Using two types of low-cost online simulation to teach and assess professional competencies

Phyllis Raynor
Vera Polyakova-Norwood
College of Nursing
University of South Carolina

Phyllis Raynor
PMHNP students are …

• Graduate students in an online program
• Registered nurses specializing in psychiatry
• Adult learners with family and work obligations
• Employed full time or part time
• Geographically dispersed in multiple states
• Limited experience with technology
Instructional challenge

In an online course:

• How can we give distance students experience conducting a patient visit through telehealth?

• How can we adequately prepare students for a telehealth encounter with a psych patient?
  ▪ Diagnostic interviewing skills
  ▪ Communication skills
  ▪ Technological skills

• How can we use technology already available at CON to avoid increasing cost to students or the academic department?

• What professional competencies do we need to assess and how?

Clinical simulation at CON

• Clinical Simulation Lab
• Center for Connected Health
What happens during a psych patient visit?

• Provider interviews the patient about their mental health condition
• Each step in the interview process requires analysis, synthesis, and decision-making.
• The list of potential diagnoses changes as more information becomes available.
• Communication skills are extremely important as provider must establish rapport, show compassion, build trust.
• Provider must secure patient’s collaboration in implementing treatment (therapeutic alliance).

Two-step approach to telehealth patient visit

• Step 1: online text-based exercises to practice critical thinking and reasoning processes for a psychiatric diagnostic interview

• Step 2: a psychiatric diagnostic interview with a standardized patient (real person) conducted through telehealth technology
Selected technologies

• Step 1: Testing tool in the course management system (Blackboard)

• Step 2: Double robot in the Clinical Simulation Lab

Creating Online Patient Visits with Blackboard’s testing tool

• Based on complex authentic scenarios
• Students assume the role of mental health providers
• Each question represents a step in the patient-provider encounter
• New information about the patient is placed into the stem of the question
• Questions require analysis and synthesis of available information, and decision-making, and communication skills
• Level of difficulty increases with each simulation exercise.
Settings for Online Patient Visits

- Exercises contain 5 – 7 questions
- Exercises have a **time limit**.
- Questions are written in different formats as appropriate: multiple choice, short answer, essay etc.
- Questions are presented **one at a time**.
- Backtracking is not allowed.
- Students are asked to **describe their thinking processes**.
- The instructor provides timely feedback and offers opportunities for discussion.

Online Patient Visits look like this

**Online Patient Visit 1: Patient Information**

Jack is a 7 year old male who has been referred by his pediatrician to your clinic secondary to disruptive behavior at school, hyperactivity and poor impulse control.

**Online Patient Visit #1 2018**

This visit includes 5 essay questions that will appear one at a time. Time limit is 60 minutes. You will have 1 attempt.

We suggest that you open a word document and paste each question into the blank document. Then formulate your responses in Word / paste it into the text box on blackboard when you are ready to submit your answer for that question. Repeat this step for each question.

Due by 11:59 p.m. on Sunday.
Question 1:
You enter the room, introduce yourself, discuss limits of confidentiality and begin your HPI. Jack is accompanied to his appointment by his mother Kate. He is playing a video game on his mother's phone.

You (to Kate): It sounds like Jack has had some difficulties with his behavior. Can you share a bit about Jake and some of the behavioral struggles he is having at school and at home?

Kate: Jack has always been an active child. He loves to run and play and is always on the go. I have trouble settling Jack down, he never wants to go to bed, and cannot sleep through the night. In the morning he is awake early but struggles to get ready for school. … He has gotten into fights on the playground, and is not well liked by his peers.

Based on the patient's presenting chief complaint and history given so far provide a list of possible differential diagnoses and your rationale for including these diagnoses in this list. Be specific!

Question 2
What additional questions would like to ask Kate to assist you in clarifying Jake's presentation? Why? Be specific and thorough!

Question 3
Based on your questions about recent changes in the environment, current stressors and when you noticed a significant change in his behaviors,

Kate reports: He has always been a difficult child. Cried a lot as a baby and was difficult to soothe. During his preschool years he was always on the go, switching from one activity to the next. He has always been a dare devil. … The teacher told me he cannot come back to class unless he is put on medication. I don’t know what to do.

You: It sure sounds like he has been a handful. Before we talk about treatment options, I want to make sure I have a good history.

What additional questions would assist you in clarifying the differential diagnoses for this patient?
## How effective were Online Patient Visits?

