Quality Improvement for NHS Board Members

National Masterclass 2
21 February 2017

SRU guest *no password*  #qiforboardmembers
Welcome
David Garbutt
Chair of NHS Chair’s Quality Portfolio Group and Scottish Ambulance Service
QI for NHS Board Members

- **15 Mar**: NHS Board development proposal approved by Quality Portfolio Group.
- **30 May**: Board session with NHS Dumfries & Galloway. 20 Board members attending. QI topic: organisational habits which support improvement.
- **1 Jul**: Published QI for NHS Board Members brochure. 100+ opens, 44 retweets on Twitter.
- **20 Jul**: Board session with NHS Lothian. 21 Board members attending. QI topics: 1) Seeing, listening and engaging 2) Data.
- **20 Sep**: Masterclass 1 - Murrayfield Stadium, Edinburgh. "This was an excellent event which fearlessly explored the road to improvement, and also demonstrated some of the barriers that exist in Scottish healthcare."
- **3 Nov**: Autumn newsletter.
- **21 Feb**: Masterclass 2 - Murrayfield Stadium, Edinburgh.

"...Surpassed expectations' Non-executive Board member."
Let’s focus on what’s really important!
Introducing the Improvement Hub
A new improvement resource for Health and Social Care Partnerships and NHS boards

Work Programme 2016-2017
The Improvement Hub (ihub) is a part of Healthcare Improvement Scotland.
The Improvement Focused Governance Cycle

The following cycle can be followed to support dialogue, planning and actions that promote the reliable implementation of improvement focused governance across NHSScotland.

Information is Collected and Presented

Information on impact is reported against priorities

Information is interpreted to identify areas for action

The impact of actions is measured and then monitored

Actions arising from review of information are documented

Each of these phases within the cycle support an improvement focused governance approach. Tips on how to retain an improvement focus throughout this cycle are outlined in the remaining sections of this booklet.
A quality framework with the emphasis on supporting continuous quality improvement.

The quality framework provides guidance about what good quality care looks like and how this can be measured and demonstrated.

NHS services will use it for internal assurance by carrying out routine self-assessment.

The leadership and governance domains have particular relevance to the role of NHS Board members.
QUALITY & SAFETY FELLOWS (COHORTS 1-9)

189
Quality & Safety Fellows

118
Medics

61
NMAHPs

9
Pharmacists

1
Dentist

<table>
<thead>
<tr>
<th>Scotland</th>
<th>Northern Ireland</th>
<th>Ireland</th>
<th>Denmark</th>
<th>Norway</th>
<th>England</th>
<th>Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>28</td>
<td>13</td>
<td>11</td>
<td>10</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
The Improvement Hub (ihub) is a part of Healthcare Improvement Scotland.
Data Driven Decision Making
What stories are your board papers telling you?

Pat O’Connor & Mike Bell
Data Driven Decision Making

What stories do your Board papers tell?

Dr Pat O’Connor
Dr Mike Bell
Murrayfield
21Feb17
What are our assumptions?
Let's check the maths

• https://www.youtube.com/watch?v=t8XMeocLflc&list=RDt8XMeocLflc&t=88
Your Reference Guide

Scottish Government
Published Jan 2016

What we need to ask about measurement?

• What is the data for?
• Is it up to date?
• What does it say?
• Do I know how to look at this presentation of data?
• Do I understand it?
• Do I need to have a short session with someone who can interpret this?
• Do I know how this presentation differs from other data presented in Board papers?
Our Reactions to Measurement!

- The data are wrong!
- The data are right, but it is *not a real problem*!
- The data are right, it’s a real problem but it’s *not my problem*!
- The data are right, it’s a real problem AND it’s *my problem*!
- The data are right, it’s a real problem AND it’s my problem BUT... I’m not sure what to do about it!

