



# Designing and Evaluating an Interprofessional Practice Experience Involving Dental and Pharmacy Students

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# Learning Objectives

- Describe approaches for engaging students and faculty in interprofessional practice experiences.
- Describe assessment strategies and tools that can be used to evaluate interprofessional practice experiences.
- Design innovative interprofessional curriculum within a collaborative practice environment with attention to actualizing academic and clinical partnerships.

# Background

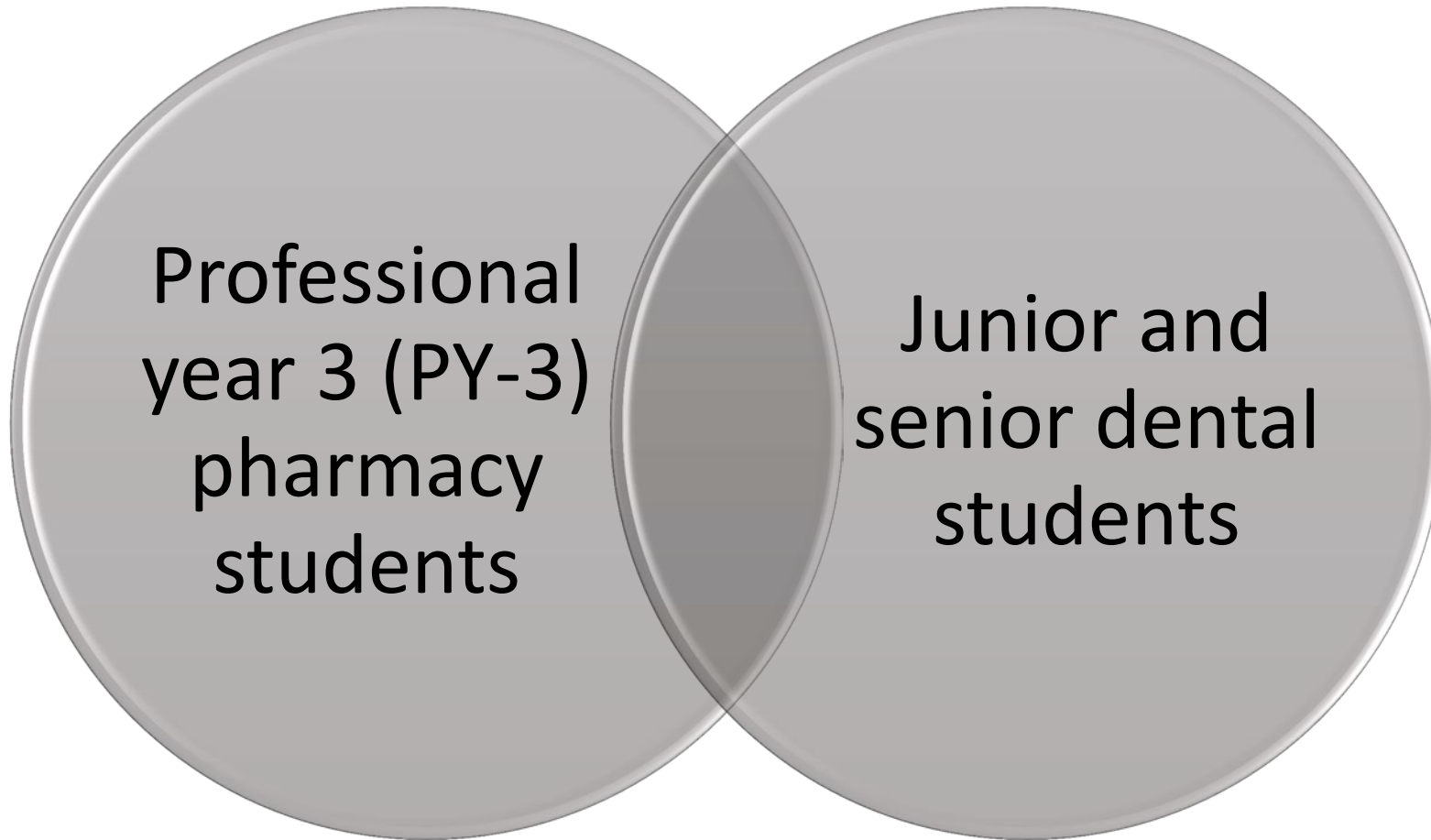
- Accreditation standards for pharmacy and dental education:
  - Mandate that interprofessional education (IPE) is incorporated into curricula.
  - Do not provide standardized guidelines on how to design and implement IPE.
- Variability in IPE design and implementation exist:
  - Pharmacy curriculum: strategy of incorporating IPE into introductory pharmacy practice experiences (IPPE) has limited data.
  - Dental curriculum: limited literature published on IPE involving dental students.

