

IPC improvement: it's the behaviour.. out to lunch!



No conflicts of interest to declare

Infection prevention & control

IT IS NOT
ROCKET SCIENCE

Environmental cleaning

Hand hygiene

Invasive device care

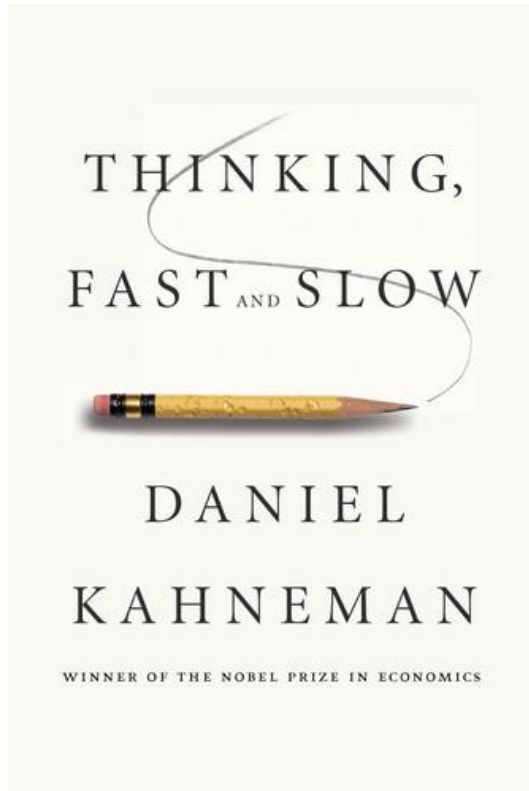
Standard & transmission precautions



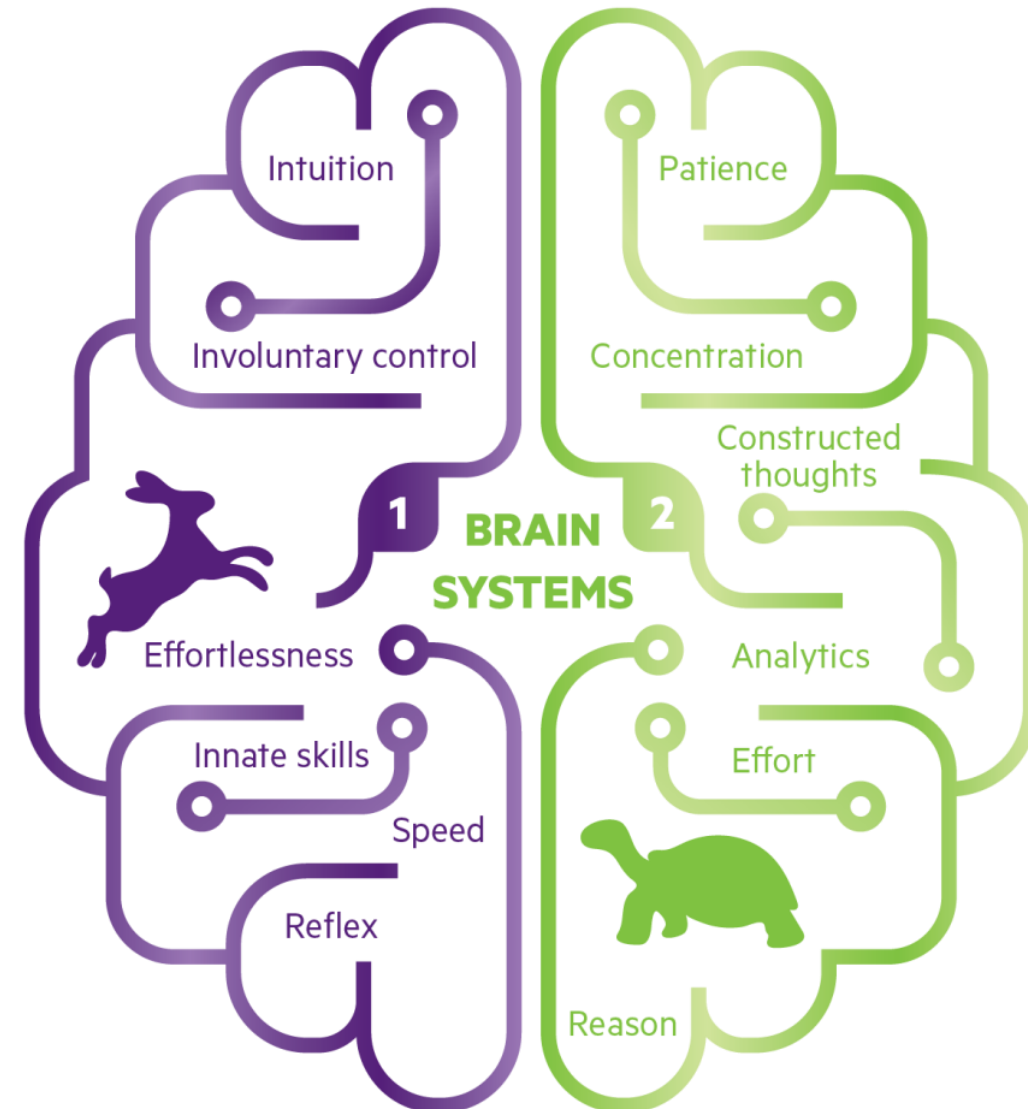


**IT'S ALL
ABOUT
BEHAVIOR
(and SCIENCE)**

Understanding decision making



Nobel prize 2002



Human behaviour

SYSTEM 1

Intuition & instinct

95%

Habit

Unconscious
Fast
Associative
Automatic pilot

SYSTEM 2

Rational thinking

5%

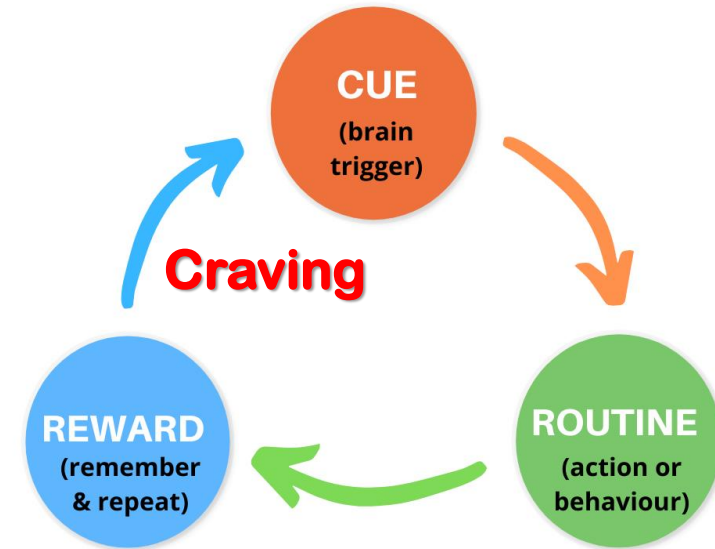
Takes effort
Slow
Logical
Lazy
Indecisive

Source: Daniel Kahneman



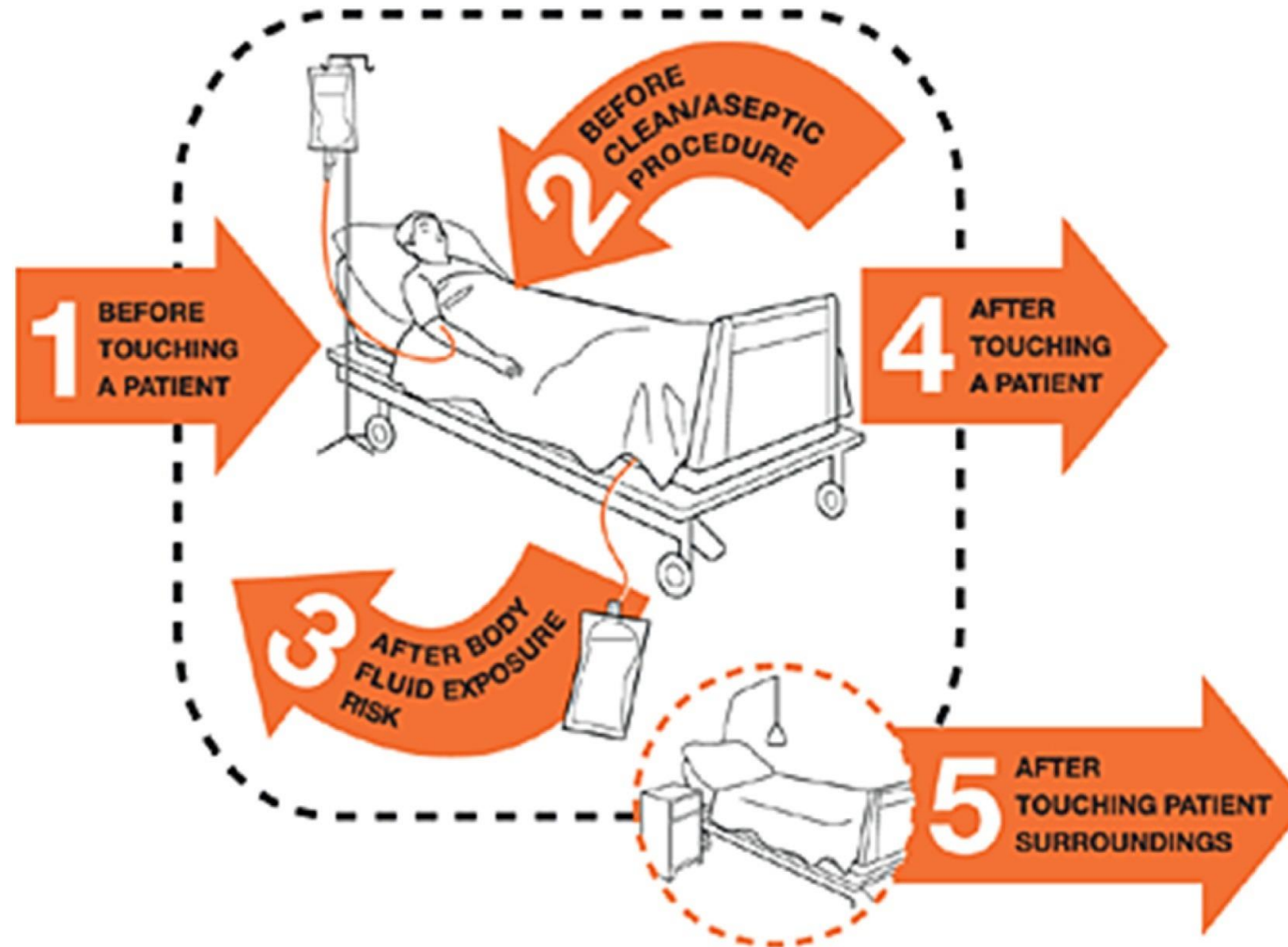
The habit loop

1. Cue: what triggers a habit.
 - Responses to external stimuli
2. Routine is the habit.
 - This is the cycle of behaviour that is prompted by various cues.
3. Reward: makes you repeat the routine because you desire the pleasurable outcome.
 - Neural pathways retrieve this pleasurable experience when a similar cue happens again in the future.
 - The stronger the reward, the greater is the reinforcement and the development of craving



What Drives Habits

- **Time:**
 - Specific times generate many habit structures
- **Place:**
 - Defined locations are powerful cues for many individuals.
- **People:**
 - The actions of other people influence habit formation



What Drives Habits?

