Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Quality Improvement Division

# QI TALK TIME

**Building an Irish Network of Quality Improvers**

## *TEAMS: The fundamental Building block to improvement*

## *Speaker: Dr David Vaughan*

***10th Oct 2017* 1-2 pm**

**Connect** **Improve** **Innovate**

# Dr David Vaughan

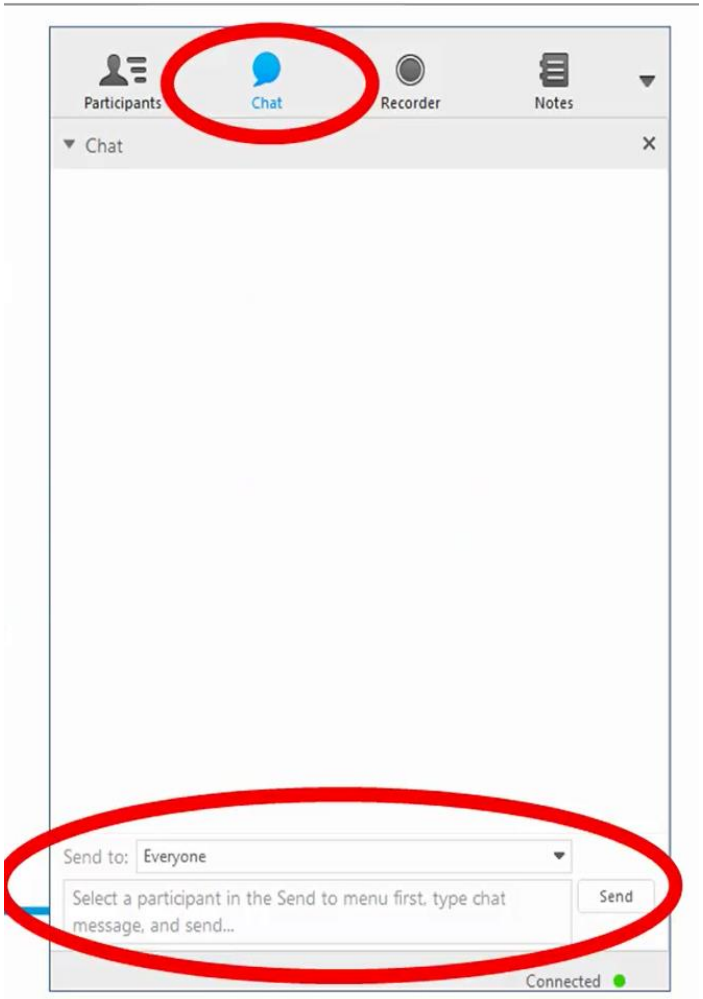
Director of Quality and Patient Safety, Children's Hospital Group comprising three Dublin children's hospital, & a Consultant Respiratory Paediatrician. He previously was the Executive Director and Clinical Director of Q&S for Hamad Medical Corporation, the national health system of the State of Qatar 2013-2016.

Dr. Vaughan was the Director for Leadership & Quality in RCPI, responsible for developing and delivering a Diploma in Leadership and Quality in Healthcare, directed at senior healthcare staff, (clinical & non-clinical) & led in the development of the National Quality Improvement Programme jointly with the DoH, the HSE & RCPI.

He graduated from UCD in 1992, undertook general paediatric training in Dublin, & trained in paediatric critical care medicine in Seattle Children's Hospital and paediatric respiratory medicine in Texas Children's Hospital, Houston.

# Instructions

- Interactive
- Sound
- Chat box function
  - Comments/Ideas
  - Questions
- Q&A at the end
- **Twitter: @QITalktime**



# Teamwork
# Why, what (and maybe a little how)

Dr. David Vaughan
Director Quality & Safety,
Childrens Hospital Group
@davidjvaughan
David.vaughan1@nchg.ie

Friendship is born at that moment
when one person says to another,
"What! You too? I thought I was the only one.”

CS Lewis

# Format

- In spirit of PDSA, I will ask a number of questions, and allow a minute for individuals and groups to reflect & respond for themselves
- In your feedback, please let us know if this was useful, or a disaster

# Question

- Please rank the following in the order in which they are supported formally (training, course, resources, etc)
  - Leadership
  - Data and data collection
  - Quality Improvement
  - Patient centred care
  - Compliance & regulation
  - Mandatory courses (e.g. manual handling)
  - Teamwork

# Learning Outcomes

- At the end of this session, participants will:
  1. Be able to define a team & attributes of a high functioning team
  2. Be able to explain why teams are the building blocks of improvement
  3. Begin to analyse their own teams

# Disclaimer

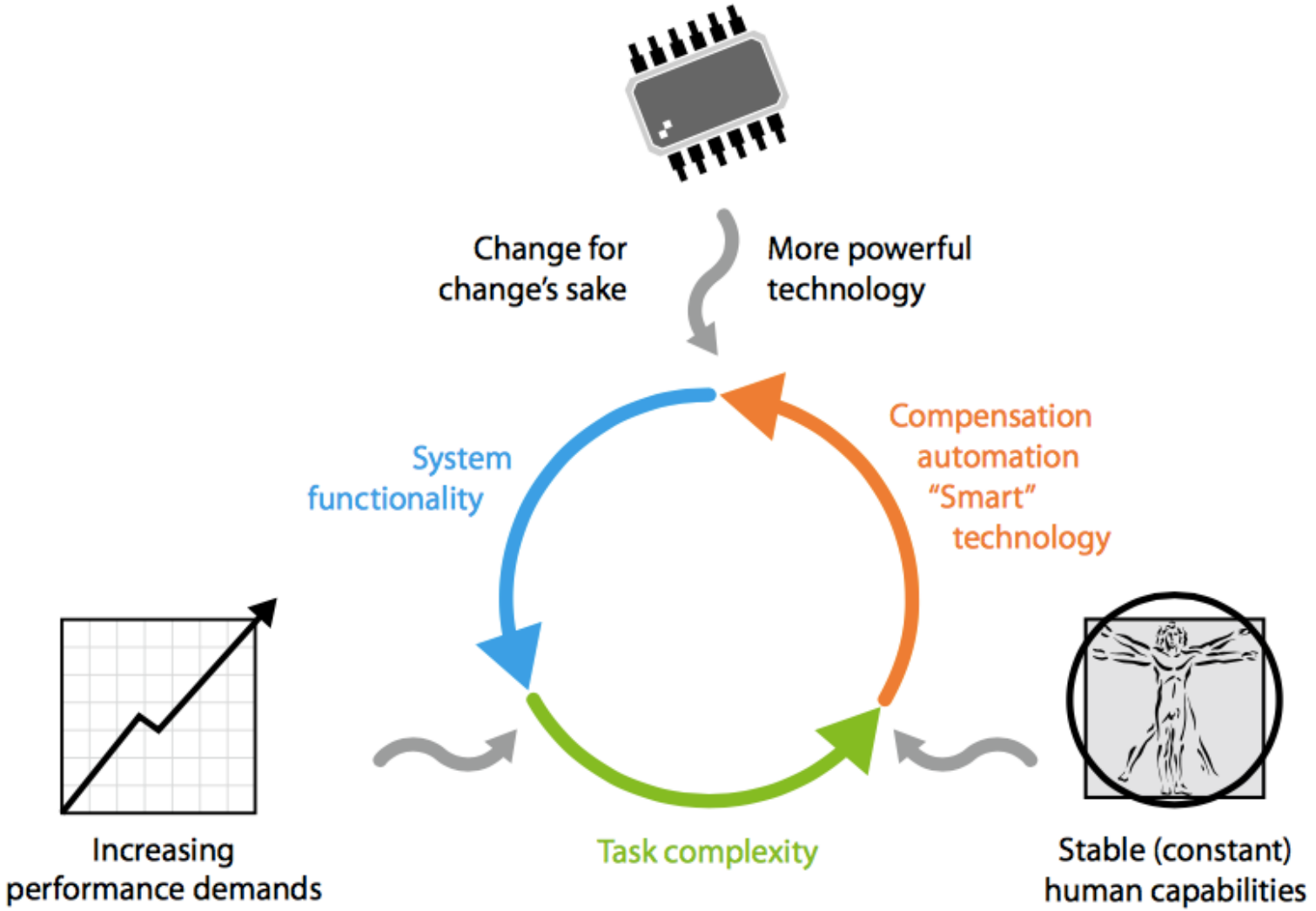
Quality Improvement   Continual Learning

