Healthcare Improvement Scotland

LEADERSHIP FOR IMPROVEMENT

7th Dec 2017

NHS East London NHS Foundation Trust

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Health Foundation / IHI Quality Improvement Fellow

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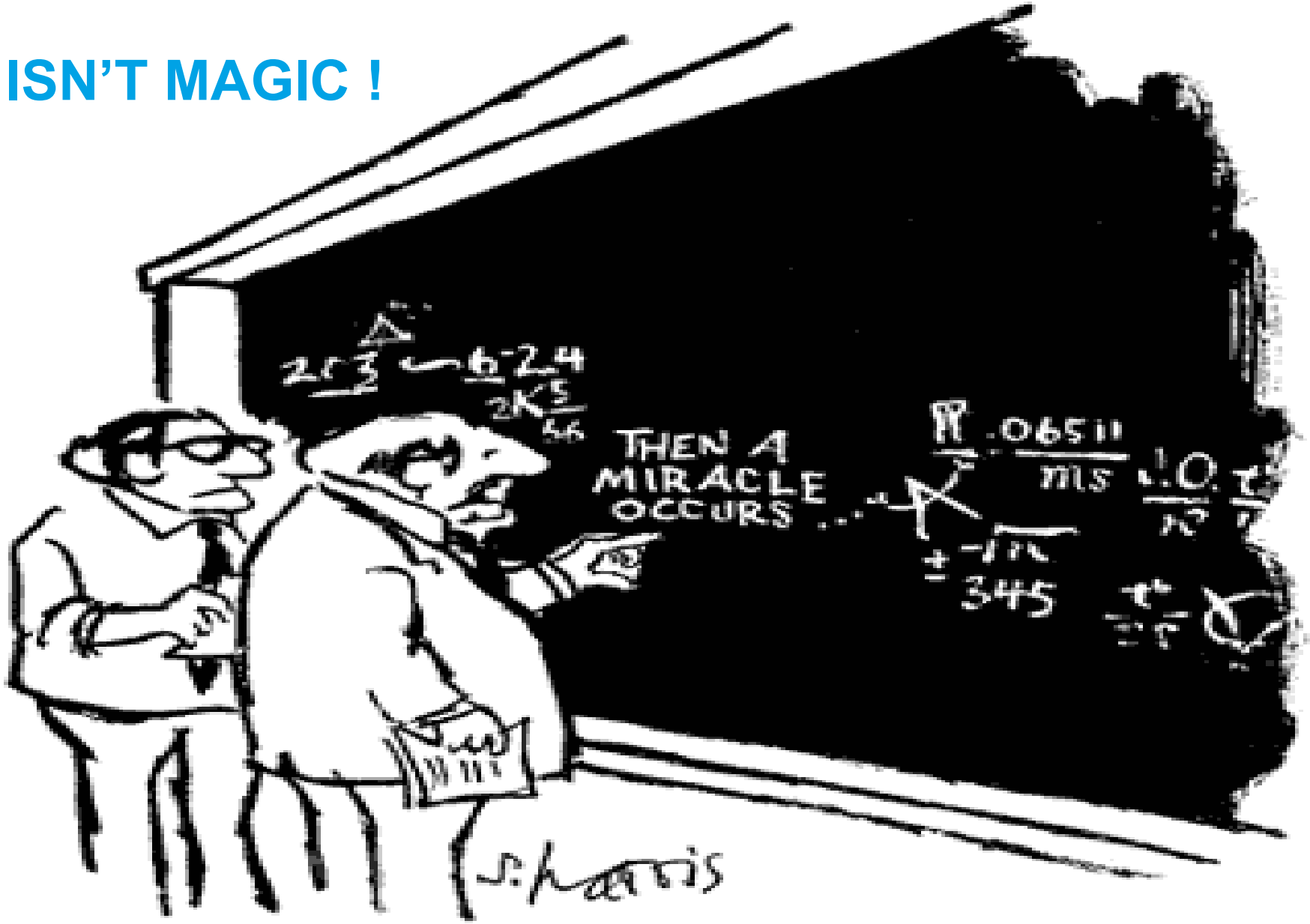
@brobson3

IT ISN'T MAGIC !



"I think you should be more explicit here in step two."

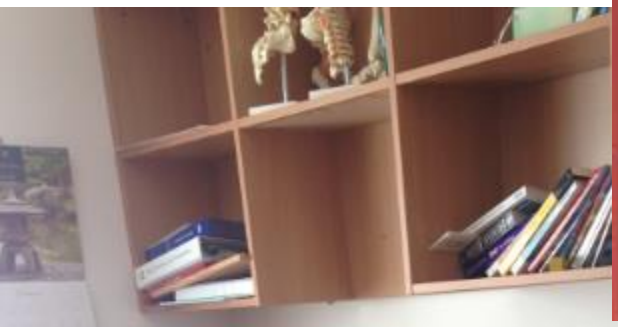

THERE WILL BE
NO MIRACLES
HERE

WE HAVE THE SAME PROBLEMS

*“ Working together means that you should **never worry alone.**”*

Maureen Bisognano

#mhimprove



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NHS SCOTLAND

Patient permission granted

< PREVIOUS NEXT >

WHAT WE DO

Every Person Every Time – Scottish Patient Safety Programme

ihub – supporting health and social care

Scottish Health Technologies Group

scottish health council

Integrated cycle of Improvement

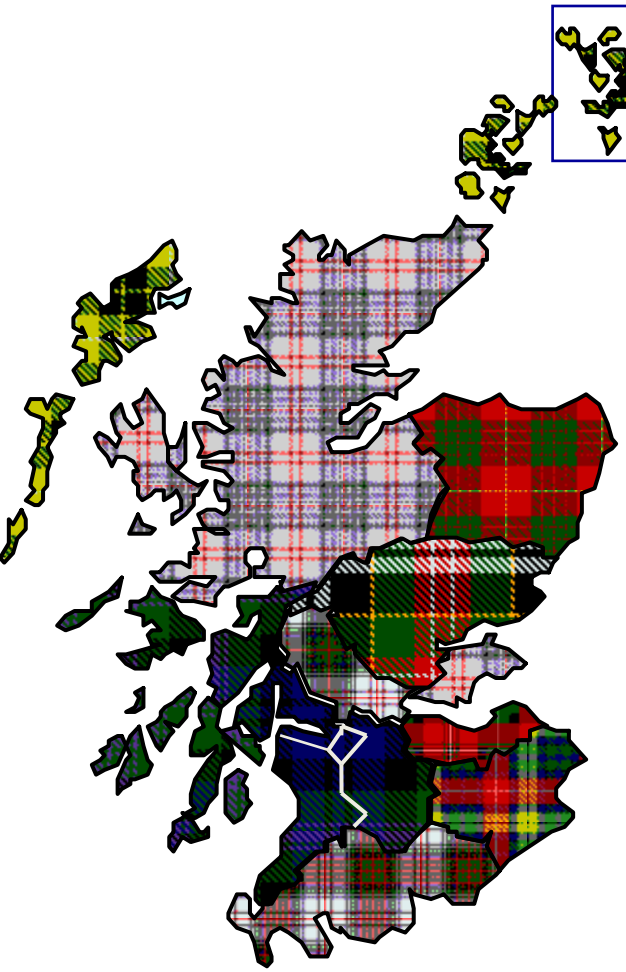
SIGN

HEI Healthcare Environment Inspectorate

Death Certification Review Service

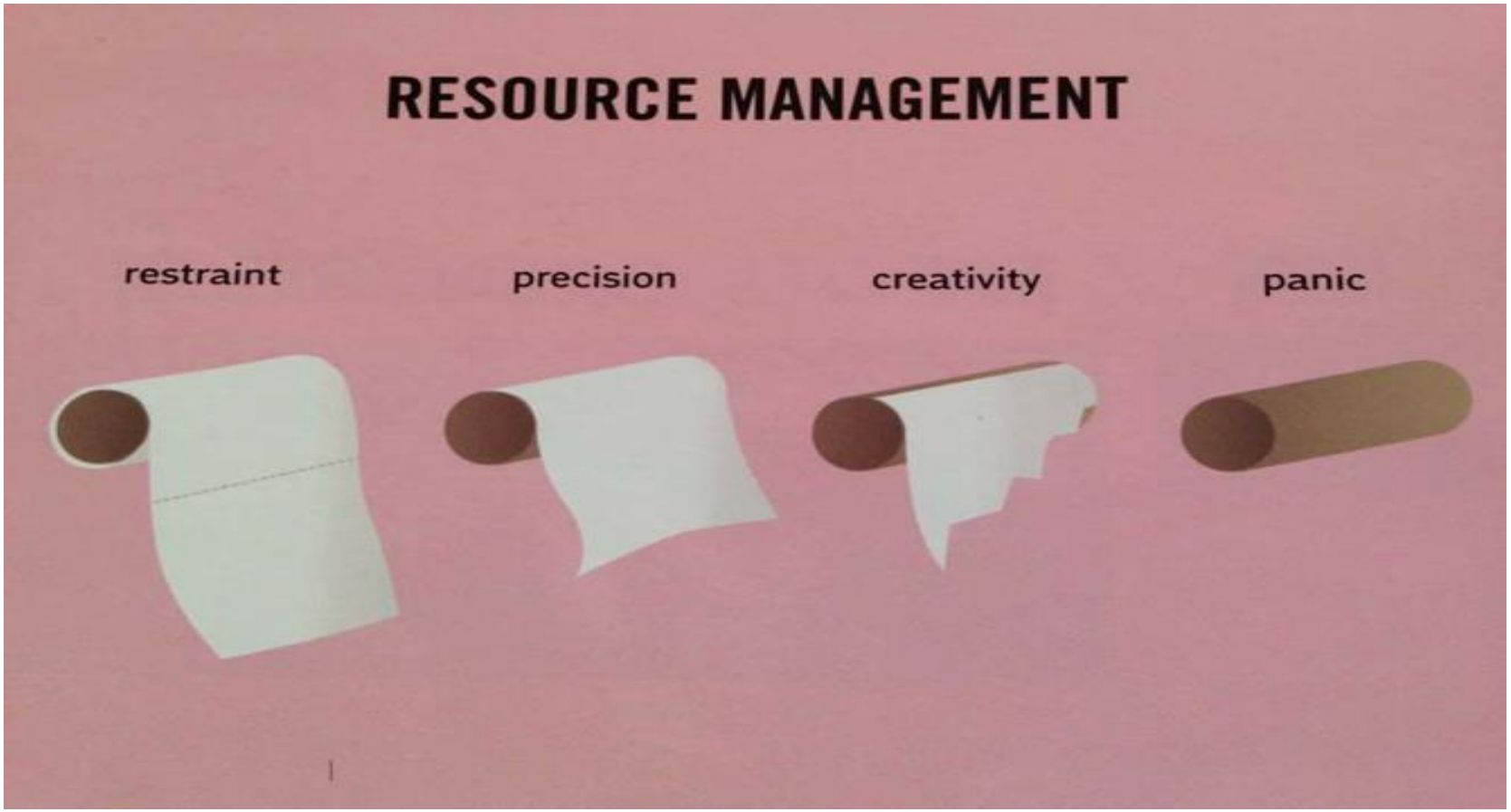
Scottish Medicines Consortium

regulation of independent healthcare



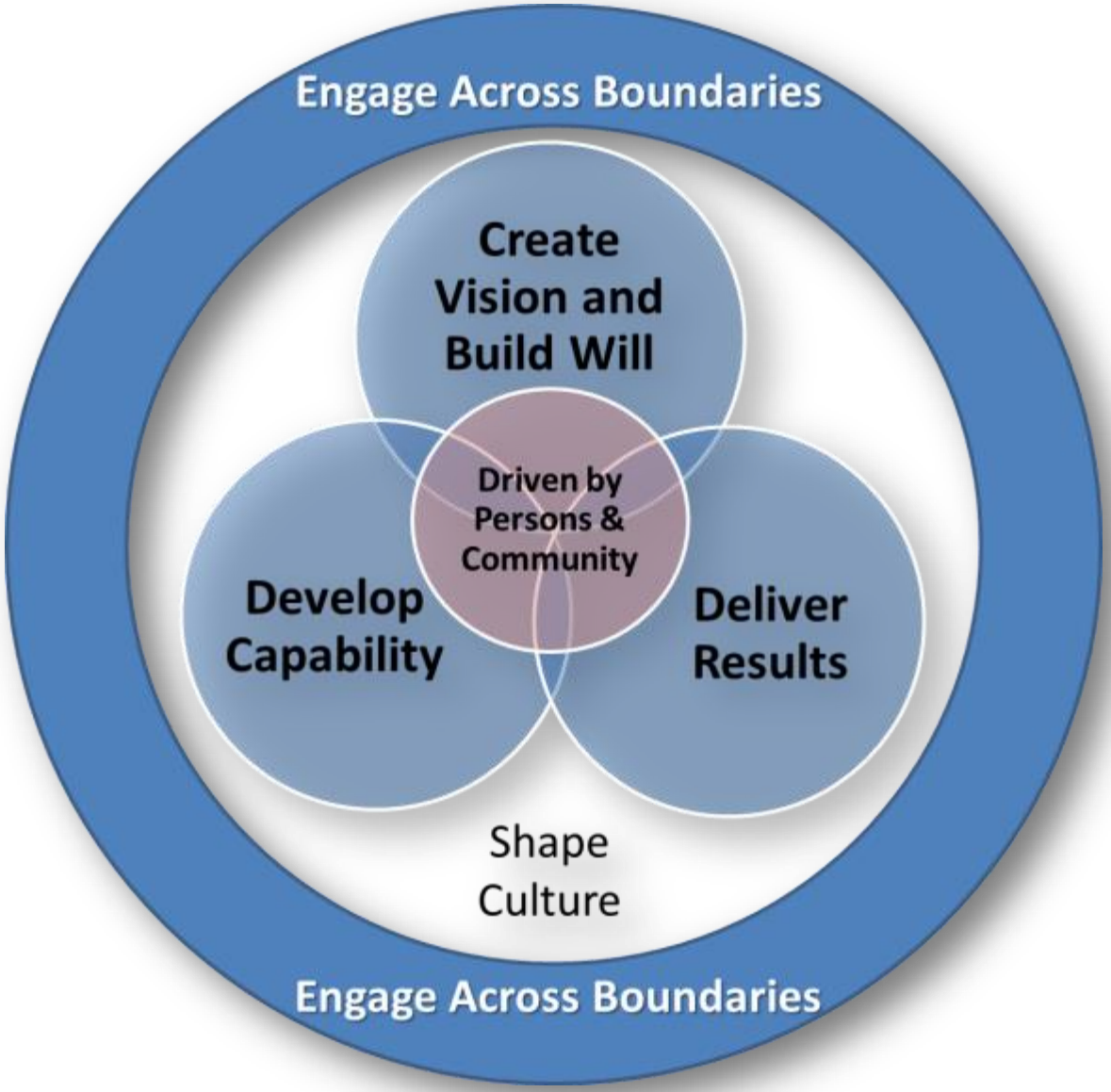
- **5.37 million population**
- **£13 billion H&SC budget**
- **14 territorial boards**
- **Special boards**
  - NHS Education for Scotland
  - NHS National Services Scotland
  - Scottish Ambulance Service
  - Golden Jubilee Foundation
  - NHS Health Scotland
  - State Hospital
  - NHS 24
- **Moving to integrated health & social care**
- **Public Body** – Healthcare Improvement Scotland

THERE IS NO MORE MONEY



#mhimprove

So what is the plan this morning ?



Swensen S, Pugh M, McMullan C, Kabcenell A. High-Impact Leadership: Improve Care, Improve the Health of Populations, and Reduce Costs. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2013. (Available at ihi.org)

Institute *for* Healthcare Improvement

http://www.ihi.org/resources/pages/ihiwhitepapers/highimpactleadership

“**A clear theory is crucial**....
however, theories are like toothbrushes ... everyone has one but doesn't want someone else's!"

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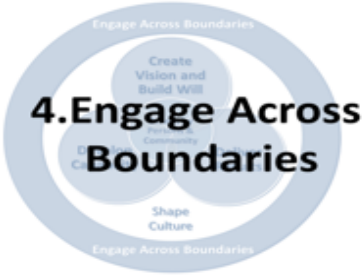
	What is happening where you are?	What can you do to strengthen this?
1. Create Vision & Build Will		
2. Develop Capability		
3.Deliver Results		

 **4.Engage Across Boundaries**		
 **5.Shape Culture**		
 **6. Driven by Persons & Community**		

Healthcare Improvement Scotland

	What is happening where you are?	What can you do to strengthen this?
1. Create Vision & Build Will		
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5.Shape Culture		
6. Driven by Persons & Community		

Talk and scribble

Some general bits first …

NOT JUST IN ENGLAND …

- Complex landscape
- ‘blunt end’ and ‘sharp end’
- aspiration for quality
- bright spots

But ….

- Lack of goal setting
- Externally focussed compliance
- “forgotten patients”
- “Structural and cultural threats to quality”
- “Poor IT systems… support …management”

Culture and behaviour in the English National Health Service: overview of lessons from a large multimethod study

Mary Dixon-Woods,[1] Richard Baker,[1] Kathryn Charles,[2] Jeremy Dawson,[3] Gabi Jerzembek,[4] Graham Martin,[1] Imelda McCarthy,[4] Lorna McKee,[5] Joel Minion,[1] Piotr Ozieranski,[6] Janet Willars,[1] Patricia Wilkie,[7] Michael West[8]

[1]Department of Health Sciences, University of Leicester, Leicester, UK
[2]Imperial College Centre for Patient Safety and Service Quality (CPSSQ), London, UK
[3]Institute of Work Psychology and School of Health and Related Research, University of Sheffield, Sheffield, UK
[4]Aston Business School, Aston University, Birmingham, UK
[5]Health Services Research Unit, University of Aberdeen, Aberdeen, UK
[6]Department of Social and Policy Sciences, University of Bath, Bath, UK
[7]National Association for Patient Participation, Surrey, UK
[8]Lancaster University Management School, Lancaster, UK

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Received 3 March 2013
Revised 16 July 2013
Accepted 17 July 2013

To cite: Dixon-Woods M, Baker R, Charles K, *et al*. *BMJ Qual Saf* Published Online First: [*please include* Day Month Year] doi:10.1136/bmjqs-2013-001947

ABSTRACT

Background Problems of quality and safety persist in health systems worldwide. We conducted a large research programme to examine culture and behaviour in the English National Health Service (NHS).

Methods Mixed-methods study involving collection and triangulation of data from multiple sources, including interviews, surveys, ethnographic case studies, board minutes and publicly available datasets. We narratively synthesised data across the studies to produce a holistic picture and in this paper present a high-level summary.

Results We found an almost universal desire to provide the best quality of care. We identified many ‘bright spots’ of excellent caring and practice and high-quality innovation across the NHS, but also considerable inconsistency. Consistent achievement of high-quality care was challenged by unclear goals, overlapping priorities that distracted attention, and compliance-oriented bureaucratised management. The institutional and regulatory environment was populated by multiple external bodies serving different but overlapping functions. Some organisations found it difficult to obtain valid insights into the quality of the care they provided. Poor organisational and information systems sometimes left staff struggling to deliver care effectively and disempowered them from initiating improvement. Good staff support and management were also highly variable, though they were fundamental to culture and were directly related to patient experience, safety and quality of care.

Conclusions Our results highlight the importance of clear, challenging goals for high-quality care. Organisations need to put the patient at the centre of all they do, get smart intelligence, focus on improving organisational systems, and nurture caring cultures by ensuring that staff feel valued, respected, engaged and supported.

