



NATIONAL CENTER for  
INTERPROFESSIONAL  
PRACTICE and EDUCATION

July 27, 2017

# FUNDAMENTALS OF IPECP MEASUREMENT I:

*“Knowing What you Really Want to Measure and  
Selecting the Right Tool”*

Connie C. Schmitz, PhD and Jane L. Miller, PhD



NATIONAL CENTER for  
INTERPROFESSIONAL  
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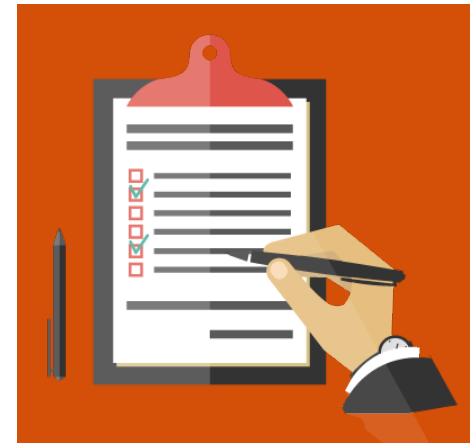
### **Constance C. Schmitz and Jane Lindsay Miller**

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# National Center - IPECP

## Assessment & Evaluation

Our mission is to promote best practices in assessment and evaluation within the interprofessional education and collaborative practice communities.



# The Need



## Assessment and Evaluation for IPECP

- *“How can I assess IPECP in individuals and teams?”*
- *“How can I evaluate IPE programs?”*
- *“What instruments are available?”*
- *“What makes one tool better than another?”*
- *“How can I select the right tool?”*



# National Center Response

Build capacity in the *logic*  
of instrument appraisal and selection



Wrote “**Primer**” on measurement and tool selection

**Schmitz CC, Cullen MJ.** Evaluating interprofessional education and collaborative practice: What should I consider when selecting a measurement tool? Minneapolis (MN): University of Minnesota, National Center for Interprofessional Practice and Education, March 20, 2015, epub available at: [www.nexusipe.org](http://www.nexusipe.org).



# Connie C. Schmitz, PhD



- Educational psychologist
  - Curriculum development, learner assessment, program evaluation, education research
- Consultant to the National Center
  - Measurement collection
- Experience
  - Academe, foundations and government agencies
- Scholar
  - Health and human service evaluation
  - 30 publications and 45 technical reports



