

# Having an Assessment Meltdown? Use the C-ICE Instrument to Evaluate Interprofessional Student Team Competency

**Lindsay Iverson DNP, APRN, ACNP**

**Ann Ryan Haddad PharmD**

**Kim Begley PharmD**



1

## Disclosures

- Authors have no disclosures to report

2

## Background

- Interprofessional Education
  - When students from two or more professions learn with, from, and about each other to improve collaboration and quality of healthcare

3

## Background



**Challenge:** Prepare students for safe practice in a complex health care environment



**Resource:** Core Competencies for Interprofessional Collaborative Practice (CCICP)



**Accreditation agencies:** Incorporate IPE into existing curricula

4

## Great! But Does IPE Work?

- Academic institutions must focus on IPE learning **outcomes** through assessment
- Assessment for IPE remains at a low level (attitudes and perceptions) rather than attributes or outcomes

5

## Modified Kirkpatrick Evaluation Framework

Level	Learner Outcome	Description
1	Reaction	Explores how the learner felt about the IPE experience
2	Attitudes/perceptions	Explores attitudes and/or perceptions of IPE experiences
3	Knowledge/skills	Identifies knowledge and/or skills acquired from IPE
4	Collaborative behavior	Assesses one's ability to engage in effective interprofessional team-based collaboration
5	Performance in practice	Assesses the ability of an individual and/or team to perform with or as an effective interprofessional team

6

## A Need Was Identified....



Evaluation of IPE Benefits



Best Practice for IPCP

Creighton  
UNIVERSITY

7

## CCICP – 4 Core Competencies



1. Values/ethics for interprofessional practice
2. Roles/responsibilities
3. Interprofessional communication
4. Teams and teamwork

Creighton  
UNIVERSITY

8

## Instrument Development



Modeled after the Creighton Competency Evaluation Instrument (C-CEI)



Valid and reliable instrument linking core competencies to student performance in the clinical and simulation environment



Modeling an instrument around the core competencies of IPE was logical next step

## Methods

- Developers of C-ICE instrument included faculty from nursing, pharmacy and occupational therapy with experience in interprofessional education and practice.
- Four core competencies were utilized as the framework for the IPE instrument
- Twenty-six items were identified as essential to include in the C-ICE instrument.

## Instrument Description

- 26 items identified as essential to include
- Each item assigned to 1 of 4 core competencies
- Dichotomous scale
  - 1 = demonstrates competency
  - 0 = does not demonstrate competency
  - Option for N/A

Final score calculated by adding the items that were scored as competent and dividing that number by the total items applicable to the scenario

11

## C-ICE Instrument

Gives and receives feedback during team interactions. <ul style="list-style-type: none"> <li>• *Recognizes verbally and/or nonverbally when team members provide an appropriate contribution to patient care</li> <li>• *Respectful of other team members (i.e. maintains professionalism)</li> </ul>	0	1	N/A
	0	1	N/A
<b>Teams and Teamwork</b>	0=Does not demonstrate competency 1=Demonstrates competency		
Engages in shared patient-centered problem solving <ul style="list-style-type: none"> <li>• *Reaches consensus on care planning (i.e. integrates and prioritizes ideas and opinions of other team members, may be NA in certain situations i.e. emergency)</li> <li>• Identifies appropriate referral to health care professions outside the team (NA if not necessary)</li> </ul>	0	1	N/A
	0	1	N/A
If arises, addresses conflict among team to develop collective decision for patient (i.e. differences of opinions or priorities) <ul style="list-style-type: none"> <li>• Identifies disagreement within team interactions (NA if no conflict)</li> <li>• Discusses disagreement within team interactions (NA if no conflict)</li> <li>• *Works through difficult situations and/or interprofessional conflicts with respect (i.e. team members diffuse confrontations, NA if no conflict)</li> </ul>	0	1	N/A
	0	1	N/A
	0	1	N/A
Reflects on team performance <ul style="list-style-type: none"> <li>• *Reflects on strengths of team interactions (NA if not instructed to do so)</li> <li>• *Reflects on weaknesses of team interactions (NA if not instructed to do so)</li> <li>• *Identifies how to improve team interactions (NA if not instructed to do so)</li> </ul>	0	1	N/A
	0	1	N/A
	0	1	N/A
Faculty Evaluator:	Total:		
	Total Applicable Items:		
	Earned Score: (Total divided by Total Applicable Items)		
Reviewer Comments for Team			
Team Strengths:			
Team Weaknesses:			
Suggestions for Improvement:			

12

## Required Training

- 1  
Explanation of the purpose of the instrument
- 2  
Scoring procedures
- 3  
Intent of each item
- 4  
Agreement among raters on expected behaviors required to achieve competency on each item

