

Introduction

- The Joint Commission of Pharmacy Practitioners (composed of 11 major pharmacy organizations in the United States) published a model for the “Pharmacists’ Patient Care Process” (PPCP) (Figure 1). This model describes a patient-centered and continuous process for patient care that includes the following steps; “collect, assess, plan, implement, and follow-up”.
- The accrediting body for schools of pharmacy, Accreditation Council of Pharmacy Education (ACPE), asked all schools of pharmacy to submit a plan in July 2016 detailing how they plan to teach this process.
- Philadelphia College of Pharmacy developed a comprehensive plan for teaching PPCP which included revisions to the Case Studies portion of an existing required course series that spans the second and third professional years.
- Our Case Studies meets for ~ 2 hours every-other-week in small groups and students work in assigned groups of ~3 to 5 students with an average faculty-to-student ratio per section of 1:10.
- Traditional paper patient cases do not allow for students to develop skills in all of the above steps, especially “collect”, and focus on content more that the patient.

Objective

- To describe the use of combined video and electronic health record (EHR) simulation with debrief as a method to develop student skills related to PPCP

Process

- Innovation: As part of the revisions to Case Studies, a process for patient simulation was adopted for the second professional year.
- Goals:
  - Teach skills outlined in PPCP using a “patient centered” approach to course delivery
  - Build critical thinking and problem solving abilities
- Most weeks students were provided with a simulation including an electronic medical record (NiaRX®) plus a video recording of a pharmacist-patient interaction (Figures 2 and 3). Standardized patients were used in the second semester for 2 cases periods.
- Case Studies class periods ended with a structured, faculty-lead debrief that was organized into sections according to the steps of PPCP to promote student development of critical thinking and problem solving abilities.

