Evaluating the articulation of programme theory in practice
as observed in Quality Improvement initiatives

Laurel Issen, Chris McNicholas, Tom Woodcock, Laura Lennox, Derek Bell, Julie E. Reed

NIHR CLAHRC NWL, Imperial College London

What is programme theory?
...and why do we need it?

Quality Improvement (QI) initiatives often lack explicit articulation of theory behind cause/effect relationships linking proposed interventions and intended outcomes for patients. A clear theory of how and why a QI initiative is taking place (programme theory) supports identification of appropriate interventions and subsequent monitoring of implementation and evaluation of effectiveness. Whilst many conceptual models exist for identification and articulation of programme theory, there has been little study of their application in practice in healthcare settings.

The Action-Effect Method (AEM)
A co-designed method, built on Driver Diagrams

Through use of the Driver Diagram method in QI, CLAHRC NWL identified a need for greater clarity around the purpose and process of creating programme theory diagrams, and what a quality diagram should look like. As a result the AEM was co-developed by researchers, healthcare professionals and patients. The AEM is a structured, facilitated approach, with detailed descriptions of diagram components and how they can be used consistently to articulate programme theory.

Programme theory quality assessment

We evaluated diagrams from 3 sources:
22 CLAHRC DDs, Driver diagrams from QI initiatives before AEM co-development
21 CLAHRC AEDs, from QI initiatives started subsequent to AEM co-development
20 Published DDs, from a systematic review of peer-reviewed QI journal articles

Two qualitative researchers scored each diagram on the eight-point criteria (bottom left) on a scale from 0 to 3. Scorer inter-rater reliability was 78% and averaged scores are reported.

References

Programme theory diagram quality criteria
We developed the following criteria based on theoretical benefits of using driver diagrams and of pre-planning QI initiatives.

Service-user focus
1. Clear vision: A high-level, focused on the service user, indicating direction and aspiration, free from interventions, cause/effect relationships, hypotheses, assumptions.
2. First-column factors: A comprehensive and systematic breakdown of the service user focused on cause/effect relationships.

Cause/Effect Chains
3. Clarity of Components: Do all factors (items in boxes) have a clear meaning to the suggested advancing of stakeholders?
4. Cause/Effect Relationships: Are linkages between cause/effect relationships clear, plausible, and free from logical leaps?
5. Documentation of evidence: Is it clear the extent to which the proposed cause/effect relationships are evidenced?

Measures
6. Clear meaning: Do the measures have a clear meaning to the suggested audience?
7. Clear purpose: Is it clear why the measures are associated with proposed cause/effect relationships?
8. Distribution: Is there an even distribution of measures at different levels of control and influence across the diagram?

Characterization of improvements

Service-user focus
The most substantial improvements were in assessments of overall aim, which were more likely to be patient-focused and high-level in AEDs than DDs.

Cause/Effect Chains
In AEDs, individual factors were more clearly articulated, and factors were more clearly linked together without relying on tacit knowledge for interpretation.

Measures
AEDs also were more likely than DDs to contain measure concepts, to have an appropriate selection of process and outcome measures, and to link these concepts clearly and logically to cause-effect predictions.

The National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care (NIHR CLAHRC) Northwest London is hosted by Chelsea and Westminster Hospital NHS Foundation Trust and academically led by Imperial College London, in partnership with northwest London This poster presents independent research funded by the National Institute for Health Research (NIHR). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.