Creighton University  
Department of Psychology

Creighton  
UNIVERSITY

13

## Training Website and Resources for C-ICE



Creighton  
UNIVERSITY

14

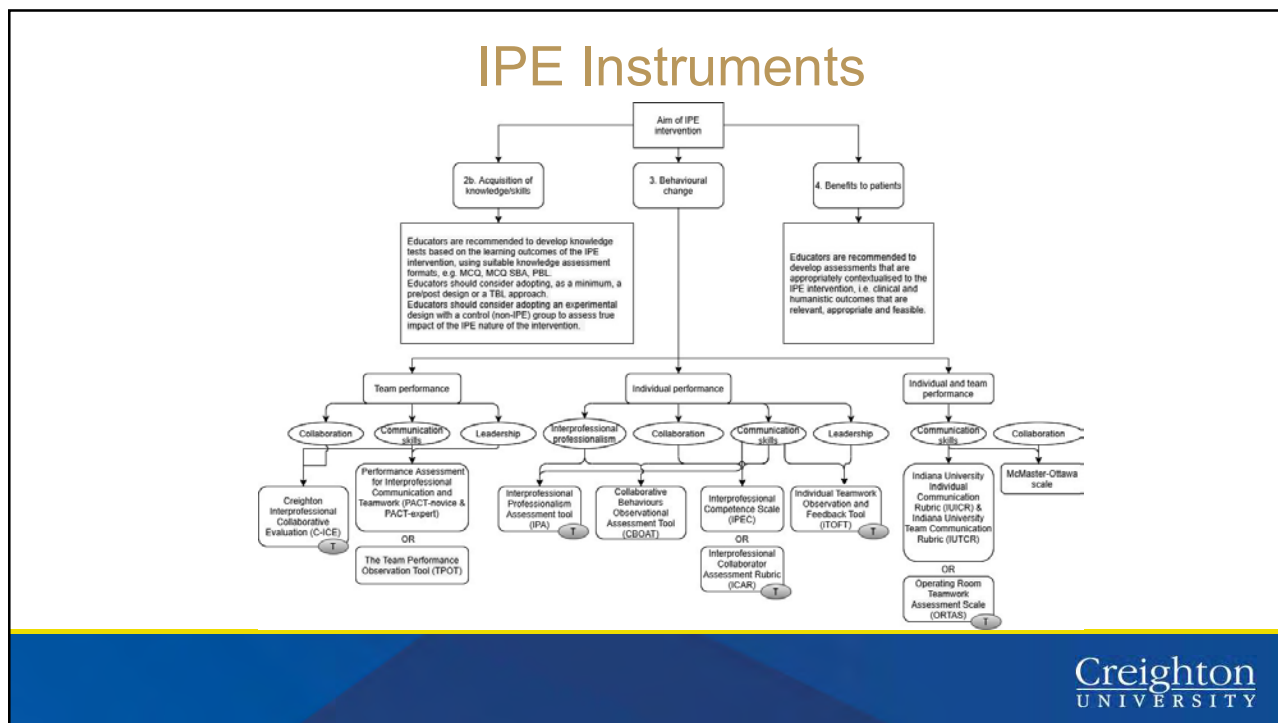
# Results

The C-ICE instrument provides educators a comprehensive, valid and reliable evaluation tool for assessing student team behaviors, skills, and performance.

Ability to measure IPE educational outcomes at a higher level than previously available.

**Creighton UNIVERSITY**

15



16



## Interprofessional Activities

Case study analysis  
Clinical simulation  
TOSCE (Team observed structured clinical exam)  
Practicum  
Clinical practice  
Community engagement (service learning)

Creighton  
UNIVERSITY

17

## Creighton University IPE Examples Using C-ICE

Creighton  
UNIVERSITY

18

## Pharmacy Program

- The pharmacy program has 3 embedded IPE activities for their students:
  - Two activities utilize the C-ICE instrument to evaluate student teams.
  - The C-ICE is used in both the second-year and third-year case studies.



19

## Pharmacy Case Study – Year 2

- In the second year, pharmacy students are paired with PA students or nurse practitioner students and meet virtually.
- Student teams go through a case (e.g. hypertension case, diabetes case, etc.) and work together to come up with a care plan for their patient.

Creighton  
UNIVERSITY

20

## Pharmacy Case Study – Year 3

- Third-year pharmacy students are paired with nurse practitioner students and go through cases with embedded ethical dilemmas.
- Pharmacy students get certain information about the case and nurse practitioner students get different information about the case.
- Students work together to get the full details of the issue.
- There are also standardized patients in the room with the students during this exchange.
- They raise questions and concerns while the team is gathering information and are deciding what to do/recommend to help their patient.



