



THE CARROT OR STICK? USING HEALTHCARE-ASSOCIATED *C. DIFFICILE* INFECTION RATES AS A PERFORMANCE MANAGEMENT TOOL

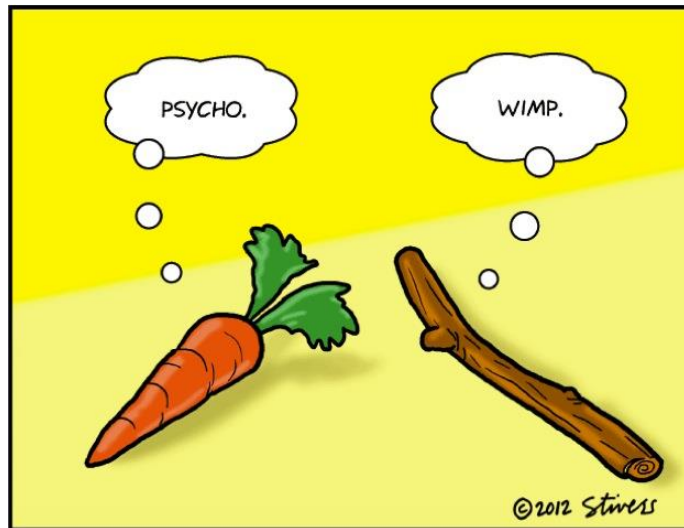
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@ffitzP

OUTLINE

- **Performance Management and Measurement in Healthcare**



- **Communicating with Decision Makers**
 - A personal reflection

PERFORMANCE MANAGEMENT AND MEASUREMENT IN HEALTHCARE

**“IN GOD WE TRUST-
ALL OTHERS BRING DATA.”**

W. E. DEMING

**“YOU CANNOT MANAGE WHAT
YOU DON'T MEASURE.”**

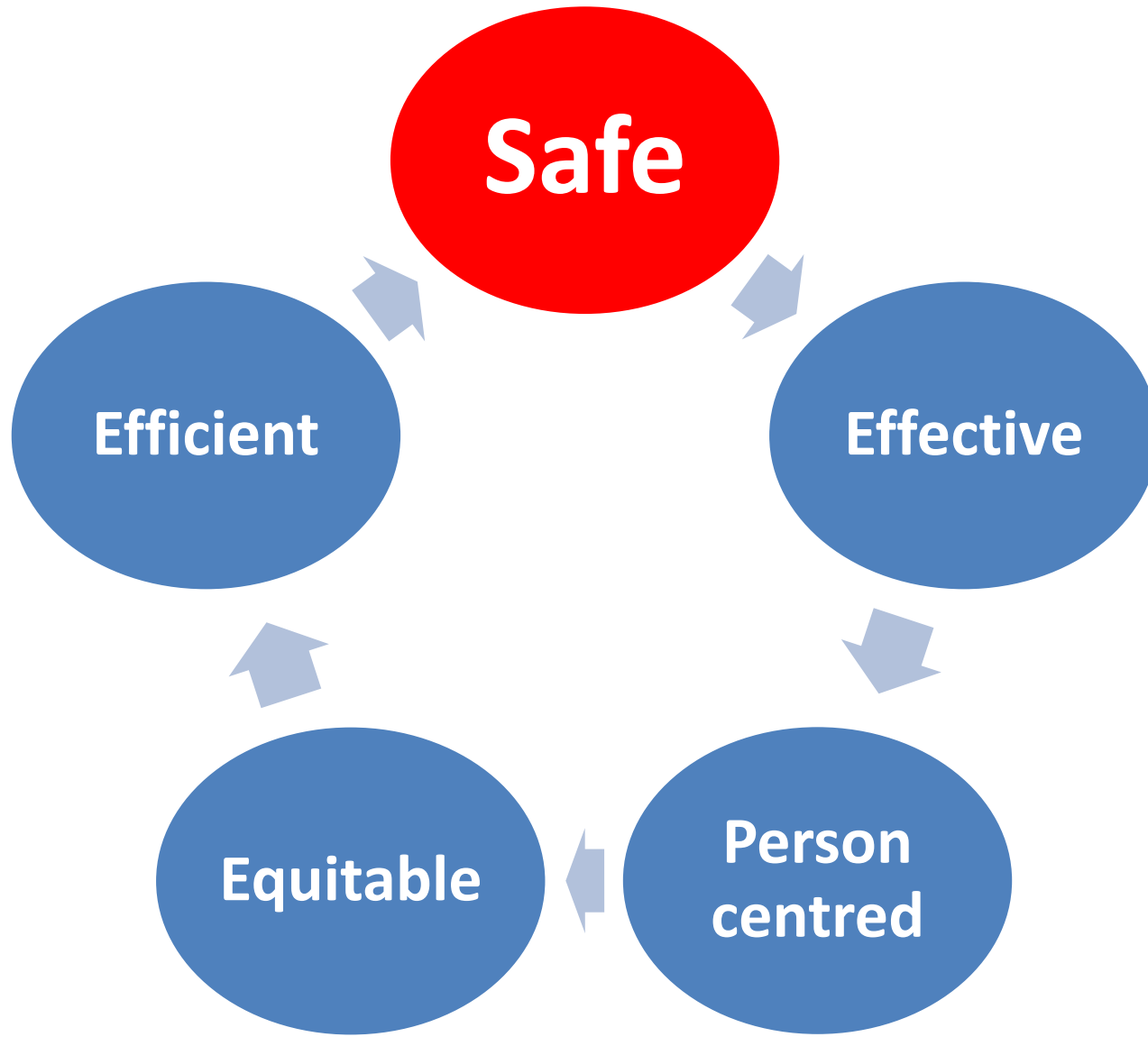
W. E. DEMING

**“The problem with measurement is that it
can be a loaded gun
- dangerous if misused
- at least threatening if pointed in the
wrong direction”**



RCSI

5 DOMAINS OF HEALTHCARE QUALITY



MEASURING HEALTHCARE-ASSOCIATED INFECTION (HCAI) AS A QUALITY INDICATOR

- Increased public and political pressure
 - **Quality** indicators
 - Healthcare acquired infection rates
- HCAI as an adverse event
 - ? Towards zero infection rates

MEASURING HEALTHCARE-ASSOCIATED INFECTION (HCAI) AS A QUALITY INDICATOR

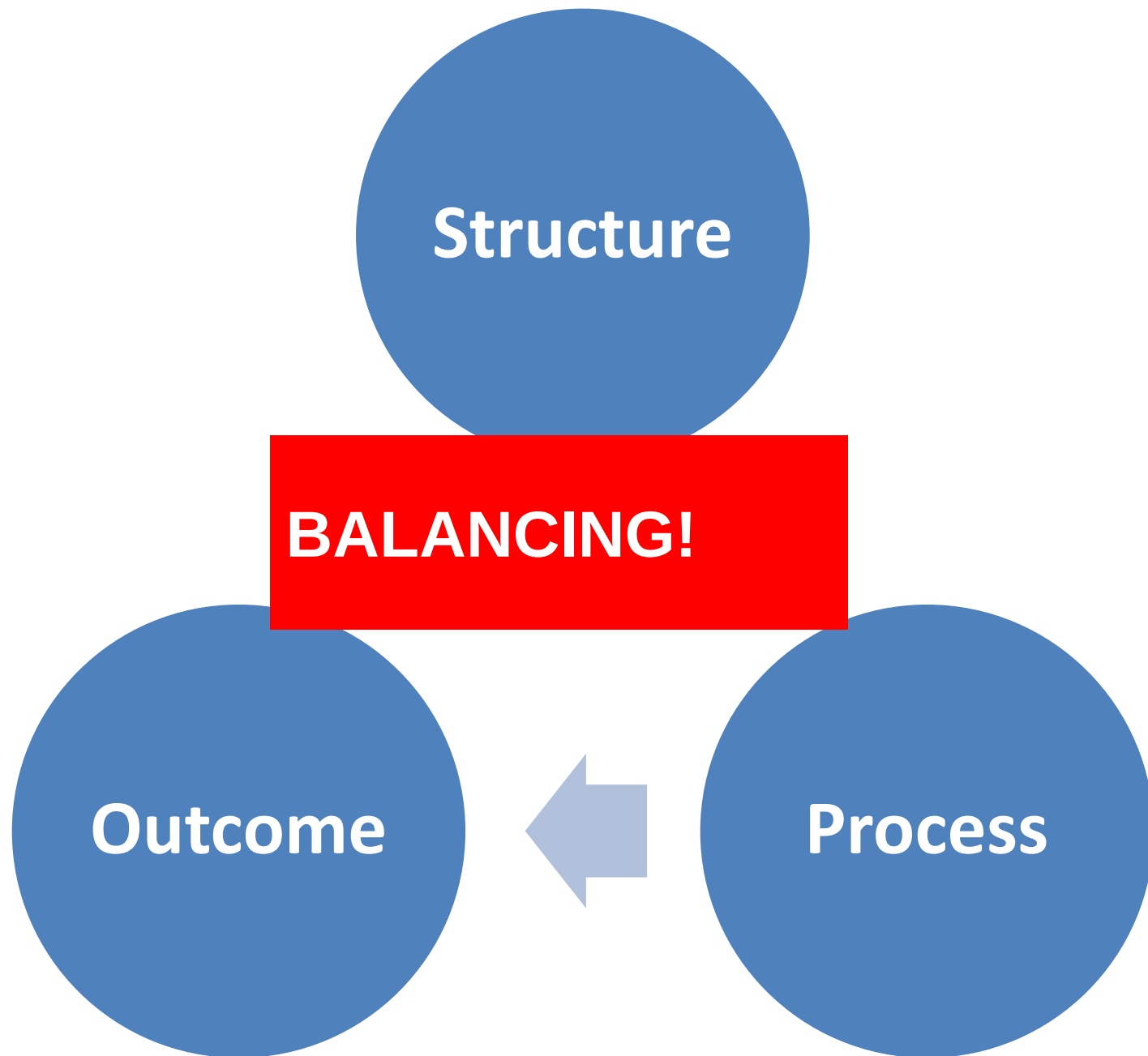
- Marker of system failure in hospitals
- Proxy indicator
 - Levels of staffing
 - Training
 - Organizational stress
 - Management failure
 - Inadequate systems

