



# LEADERSHIP FOR IMPROVEMENT

7<sup>th</sup> Dec 2017

Dr Brian Robson MBChB, FRCGP, MPH, DRCOG


Medical Director

Health Foundation / IHI Quality Improvement Fellow

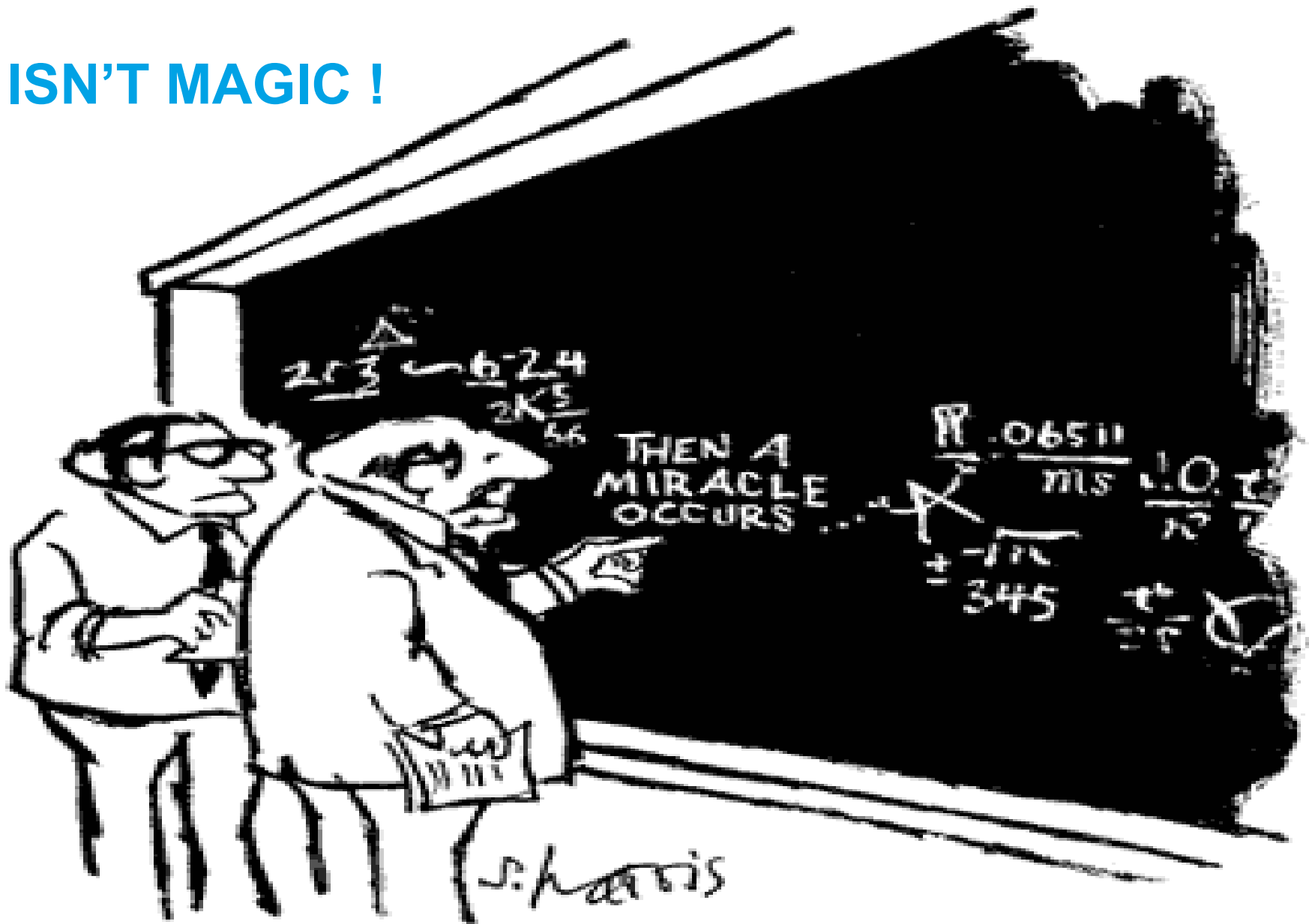


**East London**  
NHS Foundation Trust

[brian.robson@nhs.net](mailto:brian.robson@nhs.net)

 @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

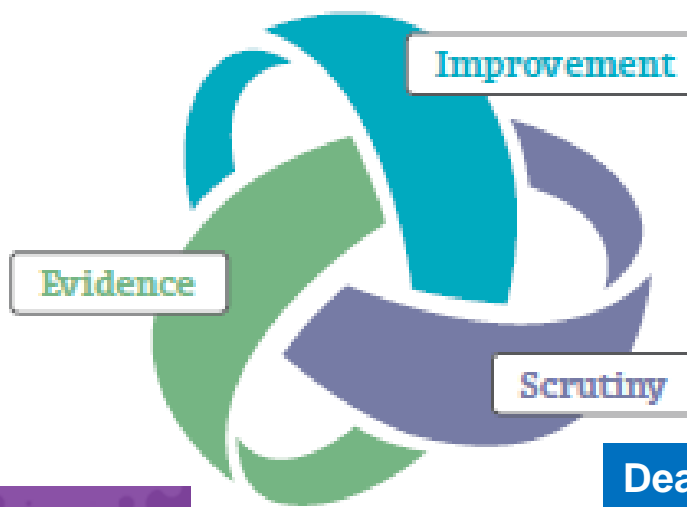
# Mearns Medical Centre

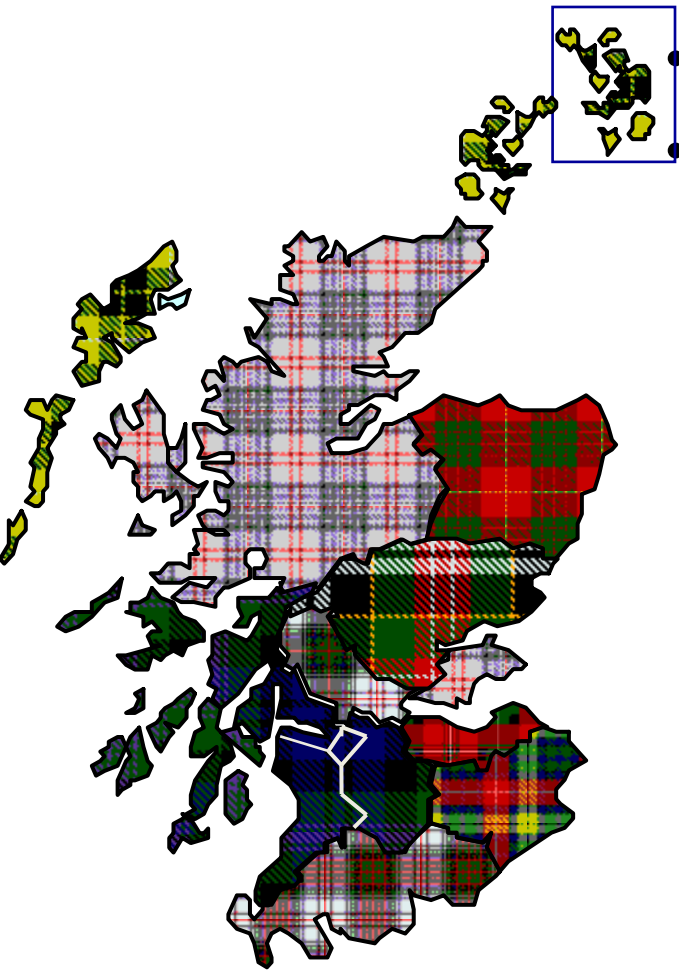


# WHAT WE DO



## Integrated cycle of Improvement

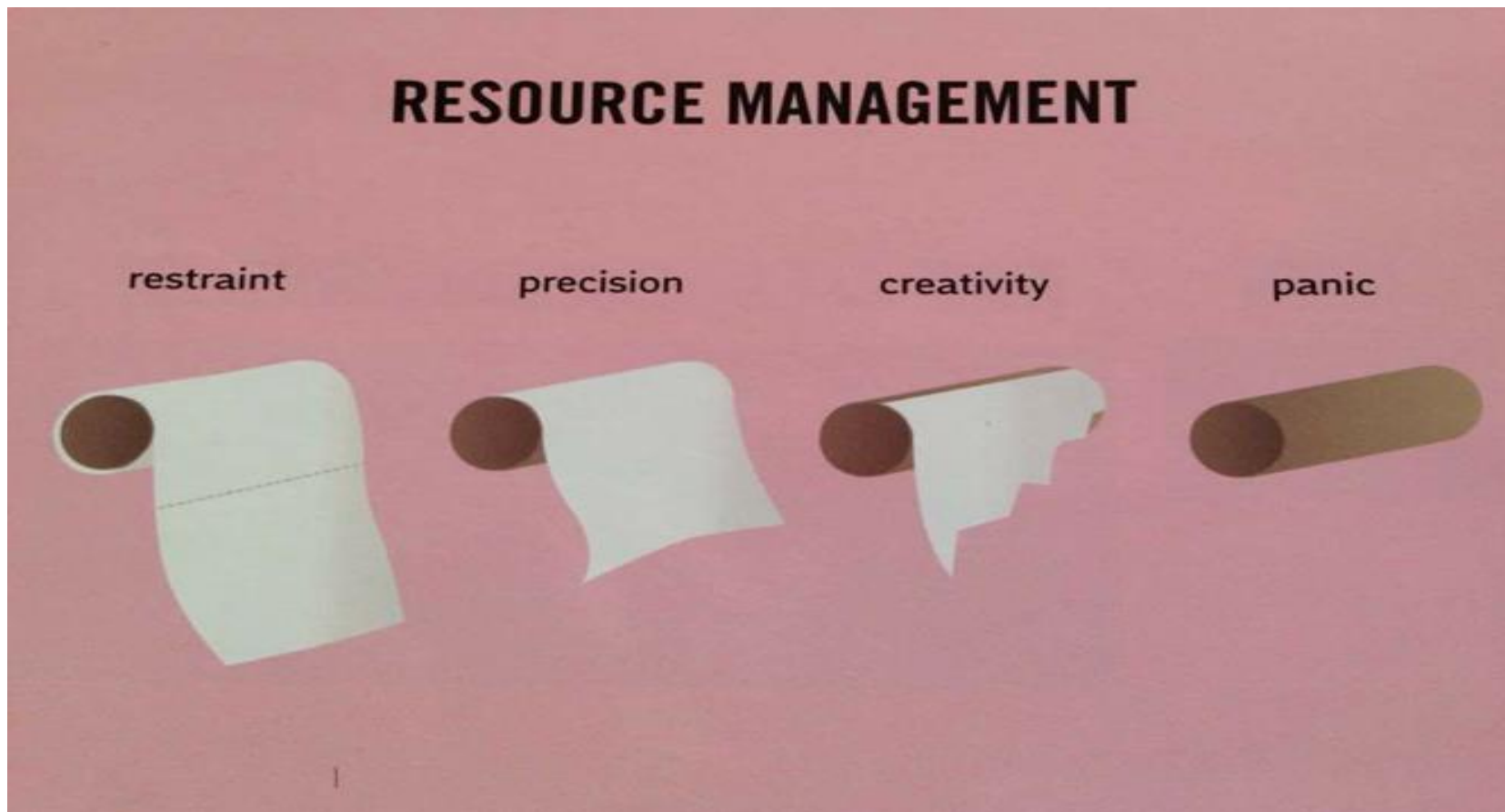




- **5.37 million population**
- **£13 billion H&SC budget**
- **14 territorial boards**
- **Special boards**
  - NHS Education for Scotland
  - NHS National Services Scotland
  - Scottish Ambulance Service
  - Golden Jubilee Foundation
  - NHS Health Scotland
  - State Hospital
  - NHS 24
- **Moving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

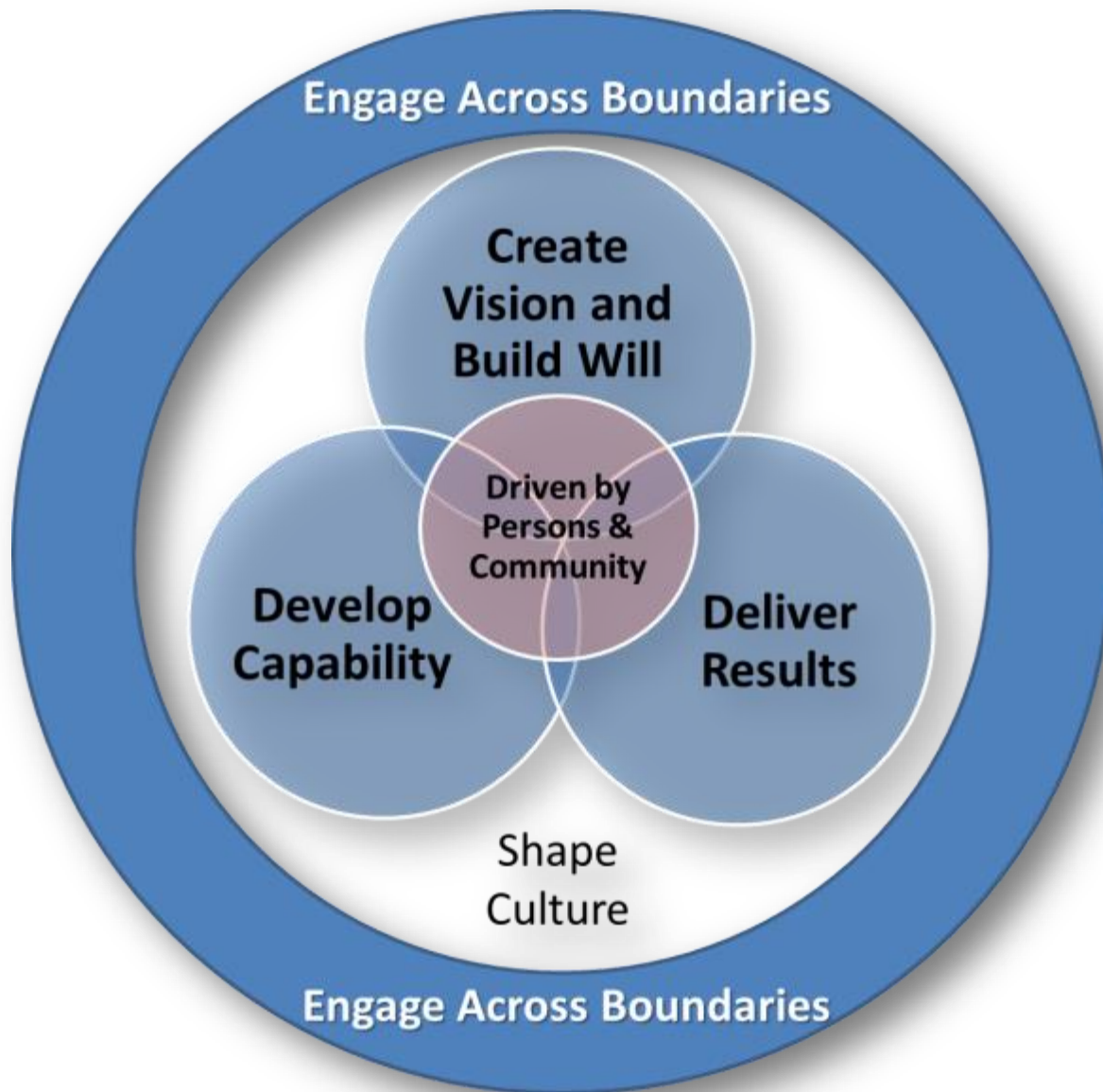


# THERE IS NO MORE MONEY



#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](http://ihi.org))




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


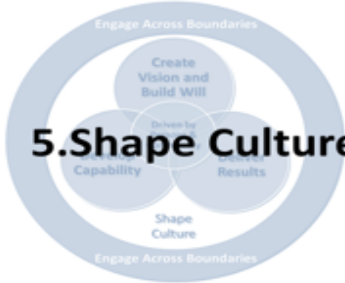

**“A clear theory is crucial....  
however, theories are like toothbrushes  
... everyone has one but doesn't want  
someone else's!”**








**H** Healthcare Improvement Scotland  
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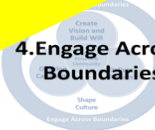


	What is happening where you are?	What can you do to strengthen this?
		