# Jane L. Miller, PhD



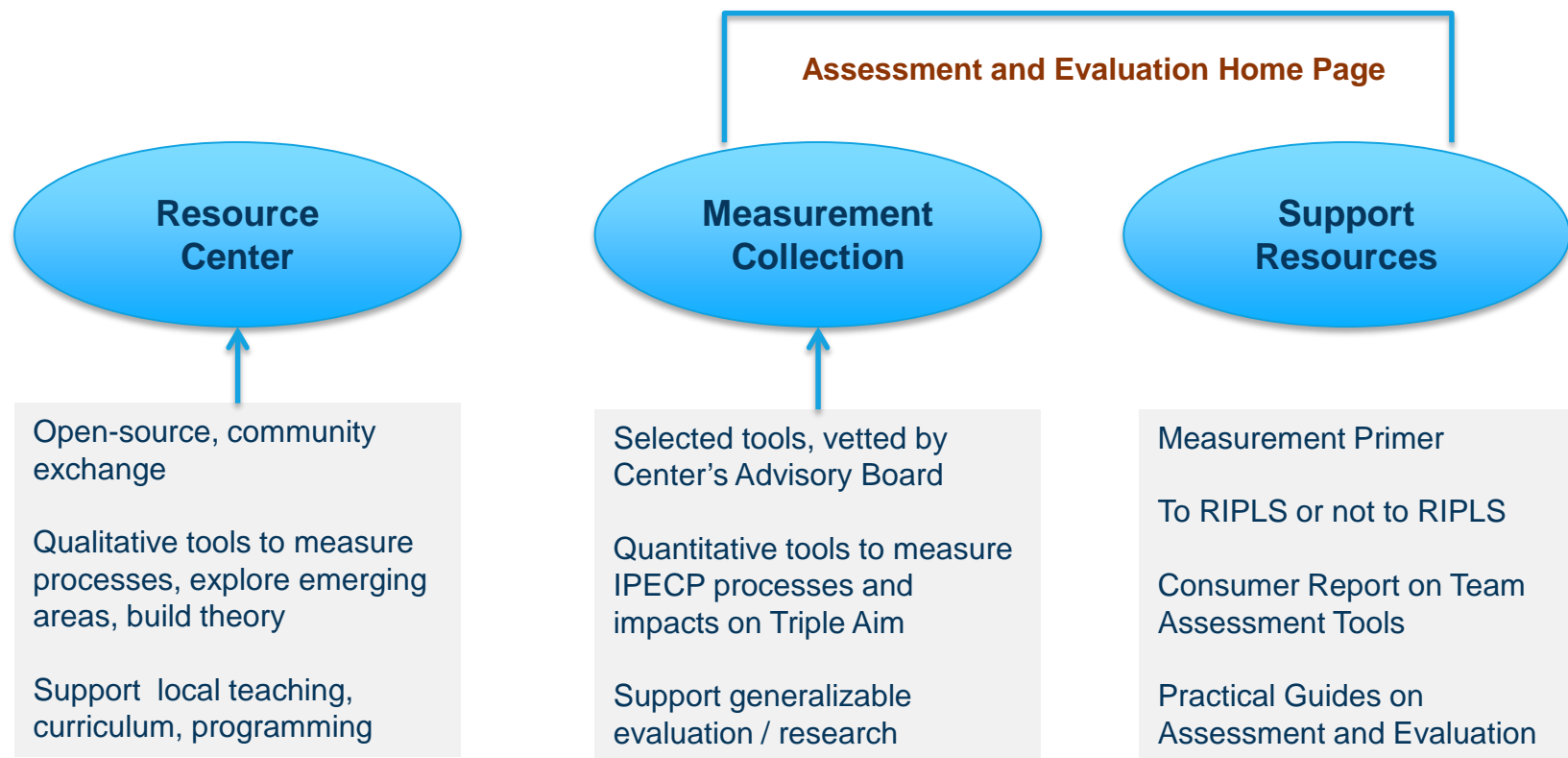
- **Leader at UMN**
  - Founding director of AHC Simulation Center and IERC
  - Asst. Professor, Dept. Family Medicine & Community Health
  - Graduate Faculty member, College of Education & Human Development
- **National Service**
  - Society for Simulation in Health Care
  - Center for Interprofessional Practice & Education
- **Scholar**
  - Collaborative practice among diverse healthcare disciplines
  - Performance-based assessment
  - Acquisition of interprofessional team skills





# Building Capacity: nexusipe.org

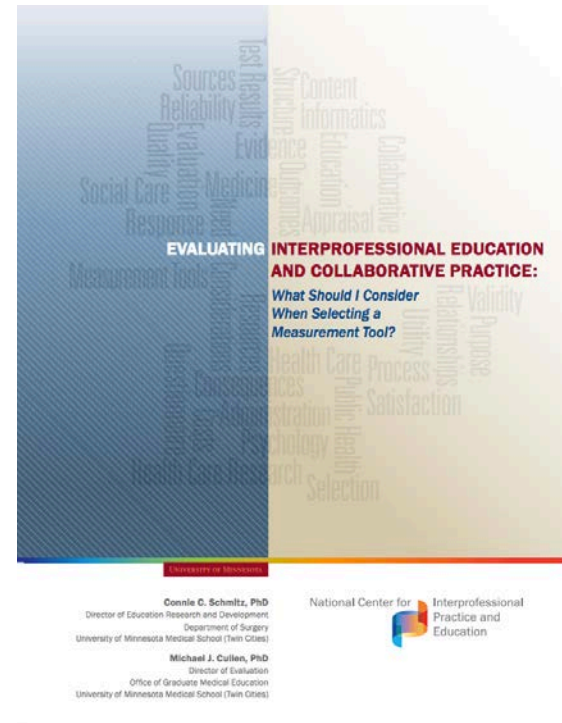
Foundation areas: measurement, assessment, evaluation



# Goal of Webinar Series

Apply a guide to instrument selection based on three main criteria:

1. Relevance
2. Validity
3. Feasibility



# Presentation Overview

- Definitions
- Assessment planning
- Types of tools
- Criterion 1: Relevance
- Brief example



