Self-assessment of a composite measure of primary care quality

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On behalf of and with thanks to the members of the Association of Family Health Teams of Ontario

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Disclosure

- Carol Mulder
    - No commercial interests
    - On salary from AFHTO and leads the QI program which implemented the Data to Decisions initiative

- Rick Glazier
   - No commercial interests

Learning objectives

- Describe advantages and disadvantages of composite measures as part of the solution for the challenge of meaningful measurement in primary care

- Describe components of the NQF framework for evaluating composite measures

- Describe strengths of the composite measure of quality used by Ontario primary care teams

Overview

- Context: Why use a composite
- Evaluation study design: Factors analysis, Descriptives, Evaluation framework
- Results
- Limitations (aka learning for next steps)
- Concluding thoughts

Measuring quality in primary care

- Problem: Tracking too many indicators
  - Takes time away from the care that measurement was meant to support.
  - Sets up "cherry picking" regarding the most important indicators
  - Makes it impossible to compare between 'high" and "low" quality settings
- Solution?? Focus on a small number of indicators
  - Requires agreement on which indicators to choose
  - Disengages patients and providers not involved in the chosen indicators
  - Risks distraction of attention and resources from other aspects of care
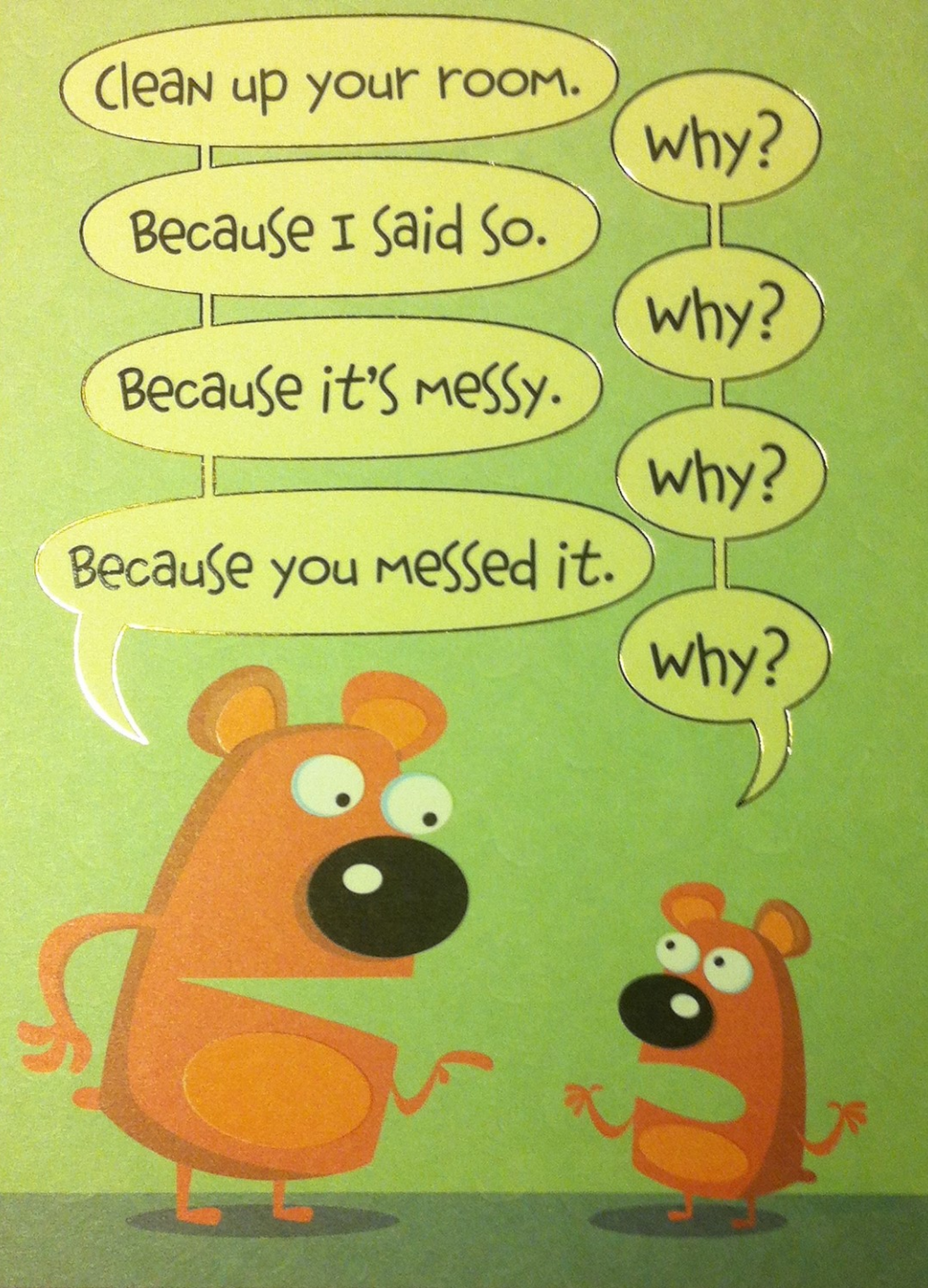
Why identify higher quality scenarios?

