# To Err is Human +10

## Why are we still discussing this?

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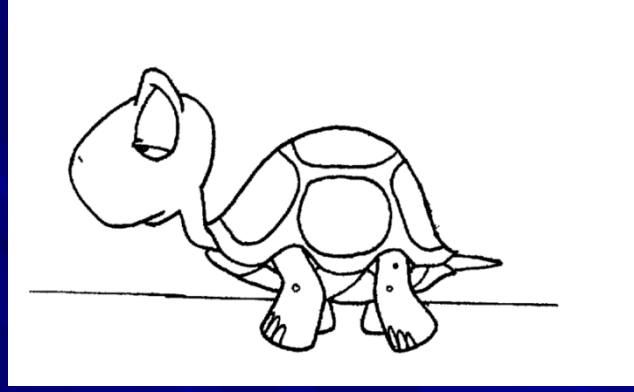
# Main points

- Despite more than a decade of focus on medical error and patient safety, progress has been surprisingly slow and uneven
- The status quo is maintained by a variety of human factor and systems issues
- Change can only accelerate if individuals embrace
  1. a culture of safety approach that incorporates
  2. a personal commitment to high reliability and
  3. systematic local culture change

# Things are not changing fast enough



- We really don't seem to:
  - believe that error is ubiquitous
  - practice in reliable, systematic ways
  - detect the majority of errors
  - detect error quickly and reliably
  - respond in a timely manner
  - learn from our mistakes
  - think that this is a national priority

# Report Card

| Safety category | 2004 | 2009 |
|---|---|---|
| Regulation/accreditation | A– | B+ |
| Reporting systems | C | B+ |
| Health information technology | B– | C+ |
| Malpractice system and accountability | D+ | C+ |
| Workforce and training issues | B | B– |
| Research | NA | B– |
| Patient engagement and involvement | NA | C+ |
| Provider organization leadership engagement | NA | B |
| National /international organizational interventions | NA | A– |
| Payment system interventions | NA | C+ |
| **Overall grade for progress in patient safety** | **C+** | **B–** |

Wachter RM: Patient Safety at 10: Unmistakable Progress, Troubling Gaps. Health Affairs Jan 2010

# Adverse Events In Three Study Hospitals Detected By All Methods, By Severity Level

| Type of adverse event | Severity level (level of harm to patient) | | | | | |
|---|---|---|---|---|---|---|
| | E | F | G | H | I | Total |
| Medication-related | 100 | 46 | 2 | 2 | 0 | 150 |
| Procedure-related (excluding infection) | 67 | 26 | 5 | 7 | 4 | 109 |
| Nosocomial infection | 30 | 37 | 2 | 2 | 1 | 72 |
| Pulmonary/VTE | 8 | 5 | 2 | 0 | 1 | 16 |
| Pressure ulcers | 10 | 1 | 0 | 0 | 0 | 11 |
| Device failure | 0 | 6 | 0 | 0 | 0 | 6 |
| Patient falls | 2 | 1 | 0 | 0 | 0 | 3 |
| Other | 10 | 11 | 0 | 3 | 2 | 26 |
| Total | 227 | 133 | 11 | 14 | 8 | 393 |

Classen et al: 'Global Trigger Tool' Shows That Adverse Events In Hospitals May Be Ten Times Greater Than Previously Measured. Health Affairs, Jan 2010

# Adverse Event Detection, By Severity / Hospital

| Severity | IHI Global Trigger Tool | AHRQ Patient Safety Indicators | Voluntary Reporting system |
|---|---|---|---|
| E | 204 | 23 | 0 |
| F | 124 | 7 | 2 |
| G | 8 | 1 | 2 |
| H | 14 | 0 | 0 |
| I | 4 | 4 | 0 |
| Total | 354 | 35 | 4 |
| Hospital A | 161 | 13 | 0 |
| Hospital B | 92 | 13 | 3 |
| Hospital C | 101 | 9 | 1 |

Classen et al: 'Global Trigger Tool' Shows That Adverse Events In Hospitals May Be Ten Times Greater Than Previously Measured. Health Affairs, Jan 2010

# We know why things not changing

- Denial
- Comfort in existing habits
- Ignorance of the crisis
- Competing commitments
- Ownership failures
- Human nature (what we value)
- Human factors (how we really perform)
- Tolerance of failure, normalization of deviance
- Self-interested pressures to keep current system
- Poor leadership

# Raise your hand if you regularly begin your day committed to poor, error-prone care

Yet, we practice in a relatively disorganized, inefficient system that invites error.

# How do we get things moving?

1. Take passionate, committed, personal responsibility
2. Defeat competing commitments
3. Learn all you can about high reliability
4. Understand deeply human factors and human nature
5. Motivate people to change
6. Worship data and drive to outcomes
7. Learn more about how systems work
8. Use change models

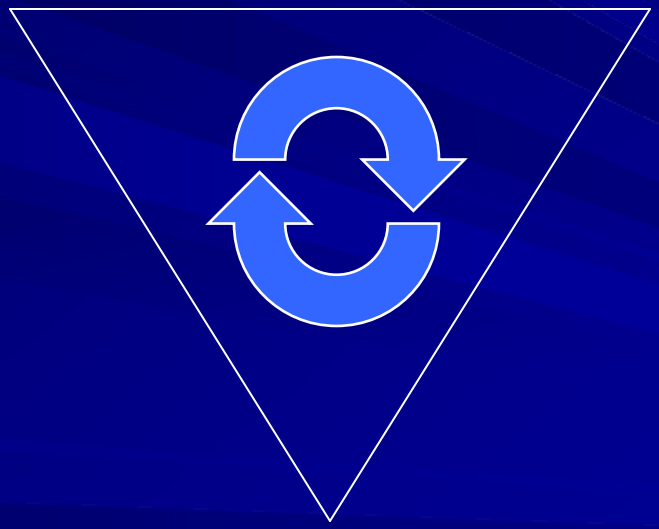
# 1. Safety begins with you

Commit now, or you're just part of the problem

# The three ingredients for leadership in patient safety

Passionate Preparation

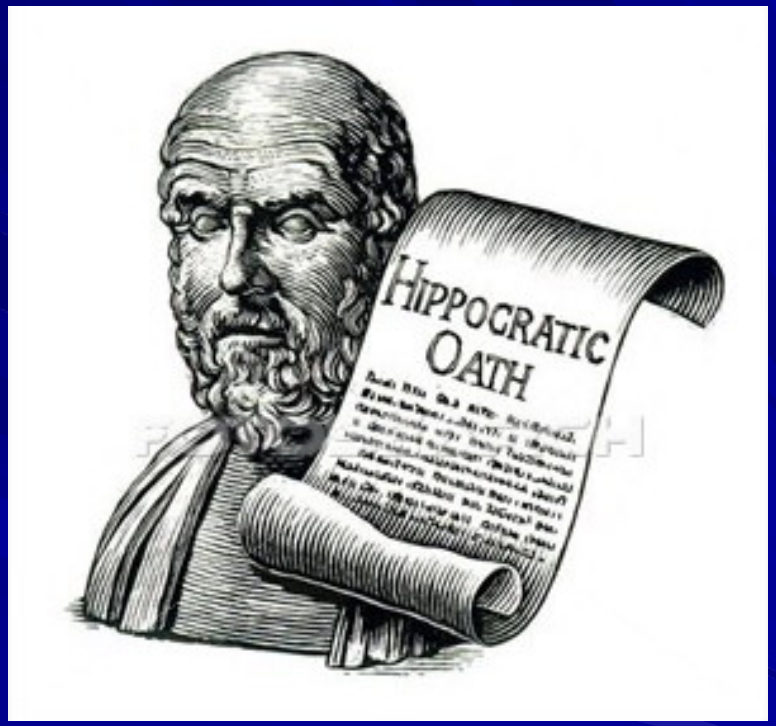
Knowledge & Resources



Unrelenting Execution

# Stand, raise your hand and take the oath

"I hereby renew my commitment to do no harm to my patients, and I promise to lead my colleagues in the creation of an environment that prevents harm to all our patients."