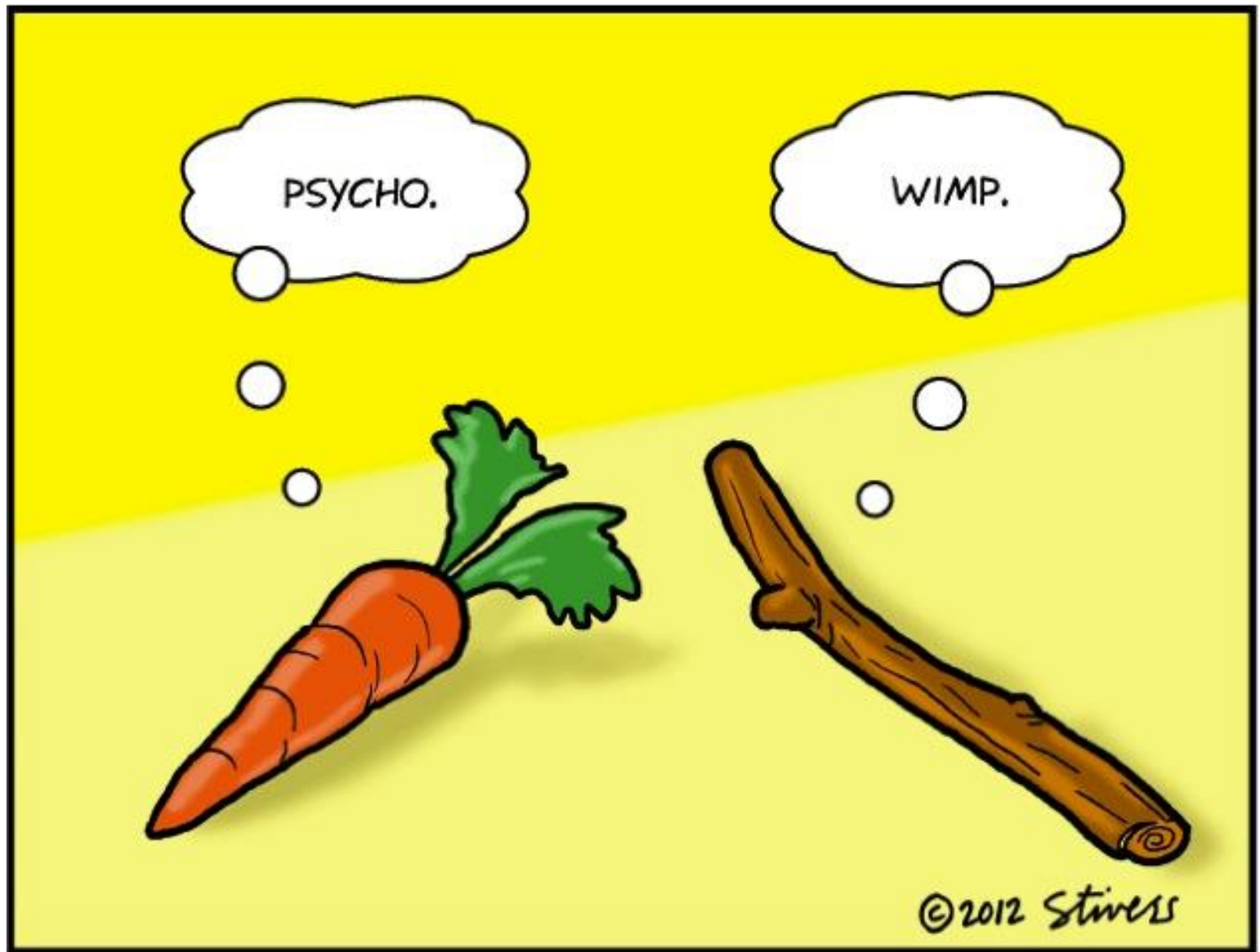
MONITORING AND IMPROVING QUALITY

- 1. Regulatory inspection**
- 2. Surveys of consumer experiences**
- 3. Third-party assessments**
 - Peer review, accreditation, ISO certification**
- 4. Key performance indicators.**

KEY PERFORMANCE INDICATORS (KPI)

- Tool to assist performance monitoring
 - **Specific** and **measurable** elements of practice used to assess quality of care.
- Measure performance by
 - Showing trends
 - Comparing results against standards or other similar organisations.





THE STICK?



- Top down
- Mandates $\pm$ Legislation
- Targets $\pm$ penalties
- Public reporting

1. TARGETS

- **Goal setting leads to higher performance that ‘do your best’ encouragement**
- **Participation in target setting improves ownership**
- **Balance realism vs ambitious**
- **Too many targets become meaningless**
- **Incentives linked to targets can backfire**
- **Need to be vigilant for unintended consequences**

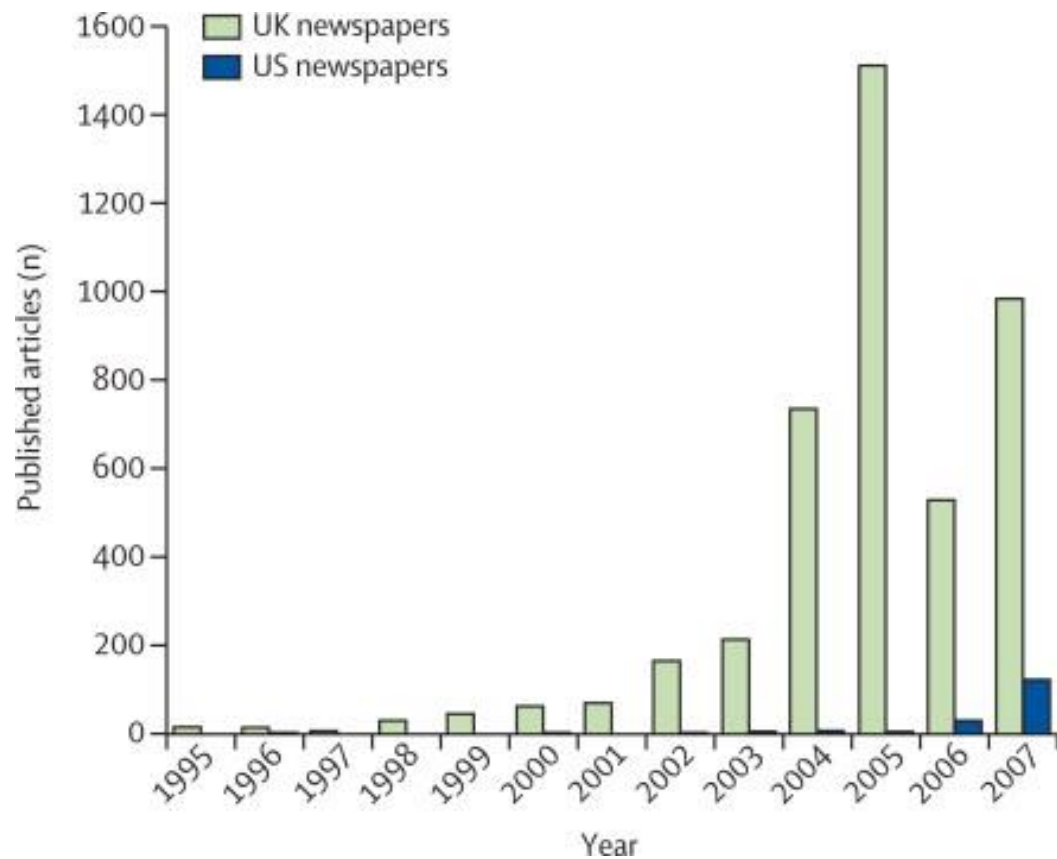
PROBLEMS WITH TARGETS

- **Less priority if an area not covered by a target**
- **Gaming**
- **Clinical disengagement**