# Challenges

- Increasing demands
- Increasing complexity & abilities
- Increasing expectations
- Static or decreasing resources
- Decreasing staff satisfaction
- Inordinate focus on “leadership”
- Learning is no longer a solo sport

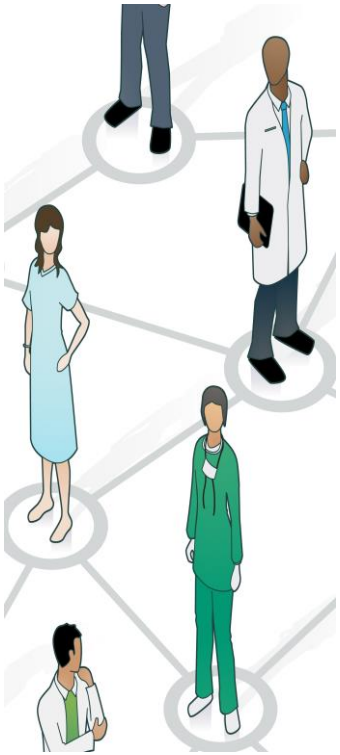
“Man is fallible, but maybe men are less so.”

Atul Gawande




https://www.skybrary.aero/bookshelf/books/2437.pdf

# Healthcare used to be a Simple System



"Medicine used to be simple, ineffective and relatively safe. It is now complex, effective and potentially danger

*Professor Sir Cyril Chantler*

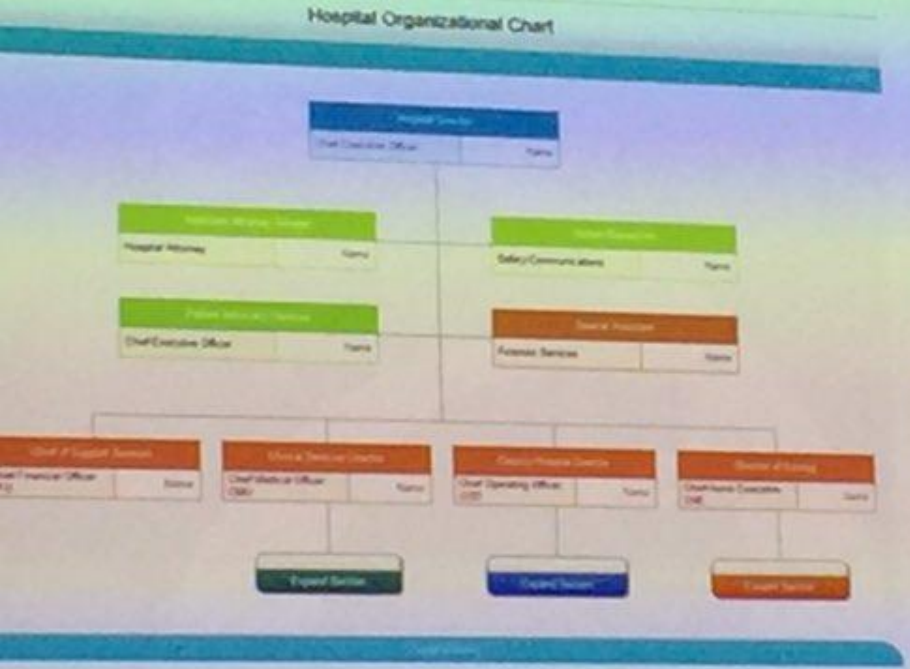
Slides; Thanks @johnfitzsimons9

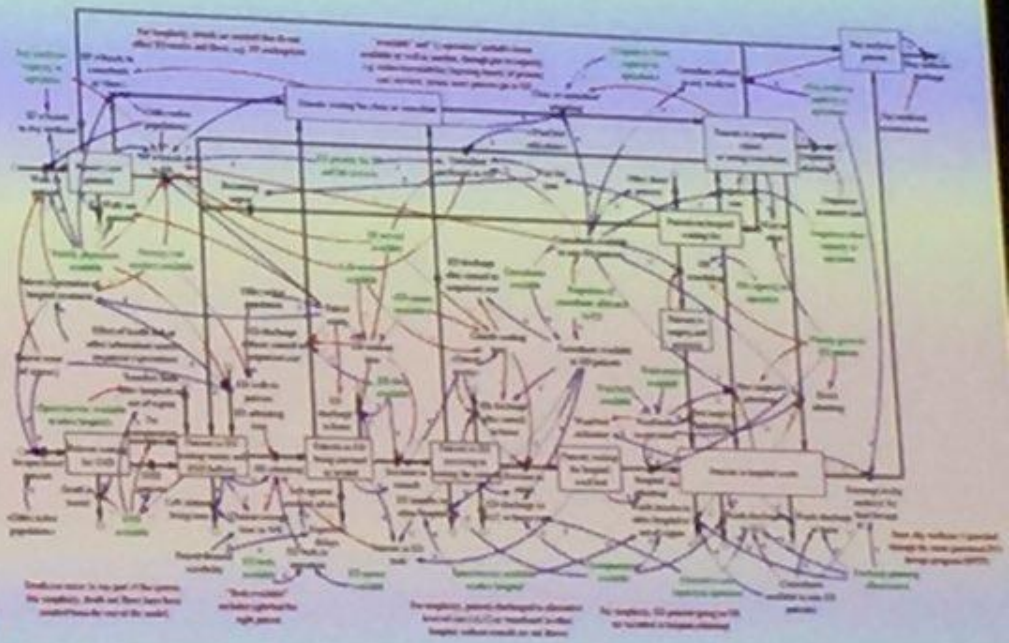
# Healthcare is now a Complex System

Slides; Thanks @johnfitzsimons9

# Enter complexity science

MACQUARIE University



# Questions

1. Is teamwork effective?
2. What is the role of leadership vs. teams?
3. Do we understand:
    1. The ideal team model?
    2. The core competencies of an effective team?
    3. The best methods of training and delivery?