# 2. Defeat competing commitments

Your system is designed to do what it is currently doing, and your colleagues are deeply committed to keeping it that way


Every system is perfectly designed to produce just the results it produces.

But why, and how do you change it?

# Competing Commitments

"When people resist change, it's not necessarily because they're opposed to it. It's not even necessarily because they're lazy or inattentive to it, either. Rather, it's because they have one or more hidden beliefs that directly conflict with them working toward meaningful change."


***The Real Reason People Won't Change:***
**Robert Kegan And Lisa Laskow Lahey, Harvard Business Review**

# 3. Learn about high reliability

Standardize everything and everyone you can

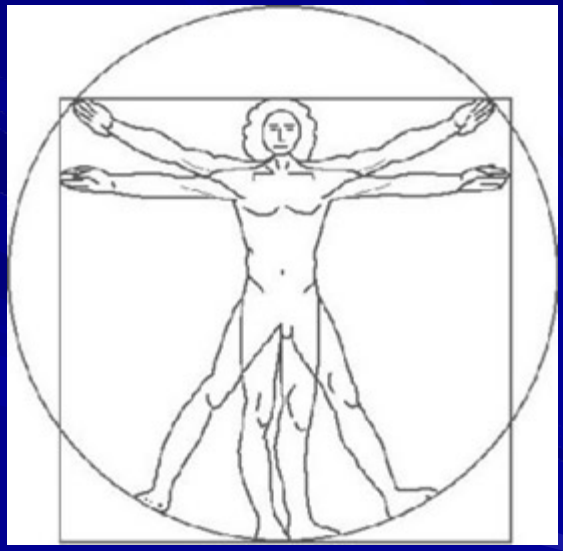
# The need for high reliability

- Reliability – the degree to which an action or test produces a consistent result
  - In CQI language: *Doing things right*
- Precision – whether or not the correct result was achieved
  - In CQI language: *Doing right things*

A high reliability process consistently achieves the correct outcome

# 4. Understand human factors and human nature

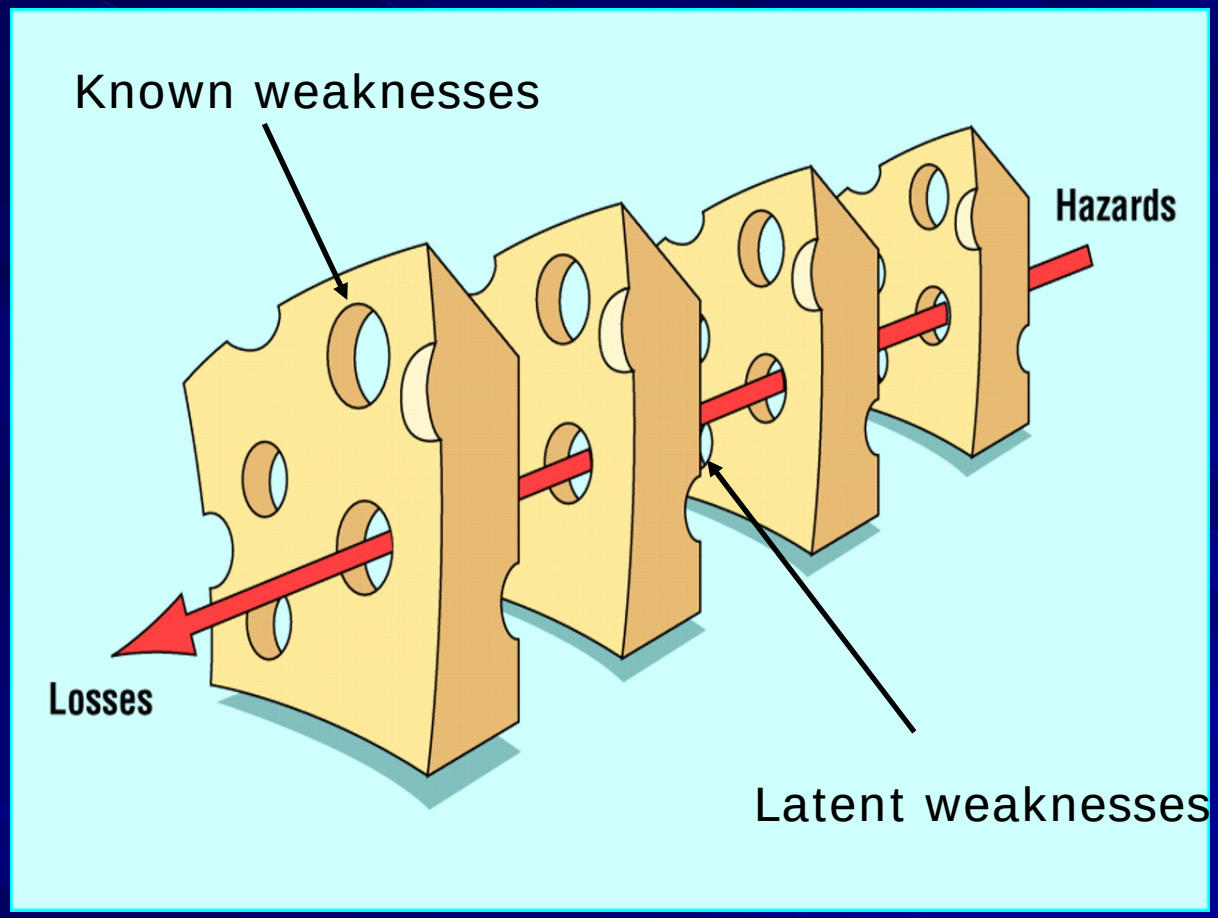
We are wired to detect change in the environment and then to do everything we can to oppose it.



# Start by defeating the BS fallacies

- “Quality costs too much”
- “It’s too subjective to measure”
- “It’s not my job”
- “We’ve always done it this other way”
- “Patient care is a craft not a production line”
- “My patient care is already above average”
- “My patients are just sicker”

# Swiss cheese model of system failure




- Distraction
- Autonomy desires
- Non standardization
- Inadequate processes
- Unanticipated events
- Schedule changes
- Random noise
- Communication
- Arrogance
- Cognitive errors
- Perceptual errors
- Busting the rules
- Being ‘creative’
- Not admitting failure was a possibility

Reason, J. BMJ 2000;320:768-770

# Response choices


- Reduce speed
- Not reduce speed
  - Distracted by another stimulus
  - Inattentive (spaced out)
  - Have valid reason to go faster
  - “Car doesn’t go that speed”
  - “Everybody else is speeding”
  - “You’re not the boss of me”

# 5. Motivate people to change

The only constant is change – help people get used to it.

