Step By Step Guideline for selecting OMs

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Agenda

01 Conceptual consideration

02 Finding existing OM instruments

03 Quality assessment of OM instruments

04 Generic recommendation

Introduction

Failure to collect outcomes that are most meaningful to patients

High degree of variability across trials in the outcomes reported

Variation in outcome measurement instruments used

Lack of information on the measurement properties of the instruments

Biased reporting of outcomes in published trials

Improve the selection of OMIs.
Developed methodological standards for measurement properties of OMIs

COSMIN

Standardization of the selection of outcomes and OMIs is needed.

COMET

Facilitate the development and application of agreed standardized sets of outcomes

J Comp Eff Res. 2016 Mar; 5(2): 193–205.

COSMIN+ COMET

Step 1. Conceptual Considerations

Step 2. Finding existing OMS instruments

Step 3. Quality assessment of OMs instruments

Step 4. Generic recommendations on the selection of OMs instruments

COSMIN+ COMET

Step 1. Conceptual Considerations

- Construct (i.e., outcome or domain) to be measured
- Target population (e.g., age, gender, disease characteristics)

Step 2. Finding existing OMS instruments

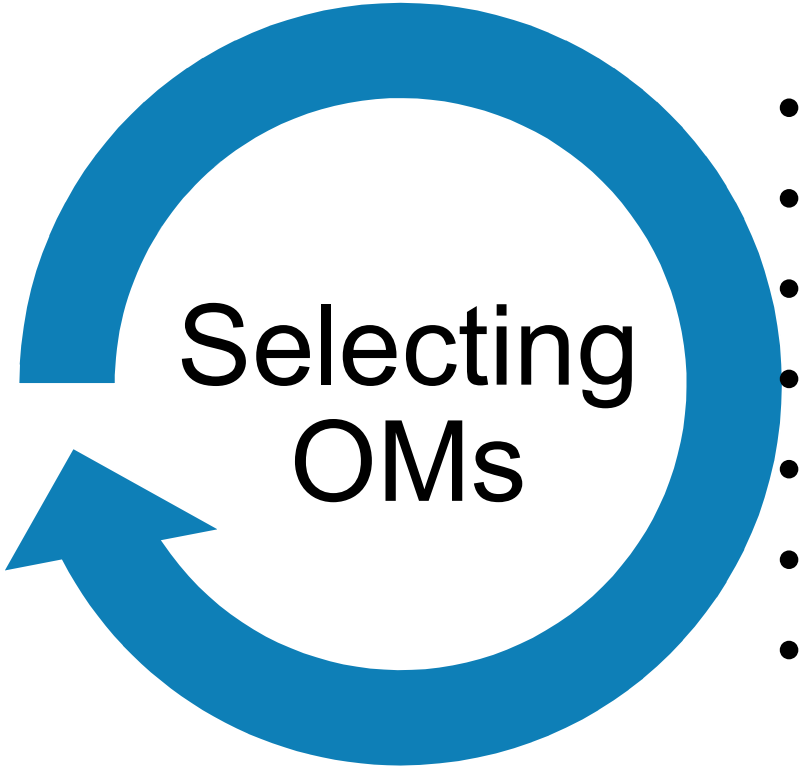
- (1) systematic reviews, (2) literature searches, and (3) other sources (optional)

Step 3. Quality assessment of OMs instruments

- Evaluation of the methodological quality of the included studies
- Evaluation of the quality of the measurement properties
- Best evidence synthesis
- Feasibility aspects

Step 4. Generic recommendations on the selection of OMs instruments

Factors to Consider When Selecting OMs for Clinical Practice



- What to measure
- Patient and clinic factors
- Purpose of measure
- Type of measure
- Where do I find OMs?
- Psychometric factors
- Feasibility