# Leadership

"Leadership is *the most influential factor* in shaping organisational culture" and "is fundamental to health services improvement"

West, M., Armit, K., Loewenthal, L., Eckert, R., West, T., & Lee, A. (2015). Leadership and leadership development in healthcare: the evidence base. *London: The Kings Fund*.

Acknowledgment Prof Eilish MacCaullife & Team; Collective Leadership and Safety Cultures; UCD

# Leadership Models

"Two large reviews exploring the impact of shared leadership in teams have found that, across many sectors, shared leadership predicts team effectiveness and team performance outcomes"

Shared leadership defined as a "dynamic team phenomenon whereby leadership roles and influences are distributed among team members"

D'Innocenzo, L., Mathieu, J. E., & Kukenberger, M. R. (2014).
A meta-analysis of different forms of shared leadership–team performance relations.
*Journal of Management*,

Acknowledgment Prof Eilish MacCaullife & Team; Collective Leadership and Safety Cultures; UCD

# Teams & Leadership

"Team development activities and team training may be required to enable and Enhance collectivistic leadership, particularly as shared mental models, working towards common goals and role clarity are components of both effective team working and collective leadership approaches"

(De Brún, O'Donovan, & McAuliffe, 2017, in preparation)

Acknowledgment Prof Eilish MacCaullife & Team; Collective Leadership and Safety Cultures; UCD

“You can't make a recipe for something as complicated as surgery. Instead, you can make a recipe for how to have a team that's prepared for the unexpected.”

Atul Gawande

# Question

Define a team

(One Minute)

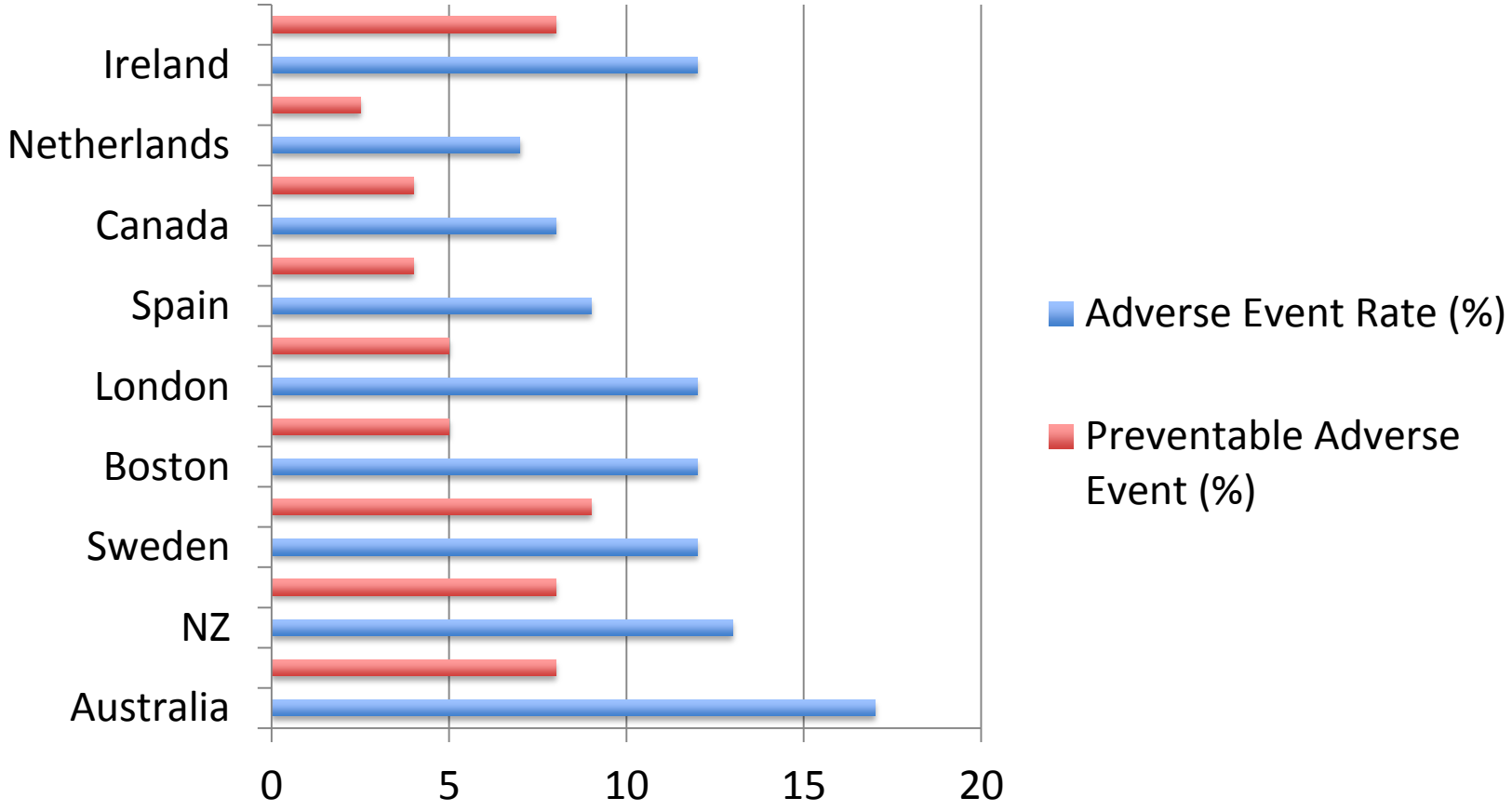
# Definition

A team is composed of 2 or more individuals who:

- Interact dynamically, interdependently, & adaptively towards a common and valued goal
- Have specific roles or functions
- Have a time limited membership AND
- *Learn & improves* over time

So teams are vehicles for:

1. Doing
2. Learning




Rafter N, Hickey A, Condell S, Conroy R, O'Connor P, Vaughan D, et al.
Adverse events in healthcare: learning from mistakes. QJM. 2015 Mar 26;108(4):273–7
Rafter N, Hickey A, Conroy RM, Condell S, O'Connor P, Vaughan D, et al.
The Irish National Adverse Events Study (INAES). BMJ Qual Saf. 2016 Feb 9

# The challenge

- We need to improve, but……

Future Hospital Journal 2016 Vol 3, No 3: 191–4

COMMENT

## Does quality improvement improve quality?

Authors: Mary Dixon-Woods[A] and Graham P Martin[B]

ABSTRACT

Although quality improvement (QI) is frequently advocated as a way of addressing the problems with healthcare, evidence of its effectiveness has remained very mixed. The reasons for this are varied but the growing literature highlights particular challenges. Fidelity in the application of QI methods is often variable. QI work is often pursued through time-limited, small-scale projects, led by professionals who may lack the expertise, power or resources to instigate the changes required. There is insufficient attention to rigorous evaluation of improvement and to sharing the lessons of successes and failures. Too many QI interventions are seen as 'magic bullets' that will produce improvement in any situation, regardless of context. Too much improvement work is undertaken in isolation at a local level, failing to pool resources and develop collective solutions, and introducing new hazards in the process. This article considers these challenges and proposes four key ways in which QI might itself be improved.