FEB 2015: HEALTH FOUNDATION BLOG

- ‘Targets and their close companion, performance management*more impact on NHS performance in the last 15 years that any other policy leaver*, including patient choice, competition, regulation, reorganisation and transparency’
- ‘Clear targets and strong performance management in England and Scotland *lower healthcare associated infection rates*’

2. PUBLIC REPORTING



PUBLIC REPORTING OF HCAI

	USA	England	France	Germany
Voluntary national surveillance systems for nosocomial infections introduced	1970 ¹	1996 ²	1995 ³	1997 ⁴
Surveillance of HCAs first mandated	2003 ⁵	2001	-	2000
Confidential reporting of HCAI indicators first mandated	2005 ⁶	-	-	2006
Public reporting of HCAI indicators first mandated	2003 ⁵	2001	2004	-
HCAI indicators first publicly reported	2005 ⁷	2002	2005	-
National HCAI indicator target first set	-	2004	2005	-
HCAI indicator target first set for individual institutions	-	2004	-	-

¹National Nosocomial Infections Surveillance System; since 2005, National Healthcare Safety Network.

²Nosocomial Infection National Surveillance Scheme; since 2002, Surgical-Site Infection Surveillance Scheme.

³Inter-regional networks.

⁴Krankenhaus-Infektions-Surveillance-System.

⁵Illinois and Pennsylvania.

⁶Nevada and Nebraska.

⁷Pennsylvania.

WHAT TO REPORT?

OUTCOMES

	USA*	England	France	Germany
Incidence of MRSA BSI	Public	Public Target	Target	Mandatory
Incidence of central-line-associated BSI	Public	..	Voluntary Target	Mandatory
Incidence of <i>Clostridium difficile</i> infection	Public	Public Target	..	Voluntary

PUBLIC REPORTING OF OUTCOMES

- What the public want
- Outcome (the infection)
- Usually surveillance data used
- How to meaningfully compare hospitals/units?
- Difficulties
 - Definitions (eg VAP) / case finding / diagnosis (CDI)
- How to communicate this publically?

PROCESS + STRUCTURE

- Describe events that are more common than HCAI
- Needs to be linked to an outcome!!
- Clear targets (eg, 100% adherence)
- Usually no need to risk adjust
 - Composite indicators (France) / Balanced score cards (UK)

HOW CAN PUBLIC REPORTING WORK?

- **Change patient selection**
 - Encourage patients to select higher performing institutions
- **Stimulus for improvement**
 - Identify areas of poor performance
- **Preserve reputation**
 - Motivate to avoid shame of a bad performance report / seek the pride of a good report

PUBLIC REPORTING

- **An incentive for hospitals to reduce HCAI?**
 - Little evidence^{1,2}
 - Increased quality improvement measures in hospitals³
- **Informs consumer choice?**
 - Little evidence⁴

1. *Am J Infect Control.* 2006; 34: 142–149
2. *Infect Control Hosp Epidemiol.* 2005; 26: 580–587
3. *Ann Intern Med.* 2008; 148: 111–123
4. *J Hosp Infect.* 2007; 65: 182–188

PUBLIC REPORTING - CONCERNS

- **Inappropriate focus on what is being assessed ¹**
 - **Skewing of priorities – neglect other aspects of patient safety**
- **Avoidance of invasive procedures in high-risk patients where they may have been warranted ²**
- **Fear of being punished – deliberate under reporting ³**

1. JAMA. 2000; 283: 1866–1874

2. Ann Intern Med. 2008; 148: 111–123

3. K. Yuji, G. Oiso, T. Matsumura, N. Murashige, M. Kami. Police investigation into multidrug-resistant *Acinetobacter baumannii* outbreak in Japan. Clin Infect Dis, 52 (2011), p. 422

TICKING THE BOX AND MISSING THE POINT

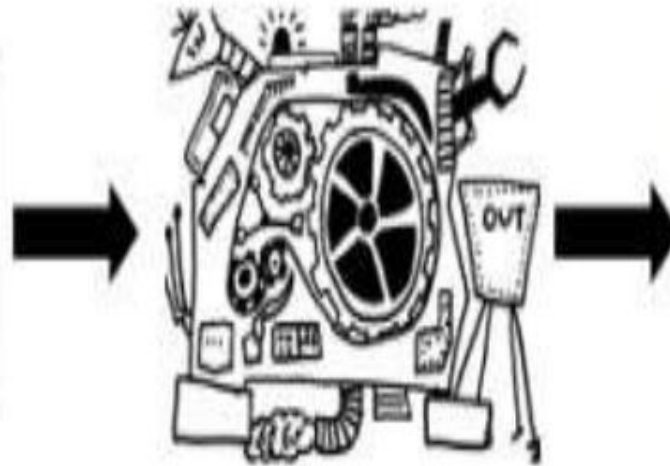


- WK Alston. Pitfalls of public reporting, *Infect Control Hosp Epidemiol*, 31 (2010), pp. 985–986
- A Likierman The five traps of performance measurement *Harv Bus Rev*, 87 (2009), pp. 96–101
- MP Muller, AS Detsky. Public reporting of hospital hand hygiene compliance-helpful or harmful? *JAMA*, 304 (2010), pp. 1116–1117

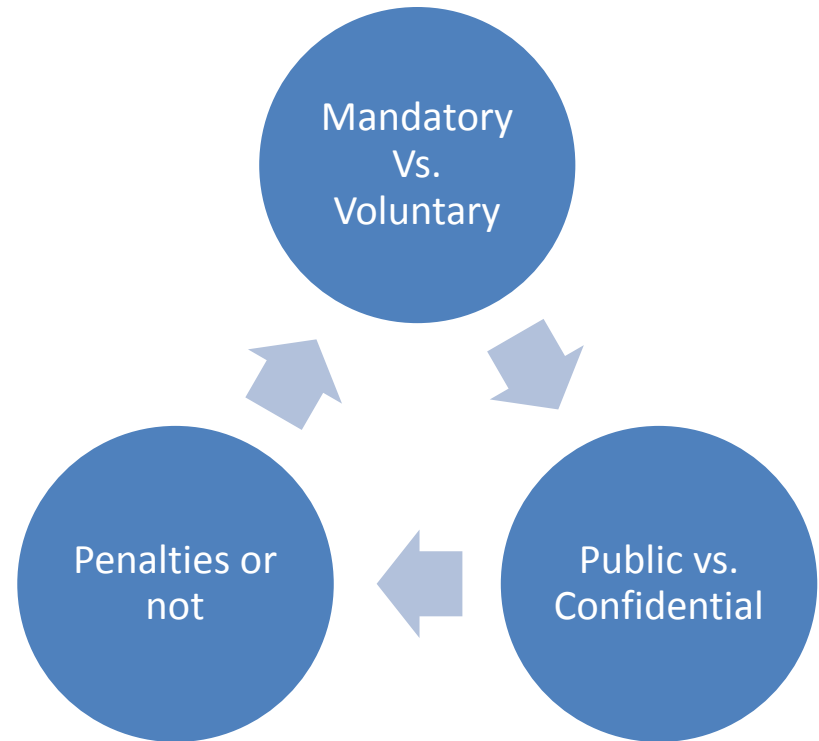
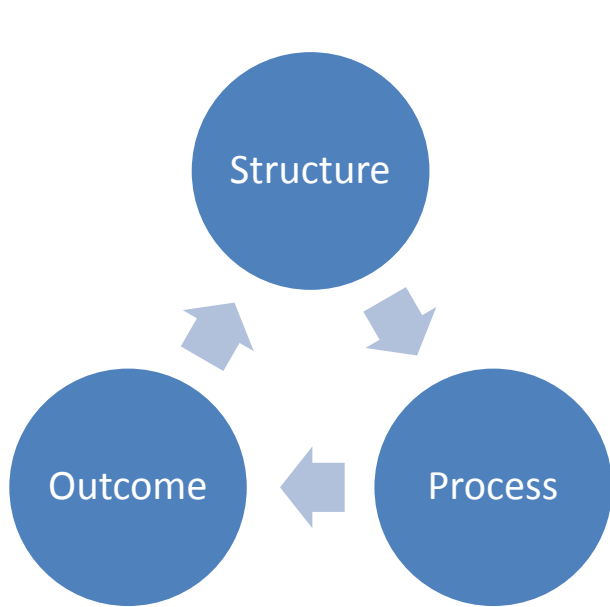
Healthcare

Input

What the machine hears



"A 95th percentile of A&E patients must be admitted, discharged or transferred within four hours of arrival in the department"



SO WHAT DO YOU PICK?