A collaborative effort between pharmacy and dental schools is a novel approach to meeting accreditation standards for IPE.

# Purpose

- To describe the design and evaluation of an innovative interprofessional practice (IP) experience involving pharmacy and dental students.

# IP Practice Experience: **DESIGN**



## **Goals and Objectives:**

- Collaboratively created by pharmacy and dental faculty.
- Linked to the IPEC core competencies.

## **Educational Setting:**

- Temple University Kornberg School of Dentistry's dental admissions clinic.

## **Schedule:**

- Incorporated into existing PY-3 IPPE and dental student clinical training.
- Orientation provided to all students prior to IP experience.
- Two afternoon sessions per week in fall and spring semesters.

# IP Practice Experience: **DESIGN**

- IP clinic days:
  - 4-5 pharmacy students are paired with dental students in a 1-2:1 ratio.
  - Pharmacy and dental faculty reinforce profession-specific roles.
  - IP teams collaboratively conduct full medical histories of dental patients.

<b>Dental Student Responsibilities</b>	<b>Pharmacy Student Responsibilities</b>
Conduct health history	Conduct medication history
Perform oral exam, head and neck exam, oral cancer screening, and radiographic exam	Contact outpatient pharmacy for reconciliation of all current medications
Teach pharmacy student how to conduct an oral cancer screening and importance of oral health	Teach dental student how to conduct medication reconciliation
Advise tobacco users to quit and refer them to pharmacy student for education	Provide tobacco cessation education (if applicable)

# IP Practice Experience: **DESIGN**

<b>Shared patient presentation to dental and pharmacy faculty</b>	<ul style="list-style-type: none"><li>• Dental students present past medical history, oral exam findings, and their assessment and plan.</li><li>• Pharmacy students present the medication history and any discrepancies found.</li></ul>
<b>Shared documentation process</b>	<ul style="list-style-type: none"><li>• Pharmacy students document medication history, any medication discrepancies that are identified, and any patient education that is provided.</li><li>• Dental students document all of the other components of the encounter.</li></ul>

# IP Practice Experience: **ASSESSMENT & EVALUATION**

- Pharmacy student performance – standardized assessment rubric based on the IPEC core competencies.
- Changes in pharmacy and dental student perceptions – SPICE-R Instrument.
- Student and faculty perceptions of achievement of pre-specified learning objectives – 5-point Likert type scale.
- Faculty evaluations of the practice experience – open-ended survey questions.



# IP Practice Experience: **RESULTS**

- Enrollment for fall 2015 and spring 2016 semesters:
  - 188 students (151 dental, 37 pharmacy).
- Pharmacy student performance:
  - For the summative evaluations, all of the pharmacy students either met or exceeded expectations at this point in the curriculum.

# Student IPE Perceptions: **RESULTS**

- Changes in pharmacy and dental student perceptions:
  - Overall, there was an increase in student perceptions of IPE.
  - Dental students: Significant increase on all SPICE-R items ( $p$  values .001 to  $< .001$ ).
  - Pharmacy students: Significant increase on 6 SPICE-R items ( $p$  values  $< .001$  to .046).
  - Significant increase on 3 factors: Teamwork, Role/Responsibilities, Patient Outcomes.