US studies suggest that nurses deal with an average of 8.4 work system failures per 8-hour shift, and they are continually interrupted.[5,6] The need for staff to learn and re-learn, associated with the variability in fundamental processes, is significant. Much professional time is consumed unproductively in learning anew how to undertake tasks as basic as ordering tests, knowing whether equipment has been cleaned, or how things are arranged in the resuscitation trolley in each setting. Personnel may also make errors as they move from place to place, either because they have not yet learned the new procedures or they apply previous learning to new but different contexts, sometimes with tragic outcomes.[7]

### The problems with quality improvement

Healthcare has increasingly been encouraged to use quality improvement (QI) techniques to tackle these operational defects

# What might a bundle for improvement look like?

Why Lean doesn't work for everyone

Gary S Kaplan,[1] Sarah H Patterson,[2] Joan M Ching,[2] C Craig Blackmore[3]

ABSTRA
Popularisa
emphasis
isolation,
delivery of
quality-pa

Re-examining high reliability: actively organising for safety

Kathleen M Sutcliffe,[1,2] Lori Paine,[2,3] Peter J Pronovost[2,4,5]

In the 15 years since *To Err is Human* was published,[1] the US healthcare indus-

THE FUTURE OF LEADERSHIP AND MANAGEMENT IN THE NHS

No more heroes

Refocusing quality measurement to best support quality improvement: local ownership of quality measurement by clinicians

James Mountford,[1] Kaveh G Shojania[2]

Perspectives on Quality

# Resilient health care: turning patient safety on its head†

**JEFFREY BRAITHWAITE[1], ROBERT L. WEARS[2,3], and ERIK HOLLNAGEL[4,5]**

[1]Centre for Healthcare Resilience and Implementation Science, Australian Institute of Health Innovation, Macquarie University, Sydney, Australia, [2]Department of Emergency Medicine, University of Florida, Jacksonville, FL, USA, [3]Clinical Safety Research Unit, Imperial College London, London, UK, [4]Institute for Regional Health Research, University of Southern Denmark, Odense, Denmark, and [5]Center for Quality, Region of Southern Denmark, Middelfart, Denmark

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[1]We describe a paradigm shift underway in health care. It is time to appreciate its nuances and help make it a success.

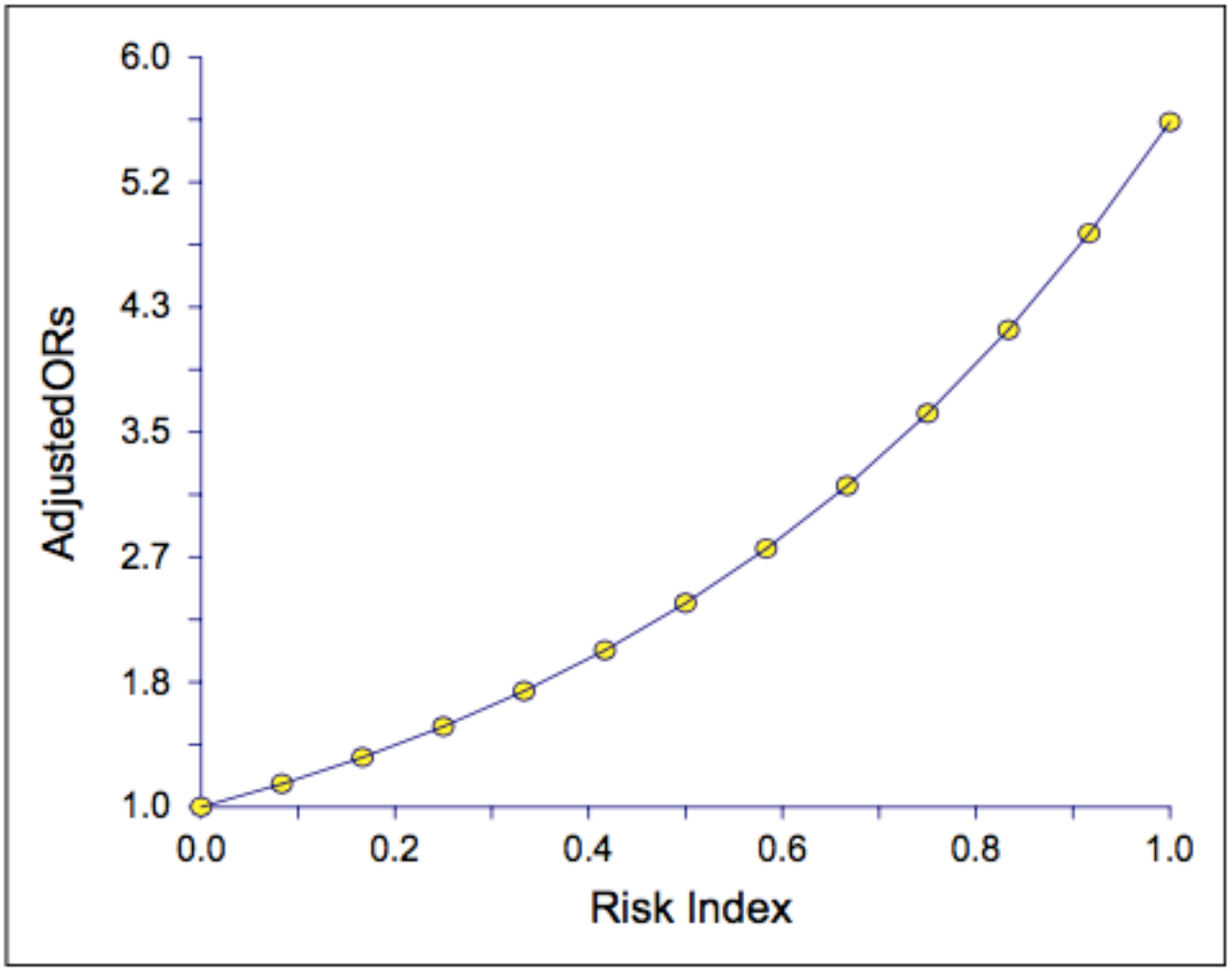
Accepted 26 July 2015

# Question

- Thinking back on your career,
  1. In the best job, how effective was the team?
  2. In your worst job, how effective was the team?
  3. Was there a specific focus on strengthening the teams in which you worked?