		
		

 <p><b>4. Engage Across Boundaries</b></p>		
 <p><b>5. Shape Culture</b></p>		
 <p><b>6. Driven by Persons &amp; Community</b></p>		



	What is happening where you are?	What can you do to strengthen this?
		
		
		

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,<sup>1</sup> Richard Baker,<sup>1</sup> Kathryn Charles,<sup>2</sup> Jeremy Dawson,<sup>3</sup> Gabi Jerzembek,<sup>4</sup> Graham Martin,<sup>1</sup> Imelda McCarthy,<sup>5</sup> Lorna McKee,<sup>5</sup> Joel Minion,<sup>6</sup> Piotr Ozieranski,<sup>6</sup> Janet Willars,<sup>7</sup> Patricia Wilkie,<sup>7</sup> Michael West<sup>8</sup>

**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 carefully 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. Considerable achievement of high-quality care was challenged by unclear goals, overlapping priorities that distracted attention, and compliance-oriented business and 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: patients everywhere continue to suffer avoidable harm and substandard care.<sup>1–3</sup> England’s National Health Service (NHS) has not been immune to these problems. Despite some encouraging evidence of improvement in quality and safety,<sup>4–6</sup> 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.<sup>7–9</sup> 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,<sup>10</sup> 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.<sup>9</sup> 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

Department of Health Sciences, University of Leicester, Leicester, UK  
Imperial College Centre for Patient Safety and Service Quality (EPSSQ), London, UK  
Institute of Work Psychology and School of Health and Related Research, University of Sheffield, Sheffield, UK  
Miles Business School, Aston University, Birmingham, UK  
Health Service Research Unit, University of Aberdeen, Aberdeen, UK  
Department of Social and Policy Sciences, University of Bath, Bath, UK  
National Association for Patient Participation, Solihull, UK  
Aston University Management School, Lancaster, UK

Correspondence to: Professor Mary Dixon-Woods, Department of Health Sciences, University of Leicester, 22-28 Princes Road West, Leicester LE1 5TU, UK; md11@le.ac.uk

Received 3 March 2013  
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© 2013 Dixon-Woods M, et al. BMJ Qual Saf 2013;0:1–10. doi:10.1136/bmjqs-2013-001947  
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# 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

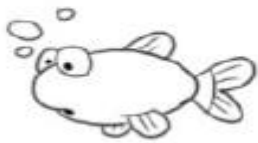
Provide staff with helpful feedback on how they are doing and celebrate good performance

Take effective, supportive action to address system problems and other challenges when improvement is needed

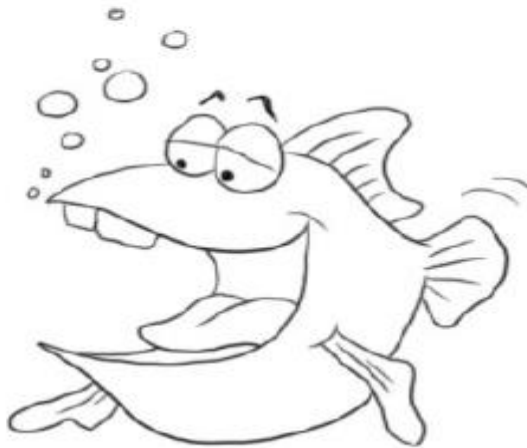
Develop and model excellent teamwork

Make sure that staff feel safe, supported, respected and valued at work.<sup>35</sup>

# SUPPORTING STRUCTURES ?



**Strategy**



**Culture**

# ALL TOOLS FOR IMPROVEMENT

## Juran's Trilogy



## Quality Planning

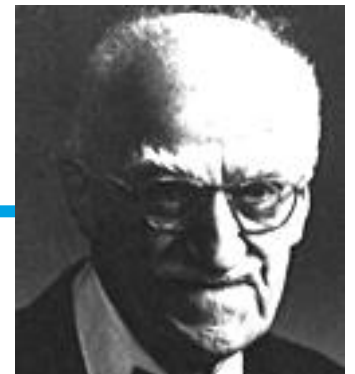
Provides a system that is capable of meeting quality standards

## Quality Control

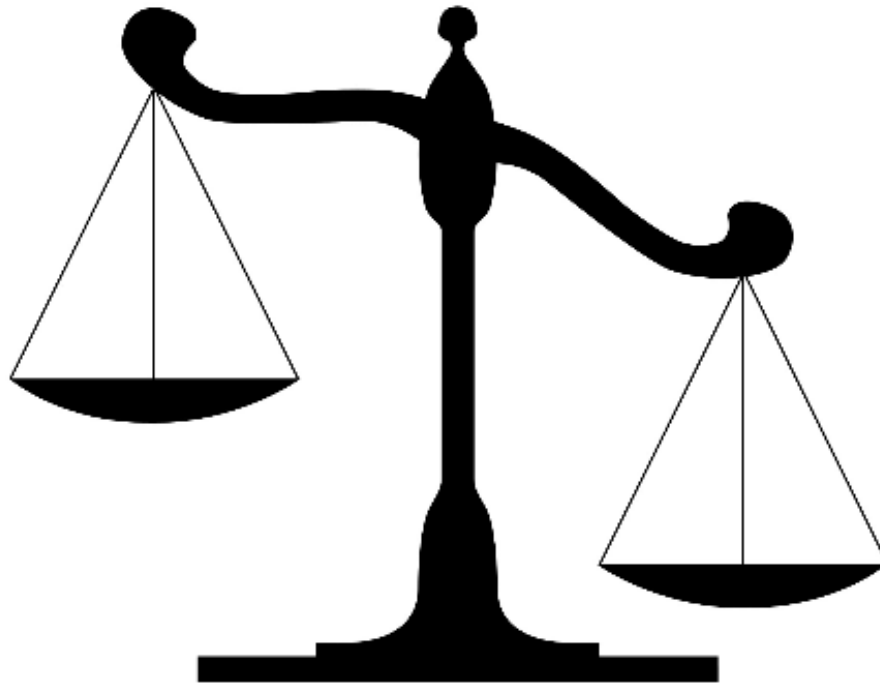
Used to determine when corrective action is required

## Quality Improvement

Seeks better ways of doing things



# INTERNAL OR EXTERNAL QUALITY CONTROLS?



<http://www.ihl.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>



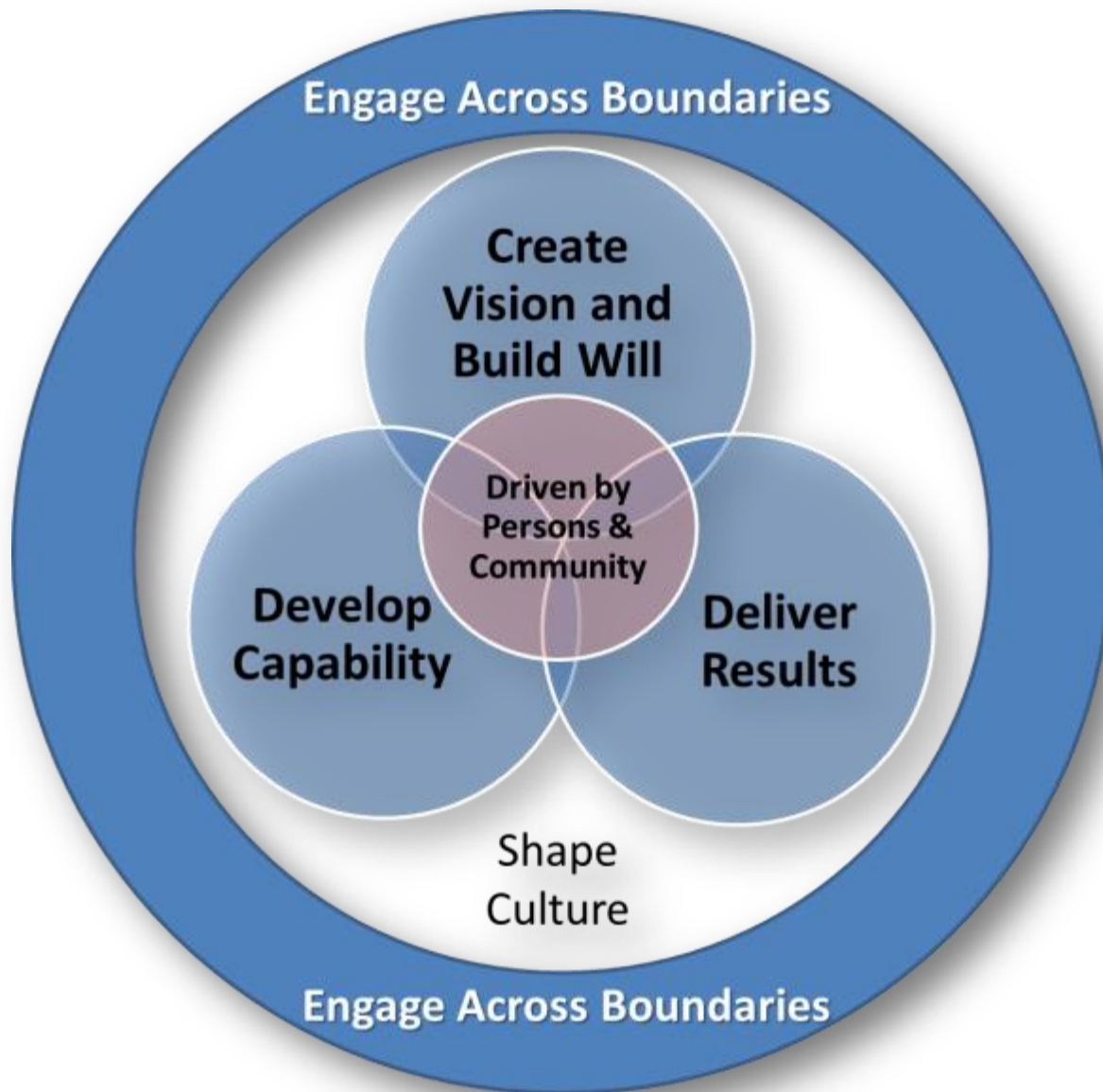
# QUALITY IMPROVEMENT IS MESSY



Thanks to Phil Standish (See Exodus 14)

11-24-2000

MAN, I AINT SO SURE ABOUT THIS ... THAT  
LOOKS PRETTY MUDDY TO ME



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](http://ihi.org))

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

Engage Across Boundaries

Create  
Vision and  
Build Will

# 1. Create Vision & Build Will

Engage  
Persons &  
Community

Develop  
Capability

Define  
Results

Shape  
Culture

Engage Across Boundaries

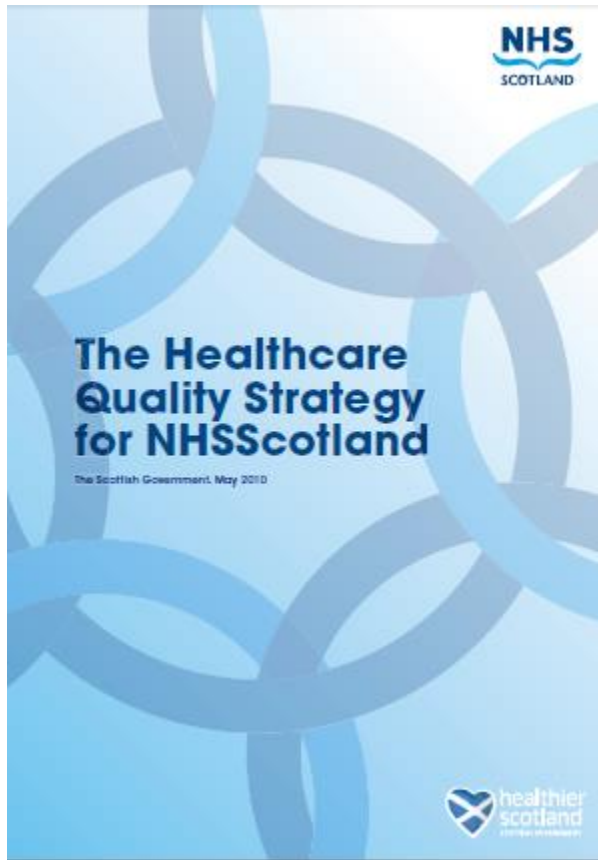
*We have had 5 decades of clinical audit and 10 years of clinical governance. The future will focus on **patient safety and reducing harm.***



*Prof Sir Graham Teasdale*



# NATIONAL COMMITMENT TO QUALITY

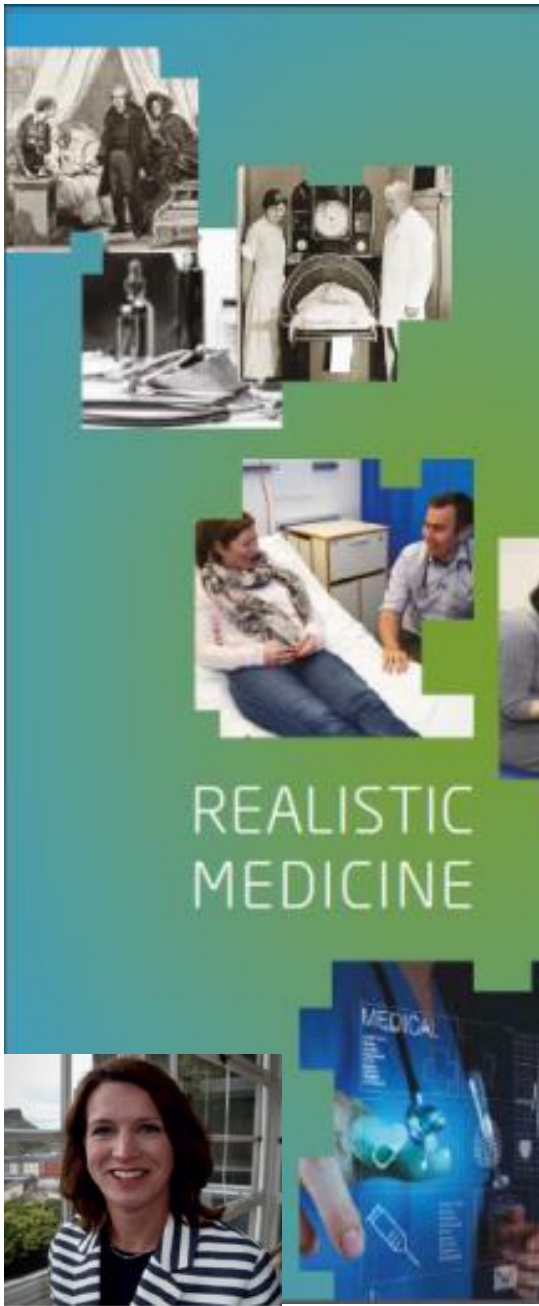


## 3 Quality Ambitions

- Safe care
- Effective care
- Person-centred care



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



REALISTIC  
MEDICINE

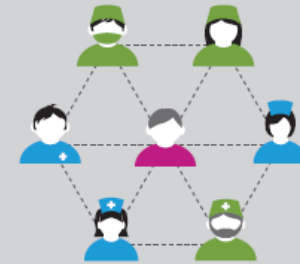
# REALISTIC MEDICINE

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**?

