Assessment of IPE Initiative: Structure, Process, Outcome

Part 1

Moderated by:
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   Duquesne University Mylan School of Pharmacy

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   Manchester University

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   Howard University College of Pharmacy

5. Will Ofstad, Pharm.D., BCPS, CDE
   Assistant Professor of Clinical Sciences
   California Northstate University
Objectives

• Describe key structure of IPE programs

• Examine innovative didactic, experiential, and co-curricular IPE models

• Review current IPE assessment tools

• Explain critical steps in assessing IPE outcomes

• Share “lessons learned” in developing, implementing, and assessing IPE
Discussion Questions

1. What are some of the advantages/disadvantages to implementing IPE at your institution?
2. What type of IPE learning activities have you implemented? (I.e., didactic, experiential, co-curricular, lab, research, portfolio etc...)
3. What are the IPE Competencies that you're planning on assessing?
4. How are you assessing students' learning outcomes?
5. What are the most challenging logistics issues that you're currently facing?
6. Any specific strategies to overcome these logistics challenges?
7. What type of professional development programs have you implemented?
8. Are there any helpful tips on increasing 'buy-in' among the IPE teams?
9. Is your IPE program implemented longitudinally?
10. If yes, do you start with the first year students?
11. Have partnered with other professional programs at your institution or external programs?
12. What additional IPE topics you'd like the Cur & Assessment SIG to present on for future webinars?
Presenters  

**Amy H Schwartz, PharmD, BCPS**  
Associate Dean for Academic Affairs  

**Erini Serag-Bolos, PharmD**  
Assistant Professor  

University of South Florida  
College of Pharmacy
USF COP IPE Programming

• USF Health: COM (includes DPT and AT), CON, and COPH
• Working Group (WG) to develop IPE initiated January 2011
• Initial WG membership included administrators from across USF Health programs, including the Continuing Education Program
Working Group – Initial Planning

- Reviewed IPEC draft document
- Identified key areas for each Health discipline across the four IPEC domains
- Discussed initial, target student learner level and course inclusion opportunities
- Participated in TeamSTEPPS training program
  - Added faculty representatives
  - Foster team building and collegiality
IPE Programming

• Module Development
• Curricular Adoption
• Six Modules
  – PY1-PY4
  – Didactic plus simulation
• Additional IPE Programming
Modules

• One – Introduction to IPE
• Two – Roles and Responsibilities
• Three – Communication and Team Development
• Four – Ethics and Values (Compassionate Care)
• Five – Teams and Teamwork (Institutional Care)
• Six – Paper to Practice
IPE Assessment Strategies

• RIPLS

• Defining Success
Lessons Learned

• Support - Buy-in
  – Administration
  – Faculty

• Support - Fiscal
  – Educational resources and training
  – Staff assistance

• Faculty development
Presenter II

Christine K O'Neil, PharmD, BCPS, CPG, FCCP
Professor
Duquesne University Mylan School of Pharmacy
Presenter II

Christine K O'Neil, PharmD, BCPS, CPG, FCCP
Professor
Duquesne University Mylan
School of Pharmacy
Objectives

- Review overall implementation plan and structure of IPE at a private university that is not part of an academic health center.
- Share lessons learned regarding IPE development within didactic and experiential education.
Plan for IPE Implementation

• Ideally, IPE experiences should be present in didactic, experiential, and co-curricular formats.

• Present in each year of the professional curriculum to facilitate development of pharmacist as collaborators.

• Incorporation of early IPE exposure in pre-professional programs is also an opportunity.
Key Elements of IPE Courses & Experiences

• Planning and teaching by an interprofessional mix of faculty

• Link to a minimum of one learning objective (IPEC Competencies)
  Content relating to interprofessional competence is included and
  preferably threaded, throughout the course

• At least one assignment that necessitates interprofessional group work
  Experiential courses may be designated as interprofessional.

