



# Objective Structured Clinical Exams: Is Virtual Comparable to In-Person Performance in Pre- Experiential, Third-Year Pharmacy Students

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Monday, 10/10/11 at  
7-7:20am in Santa Fe

# What are we doing today?

One objective: Describe the impact of moving an objective structured clinical exam to virtual environment in a Doctor of Pharmacy program.

Today's brief outline:

- Compare processes of regular OSCE vs virtual OSCE trial
- Share student performance impact
- Discuss successes and challenges

Objective  
Structured  
Clinical  
Exam  
(OSCE)

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Skills-based assessment

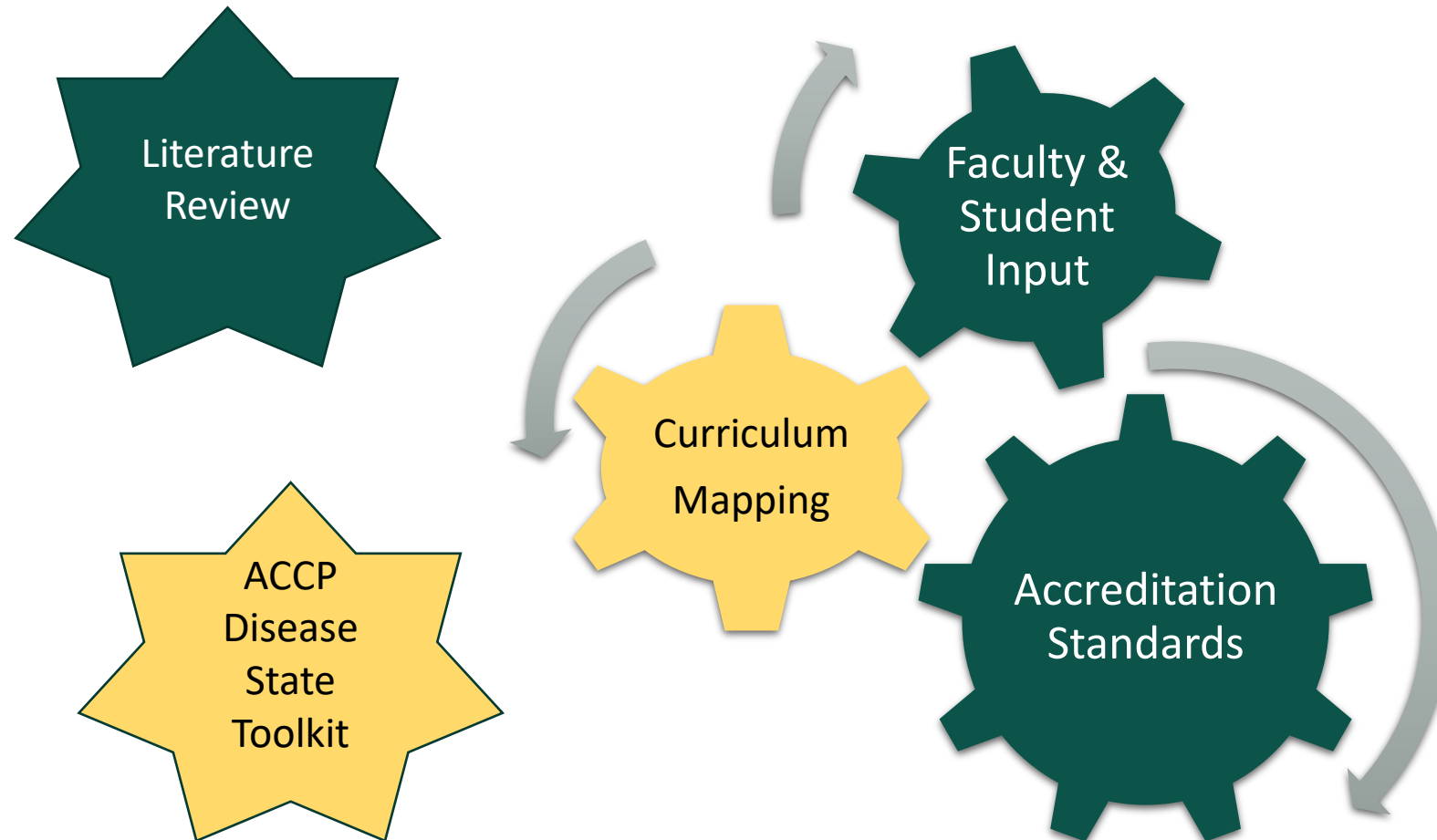
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P3 clinical capstone course – 30%  
of final grade

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Assess readiness for 4th year  
advanced pharmacy practice  
experiences (APPE)