# Convening the co-producers








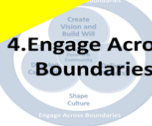


# Celebrating success





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

Talk and scribble

 <b>4. Engage Across Boundaries</b>		
 <b>5. Shape Culture</b>		
 <b>6. Driven by Persons &amp; Community</b>		

Engage Across Boundaries

Create  
Vision and  
Build Will

# 2. Develop Capability

Empower  
Persons &  
Community

Develop  
Capability

Deliver  
Results

Shape  
Culture

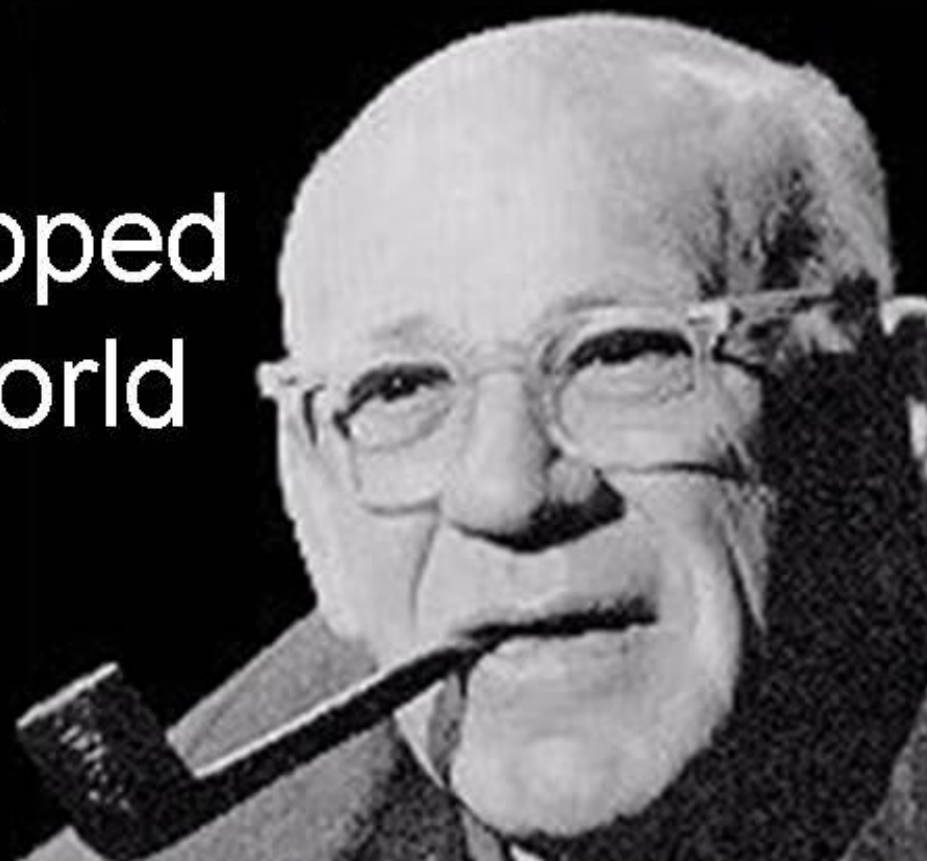
Engage Across Boundaries

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

---

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

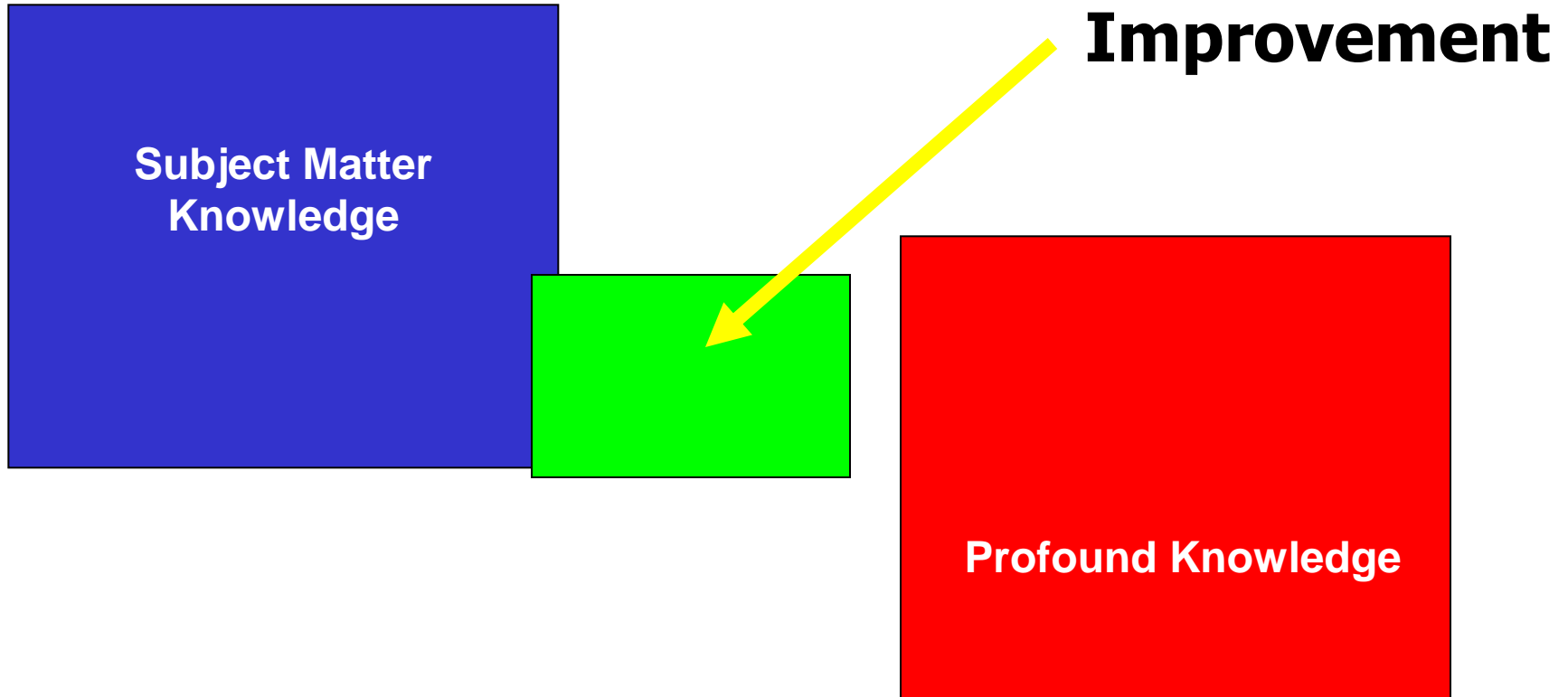
Eric Hoffer



“...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



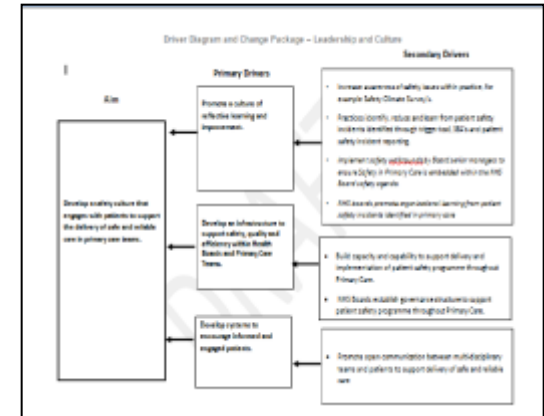
**The  
Health  
Foundation**  
Inspiring  
Improvement



*Institute for*  
**Healthcare  
Improvement**

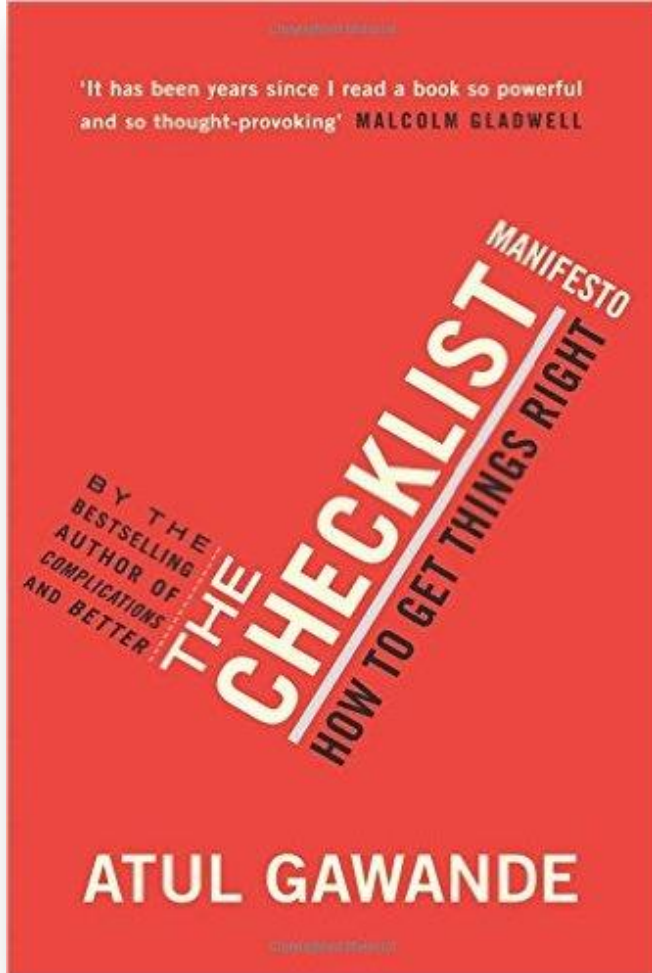
# NEW TOOLS ...

## Model for Improvement





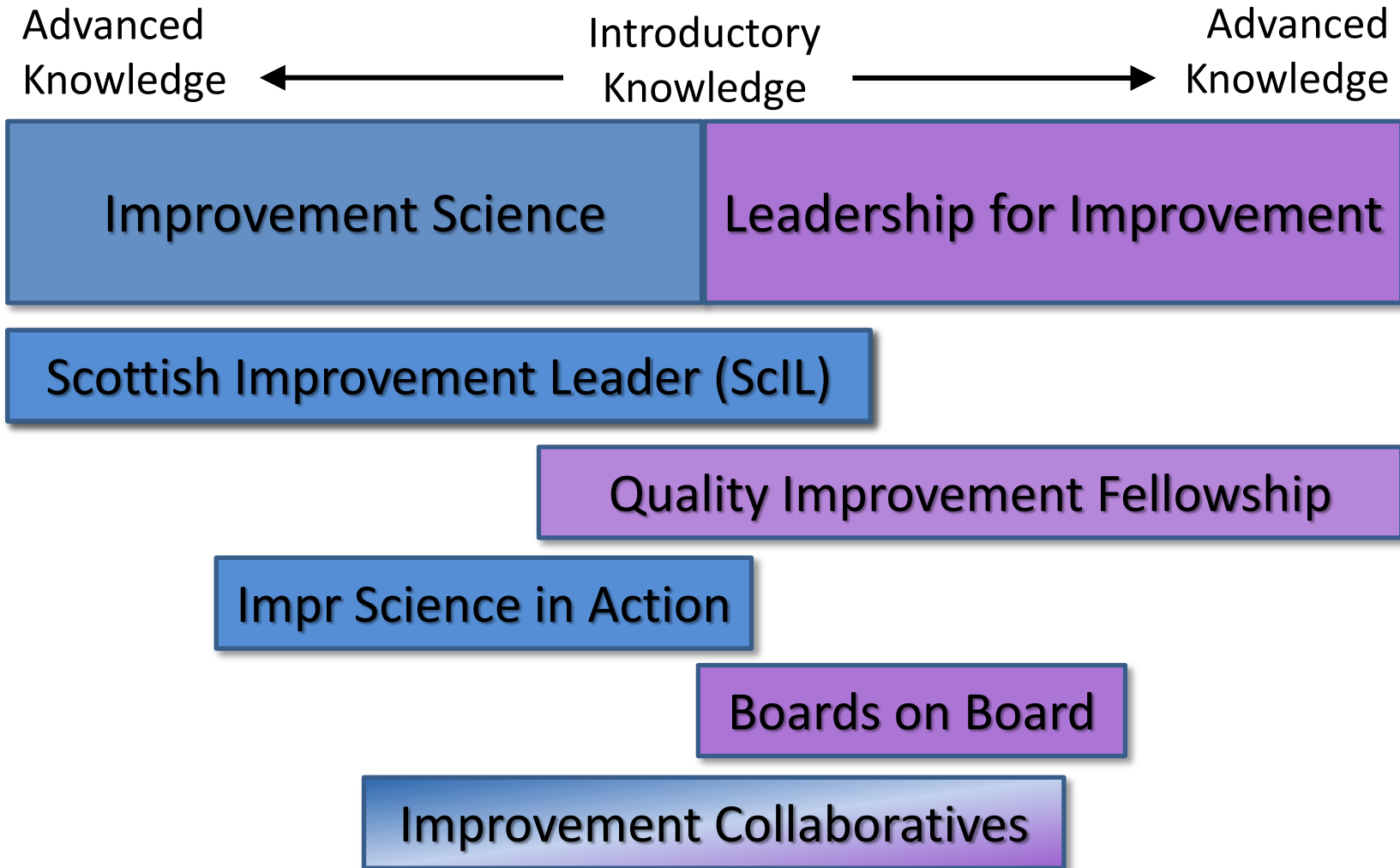
# BEHIND THE TOOLS...