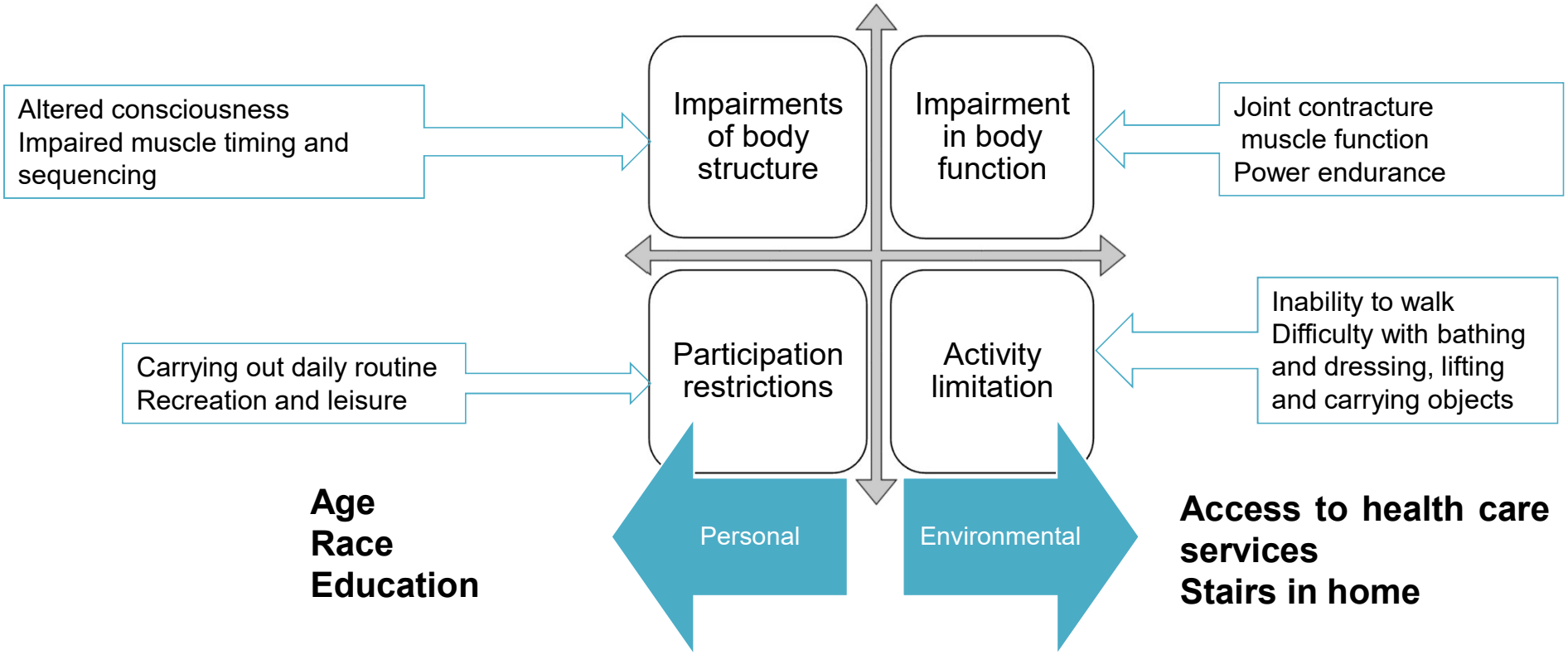
Step 1. Conceptual Considerations

- Construct (i.e., outcome or domain) to be measured
- Target population
  - Age (Adults versus geriatric), Gender,
  - Disease characteristics (acute versus chronic)
- Specific area of health or healthcare
  - inpatient or outpatient setting
- Purpose of measure
  - Discriminative, predicative/ evaluative
- Types of OMs
  - Generic /Disease Specific/ performance based/self reported

Step 1. Conceptual Considerations

In Physical therapy two conceptual frameworks are used

- ICF categories as a framework OMs
- Guide to Physical Therapist Practice (**24 categories)**



Purposes of the OMs

Discriminative	Predictive	Evaluative
		
Short Physical Performance Battery	**6MWT** , TUG	**Short Physical Performance Battery, 6MWT**