- We need to learn from our successes to do even better
- We need to advocate for primary care

Key characteristic of a leader

- Be easy to follow

"Validating" composite measures

- "Ultimately, the justification for the composite measure is found in its effectiveness in accomplishing its intended purpose for the composite measure (i.e., to assess, and ultimately improve, the quality of healthcare)".*

- A composite is not necessarily a scale
  - measurements of validity and reliability of a scale *do not apply*

- Expand understanding of "valid" to include measures of rigor in qualitative research

*http://www.qualityforum.org/Publications/2009/08/Composite_Measure_Evaluation_Framework_and_National_Voluntary_Consensus_Standards_for_Mortality_and_Safety%e2%80%94Composite_Measures.aspx : pg 6

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D2D: DATA TO DECISIONS ▶ 6.0

Setting and Data

- Setting
  - Primary care sector in Ontario, population of approximately 13 Million
  - Members of the Association of Family Health Teams of Ontario (virtually all of the 184 Family Health Teams, some Nurse-Practitioner Led Clinics)
  - Serve approximately 25% of Ontario's population

- Data sources:
  - Data contributed to Data to Decisions (D2D): patient experience, preventive measures and healthcare utilization etc (8 iterations, 4 years, 100+ teams).
  - Comparable data on similar indicators from the UK Quality Outcomes Framework (+/- 1000 indicators, +/- 8500 practices).
  - Qualitative data: description of the structure and use of the D2D composite
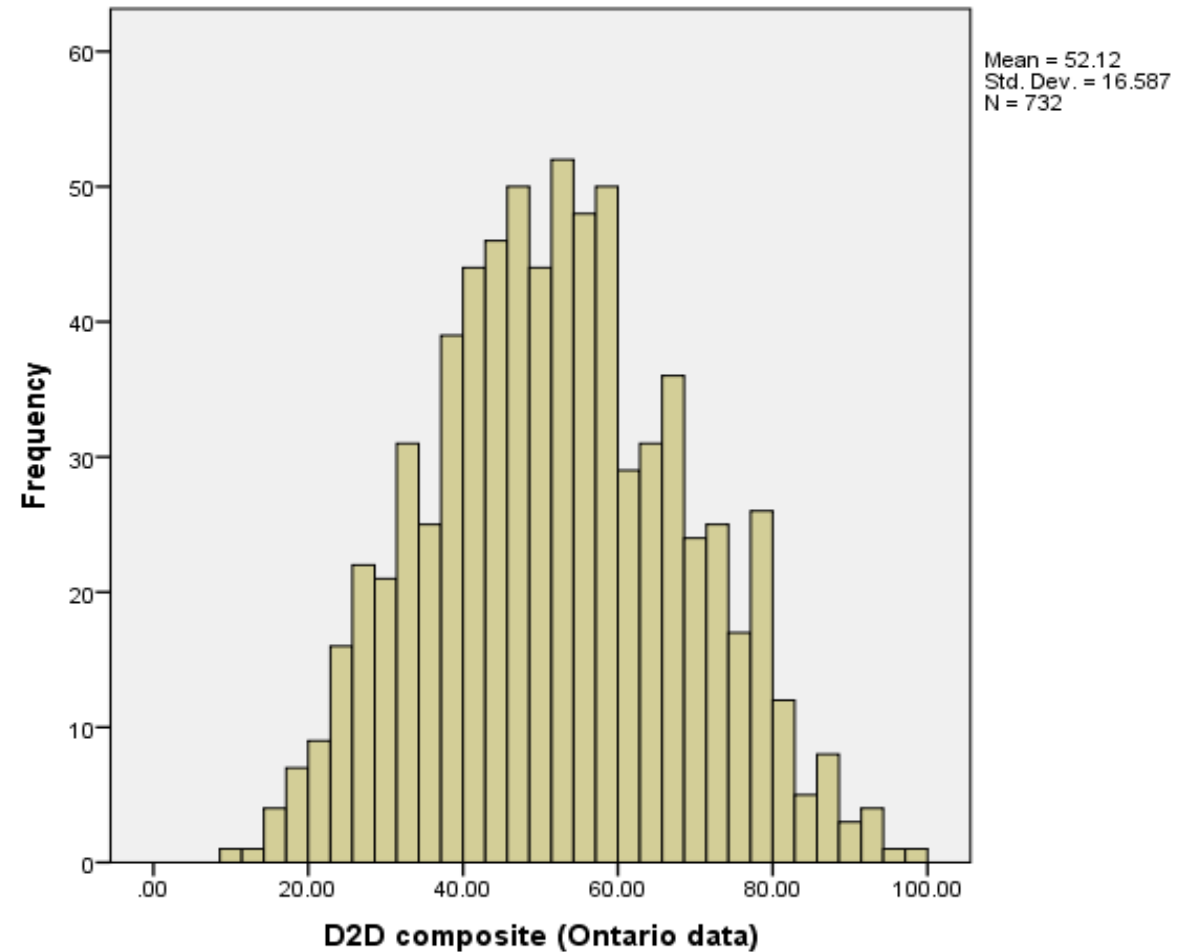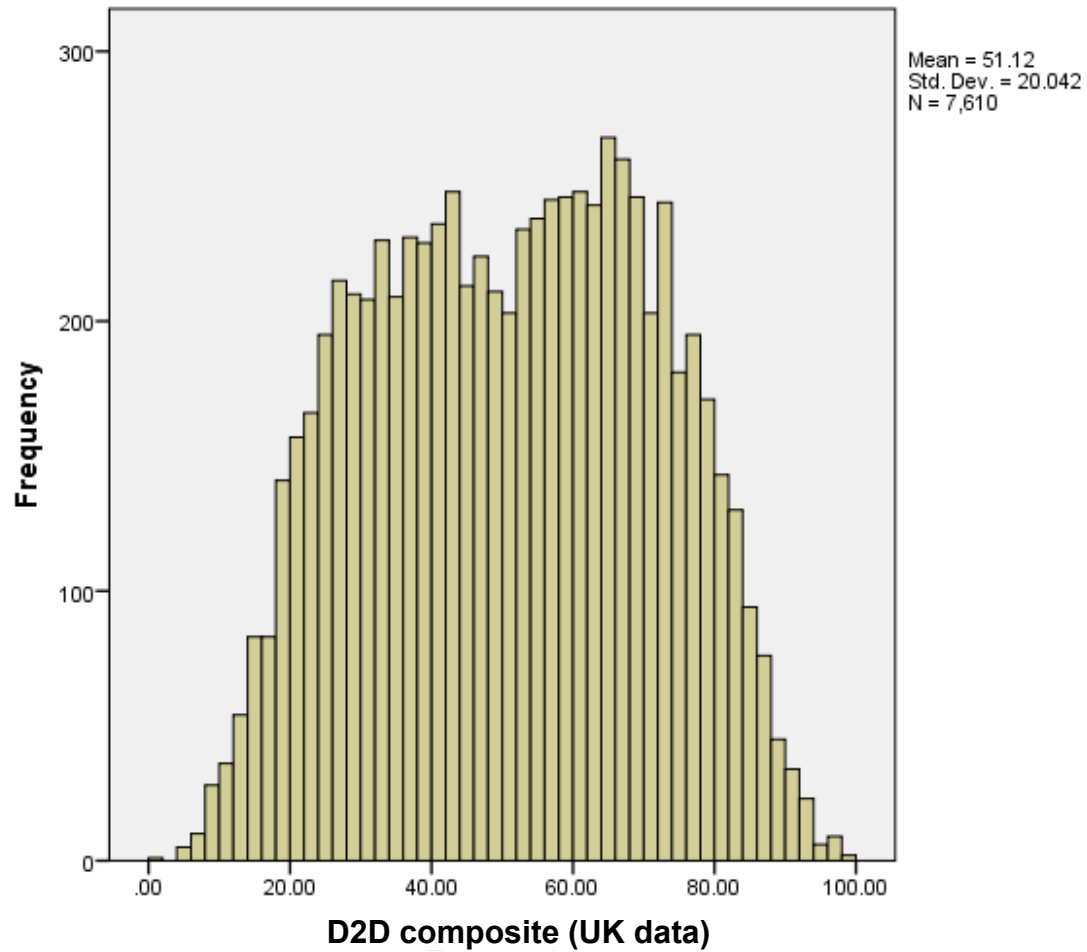
Study Design: Mixed methods evaluation