- **Time:**
 - Specific times generate many habit structures
- **Place:**
 - Spaces are powerful cues for individuals.
- **People:**
 - The actions of other people influence habit formation
- **Motivation:**
 - Personal satisfaction is a formidable driver of habit formation.
- **Preceding Event**
 - Many habits are a response to something that happens in life

Hand hygiene posters: motivators or mixed messages?

E.A. Jenner^{a,*}, F. Jones^b, B.(C). Fletcher^c, L. Miller^d, G.M. Scott^e

Table II The application of prospect theory to hand hygiene messages

Message	Benefits (gain)	To whom?	Costs (loss)	To whom?
Example 1 'Clean hands prevent cross-infection'	Prevent pain and suffering	Patient	Time taken to clean hands	Health professional
	Reduce infection rate	Hospital		
	Prevent loss of work days	Society	Other potential barriers, e.g. dermatitis etc.	Health professional
	Prevent self-infection	Health professional		
Example 2 'Unclean hands spread infection'	Time saved in not cleaning hands	Health professional	Pain and suffering	Patient
			Financial	Hospital and society

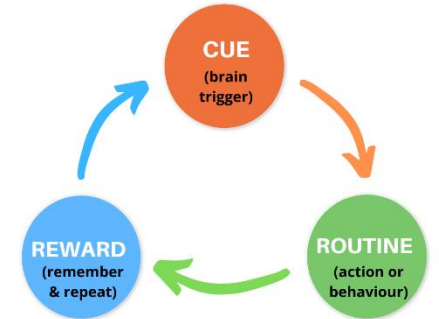
The power of vivid experience in hand hygiene compliance

P.W. Nicol*, R.E. Watkins, R.J. Donovan, D. Wynaden, H. Cadwallader

- Knowledge of hand hygiene principles was not predictive of outcome
- Performance strongly associated with direct vivid experience
 - E.g. personal experience of an outbreak in the hospital or infection in a patient under care
- Immediacy of outcomes
 - How immediately apparent is the outcome of incorrect behaviour
- Desensitisation
 - Long-term familiarity with non-compliance but without apparent adverse consequences




Using habit theory to improve IPC behaviour

- Improve cues
 - Visual reminders *at the point of behaviour*
 - Use *technology* to consistently provide cues



Original Article

Automated hand hygiene compliance system’s audible alert reminder increases healthcare worker hand hygiene compliance

Kristen L. Webster PhD¹ , Sarah M. Bishop MSN, APRN, CCNS, CIC, FAPIC², LaShawn E. Scott DNP, RN, CCRN-K, CIC³, Leah M. Oppy MPH, CIC³, Crystal R. Heishman MBA, MSN, RN, ONC, CIC, FAPIC⁴ , Gina M. Stevenson MSN, RN³ and Forest W. Arnold DO, MSc, FIDSA² 

- Automated hand hygiene compliance system (AHHCS) with audible alert and vibration if hand hygiene not performed
- Use of the AAHCS **was mandatory**, and the badges were placed in a central and accessible location for staff.
 - HCWs were reminded to grab a badge upon walking onto their respective units

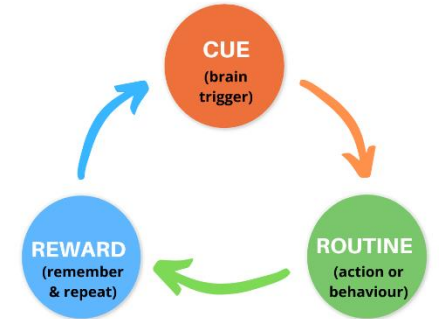
Table 1. Hand Hygiene Opportunities and Average Percentage Compliance for Baseline, TOC 1, and TOC 2

Period	Opportunities	Average % Compliance
Baseline (alarm on)	51,310	93.4
TOC 1 (alarm off)	33,593	73.6
TOC 2 (alarm on)	27,060	92.6

Note. TOC, test of change.

Using habit theory

- Improve cues
 - Visual reminders *at the point of behaviour*
 - Use *technology* to consistently provide cues
- Simplify the behaviour
 - Avoid decision paralysis



Avoid decision paralysis

"In a world where we have too many choices and too little time,
the obvious thing to do is just ignore stuff."