Step 2. Finding existing OMS instruments

- Contact the developer of the OMs
- Systematic review
  - Up to date and good quality
  - COSMIN database of systematic reviews (http://database.cosmin.nl/)
- Compressive literature search,
  - Construct of interest;
  - Target population;
  - ***Type of OMI,***
  - Measurement properties (e.g., reliability, validity, responsiveness).
- Data base (such as MEDLINE(e.g. PubMed, OVID) EMBASE, Cochrane library Cinahl)
- Reference lists of the included studies
- Contact the colleagues and experts in your area of practice

Step 2. Finding existing OMS instruments

Name of date base	URL	Purposes
COSMIN database of systematic reviews of outcome measurement instruments	http://database.cosmin.nl/	to improve the selection of outcome measurement instruments both in research and in clinical practice by developing methodology and practical tools for selecting the most suitable outcome measurement instrument.
Health and Psychosocial Instruments database	http://www.ebscohost.com/academic/health-andpsychosocial-instruments-hapi	provides information about behavioral measurement instruments, including those from Industrial Organizational Behavior and Education.
IN-CAM database	http://www.incamresearch.ca/content/welcome-camhealth-outcomes-database	Provides a structured search system for identifying outcome measures of particular importance to complementary and alternative medicine (CAM) and integrative health care/integrative medicine (IHC/IM) effectiveness and efficacy research
Arabic Health Measures	https://ahm.pnu.edu.sa/	**The AHM database of an extensive search of literature on health measures that have been translated or newly developed in the Arabic language** AHM database contains more than **408 Measures**

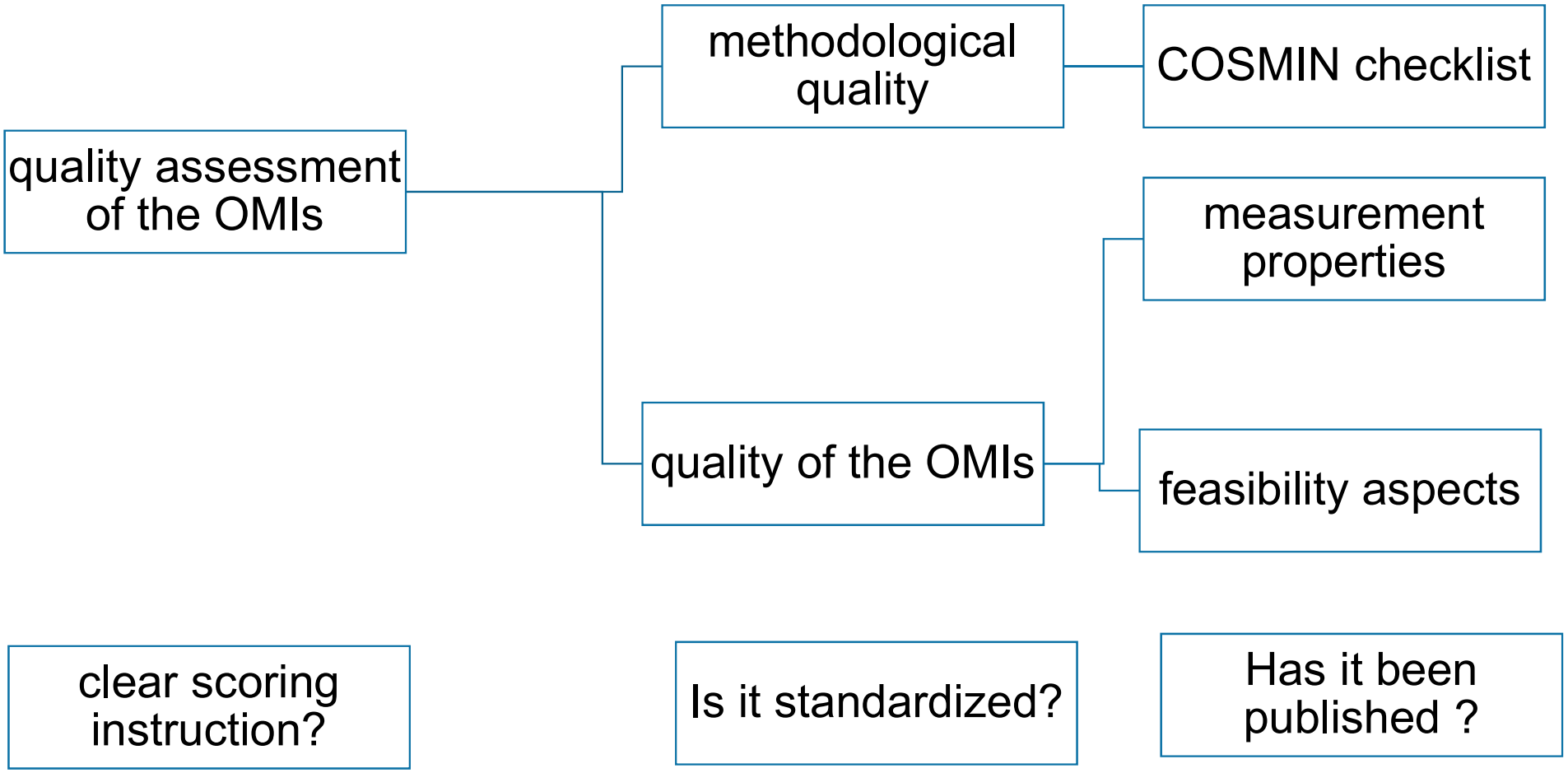
Step 2. Finding existing OMS instruments