1. Outcomes
2. Burnout
3. Implementation
4. Innovation

# THE EVIDENCE FOR TEAMWORK




The American Journal of Surgery. 2009 May;197(5):678–85.

"Anticipation and active engagement by the surgical team resulted in shorter operative time. Training efforts to increase anticipation and team familiarity can improve team efficiency during RAS."

Sexton K, Johnson A, Gotsch A, *et al*. *BMJ Qual Saf*
doi:10.1136/ bmjqs-2017-006701

# Anticipation, teamwork and cognitive load: chasing efficiency during robot-assisted surgery

Kevin Sexton,[1] Amanda Johnson,[1] Amanda Gotsch,[1] Ahmed A Hussein,[1,2] Lora Cavuoto,[3] Khurshid A Guru[1]

## ABSTRACT

**Introduction** Robot-assisted surgery (RAS) has changed the traditional operating room (OR), occupying more space with equipment and isolating console surgeons away from the patients and their team. We aimed to evaluate how anticipation of surgical steps and familiarity between team members impacted efficiency.

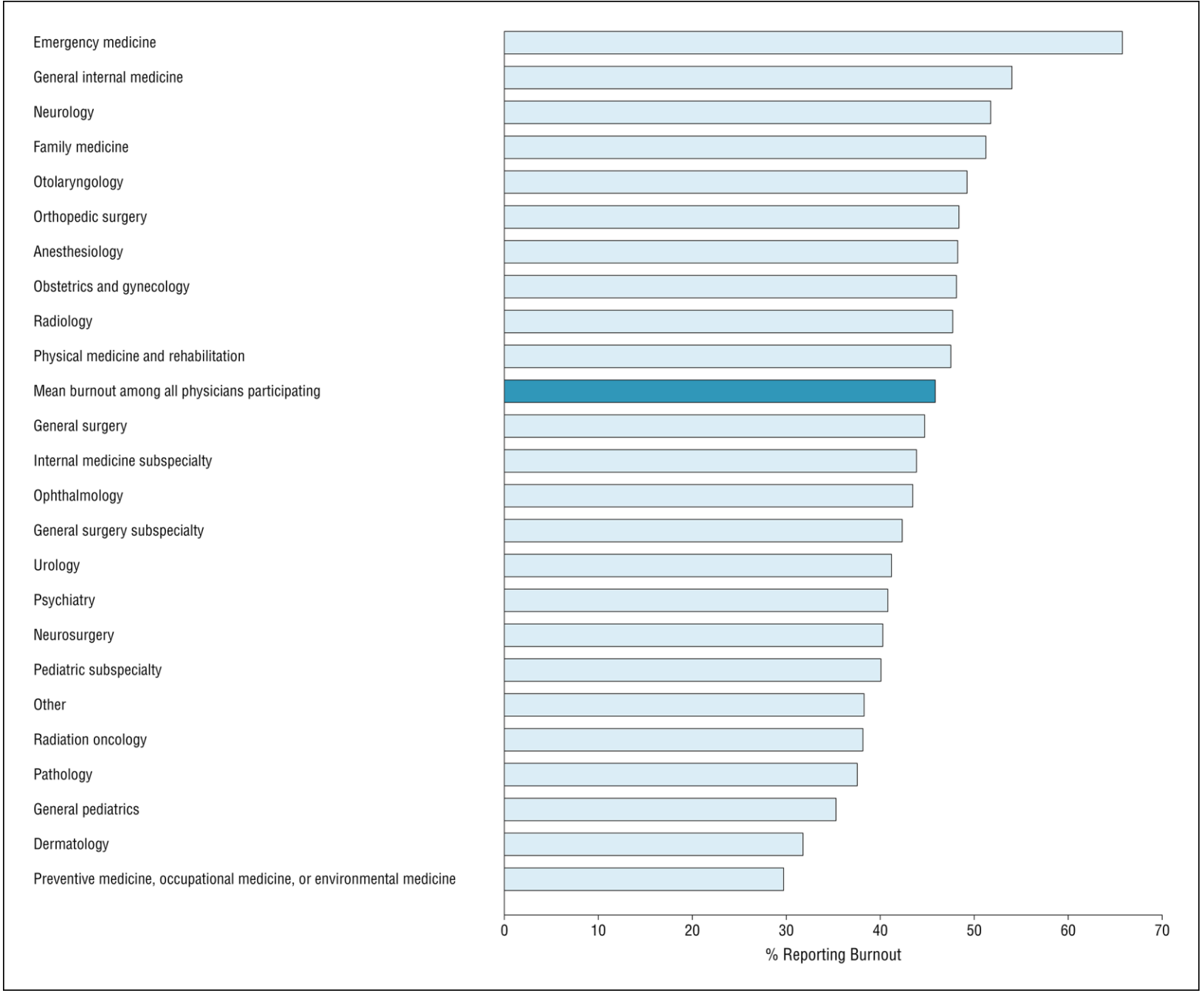
**Methods** We analysed recordings (video and audio) of 12 robot-assisted radical prostatectomies. Any requests between surgeon and the team members were documented and classified by personnel, equipment type, mode of communication, level of inconvenience in fulfilling the request and anticipation. Surgical team members completed questionnaires assessing team familiarity and cognitive load (National Aeronautics and Space Administration – Task Load Index). Predictors of team efficiency were assessed using Pearson correlation and stepwise linear regression.

**Results** 1330 requests were documented, of which 413 (31%) were anticipated. Anticipation correlated negatively with operative time, resulting in overall 8% reduction of OR time. Team familiarity negatively correlated with inconveniences. Anticipation ratio, per cent of requests that were non-verbal and total request duration were significantly correlated with the console surgeons' cognitive load ($r=0.77$, $p=0.006$; $r=0.63$, $p=0.04$; and $r=0.70$, $p=0.02$, respectively).

**Conclusions** Anticipation and active engagement by the surgical team resulted in shorter operative time, and higher familiarity scores were associated with fewer inconveniences. Less anticipation and non-verbal requests were also associated with lower cognitive load for the console surgeon. Training efforts to increase anticipation and team familiarity can improve team efficiency during RAS.

the OR to refine surgical technique, and therefore improve patient outcomes. RAS has been associated with reduced blood loss, transfusions, quicker recovery and enhanced convalescence.[3] However, introduction of relatively new technology into the surgical armamentarium may be associated with newer forms of errors or near-miss events.[4] Additionally, compared with the traditional open approach, RAS may be more demanding in terms of OR staff technical and non-technical skills.[5] The OR layout is modified to accommodate the robot and ancillary equipment obstructing views and physically isolating members of the team — most notably the surgeon, who is no longer located beside the patient and the bedside assistants.[6] This arrangement of the team may inhibit the interpersonal cues and microcommunications that a traditional arrangement allows, which may increase the potential for minor incidents and susceptibility to errors that have been associated with sentinel events.[7]

Another notable factor related to surgical performance and team effectiveness is cognitive workload. Individuals have a finite amount of mental resources that can be devoted to a task at any given time.[8 9] Higher complexity of a given task




Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. Arch Intern Med. 2012 Oct 8;172(18):1377–85.