Seth Godin

PERSONALITY PROCESSES AND INDIVIDUAL DIFFERENCES

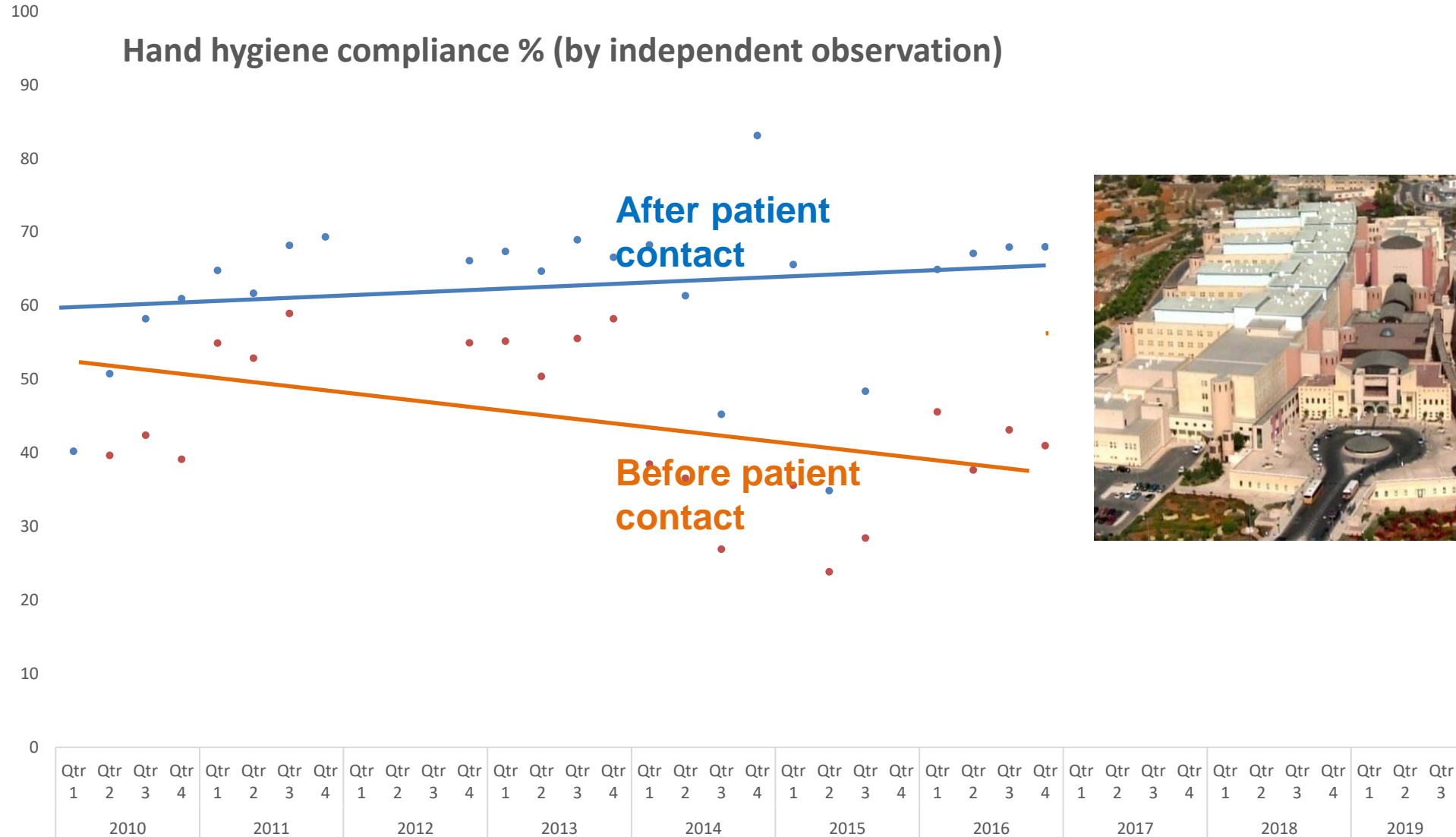
When Choice is Demotivating: Can One Desire Too Much
of a Good Thing?