Adapted from Jarman & Berwick, 2005
### What is the data for?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Improvement</th>
<th>Accountability</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim</strong></td>
<td>Improvement of care (efficiency &amp; effectiveness)</td>
<td>Comparison, choice, reassurance, motivation for change</td>
<td>New knowledge (efficacy)</td>
</tr>
<tr>
<td><strong>Methods:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Test Observability</td>
<td>Test observable</td>
<td>No test, evaluate current performance</td>
<td>Test blinded or controlled</td>
</tr>
<tr>
<td>• Bias</td>
<td>Accept consistent bias</td>
<td>Measure and adjust to reduce bias</td>
<td>Design to eliminate bias</td>
</tr>
<tr>
<td>• Sample Size</td>
<td>“Just enough” data, small sequential samples</td>
<td>Obtain 100% of available, relevant data</td>
<td>“Just in case” data</td>
</tr>
<tr>
<td>• Flexibility of Hypothesis</td>
<td>Flexible hypotheses, changes as learning takes place</td>
<td>No hypothesis</td>
<td>Fixed hypothesis (null hypothesis)</td>
</tr>
<tr>
<td>• Testing Strategy</td>
<td>Sequential tests</td>
<td>No tests</td>
<td>One large test</td>
</tr>
<tr>
<td>• Determining if a change is an improvement</td>
<td>Run charts or Shewhart control charts (statistical process control)</td>
<td>No change focus (maybe compute a percent change or rank order the results)</td>
<td>Hypothesis, statistical tests (t-test, F-test, chi square), p-values</td>
</tr>
<tr>
<td>• Confidentiality of the data</td>
<td>Data used only by those involved with improvement</td>
<td>Data available for public consumption and review</td>
<td>Research subjects’ identities protected</td>
</tr>
</tbody>
</table>
What does the data say? (about variation)

- Is the process **stable**?
- Is the process **predictable**?
- Is the process **capable**?
### Appropriate Management Response to Common & Special Causes of Variation

<table>
<thead>
<tr>
<th>Is the process stable?</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of variation</strong></td>
<td>Only Common</td>
<td>Special + Common</td>
</tr>
<tr>
<td><strong>Right Choice</strong></td>
<td>Change the process if unacceptable</td>
<td>Investigate the origin of the special cause</td>
</tr>
<tr>
<td><strong>Wrong Choice</strong></td>
<td>Treat normal variation as a special cause (tampering)</td>
<td>Change the process</td>
</tr>
<tr>
<td><strong>Consequences of making the wrong choice</strong></td>
<td><strong>Increased variation!</strong></td>
<td><strong>Wasted resources!</strong> (time, money, materials, morale)</td>
</tr>
</tbody>
</table>
Exercise – Data Presentation

Review the 6 examples of data as a table team. Score each examples from 1 (poor) to 5 (great)...

• Visual simplicity
• Ease of understanding
• Supports your decision making on what to do next

Add up the 6 scores to give a total
Write this total on a sheet of paper
Fake News?

SCOTCEN POLL OF POLLS

SHOULD SCOTLAND BE INDEPENDENT?

NO
52%

YES
58%

HAS KILLED MORE THAN 2,600 IN WEST AFRICA, WORLD HEALTH ORG. F. BROOKEBN

LIVE

CNA
Simple and Obvious?
Simple and Obvious?

% Patient Journeys within 18 Weeks

Higher is Better

Project to improve flow started

Scottish Ambulance Service
NHS Scotland
Healthcare Improvement Scotland
### Overview of Performance at 31st October 2016

<table>
<thead>
<tr>
<th></th>
<th>Type</th>
<th>Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LDP</td>
<td>Non-Compliant</td>
<td>80.8%</td>
</tr>
<tr>
<td>2</td>
<td>LDP</td>
<td>Non-Compliant</td>
<td>4,465</td>
</tr>
<tr>
<td>3</td>
<td>LKPRI</td>
<td>Compliant</td>
<td>8.6%</td>
</tr>
<tr>
<td>4</td>
<td>LDP</td>
<td>Non-Compliant</td>
<td>81.2%</td>
</tr>
<tr>
<td>5</td>
<td>NR</td>
<td>Compliant</td>
<td>0.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8.5%</td>
</tr>
<tr>
<td>6</td>
<td>LKPRI</td>
<td>Compliant</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>LKPRI</td>
<td>Non-Compliant</td>
<td>39</td>
</tr>
<tr>
<td>8</td>
<td>LDP</td>
<td>Non-Compliant</td>
<td>82.5%</td>
</tr>
<tr>
<td>9</td>
<td>LDP</td>
<td>Compliant</td>
<td>100%</td>
</tr>
<tr>
<td>10</td>
<td>LDP</td>
<td>Compliant</td>
<td>98.7%</td>
</tr>
<tr>
<td>11</td>
<td>LDP</td>
<td>Non-Compliant</td>
<td>42.5%</td>
</tr>
<tr>
<td>12</td>
<td>LDP</td>
<td>Non-Compliant</td>
<td>87.1%</td>
</tr>
<tr>
<td>13</td>
<td>LKPRI</td>
<td>Compliant</td>
<td>100%</td>
</tr>
<tr>
<td>14</td>
<td>NR</td>
<td>Compliant</td>
<td>100%</td>
</tr>
<tr>
<td>15</td>
<td>NR</td>
<td>Non-Compliant</td>
<td>10</td>
</tr>
</tbody>
</table>
So how will you know?