Name of date base	URL	Purposes
PROQOLID database	http://www.proqolid.org/	
	http://www.optum.com	
Orthopedic Scores	http://www.orthopaedicscore.com/	• Measures that assess musculoskeletal conditions • No psychometric information, Minimal information about score interpretatio • Can score directly on test forms on website, website scores and produces completed test document
Total Joint Arthroplasty and Outcome Measures (TJAOM) Toolkit	https://physicaltherapy.med.ubc.ca/physical-therapy-knowledge-broker/total-joint-arthroplasty-and-outcome-measures-tjaom-toolkit/	provide clinicians with outcome measures appropriate for use along the continuum of care for patients before and after total joint arthroplasty.

Step 2. Finding existing OMS instruments

Name of date base	URL	Purposes
Rehabilitation measures database	http://www.rehabmeasures.org/	~200 instrument summaries of psychometric properties and clinical utility – Includes a link to the testing document whenever possible
Physiopedia	http://www.physio pedia.com	Measures that assess musculoskeletal, neuroand common geriatric conditions – Psychometrics, clinical utility – Some videos to demonstrate test administration
APTA Neurology Section EDGE recommendations –	www.neuropt.org/professional-resources/neurology-section-outcome-measuresrecommendations –	Review of instruments used in physical therapy that assess patients with Stroke, MS, TBI, SCI (PD and vestibular to come this year) – Recommendations instruments to be used in clinical practice
Center for Outcome Measurement in Brain Injury	www.tbims.org/combi/	~30 instrument reviews of psychometrics and clinical utility – Specific to measuring individuals with brain injury – Links to instrument whenever possible