Sheena S. Iyengar
Columbia University

Mark R. Lepper
Stanford University



Mater Dei Hospital










**AS EASY
AS ABC**

APPLY HANDRUB
BEFORE EVERY
PATIENT **C**ONTACT

IT'S OUR DUTY OF CARE



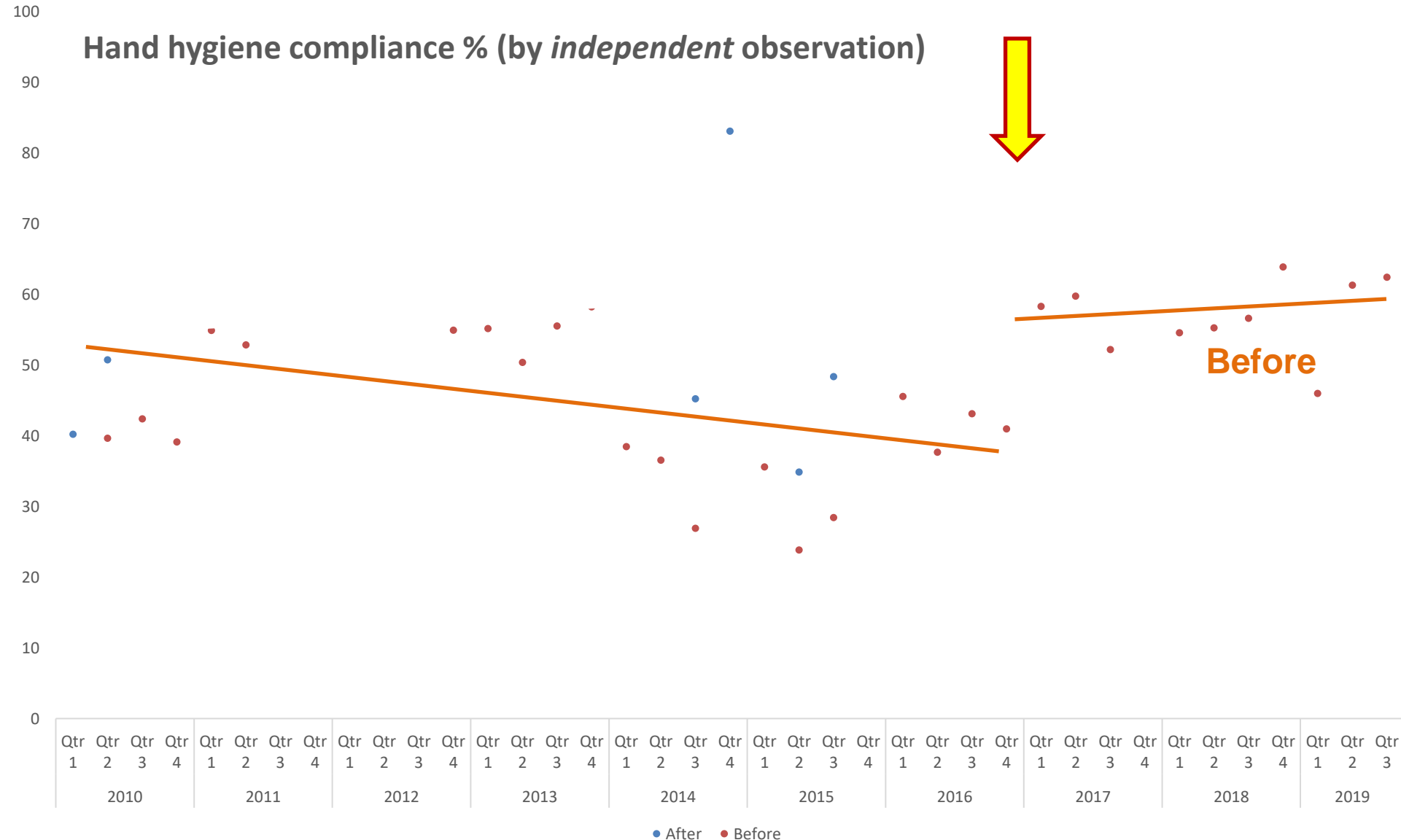
**APPLY HAND RUB
BEFORE
EXAMINING, TREATING
OR ASSISTING
THIS PATIENT**



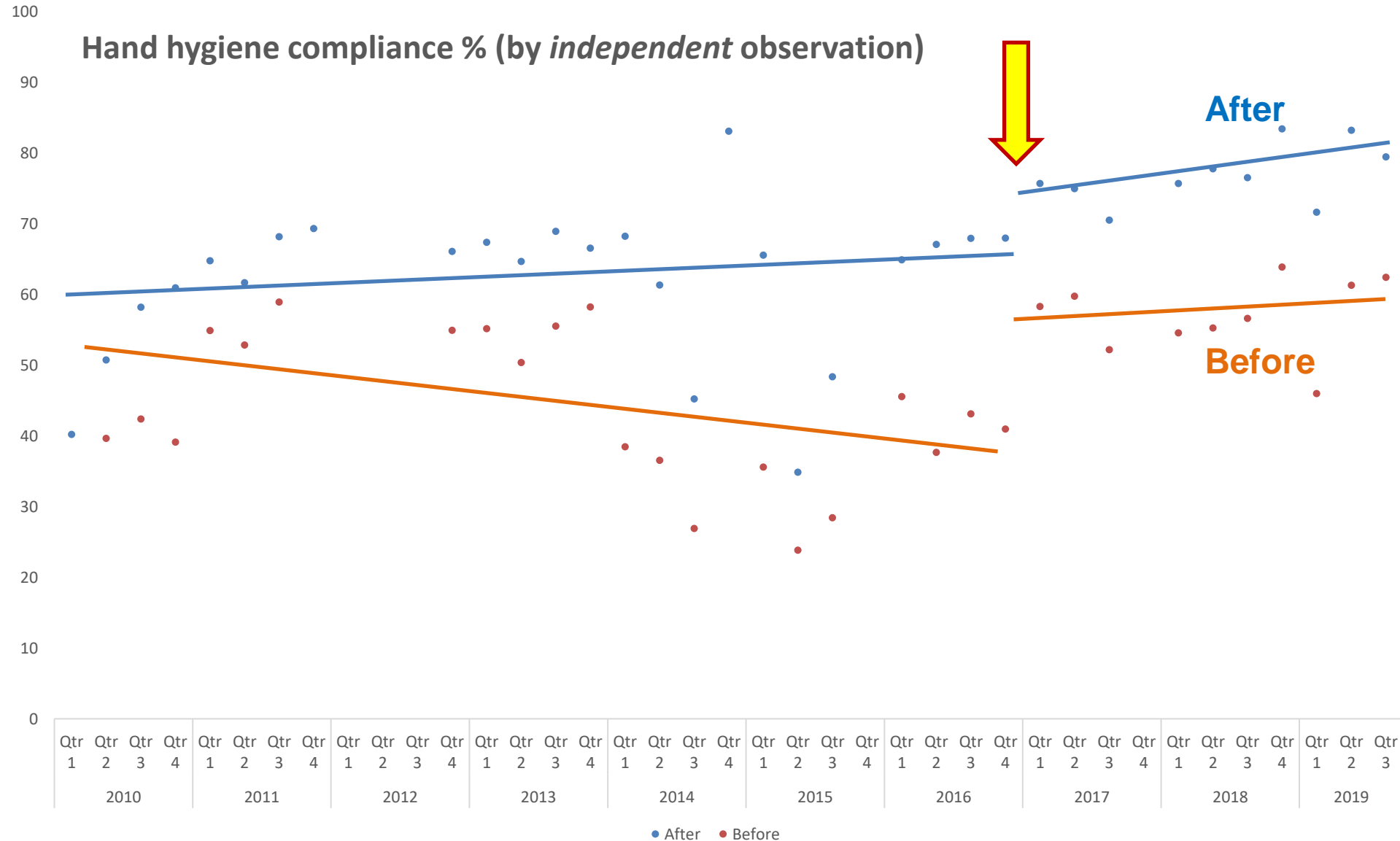


HAND HYGIENE
IT'S OUR DUTY
OF CARE

Mater Dei Hospital

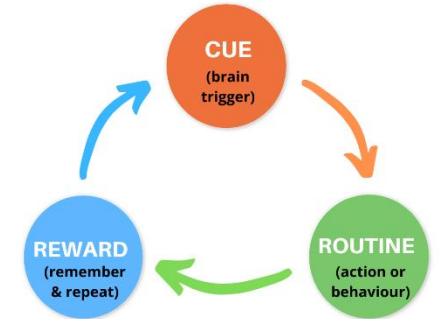


Mater Dei Hospital



Using habit theory

- Improve cues
 - Visual reminders *at the point of behaviour*
 - Use *technology* (system change)
- Simplify the behaviour
 - Avoid decision paralysis
- Focus on rewards (motivation)
 - Provide *real-time* feedback
 - Technology can help