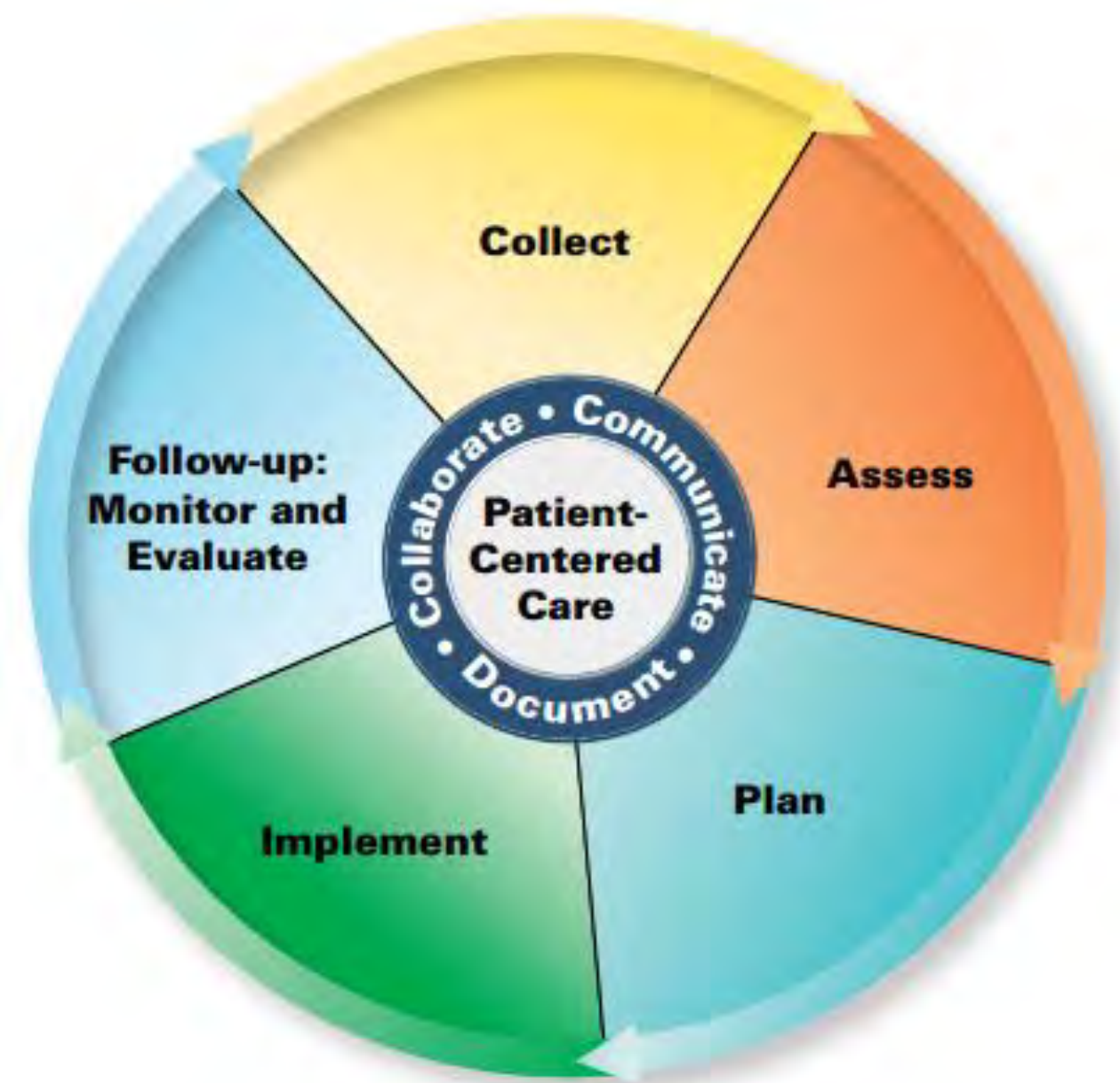


Figure 1: Pharmacists’ Patient Care Process

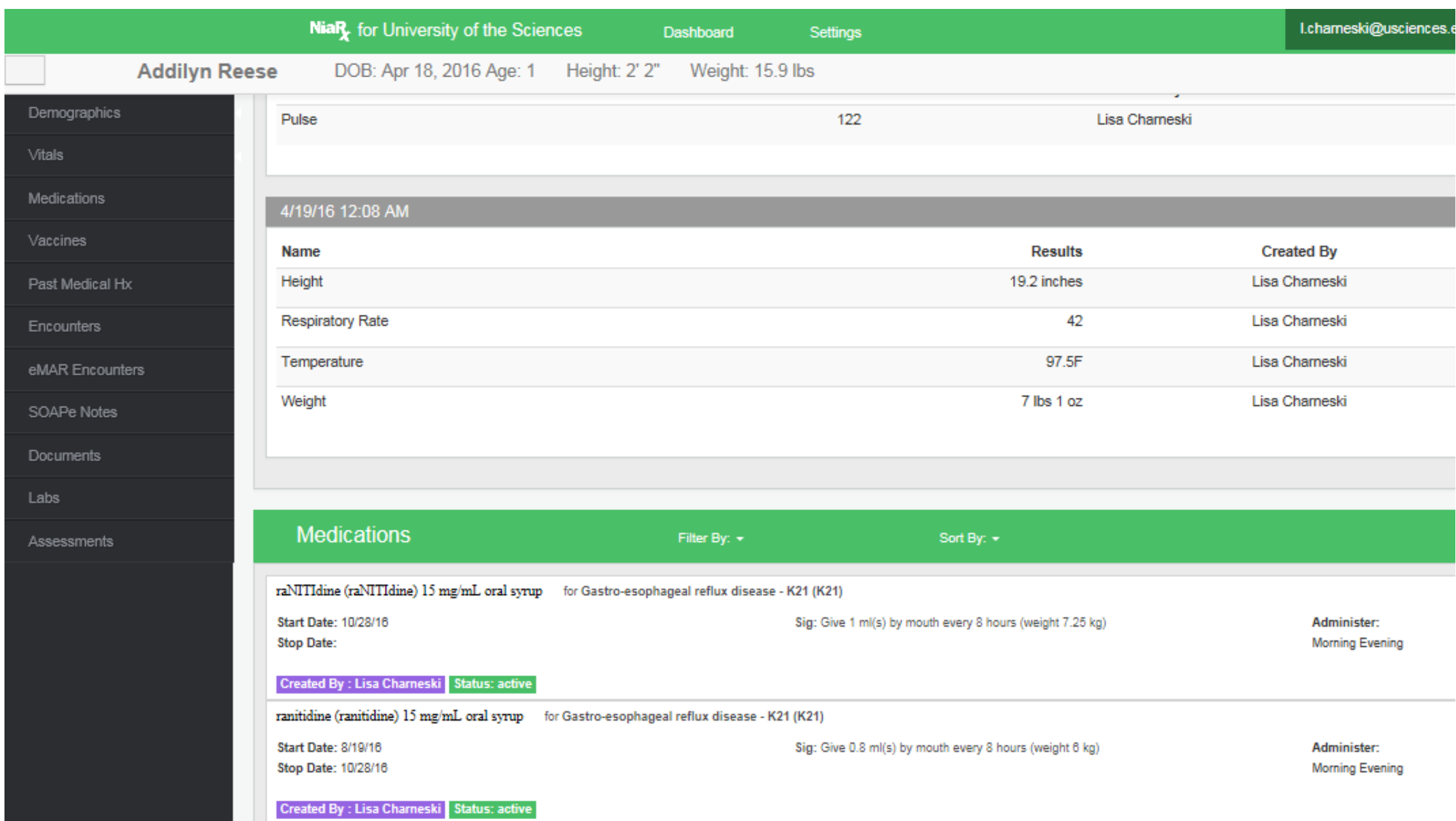


Figure 2: Example of NiaRX® patient profile



Figure 3: Example of pharmacist-patient interaction video

Survey Item	Response*	Spring 2017	Spring 2018
Overall, the patient <b>simulations</b> used in PP 467 and PP 468: seemed <b>realistic</b>	SA%	24.3	33.3
	A%	56.1	42.1
	N%	13.1	14.9
	D%	3.7	6.1
	SD%	2.8	2.6
	No response%	0.0	0.0
Overall, the patient <b>simulations</b> used in PP 467 and PP 468: provided <b>insight into patient care in different settings</b>	SA%	28.0	39.5
	A%	57.0	42.1
	N%	10.3	8.8
	D%	3.7	7.9
	SD%	0.9	0.9
	No response%	0.0	0.0
Overall, the patient <b>simulations</b> used in PP 467 and PP 468: provided <b>insight into patient follow-up</b>	SA%	27.1	36.8
	A%	57.0	44.7
	N%	12.1	13.2
	D%	2.8	3.5
	SD%	0.9	0.9
	No response%	0.0	0.0
Overall, the patient <b>simulations</b> used in PP 467 and PP 468: <b>reinforced concepts learned in other required coursed</b>	SA%	31.8	50.9
	A%	61.7	39.5
	N%	2.8	7.0
	D%	1.9	1.8
	SD%	1.9	0.0
	No response%	0.0	0.0

Table 2: Survey data  
\*SA=strongly agree; A=agree; N=neutral; D=disagree; SD=strongly disagree

- Response Rates: Fall 2016=91.9%; Spring 2017=71.8%; Fall 2017=84.8%; Spring 2018=89.8%
- Student effort:
  - Across all surveys, the majority of students reported that they contributed to their student group, contributed to debrief discussions, and independently completed out-of-class assignments “every time”