# Burnout & Teamwork

- 44 NICUs surveyed
- Burnout ranged from 7-55%
- Burnout correlated with
  - Poor teamwork climate
  - Poor safety climate

Profit J, et al. BMJ Qual Saf 2014;23:806–813. doi:10.1136/bmjqs-2014-002831

# Association Between Implementation of a Medical Team Training Program and Surgical Mortality

Julia Neily, RN, MS, MPH
Peter D. Mills, PhD, MS
Yinong Young-Xu, ScD, MA, MS
Brian T. Carney, MD
Priscilla West, MPH
David H. Berger, MD, MHCM
Lisa M. Mazzia, MD
Douglas E. Paull, MD
James P. Bagian, MD, PE

**Context** There is insufficient information about the effectiveness of medical team training on surgical outcomes. The Veterans Health Administration (VHA) implemented a formalized medical team training program for operating room personnel on a national level.

**Objective** To determine whether an association existed between the VHA Medical Team Training program and surgical outcomes.

**Design, Setting, and Participants** A retrospective health services study with a contemporaneous control group was conducted. Outcome data were obtained from the VHA Surgical Quality Improvement Program (VASQIP) and from structured interviews in fiscal years 2006 to 2008. The analysis included 182 409 sampled procedures from 108 VHA facilities that provided care to veterans. The VHA's nationwide training program required briefings and debriefings in the operating room and included checklists as an integral part of this process. The training included 2 months of preparation, a 1-day conference, and 1 year of quarterly coaching interviews

**Main Outcome Measure** The rate of change in the mortality rate 1 year after facilities enrolled in the training program compared with the year before and with nontraining sites.

**Results** The 74 facilities in the training program experienced an 18% reduction in annual mortality (rate ratio [RR], 0.82; 95% confidence interval [CI], 0.76-0.91; $P=.01$) compared with a 7% decrease among the 34 facilities that had not yet undergone training (RR, 0.93; 95% CI, 0.80-1.06; $P=.59$). The risk-adjusted mortality rates at baseline were 17 per 1000 procedures per year for the trained facilities and 15 per 1000 procedures per year for the nontrained facilities. At the end of the study, the rates were 14 per 1000 procedures per year for both groups. Propensity matching of the trained and nontrained groups demonstrated that the decline in the risk-adjusted surgical mortality rate was about 50% greater in the training group (RR,1.49; 95% CI, 1.10-2.07; $P=.01$) than in the nontraining group. A dose-response relationship for additional quarters of the training program was also demonstrated: for every quarter of the training program, a reduction of 0.5 deaths per 1000 procedures occurred (95% CI, 0.2-1.0; $P=.001$).

**Conclusion** Participation in the VHA Medical Team Training program was associated with lower surgical mortality.

*JAMA. 2010;304(15):1693-1700* www.jama.com

ADVERSE EVENTS RELATED TO surgery continue to occur despite the best efforts of clinicians.[1] Teamwork and effective communication are known determinates of surgical safety.[2-6] Previous efforts at demonstrating the efficacy of patient safety initiatives have been limited because of the inability to study a control group.[7] For example, the use of the World Health Organization Safe Surgery checklist has been evaluated, but its overall efficacy remains uncertain because no control group was studied to clearly demonstrate this instrument's effectiveness.[6]

The Veterans Health Administration (VHA) is the largest national integrated health care system in the United States, with 153 hospitals, 130 of which provide surgical services. The

Association between implementation of a medical team training program and surgical mortality. JAMA: The Journal of the American Medical Association. 2010 Oct 20;304(15):1693–700.

# Teams, QI and Implementation

- > 80% of 6 Sigma implementations fail
  - Of these, 60% fail due to poor team dynamics (Eckes 2002)
- Robbins describes 14 reasons why teams fail
  - Poor org
  - Inconsistent goals and vision
  - Poor leadership
  - Lack of trust
  - Hidden agendas
  - Poor reward system

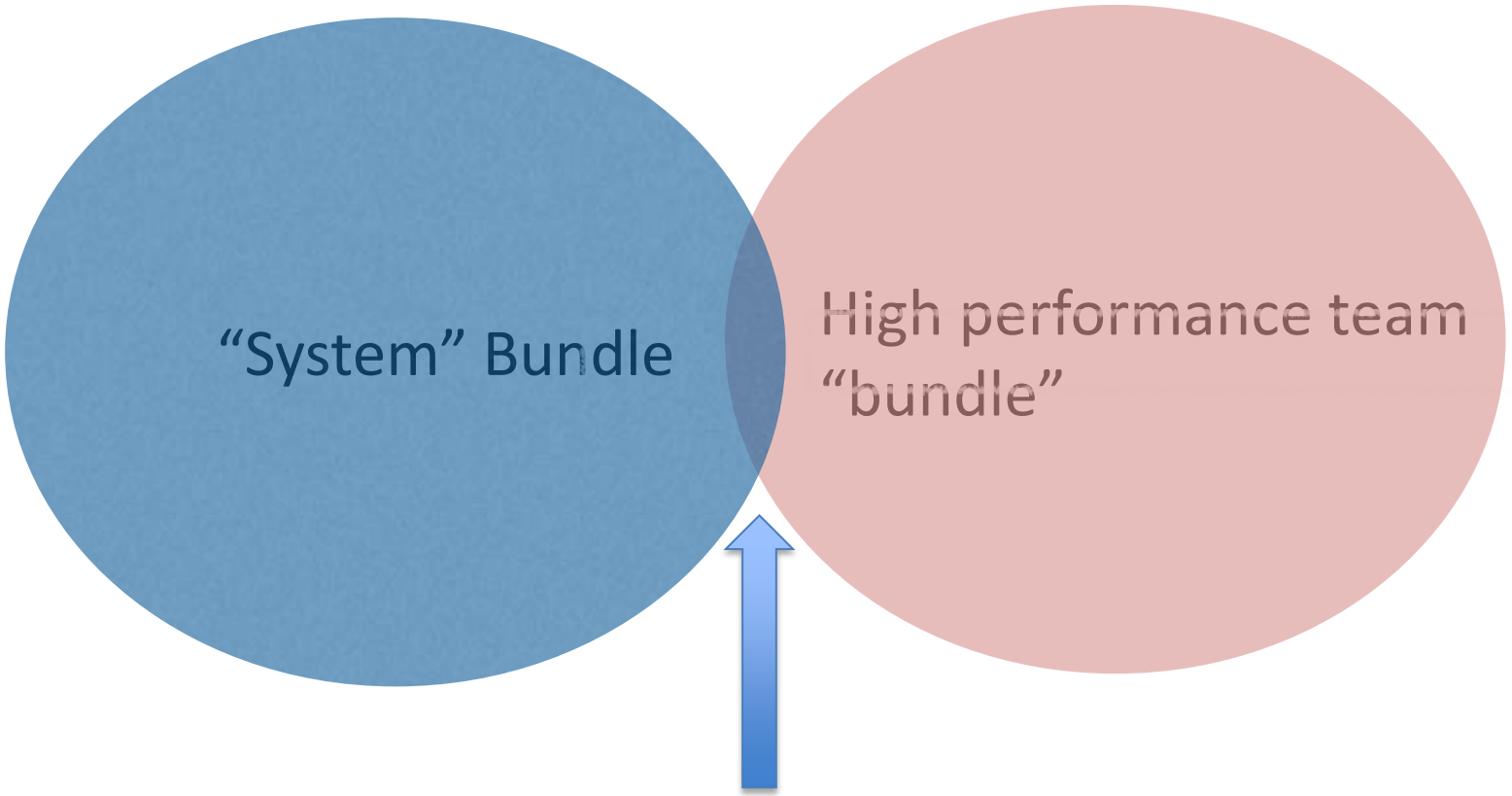
Eckes, G., 2002. *The Six Sigma revolution: How General Electric and others turned process into profits*. John Wiley & Sons.
Robbins H, Finley M. Why teams don't work: What went wrong and how to make it right. Orion Business Books; 1997.