INTRODUCTION

A commitment to delivering high-quality, safe healthcare has been a policy goal of governments worldwide for more than a decade, but progress in delivering on these aspirations has been modest:[1] patients everywhere continue to suffer avoidable harm and substandard care.[2 3] England’s National Health Service (NHS) has not been immune to these problems. Despite some encouraging evidence of improvement in quality and safety,[4 5] large and inexplicable variations in quality of care are evident across multiple domains and sectors of healthcare, from primary through to community and secondary care.[6 7] England has also seen a number of high-profile scandals involving egregious failings in the quality and safety of individual providers. These include the case of Mid Staffordshire NHS Foundation Trust,[8] the subject of a recently published public inquiry by Sir Robert Francis into how catastrophic failings in the quality and safety of care went undetected and uncorrected.[9]

Francis identified the causes of organisational degradation at Mid Staffordshire as systemic; he saw the underlying faults as institutional and cultural in character. He found significant weaknesses in NHS systems for oversight, accountability and

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Dixon-Woods M, et al. BMJ Qual Saf 2013;0:1–10. doi:10.1136/bmjqs-2013-001947

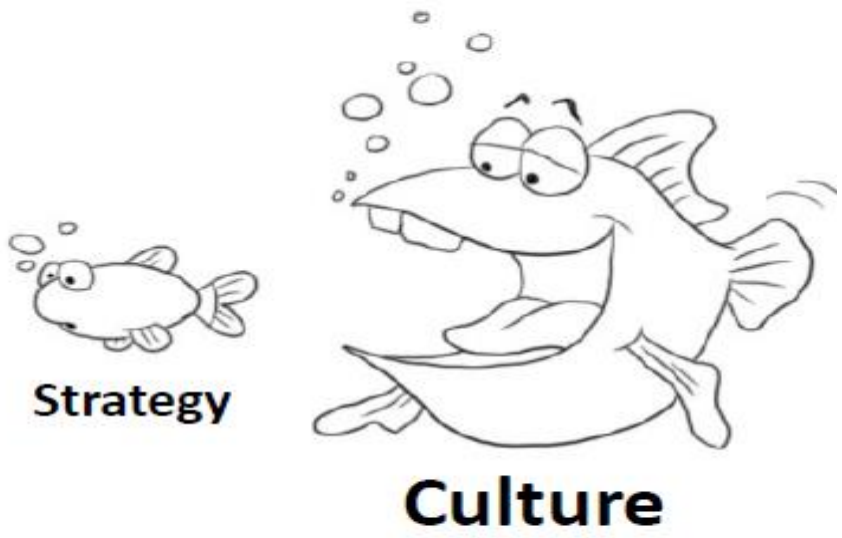
THE MDW ANSWERS .....

Box 1 Strategies for creating positive cultures

Senior leaders should:

- Continually reinforce an inspiring vision of the work of their organisations
- Promote staff health and wellbeing
- Listen to staff and encourage them to be involved in decision making, problem solving and innovation at all levels
- Provide staff with helpful feedback on how they are doing and celebrate good performance
- Take effective, supportive action to address system problems and other challenges when improvement is needed
- Develop and model excellent teamwork
- Make sure that staff feel safe, supported, respected and valued at work.[35]

SUPPORTING STRUCTURES ?



ALL TOOLS FOR IMPROVEMENT

Quality Planning

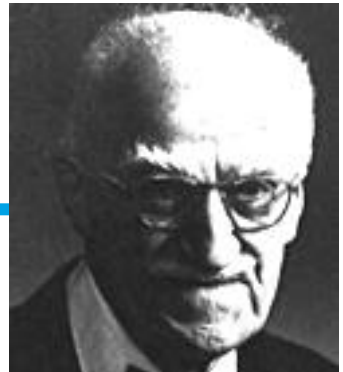
Provides a system that is capable of meeting quality standards

Quality Control

Used to determine when corrective action is required

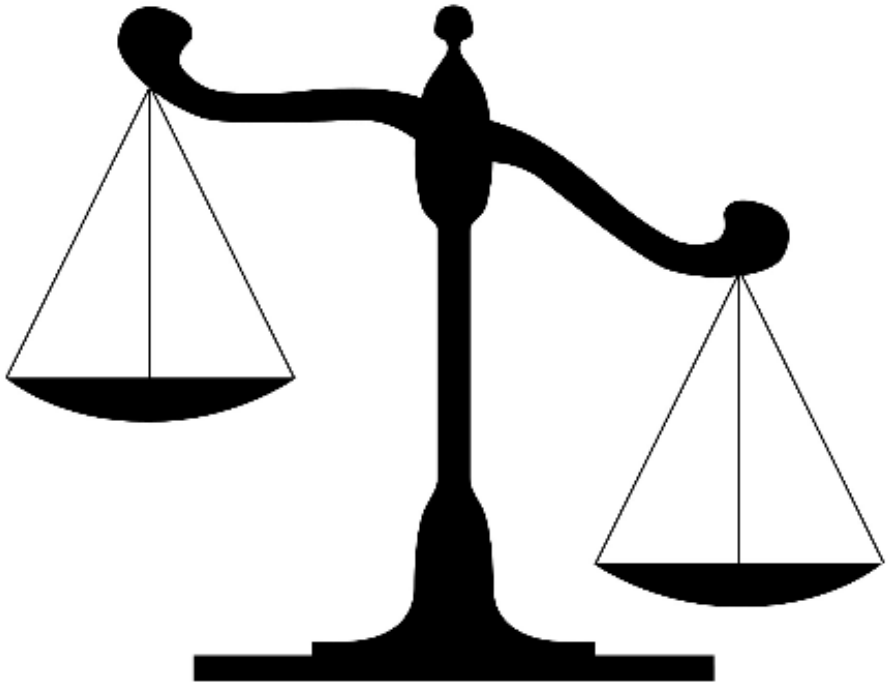
Quality Improvement

Seeks better ways of doing things



Dr Joseph Juran

INTERNAL OR EXTERNAL QUALITY CONTROLS?



http://www.ihi.org/resources/Pages/Presentations/TheMoralTestBerwickForum2011Keynote.aspx

Thoughts, comments on the general bits?

SCOTLAND'S QUALITY JOURNEY

'This is not the end.

It is not even the beginning of the end, but it is, perhaps, the end of the beginning.'

Sir Winston Churchill

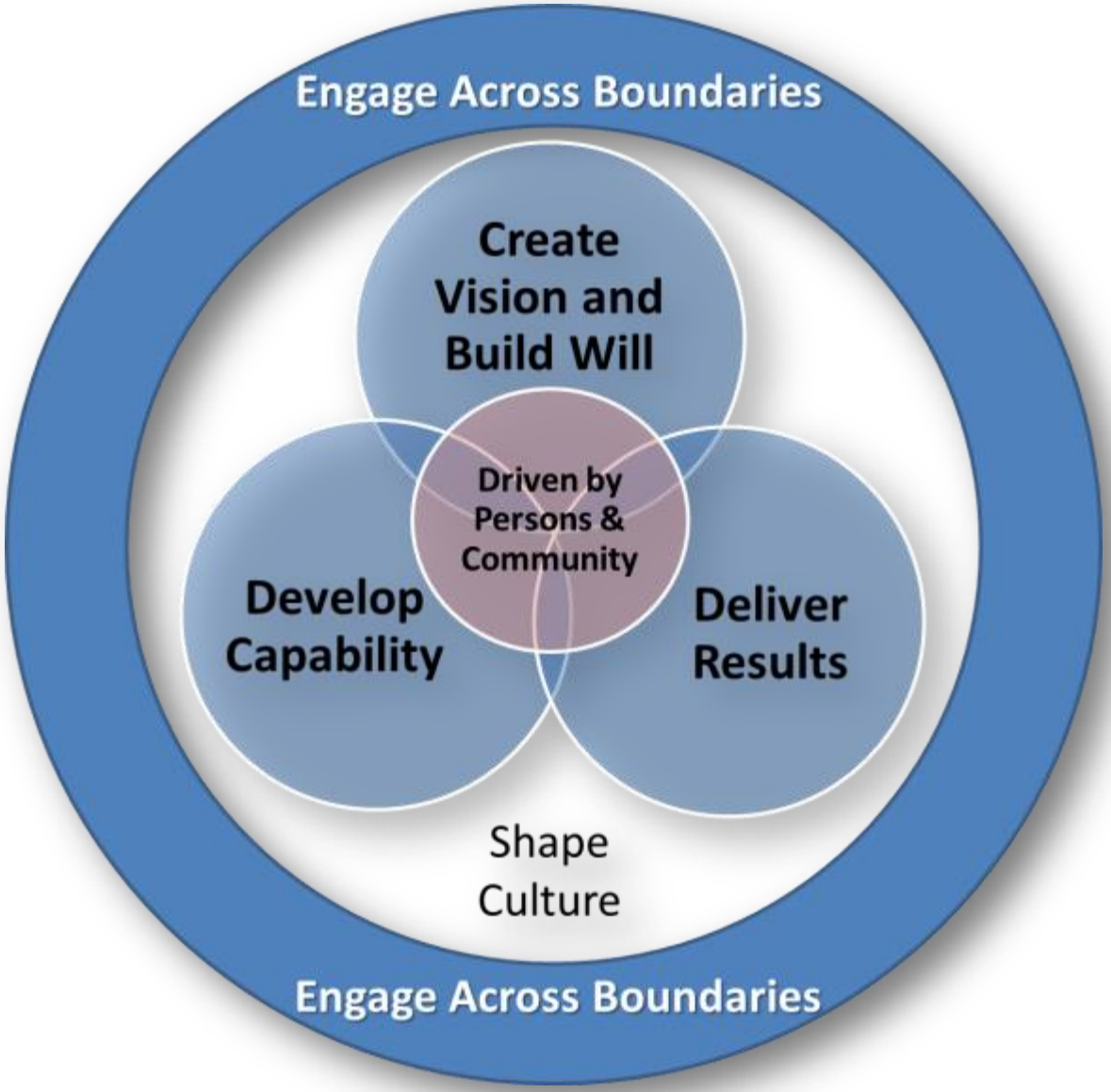
NUFFIELD TRUST

1. Continuity and consistency
2. Intrinsic ethical and professional motivations and personal connections
3. Widespread use of small scale testing and revision
4. National scrutiny and improvement support in same organisation
5. Building QI capacity

Dayan M & Edwards N. 2017.

Learning from Scotland's NHS: Research Report. https://www.nuffieldtrust.org.uk/files/2017-07/learning-from-scotland-s-nhs-final.pdf

QUALITY IMPROVEMENT IS MESSY



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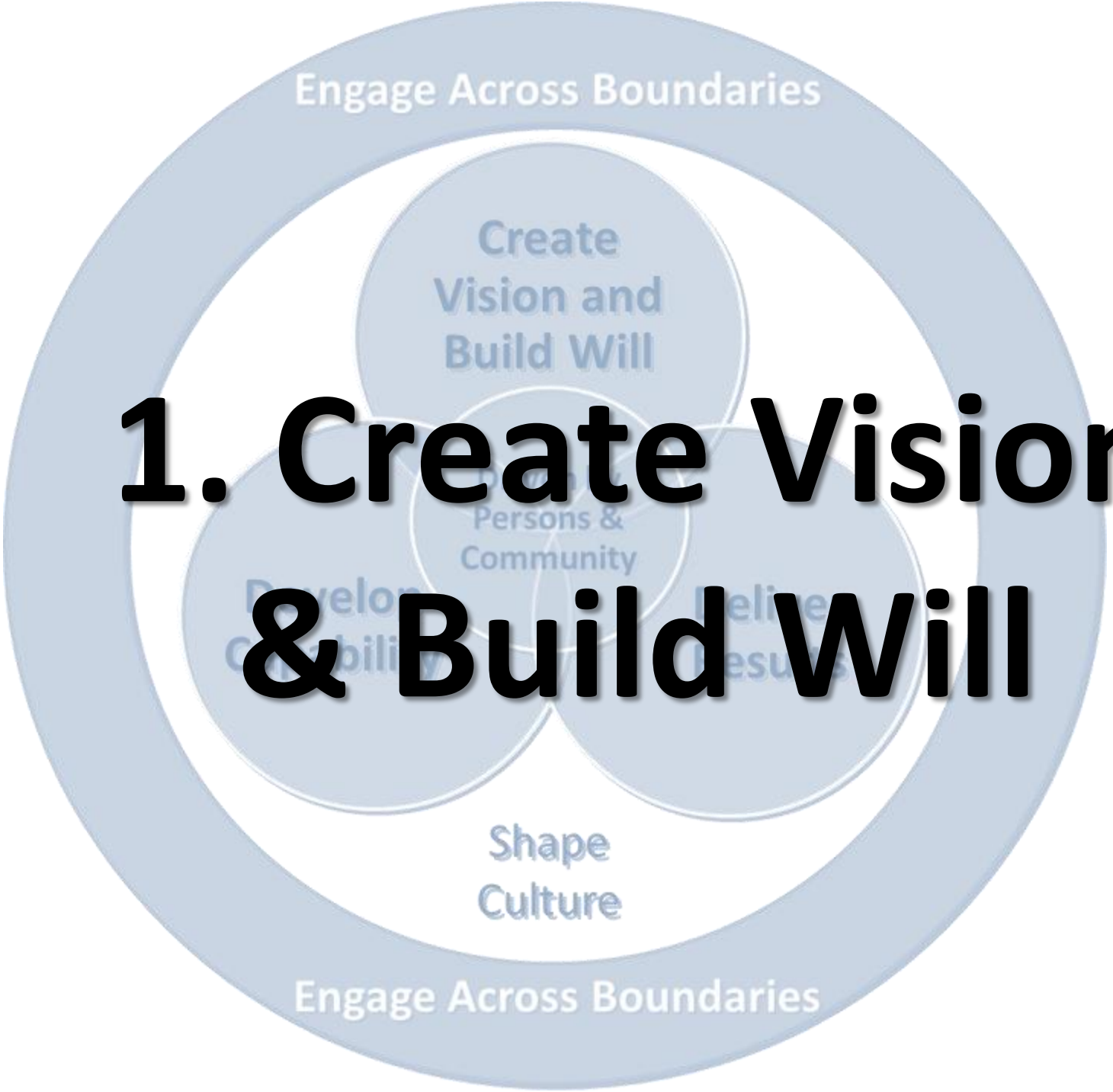


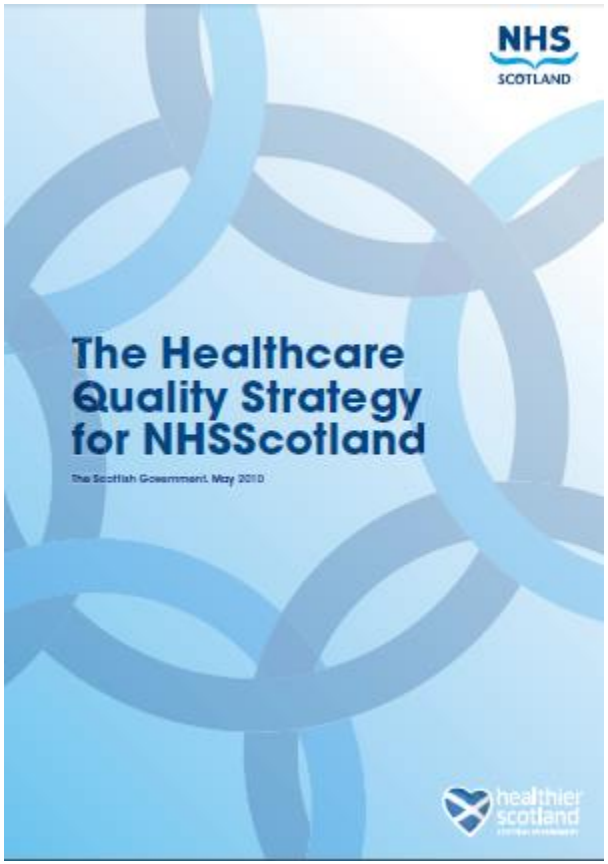
1. Create Vision & Build Will

We have had 5 decades of clinical audit and 10 years of clinical governance. The future will focus on ***patient safety and reducing harm****.*

Prof Sir Graham Teasdale


EVERY PERSON
EVERY TIME
SCOTTISH
PATIENT
SAFETY
PROGRAMME

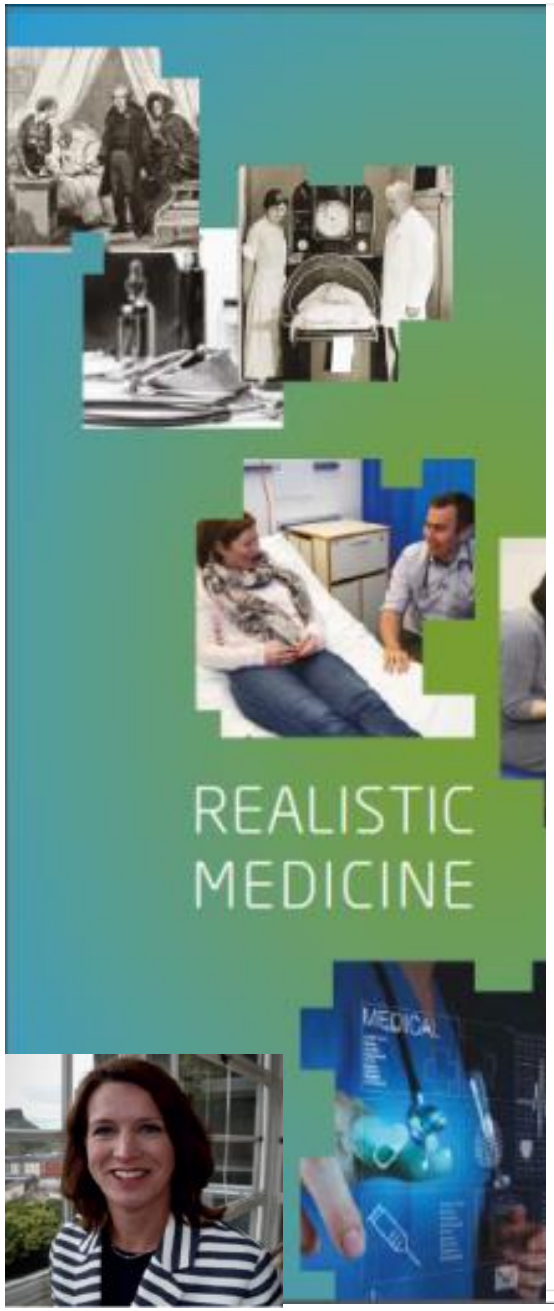
NATIONAL COMMITMENT TO QUALITY



3 Quality Ambitions

- Safe care
- Effective care
- Person-centred care

http://www.scotland.gov.uk/Resource/Doc/311667/0098354.pdf Scottish Government, May 2010



REALISTIC MEDICINE

CAN WE:

CHANGE OUR STYLE TO **SHARED DECISION-MAKING?**

BUILD A **PERSONALISED** APPROACH TO CARE?

REDUCE HARM AND WASTE?

REDUCE **UNNECESSARY VARIATION** IN PRACTICE AND OUTCOMES?

MANAGE RISK BETTER?

BECOME IMPROVERS AND INNOVATORS?

http://www.gov.scot/Publications/2016/01/3745/downloads

Convening the co-producers

Celebrating success

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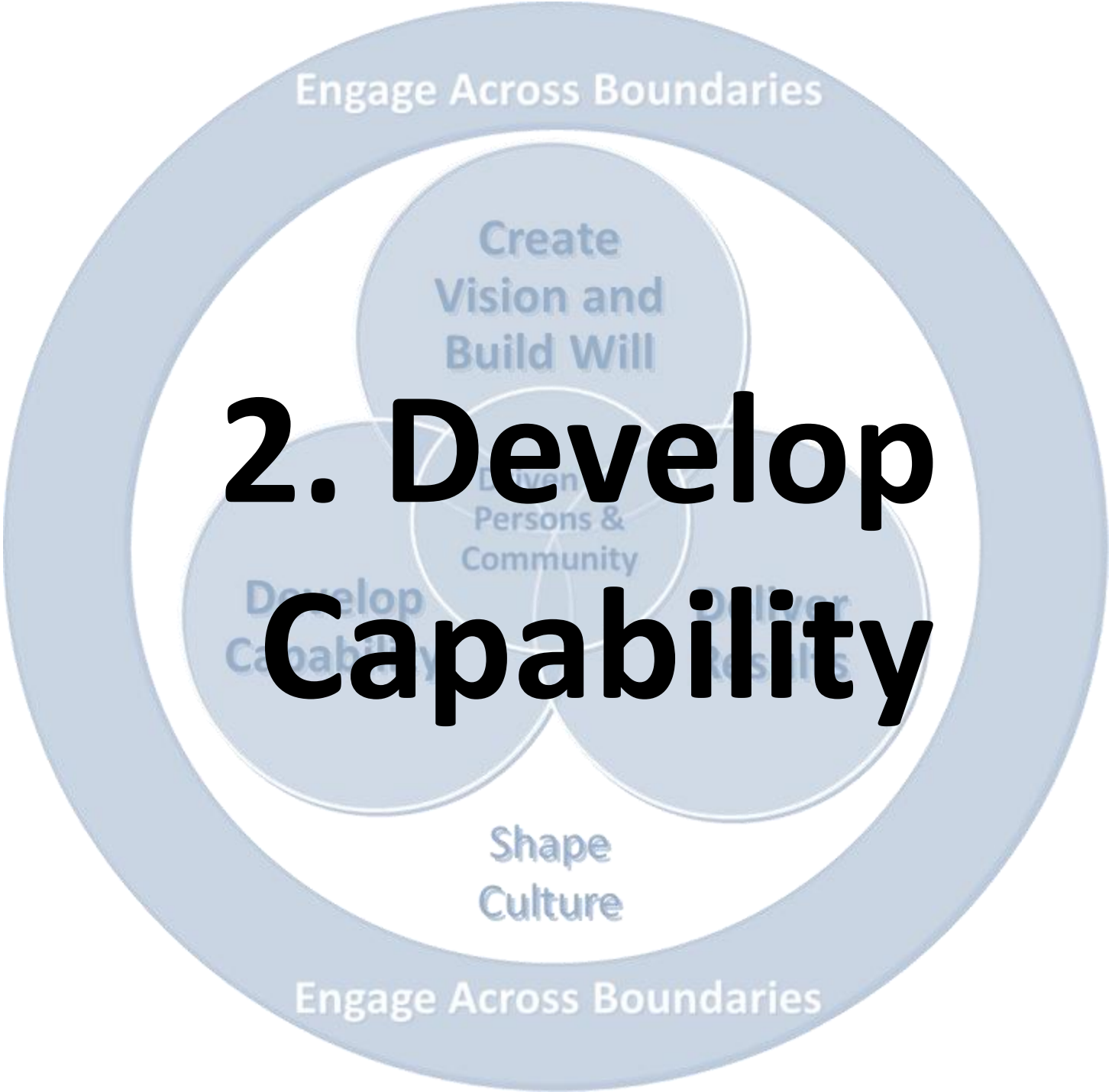
Talk and scribble



2. Develop Capability

In times of change, learners inherit the Earth. . .