Step 3. Quality assessment of OMs instruments



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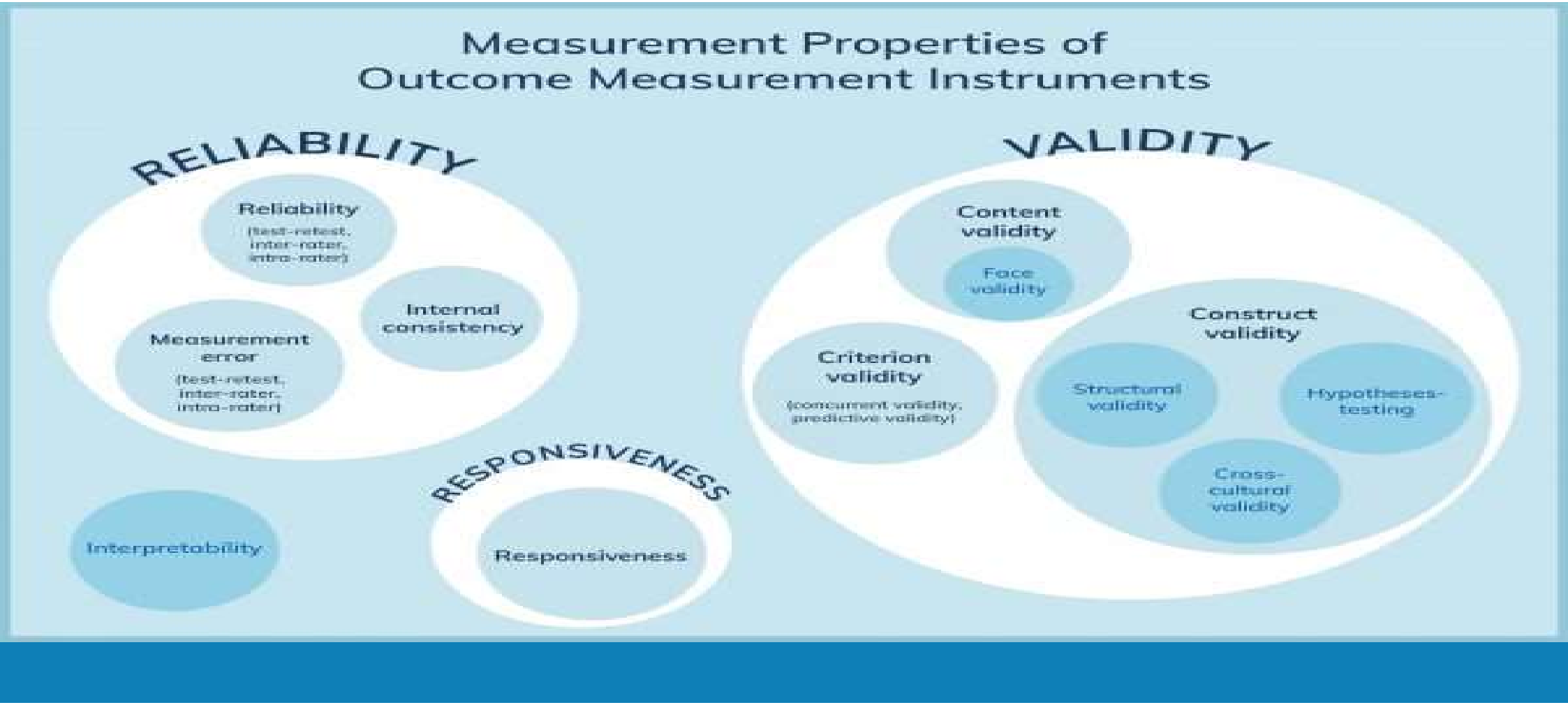
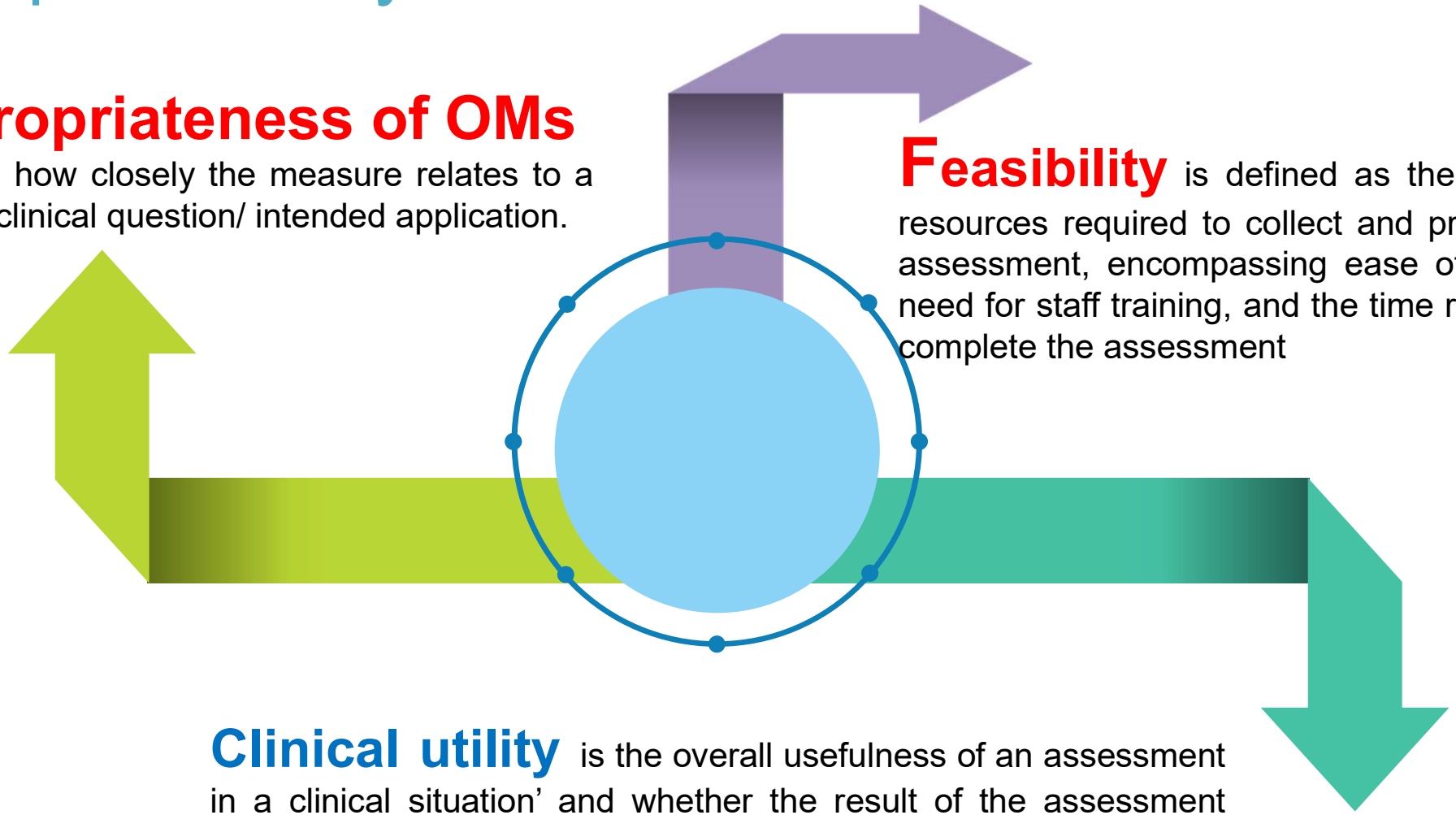