  - Survey items relating to pre-class preparation ranged from 17.65% (pre-class readings) to 58.77% (collecting data from simulation videos)

Implications

- Students reacted favorably to the approach and performed well on course assessments.
- Simulation in the didactic setting can keep the patient at the center of PPCP.
- Faculty debrief sessions allowed for teaching “gray areas” associated with the complexity of a real world patient care scenario.
- Challenges:
  - Low credit weight results in some students treating the course as a low priority.
  - Case meets every-other-week which decreases continuity and retention from the previous session.
  - Small sections require multiple instructors which has the potential to affect content delivery.

Results

PPCP Skill	Semester and Year			
	Fall 2016 (N=147)	Spring 2017 (N=147)	Fall 2017 (N=132)	Spring 2018 (N=127)
<b>Collect</b>				
Navigate and extract data from EHR	94.2%		92.2%	
Pertinent positives and negatives	79.1%		70.2%	
Standardized Patient Interview (score >80%)		70.0%		99.2%
<b>Assess (total)</b>	<b>78.7%</b>	<b>88.3%</b>	<b>86.0%</b>	<b>77.7%</b>
Problem list				95.3%
Classify condition	97.9%	98.6%	98.9%	96.0%
Goals of therapy	84.5%		85.3%	
Drug therapy problems	92.6%	91.2%	97.7%	91.0%
Patient related variables	46.6%	79.9%	68.0%	40.9%
<b>Plan (total)</b>	<b>59.9%</b>	<b>83.9%</b>	<b>70.4%</b>	<b>77.4%</b>
Medication	59.9%	83.9%	71.3%	66.5%
Education			68.3%	
Monitoring				88.2%
<b>Collaborate, Communicate, Document</b>				
SOAP Notes	93.7%	91.5%	92.9%	90.3%
Verbal Patient Presentation		92.3%		90.1%

Table 1: Assessment of student learning