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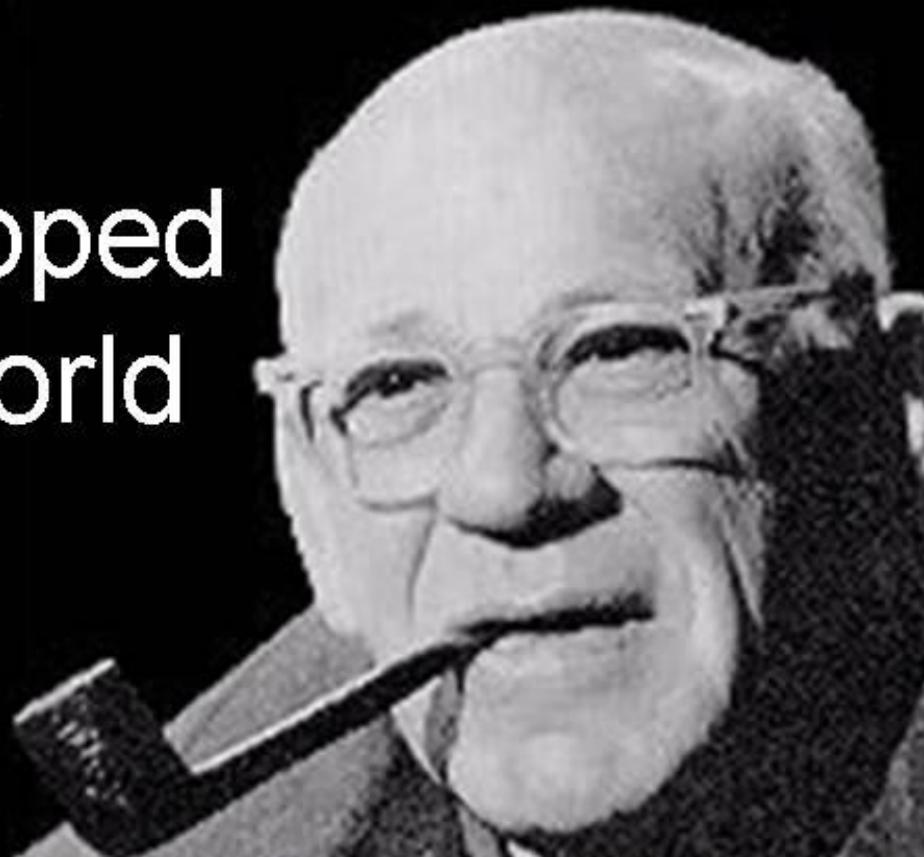
while the learned
find themselves
beautifully equipped
to deal with a world
that no longer
exists.

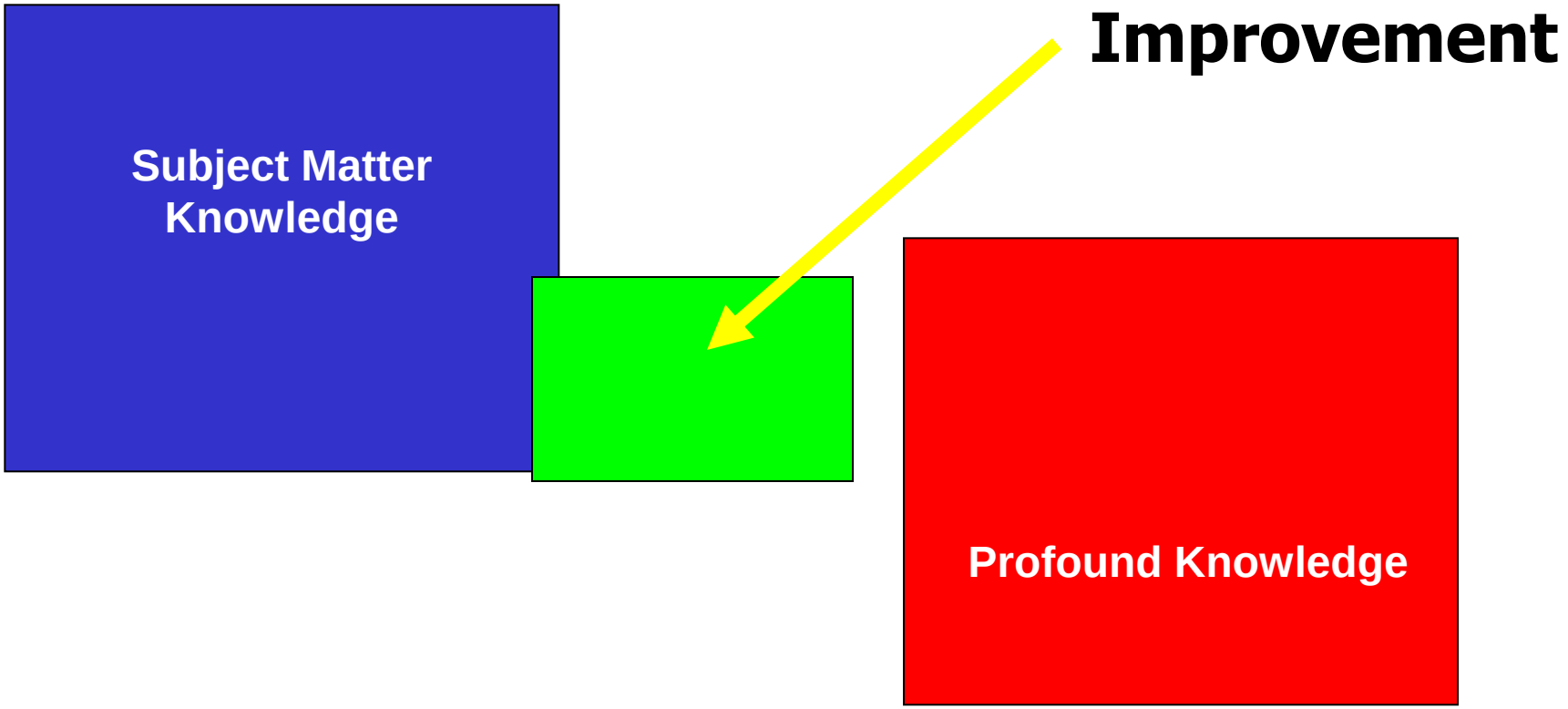


Eric Hoffer

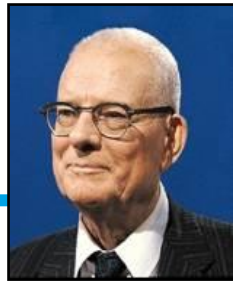
“…everyone in healthcare really has two jobs when they come to work every day: to do their work and to improve it.”

What is “quality improvement” and how can it transform healthcare?
Batalden,P; Davidoff.F Qual Saf Health Care. 2007 February; 16(1): 2–3

Subject Matter Knowledge: Specialist knowledge and skills required to be a good clinician

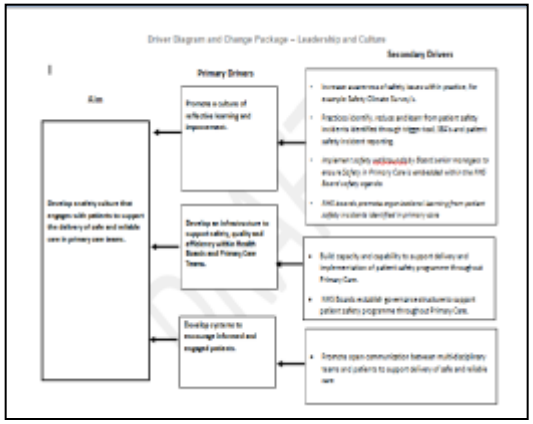


Profound Knowledge: The interaction of the theories of **systems**, **variation**, **epistemology** and **psychology**.



EARLY SUPPORT

NEW TOOLS ...



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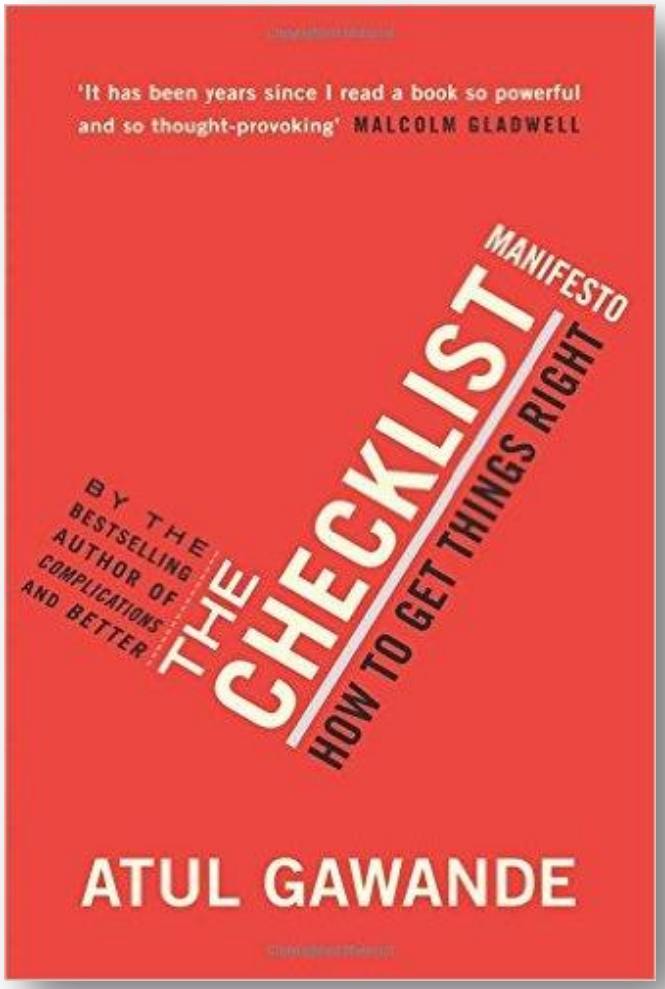
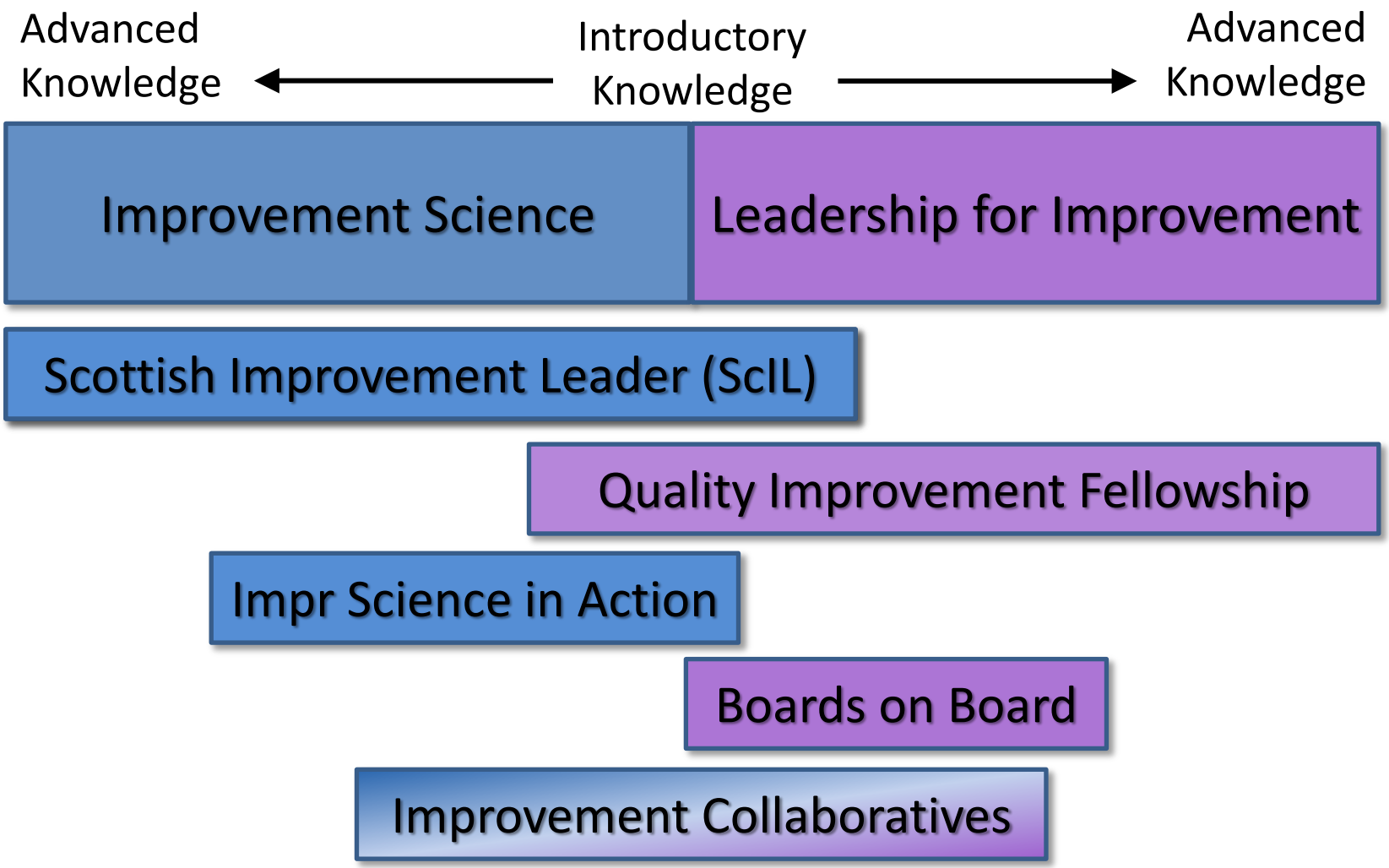
BEHIND THE TOOLS...



"... using a checklist requires [doctors] to embrace different values from ones we've had, like **humility, discipline, team."**

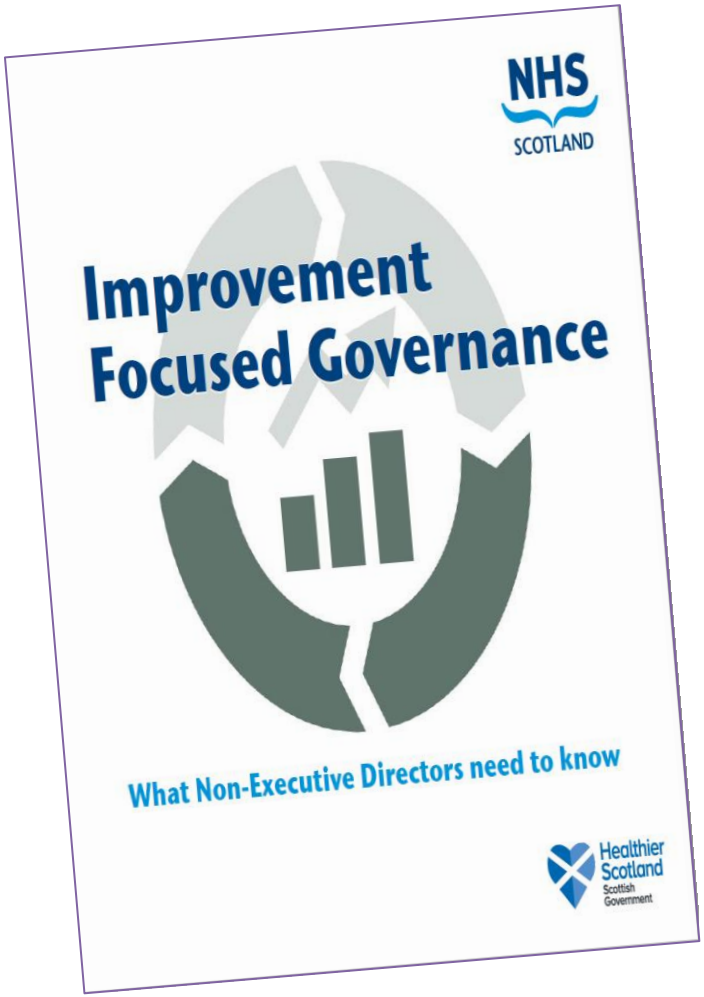
https://www.amazon.co.uk/d/Books/Checklist-Manifesto-How-Things-Right-Atul-Gawande/1846683149

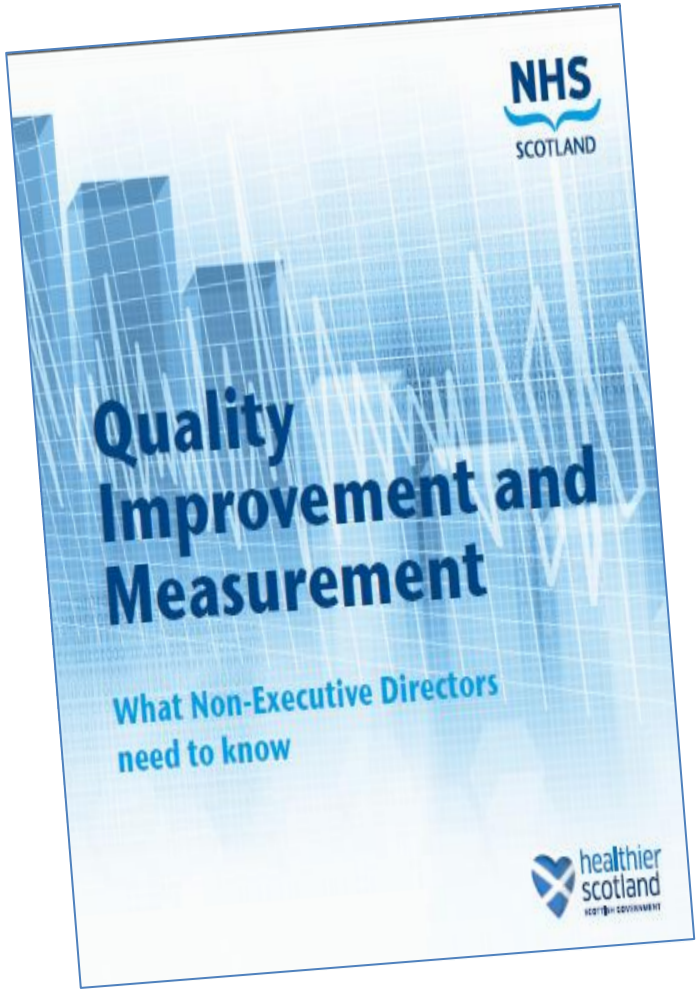
Improvement Capacity Building: Scotland's Approach



laura.allison@nes.scot.nhs.uk

IMPROVEMENT LEARNING AT ALL LEVELS





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http://www.gov.scot/Publications/2017/02/1090/downloads

http://www.gov.scot/Publications/2016/01/3484/downloads

QUALITY & SAFETY FELLOWS (COHORTS 1-10)