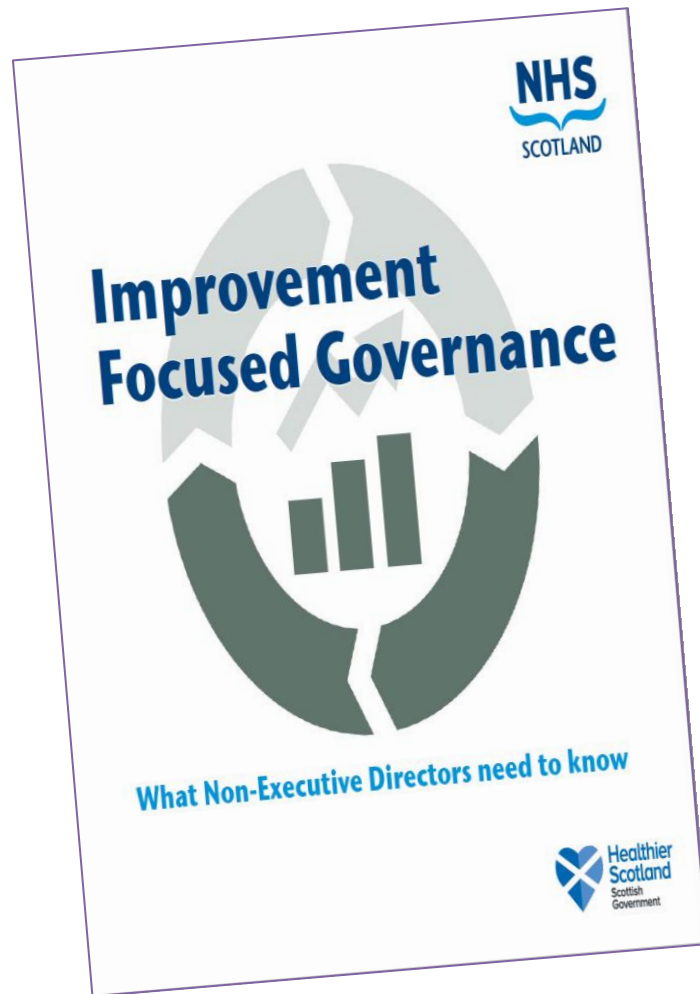
“... using a checklist requires [doctors] to embrace different values from ones we’ve had, like **humility, discipline, team.**”

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

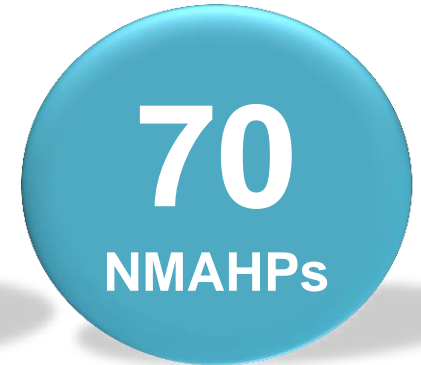
# Improvement Capacity Building: Scotland's Approach



# IMPROVEMENT LEARNING AT ALL LEVELS



# QUALITY & SAFETY FELLOWS (COHORTS 1-10)



							
<b>143</b>	<b>34</b>	<b>14</b>	<b>13</b>	<b>15</b>	<b>1</b>	<b>1</b>	<b>1</b>
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*



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!



**Dr Tom Marshburn**  
Emergency Medicine  
Physician &  
NASA Astronaut  
  
26 October 2017



## FROM SPACE, DOWN TO EARTH LESSONS FROM SPACE SHUTTLE COLUMBIA

**Dr Nigel Packham: 8 November 2017**



## COMING UP IN 2018: CMO OF NASA!



**Dr JD Polk**  
Chief Health &  
Medical Officer  
NASA  
  
January 2018



[http://www.healthcareimprovementscotland.org/our\\_work/clinical\\_engagement/qi\\_connect.aspx](http://www.healthcareimprovementscotland.org/our_work/clinical_engagement/qi_connect.aspx)

# LEARNING ?

VALENTIN BONDARENKO (1961)



APOLLO 1 (1967)



[https://spaceflight.nasa.gov/outreach/Significant\\_Incidents.pdf](https://spaceflight.nasa.gov/outreach/Significant_Incidents.pdf)

Legend			
<b>Apollo 1 (AS-204)</b> 1/27/1967 Crew cabin fire (electrical short + high pressure O <sub>2</sub> atmosphere). Crew: 3    Loss of Crew	<b>Soyuz TM - 7</b> 4/27/1989 Double-impact "hard landing." Crew: 2    Crew Injury (1)	<b>Soyuz TM - 12</b> 10/10/1991 Hard impact. News team reported capsule as "very deformed." Crew: 2	
<b>Red border with yellow shading:</b> Loss of Crew	<b>Orange border and shading:</b> Crew injury and/or loss of vehicle or mission.	<b>Blue shading, no border:</b> Related or recurring event.	



**STS-134** 5/6/2011  
Small cylindrical object liberated from vehicle during ascent.

**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/

**Soyuz TM-9** 2/11/1990  
DM insulation too loose on ascent; contingency EVA repair.

**SRB Seal Events (1981-1998):**

**STS-51L** 1/28/1986  
SRB seal failure.  
Crew: 7    Loss of Crew

Other SRB gas sealing anomalies: STS-2, 8, 11, 41D, 51G, 51D, 51E, 51F, 51G, 51H, 61A, 61B, 61C, 42, 71, 70, 79.

**STS-51F** 7/29/1985  
Temperature sensor problems resulted in Main Engine (ME-1) shutdown at 1+45.  
Crew: 3    Abort To Orbit

**Soyuz 18-1 (18a)** 4/6/1978  
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 1 + 295 seconds.  
Crew Injury  
Loss of Vehicle/Mission

**Apollo 13** 4/11/1970  
2<sup>nd</sup> stage center engine shutdown due to power oscillators.  
Crew: 3

**Apollo 12** 11/14/1969  
Lightning strike on ascent.  
Crew: 3

**Gemini 10** 7/18/1966  
1<sup>st</sup> stage oxidizer tank exploded at staging. No discernable effects. Normal ascent.

**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** 6/28/1984  
Following a pad abort, LH<sub>2</sub> leaked from SSME 3, resulting in a fire at the base of the orbiter.  
Crew: 6

**Soyuz T-10-1 (T-10a)** 9/26/1993  
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 11 (AS-204)** 1/27/1967  
Crew cabin fire (electrical short + high pressure O<sub>2</sub> 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

**Progress M-12M (44P)** 8/24/2011  
Anomaly in fuel pressurization system led to shutdown of 3<sup>rd</sup> stage engine. Vehicle failed to reach orbit.  
Crew: 0    Loss of Vehicle/Mission

**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) All T-+5 a short on AC1 Phase A.  
B) Loss of foam from External Tank PAL ramp.  
C) TPS gap fillers protruding. Removed during third mission EVA.  
Crew: 7

**STS-133** 2/28/2011  
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** 9/10/2010  
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  
Freson 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 unit.  
Crew: 2

**ISS, Increment 5&6 mid-2002-2003**  
Formaldehyde periodically exceeded long-term limits.  
Crew: 3-10

**ISS, Increments 4-24** 4/2001-3/2002  
Freson 218 leaked from SM AC.  
Crew: 3

**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)** 4/5/1978  
After ascent abort, capsule landed on snowy slope above cliff. Parachute snagged and prevented fall.  
Crew: 2

**Altitude Chamber O<sub>2</sub> Fire - Soviet** 3/23/1961  
Alcohol wipe hit hot plate and started fire in oxygen-rich test chamber.  
Crew: 1    Loss of Crew

**EVA Incidents Summary (1965-2011):**

13 EVAs resulted in crew injury.  
Gemini 10, Apollo 17, Skylab 7 PE-1, Skylab 7 VE-3, STS-61-EVAs 1&2, STS-37, Mir PE-6, STS-63, STS-97/4A, STS-100/6A EVAs 1&2, STS-134/ULFB

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-6, STS-118/13A.1, STS-126/ULFB EVAs 2&4, STS-125/HST, STS-100/6A

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](http://spaceflight.nasa.gov/outreach/readersroom.html))

**Apollo 13** 4/13/1970  
Explosion due to electrical short. Loss of O<sub>2</sub> and EPS.  
Crew: 3    Loss of Mission

**Apollo 11** 7/21/1969  
Engine arm circuit breaker knob broke off. Circuit breaker successfully reset allowing ascent.  
Crew: 2

**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 7 days.  
Crew: 7    Minimum Duration Flight  
Loss of Mission

**STS-61** 9/12/1993  
Both port-side primary & secondary SUPER-ZIP explosive cords frayed, 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  
20G's failed during two reconfigurations 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-87** 11/21/1997  
Spartan satellite deployed without proper activation. Recapture with RMS unsuccessful. Later captured by EVA crew.  
Crew: 6

**STS-2** 2/20/2002  
MeiXn regeneration caused noxious air - many pollutants.  
Crew: 3

**ISS** 8/2001  
Extremely high methanol levels in FGB air sample.  
Crew: 6

**STS-104** 7/2001  
EMU battery leaked hazardous KOH. Discovered during EMU checkout.  
Crew: Soyuz 3, ISS 3

**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<sub>2</sub> 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

**ISS, Increments 2-4** 4/2001-3/2002  
Freson 218 leaked from SM AC.  
Crew: 3

**STS-2** 2/20/2002  
Fuel cell failure resulted in high levels of hydrogen in drinking water.  
Crew: 2    Mission Terminated

**Soyuz 21** 8/24/1976  
Separation from Soyuz 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 1<sup>st</sup> US emergency descent.  
Crew: 2    Emergency Descent

**Mercury MA-9** 5/16/1963  
Electrical faults caused some of some systems and need to perform manual entry. Also experienced high PPO<sub>2</sub> levels in suit during entry operations.  
Crew: 1    Manual Entry

**Mir Overheating Events (1971-2000):**

**Mir** 2/26/1998  
Overheating BMP beds produce health-threatening level of CO.  
Crew: 2

**Mir** 2/24/1997  
Chemical oxygen generator (BFOC) 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  
Soyuz 7, 9/1992, Crew: 3  
Soyuz 6, 1979, Crew: 3  
Soyuz 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 location.  
Crew: 3

**Apollo ASTP** 7/24/1975  
N<sub>2</sub>O<sub>4</sub> 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

**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-O21** 7/30/1966  
D21 drone collided with M21 during launch, causing M21 breakup. Crew survived breakup but crew was lost after water landing.  
Crew: 2    Loss of Crew (1)

**STS-134** 6/11/2011  
Brief fire observed between the left main landing gear tires during runway rollout.  
Crew: 2

**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: 3

**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 inbound tire and significant damage to outboard tire.  
Crew: 7

**STS-9** 12/19/63  
A) Two APUs caught fire during rollout. B) GPC failed on touchdown. C) incorrect flight control reconfiguration on rollout.  
Crew: 6

**STS-3** 3/30/1982  
Pilot induced oscillation during deceleration. Straggler 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 deformed."  
Crew: 3

