Creating a Capstone OSCE Program
University of Minnesota • School of Nursing

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Grant Objectives
• 3 primary grant objectives that addressed quality improvement in 3 APRN specialties
• Objective 1: Enhance the quality of FNP, ANP/WHNP, A-GNP and NM specialty education by developing, implementing and evaluating the Capstone Objective Structured Clinical Exam (OSCE) by June, 2014

Stages of Development
• Year 1: Planning and development of blueprint for capstone OSCE for four APRN specialties
• Year 2: Beta-testing-implementation, evaluation and revisions
• Year 3: Second Beta-testing, evaluate, revisions, remediation plan and establish passing criteria.
• Year 4: Implementation of Capstone OSCE for 4 APRN specialties. Further revision as needed

The Capstone OSCE Team
• Faculty from 4 specialty APRN areas
• IERC Director and Staff
• Medical School faculty member
• College of Pharmacy faculty member
• Project Director and Project Coordinator
Why a Capstone OSCE?

- Provide a standardized approach to assessing clinical competence and safety of DNP graduates in four specialty areas
  - FNP
  - A-GNP
  - WHNP
  - NM

History

Historically, APN clinical competence has been assessed through:
- Clinical site visits (include faculty evaluation)
- Preceptor evaluations
- An OSCE during each clinical semester to identify learner needs (strengths and deficits) and develop teaching/learning strategies (FNP, WHNP, NM)

Other Considerations

- Other healthcare disciplines require a clinical exam component of their licensure exams
  - Medicine — US Medical Licensing Exam includes a clinical component with standardized patients that is usually completed in the 4th yr. of medical school. Started in 2004
  - Dentistry — clinical exam is a required component of the National Board of Dentistry examination in most states. Ongoing since 1970s??

Steps

- Examine DNP/Specialty competencies—multiple sources
- Connect competencies to cases.
- Develop blueprint for cases that demonstrate readiness to practice as a competent and safe APRN
  - Cases specific to specialty
  - Cases shared by specialties
  - Inclusion of components specified in grant
  - Identify existing cases that can be modified
  - Identify new cases to be developed

Core Competencies

All cases based on current professional competency guidelines
- Specialty Competency Documents
  - Nurse Midwifery — "Core Competencies for Basic Midwifery Practice", 2012, ACNM
  - A-GNP — "Adult-Gerontology Primary Care Nurse Practitioner Competencies", 2010, Hartford Institute for Geriatric Nursing at NYU and NONPF

Core Competencies

- The Essentials of Doctoral Education for Advanced Nursing Education, AACN, 2006
- Core Competencies for Interprofessional Collaborative Practice, Expert panel from AACN, dental, pharmacy, osteopathic, medical and public health professional organizations, 2011
- Cultural Competencies for Graduate Nursing Education, AACN, 2009
Elements to include in Cases

• Each specialty will have a minimum of one case that includes:
  o A diversity/inclusivity component
  o A requirement for IP collaboration
  o An integrative health/complementary therapies component
  o Use of a mannequin/task trainer

*may be included in shared or unique specialty cases; multiple components may be incorporated into a single case.

Convene Community Advisory Group

• Role: to advise on diversity/inclusivity components of cases
  o Cultural/ethnic issues
  o Gender/Sexual identity/preferences

Standardized Patient Recruitment

• Existing pool of Standardized Patients (SPs)
• Community Advisory Group recommendations and referrals.
• Faculty and staff community connections.

Developing the Capstone OSCE Case

• Specialty faculty identification of common conditions
• Mapping to competencies
• Creation of case
• Creation of chart
• Creation of checklist
• Creation of Standard Patient (SP) instructions

Capstone OSCE Cases

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Cases</th>
</tr>
</thead>
</table>
Case Components

- Learning objectives
- Patient demographics
- Subjective data
- Objective data
  - Physical exam
  - Diagnostics
- Differentials and Assessment
- Management plan
- Counseling and education
- Communication

Case Example

Instructions to students:

- Complete the patient contact form.
- Complete the demographic information.
- Complete the history and physical examination.
- Complete the laboratory data.
- Complete the diagnostic data.
- Complete the differential diagnosis.
- Complete the management plan.
- Complete the counseling and education.
- Complete the communication.

Case Example

INSTRUCTIONS IMPACT

1. Review the patient contact form.
2. Review the demographic information.
3. Review the history and physical examination.
4. Review the laboratory data.
5. Review the diagnostic data.
6. Review the differential diagnosis.
7. Review the management plan.
8. Review the counseling and education.
9. Review the communication.

Case Example

PERFORMANCE CHECKLIST

- Patient contact
- History and physical examination
- Laboratory data
- Diagnostic data
- Differential diagnosis
- Management plan
- Counseling and education
- Communication

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Case Example

PERFORMANCE CHECKLIST

- Patient contact
- History and physical examination
- Laboratory data
- Diagnostic data
- Differential diagnosis
- Management plan
- Counseling and education
- Communication
Composite of Instructional Materials

- Case
- Learner Expectations
- Instructions to SP
- Instruction to Learner
- Patient Chart
- Findings Cards
- Performance Checklist
- Post-Encounter Learner Activity
- Student Reflection

Beta-Testing

OSCE Cases by Specialty

<table>
<thead>
<tr>
<th>Case</th>
<th>FNP</th>
<th>AGNP</th>
<th>MWNP</th>
<th>Midwifery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epigastric Pain</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Insomnia &amp; Tobacco</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knee Pain</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheezing</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Menopause</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Bladder Control</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falls</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal Itching</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Prenatal</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postpartum</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birth</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Master Schedule