# Implementation Science

Implementation research is the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care.

# Positive deviance


- Community invites change
- Community defines problem
- PDs are identified by observation and data
- Discovery of uncommon but effective practices
- Program design
- Monitoring and evaluation
- Scaling up

http://www.youtube.com/watch?v=Ad9suSYL6RU

# PD case example

- Jerry & Monique Sternin, Save the Children
- 65% of Vietnamese children malnourished in 1990s
- Invited population to identify families of well children (the positive deviants)
- These families added tiny shrimps, crabs and sweet potato greens, thought inappropriate for young children
- PD families fed children 4x/day instead of customary 2x/day
- Information shared with population
- After 2 years malnutrition fell by 85%, sustained over time
- Culture change process increased overall child nutrition in a sustainable manner

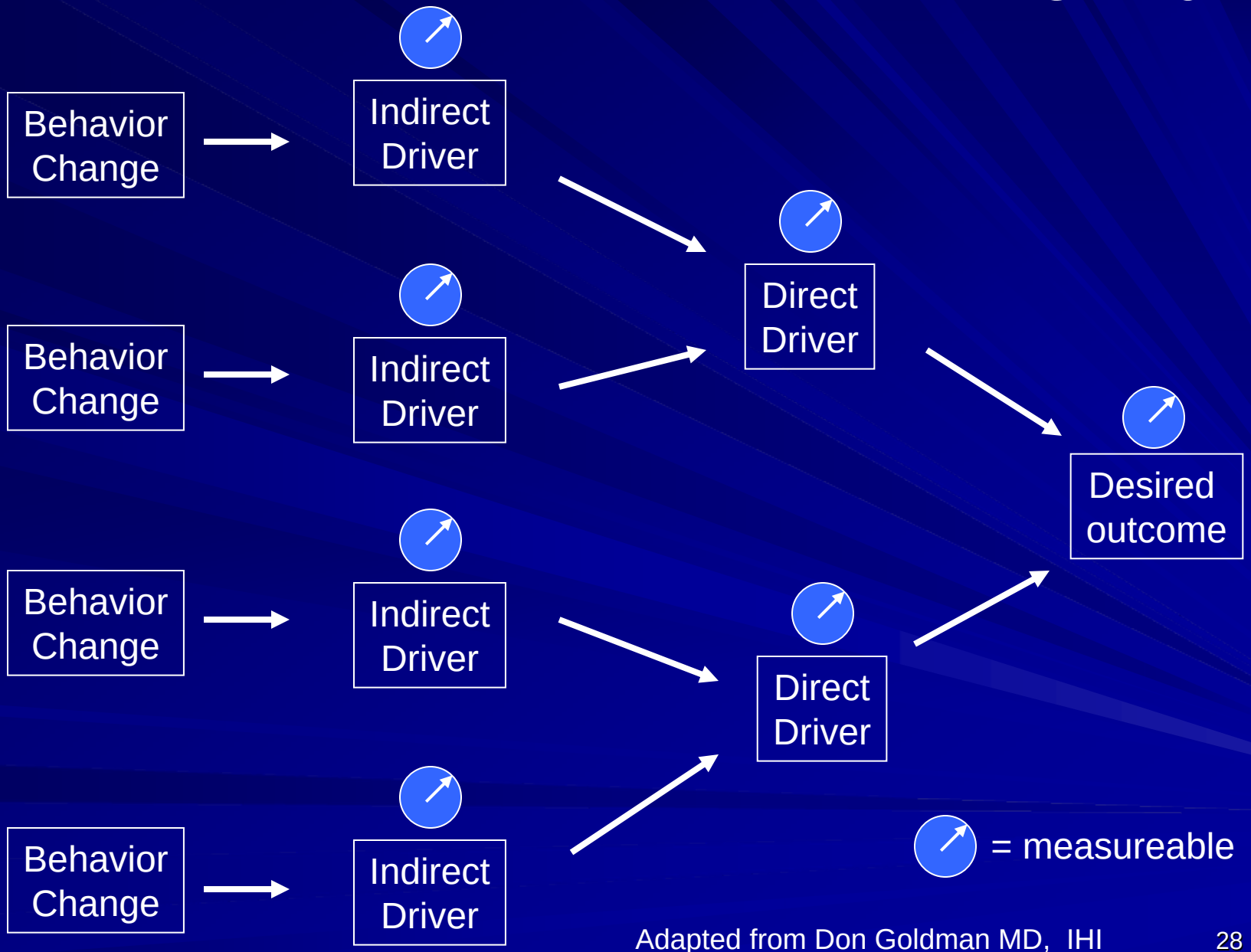
# 6. Worship data and drive to outcomes


It only counts if it can be counted