Step 3. Quality assessment of OMs instruments

Box A. Internal consistency				
		yes	**no**	**?**
1	Does the scale consist of effect indicators, i.e. is it based on a reflective model?	☐	☐	☐
Design requirements		**yes**	**no**	**?**
2	Was the percentage of missing items given?	☐	☐	
3	Was there a description of how missing items were handled?	☐	☐	
4	Was the sample size included in the internal consistency analysis adequate?	☐	☐	☐
5	Was the unidimensionality of the scale checked? i.e. was factor analysis or IRT model applied?	☐	☐	
6	Was the sample size included in the unidimensionality analysis adequate?	☐	☐	☐
7	Was an internal consistency statistic calculated for each (unidimensional) (sub)scale separately?	☐	☐	☐
8	Were there any important flaws in the design or methods of the study?	☐	☐	
Statistical methods		**yes**	**no**	**NA**
9	for Classical Test Theory (CTT): Was Cronbach's alpha calculated?	☐	☐	☐
10	for dichotomous scores: Was Cronbach's alpha or KR-20 calculated?	☐	☐	☐
11	for IRT: Was a goodness of fit statistic at a global level calculated? e.g. χ^2, reliability coefficient of estimated latent trait value (index of (subject or item) separation)	☐	☐	☐

Step 3. Quality assessment of OMs instruments

Appropriateness of OMs
refers to how closely the measure relates to a specific clinical question/ intended application.