• Student participants in the course/experience represent at least two
  health professions.
  – Match students with equivalent levels of education for IPE experiences
  – IPE experience should be reflective of real practice connections between disciplines
  – IPE learning experiences should be optimized to achieve IPE outcomes for each of the
    programs involved and do not necessarily need to involve every health profession

• Includes an assessment of growth in interprofessional competence.
Implementing IPE at Duquesne University

• Challenges:
  – Not part of a large academic health center
  – Weekend and weekday pathway in Doctor of Pharmacy program
  – Structure of professional programs & curricula
  – Not all programs have standards that mandate IPE
  – Resources
  – Large class sizes

• Advantages:
  – Formal IPE Committee
  – Partners on campus
    • School of Pharmacy – 700 students
    • School of Nursing – 400 students
    • School of Health Sciences – 700 students
    – Occupation/Physical Therapy, Athletic Training, Speech Language Pathology, Physician Assistants Studies & Health Management Systems
Progress to Date
Curriculum Development – Professional Phase

• IPE Experiences in Didactic Courses
  – IPE seminar in a PYIII – Spring Therapeutics Course
    • Endocrine – 2012-2013
    • Special Populations – 2014-present

  • Elective Course
    • Etiology/Assessment/Treatment of Pain for the Health Care Professional (Cross-Listed Course)
Progress to Date
Curriculum Development – Professional Phase

• Experiential
  – APPE rotations include a required IPE reflection activity that focuses on roles and teamwork

• Co-Curricular IPE Experiences
  – IPE case discussion as part of required child abuse training with schools of nursing, pharmacy and health science
Audience:
• 158 PYIII pharmacy students participated in a 3-hour Interprofessional Grand Rounds Seminar with students from nursing and allied health (375 students total).

Outcome:
• Prior to the seminar, students completed the Interdisciplinary Education Perception Scale (IEPS) (Luecht et al., 1990) pre-test and reviewed a written patient case summary of a stroke patient.

Delivery:
• Three workshops were held on three separate evenings
• Small, interprofessional groups developed patient questions for acute, rehabilitation, & outpatient phases.
• Large group listened to patient’s self-reported medical history and asked questions.
• Small, interprofessional groups created a plan of care.
• Large group and faculty discussed the collaborative process & clinical care.

Assessment:
• Following the seminar, students completed the IEPS post-test and reflection questions.
### Results of Interdisciplinary Education Perception Scale

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre</th>
<th>Post</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals in my profession are well-trained</td>
<td>5.34</td>
<td>5.28</td>
<td>0.29</td>
</tr>
<tr>
<td>Individual in my profession are able to work closely with individuals in other professions</td>
<td>5.10</td>
<td>4.93</td>
<td>0.03*</td>
</tr>
<tr>
<td>Individuals in my profession demonstrate a great deal of autonomy</td>
<td>4.84</td>
<td>5.01</td>
<td>0.04*</td>
</tr>
<tr>
<td>Individuals in other professions respect the work done my profession</td>
<td>4.03</td>
<td>4.07</td>
<td>0.76</td>
</tr>
<tr>
<td>Individuals in my profession are very positive about their goals and objectives</td>
<td>4.95</td>
<td>5.12</td>
<td>0.01*</td>
</tr>
<tr>
<td>Individuals in my profession need to cooperate with other professions</td>
<td>5.63</td>
<td>5.47</td>
<td>0.01*</td>
</tr>
<tr>
<td>Individuals in my profession are very positive about their contributions and accomplishments</td>
<td>5.00</td>
<td>5.05</td>
<td>0.49</td>
</tr>
<tr>
<td>Individuals in my profession must depend upon the work of people in other professions</td>
<td>5.48</td>
<td>5.23</td>
<td>0.0002*</td>
</tr>
<tr>
<td>Individuals in other professions think highly of my profession</td>
<td>4.29</td>
<td>4.04</td>
<td>0.07</td>
</tr>
<tr>
<td>Individuals in my profession trust each other’s professional judgment</td>
<td>5.08</td>
<td>5.16</td>
<td>0.18</td>
</tr>
<tr>
<td>Individuals in my profession have a higher status than individuals in other professions</td>
<td>3.57</td>
<td>3.67</td>
<td>0.47</td>
</tr>
<tr>
<td>Individuals in my profession make every effort to understand the capabilities and contributions of other professions</td>
<td>4.60</td>
<td>4.74</td>
<td>0.09</td>
</tr>
<tr>
<td>Individuals in my profession are extremely competent</td>
<td>4.97</td>
<td>5.14</td>
<td>0.01*</td>
</tr>
<tr>
<td>Individuals in my profession are willing to share information and resources with other professionals</td>
<td>5.35</td>
<td>5.35</td>
<td>1.00</td>
</tr>
<tr>
<td>Individuals in my profession have good relations with people in other professions</td>
<td>4.71</td>
<td>4.52</td>
<td>0.04*</td>
</tr>
<tr>
<td>Individuals in my profession think highly of other related professions</td>
<td>4.67</td>
<td>4.82</td>
<td>0.06</td>
</tr>
<tr>
<td>Individuals in my profession work well with each other</td>
<td>5.06</td>
<td>5.26</td>
<td>0.03*</td>
</tr>
<tr>
<td>Individuals in other professions often seek the advice of people in my profession</td>
<td>4.74</td>
<td>4.73</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*Significant p-value (<0.05); 2-tailed, paired t-test
IPE Seminar – Lessons Learned