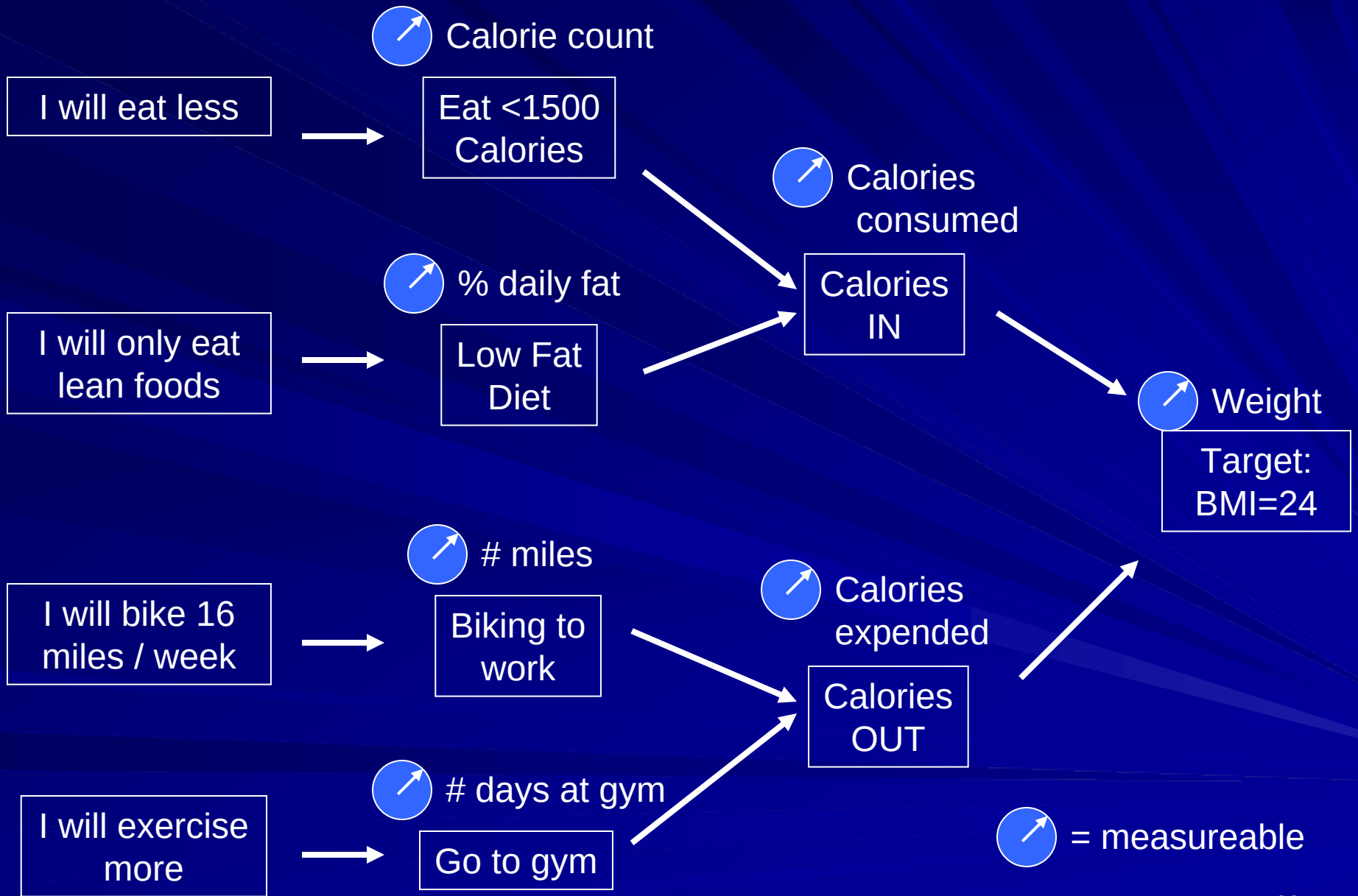
# You want an outcome

- Visualize the improved future
- Describe what is looks like and its requirements
- What primary drivers will bring that into outcome into existence?
- What secondary drivers power the primary drivers?
- Measure the drivers and manage the measures

# Driver Ed




Adapted from Don Goldman MD, IHI

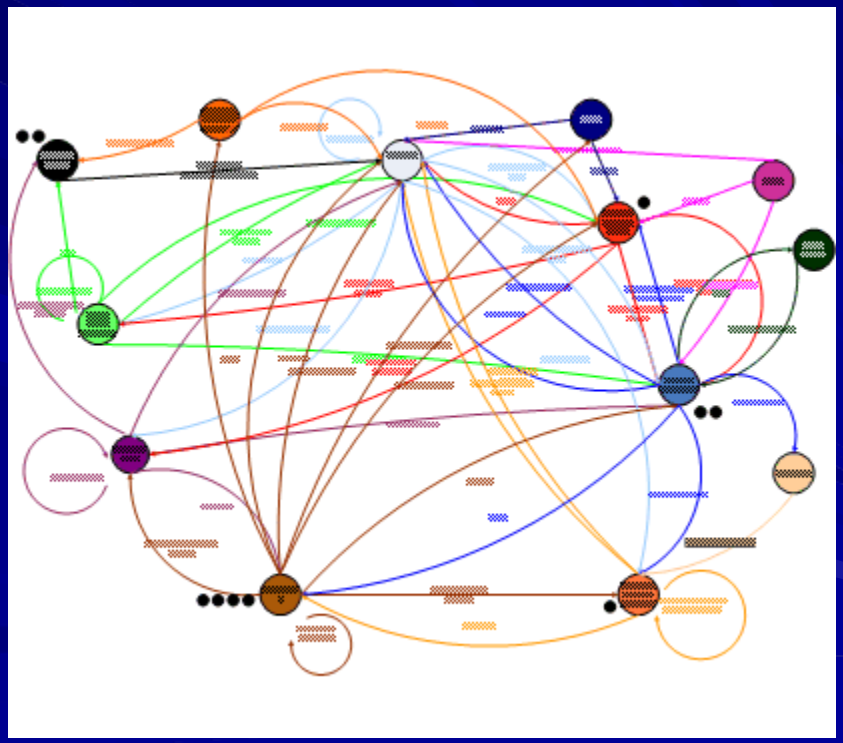

Calorie count
I will eat less
Eat <1500 Calories
Calories consumed
% daily fat
I will only eat lean foods
Low Fat Diet
Calories IN
Weight
Target: BMI=24
# miles
I will bike 16 miles / week
Biking to work
Calories expended
Calories OUT
# days at gym
I will exercise more
Go to gym
= measureable

# Use Bundles

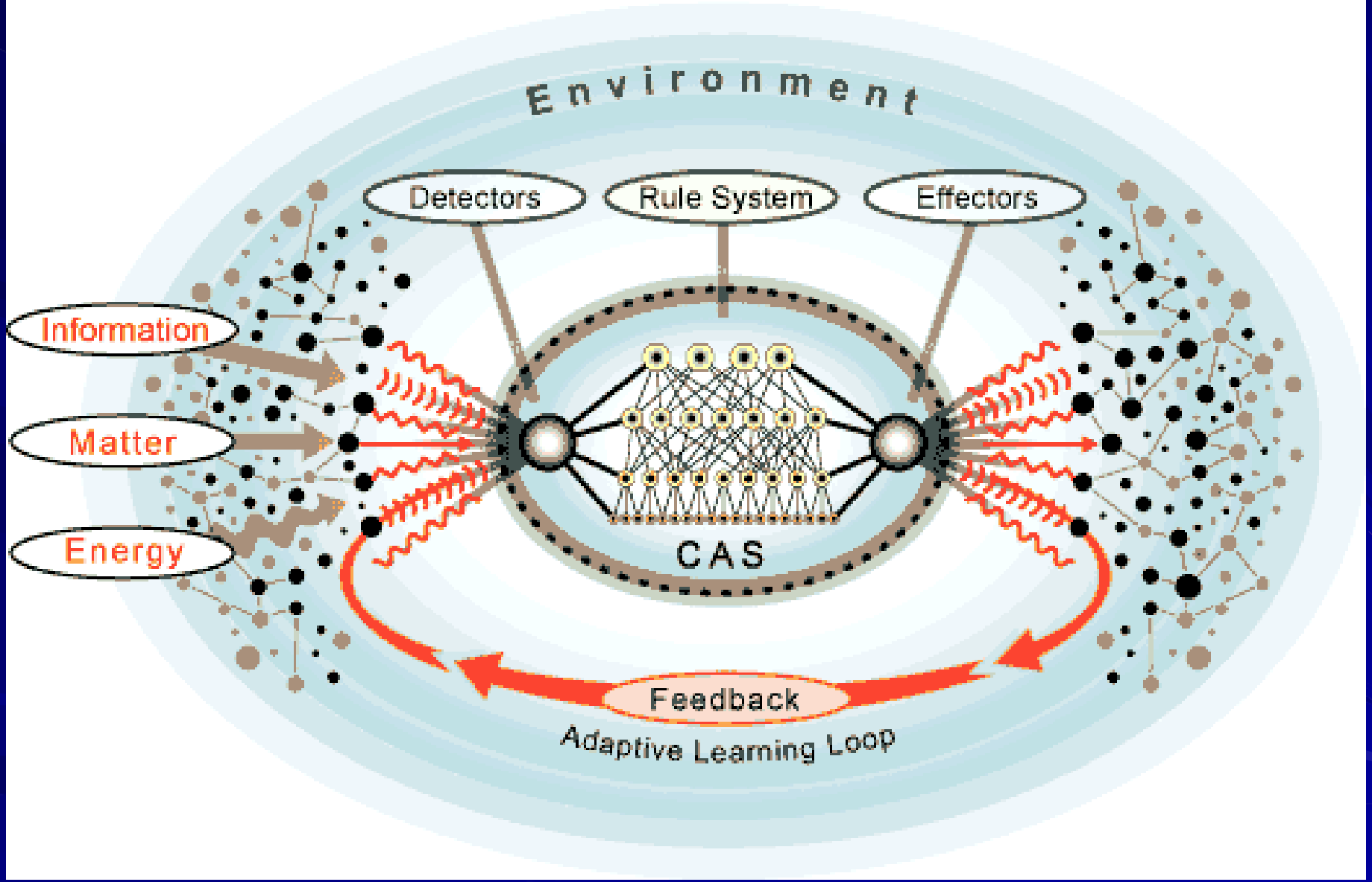
- Simpler than guidelines and policies
- Based on science – no discussion
- Scripted action sets with checklists
- Behaviorally anchored
- You either did it or you didn’t
- The bundle is an “all or none” approach that works
- Easily observed as compliant or not