	Outcome		Process/ Structure	
	Confidential		Public	Public
	Voluntary	Mandatory	Mandatory	Mandatory,
Evidence strength for benefit	High	Low	Low	Low
Relevance + intelligibility	High	High	High	Low
Data representativeness/ completeness	Low	High	High	High
Increase commitment of hospital leadership to combat HCAI	Low	Low	High	High
External reinforcement for organisational change	Low	Low	High	High
Satisfaction of the public's and patients' demands	Low	Low	High	Variable

	Outcome		Process/ Structure	
	Confidential		Public	Public
	Voluntary	Mandatory	Mandatory	Mandatory
Disadvantages				
Workload	High	High	High	Low
Risk of skewing of priorities	Low	High	High	High
Risk of misinterpretation by public and the media	Low	Low	High	High
Risk of under-reporting and gaming	Low	Low	High	High

DOES PUBLIC REPORTING REDUCE HCAI?

- **Little scientific evidence**
- **Increase**
 - Alcohol hand rub consumption (France)
- **Reductions**
 - MRSA / CDI / SSI (England)
 - UTI / pneumonia / BSI / SSI (Pennsylvania)

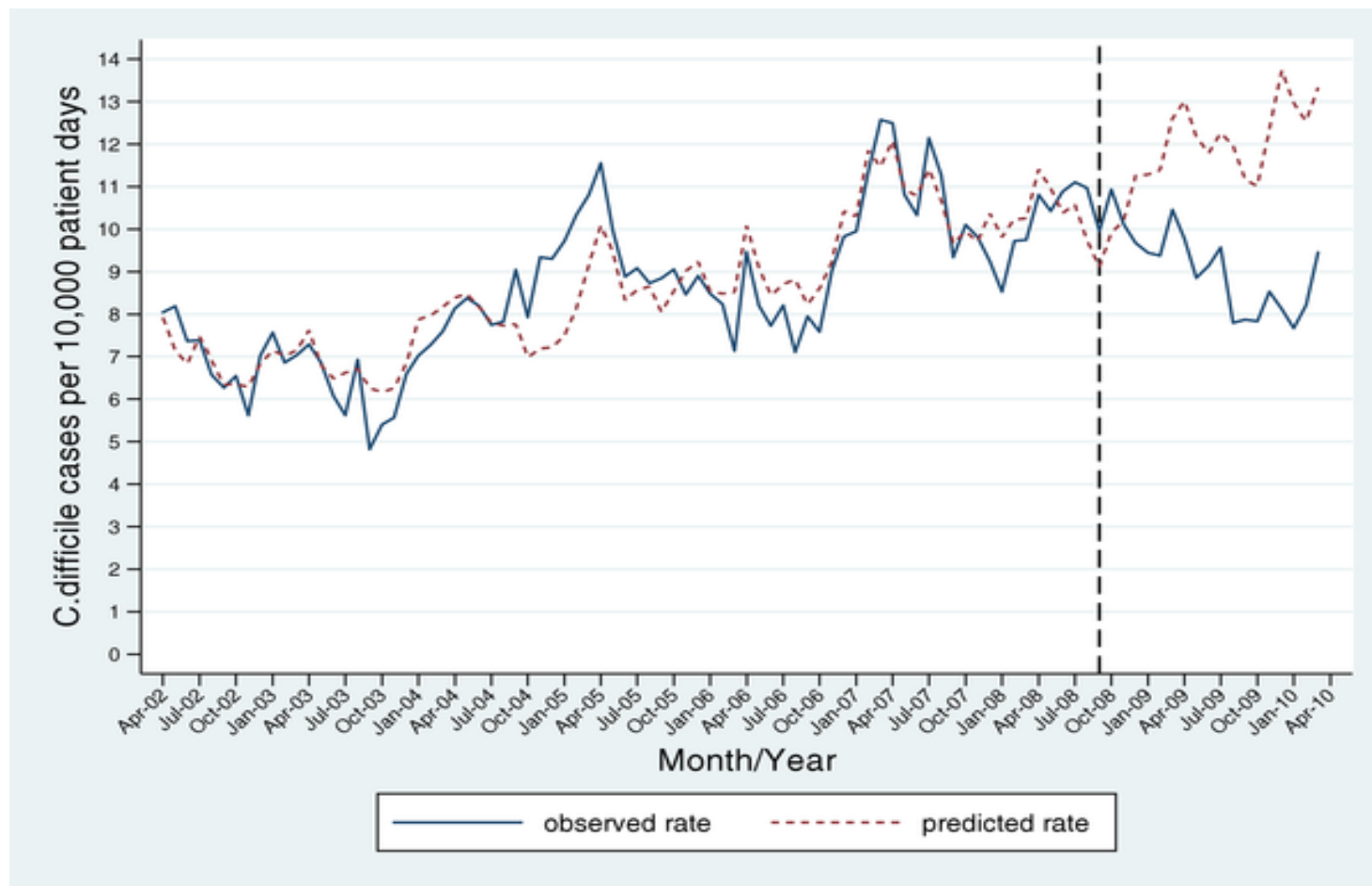
However

- MRSA reductions in other countries without public reporting
- Other factors in above countries – infection control infrastructure improvements / campaigns / political pressure

PUBLIC REPORTING IS GOOD FOR INFECTION PREVENTION?

- **External reinforcement**
- **Change in organisational culture of healthcare institutions**
- **Increased infection prevention activity**

ONTARIO, CANADA



Reduction in *Clostridium difficile* infection rates after mandatory hospital public reporting: findings from a longitudinal cohort study in Canada
PLoS Med, 9 (2011), p. e1001268

- **Elevated *C. difficile* to greater prominence on hospital quality improvement agendas**
- **Motivated hospitals to adhere more closely to best practices in *C. difficile* prevention.**

VIEWS FROM ENGLAND

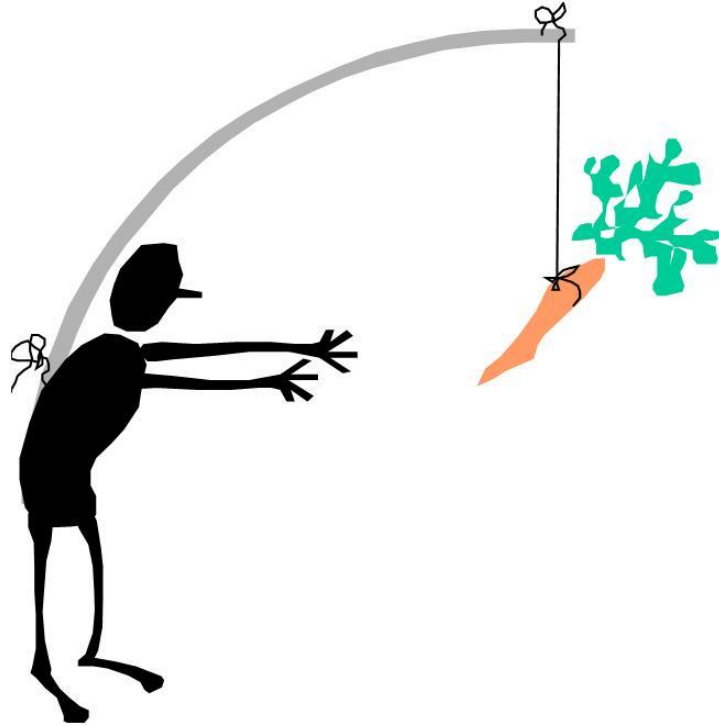
‘No doubt that public reporting and the targets have been effective at the national level in England’.