**STS-37** 4/11/1991  
Double-impact "hard landing."  
Crew Injury (1)

**Soyuz T-7** 12/10/1982  
Landed on hillside and rolled downhill. One cosmonaut thrown from couch.  
Crew: 2

**Soyuz 26** 7/31/1980  
Landing rockets failed to fire resulting in -30G impact.  
Crew: 3

**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 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



Loss of Crew

Related or Recurring Events

Human Error

Systems

Injury or Loss of Vehicle or Mission

Vehicles

Country

Spring 2012

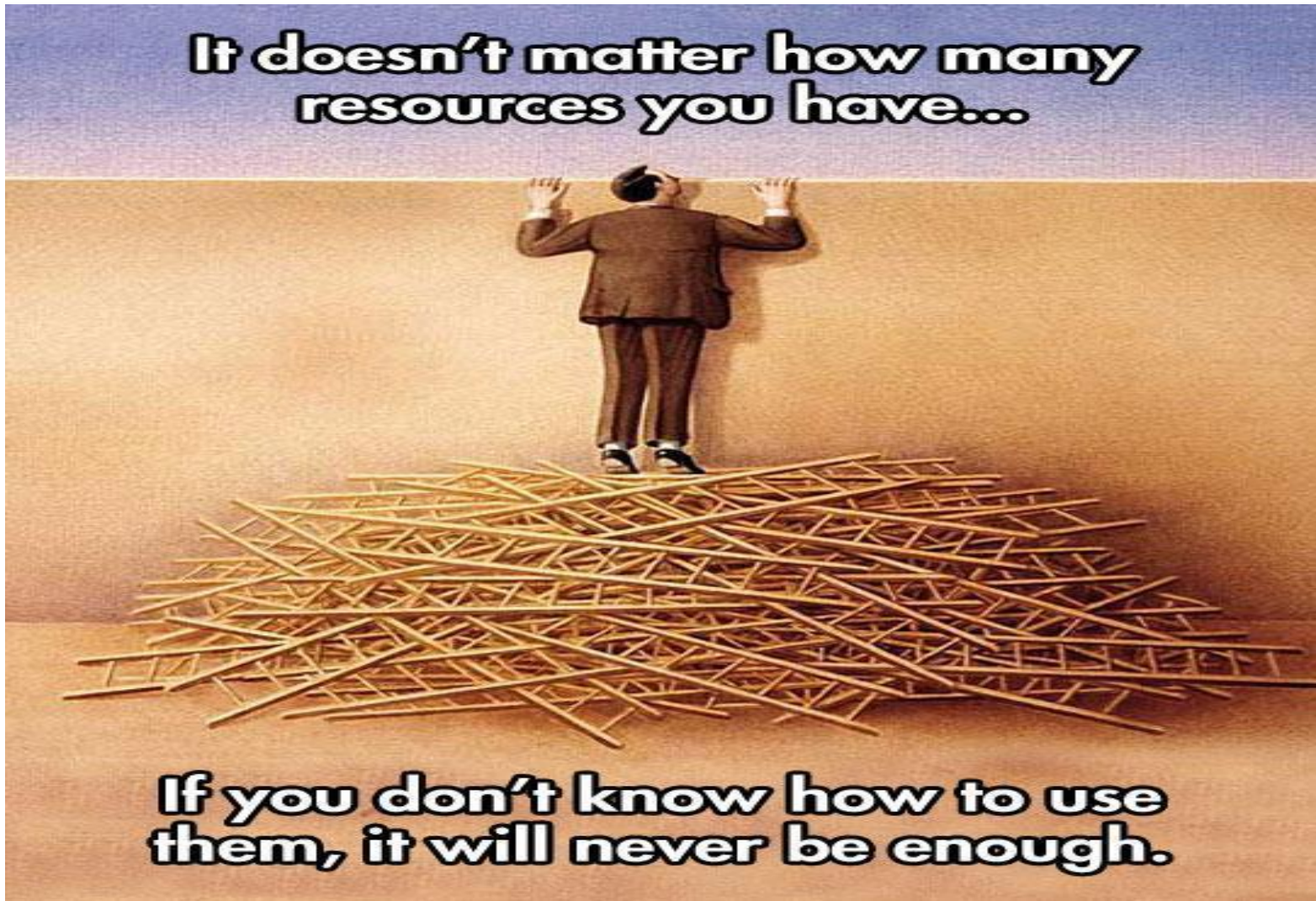
Acronyms

Contact Us






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

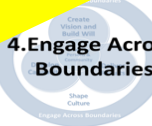


# BUT.... ARE WE USING THEM?



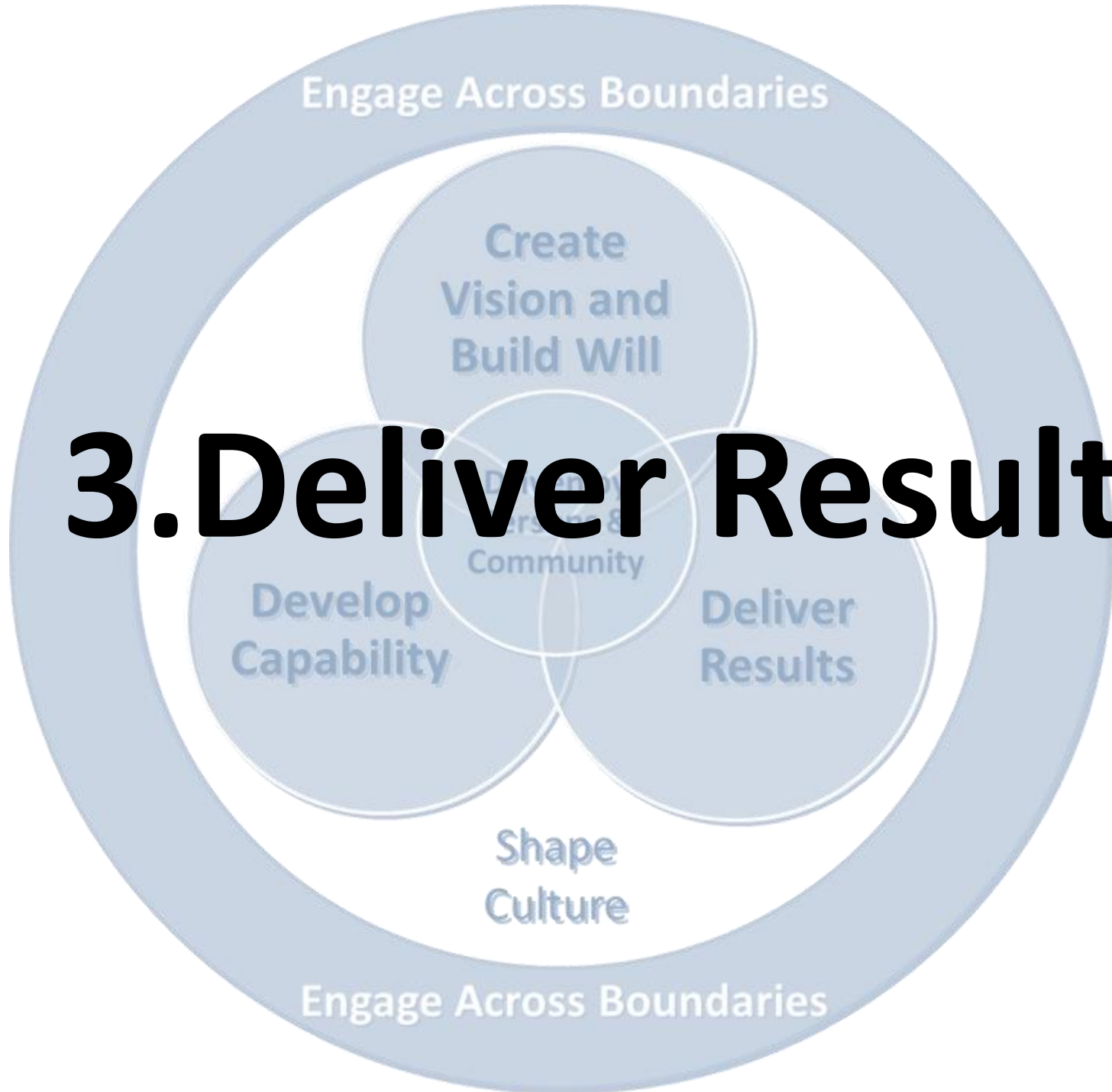


	What is happening where you are?	What can you do to strengthen this?
		
		
		

Talk and scribble

# 3. Deliver Results





# Our change theory

A clear and stretch goal

A method

Predictive, iterative testing

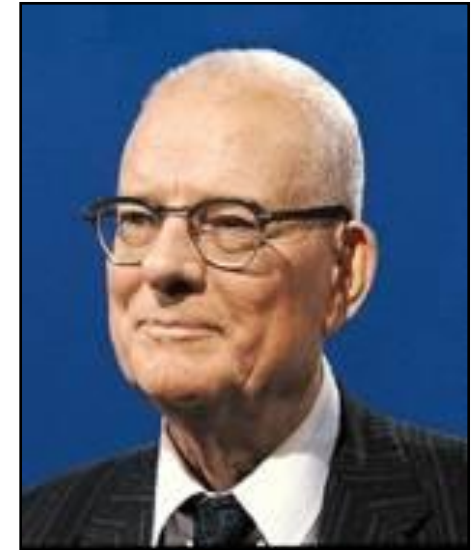


# RELENTLESS MEASUREMENT



***“In God we trust...  
All others bring data.”***

*W. Edwards Deming*



# DATA ON EVERY WARD .... IN PUBLIC !

**NHS**  
Fife

**Infection Control & Scottish Patient Safety Programme**

**SCOTTISH PATIENT SAFETY PROGRAMME**

**MHDU**

0	0	0	3
0	0	0	3
71 Days since last			
2 1 4			

**ICU**

0	0	0	1
0	0	0	1
213 Days since last			
2 1 4			

**SHDU**

0	0	0	1
0	0	0	1
29 Days since last			
2 1 4			

**SCOTTISH PATIENT SAFETY PROGRAMME**

0	0	0	5
71 Days since last			
2 1 4			

**SCOTTISH PATIENT SAFETY PROGRAMME**

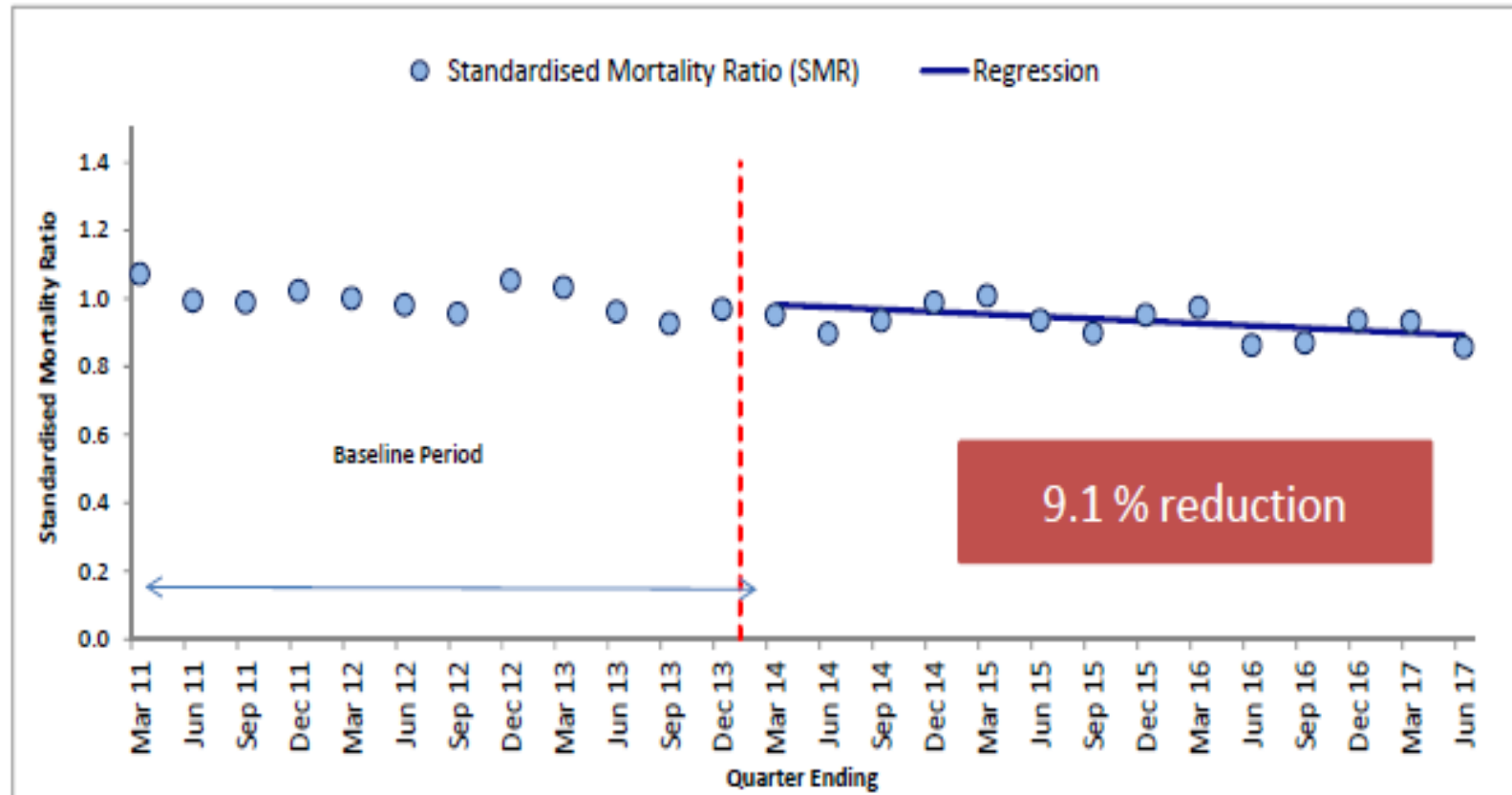
0	0	0	1
48 Days since last			
2 1 4			

**SCOTTISH PATIENT SAFETY PROGRAMME**

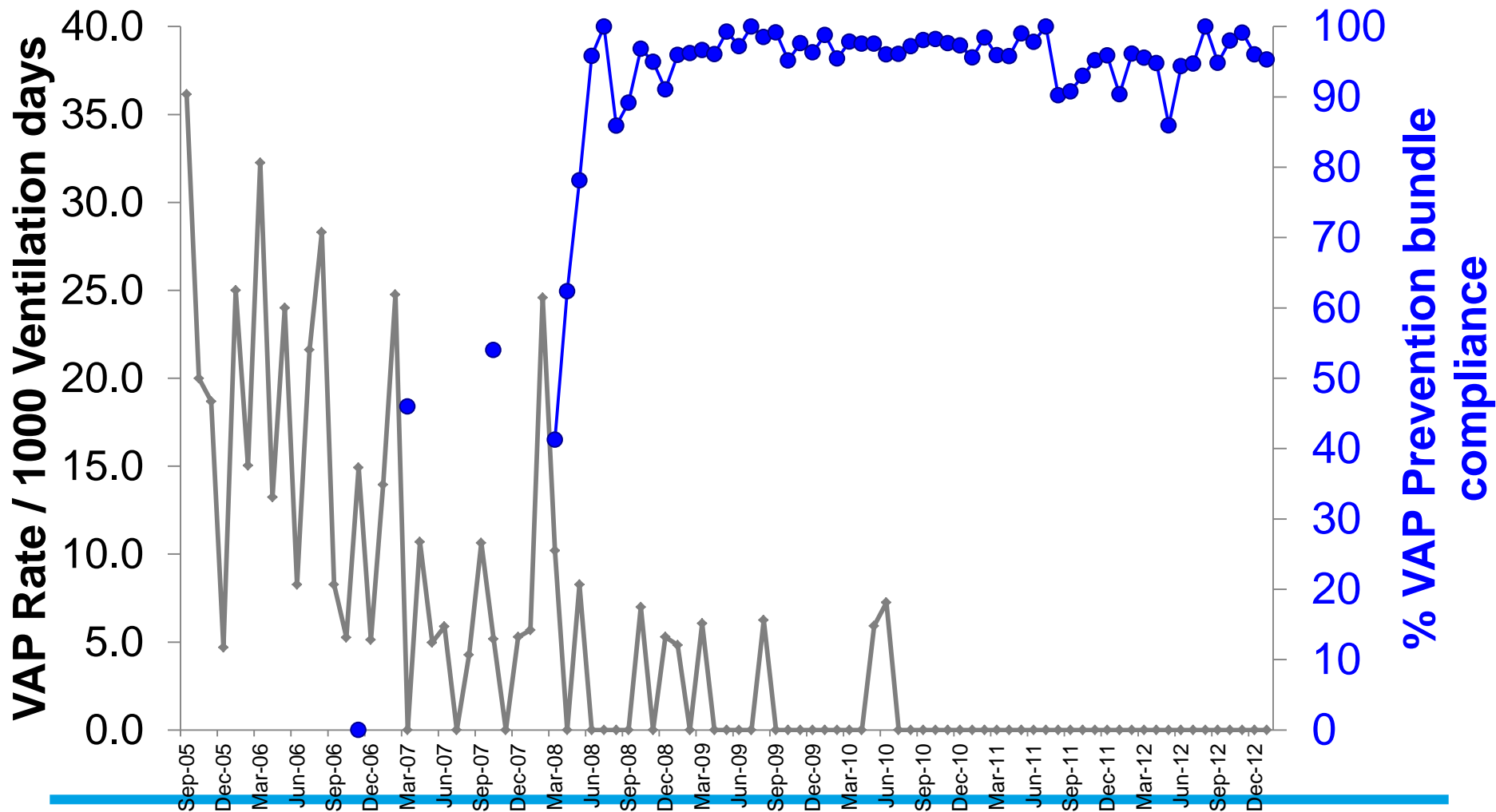
0	0	0	1
135 Days since last			
2 1 4			

# BIG DOTS ...

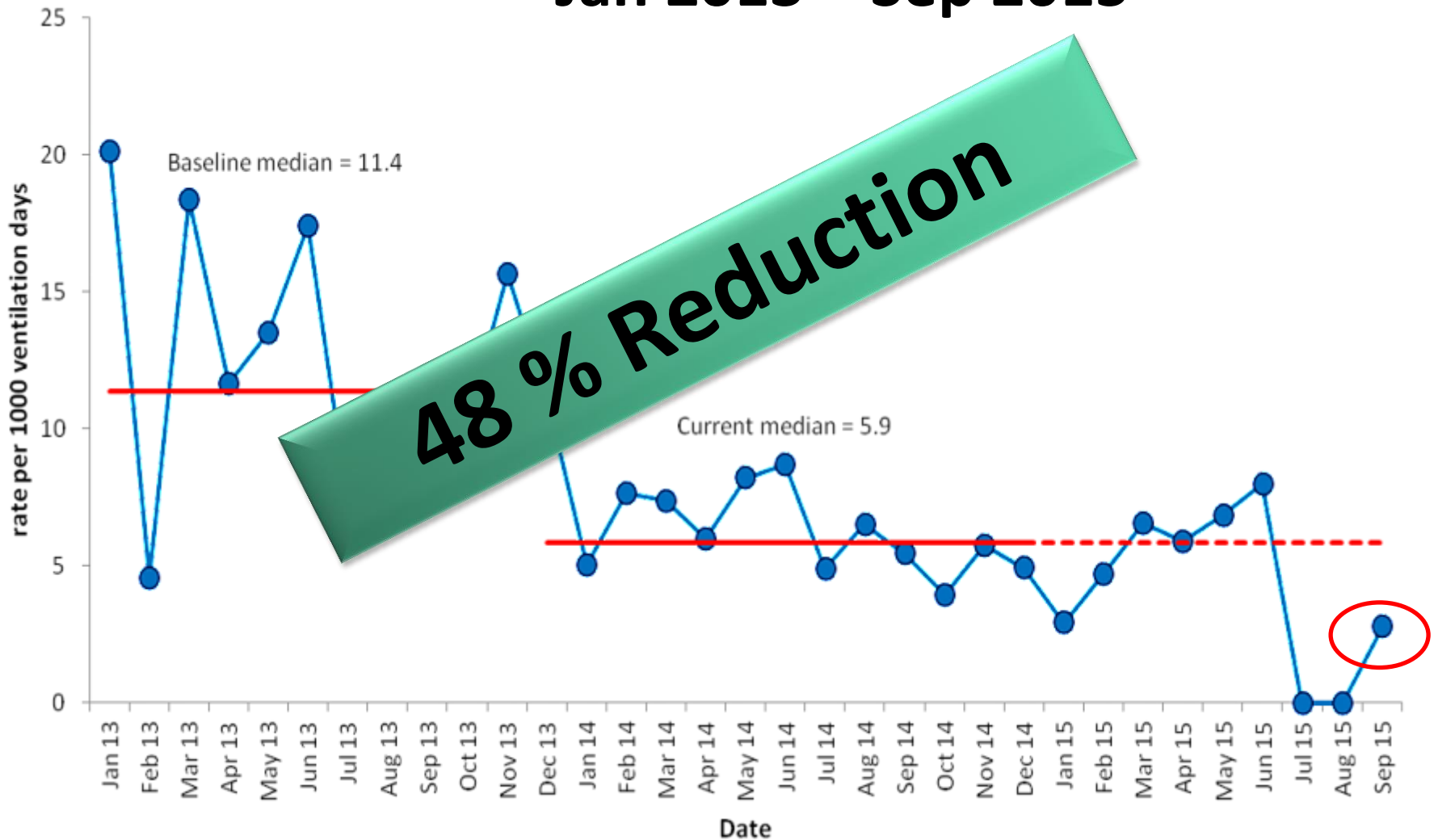
HSMR for deaths within 30-days of admission (with regression line);  
Scotland, Jan-Mar 2011 to Apr-Jun 2017p



