



# Backward Design of an Objective Structured Clinical Examination Series for Measuring Student Competency

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# Objectives

- Describe principles related to competency-based assessment applied to health professions education.
- Outline strategies for applying principles of backward design to competency-based assessments.

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# What is your level of experience managing competency-based assessment?

Very confident

Somewhat confident

Not confident

Not at all confident

I think I joined the wrong presentation!

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# How familiar are you with entrustable professional activities (EPAs)?

Highly familiar

Somewhat of familiar

I've heard of them... but that's about it.

I'm not sure what you're talking about.

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# What are your thoughts on objective structured clinical examinations (OSCEs)?

I know them well, and I love them!

I get why they are important, but they are the worst.

I'm not a fan, and I don't see the value.

I'm hoping to learn more about them.

I have other thoughts that I'll share in the chat.

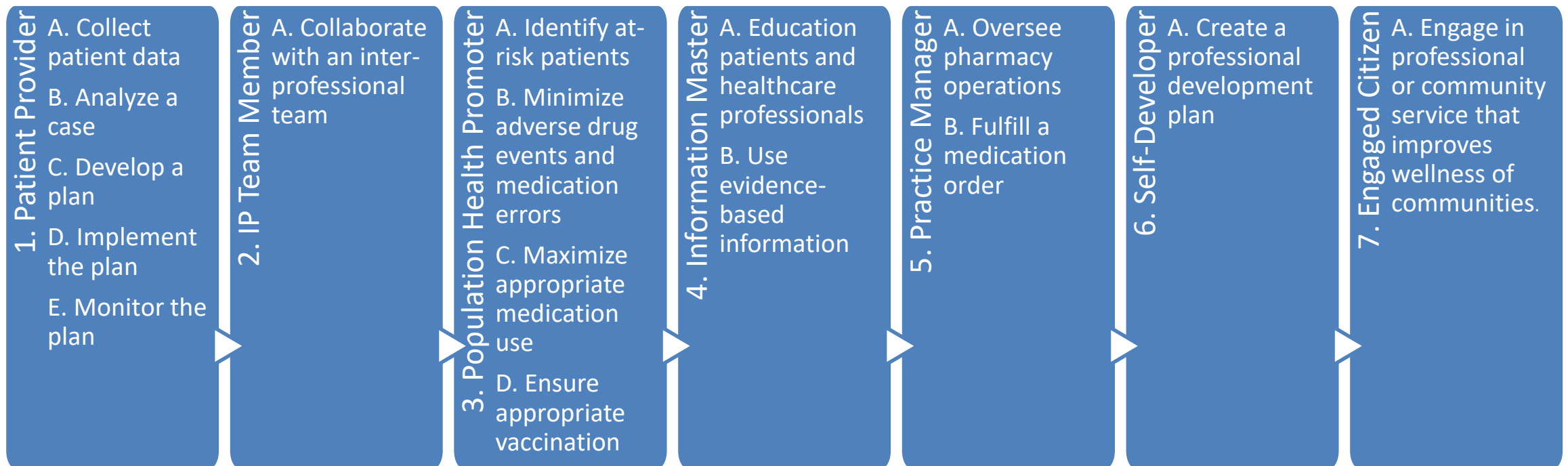


# Competency-Based Assessment

- Knowledge, skills and attitudes needed for mastery of a complete activity
- Advancement requires the ability to master a skill
- Six key assessment elements
  1. Continuously and frequently administered
  2. Criterion rather than norm-referenced
  3. Authentic to work or practice
  4. High quality, core assessment tools
  5. Qualitative
  6. Collaboration among faculty and engagement with students



- Unique tasks or units of work that are essential to the responsibilities of a profession, reflecting professional competencies



EPA: Entrustable Professional Activity

Jarrett JB et al. *Am J Pharm Educ.* 2018;82(5):6256.

Haines ST et al. *Am J Pharm Educ* 2017; 81(1): S2.



# Levels of Entrustment

Level	Description	Setting	Entrustment
I	Thoughtful observation	IPPE	Low
II	Rudimentary tasks, directly supervised	Simulation, IPPE, early APPE	Moderate
III	Necessary tasks, distance supervision	Later APPE, early practice	High
IV	Complex tasks, unique experience	Resident, later practice	Complete
V	Able to impart education	Clinical educator	Complete

APPE: Advanced Pharmacy Practice Experience

IPPE: Introductory Pharmacy Practice Experience

Jarrett JB et al. *Am J Pharm Educ.* 2018;82(5):6256.