- Factor analysis
  - Compare components that emerge from (much larger) UK Quality Outcomes Framework data set

- Replication of measure on a comparable dataset
  - Compare Ontario descriptive statistics to those from UK data

- Alignment with evaluation framework
  - Consider compliance with elements of the composite measure evaluation framework developed by National Quality Forum (USA)*

*http://www.qualityforum.org/Publications/2009/08/Composite_Measure_Evaluation_Framework_and_National_Voluntary_Consensus_Standards_for_Mortality_and_Safety%e2%80%94Composite_Measures.aspx ;

Results: Factor analysis

- Principal component analysis

- 66 indicators, 4,079 records

- 15 components identified

- Explained 71.845% of the variance

- Gaps in Ontario *data*
  - Many – but they were not important in factor analysis

- Gaps in Ontario *composite*
  - patient experience with nurses and other non-physician clinicians
  - in-office patient experience measures

Results: Descriptive statistics

Mean = 51.12
Std. Dev. = 20.042
N = 7,610

D2D composite (UK data)

Mean = 52.12
Std. Dev. = 16.587
N = 732

D2D composite (Ontario data)

Elements of the Evaluation Framework

- Conditions for Consideration
  - Access to data is established
  - Maintenance schedule exists
  - Intended for reporting and improvement
  - Full documentation of measure exists

- Importance to measure and report
  - Measures a priority aspect of healthcare
  - Measures something that needs improving
  - Measure is an outcome measure or an important intermediate measure
  - Objective of measure is clear
  - Components are conceptually relevant

- Feasibility
  - Data are routinely generated
  - Data are electronic
  - Exclusions do not require additional data capture effort
  - Error detection /management process
  - Data collection process works

- Scientific acceptability of the measure properties:
  - Calculation process documented and replicable
  - Consistent: same results in same population over time
  - Value reflects the concept being measured
  - Exclusions are clearly defined/justified
  - Risk adjustment
  - Demonstrates statistically/practically meaningful differences
  - Multiple data sources show comparable results
  - Mechanism to consider confounders
  - Justification for relevance of components
  - Contribution of component to variation
  - Weighting rules (if any) are justified
  - Imputation rules are justified

- Usability
  - Information is usable
  - Components are harmonized
  - Adds value to existing measure sets
  - Composite can be deconstructed
  - Demonstration that measure achieves objectives

Results: Structure of Evaluation Framework

Topic	Criterion	comments
Conditions for Consideration	Access to data is established	Indicators were selected on the basis of the ability of teams to capture and contribute data
	Maintenance schedule exists	D2D is released twice a year in fall and early spring, with changes implemented to the composite and other indicators in response to feedback from members in the fall iteration
	Intended for reporting and improvement	D2D initial goal was to support improvement by helping teams compare to peers. Goal evolved to include support for advocacy on behalf of AFHTO members because D2D demonstrates the value of interdisciplinary primary care
	Full documentation of measure exists	Data dictionary outline the definition and technical calculation process for the composite
nce to measure and	Measures a priority aspect of healthcare	Quality of interprofessional, comprehensive, team-based primary care. There is not yet a definition or process for doing so in Ontario.
	Measures something that needs improving	Ontario (and Canada) consistently score lower than desirable on international comparisons of granular measures of primary care quality
	Measure is an outcome measure or an important intermediate measure	Quality of care is the main outcome of interest in primary care
	Objective of measure is	The goal of the composite is explicit: to measure quality in a consistent and