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

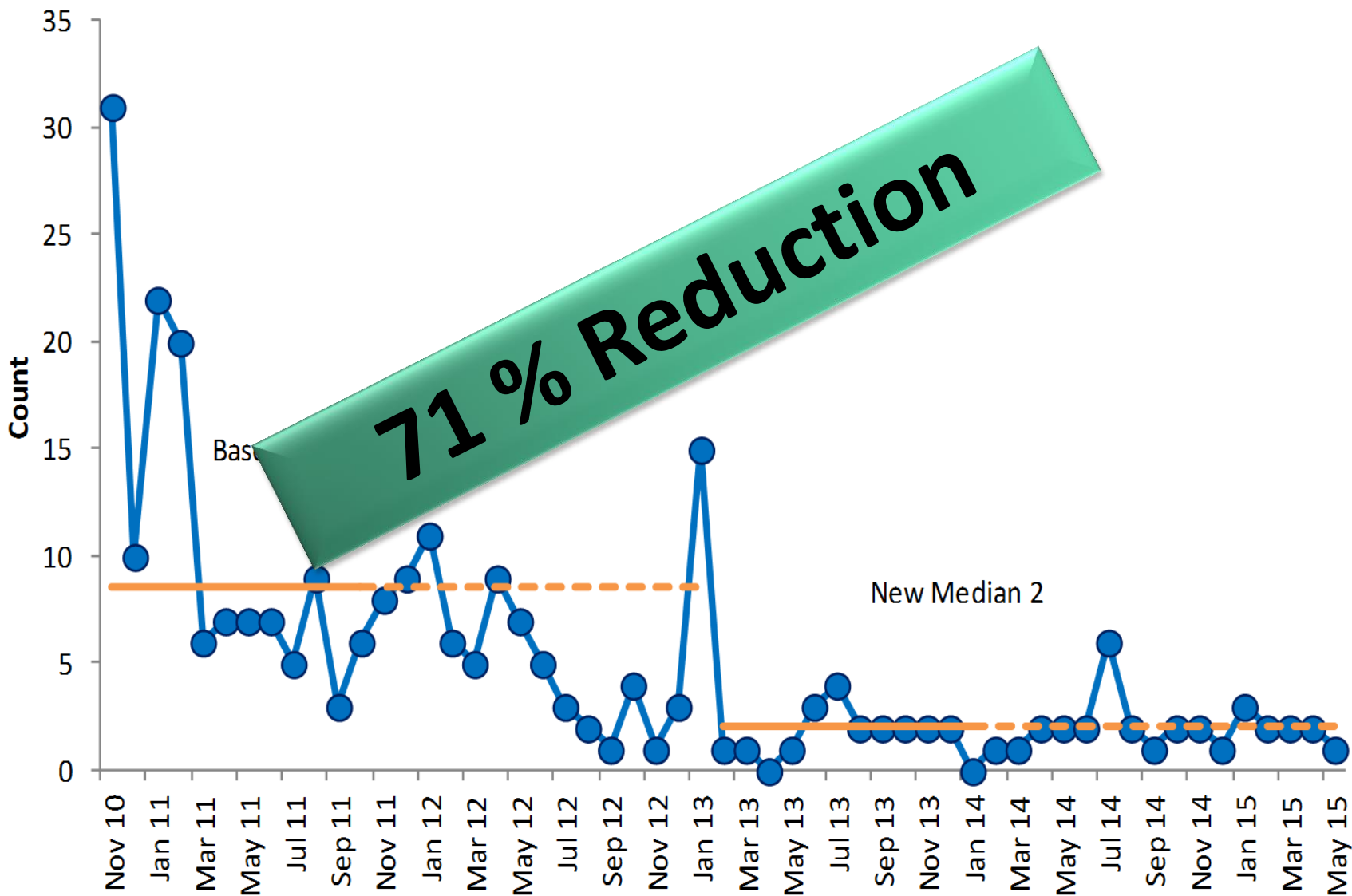


# NHS Greater Glasgow & Clyde PICU VAP Rate per 1000 Ventilation Days Jan 2013 – Sep 2015



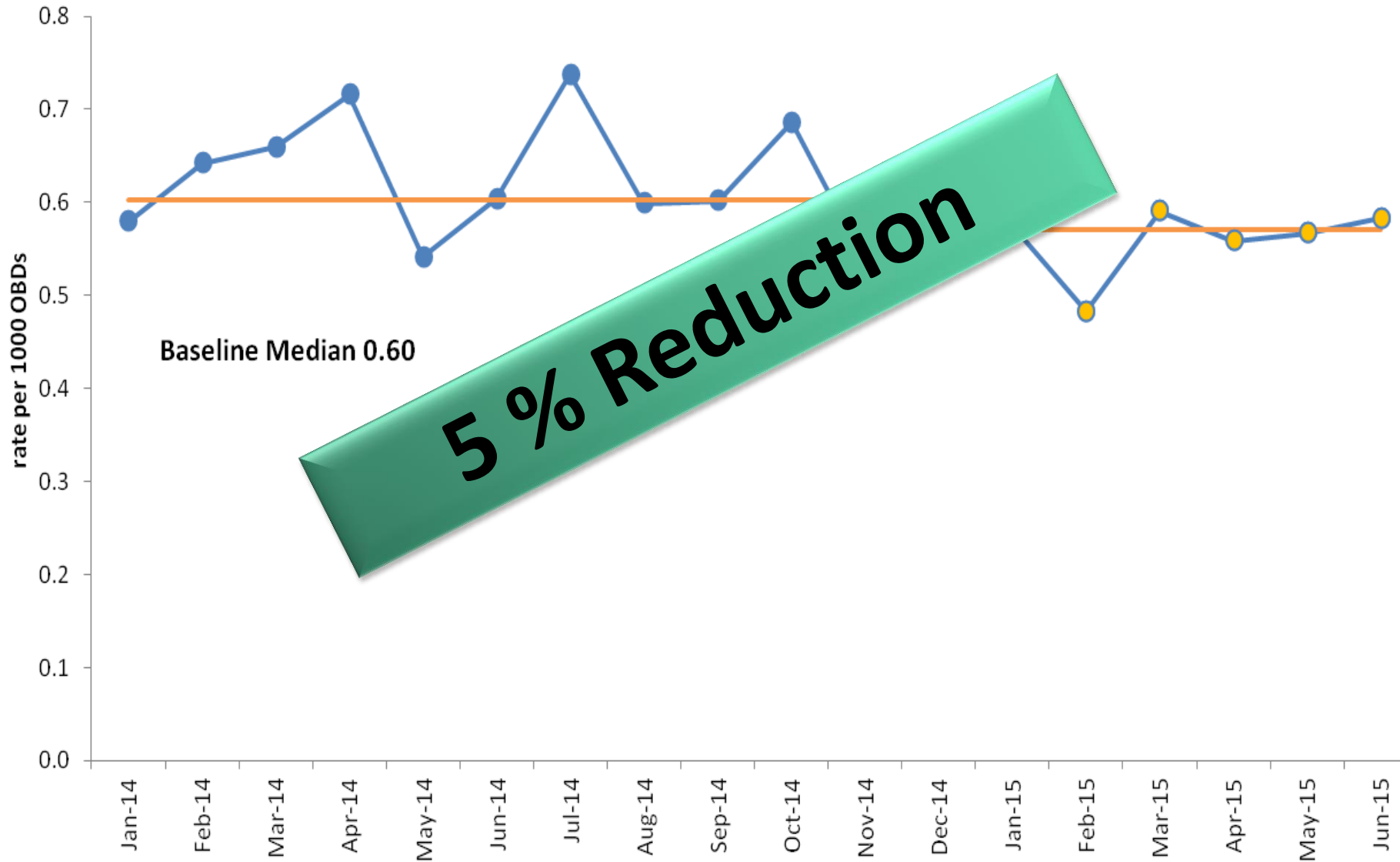
# NHS Forth Valley Pressure Ulcer Count

## November 2010 – May 2015





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

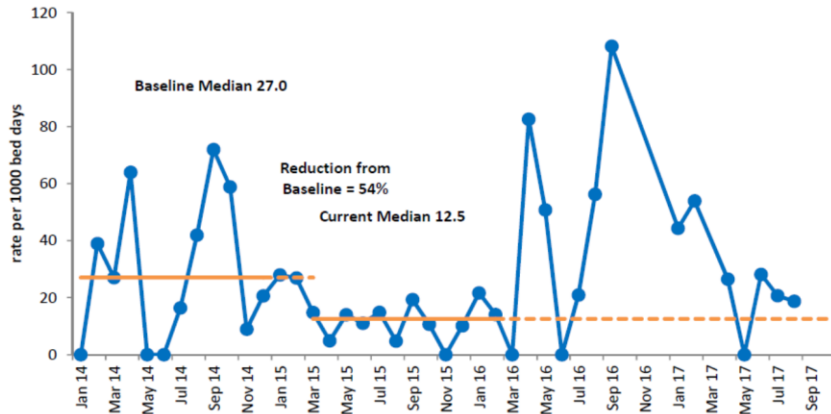




# IN MENTAL HEALTH TOO...

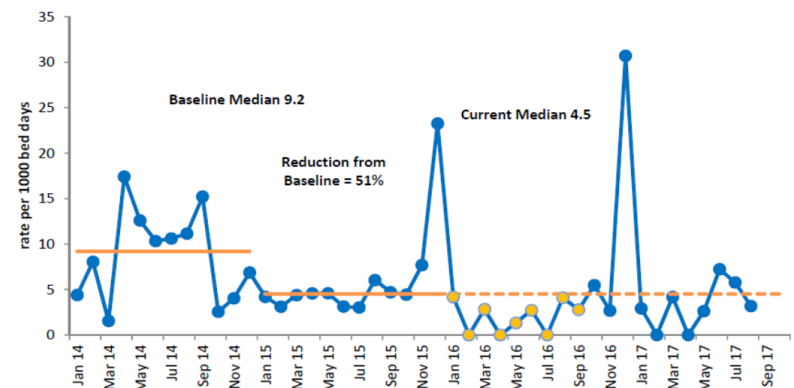
Ward 8, prev ICU  
Woodland View

## Rate of incidents of restraint



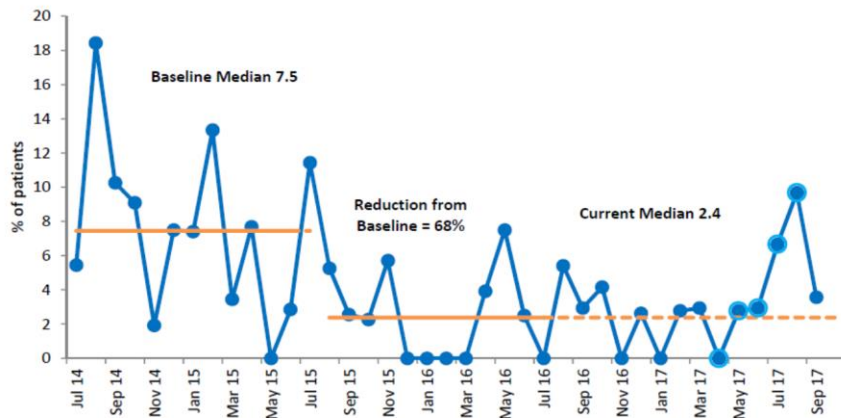
Ward 3  
Parkhead

## Rate of incidents of physical violence

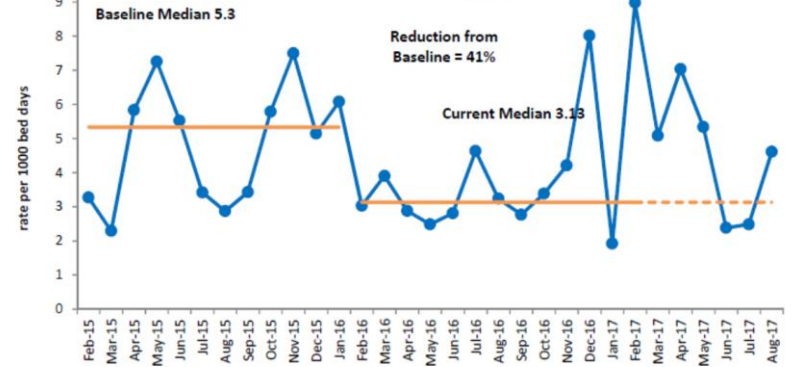


Meadows Female  
REH

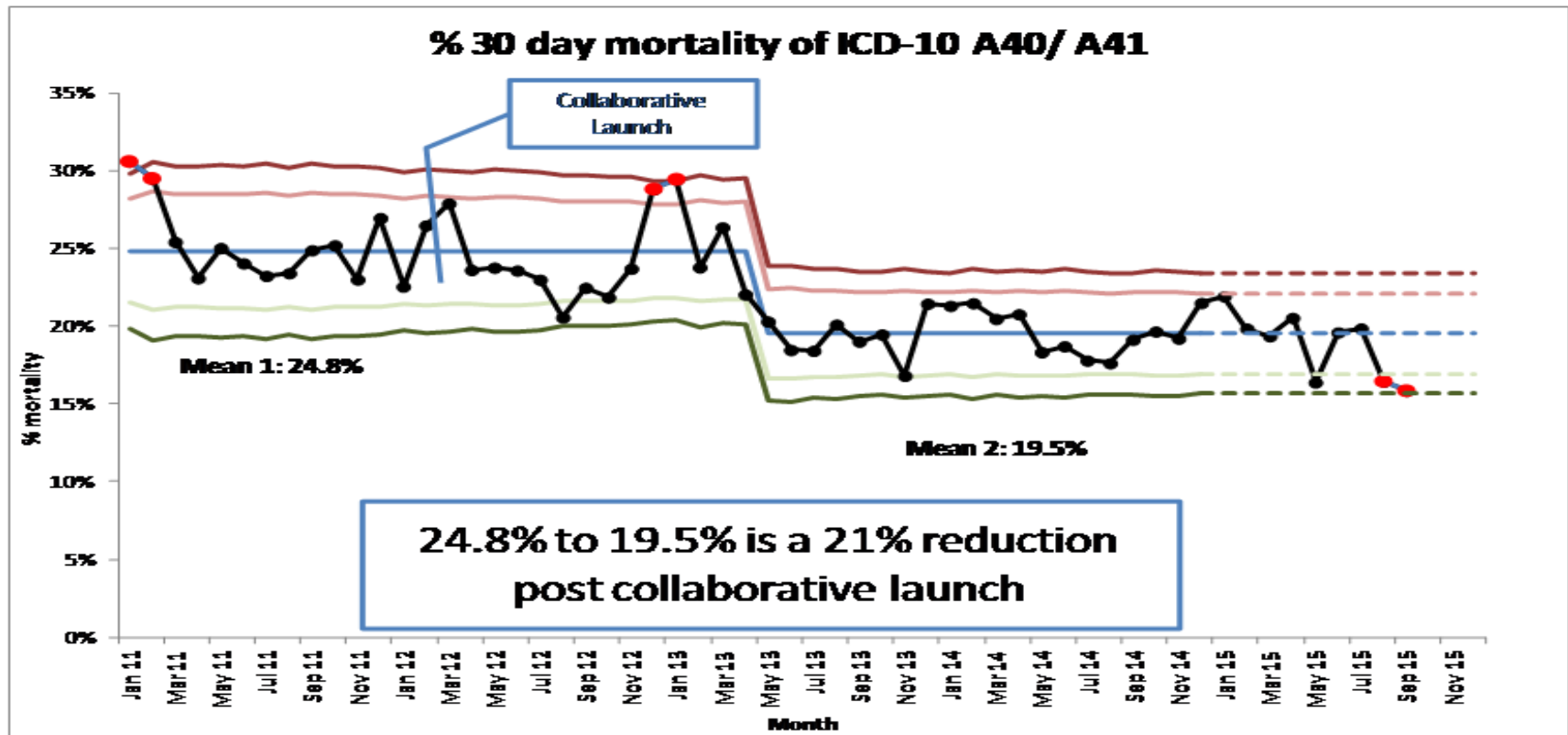
## % of patients who experience self harm



## Total rate of incidents of physical violence for 10 of 24 non-acute/non-ICPU wards which have reported consistently from Feb '15 to Aug '17



# IN NATIONAL DATA TOO ...



# BEHIND THE DATA



Courtesy of Malcolm Daniel

# SEPSIS ~~6~~ 60

Evaluation of the Scottish  
Patient Safety Programme  
sepsis VTE collaborative:  
Short Report

Carolyn Tennant, Barbara O'Donnell, Graham Martin, Julian Blain

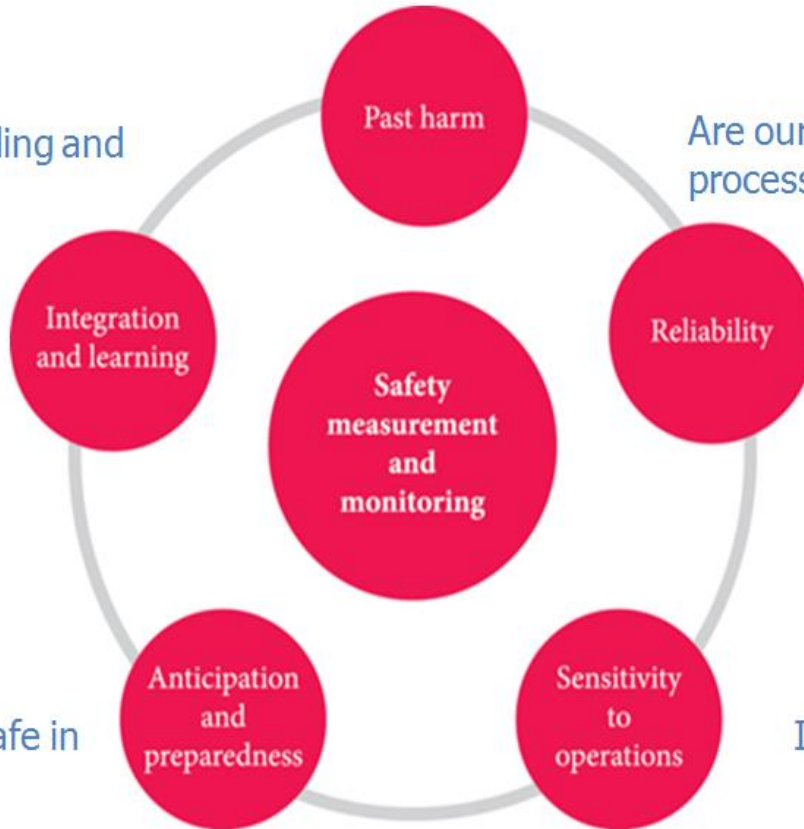


# CHARLES' 'BUBBLES' BROADENED OUR THINKING

Has patient care been safe in the past?

Are we responding and improving?

Are our clinical systems and processes reliable?