How much did Online Patient Visits help you understand the thinking process for a diagnostic interview? (n=23)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greatly</td>
<td>78.26%</td>
</tr>
<tr>
<td>To some extent</td>
<td>17.39%</td>
</tr>
<tr>
<td>Just a little</td>
<td>4.34%</td>
</tr>
<tr>
<td>Not at all</td>
<td>0%</td>
</tr>
</tbody>
</table>

After completing 4 Online Patient Visits, do you feel more prepared to conduct a diagnostic interview with a live Standardized Patient?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>73.91%</td>
</tr>
<tr>
<td>Somewhat</td>
<td>21.73%</td>
</tr>
<tr>
<td>No</td>
<td>4.34%</td>
</tr>
</tbody>
</table>

Evaluation of the Online Patient Visit Simulations survey, Fall 2018

## What was beneficial for learning?

- “real like situations and examples of diagnoses has been extremely helpful”
- “the way the scenario questions built upon each other”
- “This helped me to proceed in an organized manner and in a timely manner.”
- “questions that include the patients symptoms and what questions we would ask”
- “puts the whole clinical picture together. It helps me critically think.”
- “helped me practice interview skills and my decision making skills”
- “required me to think like a practitioner who decides on a particular plan of action”
- “feedback from the instructors”
Preparing for an encounter with a Standardized Patient (Telehealth)

**Required** technology check
- 2 weeks in advance
- Students login to the system and interact with a simulation technician
- Checking Internet connection, audio and video

Telehealth encounter with a Standardized Patient

30-minute sessions scheduled over 3 days
Students signed up for convenient time slots
Brief patient info posted a few days in advance
Students were expected to:
- Engage the patient
- Conduct a psychiatric diagnostic interview
- Discuss treatment plan with the patient
- Secure the patient’s collaboration in implementing the treatment plan
- Bring the visit to a closure

Sessions were recorded (video & audio) for review
Telehealth encounter with a Standardized Patient: How it worked

Post SP encounter activities to assess professional competencies

• **Immediate self assessment** of competency by student (survey)

• **Post reflection self assessment** of competency by student (survey)

• Evaluation of student competency by **SP** (survey)

• Evaluation of student competency by **clinical faculty** after reviewing the video (survey; one-on-one online conference)

• Debriefing of SP encounter with **peers** in small clinical groups (small group online conferences)

• Written case formulation
Students received feedback from ...

- Self
- Clinical Instructor
- Standardized Patient
- Peers/Other students

Examples of feedback: Student A

**Immediate Self Assessment**

**Feedback from SP**

I felt like the student was preoccupied or overly concerned with checking their paper off camera. *Eye contact & facial expressions did not 100% match tone of voice.* ... Toward the end I *felt slightly defensive* as Deborah due to the way some things were worded. However, these aside I felt that *she wanted my best care, was truly curious about my well being and eager to make sure all my needs were met.*
### Examples of Feedback: Student A, cont.

#### Feedback from Clinical Instructor

**Self Evaluation after Video Review & Reflection**

It was beneficial to watch the recording, because the view of the patient and her mannerisms differed from what I saw during the initial interview. During the initial interview the screen appeared frozen and she did not make any movements the entire time. There was a bit of a delay between what I said and when she answered and **I'm still not sure if that was a true time lapse due to the depression or a result of technology.**

Collaboration could be improved on my part. **I felt very awkward during the encounter** in part because I did not know what she was seeing on her end and also because **I was unable to read any nonverbal cues.**

---

23

### It took a team!

- **Course Instructors**
- **Standardized Patients**
- **Clinical Instructors**
- **Simulation Technician**
- **Director of Clinical Simulation Lab**
- **Instructional Designer**
Our next steps

• Analyze the data from SP telehealth encounter
• Prepare a manuscript for publication
• Implement this methodology in another course to build specialized competencies for working with vulnerable groups (e.g. patients with opioid addictions)
• Apply for grant funding to improve the competency assessment methods for treating patients and families with alcohol and opioid addictions
• Share with colleagues at local, state and national conferences

How could you use this methodology?
References


Questions? Comments?

Phyllis Raynor, PhD, PMHNP-BC, CARN-AP, APRN
Interim Director, PMHNP Program
Clinical Assistant Professor
College of Nursing, USC
raynorp@mailbox.sc.edu
803-777-9083

Vera Polyakova-Norwood, MEd
Director of Distributed Learning
College of Nursing, USC
vnorwood@mailbox.sc.edu
803-777-2476

South Carolina Conference on Innovation in Teaching and Learning
July 12, 2019