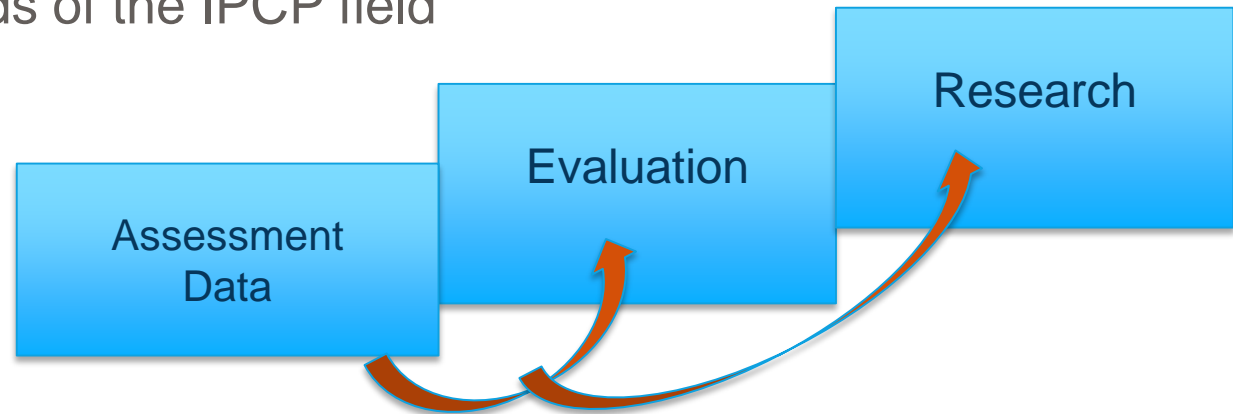
# Definitions

- Measurement
  - Science of measuring things
  - Measurement error, reliability, validity
- Assessment
  - (What) Knowledge, skills, attitudes, beliefs, perceptions, practices
  - (Who) Individuals, groups, teams, organizational units



# Definitions

- Evaluation
  - Programs designed to promote IPCP and impact Triple Aim
  - Serve needs of local stakeholders
- Research
  - Produce new knowledge
  - Serve needs of the IPCP field



# Tool Selection Starts with a Plan



- Tools by themselves don't make an assessment (or an evaluation or research plan)
- Don't pick a tool before you have a plan

*(Don't put the cart before the horse!)*



# Assessment Plan Components

1. Purpose of assessment
2. Context for assessment
3. Measures
4. Assessment method / design



5. Tool adoption / adaption / development



# Before You Search for an Instrument

*You need to have thought about....*

| Plan     | Examples   |
|----------|--|
| Purpose  | <p>Low stakes</p> <ul style="list-style-type: none"><li>• identify, diagnose needs; improve learning, practice, QI</li></ul> <p>High stakes</p> <ul style="list-style-type: none"><li>• select among candidates; judge performance</li></ul> |
| Context  | <p>Captive audience</p> <ul style="list-style-type: none"><li>• required class, CE simulation</li></ul> <p>Live action / in situ</p> <ul style="list-style-type: none"><li>• F2F patient rounding, remote video conferencing</li></ul>       |
| Measures | <ul style="list-style-type: none"><li>• Knowledge, skills, attitudes, perceptions, behaviors, practices</li><li>• Constructs (“collaboration,” “communication”)</li></ul>  |