- **‘When organizational action is required
.....ensuring engagement at high levels in
management structures, something that surveillance
alone has often failed to achieve’**
- **Infection prevention and control teams now have
access and influence at levels thought unimaginable
in the year 2000.**

PUBLIC REPORTING IN DEVELOPING COUNTRIES?

- Call for public reporting in India
- Legislation
 - **Force** policy makers / administration / healthcare staff to tackle the problem
 - Public pressure to **force** government to increase funding for resources + infrastructure

THE CARROT?



- **Voluntary Reporting**
- **Professionalism**
- **Bottom up innovation**
- **Quality Improvement**



**I have a plan –
here are some key performance indicators for you**

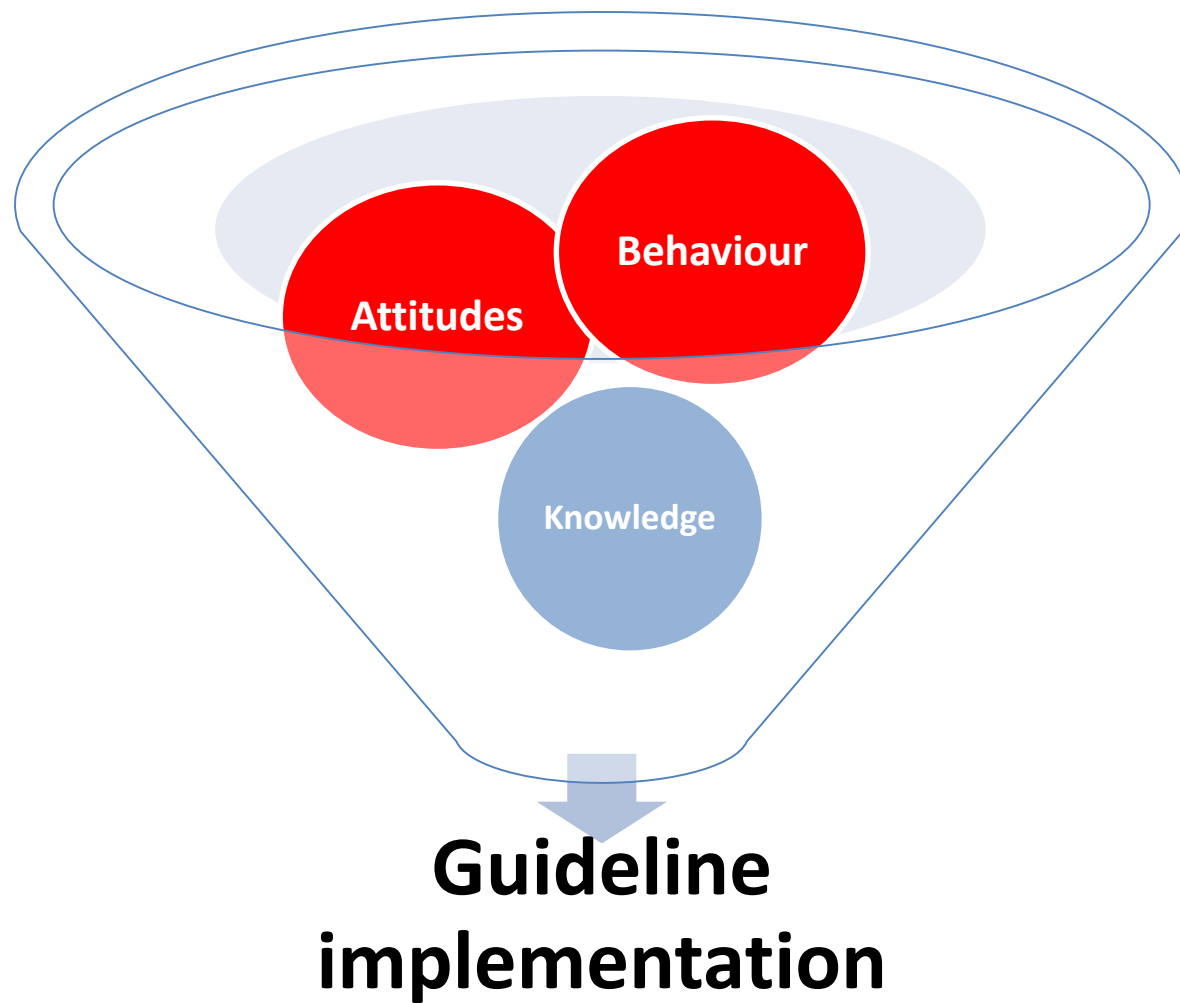


I have a dream....



**“YOU CANNOT SOLVE
A PROBLEM USING
THE THINKING THAT
GOT YOU THERE”**

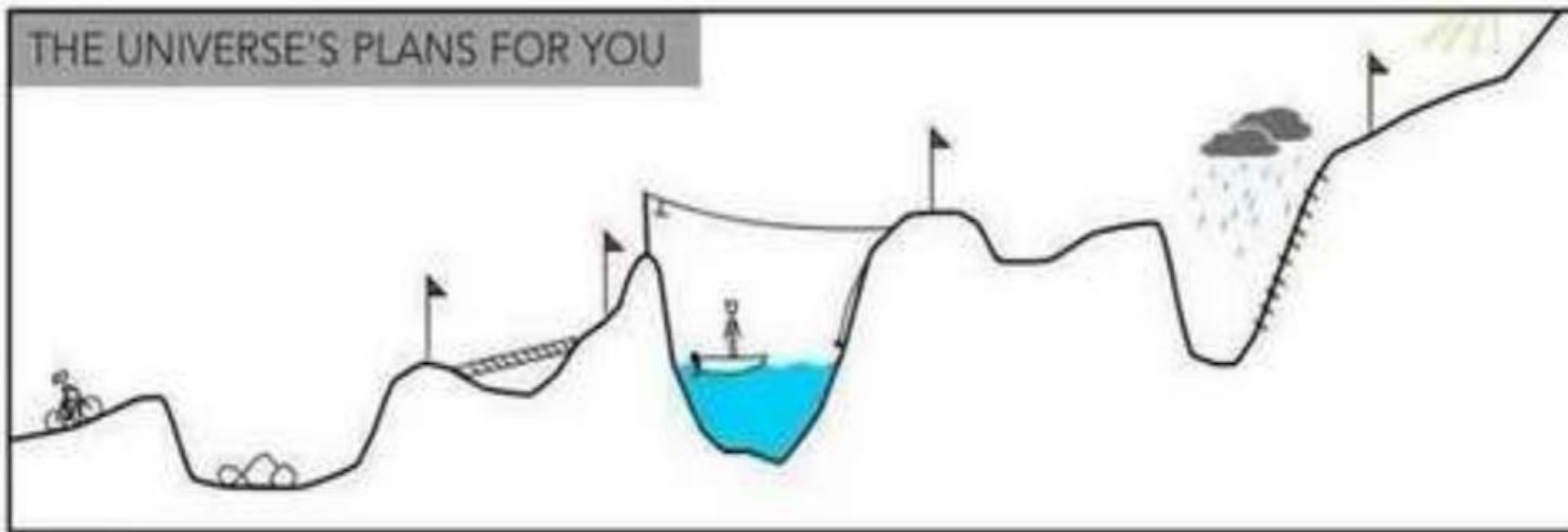
Albert Einstein



YOUR "PLANS"



THE UNIVERSE'S PLANS FOR YOU



DON'T UNDERESTIMATE CULTURE & BEHAVIOUR



http://www.youtube.com/watch?feature=player_embedded&v=HYfW7LJ4nDE

rk

OWNERSHIP

Am J Infect Prevent & Control 2011: 38(8):685-89

- ‘If people cannot take care of a problem they wont see a problem’

**Why do we rely / hope that staff
will just follow a list of
instructions?**



POSITIVE DEVIANCE TO REDUCE MRSA?