# 7. Learn systems thinking

Sometimes influence is more powerful than direct action



# Complex Adaptive System (CAS) Model



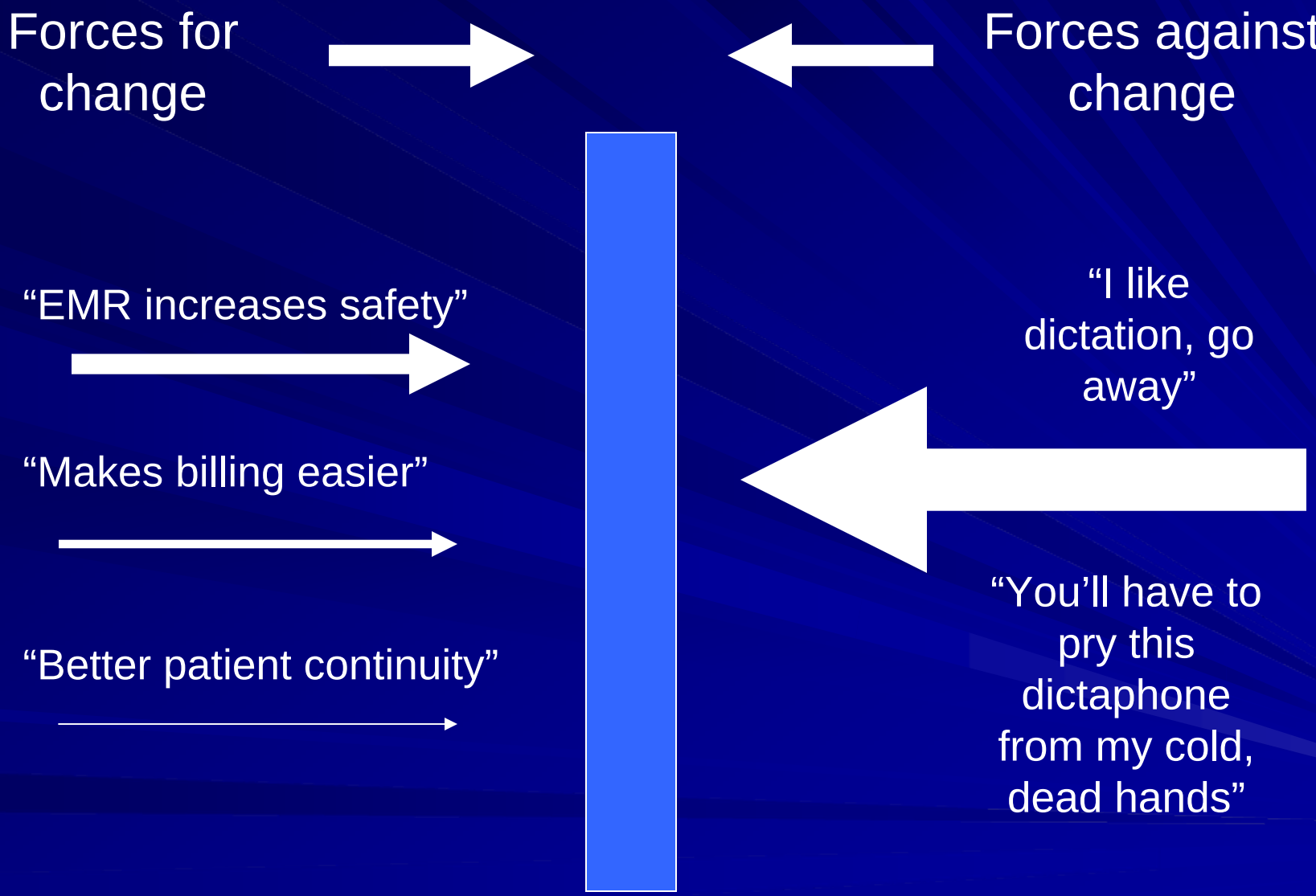
# Another complex adaptive system

# 8. Use behavioral change models

Individuals and groups are more likely to change when there is a coordinated alignment of interests

Before you try to change behavior, be sure you really understand it

# “We need to start direct entry into the EMR”



# Behavior change requires

- Understanding of why the change is necessary
- A compelling reason to do it now
- Alignment of what the person needs with the goal
- Support for the new behavior
- Multiple reinforcers
- Short term wins
- Consistency with other life values
- Sustained reinforcement for new lifestyle

# Two things need to change:

1. Individuals
2. Culture

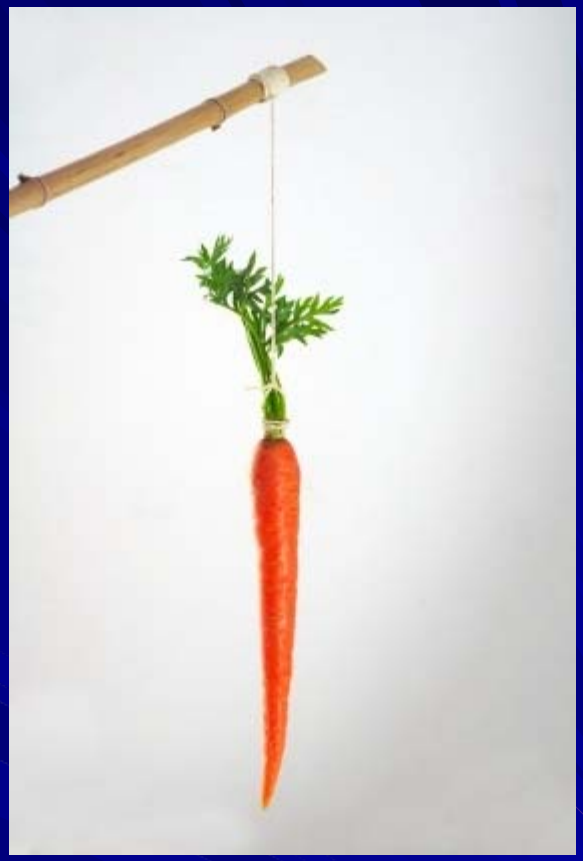
# Step 1: Motivating individuals What actually changes behavior?