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Contents lists available at [ScienceDirect](#)

American Journal of Infection Control

journal homepage: www.ajicjournal.org



Major article

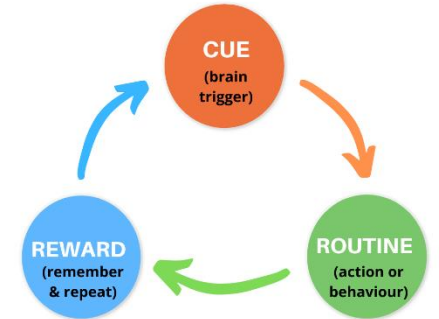
The use of real-time feedback via wireless technology to improve hand hygiene compliance

Alexandre R. Marra MD^{a,*}, Thiago Zinsly Sampaio Camargo MD^b,
Thyago Pereira Magnus RN^b, Rosangela Pereira Blaya RN^b,



Using habit theory

- Improve cues
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 - Use *technology* (system change)
- Simplify the behaviour
 - Avoid decision paralysis
- Focus on rewards (motivation)
 - Provide *real-time* feedback
 - Technology can help
 - Change the *culture*



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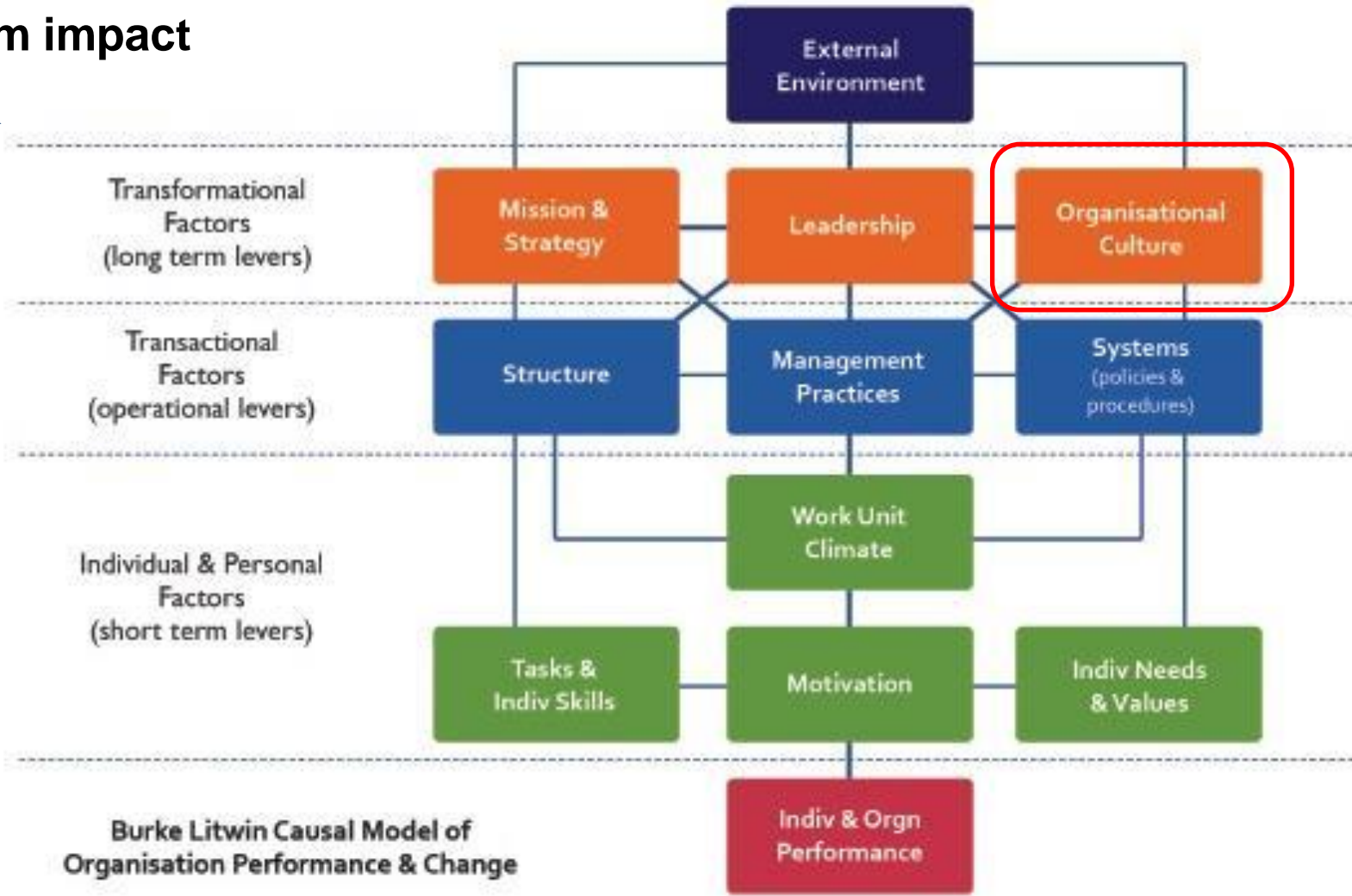
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Making change sustainable