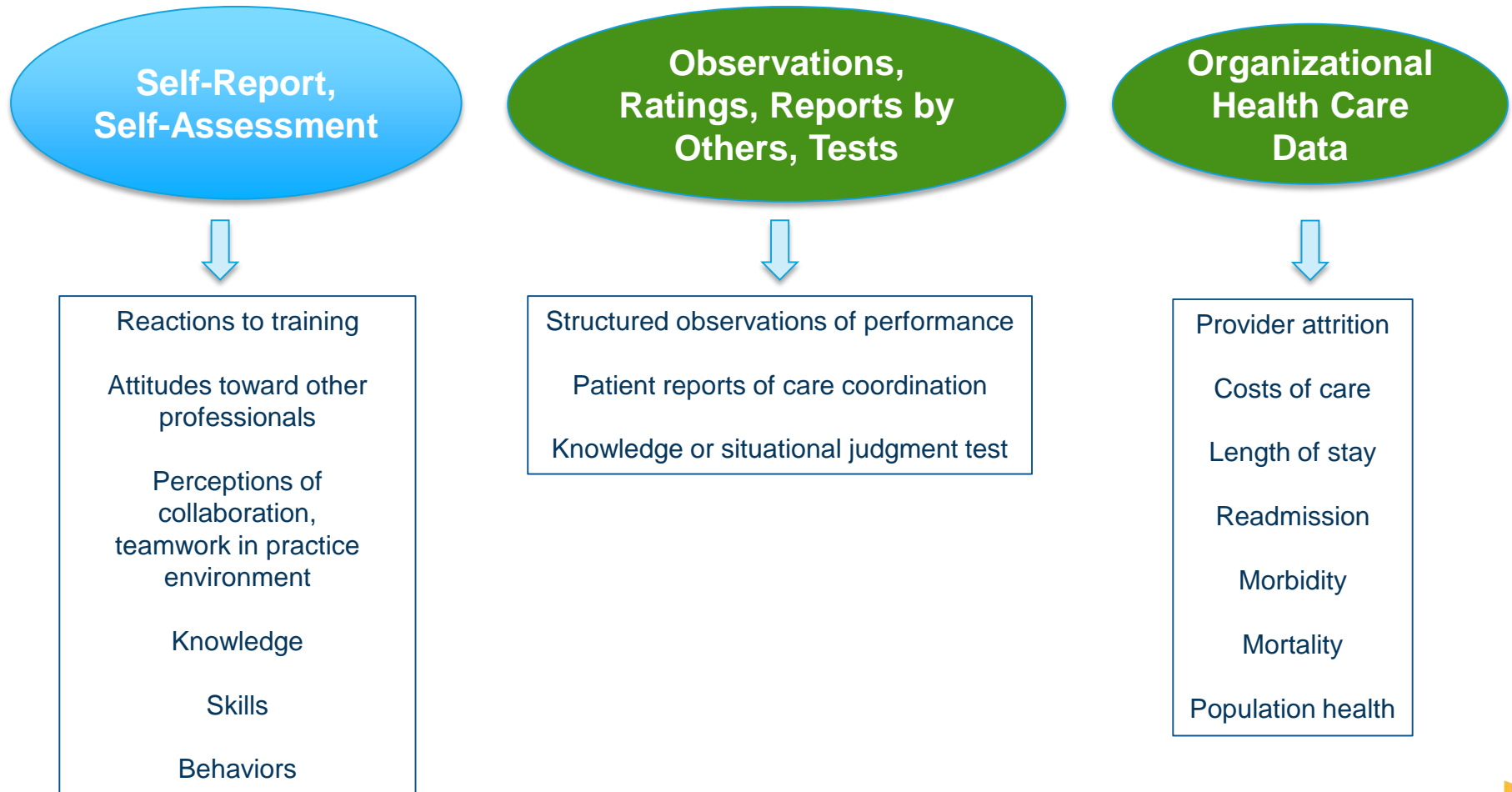
# Before You Search for an Instrument

*You need to have thought about....*

| Plan               | Examples   |
|--------------------|--|
| Assessment Methods | <ul style="list-style-type: none"><li>• Online surveys</li><li>• In-person interviews</li><li>• Structured observations (in simulation / in situ)</li><li>• Standardized multiple-choice test</li><li>• Debriefing protocols</li><li>• 360 degree feedback surveys</li></ul> |
| Design             | <ul style="list-style-type: none"><li>• Real-time feedback during training</li><li>• Post only</li><li>• Pre-post</li><li>• Retrospective pre-post</li><li>• Comparative or control group</li><li>• Trend analysis over time</li></ul>                                       |



# Type of Tool: Data Source



# Type of Tool: Object of Assessment

Individual vs. Group Level Data

Individuals

- Background, experience
- Satisfaction
- Knowledge
- Skills
- Attitudes
- Perceptions
- Behaviors

(can be aggregated “up” to group)

Groups

- Performance of:
- Team
  - Care model
  - Unit
  - Clinic

(can't be disaggregated “down” to individual)