Creighton  
UNIVERSITY

21

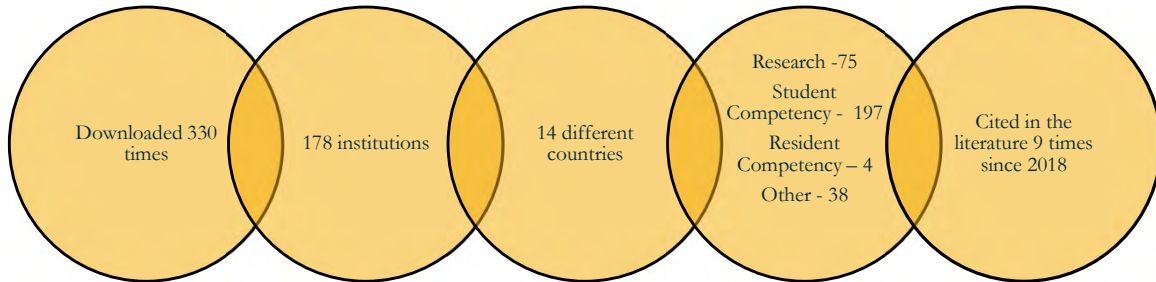
## Palliative Care Simulation Activity

- In an interprofessional course, students from OT, PT, undergraduate nursing, graduate nursing, social work, chaplaincy, and pharmacy participate in a two-phase virtual simulation
- During the simulation, students work together to provide care and management to a patient receiving palliative care that transitions to end of life cares
- Student teams are evaluated using the C-ICE

Creighton  
UNIVERSITY

22

## C-ICE Usage



Creighton  
UNIVERSITY

23

## Benefits for Faculty



### Adaptability

- Can use in both didactic and clinical settings; virtual or in-person
- Evaluators can adapt C-ICE based on activity



### Ease of Use

- Easy scoring: 0 – 1 or N/A; less risk of variability among evaluators
- Easy to follow and complete



### Faculty Time Commitment

- Faculty training videos available
- Faculty can quickly score while continuing to monitor/observe activity

Creighton  
UNIVERSITY

24

## Conclusion

- C-ICE designed to comprehensively evaluate collaborative behavior and performance in practice
- Has demonstrated validity and reliability in a variety of educational settings and activities
- Unique in using IPEC Core Competencies as framework

Try to Avoid That Assessment  
Meltdown!





27

## Acknowledgements

- Joy Doll, OTD, OTR/L
- Kimberly Hawkins, PhD, APRN
- Ann Laughlin, PhD, RN
- Julie Manz, PhD, MS, RN
- Katie Packard, PharmD, MS, BCPS, AACC
- Mary Tracy, PhD, RN
- Jennifer Yee, MA

co-authors

Creighton  
UNIVERSITY

28

## References

- Collaborative. (2016). Core competencies for interprofessional collaborative practice: 2016 update. Washington, DC: Author.
- Iverson, L., Todd, M., Ryan Haddad, A., Packard, K., Begley, K., Doll, J., Hawkins, K., Laughlin, A., Manz, J., & Wichman, C. (2018). The development of an instrument to evaluate interprofessional student team competency. *Journal of Interprofessional Care*, 32(5), 531–538. <https://doi.org/10.1080/13561820.2018.1447552>
- Kirkpatrick, D. L. (1996). Great ideas revisited: Revisiting Kirkpatrick's four-level model. *Training & Development*, 50, 54–59.
- Manz, J. A., Hercinger, M., Todd, M., Hawkins, K., & Parsons, M. (2013). Improving consistency of assessment of student performance during simulated experiences. *Clinical Simulation in Nursing*, 9, e229–e233. doi:10.1016/j.ecns.2012.02.007
- National Center for Interprofessional Practice and Education. (2017). Assessment and evaluation. Retrieved from <https://nexusipe.org/advancing/assessment-evaluation-start>
- Oates, M., & Davidson, M. (2015). A critical appraisal of instruments to measure outcomes of interprofessional education. *Medical Education*, 49, 386–398. doi:10.1111/medu.12681
- Packard, K. A., Chelal, H., Maio, A., Doll, J., Furze, J., Huggett, K., . . . Qi, Y. (2012). Interprofessional team reasoning framework: A tool for case study analysis with health professions students. *Journal of Research in Interprofessional Practice and Education*, 2(3), 1–13. doi:10.22230/jripe.2012v2n3a96

## References

- Schmitz, C., & Brandt, B. F. (2015). The readiness for interprofessional learning scale: To RIPLS or not to RIPLS? That is only part of the question. *Journal of Interprofessional Care*, 29(6), 525–526. doi:10.3109/13561820.2015.1108719
- Todd, M., Manz, J. A., Hawkins, K. S., Parsons, M. E., & Hercinger, M. (2008). The development of a quantitative evaluation tool for simulations in nursing education. *International Journal of Nursing Education Scholarship*, 41(5), 1–17. doi:10.2202/1548-923X.1705
- University of Washington. (2016). Performance Assessment of Communication and Teamwork (PACT) tool set. Retrieved from <http://collaborate.uw.edu/tools-and-curricula/tools-for-evaluation/performance-assessment-of-communication-and-teamwork-pact-t>
- Washington, DC: Interprofessional Education Collaborative. IOM (Institute of Medicine). (2015). Measuring the impact of interprofessional education on collaborative practice and patient outcomes. Washington, DC: The National Academies Press
- WHO (World Health Organization). (2010). Framework for action on interprofessional education & collaborative practice. Geneva: World Health Organization. Retrieved from [http://apps.who.int/iris/bitstream/10665/70185/1/WHO\\_HRH\\_HPN\\_10.3\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/70185/1/WHO_HRH_HPN_10.3_eng.pdf?ua=1)