• The seminar was received positively by students in all disciplines.

• Qualitative comments by students were highly positive.

• Based on the IEPS:
  ✓ Feelings of autonomy and perception of fellow pharmacy students significantly improved
  ✓ Perceptions regarding interactions with other professionals declined.

• Design of an exercise with discipline-focused care plan requirement may have contributed to IEPS results.
  ➢ An interprofessional care plan was used in future seminars.

• Early introduction of IPE experiences is needed.
Presenter III

Jennifer A. Henriksen, PharmD
Associate Professor
Manchester University
College of Pharmacy
IPE partners

- Internal
  - Social Work
  - Athletic Training

- External
  - FWAIPEC
    - [http://pharmacy.manchester.edu/ConsortiumVideo2015.html](http://pharmacy.manchester.edu/ConsortiumVideo2015.html)
  - Multiple universities
  - Multiple disciplines
    - BSN, MSN, NP, PA, MD, PT, OT, PharmD
Routes of Administration Lab

• Audience
  – First Professional year Pharmacy
  – BSN third year students
Outcomes

• Demonstrate principles and values of team dynamics to successfully function in various team roles.
• Recognize contributions of other individuals and groups in helping patients achieve health goals.
• Integrate the contributions of others who play a role in helping patients achieve health goals.
• Solicit input from other team members to improve individuals, as well as team, performance.
• Given a route of administration (topical, rectal, oral, patch), the student can explain the steps of administration to a patient.
• After the IPE lab, if a student is presented a scenario that involves the following: peripheral IV, NG tube, foley catheter, and subcutaneous injections, the student will know the common reason for use, how to administer medications via that route, and be able to give patient situations when this route would be used.
Delivery

• Teams of pharmacy and nursing students
  – Peer teaching with guided questions

• Eight Stations
  – 2 sets of four stations

• Debrief
  – After each set of four stations
  – Outcomes driven
Debrief

- What role did you take at each station?
- In what ways can you promote patient safety by interacting with the other members of the team?
- What would you do if you saw another healthcare professional making an error? How would you approach that person?
- Which routes did you find to be the most straightforward? Why?
- Which routes did you find to be most difficult? Why?
- What training do nursing/pharmacy students get as it pertains to ____ route of administration? What do they need to know each route? How is that information taught/reinforced in school?
- What routes did the nursing students know well/were comfortable with? Why would nurses need to be really well acquainted with those routes?
- What routes did the pharmacy students know well/were comfortable with? Why would pharmacists need to be really well acquainted with those routes?
Assessment

• Handout of guided questions
• Reflection
  – Questions based on the outcomes
• Pre-/Post survey
  – 11 items
  – Confidence
    • Routes of administration
    • Team dynamics and contributions
Summary-Lessons Learned

• Maximize external partners
• Establishing outcomes
• Intentionally designing assessments and discussions around the outcomes
• Other IPE activities
• Plans for the future
Presenter IV

Daphne Bernard, PharmD

Associate Dean of Academic Affairs and Assessment

Howard University

College of Pharmacy
IPE Programming Within the HU Health Sciences

- HU College of Pharmacy
- HU College of Nursing and Allied Health Sciences
- HU College of Medicine
- HU College of Dentistry
IPE Collaboration Opportunities
Interprofessional Education (IPE) Experience Day