- Altruism – the greater good
- Reinforcement – making it worthwhile
- Alignment of interests – common ground
- Defeating competing values
- Facilitating functions: making it easier to do the right thing
- Forcing functions: making it harder to do the wrong thing
- Self interest – avoiding pain

# Altruism: the greater good

- Physicians are remarkably altruistic
- Cynicism is grieving the loss of altruism, and it differs from withdrawal
- Appreciative Inquiry may link the physicians with his original passions
- Don’t give up on finding the pilot light

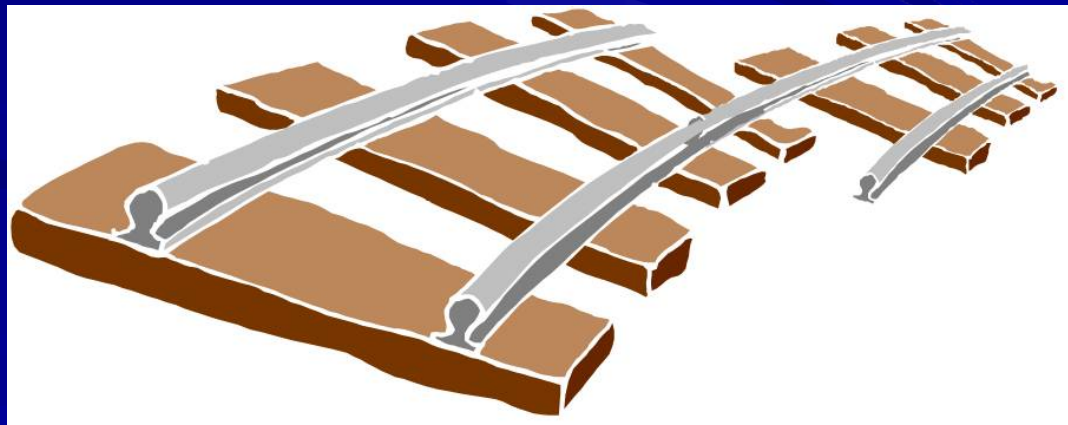
# Reinforcement: making it worthwhile



- Positive reinforcement – rewarding outcome
  - Praise
  - Recognition
  - Resources
  - Space
  - Additional compensation

# Alignment of interests: common ground

- What are the values which drive this physician forward?
- How do they link to the organization's mission, vision and values
- Is there a way to allow the physician the time and space to articulate his or her values?



# Defeating competing values

- Why is quality a problem?
- Is anyone really interested in promoting medical error and poor care?
- We commit to other values and then are loyal to them

# Facilitating functions: making it easier to do the right thing

- Facilitating functions work with the flow
- They gently guide choices by aligning the natural interests of the individual

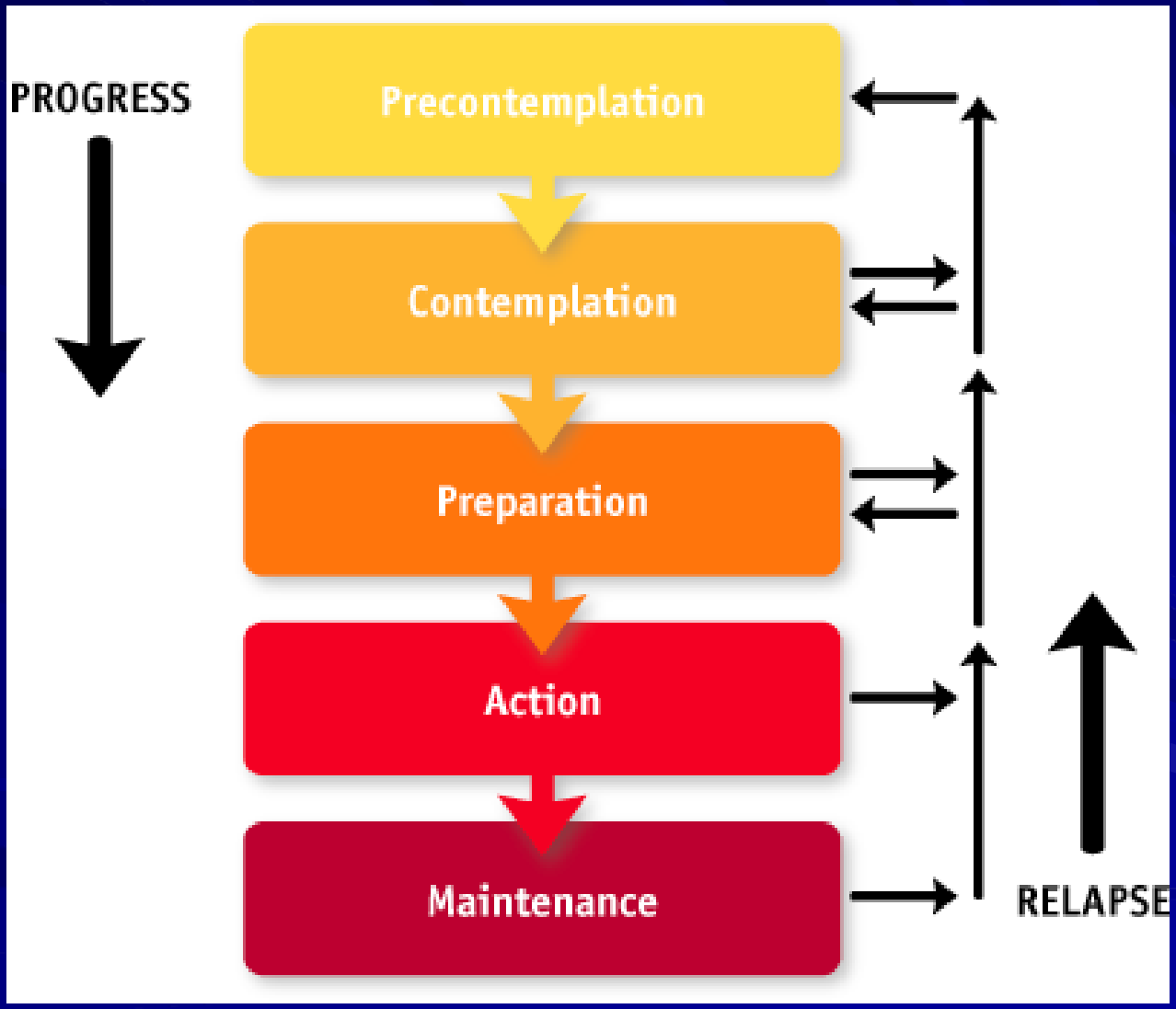
# Forcing functions: making it harder to do the wrong thing


- Forcing functions take away options
  - You really have to deal with this before you can move on
  - You only have one choice
  - The wrong thing is very unattractive or costly