222 Quality & Safety Fellows

141 Medics

70 NMAHPs

10 Pharmacists

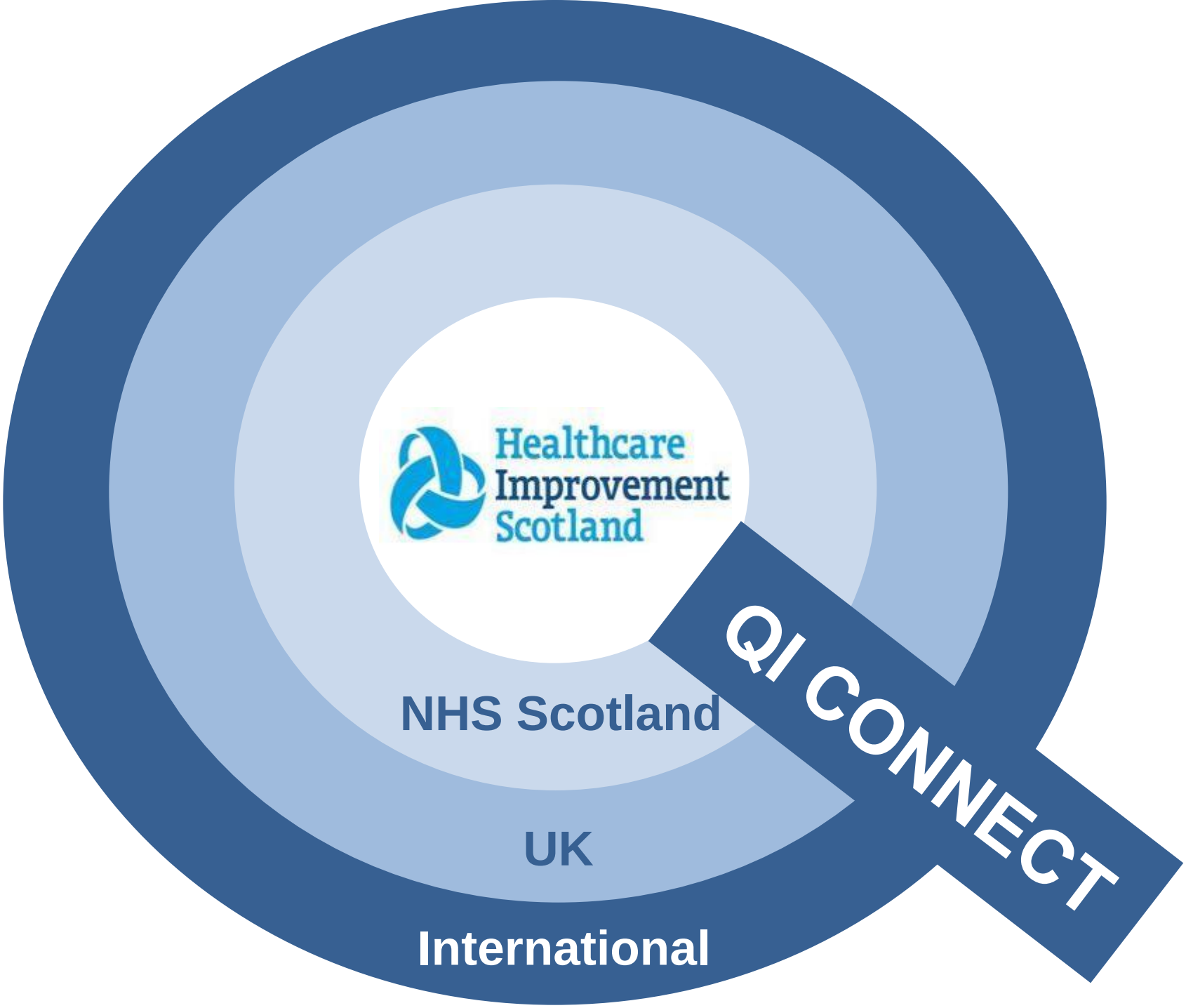
1 Dentist

							
143	**34**	**14**	**13**	**15**	**1**	**1**	**1**
Scotland	N Ireland	Ireland	Denmark	Norway	England	Wales	Canada

"I have realised that there is a greater world out there. I want to be a credible clinician improving care: **this is my professional future"**

SPSP Fellow, 2014


“I know the world is changing…
…. I want to learn how to change with it and improve care."
Scottish Q&S Fellow, 2017


Healthcare Improvement Scotland
NHS Scotland
UK
International
QI CONNECT

QI CONNECT 2017: INNOVATION & INTEGRATION

Chris Ham
The Kings Fund
26 January

Jaideep Prabhu
Cambridge Judge Business School
21 February

Emmanuel Gobillot
Global Author & Speaker
4 April

Stephen Swensen
Mayo Clinic
2 May

Don Norman
The Design Lab
University of California
25 May

Anna Roth
Contra Costa Regional Medical Center
27 July

Bill Lucas
University of Winchester
28 September

Tom Marshburn
NASA
26 October

Sally Magnuson
Playlist for Life
21 November

QI CONNECT 2018: INNOVATION & INTEGRATION

Dr JD Polk
Chief Health & Medical Officer
NASA
25 January

Dr Nirav Shah
Former Senior Vice President & Chief Officer for Clinical Operations
Kaiser Permanente
22 February

Professor Al Mulley
Managing Director, Global Health Care Delivery Science
Professor of Medicine, Geisel School of Medicine
The Dartmouth Institute
29 March

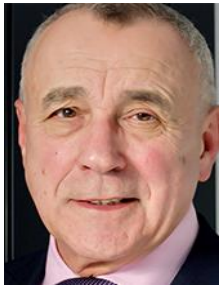
Atul Gawande
Surgeon, Writer & Public Health Researcher
26 April

Toby Cosgrove
Former President & Chief Executive
The Cleveland Clinic
31 May

Fiona Godlee
Editor in Chief
BMJ
Date TBC

Danielle Martin
Physician, health care administrator & an associate professor
University of Toronto
Date TBC

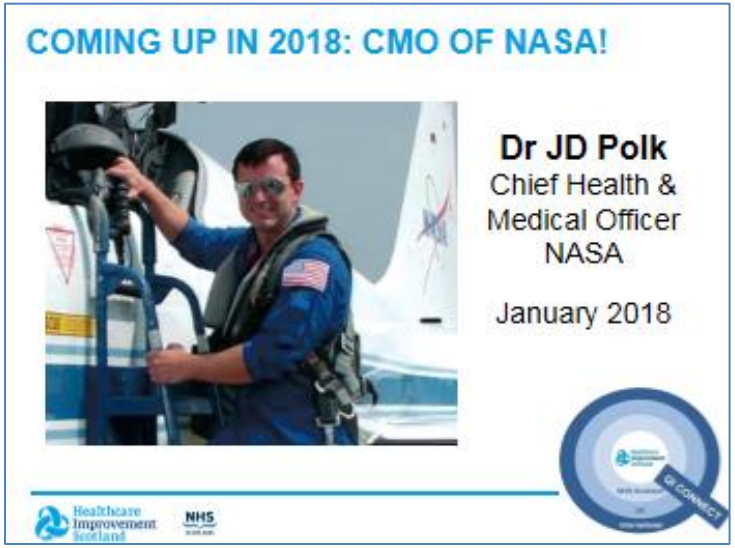
Brene Brown
Scholar, author, and research professor
University of Houston Graduate College of Social Work
Date TBC



Roy Lilley
Health policy analyst, writer, broadcaster and commentator
Date TBC

ePatient Dave
Cancer survivor and expert in the meaningful use of health IT
29 November

LEARNING WITH NASA !



http://www.healthcareimprovementscotland.org/our_work/clinical_engagement/qi_connect.aspx

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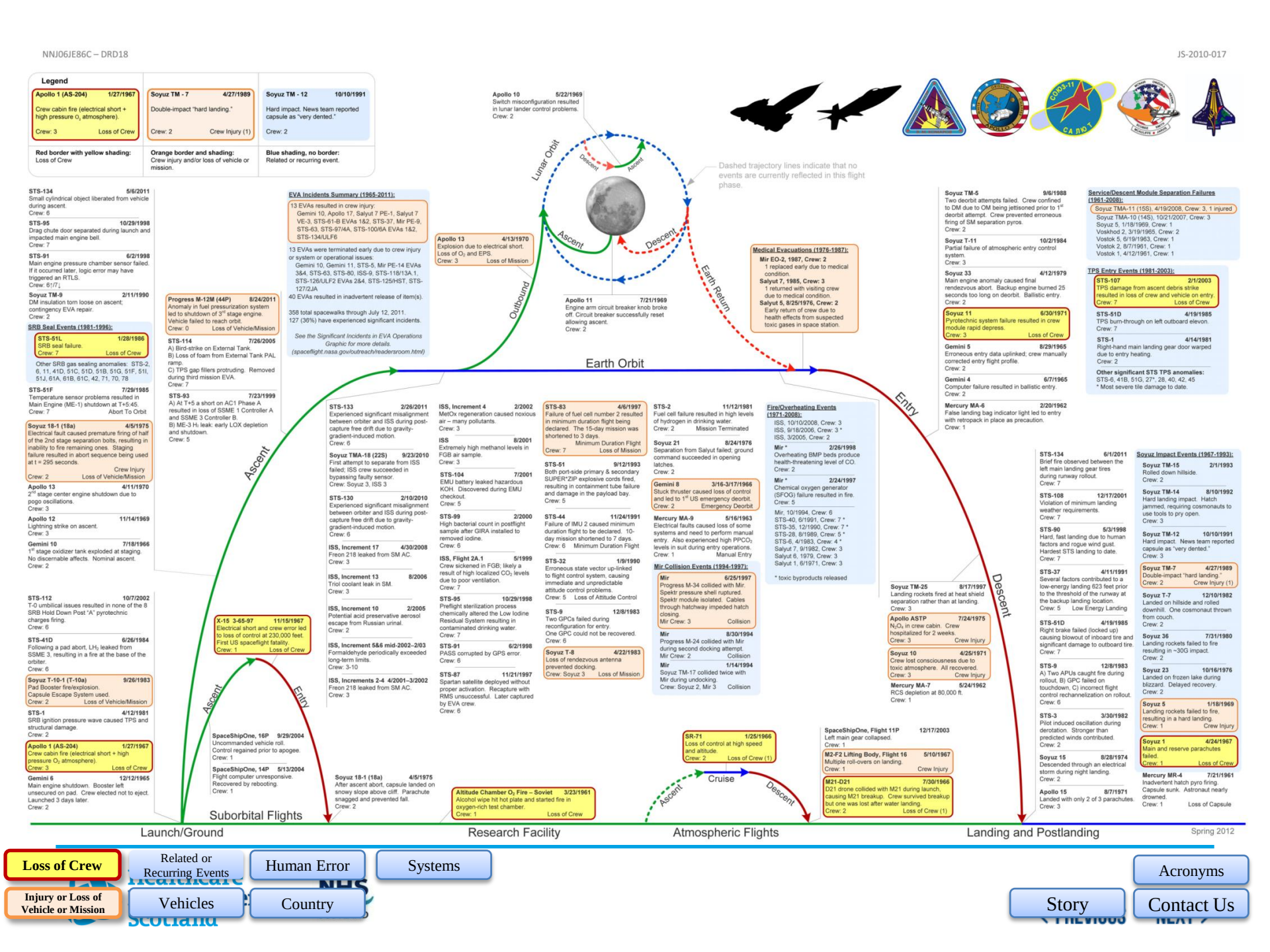
LEARNING ?

VALENTIN BONDARENKO (1961)

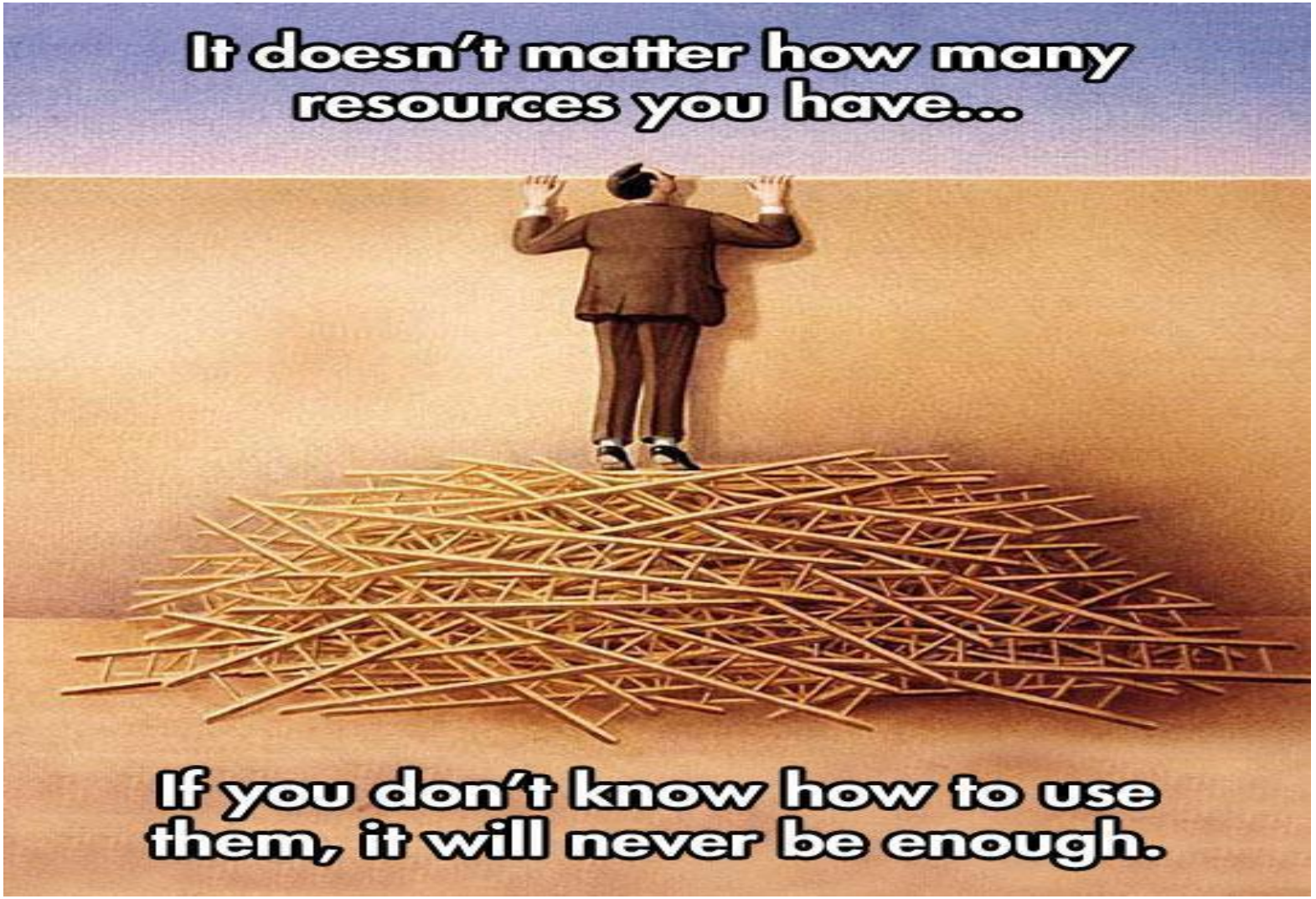
APOLLO 1 (1967)

