Tools, Techniques & Considerations for Quality Improvement

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TOO BUSY TO IMPROVE?

Haven’t got time. We are busy delivering.

I’ve got an idea!

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Adapted from Hakan Forss @hakanforss

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Six Dimensions of Quality identified by the Institute of Medicine

- **Safety** – Avoiding harm to patients from care.
- **Timeliness** – Avoiding non-instrumental delays for patients and clinicians.
- **Effectiveness** – Aligning care with the best of clinical science.
- **Efficiency** – Reducing waste in all of its forms.
- **Equity** – Closing racial, ethnic, and other gaps in health status and care
- **Patient-centeredness** – Customising care to the needs, resources, values, and background of each individual patient and carer.

Source: Crossing the Quality Chasm. A New Health System for the 21st Century. Committee on Quality of Health Care in America. Institute of Medicine 2001
Extrinsic Motivators

- System drivers and incentives
- Payment by results
- Performance management
- Measurement for accountability

Create focus and momentum for delivery!
Intrinsic Motivators

• Connecting to shared purpose
• Engaging, mobilising, calling to action
• Motivational leadership

Build energy and creativity!
What is Quality Improvement?

There is no single definition, but it is generally understood to be:

• a systematic approach to improving health services based on iterative change, continuous testing and measurement, and empowerment of frontline teams.

• uses specific methodologies for improving care – enhancing patients’ safety, outcomes and experiences

Based on definition provided by Dr John Øvretveit, in his report *Does improving quality save money?*
RCTs vs PDSAs

Randomised Control Trials (RCT)
If the aim = research

- Test blinded
- Eliminate bias
- Collect everything – just in case
- Fixed hypotheses
- One large text

Plan, Do, Study, Act (PDSA)
If the aim = improvement

- Test observable
- Stable bias
- Just enough data
- Adaption of changes and interventions
- Sequential tests
Role of Leaders

1. Make QI a leadership priority for boards
2. Share responsibility for QI with leaders at all levels
3. Don’t look for magic bullets or quick fixes
4. Develop the skills and capabilities for improvement
5. Have a consistent and coherent approach to QI
6. Use data effectively
7. Focus on relationships and culture
8. Enable and support frontline staff to engage in QI
9. Involve patients, service users and carers
10. Work as a system.

Source: Kings Fund 2017. Ten lessons for NHS leaders
Improvement methods
Most common approaches

Model for Improvement
• An approach to continuous improvement where changes are tested in small iterative cycles.

Six Sigma
• A process or product improvement approach that focuses on reducing what customers define as ‘defects’.

Statistical process control (SPC)
• Examines the difference between natural variation (common cause) and special cause variation; data collected over time to show whether a process is within control limits.

Business process re-engineering
• Rethinking of how processes are designed, organisations set up around key processes rather than specialist functions.

Lean
• A quality management system developed by the Japanese car manufacturer Toyota, focusing on value, flow and waste reduction.

Total quality management (TQM)
• Also known as continuous quality improvement. Emphasises the need for leadership and management involvement to understand work processes.
The Model for Improvement asks key questions

Q1: Understanding the problem. Know what you're trying to do - clear and desirable aims and objectives.

Q2: Measurement for improvement
- Process
- Outcomes
- Balancing

Q3: What have others done? What hunches do we have? What can we learn as we go along?

Source: Institute for Healthcare Improvement
Aim statements

Q1. What are we trying to accomplish?

- Think SMART: be specific for who, by when, by how much.
- Make sure you can clearly articulate what you want to achieve.
- Make this real: talk to hearts and minds, patient stories to engage, creating social movement.
- Goodhart’s Law states: "When a measure becomes a target, it ceases to be a good measure. (Charles Albert Eric Goodhart, 1975)
## Aims statements: the good, the bad and the ugly

<table>
<thead>
<tr>
<th>Aim statement</th>
<th>Good</th>
<th>Bad</th>
<th>Ugly</th>
</tr>
</thead>
<tbody>
<tr>
<td>We aim to improve patient safety by reducing needless harm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By April 2017 we will reduce the incidence of pressures ulcers in the critical care unit by 50%</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message from Director of Operations: Our patient satisfaction scores are in the bottom 10% of the NHS. We need to get the scores above the 50th percentile by the end of Q2 of 2017</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We will reduce the number of patients who fall on our medical wards by 75% over the next year. Our first goal is a 25% reduction in three months by spreading and adapting the good work done on U ward.</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We need to improve the effectiveness and reliability of home visit assessments and reduce admissions to hospital. The board agrees so we will work on these issues next year</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Source: Dr Bob Lloyd. Institute for Healthcare Improvement.
Summary - Top tips for developing your aim