| Parameter | Hospital 1 | Hospital 2 | Hospital 3 | Hospital 4 |
|---|---|---|---|---|
| View of leader's role | Senior surgeon who communicated a need for help from his team | Junior surgeon who emphasized the critical role of team members | Senior surgeon who wanted to make it work single-handedly | Senior surgeon who minimized degree of challenge |
| Members' perception on speaking up | "I am very comfortable speaking up." – Nurse | "There's a free and open environment with input from everybody." – Nurse | "You pick your time to speak up about a problem." –Nurse | "People are afraid to speak out." – Nurse |
| View of project purpose | To help patients | To empower the team and accomplish goals | To demonstrate leading- edge capability | To stay competitive with other hospitals |
| **Project outcome** | **Successful implementation** | **Successful implementation** | **Eventually abandoned** | **Abandoned early** |

J Bone Joint Surg Am. 2014 Nov 5;96(21):e184–4.

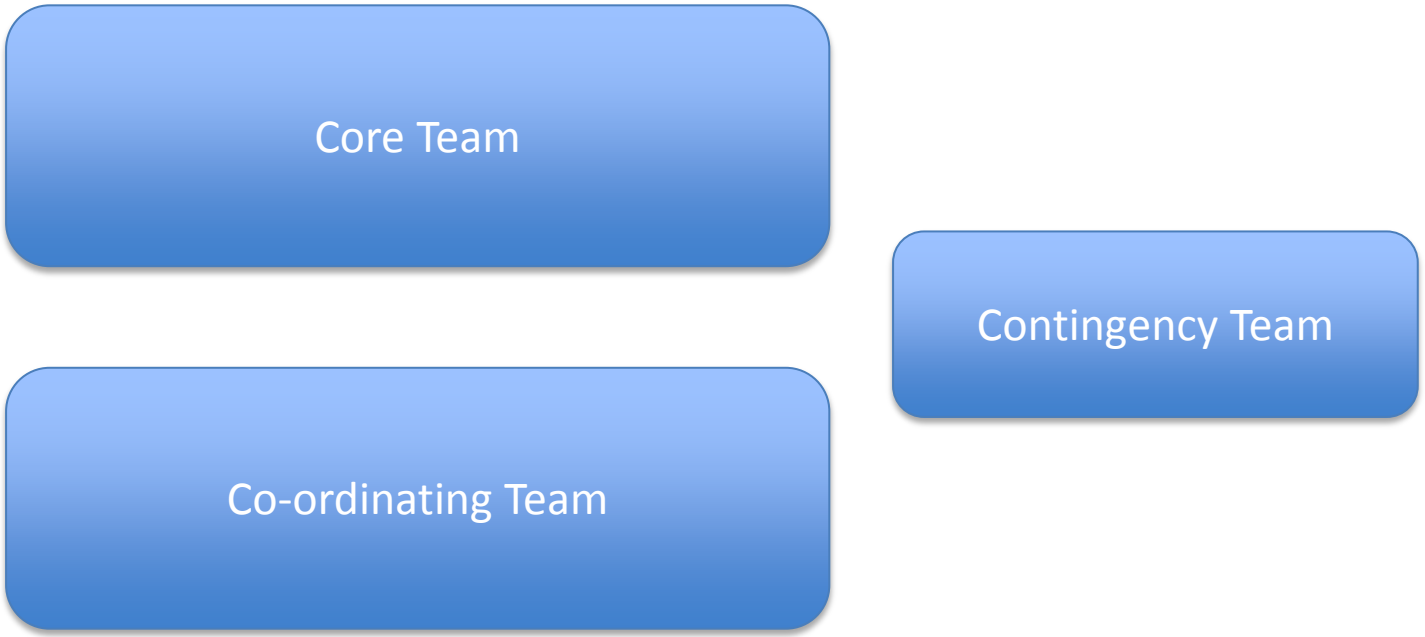
# Healthcare will be improved by

# two complementary approaches




Reliable Implementation, continual improvement, communication & learning

# Types of teams



# Teams

“Nobody is perfect but a good team may be.”