- 4 US hospitals
- **MRSA infections per 1,000 patient days**
 - 4.36 (2006) - 1.17 (2008)
- Example:
 - Housekeeping staff & cleaning procedures
 - Porter developed new method for disposing of gowns (procedure named after him and created you tube video of him)

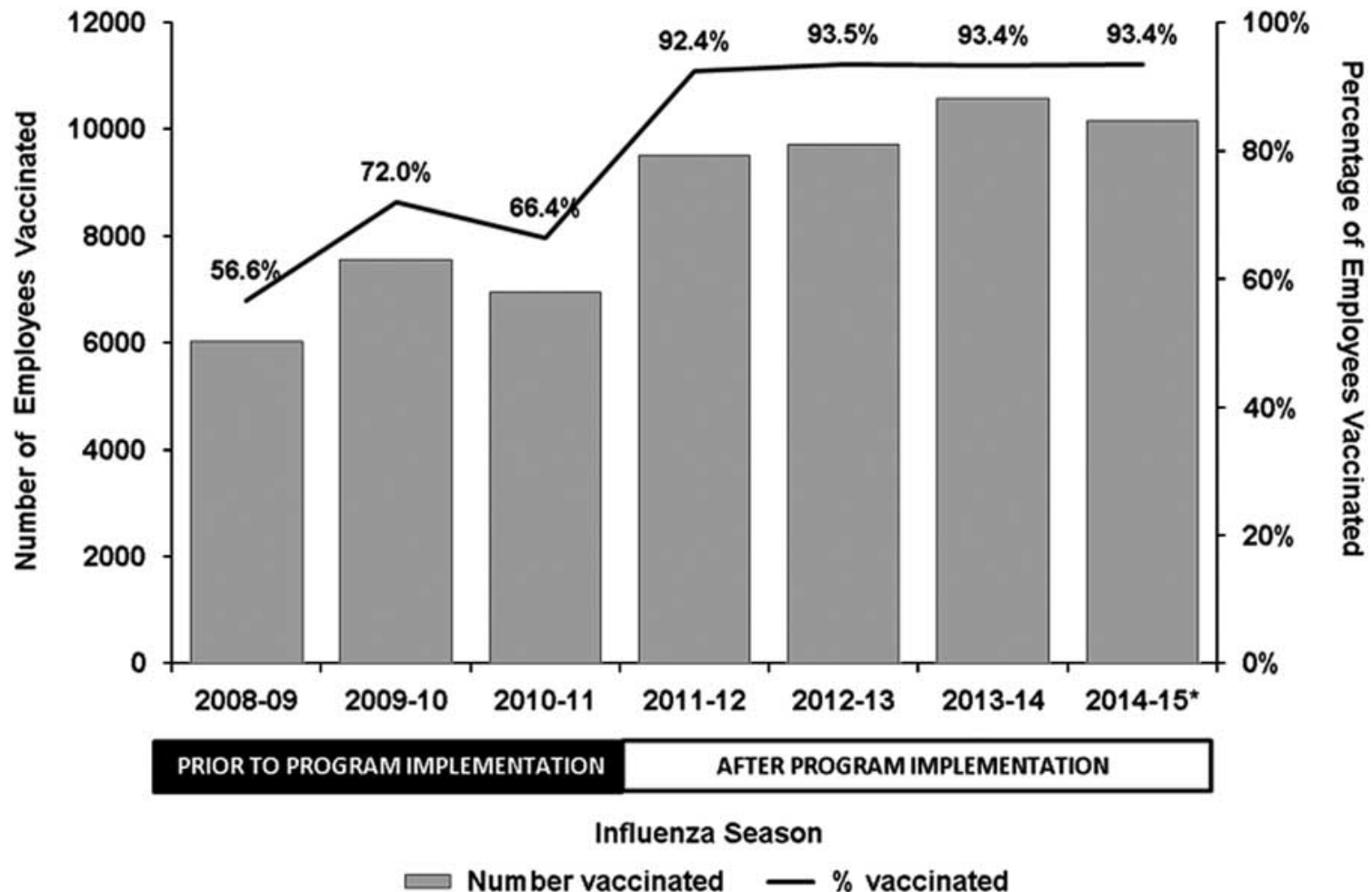
<http://www.rwjf.org/en/research-publications/find-rwjf-research/2009/11/mastering-mrsa.html>

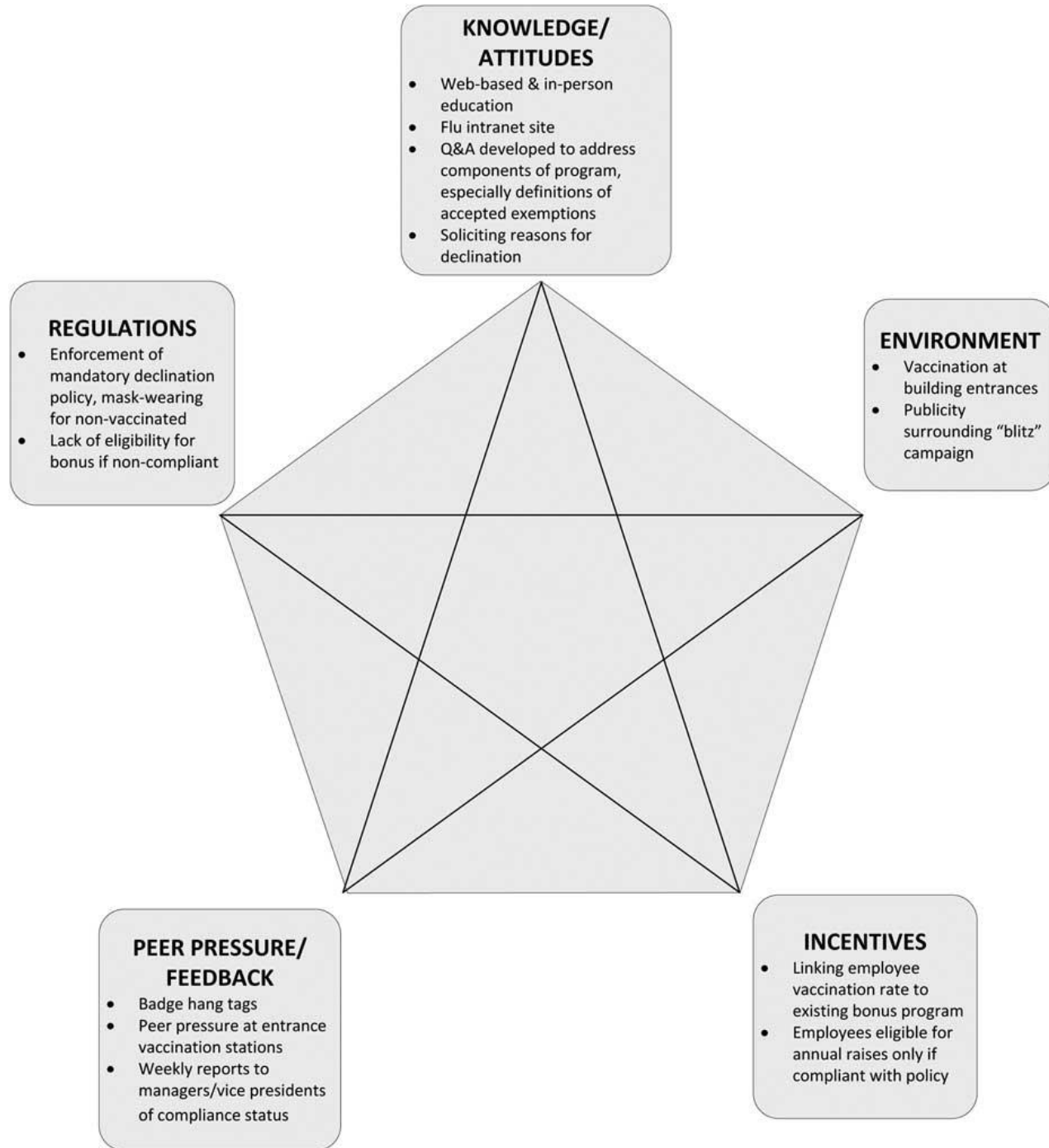
<http://www.acphospitalist.org/archives/2009/11/positive.htm>