- It must be specific and measurable. It cannot simply be ‘to improve’ or ‘to reduce’.
- The aim should be meaningful to patients, service users and their families.
- When developing your aim, try to involve service users to ensure you hear and understand the patient voice.
- Data can be used to better understand what the big quality issues are, and may help to define a suitable aim.
- The aim should be achievable, relevant to your organisation’s goals and service users needs, and have a clear timeframe for completion.
Measurement for improvement

Q2. How will we know if a change is an improvement?

- Measurement helps us to answer the second question in the model for improvement - how will we know that a change is an improvement?

- Understand the current performance (baseline).
- How much variation is in our process.
- Ensure changes are making an improvement.
- Whether there have been unintended consequences of the change.

Keeping track of a few simple measures lets an improvement team know how they’re performing against the aim set and whether they need to “adapt, adopt or discard”.
# Types of Measures

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Example</th>
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<tbody>
<tr>
<td><strong>Outcome</strong></td>
<td>How does the system impact the values of patients, their health and wellbeing? What are impacts on other stakeholders such as commissioners, staff, or the community?</td>
<td>Sepsis mortality rates Rate of MRSA Number of falls Survey of staff confidence using SBAR</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Are the parts/steps in the system performing as planned? Are we on track in our efforts to improve the system?</td>
<td>% patients with NEWS calculated % hand hygiene compliance Number of training sessions delivered</td>
</tr>
<tr>
<td><strong>Balancing</strong></td>
<td>Are changes designed to improve in one part of the system causing unexpected/unintended impacts in other parts? (can be positive or negative)</td>
<td>999 call outs from a residential home Staff sickness Staff turnover Reducing length of stay, increased readmission rates</td>
</tr>
</tbody>
</table>

Source: Adapted from Institute for Healthcare Improvement
Data definitions

Defining exactly what you mean by a metric and how it should be measured so that comparisons between periods of time or between similar sites or projects are valid.

• Exactly which fields to be used from a data sheet
• What is to be included and what is not to be included
• If a rate, what is numerator and denominator
• When – over what period of time
• How - to record data, actual figure, as a rate, or %
What changes can we make?

Q3. What changes can we make that will result in an improvement?

• All changes do not lead to improvement but all improvement requires change

• We know what we want to improve

• Change ideas are the possible how’s….

• Think differently – innovation and creativity

• What is the known best practice?
The Model for Improvement: PDSA

- Running a PDSA cycle is a way of group testing a change.

- In most improvement projects, teams will test several different changes, and each change may go through several PDSA cycles as you continue to learn.

- Keep a file of all PDSA cycles for all the changes your team tests.

Source: Institute for Healthcare Improvement

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PDSA: Step one - plan

• Plan the test, including a plan for collecting data

• State the question you want to answer and make a prediction about what you think will happen

• Develop a plan to test the change (who? what? when? where?)

• Identify what data you will need to collect
PDSA: Step two - do

• Carry out the test
• Document problems and unexpected observations
• Collect and begin to analyse the data
PDSA: Step three: study

• Analyse the results and compare them to your predictions
• Complete, as a team, if possible, your analysis of the data
• Compare the data to your prediction
• Summarise and reflect on what you learned
PDSA: Step four - act

• Based on what you learned from the test, make a plan for your next step

• Adapt (make modifications and run another test)

• Adopt (test the change on a larger scale), or abandon (don’t do another test on this change idea)

• Prepare a plan for the next PDSA.
PDSAs over time

Always start with a specific aim - What are we trying to accomplish?