https://spaceflight.nasa.gov/outreach/Significant_Incidents.pdf


Legend
Apollo 1 (AS-204) 1/27/1967
Crew cabin fire (electrical short + high pressure O_2 atmosphere).
Crew: 3 Loss of Crew
Soyuz TM - 7 4/27/1989
Double-impact "hard landing."
Crew: 2 Crew Injury (1)
Soyuz TM - 12 10/10/1991
Hard impact. News team reported capsule as "very dented."
Crew: 2
Red border with yellow shading: Loss of Crew
Orange border and shading: Crew injury and/or loss of vehicle or mission.
Blue shading, no border: Related or recurring event.
Apollo 10 5/22/1969
Switch misconfiguration resulted in lunar lander control problems.
Crew: 2
Lunar Orbit
Descent
Ascent
Dashed trajectory lines indicate that no events are currently reflected in this flight phase.
Apollo 13 4/13/1970
Explosion due to electrical short. Loss of O_2 and EPS.
Crew: 3 Loss of Mission
Ascent
Descent
Outbound
Earth Return
Apollo 11 7/21/1969
Engine arm circuit breaker knob broke off. Circuit breaker successfully reset allowing ascent.
Crew: 2
Medical Evacuations (1976-1987):
Mir EO-2, 1987, Crew: 2
1 replaced early due to medical condition.
Salyut 7, 1985, Crew: 3
1 returned with visiting crew due to medical condition.
Salyut 5, 8/25/1976, Crew: 2
Early return of crew due to health effects from suspected toxic gases in space station.
Soyuz TM-5 9/6/1988
Two deorbit attempts failed. Crew confined to DM due to OM being jettisoned prior to 1st deorbit attempt. Crew prevented erroneous firing of SM separation pyros.
Crew: 2
Soyuz T-11 10/2/1984
Partial failure of atmospheric entry control system.
Crew: 3
Soyuz 33 4/12/1979
Main engine anomaly caused final rendezvous abort. Backup engine burned 25 seconds too long on deorbit. Ballistic entry.
Crew: 2
Soyuz 11 6/30/1971
Pyrotechnic system failure resulted in crew module rapid depress.
Crew: 3 Loss of Crew
Gemini 5 8/29/1965
Erroneous entry data uplinked; crew manually corrected entry flight profile.
Crew: 2
Gemini 4 6/7/1965
Computer failure resulted in ballistic entry.
Crew: 2
Mercury MA-6 2/20/1962
False landing bag indicator light led to entry with retropack in place as precaution.
Crew: 1
Service/Descent Module Separation Failures (1961-2008):
Soyuz TMA-11 (15S), 4/19/2008, Crew: 3, 1 injured
Soyuz TMA-10 (14S), 10/21/2007, Crew: 3
Soyuz 5, 1/18/1969, Crew: 1
Voskhod 2, 3/19/1965, Crew: 2
Vostok 5, 6/19/1963, Crew: 1
Vostok 2, 8/7/1961, Crew: 1
Vostok 1, 4/12/1961, Crew: 1
TPS Entry Events (1981-2003):
STS-107 2/1/2003
TPS damage from ascent debris strike resulted in loss of crew and vehicle on entry.
Crew: 7 Loss of Crew
STS-51D 4/19/1985
TPS burn-through on left outboard elevon.
Crew: 7
STS-1 4/14/1981
Right-hand main landing gear door warped due to entry heating.
Crew: 2
Other significant STS TPS anomalies:
STS-6, 41B, 51G, 27*, 28, 40, 42, 45
* Most severe tile damage to date.
STS-134 5/6/2011
Small cylindrical object liberated from vehicle during ascent.
Crew: 6
STS-95 10/29/1998
Drag chute door separated during launch and impacted main engine bell.
Crew: 7
STS-91 6/2/1998
Main engine pressure chamber sensor failed. If it occurred later, logic error may have triggered an RTLS.
Crew: 6/7/1
Soyuz TM-9 2/11/1990
DM insulation torn loose on ascent; contingency EVA repair.
Crew: 2
SRB Seal Events (1981-1996):
STS-51L 1/28/1986
SRB seal failure.
Crew: 7 Loss of Crew
Other SRB gas sealing anomalies: STS-2, 6, 11, 41D, 51C, 51D, 51B, 51G, 51F, 51I, 51J, 61A, 61B, 61C, 42, 71, 70, 78
STS-51F 7/29/1985
Temperature sensor problems resulted in Main Engine (ME-1) shutdown at T+5:45.
Crew: 7 Abort To Orbit
Soyuz 18-1 (18a) 4/5/1975
Electrical fault caused premature firing of half of the 2nd stage separation bolts, resulting in inability to fire remaining ones. Staging failure resulted in abort sequence being used at t = 295 seconds.
Crew: 2 Crew Injury
Loss of Vehicle/Mission
Apollo 13 4/11/1970
2nd stage center engine shutdown due to pogo oscillations.
Crew: 3
Apollo 12 11/14/1969
Lightning strike on ascent.
Crew: 3
Gemini 10 7/18/1966
1st stage oxidizer tank exploded at staging. No discernable affects. Nominal ascent.
Crew: 2
Progress M-12M (44P) 8/24/2011
Anomaly in fuel pressurization system led to shutdown of 3rd stage engine. Vehicle failed to reach orbit.
Crew: 0 Loss of Vehicle/Mission
EVA Incidents Summary (1965-2011):
13 EVAs resulted in crew injury:
Gemini 10, Apollo 17, Salyut 7 PE-1, Salyut 7 VE-3, STS-61-B EVAs 1&2, STS-37, Mir PE-9, STS-63, STS-97/4A, STS-100/6A EVAs 1&2, STS-134/ULF6
13 EVAs were terminated early due to crew injury or system or operational issues:
Gemini 10, Gemini 11, STS-5, Mir PE-14 EVAs 3&4, STS-63, STS-80, ISS-9, STS-118/13A.1, STS-126/ULF2 EVAs 2&4, STS-125/HST, STS-127/2JA
40 EVAs resulted in inadvertent release of item(s).
358 total spacewalks through July 12, 2011.
127 (36%) have experienced significant incidents.
See the Significant Incidents in EVA Operations Graphic for more details.
(spaceflight.nasa.gov/outreach/readersroom.html)
STS-114 7/26/2005
A) Bird-strike on External Tank.
B) Loss of foam from External Tank PAL ramp.
C) TPS gap fillers protruding. Removed during third mission EVA.
Crew: 7
STS-93 7/23/1999
A) At T+5 a short on AC1 Phase A resulted in loss of SSME 1 Controller A and SSME 3 Controller B.
B) ME-3 H_2 leak: early LOX depletion and shutdown.
Crew: 5
Earth Orbit
Ascent
Entry
Descent
STS-133 2/26/2011
Experienced significant misalignment between orbiter and ISS during post-capture free drift due to gravity-gradient-induced motion.
Crew: 6
Soyuz TMA-18 (22S) 9/23/2010
First attempt to separate from ISS failed; ISS crew succeeded in bypassing faulty sensor.
Crew: Soyuz 3, ISS 3
STS-130 2/10/2010
Experienced significant misalignment between orbiter and ISS during post-capture free drift due to gravity-gradient-induced motion.
Crew: 6
ISS, Increment 17 4/30/2008
Freon 218 leaked from SM AC.
Crew: 3
ISS, Increment 13 8/2006
Triol coolant leak in SM.
Crew: 3
ISS, Increment 10 2/2005
Potential acid preservative aerosol escape from Russian urinal.
Crew: 2
ISS, Increment 5&6 mid-2002–2/03
Formaldehyde periodically exceeded long-term limits.
Crew: 3-10
ISS, Increments 2-4 4/2001–3/2002
Freon 218 leaked from SM AC.
Crew: 3
ISS, Increment 4 2/2002
MetOx regeneration caused noxious air – many pollutants.
Crew: 3
ISS 8/2001
Extremely high methanol levels in FGB air sample.
Crew: 3
STS-104 7/2001
EMU battery leaked hazardous KOH. Discovered during EMU checkout.
Crew: 5
STS-99 2/2000
High bacterial count in postflight sample after GIRA installed to removed iodine.
Crew: 6
ISS, Flight 2A.1 5/1999
Crew sickened in FGB; likely a result of high localized CO_2 levels due to poor ventilation.
Crew: 7
STS-95 10/29/1998
Preflight sterilization process chemically altered the Low Iodine Residual System resulting in contaminated drinking water.
Crew: 7
STS-91 6/2/1998
PASS corrupted by GPS error.
Crew: 6
STS-87 11/21/1997
Spartan satellite deployed without proper activation. Recapture with RMS unsuccessful. Later captured by EVA crew.
Crew: 6
STS-83 4/6/1997
Failure of fuel cell number 2 resulted in minimum duration flight being declared. The 15-day mission was shortened to 3 days.
Crew: 7 Minimum Duration Flight
Loss of Mission
STS-51 9/12/1993
Both port-side primary & secondary SUPER"ZIP explosive cords fired, resulting in containment tube failure and damage in the payload bay.
Crew: 5
STS-44 11/24/1991
Failure of IMU 2 caused minimum duration flight to be declared. 10-day mission shortened to 7 days.
Crew: 6 Minimum Duration Flight
STS-32 1/9/1990
Erroneous state vector up-linked to flight control system, causing immediate and unpredictable attitude control problems.
Crew: 5 Loss of Attitude Control
STS-9 12/8/1983
Two GPCs failed during reconfiguration for entry. One GPC could not be recovered.
Crew: 6
Soyuz T-8 4/22/1983
Loss of rendezvous antenna prevented docking.
Crew: Soyuz 3 Loss of Mission
STS-2 11/12/1981
Fuel cell failure resulted in high levels of hydrogen in drinking water.
Crew: 2 Mission Terminated
Soyuz 21 8/24/1976
Separation from Salyut failed; ground command succeeded in opening latches.
Crew: 2
Gemini 8 3/16-3/17/1966
Stuck thruster caused loss of control and led to 1st US emergency deorbit.
Crew: 2 Emergency Deorbit
Mercury MA-9 5/16/1963
Electrical faults caused loss of some systems and need to perform manual entry. Also experienced high $PPCO_2$ levels in suit during entry operations.
Crew: 1 Manual Entry
Mir Collision Events (1994-1997):
Mir 6/25/1997
Progress M-34 collided with Mir. Spektr pressure shell ruptured. Spektr module isolated. Cables through hatchway impeded hatch closing.
Mir Crew: 3 Collision
Mir 8/30/1994
Progress M-24 collided with Mir during second docking attempt.
Mir Crew: 2 Collision
Mir 1/14/1994
Soyuz TM-17 collided twice with Mir during undocking.
Crew: Soyuz 2, Mir 3 Collision
Fire/Overheating Events (1971-2008):
ISS, 10/10/2008, Crew: 3
ISS, 9/18/2006, Crew: 3 *
ISS, 3/2005, Crew: 2
Mir * 2/26/1998
Overheating BMP beds produce health-threatening level of CO.
Crew: 2
Mir * 2/24/1997
Chemical oxygen generator (SFOG) failure resulted in fire.
Crew: 5
Mir, 10/1994, Crew: 6
STS-40, 6/1991, Crew: 7 *
STS-35, 12/1990, Crew: 7 *
STS-28, 8/1989, Crew: 5 *
STS-6, 4/1983, Crew: 4 *
Salyut 7, 9/1982, Crew: 3
Salyut 6, 1979, Crew: 3
Salyut 1, 6/1971, Crew: 3
* toxic byproducts released
Soyuz TM-25 8/17/1997
Landing rockets fired at heat shield separation rather than at landing.
Crew: 3
Apollo ASTP 7/24/1975
N_2O_4 in crew cabin. Crew hospitalized for 2 weeks.
Crew: 3 Crew Injury
Soyuz 10 4/25/1971
Crew lost consciousness due to toxic atmosphere. All recovered.
Crew: 3 Crew Injury
Mercury MA-7 5/24/1962
RCS depletion at 80,000 ft.
Crew: 1
STS-134 6/1/2011
Brief fire observed between the left main landing gear tires during runway rollout.
Crew: 7
STS-108 12/17/2001
Violation of minimum landing weather requirements.
Crew: 7
STS-90 5/3/1998
Hard, fast landing due to human factors and rogue wind gust. Hardest STS landing to date.
Crew: 7
STS-37 4/11/1991
Several factors contributed to a low-energy landing 623 feet prior to the threshold of the runway at the backup landing location.
Crew: 5 Low Energy Landing
STS-51D 4/19/1985
Right brake failed (locked up) causing blowout of inboard tire and significant damage to outboard tire.
Crew: 7
STS-9 12/8/1983
A) Two APUs caught fire during rollout, B) GPC failed on touchdown, C) incorrect flight control rechannelization on rollout.
Crew: 6
STS-3 3/30/1982
Pilot induced oscillation during derotation. Stronger than predicted winds contributed.
Crew: 2
Soyuz 15 8/28/1974
Descended through an electrical storm during night landing.
Crew: 2
Apollo 15 8/7/1971
Landed with only 2 of 3 parachutes.
Crew: 3
Soyuz Impact Events (1967-1993):
Soyuz TM-15 2/1/1993
Rolled down hillside.
Crew: 2
Soyuz TM-14 8/10/1992
Hard landing impact. Hatch jammed, requiring cosmonauts to use tools to pry open.
Crew: 3
Soyuz TM-12 10/10/1991
Hard impact. News team reported capsule as "very dented."
Crew: 3
Soyuz TM-7 4/27/1989
Double-impact "hard landing."
Crew: 2 Crew Injury (1)
Soyuz T-7 12/10/1982
Landed on hillside and rolled downhill. One cosmonaut thrown from couch.
Crew: 2
Soyuz 36 7/31/1980
Landing rockets failed to fire resulting in ~30G impact.
Crew: 2
Soyuz 23 10/16/1976
Landed on frozen lake during blizzard. Delayed recovery.
Crew: 2
Soyuz 5 1/18/1969
Landing rockets failed to fire, resulting in a hard landing.
Crew: 1 Crew Injury
Soyuz 1 4/24/1967
Main and reserve parachutes failed.
Crew: 1 Loss of Crew
Mercury MR-4 7/21/1961
Inadvertent hatch pyro firing. Capsule sunk. Astronaut nearly drowned.
Crew: 1 Loss of Capsule
STS-112 10/7/2002
T-0 umbilical issues resulted in none of the 8 SRB Hold Down Post "A" pyrotechnic charges firing.
Crew: 6
STS-41D 6/26/1984
Following a pad abort, LH_2 leaked from SSME 3, resulting in a fire at the base of the orbiter.
Crew: 6
Soyuz T-10-1 (T-10a) 9/26/1983
Pad Booster fire/explosion. Capsule Escape System used.
Crew: 2 Loss of Vehicle/Mission
STS-1 4/12/1981
SRB ignition pressure wave caused TPS and structural damage.
Crew: 2
Apollo 1 (AS-204) 1/27/1967
Crew cabin fire (electrical short + high pressure O_2 atmosphere).
Crew: 3 Loss of Crew
Gemini 6 12/12/1965
Main engine shutdown. Booster left unsecured on pad. Crew elected not to eject. Launched 3 days later.
Crew: 2
X-15 3-65-97 11/15/1967
Electrical short and crew error led to loss of control at 230,000 feet. First US spaceflight fatality.
Crew: 1 Loss of Crew
Ascent
Entry
SpaceShipOne, 16P 9/29/2004
Uncommanded vehicle roll. Control regained prior to apogee.
Crew: 1
SpaceShipOne, 14P 5/13/2004
Flight computer unresponsive. Recovered by rebooting.
Crew: 1
Soyuz 18-1 (18a) 4/5/1975
After ascent abort, capsule landed on snowy slope above cliff. Parachute snagged and prevented fall.
Crew: 2
Suborbital Flights
Altitude Chamber O_2 Fire – Soviet 3/23/1961
Alcohol wipe hit hot plate and started fire in oxygen-rich test chamber.
Crew: 1 Loss of Crew
SR-71 1/25/1966
Loss of control at high speed and altitude.
Crew: 2 Loss of Crew (1)
Ascent
Cruise
Descent
SpaceShipOne, Flight 11P 12/17/2003
Left main gear collapsed.
Crew: 1
M2-F2 Lifting Body, Flight 16 5/10/1967
Multiple roll-overs on landing.
Crew: 1 Crew Injury
M21-D21 7/30/1966
D21 drone collided with M21 during launch, causing M21 breakup. Crew survived breakup but one was lost after water landing.
Crew: 2 Loss of Crew (1)
Launch/Ground
Research Facility
Atmospheric Flights
Landing and Postlanding
Spring 2012


"It is intended to spark an interest in past events, inspire people to delve into the lessons learned and encourage continued vigilance."

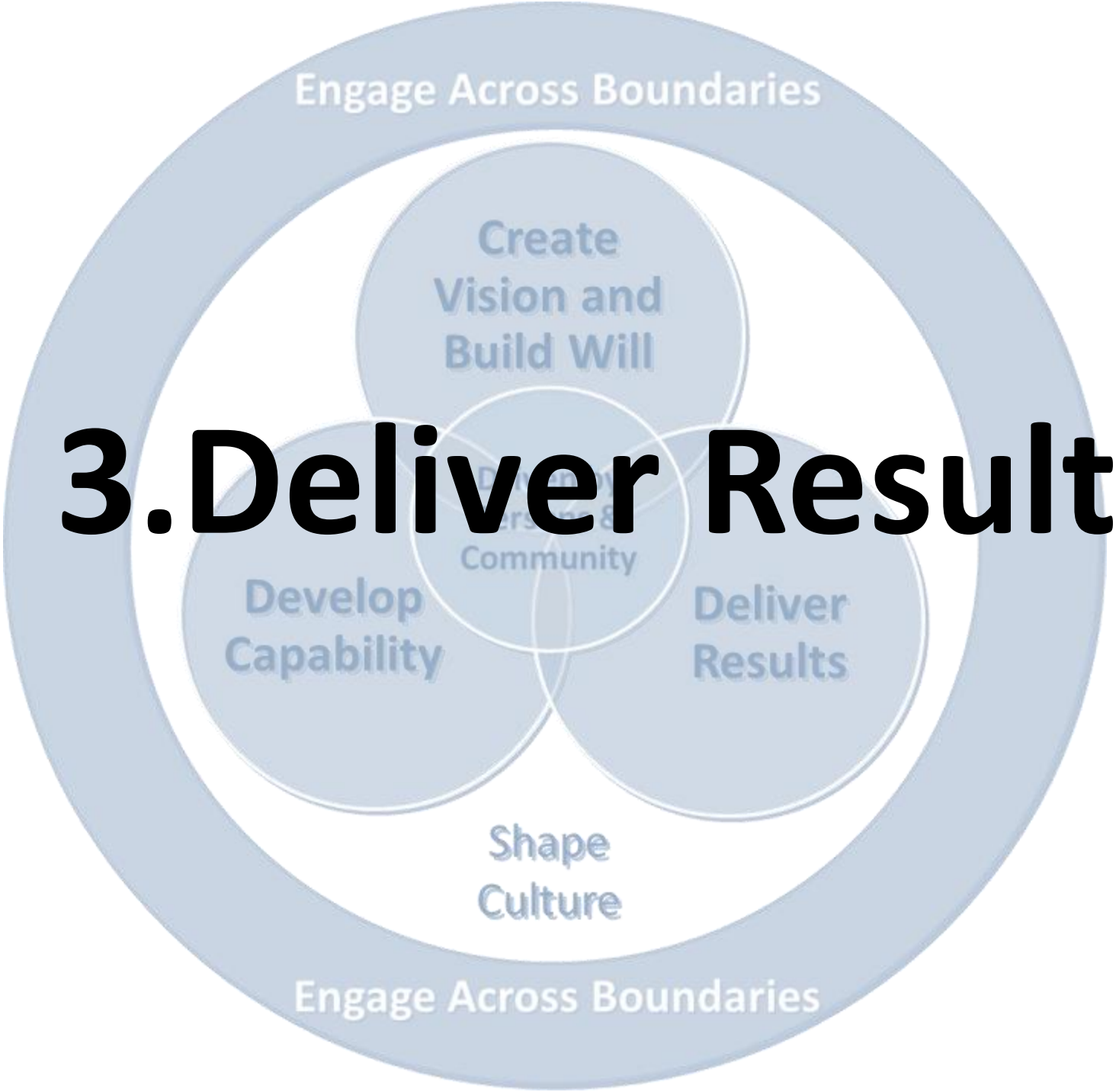
BUT.... ARE WE USING THEM?



Healthcare Improvement Scotland

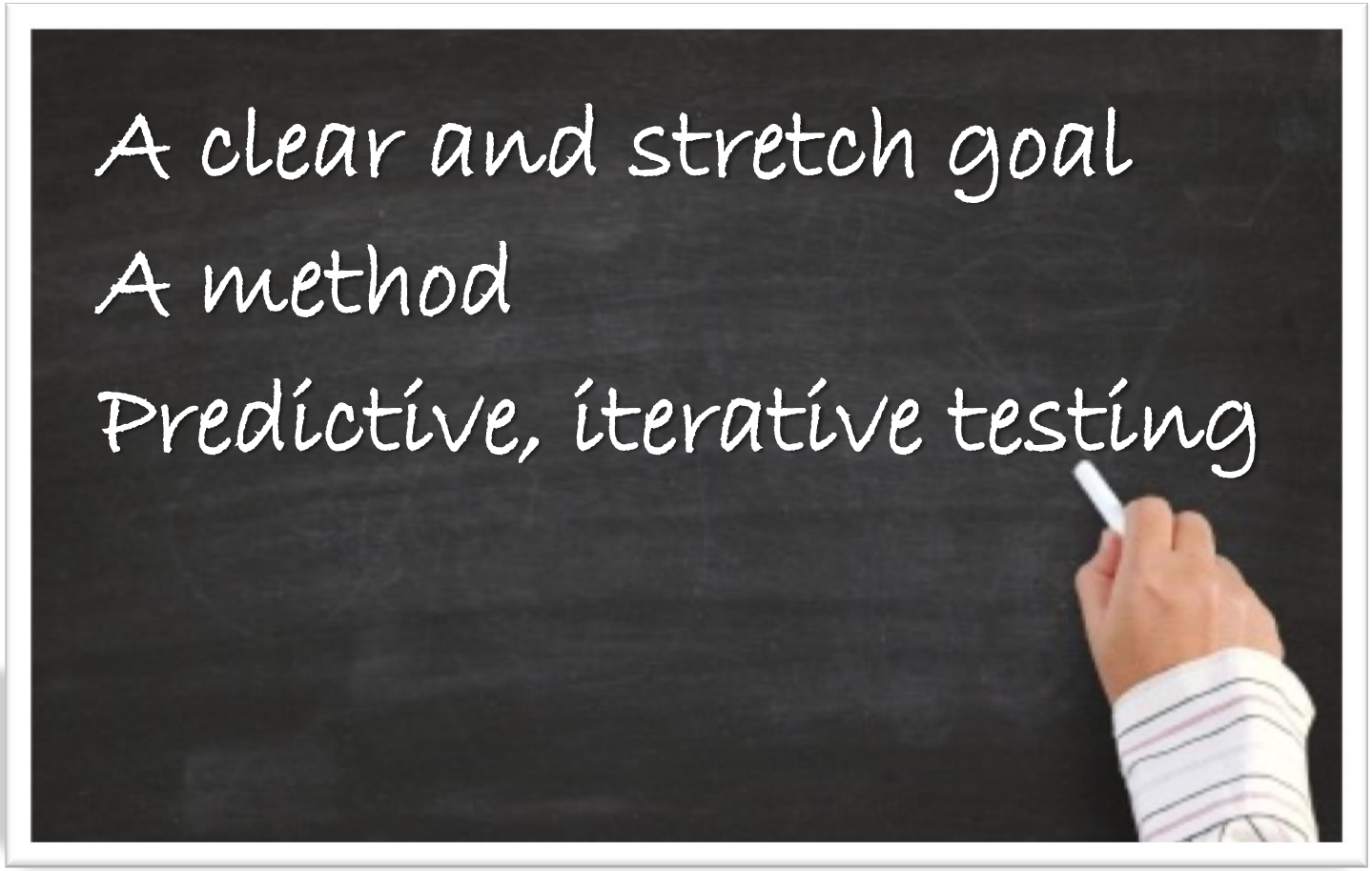
	What is happening where you are?	What can you do to strengthen this?
1. Create Vision & Build Will		
2. Develop Capability		
3.Deliver Results		
4.Engage Across Boundaries		
5.Shape Culture		
6. Driven by Persons & Community		