# ACPE Standards

- Standard 24.3
  - “The assessment plan measures student achievement at defined levels of the professional competencies that support attainment of the Educational Outcomes in aggregate and at the individual student level. In addition to college/school desired assessments, the plan includes an assessment of student readiness to:
    - Enter advanced pharmacy practice experiences
    - Provide direct patient care in a variety of healthcare settings
    - Contribute as a member of an interprofessional collaborative patient care team”

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**Competency, educational outcome, or EPA? The graduate is able to describe how population-based care influences patient-centered care and the development of practice guidelines and evidence-based best practices.**

Competency

Educational outcome

EPA

Something else entirely

The words "care" and "practice" appear too much in this statement, and this distracts me.



# Need for a Renewed OSCE

- Implementing renewed curriculum
- Legacy OSCE strongly associated with Pharmacy Practice Lab (PPL) series
- Need to formalize approach to APPE-readiness
- National EPAs newly adopted by the program

Leadership strategy:  
Lead with your  
strengths – Maximizer



# APPE-Readiness Assessment Plan

- Defined “APPE-Readiness”
  - Level of Entrustment II: The student is ready for direct, proactive supervision. I trust the learner, with direct supervision and frequent correction to...”
- Established new OSCE series
  - P1 Spring, P3 Fall, P3 Spring
- Identified non-OSCE requirements
  - Required coursework, covering Educational Outcome 1.1
  - Situational judgment test (SJT) covering Educational Outcomes 3.1-3.6 and 4.1-4.4
  - Co-curricular reflections covering EPAs 6A and 7A

Leadership strategy:  
Know your Four  
Frames – Structural



# OSCE Renewal Day

- Determine the level of competence for each EPA at each OSCE
- Decide what skill or activity can be used to suitably measure competence at each OSCE.
- Map each skill/activity to the Educational Outcomes, ACPE topics, and setting.

Leadership strategy:  
Emotional intelligence  
– Social Awareness



# OSCE Map Excerpt

EPA	Skill or Activity	Mapping	
4A. Educate patients and professional colleagues regarding the appropriate use of medications.	Conduct patient counseling on an OTC product.	Level of Entrust.	I
		Setting	Comm.
		Educ. Outcomes	3.2, 3.6
		ACPE Topics	25, 35, 37
4B. Use evidence-based information to advance patient care.	Answer a basic, patient-specific drug information question using standard tertiary references.	Level of Entrust.	I
		Setting	Comm.
		Educ. Outcomes	2.1, 3.6
		ACPE Topics	25, 30



# OSCE 1 Development Team

- Key stakeholder faculty to serve as station champions
  - Group EPA Skills/Activities into stations
  - Develop Take 1 and Take 2
  - Form the rubric
  - Peer review other stations
  - Lead evaluation and grading

Leadership strategy:  
Adaptive versus  
technical challenges



# Example Station

EPA	Skill or Activity
3D. Ensure that patients have been immunized against vaccine-preventable diseases.	Review a patient profile and identify two vaccines that are indicated (including timeframe).
1D. Implement a care plan in collaboration with the patient, caregivers, and other health professionals.	Conduct a situation-background-assessment-recommendation (SBAR) phone call or leave a voicemail to implement the recommendation.