D2D composite: Alignment with evaluation criteria
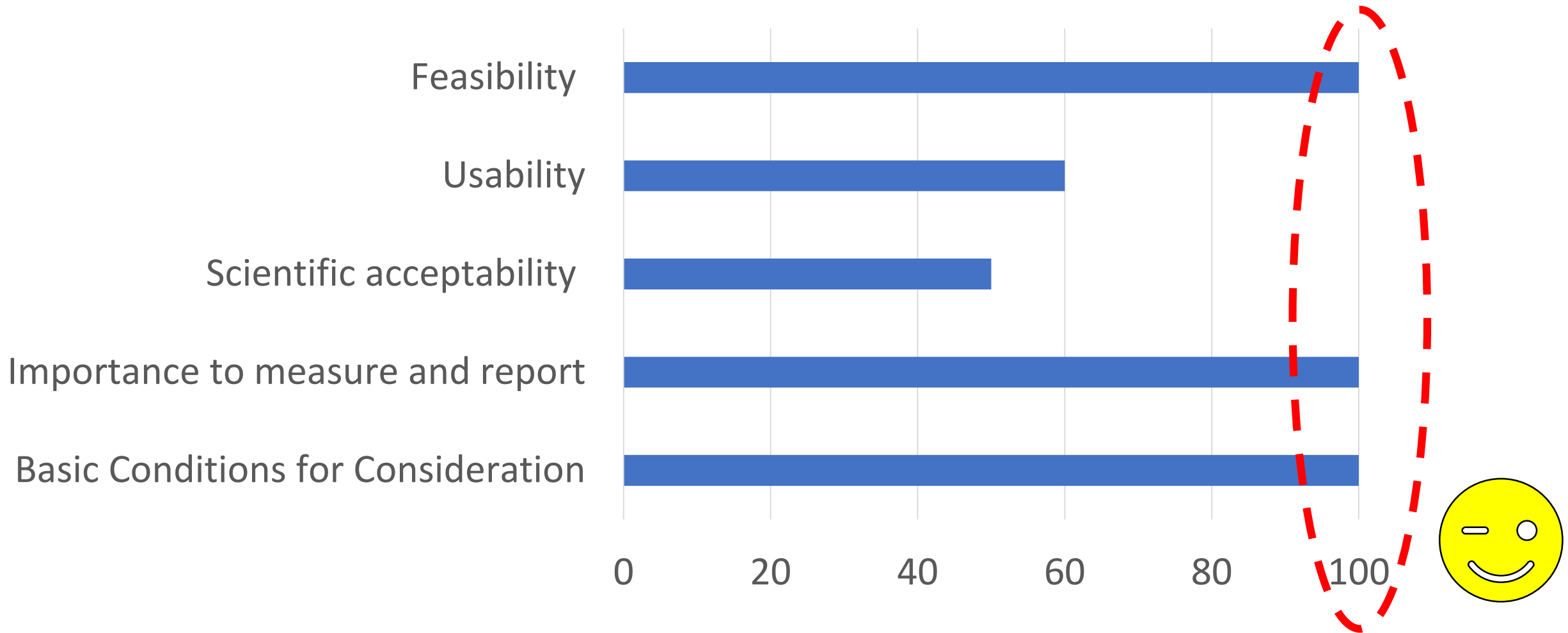
Limitations (aka learnings for the next steps)

- Gold standard of "quality"?
  - Related to cost
  - Related to "patient-centeredness"?
- Self assessment
  - Include assessments by others eg via Delphi process

Conclusions

- Need to consider both quantitative and qualitative perspectives in assessing validity

- D2D composite meets some criteria of "validity"
  - Replicability: Same components, same descriptive stats in another data set
  - Expert checking: align with evaluation framework
  - Triangulation: related to cost, possibly patient-centeredness

- It could be useful at aggregate level (eg advocacy, identify enablers)

- It is less useful for provider-level decisions (like most composites)

- Unintended observation: NQF evaluation framework easy to use!

Thanks!

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