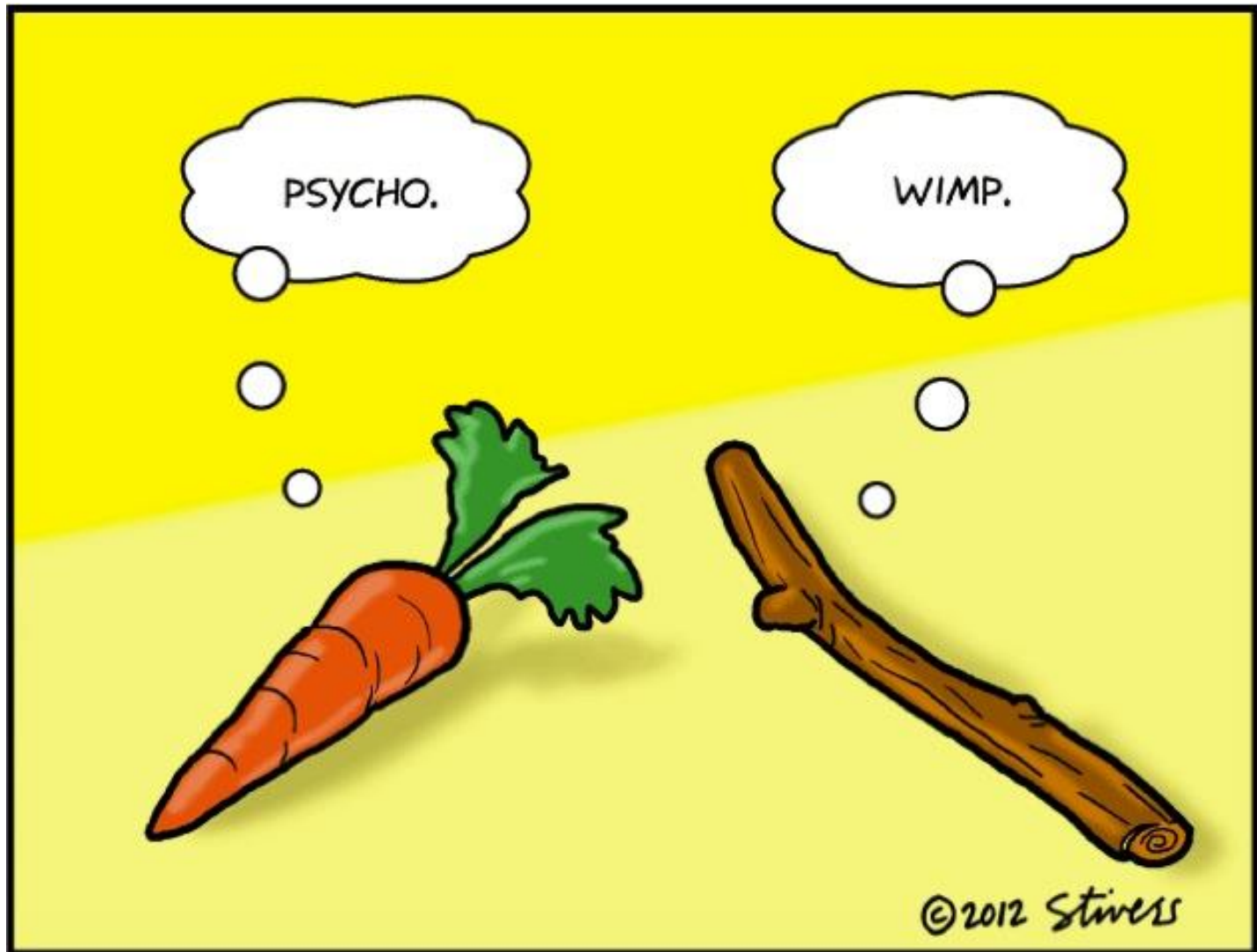
http://www.washdiplomat.com/index.php?option=com_content&view=article&id=6143:being-deviant-to-stop-leading-cause-of-preventable-hospital-deaths-in-us-&catid=982:october-2009&Itemid=251

- **5 Canadian Hospitals**
- **Reduced HCAI rates x 50%**
- **Hand hygiene improved x 30%**
- **Interviews**
 - **Top down vs bottom up leadership from front line staff**
 - **Leaders need to step up vs step back**

CARROTS AND STICKS OR STICKS AND CARROTS?







COMMUNICATING WITH DECISION MAKERS

- A PERSONAL REFLECTION



“The single biggest problem
in communication
is the illusion
that it has taken place.”
- George Bernard Shaw



2. MAKING THE CASE

- Often viewed as less of a threat than medication errors + falls
 - False sense of security as have antibiotics
 - Lack of RCTs supporting infection control interventions
 - Perceived intractability of the problem ‘ There is nothing we can do anyway’
 - ‘This is Not My Problem ‘ Degree of ownership that staff feel for the problem

**“IN GOD WE TRUST-
ALL OTHERS BRING DATA.”**

W. E. DEMING

‘hospital data is currently indigestible and alien to the average user’

- **What do the measures mean?**
- **Rates/ratios etc enable comparison but can be difficult to understand and mask the human side**
 - Public
 - Hospital board (the public!)
 - Hospital managers
 - Clinicians

3. TAILOR THE MESSAGE

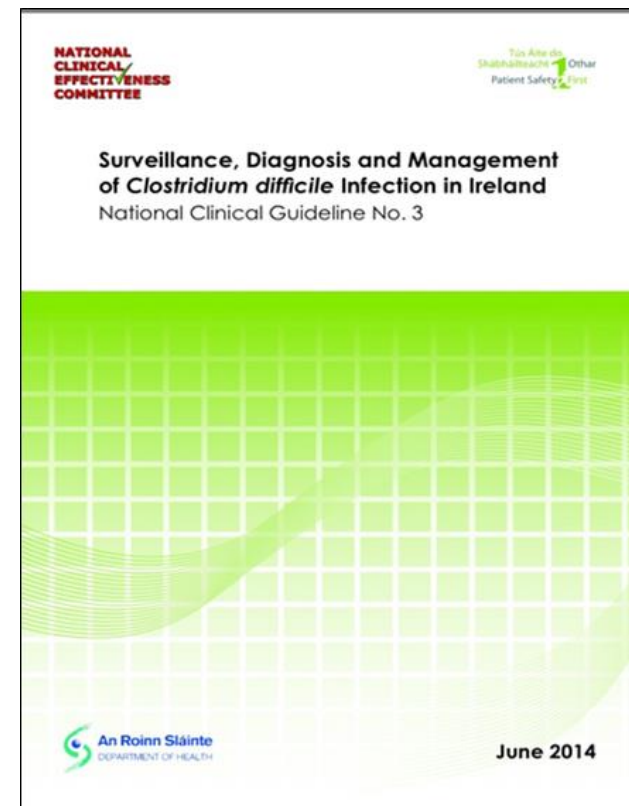
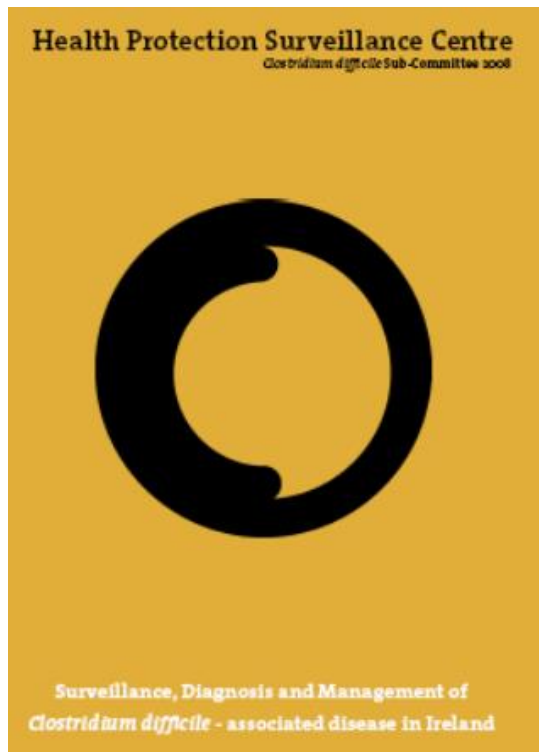
- DEFINE THE 'DECISION MAKERS'

- **Patients**
- **Public advocacy groups**
- **Clinicians – not a homogenous group!**
- **Healthcare managers**
- **Policy Makers**
- **Politicians**

USING HEALTHCARE-ASSOCIATED INFECTION DATA

- **Who** is the audience
 - **Understand** their pressures + requirements
 - **Adapt** into a format the audience understands and is familiar with
-
- BRIEF explanation of what it means and what other indicators may influence it
 - Be available to assist

4. FIGURE OUT THE PROCESS AND THEN ENGAGE WITH IT



Section	Subsection	Recommendation Number
National recommendations	• Designation of an Irish reference laboratory	1
	• Establishment of a single national CDI surveillance system	2
	• Improvement of access to infection specialists for non-acute services	3
	• Management of bed spacing	4
	• Newly built inpatient accommodation	5
Essential elements of	• Governance structures	6