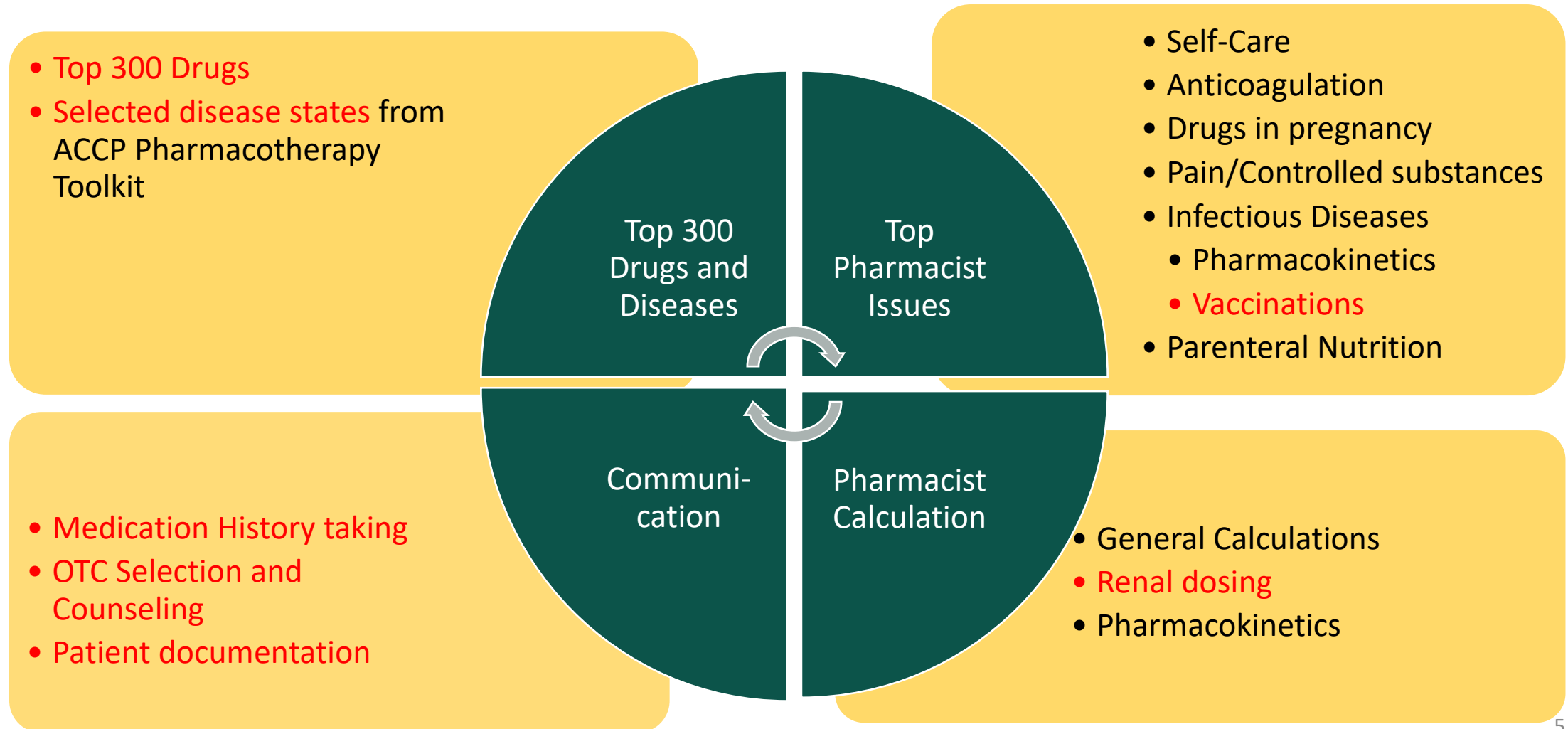
# Where the Third Year Pharmacy OSCEs Lives: Clinical Capstone Course: PPR 6295



## **Course Description:**

This course will build upon pharmacotherapeutic knowledge and skills obtained throughout the Pharm.D. curriculum and integrate practice-based knowledge and skills to help students be more successful in their professional practice. Students will evaluate patient cases and practice-related problems and be assessed on their preparedness for advanced pharmacy practice experiences.