- OSCE case rotation plan created that included students from all specialty groups
- Maximized the use of the standardized patients
- Allows for breaks including a lunch break

Student Orientation

- Standardized orientation using narrated slide presentation
- Available on-line to students 2-weeks prior to testing
- Repeated in a 30 minute orientation session the day of OSCE testing

Online OSCE Orientation

- Purpose of the Capstone OSCE
- What is being assessed and types of skills asked to demonstrate
- Schedule and facility logistics
- Instructions for physical exams with standardized patients/mannequin and use of findings cards
- Tips on conducting patient encounter in simulated experience
- Other expectations
Test Day

- Students provided with:
  - Clipboard and paper
  - Log-in information to the B-line system
  - Station assignments
- Expected to bring:
  - Stethoscope and pen
- Restricted from using:
  - PDA, phone, or other reference materials

OSCE Station Set-Up

- Outside the Exam Room
  - Computer station
  - Patient chart
- Exam Room
  - Desk and 2 chairs
  - Exam table
  - Sink
  - Computer with large digital timer

Test Schedule

- Testing conducted over 2 days
  - 3 cases each day
- Each case
  - 20 mins (chart review/patient encounter)
  - 6 mins post-encounter activity (recorded on computer outside exam room)

OSCE Testing Procedure

- Test begins when each student has logged in
- Overhead announcements direct students to begin, end the encounter, and move to the next OSCE station
- Overhead announcements indicate when 2 minutes remain in the post-encounter activity
- Hallway support staff provide students with technical assistance

B-Line Digital Asset Management System

- Secure web-based system that captures audio-visual and digital data assets
- Exam management system processes and reports scoring data
- Standardized patients score performance
- Faculty have access to review individual performance and group reports

B-Line Digital Asset Management System

- Creates standardized reports for each student
- Individual reports show performance by station and across performance domains
- Allows for aggregate reports within and across specialty groups
2013 Pilot Performance Results
• Scores tended to be distributed normally across all students
• Overall, student performance was below faculty expectations
• Overall, individual results were consistent with other student performance indicators (e.g. tests, preceptor evaluations)

2013 Student Evaluations

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (1-4, Strongly Disagree - Strongly Agree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pre-briefing helped me understand the purpose of the OSCE.</td>
<td>3.26</td>
</tr>
<tr>
<td>The pre-briefing helped me understand what I was expected to do.</td>
<td>3.21</td>
</tr>
<tr>
<td>Overall, the simulated patients were believable.</td>
<td>3.37</td>
</tr>
<tr>
<td>Overall, the cases were realistic.</td>
<td>3.31</td>
</tr>
<tr>
<td>In general, the length of each scenario was appropriate for the case.</td>
<td>3.13</td>
</tr>
<tr>
<td>In general, the clinical complexity of the scenarios was appropriate for new practitioners.</td>
<td>3.15</td>
</tr>
</tbody>
</table>

2013 Student Evaluations

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (1-4, Strongly Disagree - Strongly Agree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>This experience helped me understand the purpose of the OSCE.</td>
<td>3.00</td>
</tr>
<tr>
<td>This experience helped me understand what I was expected to do.</td>
<td>2.97</td>
</tr>
<tr>
<td>Overall, the simulated patients were believable.</td>
<td>2.53</td>
</tr>
<tr>
<td>Overall, this was a valuable experience.</td>
<td>2.82</td>
</tr>
<tr>
<td>This kind of simulation should be used in the future with this program.</td>
<td>2.87</td>
</tr>
</tbody>
</table>

2013 Faculty Evaluations

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (1-4, Strongly Disagree - Strongly Agree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, the OSCE was well organized.</td>
<td>3.83</td>
</tr>
<tr>
<td>The evaluation tool was useful for assessing student performance.</td>
<td>3.00</td>
</tr>
<tr>
<td>Overall, the students’ performance met or exceeded my expectations.</td>
<td>2.00</td>
</tr>
<tr>
<td>The case(s) I observed was/were at the appropriate level for new practitioners.</td>
<td>3.33</td>
</tr>
</tbody>
</table>

2013 Faculty Evaluations

<table>
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<tr>
<th>Item</th>
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<tbody>
<tr>
<td>The OSCE gave me ideas for how we can improve the case content in the future.</td>
<td>3.83</td>
</tr>
<tr>
<td>The OSCE gave me ideas for how we can improve the curriculum in the future.</td>
<td>4.00</td>
</tr>
<tr>
<td>The OSCE gave me ideas for how we can better prepare students for performance-based assessment.</td>
<td>3.33</td>
</tr>
<tr>
<td>Overall, this activity was worthwhile.</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Changes Implemented in 2014
• Students in all specialties were given additional simulation experiences to familiarize them with the methodology and the equipment (e.g., SimJunior)
• Particular aspects of the curriculum (e.g. specific assessment protocols) were emphasized to promote adherence in the OSCE
Changes Implemented in 2014

- IERC simulation professionals worked with lead faculty in each specialty to perform item analysis on each checklist as part of revision process
- Communication scale revised to a 0-2 scale
- Faculty established process for setting passing criteria, passing categories (i.e., no pass, pass with reservations, pass), and remediation

Lessons Learned

Learning gaps
- Individual learners
- Curriculum
  - Core
  - Specialty

Implementation
- SP training
- Working with simulation equipment
- Use of accessory materials
- Scheduling

Development and revision
- Core Curriculum
- Specialty curriculum
- Capstone OSCEs