1 of 1



**NATIONAL
CLINICAL
EFFECTIVENESS
COMMITTEE**



Management of *Clostridium difficile* Infection in Primary Care

Guidance to be read in conjunction with National Clinical Guideline No. 3
Surveillance, Diagnosis and Management of *Clostridium difficile* Infection in Ireland (June 2014)

When to suspect *C. difficile* infection (CDI):

Diarrhoea in the presence of the following risk factors:

- Prolonged or multiple antibiotic use, elderly, co-morbidities, immunosuppression, functional or

	• Treatment of second and subsequent CDI recurrence	60
	• Role of probiotics	61
Management of outbreaks and clusters	• Managing patients with IBD and CDI	62
	• Role of combination antimicrobial/adjuvant therapy in CDI	63-66
	• Recognising a cluster/potential cluster of CDI	67-69
	• Membership of the Outbreak Control Team	70
	• Key implementation measures in an outbreak	71-73

The following are examples of audit criteria which are consistent with HIQA National Standards for the Prevention and Control of Healthcare Associated Infections (2009):

3.8.1 Number of new cases of CDI acquired in the healthcare facility per reporting time period (e.g., month or quarter)

- Hospitals: per 1,000 patient admissions and per 10,000 patient days (or bed days used)
- Long-term care facilities: per 10,000 resident days

3.8.2 Antimicrobial consumption data

- Hospital antimicrobial consumption (Defined daily doses/100 bed days used)
- Antimicrobial use audits assessing compliance with local antimicrobial prescribing guidelines

3.8.3 Hand hygiene compliance score (%)

- Overall and per each of the WHO 5 moments of hand hygiene
- By staff group
- By ward or unit

3.8.4 Compliance with Contact Precautions

- Number of observed patient care episodes in which contact precautions are appropriately implemented/number of observed patient care episodes in which contact precautions are indicated x 100

3.8.5 Compliance with environmental and patient care equipment cleaning/disinfection

This can include:

- Hygiene audit scores
- Patient care equipment decontamination audit
- Sluice room audit.

Summary of tools to assist implementation of National Clinical Guideline

Relevant links available at:

<http://www.hpsc.ie/hpsc/A-Z/Gastroenteric/Clostridiumdifficile/Publications/>

Management of patients/residents with suspected/confirmed CDI (healthcare facilities and primary care)

- Patient/resident information leaflet
- CDI management and treatment algorithms;
 - Management of CDI in Primary Care
 - First episode and first recurrence of CDI
 - Second and subsequent recurrences.

Management of patients/residents with suspected/confirmed CDI (healthcare facilities)

- Infection prevention and control precautions (Contact Precautions)
- Guidance (risk assessment) for decision makers on isolation. Appendix 6, page 55 of the *Management of Multidrug-Resistant Organisms in Healthcare Settings (MDRO) Guidelines*
- Sample care plan for patients/residents with CDI
- Sample daily check list for sluice room and equipment
- Sample systems analysis tool for healthcare facility-associated CDI

Prevention of CDI, clusters and outbreaks in healthcare facilities

- Sample patient information leaflet for patients/residents prescribed an antibiotic course
- Infection prevention and control precautions - Standard and Contact Precautions
- Bristol Stool Chart
- CDI surveillance protocol
- CDI case definitions
- Calculation of resident days for CDI surveillance in long-term care facilities
- Hand hygiene audit tool
- National antimicrobial stewardship guidelines
- Sample CDI trigger tool

Key performance indicators for the prevention and control of CDI

1. **Number of new cases of CDI acquired in the healthcare facility per reporting time period (e.g., month or quarter)**
 - Hospitals: per 1,000 patient admissions and per 10,000 patient days (or bed days used)
 - Long-term care facilities: per 10,000 resident days
2. **Hospital antibiotic consumption (Defined daily doses/100 bed days used)**
3. **Hand hygiene compliance score (%)**
 - Overall and per each of the WHO 5 moments
 - By staff group
 - By ward or unit



5. LEARNING NEW SKILLS

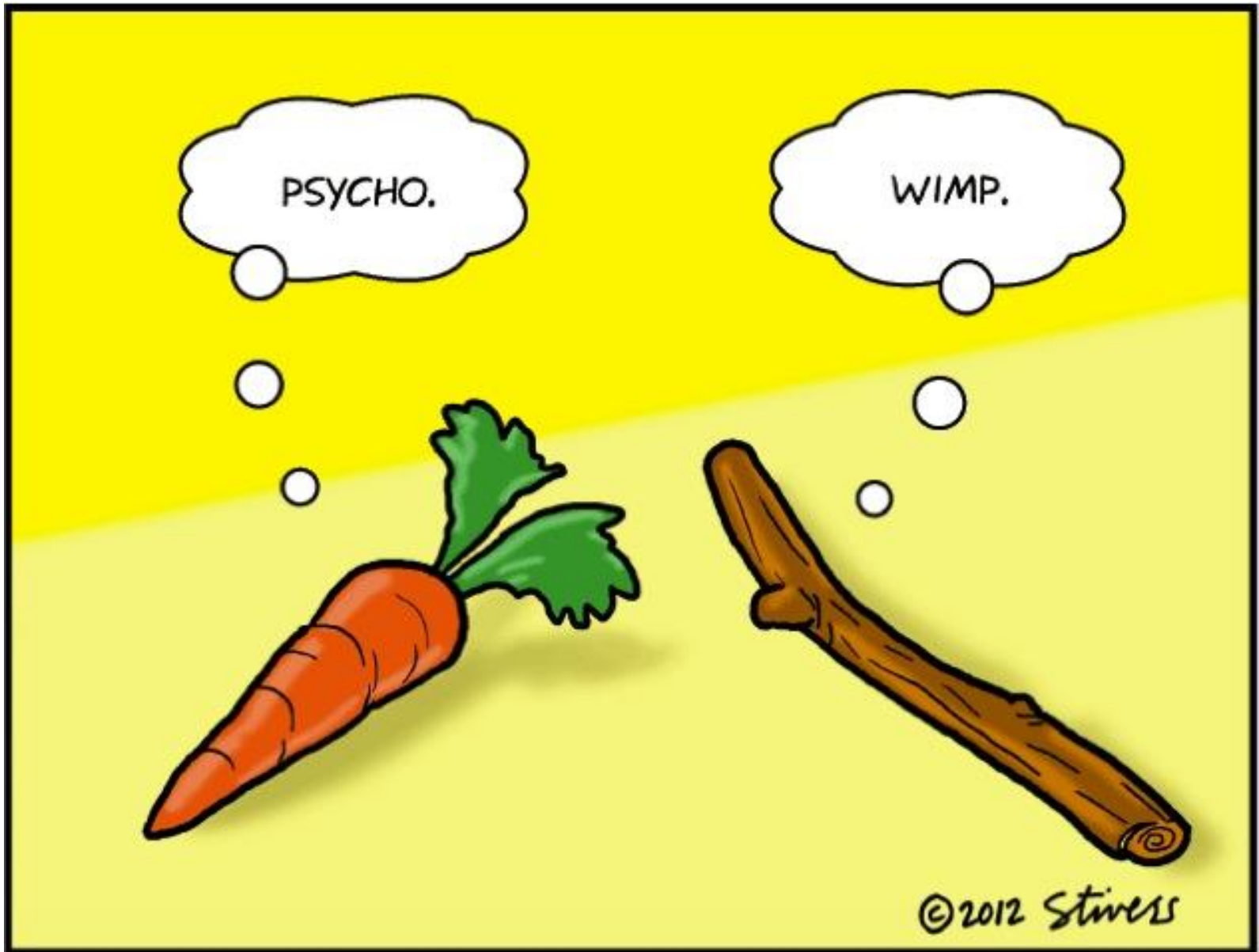
- **New language!**
- **Management**
- **Infection prevention is essentially a behavioural science – cant just copy and paste!**
- **Quality Improvement**
- **Human Factors**
- **Psychology**

6. BEING REALISTIC!

- **Public reporting is here to stay**
 - Growing demands for transparency, patient advocacy, democratization of knowledge due to the internet is here to stay
- **Be patient - Change takes time – the people we want to change are human!**

***“GIVEN A CHOICE BETWEEN CHANGING
AND PROVING THAT IT IS NOT
NECESSARY, MOST PEOPLE GET BUSY
ON THE PROOF..... “***

JOHN GALBRAITH



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