



Pioneer Scheme Day-release programme

Wednesday 23rd August 2017

Horselethill Road, Glasgow

Quality Improvement in General Practice

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Introduction to Quality Improvement (QI)

- 1920s to 40s: Early pioneers Walter Shewhart (PDSA cycle), W. Edwards Deming (Lens of Profound Knowledge) and Joseph Juran designed/refined QI tools, mainly used in Industry.
- American Paediatrician Don Berwick translated their use into healthcare
- Imported to Scotland in collaboration with IHI Open school of America
- Jan 2008 Scottish Patient Safety programme launched → 2013, expanded to Primary Care.
- **Deming's Lens / System of Profound Knowledge** – a lens to view and plan QI Projects
 - Outcomes are reliant on complex variables
 - Systems, variables, theory and human variables
- The example of assessing hand hygiene:
 - Video by Dr Mike Evans + IHI <https://www.youtube.com/watch?v=jq52ZjMzqyl>
 - Variation in how systems function or fail
 - Theory: Are people in the system 'actually bothered' about germs
 - Human Behaviour: how motivated are we to wash in a clinical environment. etc.
- Audits measure against standards but **MFI (Model for Improvement)** has broader scope.
 - Quality improvement measurement journey
 - Set up a PDSA test (or tests) of change
 - Establish an aim statement carefully
 - Caution! Look ahead for unintended consequences: DDT malaria cats plague!
 - <https://www.youtube.com/watch?v=17BP9n6g1F0>
 - Agree measures, operational definitions and Communicate these
 - (*Exercise* Instructions read aloud, we tear a page each, eyes closed, various outcomes)
 - Process: Involve team, Make it sustainable, Consider Human Factors
 - Collect and assess Data: Run charts (see next section)
 - MFI provides a framework for statistical analysis and embraces the iterative learning process

Learning from Variation in our data

Run charts

- Graphical representation of sequential measurements over time
- Help understand variation of data and performance over time
- At least 12 measurements – to make 1 data point: Suggest 20 measures
- Apply a median line to apply Run Chart Rules (need at least 10 - 12 data points)
- Working example - % of nursing charts with correct ops
- *Exercise:* Manual calculation of medians
- *Exercise:* Signing your name with right and left hand – non-dominant hand variation largely due to less dexterity, but dominant hand variation illustrates random variation!
- Run Chart Rules assess for non-random variation
 - Shift (≥ 6 data points above the median - signifies change)
 - Trend: (≥ 5 consecutive data points in the same direction, ignore repeating values, can cross median line)
 - Astronomical data points: (subjective but obviously different value)
 - Runs: ≥ 1 data point on same side of the median.
 - Calculate runs by counting:
 - No of individual runs circled Or
 - No of times a sequence of data points crosses the median Plus 1
 - If there is a shift, recalculate the median based on the shift from the seventh data point to the end of the next shift
 - Reliability = 6 concurrent data points with median of 95%
 - Sustained = 9 concurrent data points
 - Step down = can reduce from weekly to monthly to spot checks and audit if the process is still sustaining itself
- SPIRE pulls NHS Scotland data from primary care to recognise patterns to help tailor resources.

Theory behind making changes

“All improvement will require change but not all change will result in improvement”

G Langley et al, The Improvement Guide, 1996

Model for Improvement: Plan Do Study Act: PDSA cycle

YouTube Videos by Robert (Bob) Lloyd, IHI 1) <http://bit.ly/2jpYfix>
2) <https://www.youtube.com/watch?v=-ceS9Ta820>

- Worksheet for Testing Changes by NHS GGC
- Problem Solving, Consensus Building and PDSA
- Implementation and Spread after testing
- *Exercise:* Mr Potatohead- identifying rate limiting or quality limiting steps for us 5 to build in under 10 seconds - time keeping + observation + strategy!
- Problem solving creative thinking techniques
 - 5 WHYs to get to the crux of where results need to be found

- Brainstorming – Agree One question → All ideas onto flip chart – then 3 sticky dots vote
- Nominal Group Techniques
- Change concepts
- Fish bone diagram – good in planning phase
- *Exercise* Thinking outside the box = Joining dots without lifting hand or intersecting lines drawn

Human Factors in QI

Human factors can dictate success or failure of changes

- Successful characteristics for a high performance team
 - Clarity of aims, emphasis on quality, new ideas and sharing communicating
- Illustrating through examples of well-designed vs poorly designed of toilet doors (Train Vs Aircraft)
- Consider what the human brain will be clear or unclear about
- High performance teams – excellence and error illustrated through F1 Pit stop videos

Consider:

- The Team (awareness of strengths and weaknesses)
- Foster Belief in the solution
- Good task design
- Make it easy to do the right thing
- Tag on to another task
- Sensible time of day
- Streamline the effort
- Feedback good results

Avoid person dependent systems

- Calculated risk taking / delegating
- Create and consolidate alliances
- Share higher purpose
- Commitment

Diffusion curve

- Innovators
- Early adopters
- Early majority
- Late majority
- Laggards
- 'Lone nut → first follower → make a movement!'
 - [\[https://www.ted.com/talks/derek_sivers_how_to_start_a_movement\]](https://www.ted.com/talks/derek_sivers_how_to_start_a_movement)

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