Will care be safe in the future?

Is care safe today?



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

# *From assurance to inquiry*


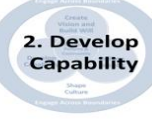

*Absence  
of harm*






*Presence  
of safety*

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



	What is happening where you are?	What can you do to strengthen this?
		
		
		

Talk and scribble

Tea break ?



# 4. Engage Across Boundaries

Engage Across Boundaries

Create  
Vision and  
Build Will

Engage Across  
Boundaries  
Persons &  
Community

Develop  
Capabilities

Deliver  
Results

Shape  
Culture

Engage Across Boundaries



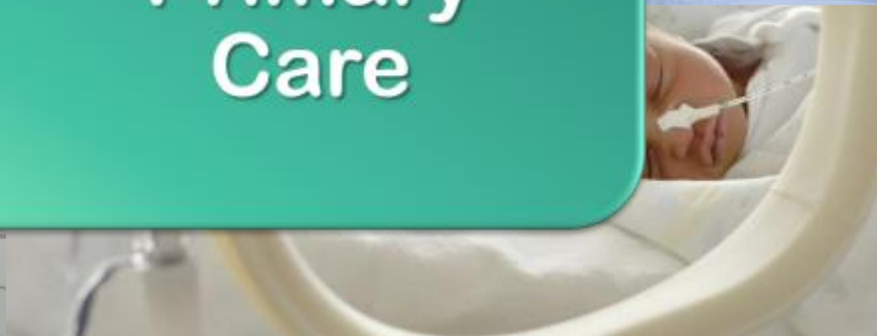
Acute  
Adult

Maternity  
and Children



Mental  
Health

Primary  
Care



# Strategic Direction of Change



**Improving  
Population Health**



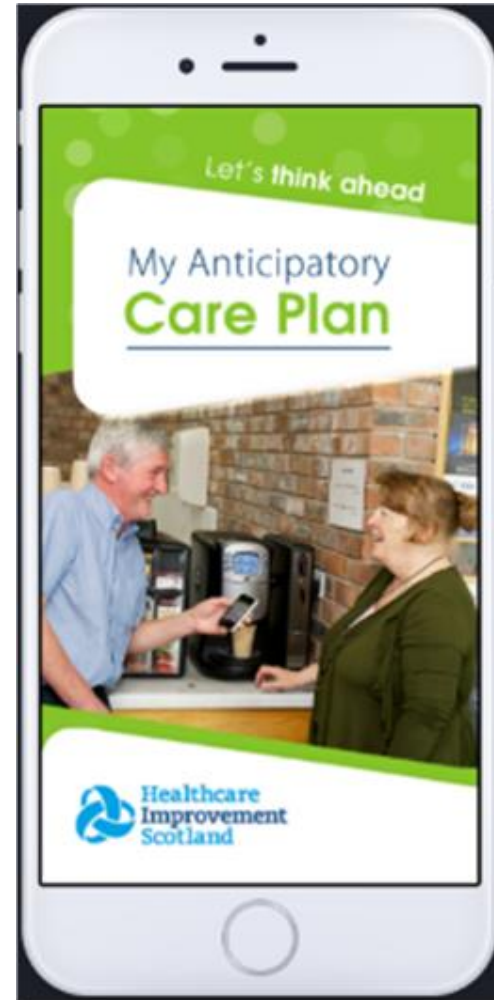
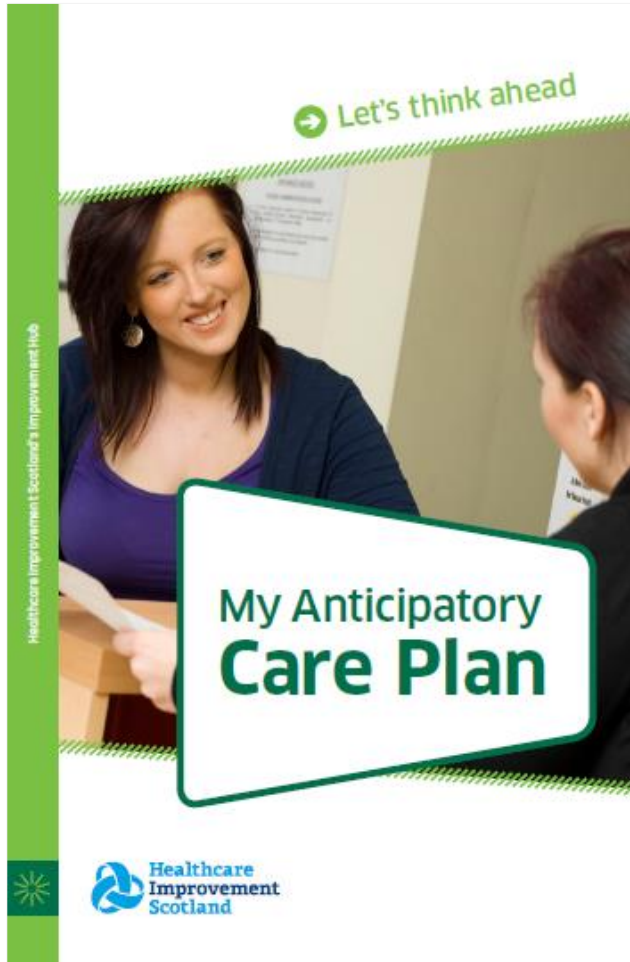
# Health and social care






Our improvement programmes  
have a new home - the ihub.

<http://ihub.scot>

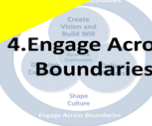


# Developing a national ACP

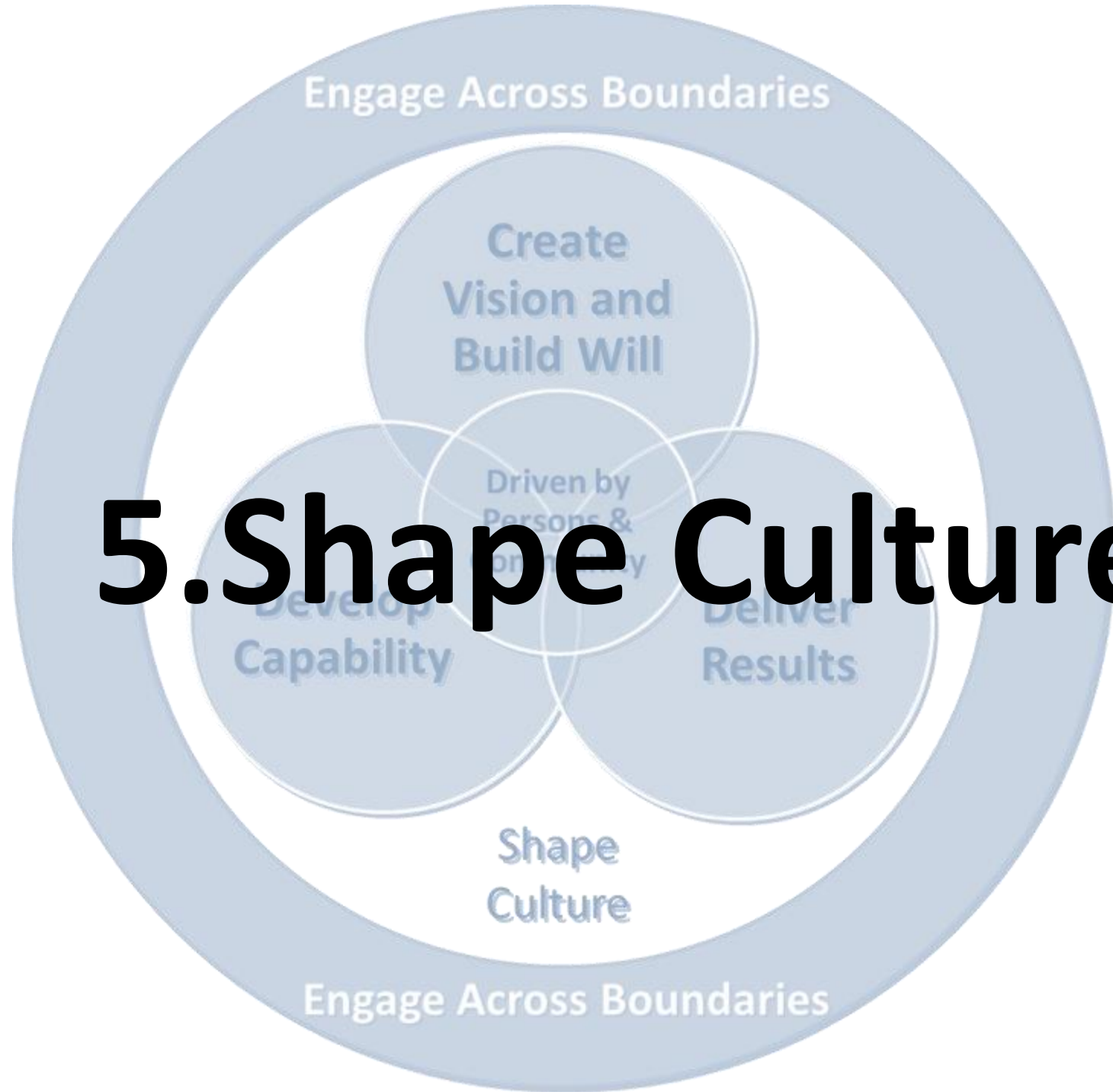




	What is happening where you are?	What can you do to strengthen this?
 <b>1. Create Vision &amp; Build Will</b>		
 <b>2. Develop Capability</b>		
 <b>3. Deliver Results</b>		

Talk and scribble

 <b>4. Engage Across Boundaries</b>		
 <b>5. Shape Culture</b>		
 <b>6. Driven by Persons &amp; Community</b>		