# Measurement Primer

## Step 1: Relevance

- Content
- Purpose
- Intended audience



# Relevance



## Content

*Does it measure the things I need to measure?*

- *Does it cover what I teach? Does it match my learning objectives?*
- *Does it address curriculum / program goals?*
- *Does it align with consensus standards, core competencies?*
- *Does it address my research questions?*



# Relevance



## Purpose

*Does its purpose align with mine?*

- *Will it provide the type of scores / description / feedback called for in my plan?*
- *Individual vs. group scores*
- *High stakes vs. low stakes*
- *How flexible is the tool?*



# Relevance



## Intended Audience

*For whom is the tool intended?*

- *How similar are the respondents / participants / professions to mine?*
- *Is the tool flexible / generic or specific? Can it be tailored?*
- *Has the tool been used successfully across different education or practice settings?*
- *What are the characteristics of the groups involved with validity testing?*



# Putting it Together

- Criteria for instrument selection:
  1. Relevance (content, purpose, audience)
  2. Validity
  3. Feasibility
- Planning comes first!
- Important distinctions among tools





# FIPPC and the ICCAS

## FIPPC:

- Required course for 1,000 pre-licensure students at U of MN
- Nursing, medicine, dentistry, pharmacy, public health, vet med

Journal of  
**Interprofessional  
Care**

<http://informahealthcare.com/jic>  
ISSN: 1356-1820 (print), 1469-9567 (electronic)  
J Interprof Care, Early Online: 1-6  
© 2014 Informa UK Ltd. DOI: 10.3109/13561820.2014.917407

**informa**  
healthcare

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ORIGINAL ARTICLE

## Validation of the interprofessional collaborative competency attainment survey (ICCAS)

Douglas Archibald<sup>1</sup>, David Trumpower<sup>2</sup> and Colla J. MacDonald<sup>2</sup>

<sup>1</sup>Department of Family Medicine, Faculty of Medicine, C.T. Lamont Centre for Research in Primary Care, University of Ottawa, Ottawa, Ontario, Canada and <sup>2</sup>Faculty of Education, University of Ottawa, Ottawa, Ontario, Canada



# ICCAS Content

## 20-item, self-assessment survey

1. Communication
2. Collaboration
3. Roles and responsibilities
4. Patient/family centered approach
5. Conflict management / resolution
6. Team functioning



# ICCAS Purpose

- Evaluate IPE intervention
- Retrospective pre-post design
- Estimate course impact



# ICCAS Population

- 584 participants
- 12 different IPECP programs in Canada and New Zealand
- Pre-dominantly pre-licensure
- 19 different professions represented in the sample



# Why We Chose the ICCAS

- High relevance
- Positive evidence of validity
- Feasible



# Relevance of ICCAS to FIPCC

- Content
  - Items aligned with course objectives and IPEC core competencies
- Purpose
  - Supplement “end of course” satisfaction with more behavioral skill assessment
  - Retrospective pre-post design a plus
- Intended Audience
  - Similar population, robust across professions and settings



# The ICCAS Worked Well

- Relevance
  - Sensitive to FIPCC content
  - Showed expected pre-post gains for certain groups
- Validity
  - Reliable
  - Single factor explained large proportion of variance
- Feasibility
  - Easy to administer, score, interpret

*Schmitz , C.C., et al. The Interprofessional Collaboration Competency Attainment Survey (ICCAS): A replication validation study (2017). J Interprof Care, 31(1): 28-34.*



**Now we want to hear from you....**





# We want to know...

- What was the muddiest point for you?
- Did anything we say surprise you?
- What might you do differently as a result of this presentation?



# “Can you modify an existing tool?”

- Modified McMaster-Ottawa
  - Constructs
  - Individual and team assessment in one tool
  - Feasibility
    - Fairly easy to achieve scoring consensus with the MMO using the behavioral anchors



# “Why were other tools rejected?”

- Too context-specific
- Too technically-oriented
- Too onerous for the expert evaluator



# “What are the threats to validity?”

- Formatting and minor wording changes
- Use by expert evaluators
- Addition of a global item to assess the “gestalt” of the performance



# Answers to your questions....



# In Closing

## Further reading

[[nexusipe.org/advancing/assessment-evaluation-start](https://nexusipe.org/advancing/assessment-evaluation-start)]

- Measurement Primer
- Practical Guide Series





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