Meredith Belbin

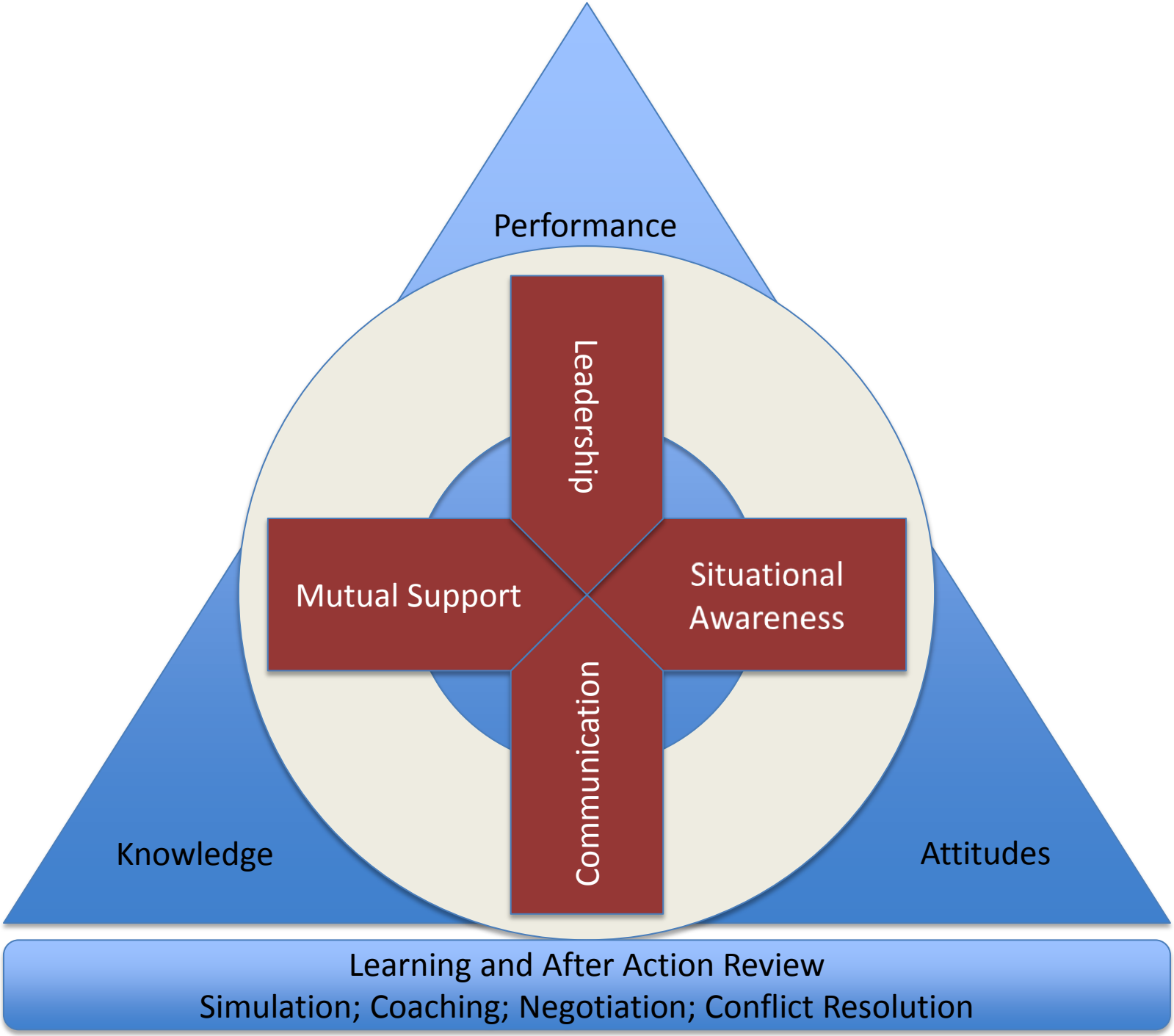
# Teams & Improvement/ learning

| Domain | Dependency of teamwork |
|---|---|
| Leadership | +++ |
| Patient focused | +++ |
| Use of data | +++ |
| Improvement methods | +++ |
| Learning | +++ |
| Standardisation | +++ |
| Staff wellbeing | +++ |

| Management Approach | Organizing to execute | Organizing to learn |
|---|---|---|
| Measuring performance | Did **YOU** do it right? | Did **WE** learn? |
| Structuring work | Separate expertise | Integrate expertise |
| Employee discretion allowed | Choose among options | Innovate & develop options |
| Means of empowerment | Employees can deviate if special circumstances apply | Employees can create their own approach |
| Works | When path forward is clear | When path forward is not clear |
| | | |

Teaming: an approach to the growing complexities in health care. J Bone Joint Surg Am. 2014 Nov 5;96(21):e184–4.


1
Psychological Safety
Team members feel safe to take risks and be vulnerable in front of each other.
2
Dependability
Team members get things done on time and meet Google's high bar for excellence.
3
Structure & Clarity
Team members have clear roles, plans, and goals.
4
Meaning
Work is personally important to team members.
5
Impact
Team members think their work matters and creates change.
re:Work


Performance
Leadership
Mutual Support
Situational Awareness
Communication
Knowledge
Attitudes
Learning and After Action Review
Simulation; Coaching; Negotiation; Conflict Resolution

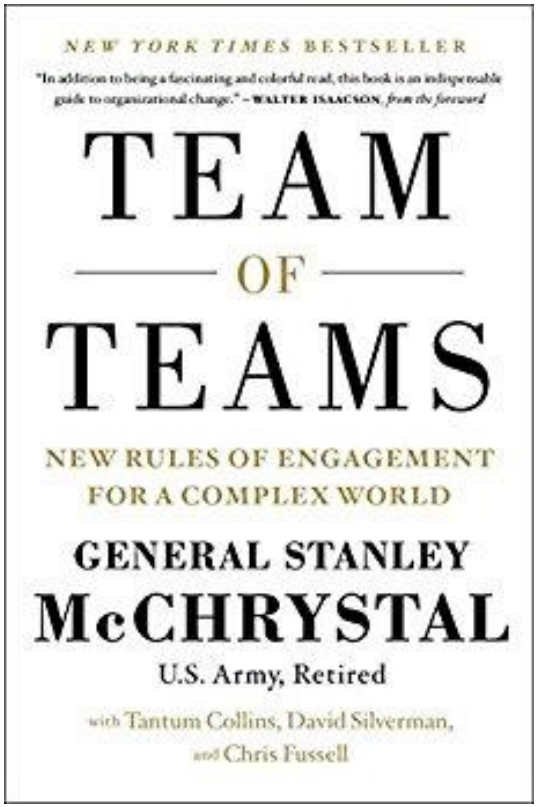
# Healthcare is now a Complex System

Slides; Thanks @johnfitzsimons9

# Team of Teams

“Do you want a collection of brilliant minds or a brilliant collection of minds?”

Meredith Belbin



# Teams of teams

- In a complex dynamic system, how can we ensure multiple teams:
  - Communicate effectively
  - Learn rapidly and continuously from lessons made visible to one team
  - Take action effectively as a “single unit”

# Questions

- ✓ What is our shared purpose?
  - ✓ How did we agree it, and do we all understand it?
- ✓ How do we generate psychological safety?
- ✓ Do we all understand our respective roles?
- ✓ How do we communicate and maintain situational awareness?
  - ✓ How do adjust as work changes?
- ✓ How do we support one another?

# Suggested Links

@horsleycarl
@jbraithwaite1
@amycedmondson
@stevenshorrock
@johnfitzsimons9
@coleadproject

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**Watch recorded webinars at your convenience on HSEQID QITalktime page**


## Next Webex – October 24th:
## Prof Brendan Mc Cormack:
## Person and Family Engagement

**QI TALK TIME**

**Building an Irish Network of Quality Improvers**

**Thank you from all the team @QITalktime**
**Roisin.breen@hse.ie**
**Noemi.palacios@hse.ie**