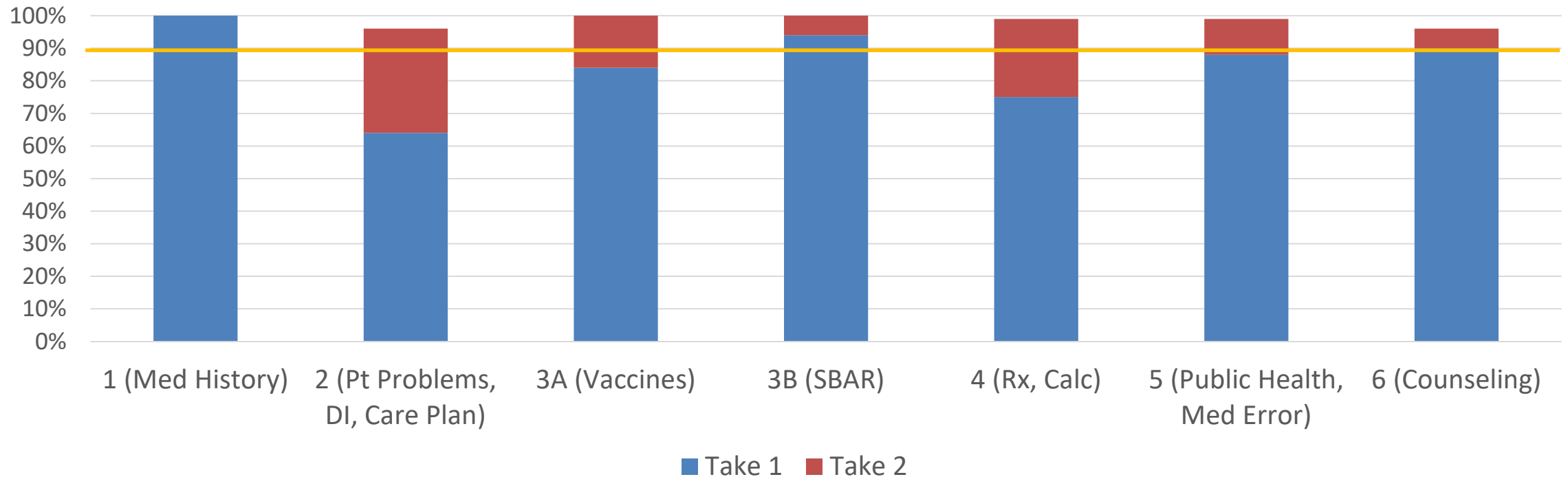


# Example Rubric

The student...	Rating		
<b>EPA 3D</b> 1. Identifies one vaccine that the patient needs to receive today. <ul style="list-style-type: none"><li>Tdap vaccine was due when the patient was 11-12 (LI)</li><li>HPV series has not been started (LI)</li></ul> If the student identifies both vaccines needed, they would earn LII	LII	LI	L0
2. Correctly provides rationale as to why the two vaccinations above are indicated. <ul style="list-style-type: none"><li>Patient does not have recorded dose of Tdap that was due between 11-12. Notes in ACIP Immunization Schedule state: 1 dose Tdap, then Td or Tdap booster every 10 years (LI)</li><li>Patient does not have recorded HPV series that was due. Notes in ACIP Immunization Schedule state: 3 dose series at 0, 1-2 months, and 6 months (LI)</li></ul> If the student correctly provides a rationale for both vaccines needed, they would earn an LII	LII	LI	L0
3. Correctly identifies that the influenza vaccine is not indicated for this patient at this time (L1) <ul style="list-style-type: none"><li>States the patient is due for the influenza vaccine (L0)</li></ul>	LII	LI	L0
4. Based on this performance, do you trust the student to ensure that patients have been immunized against vaccine-preventable diseases? <ul style="list-style-type: none"><li>LII: Ready for APPEs, direct supervision</li><li>LI: Ready for IPPEs, thoughtful observation</li></ul>	LII	LI	L0



# OSCE 1 Results



- All required students successfully remediated failing stations (Station 2, n=3; Station 4, n=1; Station 5, n=1; Station 6, n=3)



# Next Steps

- OSCE Debrief
  - Station 2 (Problem Prioritization, DI, Care Plan): 42 (65%)
    - Identifying problems: look at wording (just active “problems”), work with faculty in to align nomenclature
    - Take 2: DIQ a bit harder than the first one, review rubric for 1C, consider making first DIQ a bit tougher and retake a bit simpler
    - **Next steps:** RB to revise station as described. Target date: Summer 2021; Committee (assessment or curriculum) to be charged to investigate PPCP in the P1 year. Target date: 2021-2022 AY
- Validity/reliability study
- OSCE 2 and 3

Leadership strategy:  
Modeling continuous  
quality improvement



# Lessons Learned

## Wins

Culture shift to shared ownership

Defensible structure

Accreditation?

## Challenges

Team organization

Different paces

Post hoc validity/reliability

Data management



## Discussion Questions

- What other approaches have you taken in competency-based assessment?
- How have you used backward design when developing milestone assessments?



# Closing

- As we close, record one or two things you plan to take back to your home institution based on the presentation.
- It might even be “jeez let’s not try *that!*”
- What other questions can I answer?