Talk and scribble



3.Deliver Results

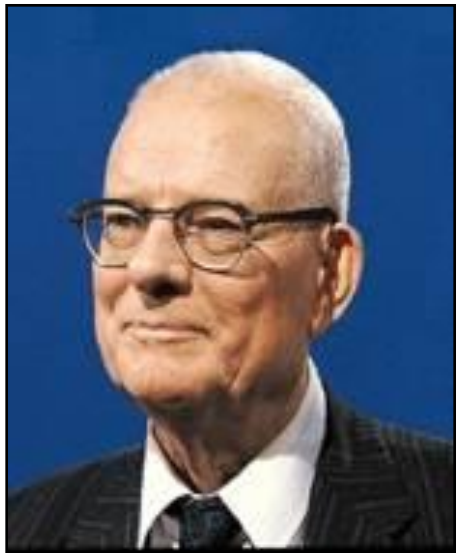
Our change theory



RELENTLESS MEASUREMENT

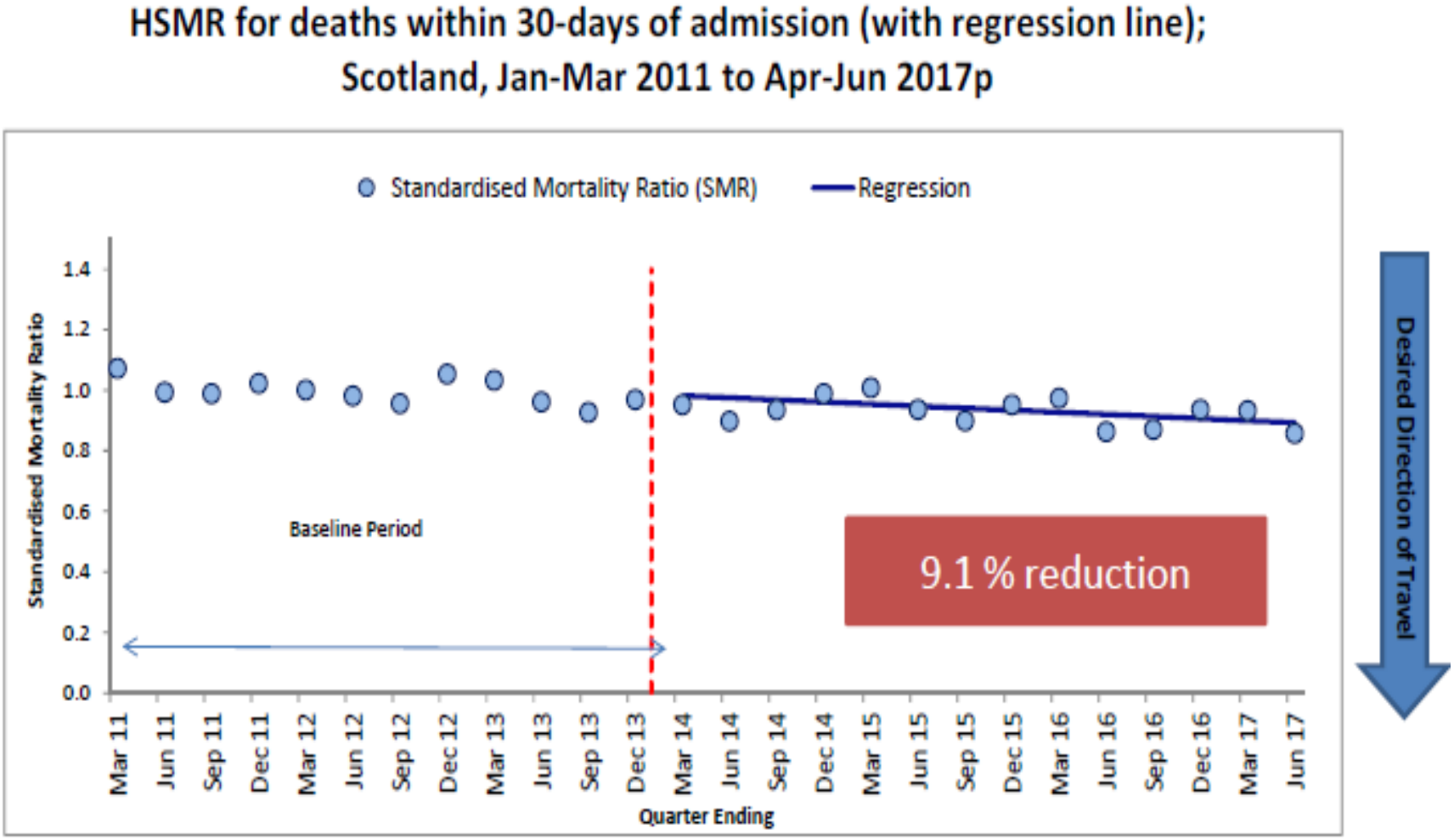
"In God we trust…
All others bring data."

W. Edwards Deming

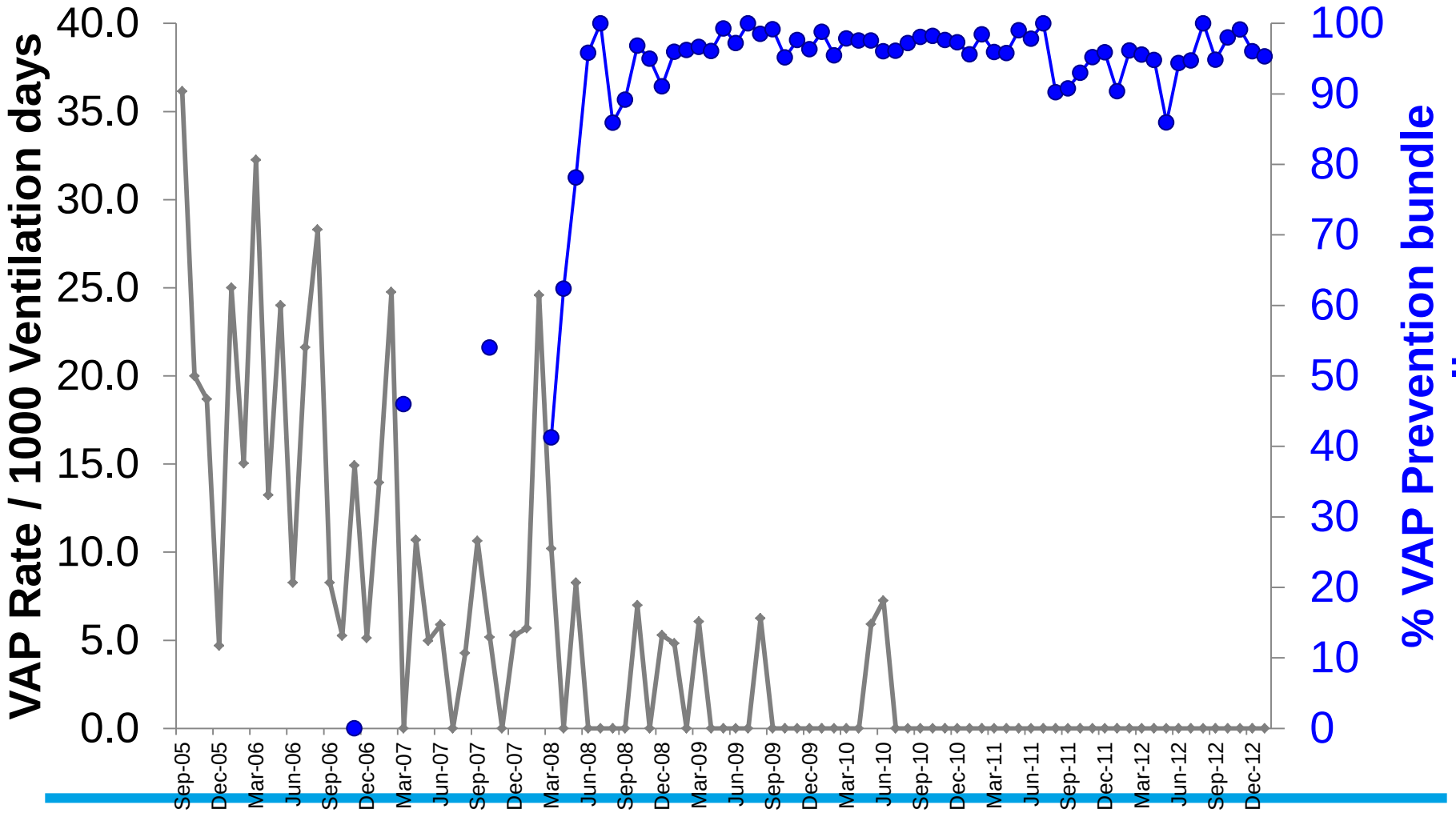


DATA ON EVERY WARD .... IN PUBLIC !

BIG DOTS …


HSMR for deaths within 30-days of admission (with regression line);
Scotland, Jan-Mar 2011 to Apr-Jun 2017p
Standardised Mortality Ratio (SMR)
Regression
Standardised Mortality Ratio
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Baseline Period
9.1 % reduction
Mar 11
Jun 11
Sep 11
Dec 11
Mar 12
Jun 12
Sep 12
Dec 12
Mar 13
Jun 13
Sep 13
Dec 13
Mar 14
Jun 14
Sep 14
Dec 14
Mar 15
Jun 15
Sep 15
Dec 15
Mar 16
Jun 16
Sep 16
Dec 16
Mar 17
Jun 17
Quarter Ending
Desired Direction of Travel

NHS FV ICU VAP incidence/% VAP Preventon bundle compliance
Sept 05 - Dec 12



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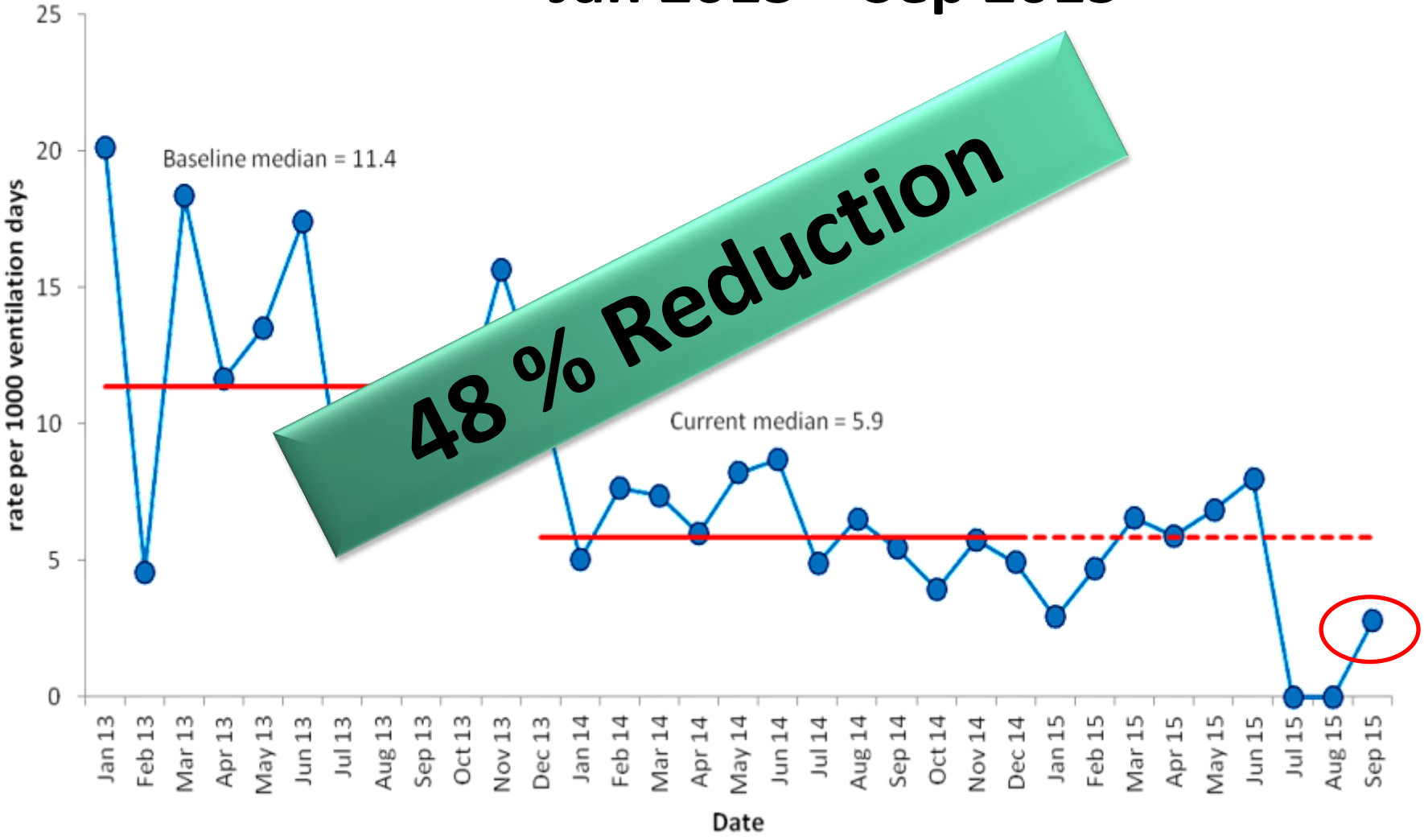
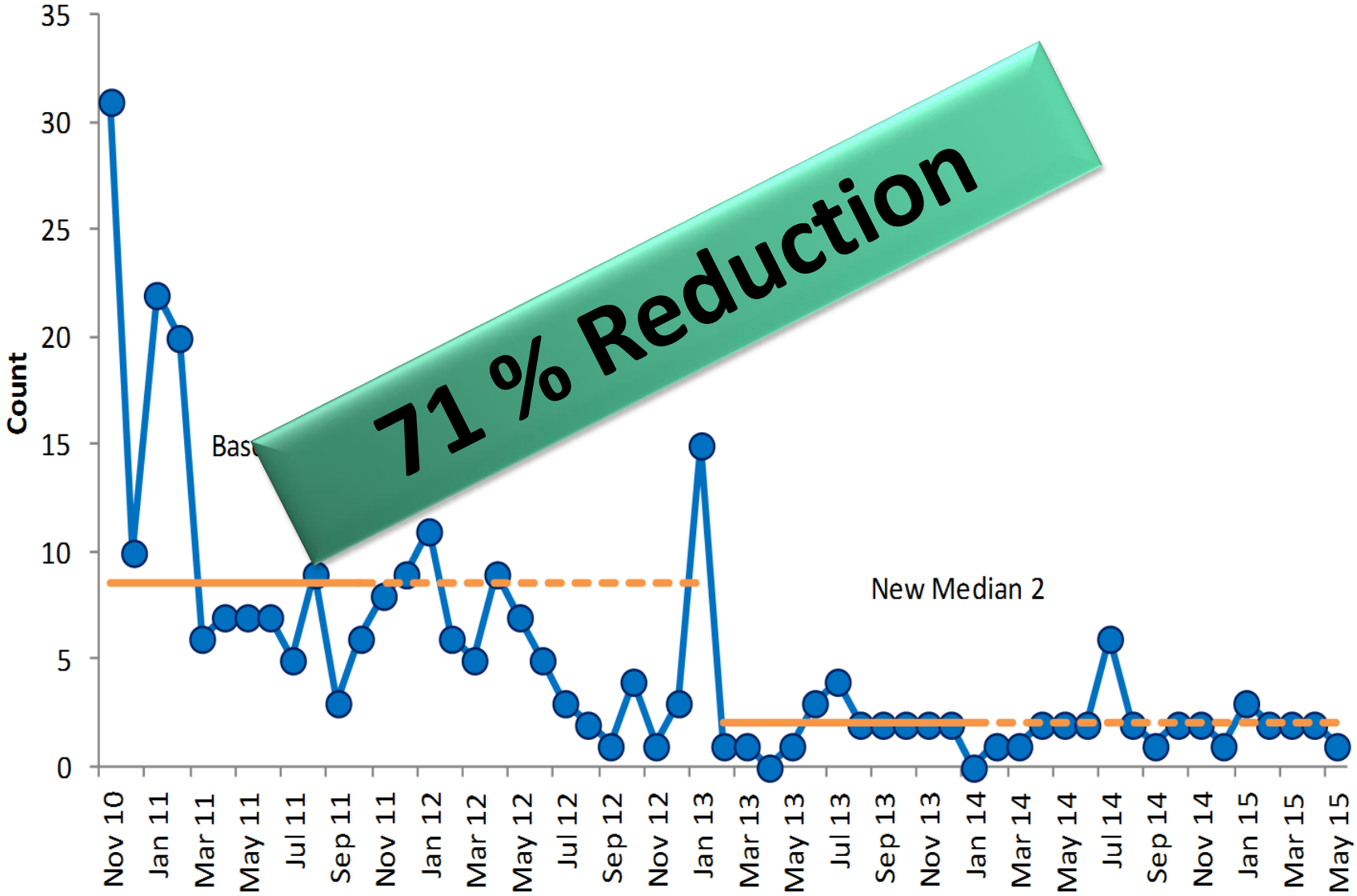
NHS SCOTLAND

< PREVIOUS NEXT >

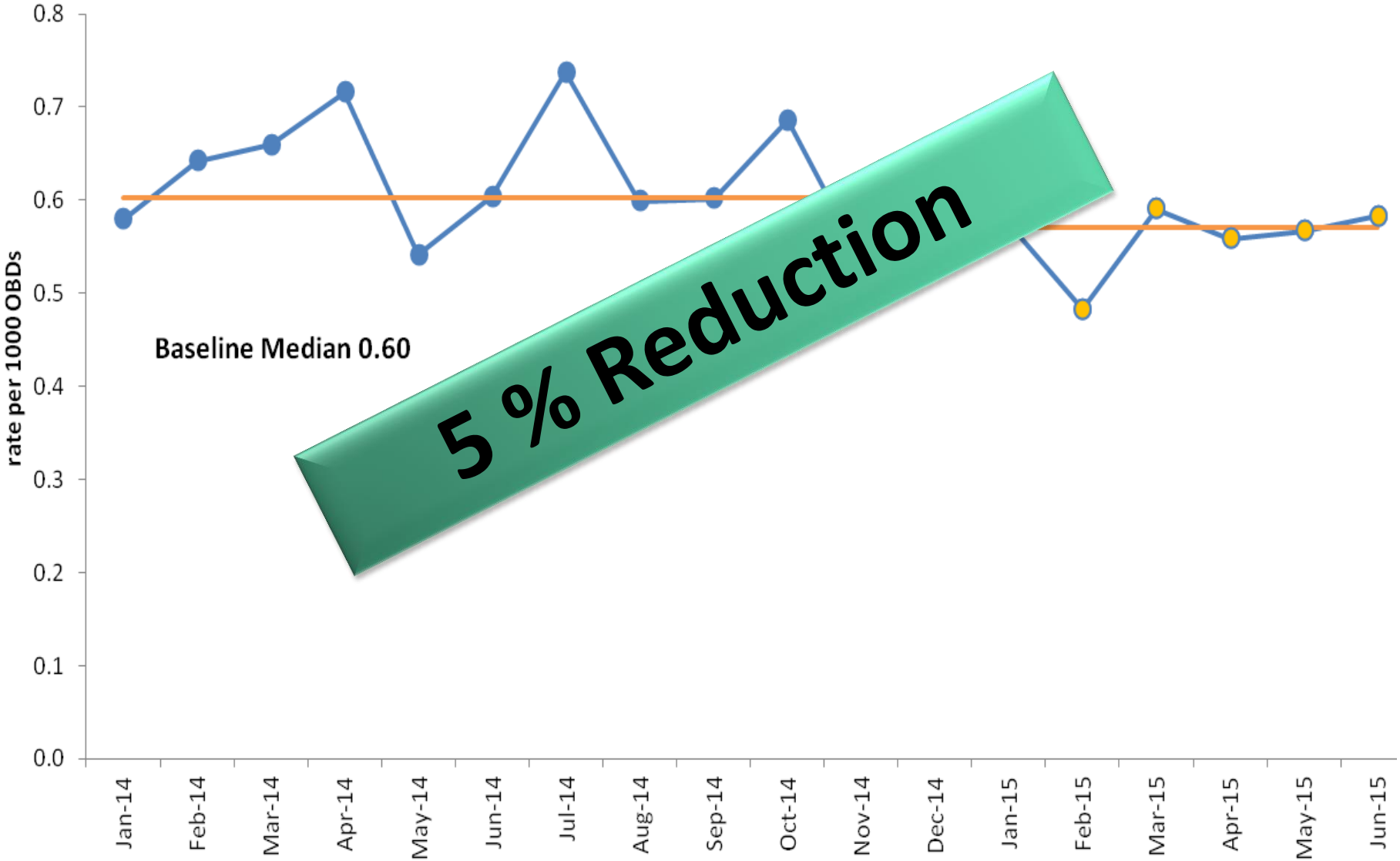
NHS Greater Glasgow & Clyde PICU
VAP Rate per 1000 Ventilation Days
Jan 2013 – Sep 2015