1. Data

2. Context

3. Attitude
Number of leadership walkrounds

- Oct 15
- Nov 15
- Dec 15
- Jan 16
- Feb 16
- Mar 16
- Apr 16
- May 16
- Jun 16
- Jul 16
- Aug 16
- Sep 16
- Oct 16

No. of leadership walkrounds
Pattern Recognition

IUMRING TQ GQNGIUSIQNS
Pattern Recognition

JUMPING TO CONCLUSIONS
Confirmation Bias

I know that I am right

Find me data to back-up my ideas

Does data fit my ideas?

No

Yes

Confirmation bias
Infestation

A.N.T.s

(Arbitrary Numerical Targets)
4 Data Analysis Tools

Four Data Analysis Tools

- Pareto Chart
- Run Chart
- Histogram
- Control Chart
Pareto Charts

Inter Hospital Transfers from

Level 1 Receiving Hospital

Hospital A

H
B
C
Other
Pareto Charts

Inter Hospital Transfers from

Level 1
Receiving Hospital

Level 2
Transfer Type

Urgent
Emergency
Routine

H B H C Other
Pareto Charts

Inter Hospital Transfers from

Level 1 Receiving Hospital

Hospital A

Level 2 Transfer Type

Urgent

Emergency

Routine

Level 3 Time of Transfer

Afternoon

Evening

Morning

Night
Pie Charts

Pie Chart

Pareto Chart
The only useful Pie Chart

Pie left to eat

Pie that I have eaten
Distributions

Histogram

Bell Shaped Curve
Emergency Department 4 Hour Wait

88%

1770 in less than 4 hours
242 greater than 4 hours
Wait Time Distribution in A&E

Frequency

- <2 hrs
- 2-4 hrs
- >4 hrs
Wait Time Distribution in A&E
Understanding Variation

Types of variation

• Common cause (routine variation)

• Special cause (exceptional variation)
Exercise – Commute Time to Work

• List some common cause variation that will affect your journey time
• List some special cause variation that will...
  – Slow your journey down
  – Speed your journey up
Understanding Variation

Common Cause Variation

Special Cause Variation

Limits

X
Spotting Special Cause

A&E Waiting Times

4 Hour Target

Frequency

Time

1 2 3 4
Data Analysis Charts

Run Chart:
- Metric or Measurement vs. Time
- Centre line

Control Chart:
- Metric or Measurement vs. Time
- Upper limit
- Lower limit

Examples of control charts used in healthcare and service improvement.
Common Cause = Stable Process
Exercise – Data Presentation (2)

Review the 6 examples of data as a table team. Score each examples from 1 (poor) to 5 (great)...

• Visual simplicity (the 1 minute test)
• Ease of understanding
• Supports your decision making on what to do next

Add up the 6 scores to give a total
Write this total on a sheet of paper
Key Questions

• Has the process changed?
• What do we need to do, if anything?
The Measurement and Monitoring of Safety Framework. Testing a Health Foundation tool

Jo Thomson
Measurement and Monitoring of Safety Programme

QI for Board Members Event
Tuesday 21st February 2017

Jo Thomson, Senior Programme Manager
@JoThomsonQI  e: JoThomson@nhs.net
Measuring and monitoring safety

Global impact of the report

USA
Canada
Hong Kong
UAE
Oman
Brazil
Australia
New Zealand
Trinidad & Tobago
UK
Ireland
France
Netherlands
India
Myanmar
Ghana
Zambia
South Korea

36,800
Switch Gear from Past

Indicators

Prediction

Leading

Lagging
Dr Jonathan Kirk, National clinical lead
https://www.youtube.com/watch?v=w14lmowxptg
Our testing

NHS Tayside
• Mental health unit – initial focus on medicine omissions
• Board performance review process

NHS Borders
• Frailty pathway (point of admission to acute care)
• Ward to Board
Laura Jones, NHS Borders

https://www.youtube.com/watch?v=iUvu2Fdy38c
Further information

www.howsafeisourcare.com

Monthly calls open to all
(register at www.howsafeisourcare.com)
Next call Wednesday 15\textsuperscript{th} March

Interactive pdf
(from March 2017)

\texttt{#THFSMP}
How might the framework help you make sense of information and support prediction?
If you want to do some testing or find out more...........

- Integration and learning: Are we responding and improving?
- Past harm: Has patient care been safe in the past?
- Safety measurement and monitoring
- Reliability: Are our clinical systems and processes reliable?
- Anticipation and preparedness: Will care be safe in the future?
- Sensitivity to operations: Is care safe today?

Contact:
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- t: 0131 623 4350
- @JoThomsonQI
The Improvement Hub (ihub) is a part of Healthcare Improvement Scotland