Long term impact



Burke Litwin Causal Model of Organisation Performance & Change

Short term impact

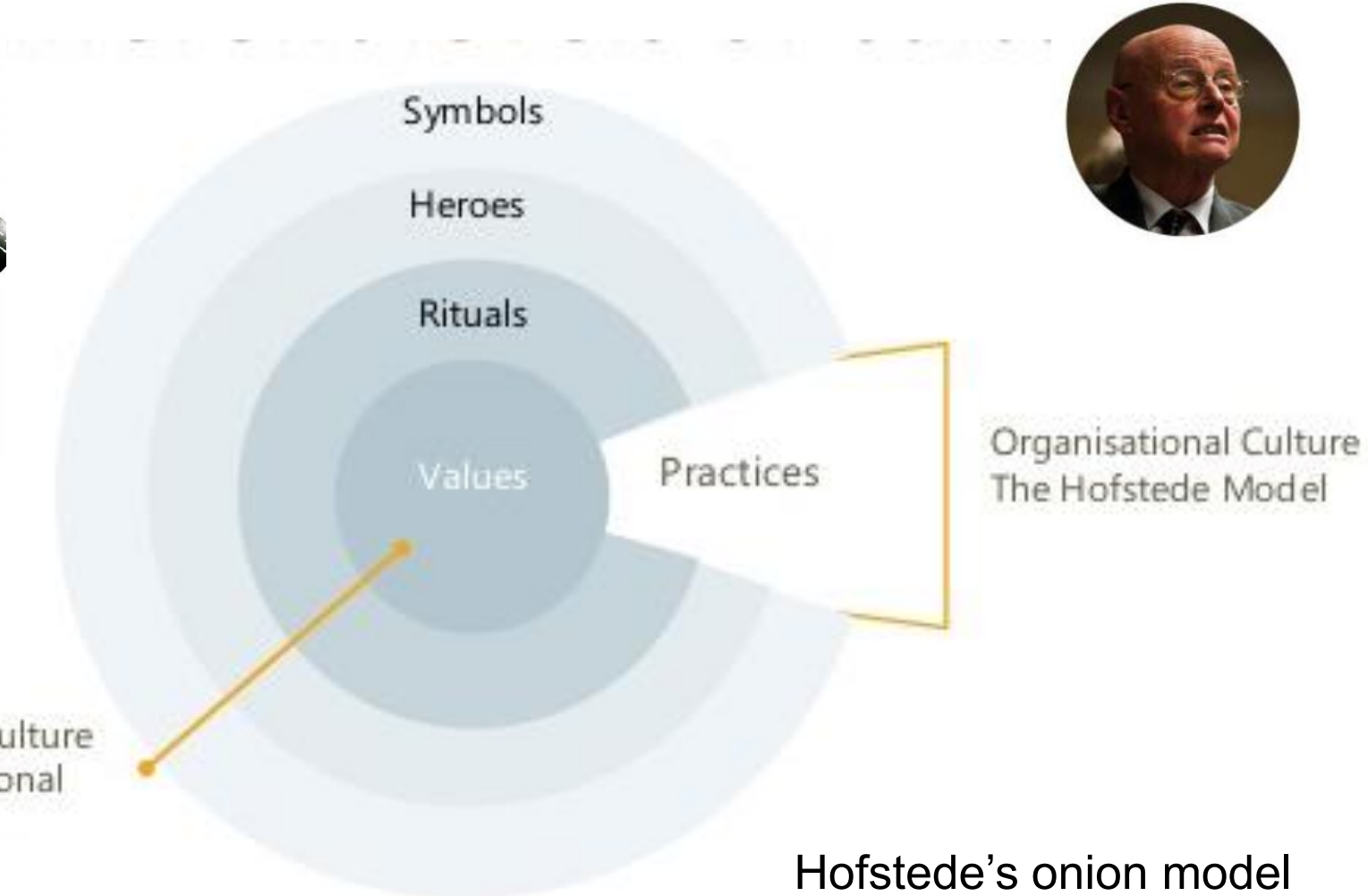
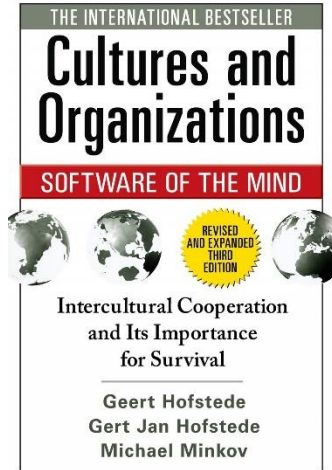
Organisational culture

“The way **we do
things around
here!**

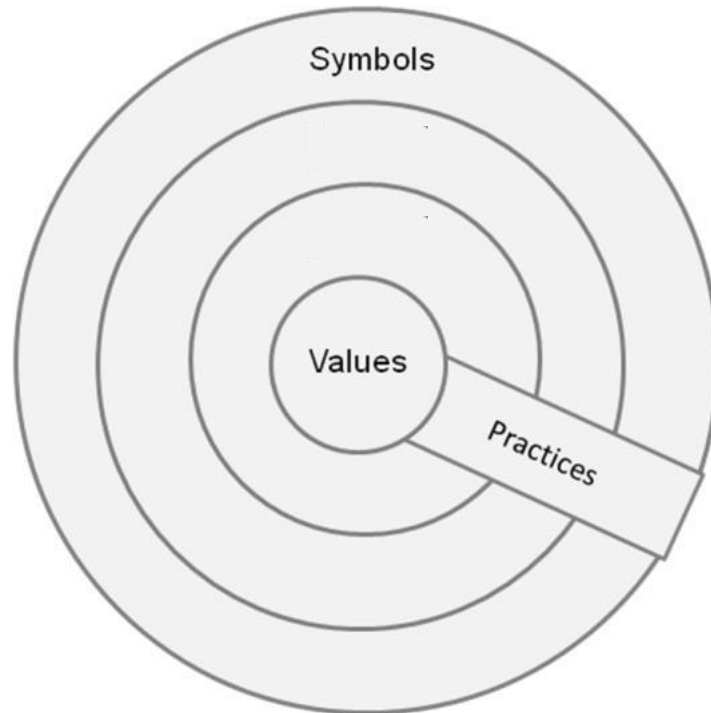
What Creates Habits?