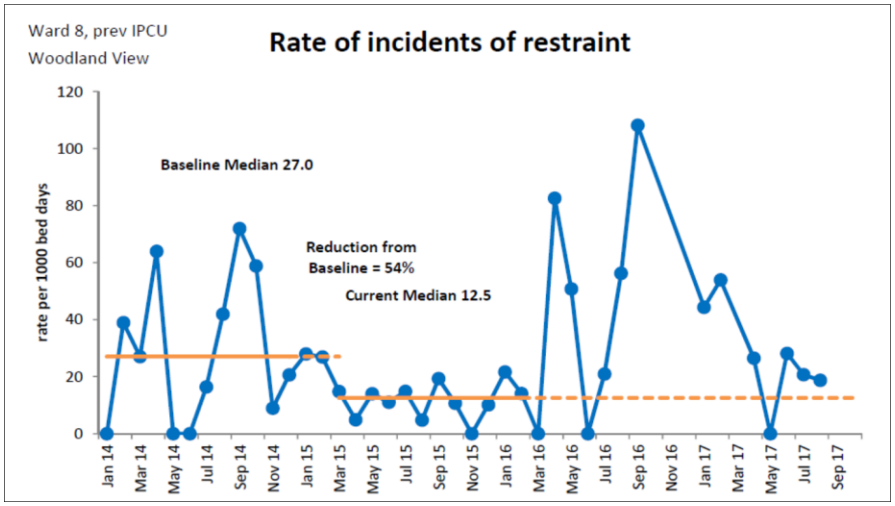
NHS Forth Valley Pressure Ulcer Count
November 2010 – May 2015

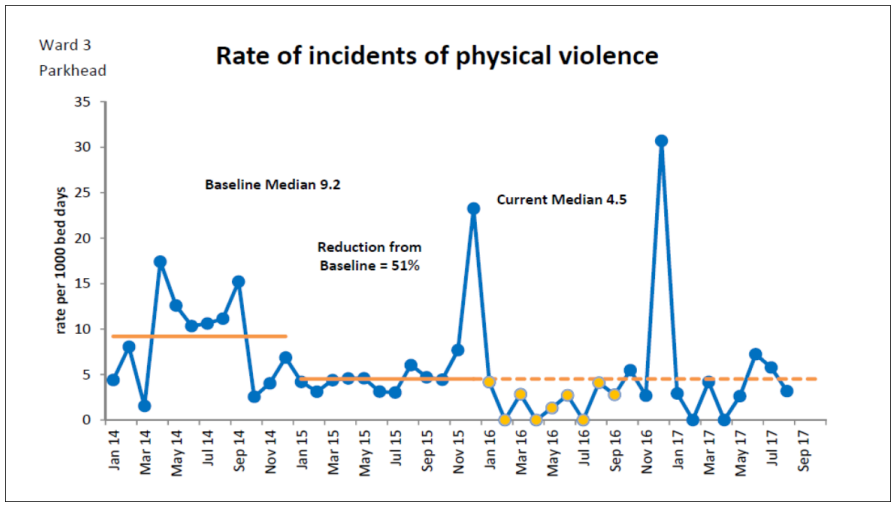


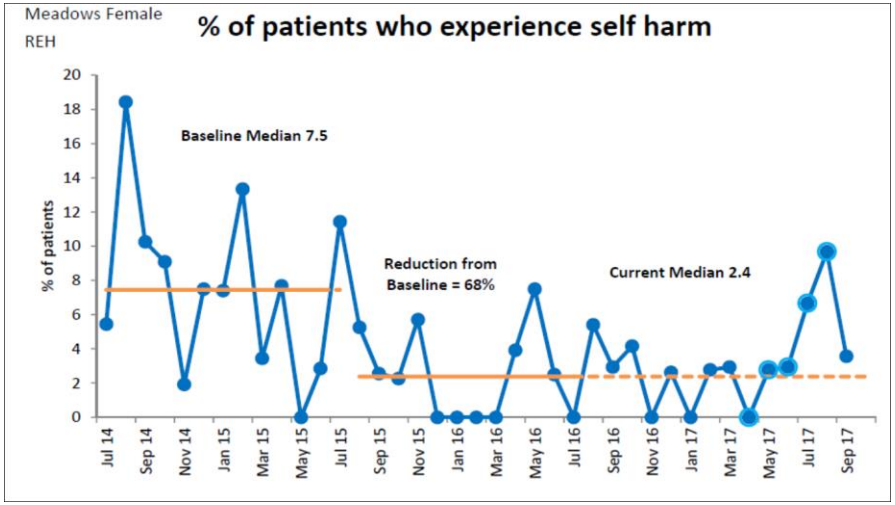
Total Falls Rate for 7 Scottish Boards
January 2014 – June 2015

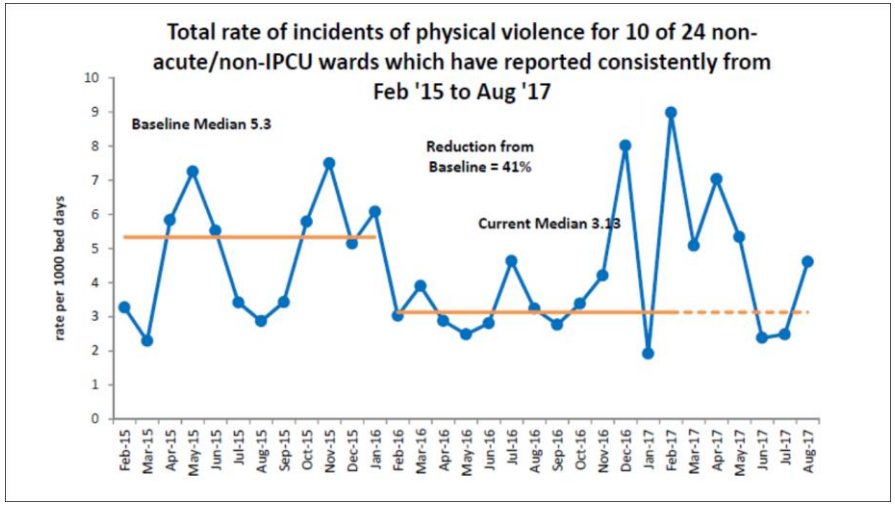


IN MENTAL HEALTH TOO…







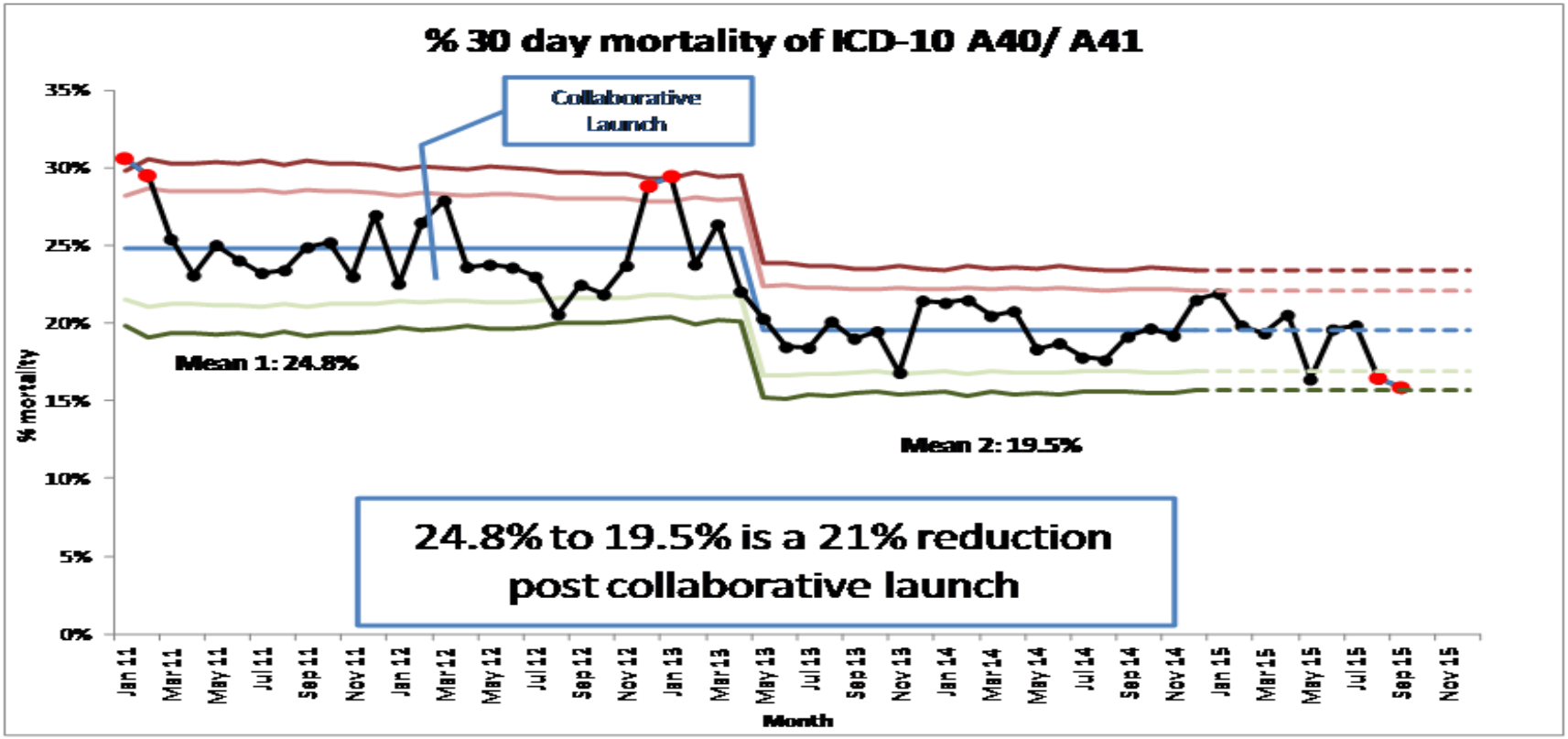


Healthcare Improvement Scotland

NHS SCOTLAND

< PREVIOUS NEXT >

IN NATIONAL DATA TOO …



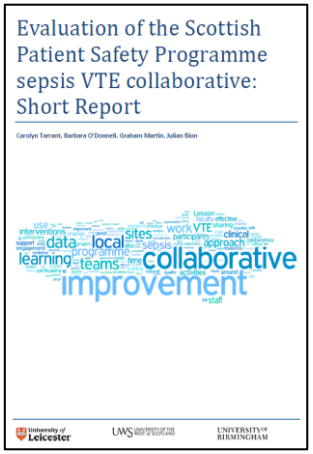
BEHIND THE DATA

Courtesy of Malcolm Daniel

Healthcare Improvement Scotland

EVERY PERSON EVERY TIME
SCOTTISH PATIENT SAFETY PROGRAMME

SEPSIS ~~Ø~~ 60



University of Leicester

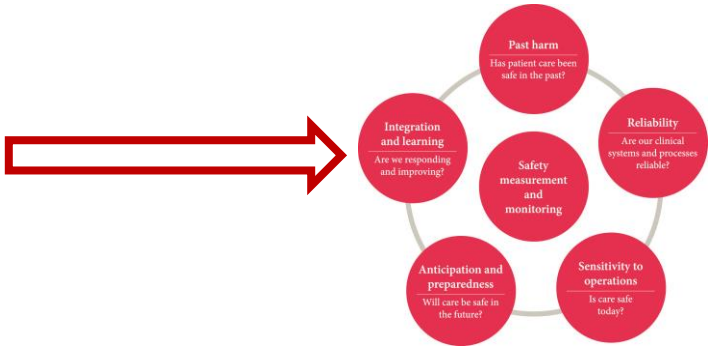
UWS UNIVERSITY OF THE WEST of SCOTLAND

CHARLES' 'BUBBLES' BROADENED OUR THINKING

http://www.health.org.uk/publication/measurement-and-monitoring-safety

From assurance to inquiry

Absence of harm



Presence of safety

Moving from being wise after the event to being wise before the event

Healthcare Improvement Scotland

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1. Create Vision & Build Will		
2. Develop Capability		
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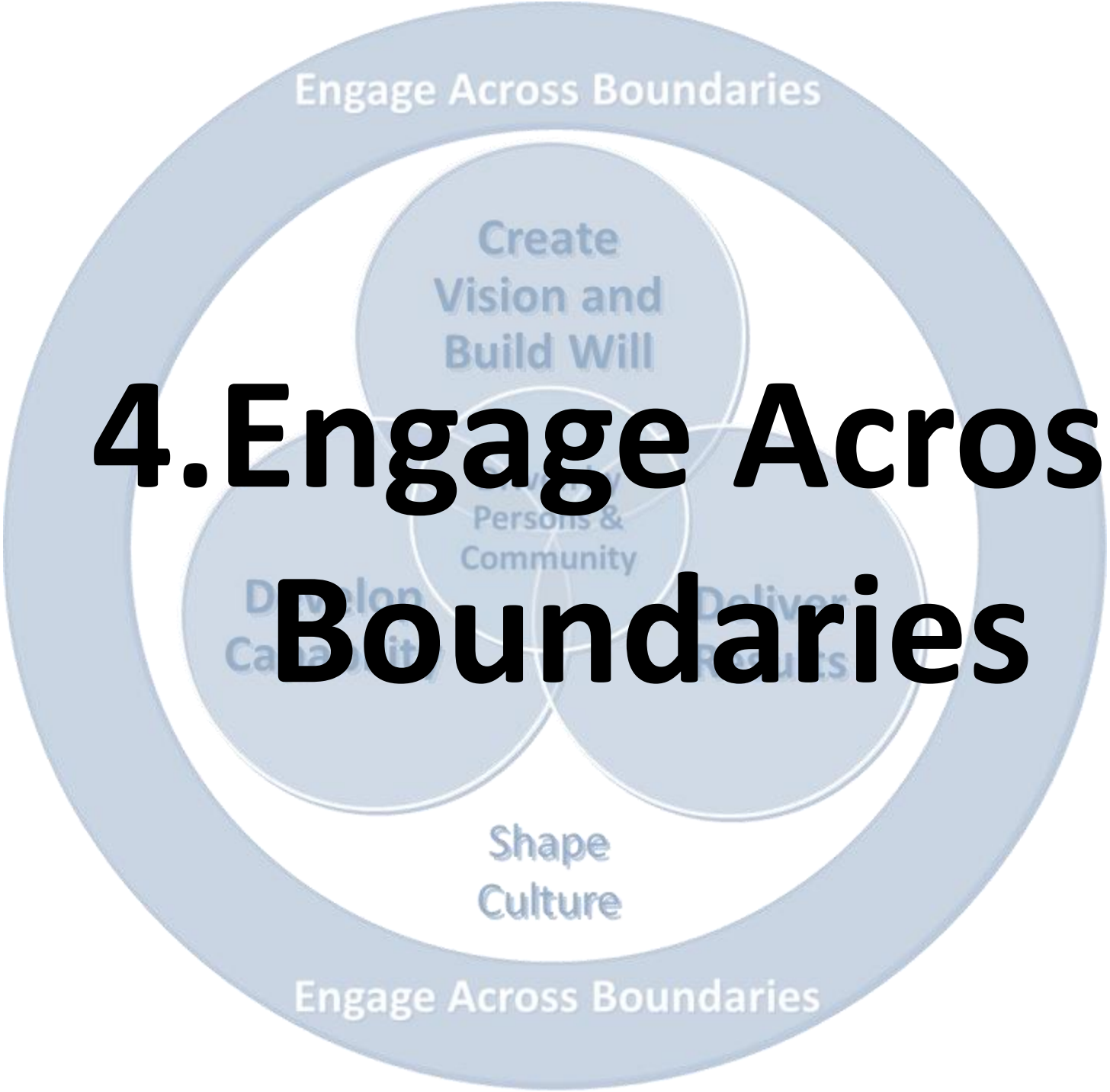
6. Driven by Persons & Community		

Talk and scribble

Tea break ?



4.Engage Across Boundaries


SCOTTISH
PATIENT
SAFETY
PROGRAMME
Acute
Adult
Maternity
and Children
Mental
Health
Primary
Care

Strategic Direction of Change

Health and social care

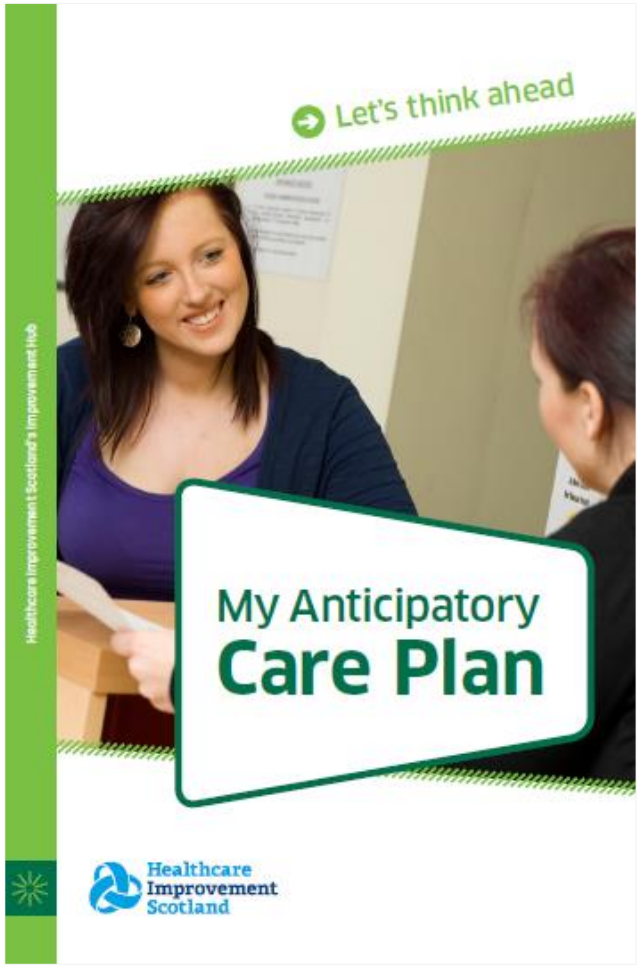
ihub

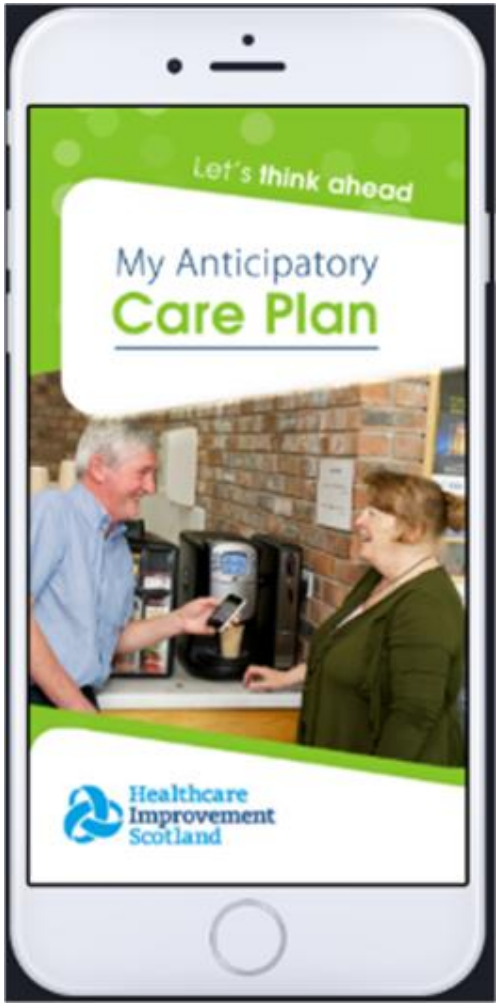
supporting health and social care

Our improvement programmes have a new home – the ihub.