# Focus of Third Year Pharmacy Capstone Course – OSCEs touch ALL the areas of it





# 2019 OSCE Face-to-face Stations

- 1) Medication History\*\*
- 2) Over the counter (OTC) counseling\*\*
- 3) Renal dosing for a hospitalized patient
- 4) Prescription verification utilizing Canvas

\*\*Live standardized patient (SP) interactions

# Examples / Standardized Patient Stations

- #1 Medication History

- Communication Checklist -45%
- Technical Checklist (elements of correct medication history)-45%
- Global Patient Assessment “I would seek help from this pharmacist in future”-10%



- #2 OTC Counseling

- Scholar-Mac Checklist-45%
- Drug selection and counseling checklist-45%
- Global Patient Assessment “I would seek help from this pharmacist in future”-10%





# 2021 Virtual OSCE (vOSCE)

- Addition of two stations:
  - 1) drug-related problem identification
  - 2) vaccine needs assessment
- Microsoft teams for SP stations
- Canvas and ExamSoft for written stations
- Increase in time allotment by 5 minutes



# OSCEs vs. vOSCEs: Student Processes

## Commonalities of Years

- Competency statements for 4 stations
- Standardized patient (SP) and faculty observer pools
- Pilots conducted for new cases
- Offered formative and summative experiences

## 2019 OSCEs

- Conducted over 2 days
- 4 stations
- In-person at Kado
  - Exam rooms; Learning Space
  - Canvas
- Static time: 20 min. each stations

## 2021 vOSCEs

- Conducted over 4 days
- 6 stations
- Virtual platforms
  - Teams for SP and observers; Qualtrics
  - ExamSoft; Canvas
- Additional time added to stations virtual

# Comparison of OSCE vs vOSCE Performance

Station (points in station)	2019 Formative OSCE (n=93)	2019 Summative OSCE (n=93)	2021 Formative vOSCE (n=96)	2021 Summative vOSCE (n=96)	P value between summative OSCE vs vOSCE
	Median (Interquartile Range)				
#1 Medication History (100)	88.2 (81.5-94.6)	98.1 (95.2-100) <sup>a</sup>	96.9 (91.9-99.0) <sup>b</sup>	96.0 (93.0-98.5) <sup>b</sup>	0.002
#2 Over-the-counter Medication Counseling (100)	71.4 (61.9-78.6)	84.5 (76.5-90.0) <sup>a</sup>	75.5 (64.6-79.9) <sup>b</sup>	85.0 (78.5-90.5) <sup>a, b</sup>	0.303
#3 Renal Dosing in Hospitalized Patient (19)	15.0 (13.7-16.3) <sup>c</sup>	18.0 (17.1-19.0) <sup>a, c</sup>	15.0 (14.1-16.0)	18.8 (17.5-19.0) <sup>a</sup>	0.230
#4 Prescription Verification (6)	5.0 (4.0-5.5)	5.7 (5.2-6.0) <sup>a</sup>	5.5 (5.5-5.5) <sup>b</sup>	5.7 (5.3-6.0) <sup>b</sup>	0.116
#5 Drug-related Problem Identification and Solution (12)	Not offered in 2019	Not offered in 2019	9.5 (8.0-10.5)	11.5 (11.0-12.0) <sup>a</sup>	Not applicable
#6 Vaccine Needs Assessment (24)	Not offered in 2019	Not offered in 2019	18.0 (18.0-21.0) <sup>b</sup>	21.0 (21.0-24.0) <sup>a, b</sup>	Not applicable

<sup>a</sup>p<0.001 using Wilcoxon Signed-Rank test within same OSCE type/year

<sup>b</sup>95 examinees' data included in analysis; one excluded due to absence of student on test day resulting in make-up exam.

<sup>c</sup>91 examinees data included; two excluded due to computer difficulties resulting in paper exam.

# Comparison of OSCE vs vOSCE: 2nd Attempt



Station Type	Students requiring second attempt	
	2019 OSCE	2021 vOSCE
#1 Medication History	-	1
#2 OTC Counseling	3	6
#3 Renal Dosing in Hospitalized Patient	7	4
#4 Community Medication Order	-	2
#5 DRP Identification and Solution	Not applicable	-
#6 Vaccine Needs Assessment	Not applicable	7

# Successes and Challenges of vOSCE Attempt

## Successes

- Maintained course integrity
- Executed plan with good skill center support
- No negative impact on student performance
- Potentially less communication amongst students

## Challenges

- Higher financial burden for virtual due to increased scheduling and SP cost increase
- Unexpected home events
- Loss of nonverbal communication during stations and real-time feedback from students



# Acknowledgements

## Course contributors:

- Students
- Course faculty
  - Faculty: Drs. Stewart, Fava, Berti, Mohammed, Smythe, Martirosov, Kale
  - Teaching residents and P4 APPE students
- Assessment Grant from Provost Office
- Sheila Wilhelm, PCL
- APPE students from Class of 2019, Class of 2020 and Class of 2021
- Staff and SPs at Kado Clinical Skills Center
- The Late Dean Slaughter
- Summative Evaluation Committee of years past
- Curriculum Committee

## NEW as of August 2022:

Gortney JS, Fava JP, Berti AD, Stewart B. Comparison of student pharmacists' performance on in-person vs. virtual OSCEs in a pre-APPE capstone course. *Currents in Pharmacy Teaching and Learning* 2022; in press.

<https://doi.org/10.1016/j.cptl.2022.07.026>