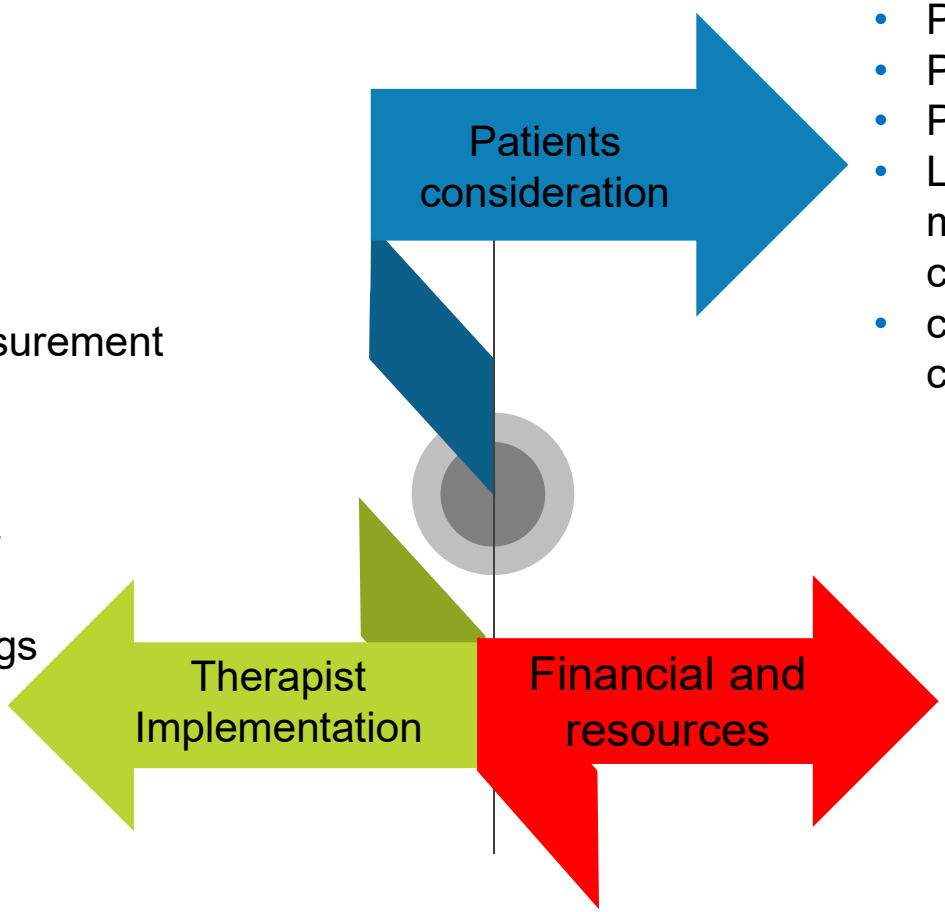
Feasibility is defined as the time and resources required to collect and process the assessment, encompassing ease of use, the need for staff training, and the time required to complete the assessment

Clinical utility is the overall usefulness of an assessment in a clinical situation' and whether the result of the assessment could assist clinical decisions

Step 3. Quality assessment of OMs instruments

Feasibility

- Interpretability
- Ease of administration
- Length of the outcome measurement instrument
- Completion time
- Ease of standardization
- Clinician's comprehensibility
- Type of administration
- Availability in different settings
- Ease of score calculation
- Training required



- Patient's comprehensibility
- Patient's mental ability level
- Patient's physical ability level
- Length of the outcome measurement instrument. and completion time
- cover sensitive personal issue and culturally adapted

- Type of outcome measurement instrument
- Cost of an OMs instruments
- Required equipment
- Copyright
- Patient's physical ability level
- Regulatory agency's requirement for approval

Flowchart for the selection of outcome measurement instruments for core outcome sets