January 23, 2015

• Georgetown University School of Medicine
• Georgetown University School of Nursing
• Georgetown University School of Health Administration
• Howard University College of Pharmacy
IPE Experience Day Participants

Faculty Facilitators = 34

- Pharmacy: 15%
- Health Administration: 11%
- Nursing: 13%
- Medicine: 61%
<table>
<thead>
<tr>
<th>IPE Experience Day Format</th>
<th>Attendance at IPE Experience Day Event</th>
</tr>
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<tbody>
<tr>
<td>Completion of Institute for Healthcare Improvement (IHI) Online Modules (Pre)</td>
<td>Ice Breaker</td>
</tr>
<tr>
<td>PS 103: Teamwork and Communications</td>
<td>Perceptions Exercise</td>
</tr>
<tr>
<td>TA 101: Population Health</td>
<td>Teambuilding Exercise</td>
</tr>
<tr>
<td></td>
<td>Brainstorming Activity</td>
</tr>
<tr>
<td></td>
<td>Health Disparities Case</td>
</tr>
</tbody>
</table>
IPE Experience Day

Objectives

• Improve knowledge and attitudes about roles of health professionals and the benefits of interdisciplinary care

• Define and demonstrate tools / techniques for effective teamwork and communication

• Identify the factors (e.g., social determinants) that influence health outcomes

• Understand strategies to reduce healthcare disparities in a community

• Apply the basic concepts of population health in case situations
IPE Experience Day Assessment Tools

- IHI Module Quizzes
- Facilitator Notes on Findings from Perceptions Exercise
- Pre and Post Survey
IPE Experience Day
Assessment of Outcomes

Values & Ethics
- TA 101: Population Health Module Quiz (IHI)
- Open and Discussion and Facilitator Recorded Observations During Perceptions Exercise
- Self – Reflection at the Conclusion of the Event

Roles & Responsibilities
- Open and Discussion and Reflection and Facilitator Recorded Observations During Perceptions Exercise
- Self – Reflection at the Conclusion of the Event

Communication & Team-based Care
- TA 101: Population Health Module Quiz & PS 103: Teamwork and Communications Module Quiz (IHI)
- Debriefing Following Teambuilding Exercise
- Open Discussion During Brainstorming Activity & Health Disparities Case
Important Take-Aways

• More Pharmacy Faculty Buy-In
  – Only 1 out of 34 faculty facilitators were from the College of Pharmacy

• More IPE Outcomes-Based Survey Needed
  – The survey did not specifically address all four IPE Core Outcomes
 Presenter V
William Ofstad, PharmD, BCPS, CDE
Director, Center for Team-Based Learning

**College of Pharmacy**
Four year PharmD
TBL throughout, including IPE
100-120 students per class

**College of Medicine**
Pending accreditation
Sacramento, California
Key Structures of CNU IPE

- Pedagogy & Curriculum
- Partners & Leadership
- Faculty Development
- Outcomes
Elements of CNU IPE

- IPE Memorandum of Understanding, CSUS School of Nursing & CNU
- University IPE Committee
- Faculty Development (IPE, Simulation, TBL, Scholarship Support)
- Development of IPE Curriculum, Outcomes, and Assessment Framework
CNU Adopted IPEC Domains as IPE Learning Outcomes

- Domain 1: Values/Ethics for Interprofessional Practice
- Domain 2: Roles/Responsibilities
- Domain 3: Interprofessional Communication
- Domain 4: Teams and Teamwork
PLO 5: Interprofessionalism. Uses the knowledge, skills, abilities, behaviors, and attitudes necessary to demonstrate appropriate values and ethics, roles and responsibilities, communication, and teamwork for collaborative practice.
CSUS-CNU Model for Integrated IPE Experiences

