

# Promoting Knowledge Transfer for Quality Improvement Interventions: QI-Minimum Quality Criteria Set (QI-MQCS) Validity and Reliability

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## Objectives

Develop valid & reliable methods for Quality Improvement Intervention (QII) evidence synthesis: search, screening, & critical appraisal

## QI-MQCS Critical Appraisal Tool



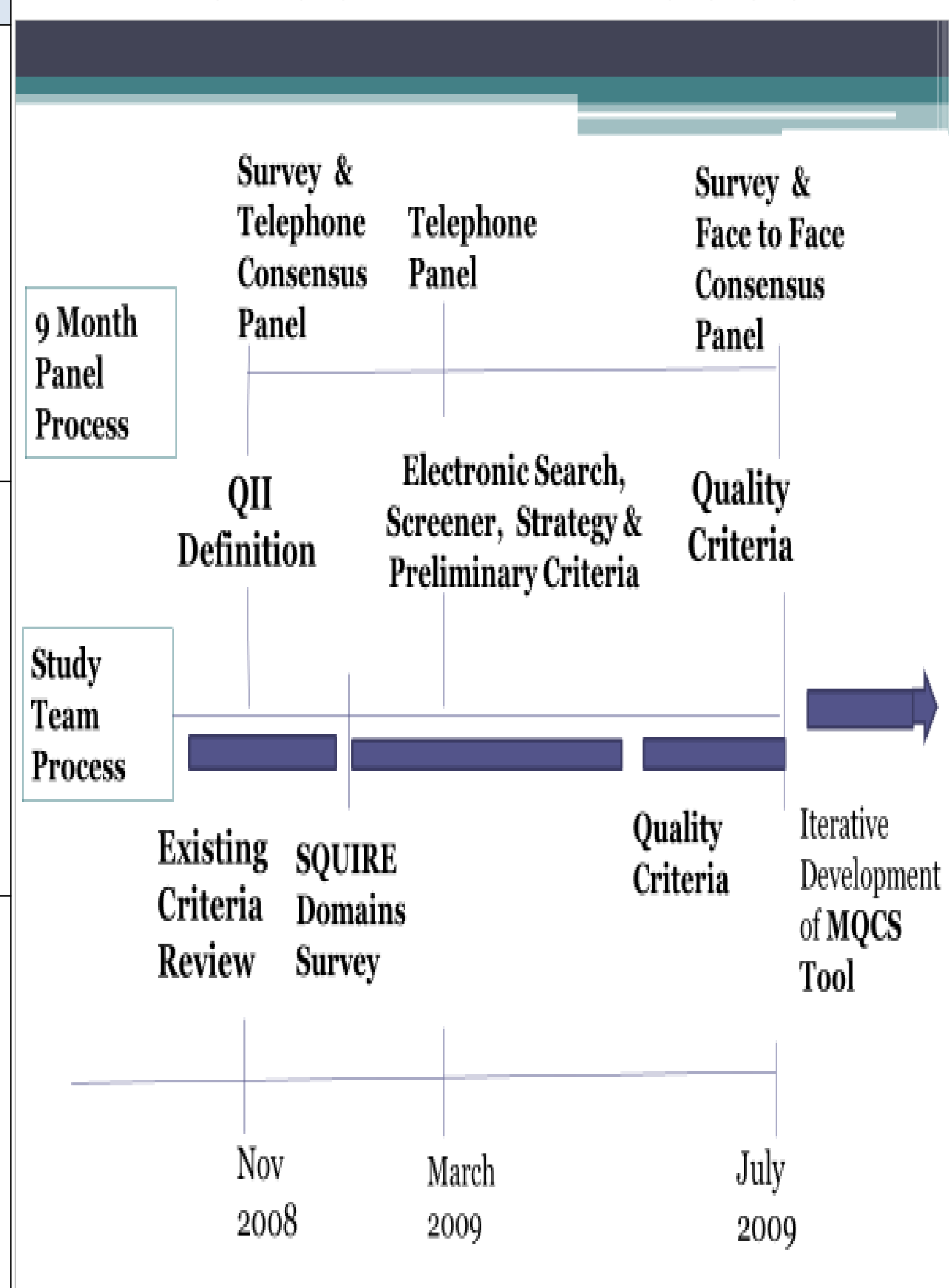
### Minimum Quality Criteria Set (MQCS) – Version 1.0

ID: \_\_\_\_\_ Author, year: \_\_\_\_\_ Reviewer: \_\_\_\_\_

Intervention: \_\_\_\_\_ Outcome: \_\_\_\_\_

| Domain   | Minimum standard   | Score          |
|--|--|----------------|
| <b>1. Organizational Motivation: Organizational problem, reason, or motivation for the intervention</b><br>♦ Consider quality of care problems; organizational problems; regulations, legal constraints, and external financial incentives at the target organization; or organizational motivation.             | Names or describes at least one motivation for the organization's participation in the intervention    | Not met<br>Met |
| <b>2. Intervention Rationale: Rationale linking the intervention to its expected effects</b><br>♦ Consider citations of theories, logic models, or existing empirical evidence that links the intervention to its expected effects.  | Names or describes a rationale linking at least one central intervention component to intended effects | Not met<br>Met |
| <b>3. Intervention Description: Change in organizational or provider behavior</b><br>♦ Consider the presented details that describe the change in the delivery of care, provider behavior, or structure of the organization needed to replicate the evaluated intervention including the involved key personnel. | Describes at least one specific change in detail including the personnel executing the intervention    | Not met<br>Met |

## Validation Process



### 16 QI-MQCS Domains:

organizational motivation, intervention rationale, intervention description, organizational characteristics, implementation, study design, comparator, data source, timing, adherence-fidelity, health outcomes, organizational readiness, penetration/reach, sustainability, spread, and limitations

## Reliability Results

- Used 54 diverse electronically searched, hand screened articles
- Median inter-rater agreement (all items and articles)  $K = 0.57$ ; reviewer agreement = 83%
- Items conceptually independent: correlation mean 0.19, all below 0.60
- Two domains were low outliers for reliability:
  - Spread ( $K = 0.13$ ; Agreement 67%)
  - Adherence/Fidelity ( $K = 0.9$ ; Agreement 56%)

## Conclusions

- QI-MQCS is the first set of tools for QII evidence synthesis article selection and quality review that is rigorously tested for both reliability and validity
- QI-MQCS tools and training materials:
  - Provide a basis for more comprehensive, less biased evidence review of QII's
  - Can help target and improve article quality in the identified areas of weakness