http://ihub.scot

Developing a national ACP





Healthcare Improvement Scotland

Healthcare Improvement Scotland

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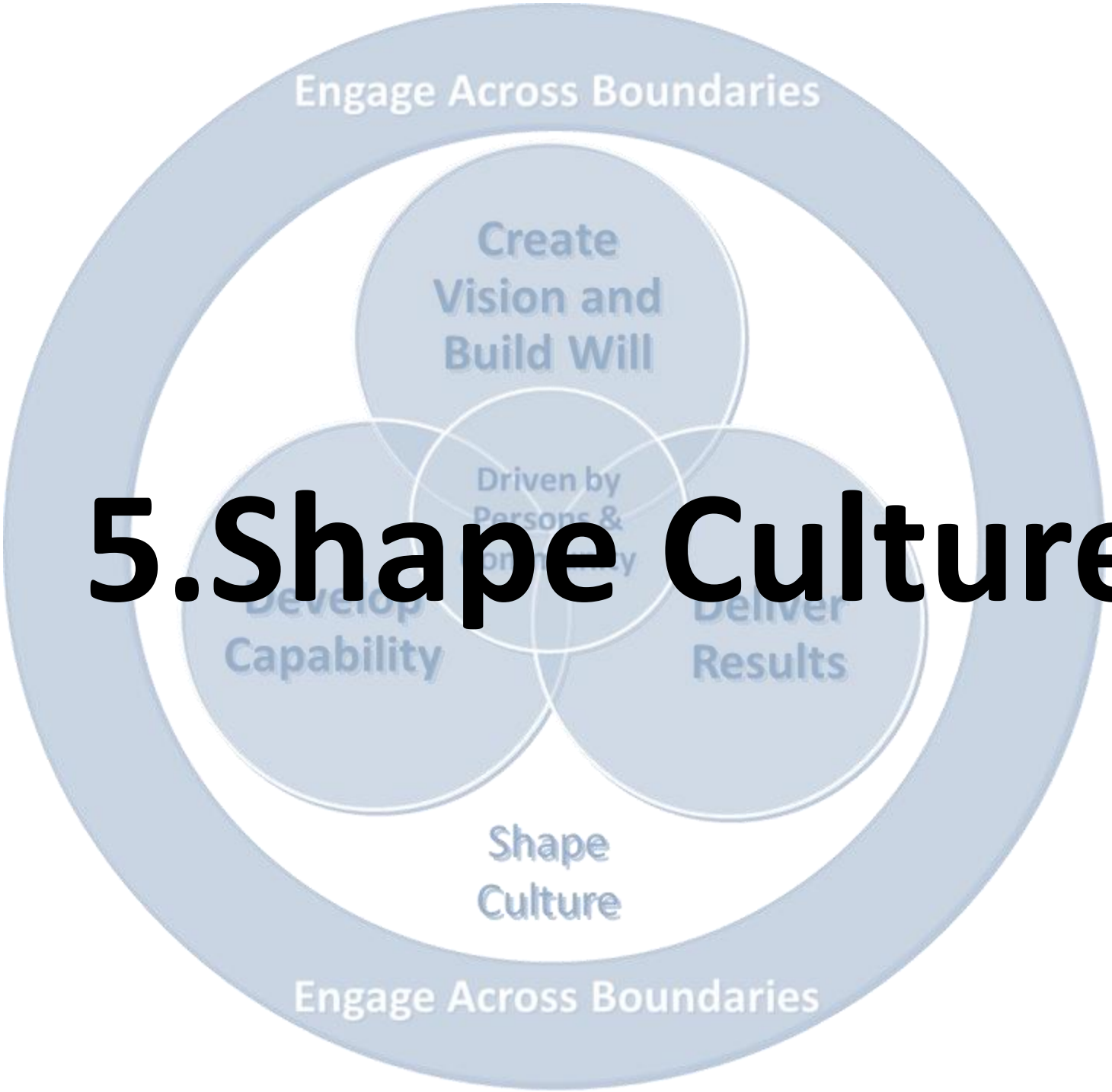
Talk and scribble



5.Shape Culture

SMART ISN’T ENOUGH

ELAINE'S STORY

TEAM BRIEFINGS ...

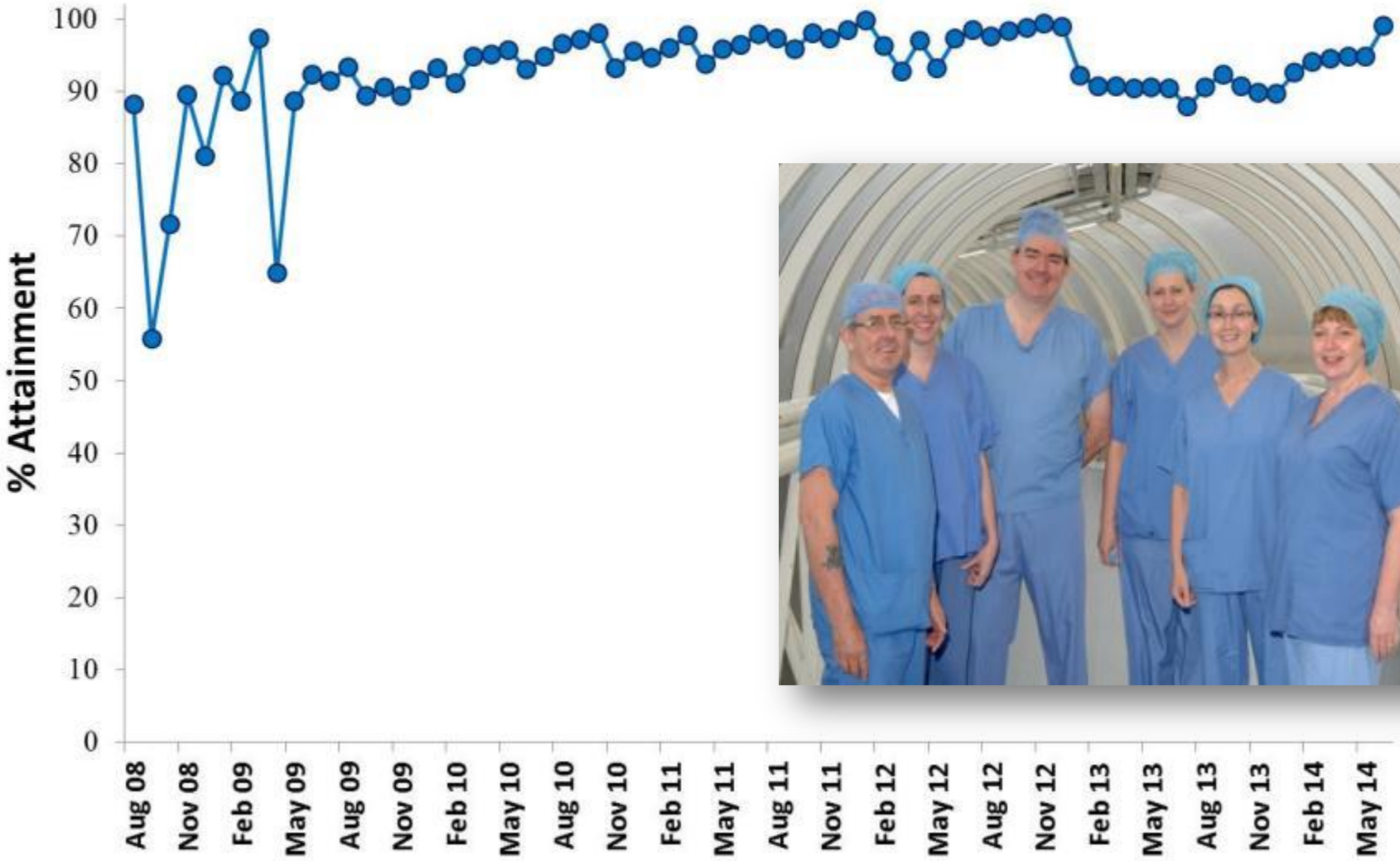
CHANGING THE CULTURE...

"I now consider the safety brief to be every bit as important to the safety of our patients as what I do as a surgeon during the operation..."

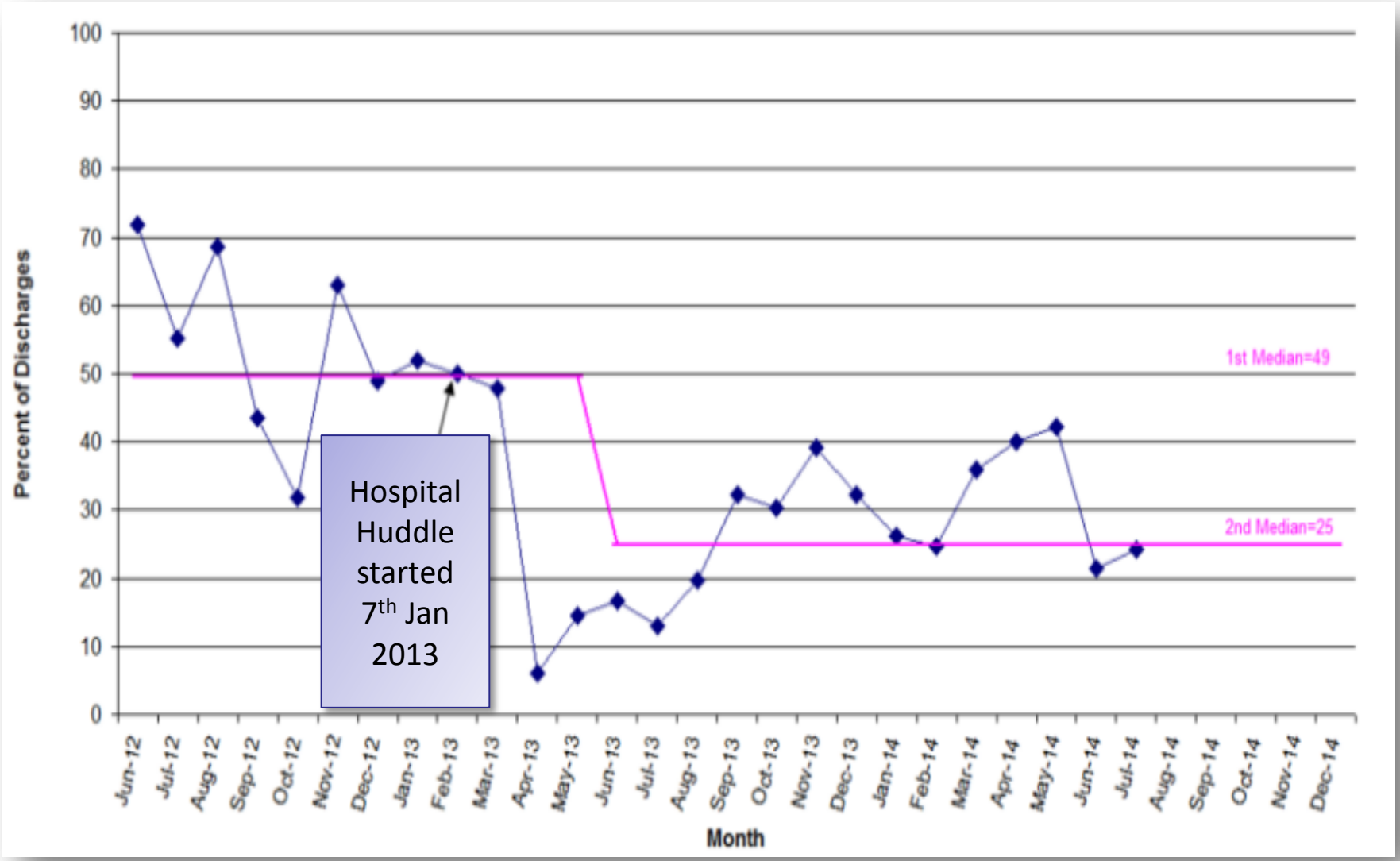
" ....I don't know why theatre teams are allowed not to do a morning brief .... I wouldn't operate without it !"

Surgeon

NHSScotland Surgical Safety Briefings



Royal Hospital for Sick Children, Yorkhill
PICU Total Delayed Discharges (+ 4 hrs)



Since 2008…….

….over 1,700 leadership walkrounds have been conducted in Scotland.

Healthcare Improvement Scotland

EVERY PERSON EVERY TIME SCOTTISH PATIENT SAFETY PROGRAMME

Physical

Social Sexual

Patients are and feel safe, Staff feel and are safe

Psychological

#mhimprove

Healthcare Improvement Scotland

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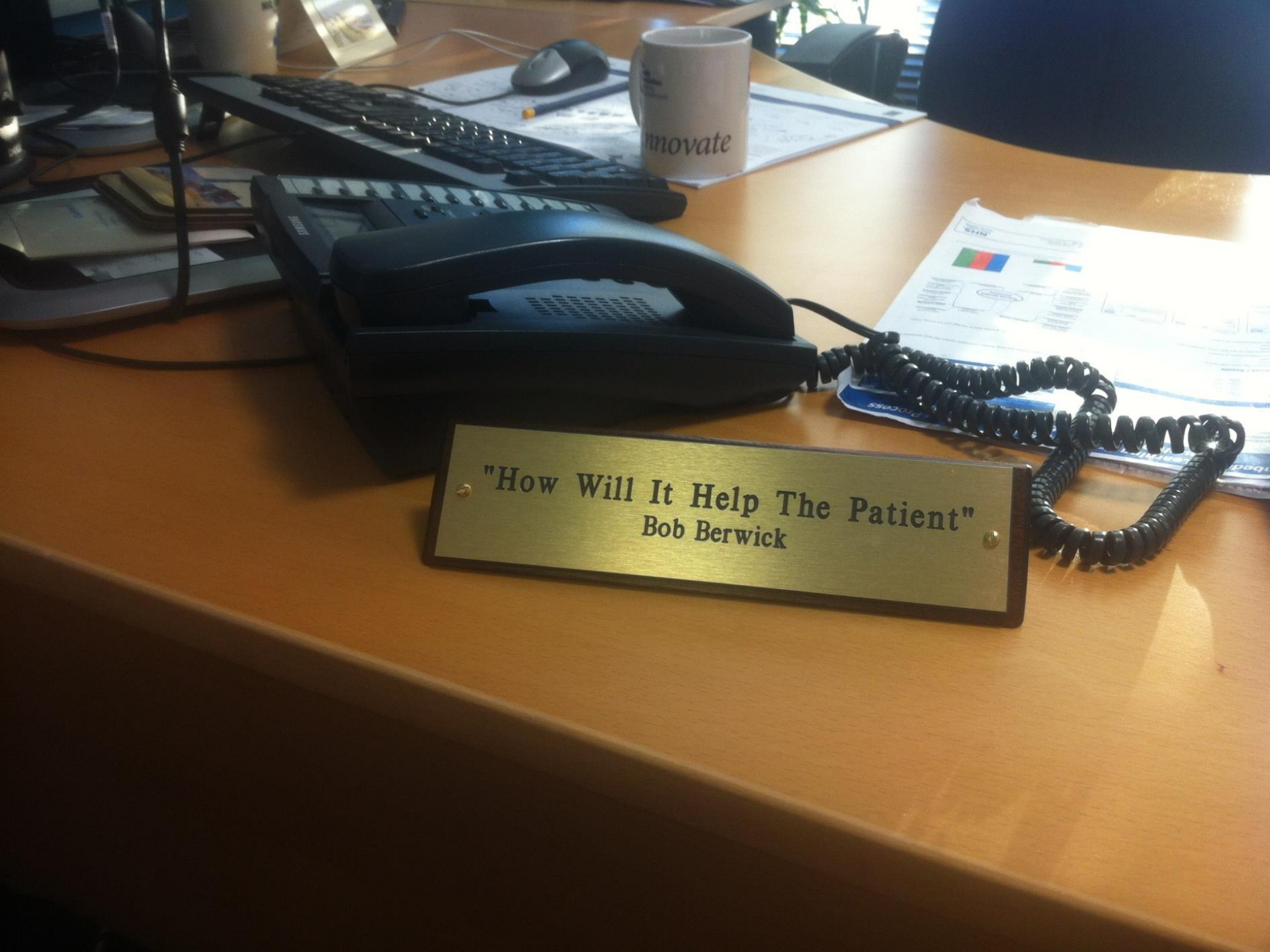
Talk and scribble

6. Driven by Persons & Community


"How Will It Help The Patient"
Bob Berwick

“The patient experience will define the future of the NHS in Scotland”

Paul Gray
Director General and CEO NHS Scotland

Healthcare Improvement Scotland

	What is happening where you are?	What can you do to strengthen this?
1. Create Vision & Build Will		
2. Develop Capability		
3.Deliver Results		
4.Engage Across Boundaries		
5.Shape Culture		
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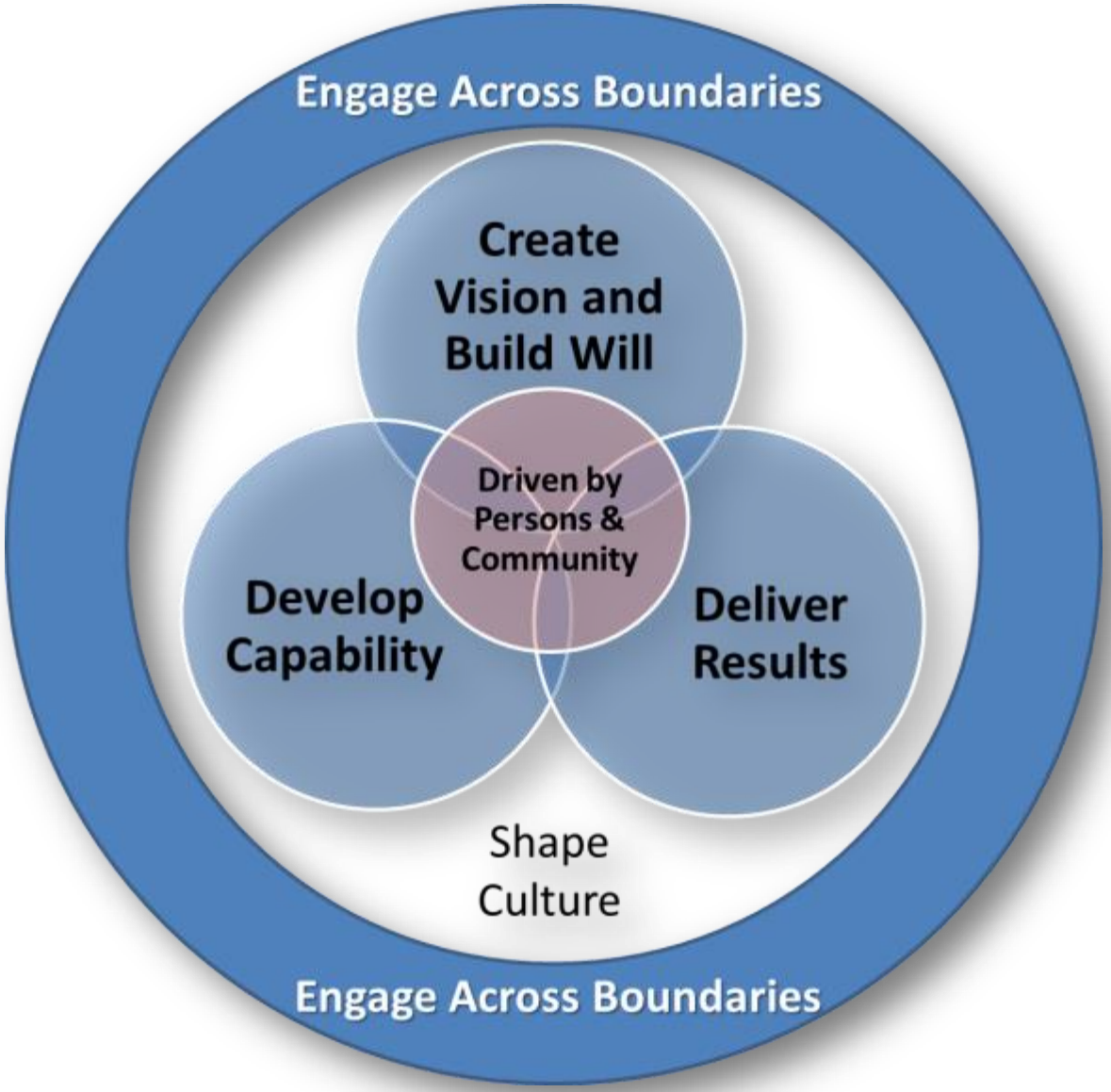
Talk and scribble



Swensen S, Pugh M, McMullan C, Kabcenell A. High-Impact Leadership: Improve Care, Improve the Health of Populations, and Reduce Costs. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2013. (Available at ihi.org)

Institute *for* Healthcare Improvement

http://www.ihi.org/resources/pages/ihiwhitepapers/highimpactleadership

Healthcare Improvement Scotland

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Talk and scribble

Thank You

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