**Didactic**
- Team-Based Learning
- Problem-Based Learning
- Project-Based Learning

**Simulation**
- Multi-phase unfolding case
- Standardized patients
- High fidelity simulators

**Community**
- Saha Health Center
- NeuroService Alliance
- Shot Clinics
- Health Fairs

**Clinical Training**
- Internships
- Rotations
- Longitudinal patient care projects
• TBL Simulation IPE Cases
  – Acute Decompensated Heart Failure (P2)
  – Acute Pancreatitis (P3)
• TBL Classroom IPE Cases
  – Type 2 Diabetes Management (P3)
  – Medical Errors, Patient Safety, and Quality Improvement (P2)
• IPE Community Service
  – Saha Health Center, Carmichael CA (P2/3)
  – Periodic health fairs and immunization clinics (P1-4)
• IPE Research Academy (IPERA)
  – Student researchers, independent study in IPE (P2/3)
• IPE within Clinical Training
  – Within certain IPPEs and APPEs (P2-4)
## PIPEs Scoring for IPE

<table>
<thead>
<tr>
<th>Points</th>
<th>0</th>
<th>5</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. PROCESS (How)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1 - Level of IP interactivity</td>
<td>Didactic</td>
<td>Discussion</td>
<td>Interactive</td>
</tr>
<tr>
<td>P2 - Number of professions with IPE educated facilitators</td>
<td>1</td>
<td>2</td>
<td>&gt;2</td>
</tr>
<tr>
<td>P3 - Number of professions represented in student participants</td>
<td>&lt;3</td>
<td>3</td>
<td>&gt;3</td>
</tr>
<tr>
<td>P4 - Frequency of interactions across the learning activity</td>
<td>1</td>
<td>2</td>
<td>≥3</td>
</tr>
</tbody>
</table>

**PROCESS SUB-TOTAL**

<table>
<thead>
<tr>
<th>B. CONTENT (What)</th>
<th>See/hear</th>
<th>Talk/Dialogue</th>
<th>Do/ Real Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 - Explicit IPE learning outcomes - number of IPE constructs</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>C2 - Debrief period with students and facilitators after IPE learning activity</td>
<td>None</td>
<td>Informal debrief: reflection focusing on content</td>
<td>Facilitated debrief: reflection focusing on content and process (guidelines provided)</td>
</tr>
<tr>
<td>C4 - Case-based learning</td>
<td>No cases</td>
<td>Case presentation with some application (adjunct to learning activity)</td>
<td>Dedicated case presentation and in-depth dialogue (primary focus of learning activity)</td>
</tr>
</tbody>
</table>

**CONTENT SUB-TOTAL**

**TOTAL LEARNING ACTIVITY POINTS**
Assessment Framework: Kirkpatrick Evaluation Model

**Reaction:** Student satisfaction and perceived value of training

**Learning:** Student development of knowledge, skills, abilities)

**Behavior:** Transfer of the learning to the practice or other settings

**Results:** The impact on individual patients, health care settings, population, community
# Assessment Tools

## Reaction
- Faculty and participant attitude surveys (baseline, exit, delayed after graduation)<sup>7</sup>
- Readiness for Interprofessional Learning Scale (RIPLS)
- Interprofessional Attitudes Questionnaire (IAQ)
- Interdisciplinary Education Perception Scale (IEPS)

## Behavior
- Assessment of graduates 5 to 10 years after graduation collected through Jefferson Longitudinal Survey
- Use of IPE knowledge, skills, and attitudes taught early in the didactic curriculum later in APPEs (e.g. SBAR)
- Measurement of interprofessional team skills and communication in practice.

## Learning
- Summative competency based quizzes
- Evaluations by faculty and standardized patients
- IPE facilitation skills assessment tool: IPFS
- Self-assessment and reflection papers

## Results
- Outcomes from care focused team projects
- Changes in care quality, cost, errors over time
References


2. University of Toronto, Center for Interprofessional Education. Available at: http://ipe.utoronto.ca


Acknowledgements (IPE Research Colleagues): Debra Brady, DNP, RN, CNS; Nassrine Noureddine, RN, MSN, EdD; Darla K. Hagge, PhD, CCC-SLP; James Palmieri, PharmD, BCNSP; Dave Carroll PharmD; Jessica L. Sheffler; Perri Ann Allen, PharmD
Discussion Questions

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9. Is your IPE program implemented **longitudinally**?
10. If yes, do you start with the first year students?
11. Have **partnered** with other **professional programs** at your institution or external programs?
12. What **additional IPE topics** you'd like the Cur & Assessment SIG to present on for future webinars?
Thank You!