	SPICE-R Items	Dental Students Pre-Post Averages <sup>a</sup>			Pharmacy Students Pre-Post Averages <sup>a</sup>			All Students Pre-Post Averages <sup>a</sup>		
		Pre N=88	Post N=80	p value	Pre N=36	Post N=37	p value	Pre N=124	Post N=117	p value
01	Working with students from another health profession enhances my education	4.32	4.54	<.001	4.19	4.51	.006	4.28	4.53	<.001
02	My role within an interprofessional healthcare team is clearly defined	4.16	4.43	<.001	3.94	4.27	.019	4.10	4.38	<.001
03	Health outcomes are improved when patients are treated by a team that consists of individuals from two or more health professionals	4.41	4.59	.001	4.58	4.65	.536	4.46	4.61	.008
04	Patient satisfaction is improved when patients are treated by a team that consists of individuals from two or more health professions	4.07	4.41	<.001	4.44	4.57	.412	4.18	4.46	<.001
05	Participating in educational experiences with students from another health profession enhances my future ability to work on an interprofessional team	4.41	4.60	<.001	4.25	4.57	.054	4.36	4.59	<.001
06	All health professional students should be educated to establish collaborative relationships with members of other health professions	4.41	4.61	<.001	4.22	4.54	.046	4.35	4.59	<.001
07	I understand the roles of other health professionals within an interprofessional team	4.13	4.54	<.001	3.83	4.41	.001	4.04	4.50	<.001
08	Clinical rotations are the ideal place within their respective curricula for health professional students to interact	4.23	4.50	<.001	4.06	4.65	<.001	4.18	4.55	<.001
09	Health professionals should collaborate on interprofessional teams	4.35	4.61	<.001	4.33	4.62	.088	4.35	4.62	<.001
10	During their education, health professional students should be involved in teamwork with students from other health professions in order to understand their respective	4.38	4.60	<.001	4.33	4.68	.032	4.36	4.62	<.001

Each item is rated on 5-point Likert-type scale (1= Strongly disagree; 5 = Strongly agree)

# Student IPE Perceptions: RESULTS

- Student perceptions of achievement of pre-specified learning objectives
  - Data from 25/37 pharmacy students (67.5% response rate).
  - The majority of students agreed that the four learning objectives were met:

Learning Objective	Number in Agreement* (%)
Conduct comprehensive medication histories and reconciliations when appropriate	25 (100%)
Provide tobacco cessation education for current tobacco users	17 (68%)
Communicate professionally and effectively with patients and healthcare providers	25 (100%)
Think critically to solve complex problems	24 (96%)

\* Agree or Strongly agree

# Faculty IPE Perceptions: **RESULTS**

- Overall, faculty perceptions and open-ended responses were positive.
- Emergent themes from open-ended responses:
  - IP practice experience increased teamwork, as well as knowledge about roles and pharmacotherapy.
  - Workflow issues occurred, as well as variability in student engagement and knowledge gained among students.
- All faculty (n = 8) reported being satisfied with the experience (3 extremely satisfied [37.5%]; 3 very satisfied [37.5%]; 2 satisfied [25%]).

### Dental Faculty Evaluation (n = 6)

Dental Student Objective	Number in Agreement* (%)
Enrich ability to consult with other healthcare providers	6 (100)
Improve understanding of diseases, and indications, contraindications and side effects of medications	5 (83.3)
Enhance knowledge about medications to treat dental conditions and how they relate to patients' overall health	5 (83.3)
Improve aptitude for sharing knowledge and recommendations across healthcare professions	5 (83.3)
Improve ability to collaborate with other healthcare professionals in the provision of tobacco cessation counseling	5 (83.3)

### Pharmacy Faculty Evaluation (n = 2)

Pharmacy Student Objective	Number in Agreement* (%)
Conduct comprehensive medication histories and reconciliations	2 (100)
Provide tobacco cessation education for current tobacco users	2 (100)
Communicate professionally and effectively with patients and healthcare providers	2 (100)
Think critically to solve complex problems	2 (100)

\*Agree or Strongly Agree

# Relevance and Recommendations

- Pharmacy and dental students' perceptions about IPE and collaborative practice were more favorable after completing this IP practice experience.
- The majority of faculty perceptions and open-ended responses regarding the practice experience were positive.
- Evaluation of student perceptions of IPE can be utilized as one strategy to demonstrate learner outcomes within IPE.
- Faculty feedback can be utilized to evaluate IPE outcomes and improve practice experiences.