# Self interest – avoiding pain


- You have choices, but a few of them are going to really make you feel bad

# Transtheoretical Model

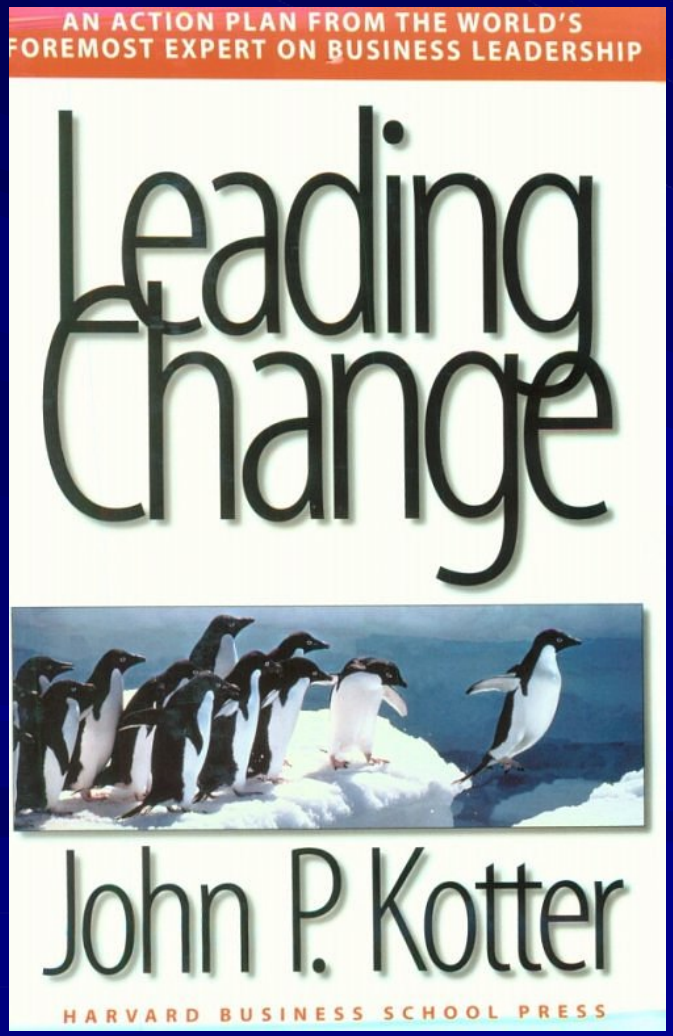


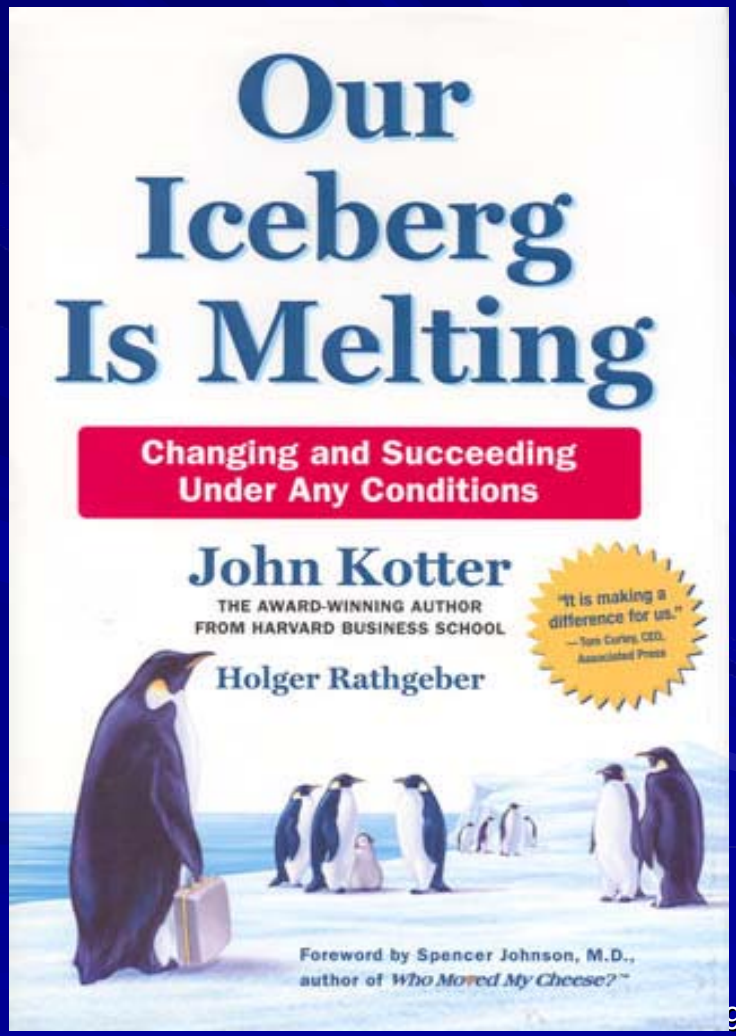

Prochaska & DiClemente, 1983

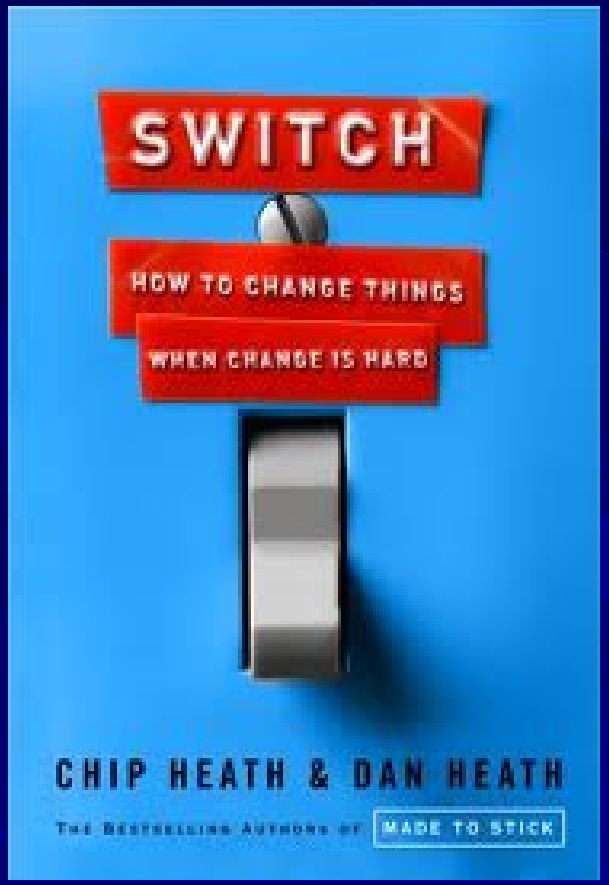
# Step 2: Changing Culture

The current heavily guarded status quo is the same feared future that was defended against last year

