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Richardson, Annette, Weiland, Daniel and Rees, Jon (2023)  
Development of a multi-professional self-assessment tool to  
assess QI confidence. In: International Forum on Quality and  
Safety in Healthcare., 13-15/5/2023, Copenhagen.

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# Development of a multi-professional self-assessment tool to assess QI confidence

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## Context

Healthcare professionals with diverse professional backgrounds attended improvement training to develop their confidence in leading quality improvement.

Improvement relies on individuals and teams to understand proven improvement methods and how to use them to implement change.

## Quality Problem

Currently change is often slow and staff feel frustrated with how to effectively overcome problems with change.

Many training programmes are being delivered to increase improvement capability, however previous evaluations of confidence have centred mainly on doctors in training.

A need was identified to evaluate the effects of multi-professional improvement training with staff in improvement leadership positions. To concentrate on the impact of improvement training on their confidence.

## Methods

Literature search - conducted - to help design a before and after self-assessment confidence survey

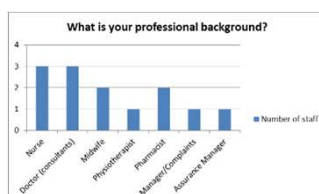
- Ten items - constructed to cover key parts of quality improvement methodology.
- Used a four-point scale to gauge each participant's self-assessment. 1-not at all confident, 2- not so confident, 3 – somewhat confident, 4- very confident.
- Online self-assessment survey using 'Survey Monkey'

4 weeks before(pre)    QI Training    6 weeks after(post)



## Participants

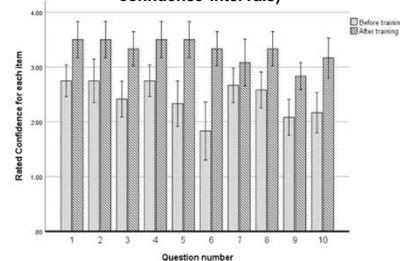
- Purposive sampling was used to target staff with a role in leading QI projects
- 12 participants agreed to evaluate the effects of improvement training from 4 healthcare provider organisations within the North-east & Cumbria Academic Health service Network.



## Measurement of Improvement

- Cronbach's alpha for 10 item scale - satisfactory at 0.84 with item to total correlations varying between 0.21 and 0.88, no item leading to an increase in Cronbach's alpha if deleted.
- Suggests - constructed questionnaire measured a single underlying construct and interpretation of total scores is meaningful.
- Calculated totals - approximately normally distributed - assumed to be parametric.
- Paired t-test - significant increase in confidence from before to after training,  $t(11) = 10.36$ ,  $p < .001$ , with a very large effect size, Cohen's  $d = 2.90$  [95%CI 1.76-4.05].
- Individual scores for each question - assumed to be non-parametric, scores compared using Wilcoxon test with Bonferroni correction applied to obtained significance because of multiple comparisons.
- All questions [apart from 7 and 8] significant increase in confidence from pre to post testing (all  $p < .05$  after Bonferroni correction).
- Individual question scores with 95% confidence intervals are shown in figure 1.

Figure 1. Mean pre and post course scores for each question (95% confidence intervals)



## 10 Questions - How confident are you....

- 1. with the identification of a quality problem?
- 2. to develop an improvement aim?
- 3. to identify outcome and process measures appropriate for a clinical problem?
- 4. with identifying changes in practice to improve processes and outcomes of care?
- 5. to use several cycles of change in practice to improve care delivery?
- 6. with data analysis and using run/control charts to display results of changes?
- 7. to create an interdisciplinary improvement team and assign roles necessary for improvement success?
- 8. to ensure change tested is implemented into practice and sustained?
- 9. to train others to do quality improvement?
- 10. to use QI language to share a vision and target messages about change and QI?

## Conclusions & Learning

- Significant increases in confidence found - with 8 out of 10 items from before to after the training programme
- Participants felt much more confident in performing QI data analysis, using run/control charts to display results of changes
- Sample size small and evaluation relatively soon after training
- Longer-term evaluation useful to assess how confidence levels impact on real improvement projects in clinical practice
- Construction of this self-assessment questionnaire produced ten items with good internal reliability
- Tool could be used for further evaluation to assess impact of improvement training