- **Time:**
 - Time of day generates many habit structures
- **Place:**
 - Spaces are powerful cues for individuals.
- **People:**
 - The actions (& expectations) of other people influence habit formation
- **Preceding Event**
 - Many habits are a response to something that happens in life
- **Emotions:**
 - Motivation is most formidable areas of habit formation.

Organisational culture model



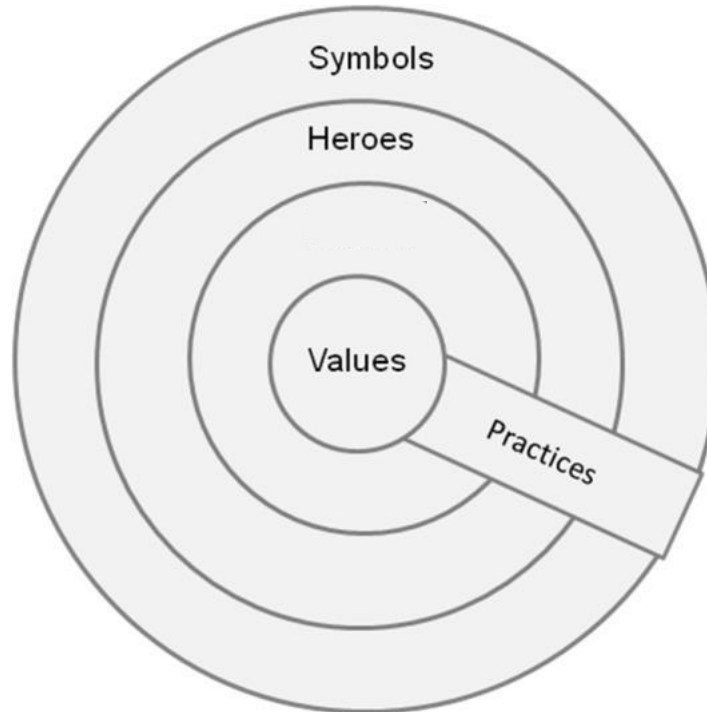
Symbols



- **External visual signs** which carry a particular meaning and relevance to the practices
 - Recognized by the members of the organization

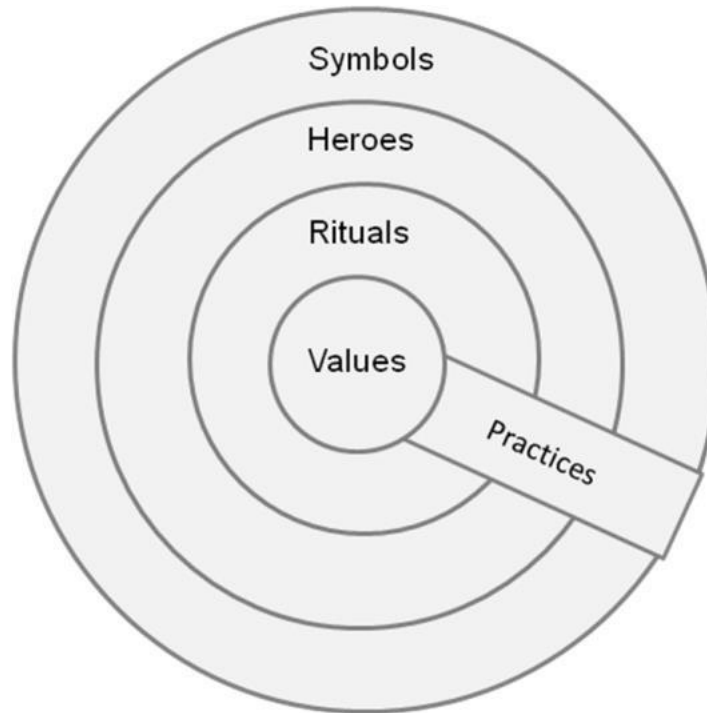
- Posters
- Memos & circulars
- Policies
- Training sessions
- Alcohol rub containers in patient areas

Heroes



- Heroes refer to the behaviour of **influential role models** within the organization.
- Heroes may be:
 - Appointed to a position of influence or
 - Naturally charismatic and followed by their peers
- The most influential heroes in an organisation are senior management
 - Especially CEO and Directors

Rituals



- Rituals are behaviour patterns that are considered **socially essential**
- IPC practices are essentially rituals as long as they are socially essential

Conclusions

- Infection Prevention & Control is ultimately about change implementation
 - A highly difficult task!!
- Affords opportunities to use behaviour science to understand and improve IPC compliance
- Most IPC practices appear to depend on System 1 decision making
- Habit theory suggests the need to:
 - Improve cues *at the site* of the behaviour
 - *Simplify* IPC behaviours, where possible
 - Intensify positive motivators in *real-time*
- Greater focus on organisational culture change....

Thank you



Culture eats
strategy for
breakfast!

Peter Drucker