# Reading on Culture Change

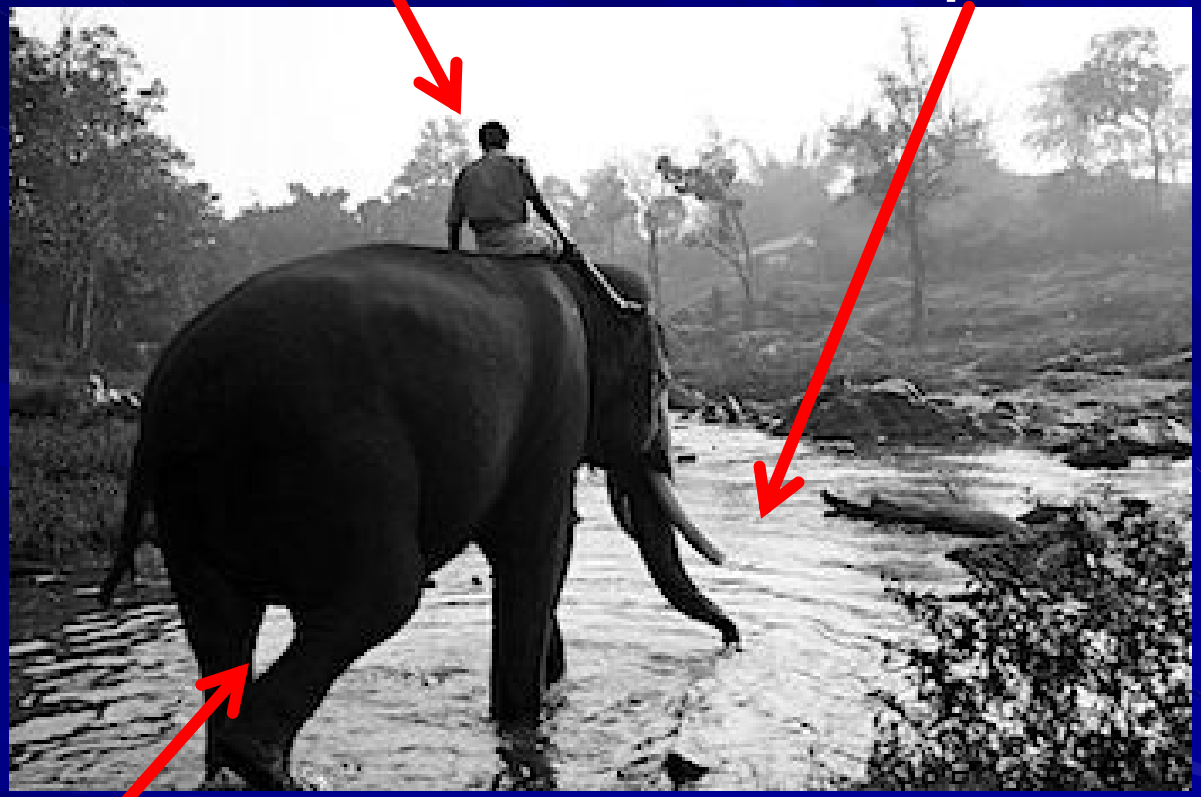





rider

path



elephant



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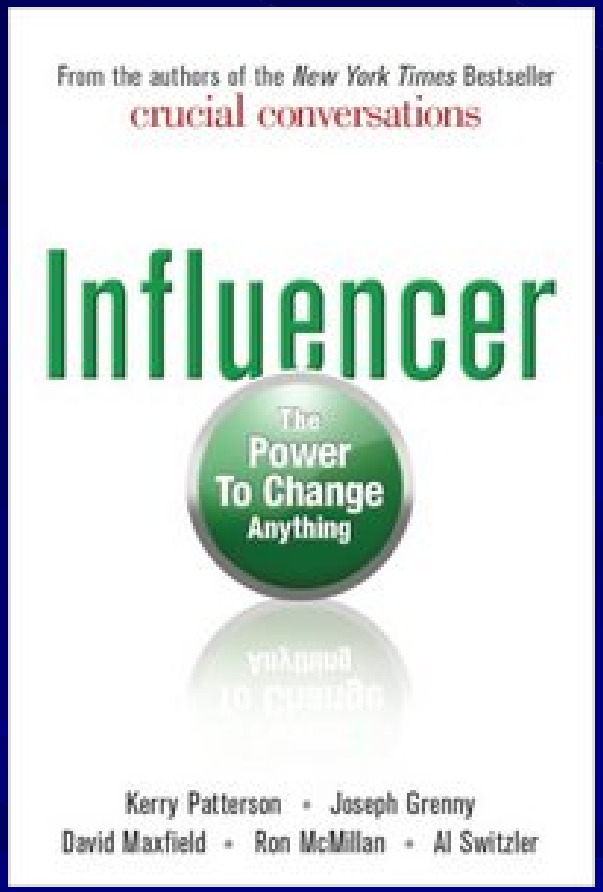
# Influencer




| | Motivation | Ability |
|---|---|---|
| Personal | 1 Make the Undesirable Desirable | 2 Surpass Your Limits |
| Social | 3 Harness Peer Pressure | 4 Find Strength in Numbers |
| Structural | 5 Design Rewards and Demand Accountability | 6 Change the Environment |

INSTITUTE FOR HEALTHCARE IMPROVEMENT

**Innovation Series 2007**

# Engaging Physicians in a Shared Quality Agenda


**1. Discover Common Purpose:**

- 1.1 Improve patient outcomes
- 1.2 Reduce hassles and wasted time
- 1.3 Understand the organization's culture
- 1.4 Understand the legal opportunities and barriers

**2. Reframe Values and Beliefs:**

- 2.1 Make physicians partners, not customers
- 2.2 Promote both system and individual responsibility for quality

**3. Segment the Engagement Plan:**

- 3.1 Use the 20/80 rule
- 3.2 Identify and activate champions
- 3.3 Educate and inform structural leaders
- 3.4 Develop project management skills
- 3.5 Identify and work with "laggards"

**4. Use "Engaging" Improvement Methods:**

- 4.1 Standardize what is standardizable, no more
- 4.2 Generate light, not heat, with data (use data sensibly)
- 4.3 Make the right thing easy to try
- 4.4 Make the right thing easy to do

**5. Show Courage:**

- 5.1 Provide backup all the way to the board

**6. Adopt an Engaging Style:**

- 6.1 Involve physicians from the beginning
- 6.2 Work with the real leaders, early adopters
- 6.3 Choose messages and messengers carefully
- 6.4 Make physician involvement visible
- 6.5 Build trust within each quality initiative
- 6.6 Communicate candidly, often
- 6.7 Value physicians' time with your time

IHI Engaging Physicians in a Shared Quality Agenda

# Putting it all together

What does it take to make a sustainable change in quality?

# Hand sanitization example

1. I must first *be aware* that there is a problem
   - Reflection, benchmarking, networking
2. I must *understand* the problem
   - What are the causal chain elements, antecedents and consequences
3. I must believe it is both *important* and a *priority*
   - Competing values must be defeated
4. I must appreciate the *consequences of failure*
   - Alignment of interests, appreciation of bad outcomes
5. I need to *remember to do it*
   - Behavioral cues to make it easy to focus
6. The materials needed must be *convenient*
   - Make it easy (convenience = compliance)

# Hand sanitization example (2)

7. I need to do it *effectively and consistently*
   - Mindfulness to technique, reliability in performance
8. I must be *reminded* (compelled) if I forget
   - Behavioral reinforcers and forcing functions
9. I must be *occasionally rewarded* for doing it
   - Intermittent reinforcement is the best teacher
10. It must be *measurable* and I must *see the measures*
    - What I am doing must make a difference in outcomes
11. I must *feel the accomplishment* of preventing harm
    - What I am doing must make a difference to patients

# Homework

- Make good on your personal commitment to patient safety
- Become your organization's Safety Officer
- Do the AHRQ Culture of Safety survey at multiple levels and discuss the results
- Learn to use the IHI Global Trigger Tool

“A small group of thoughtful people could change the world. In fact, it’s the only thing that ever has.”

Margaret Mead

# Table Task

- Pick a persistent safety issue
- Detail the current state: the reasons the safety issue persists
- Use the methods we've discussed to plan an effective, persistent change
- Demonstrate why the change can happen
- Defend why it will persist in the new, changed culture
- Summarize the reasons why you think you will be successful