# 5. Shape Culture

# SMART ISN'T ENOUGH





# ELAINE'S STORY

# TEAM BRIEFINGS ...



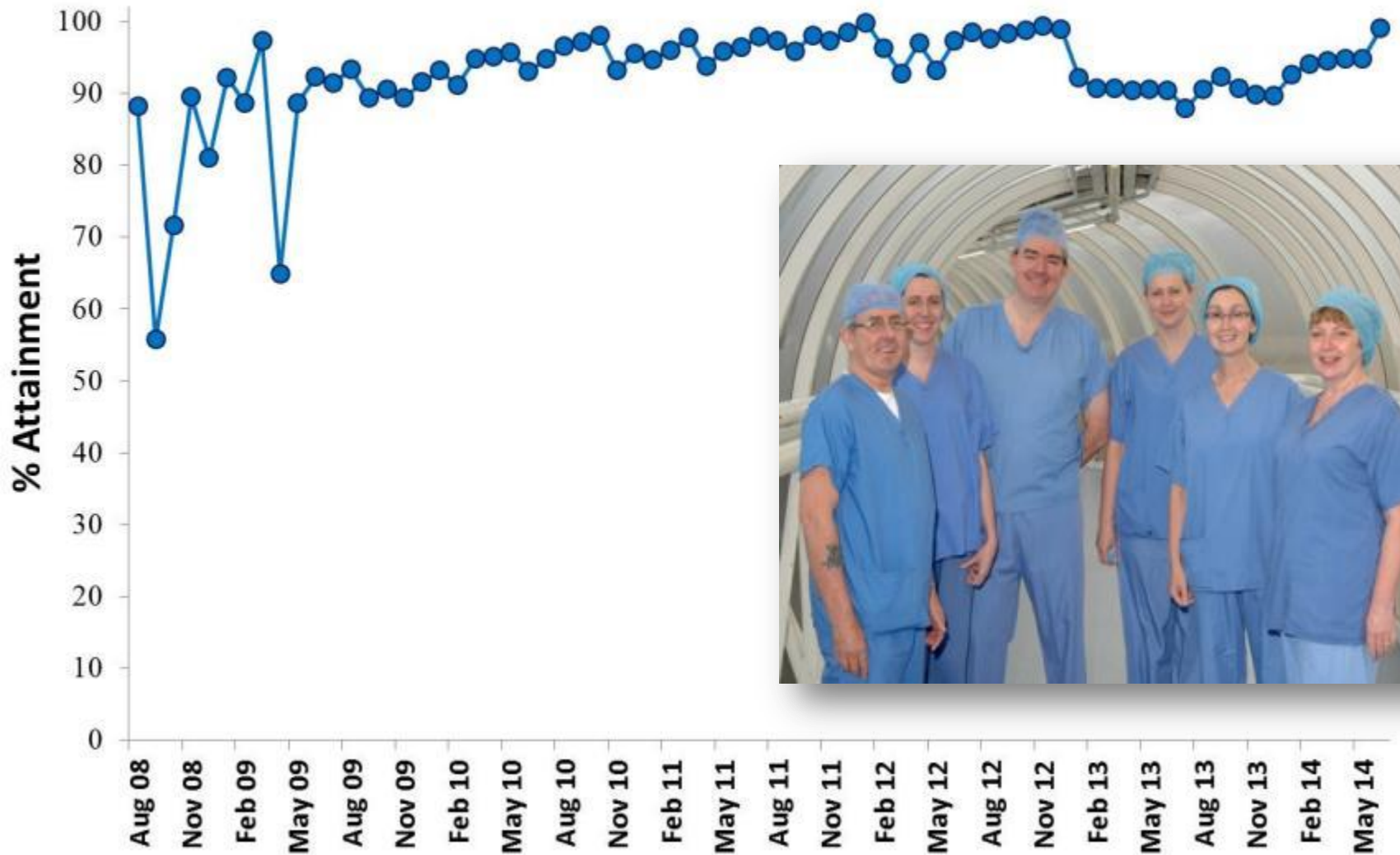
# CHANGING THE CULTURE...

*“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...”*

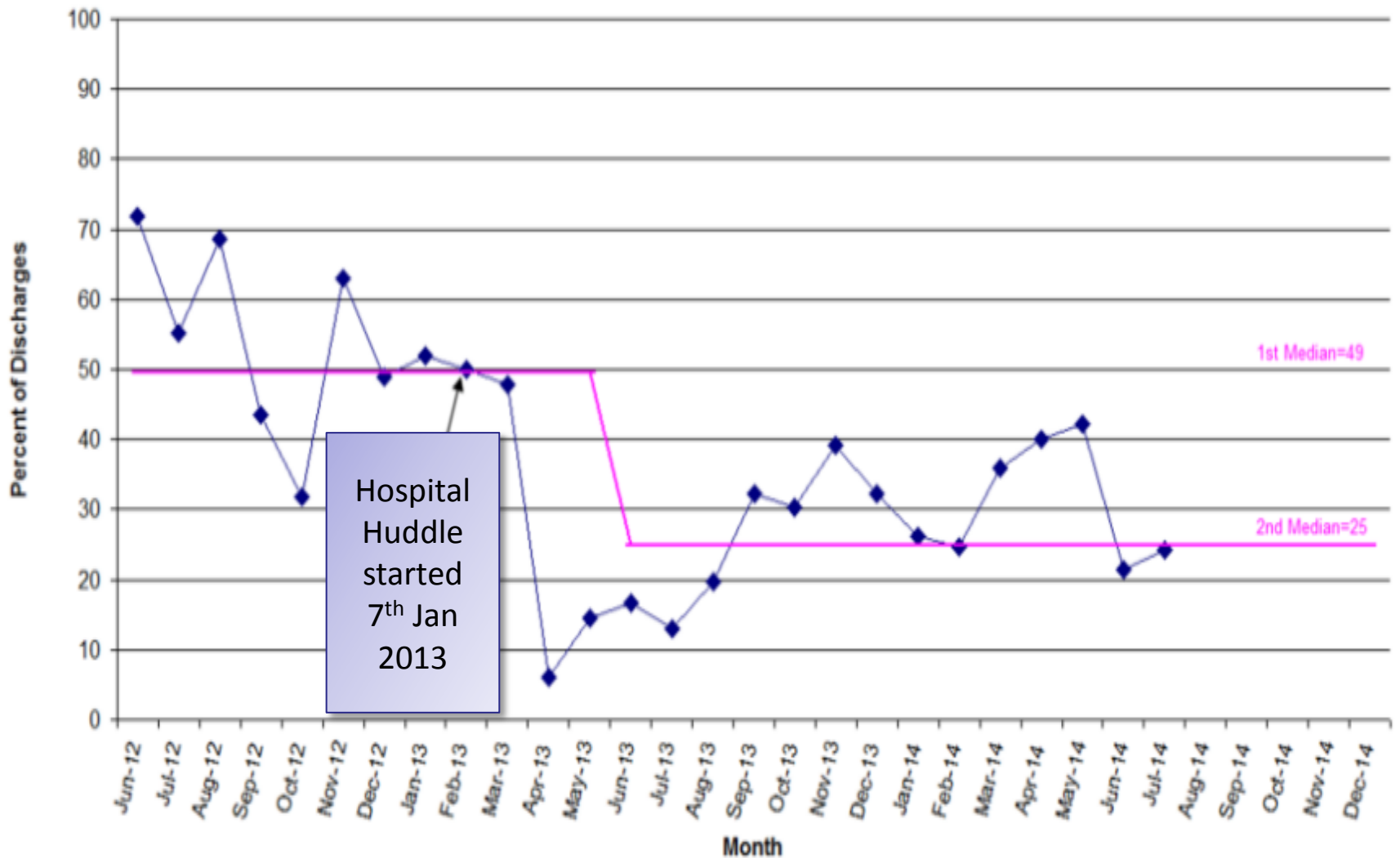
*“....I don't know why theatre teams are allowed not to do a morning brief .... I wouldn't operate without it !”*

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.




Physical

**Patients are and feel safe,**




**Staff feel and are safe**

Psychological



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

Talk and scribble

 <b>4. Engage Across Boundaries</b>		
 <b>5. Shape Culture</b>		
 <b>6. Driven by Persons &amp; Community</b>		



Engage Across Boundaries

Create  
Vision and  
Build Will

**6. Driven by**

Driven by  
Persons &  
Community

**Persons &**

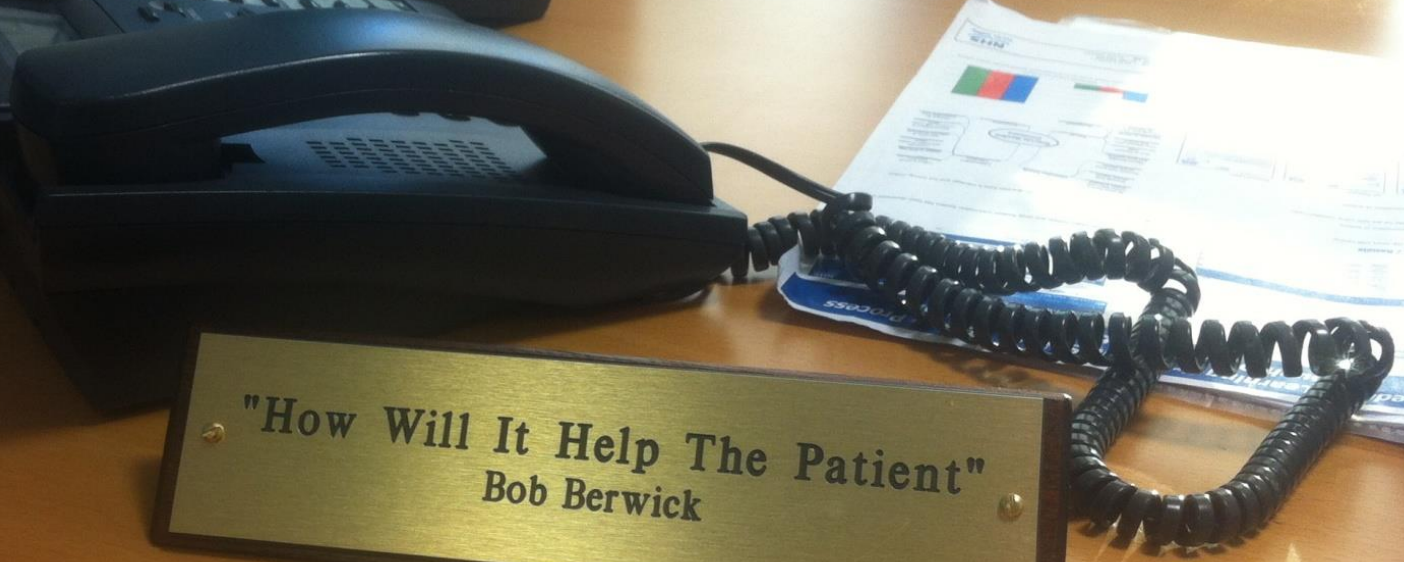
**Community**

Develop  
Capability

Deliver  
Results

Shape  
Culture

Engage Across Boundaries






"How Will It Help The Patient"  
Bob Berwick






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

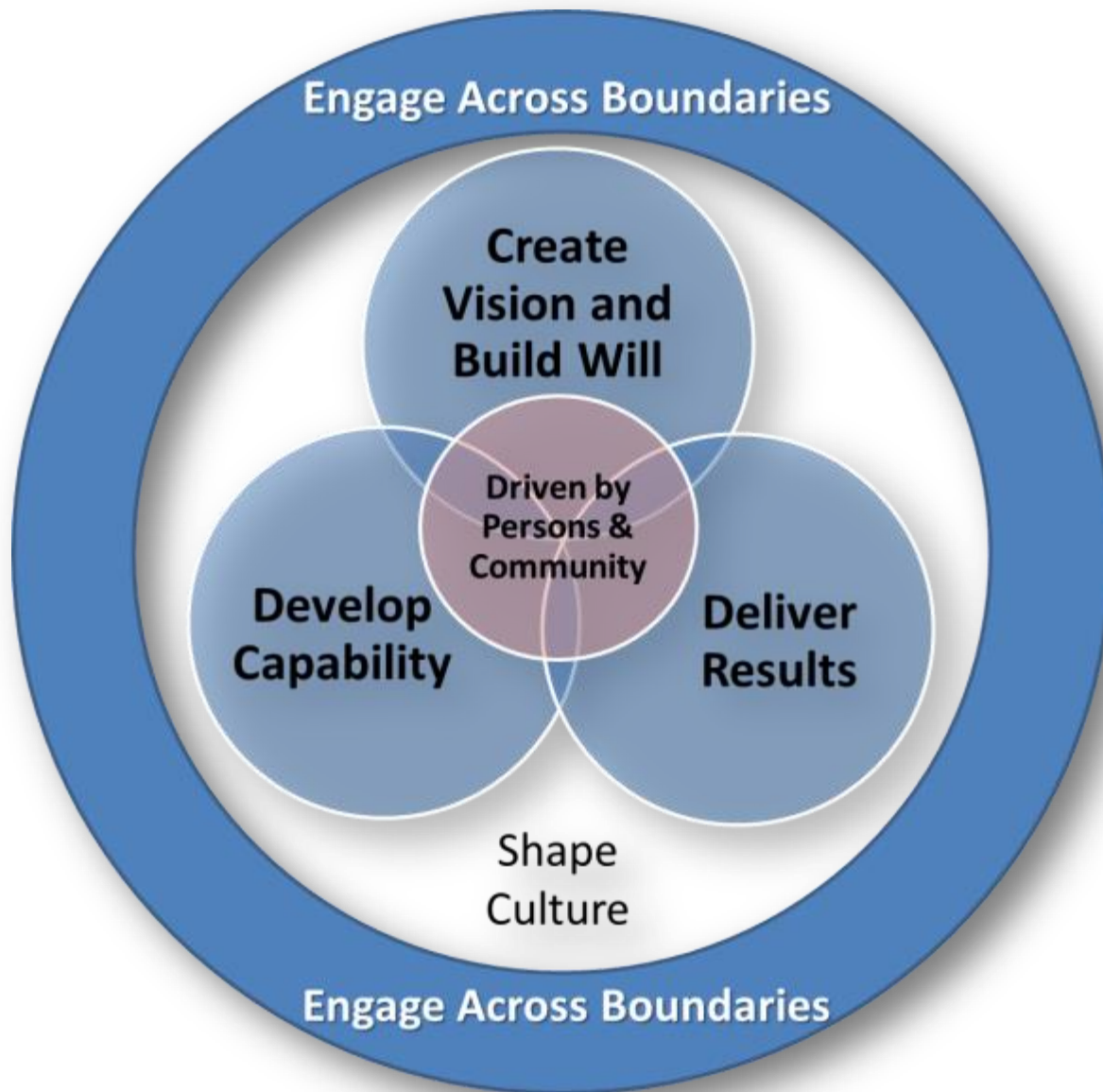
*Paul Gray  
Director General and CEO NHS Scotland*



	What is happening where you are?	What can you do to strengthen this?
		
		
		

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](http://www.ihc.org))

<http://www.ihc.org/resources/pages/ihcwhitepapers/highimpactleadership>



	What is happening where you are?	What can you do to strengthen this?
		
		
		

Talk and scribble

# Thank You

[brian.robson@nhs.net](mailto:brian.robson@nhs.net)

 @brobson3