- How will know if this is an improvement?
- Small tests of change over a short time
- Debrief frequently
- Communicate results
- Repeated Cycles
- When we meet our aim? – sustain and hold the gains

Changes that will result in improvement

Proposals, theories, hunches, intuition
Tips for successful PDSAs

• **DO** reflect regularly on your aim and how you will know a change is an improvement
• **DO** keep it small. Small PDSAs are easier to implement and results are quickly evident
• **DO** create PDSA cycles that can be completed in a short timeframe, fast results are good for morale and encourage a positive attitude toward change
• **DO** use a team approach. Have your team define who is doing what, where, and when
• **DO** follow each PDSA cycle with another, creating a continuous improvement process. Learn as you go
• **DO** spread good results. Give credit where due and encourage others to make the change
• **DO** empower staff to conduct their own PDSAs

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### Completing your PDSA cycle

<table>
<thead>
<tr>
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<th>Description</th>
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</table>
| 1    | Assemble the appropriate team  
- Select people for their relevant expertise / function & bring diaries  
- Consider the wider team members eg. Nurses, Doctors, Porters, Therapists, etc |
| 2    | Describe the project to be undertaken and the overall aim  
- Write this on the PDSA sheet opposite |
| 3    | Decide the aim of this small test of change  
- Is it SMART? ie. Specific, measurable, achievable, realistic and time limited  
- Enter the start date, today's date and expected end date of PDSA |
| 4    | List the tasks needed to set up this test of change  
- Consider WHO, WHAT, WHERE, WHEN, HOW  
- Is training required for the team?  
- Have you considered people outside the team who will be affected by this. |
| 5    | Predict what will happen when test is carried out with agreement of the team  
- Set realistic but challenging predictions |
| 6    | Decide measures that will determine if prediction is a success  
- Is historical or baseline data available  
- Plan how & when to collect data |
| 7    | Run test and describe what actually happened  
- Include things that were observed that were not part of plan things that went right and wrong during the data collection  
- Capture feedback & observations from those conducting the test. |
| 8    | Describe the measured results & how they compare with the predictions/baseline?  
- Were the results as predicted?  
- How does the data compare to the baseline?  
- Does the data answer the question posed in the aim?  
- What are the implications of any unplanned observations and problems?  
- Can the data be represented in a simple visual way so all can understand. |
| 9    | What are your suggestions / recommendations based on the results.  
- What changes are to be made to the process? |
| 10   | Describe what modification to the plan will be made.  
- Was the aim fulfilled, if not what modifications are required for the next test of change  
- If successful, what is the next cycle of change you are going to test  
- Ask yourself Is this change ready to spread |
| 11   | Describe the measured results and how they compare to the predicted? |
| 12   | Decide measures that will determine if prediction is a success |
| 13   | Communicate the outcome to the wider team.  
- What is the next cycle of change you are going to test  
- Go to the plan step for the next PDSA. |

### Before starting... please remember:
- Main goal is to improve quality and increase the reliability of the process  
- Goal two is to minimise redundancy and reduce defects  
- We want to achieve standardisation of processes, so we can adopt a new way of working together in the best interests of the patients  
- Remember 90% of most problems can be solved by doing lots of little improvement.  

### Rules:
- Follow the steps in sequence and work as a team  
- Enjoy working through the process and have fun learning what works and what does not  
- The Test is not complete until all elements of the PDSA cycle have been covered.  

### Project:
<table>
<thead>
<tr>
<th>Overall Aim:</th>
</tr>
</thead>
</table>

### Aim for this Test:
<table>
<thead>
<tr>
<th>Start Date</th>
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</table>

### Current Date:
| End Date: |

### Task list

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<th>1.</th>
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<tbody>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
</tr>
</tbody>
</table>

### who is doing the task by when

### Predicted Outcomes:

### Measures of success for this test:

### Describe the measured results and how they compare to the predicted?

### Plan

### Act

### Do

### Study

### Describe what actually happened when you ran the test
Wile E. Coyote loved Quality Improvement
Wile E. Coyote had an aim
Wile E. Coyote had a plan
Wile E. Coyote felt the pressure of the system
Wile E. Coyote needs help
Wile E. Coyote needs to accept Roadrunners input (patient and public engagement)
The right action at the right level

Don’t get confused or overwhelmed by the language and mass of buzz words around

- System level is co-design
- Pathway level is co-production
- Patient Level is shared decision making

Trust that when you get patients involved in QI they can help make things better, not just for themselves but for the system

Source: Jono Broad, Quality Improvement Through Patient Involvement