done"; multiple surgeries
- Lived till one year NICU, then PICU till institutionalized. Parents withdraw from her. Deaf, non-verbal, no clear interaction with env. Multiple readmissions including PICU, dies at 10

## Solutions

- Simulation (normalcy bias)

## Systems-based solutions

- Automatic built-in responses from collaboration with engineering:
- E.g. main risk of opioid infusions is slowing or stopping of breathing
- System solution to have feedback of respiratory slowing to stop pump and alarm

(Pronovost PJ JAMA 2012)

## Simulation

- Mock "no-code"
- Simulation for how to have conversations
- More necessary, given preponderance of death due to withdrawing or withholding certain non-beneficial therapies, including resuscitation

## Accountability for Reasonableness

- Development of Just Processes

(Norman Daniels, James Sabin)

- **Green Light** (clinical, operational and financial expert leaders collaborate with plan to improve safety) (Denham CR et al. *J Patient Saf* Sept 2012)

- **Top Five List**: charge each specialty with evaluating top five tests re: frequency and expense, figure out how to prescribe based on evidence to curb non-beneficial use (e.g. overuse of CT scans) (Brody H NEJM 2009)

## A for R

1) Broad spectrum group from organization, patients, and the public
2) Processes that are transparent with regard to the decision making activities
3) Robust appeals process that allows response to further evidence or arguments
4) Develop institutional accountability to ensure the first three steps are actually followed.

(Jennifer Gibson, Douglas Martin, Peter Singer. BMC Health Services Research. 2002)

"The myth that physicians are innocent bystanders merely watching health care costs zoom out of control cannot be sustained." (Brody H. NEJM 2010)

## Societal Engagement

- Ought the provision of medical treatment be our major expenditure on "health" when we know social determinants (education, nutrition, poverty) are much more important at population level?
- If the goals of medicine are to alleviate suffering and/or restore health, have we inadvertently strayed in facilitating chronic critical illness, in which neither aim is realized?