Impact of a Health Information Technology Skills Lab on Second Year Student Pharmacists

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Background

- The Center for the Advancement of Pharmacy Education (CAPE) outcomes include the use of **technology** to assure safe and accurate medication dispensing, administration, and monitoring as required content in Doctor of Pharmacy curricula.[1]
- The American Society of Health -System Pharmacists (ASHP) have stated
  - "Pharmacists have the training, knowledge, background, and responsibility to assume a significant role in clinical informatics." [2]
  - "Colleges of pharmacy should be required to provide informatics training for all pharmacy students to ensure graduates' success in optimal pharmacy practice models."[3]
- Challenges to student informatics instruction include:
  - Limited faculty with informatics expertise.[4]
  - Cost-prohibitive investment for many colleges.
  - Inconsistent exposure during experiences.
- The University of Georgia College of Pharmacy (UGA COP) recently implemented experiential curriculum changes designed to strengthen health system-based IPPEs.
  - A new four-semester course series, "Essentials of Pharmacy Practice," is designed to purposely align didactics, skills labs, and experiences to enhance student development.
  - During spring semester of the P2 year, the Essentials class incorporates hospital-based practice skills.
  - A 3-week hospital block was added to the summer semester between the P2 and P3 years to provide in-depth practice-based experience in this setting.
- UGA COP faculty collaborated with industry representatives to develop a pilot skills lab incorporating hands on demonstration and discussion of automation used in healthcare and the role of health information technology (HIT) in the medication use process.

Objectives

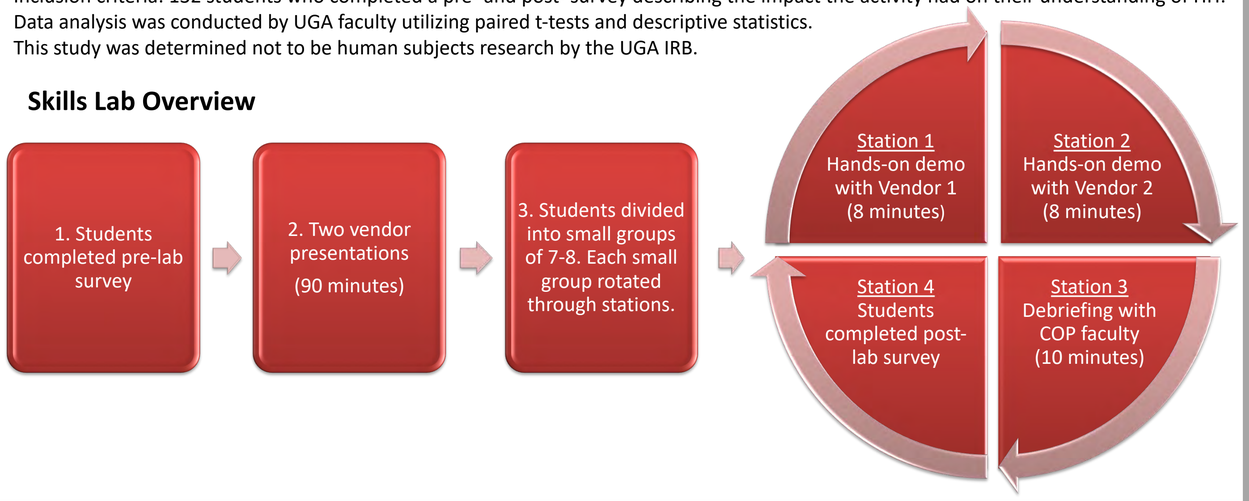
To describe the development and results of a health system informatics skills lab designed to:

1. Expose P2 students to health information technology (HIT) used for medication distribution, use, and management processes.
2. Enhance student readiness for operational components of health system practice experiences.

Methods and Design

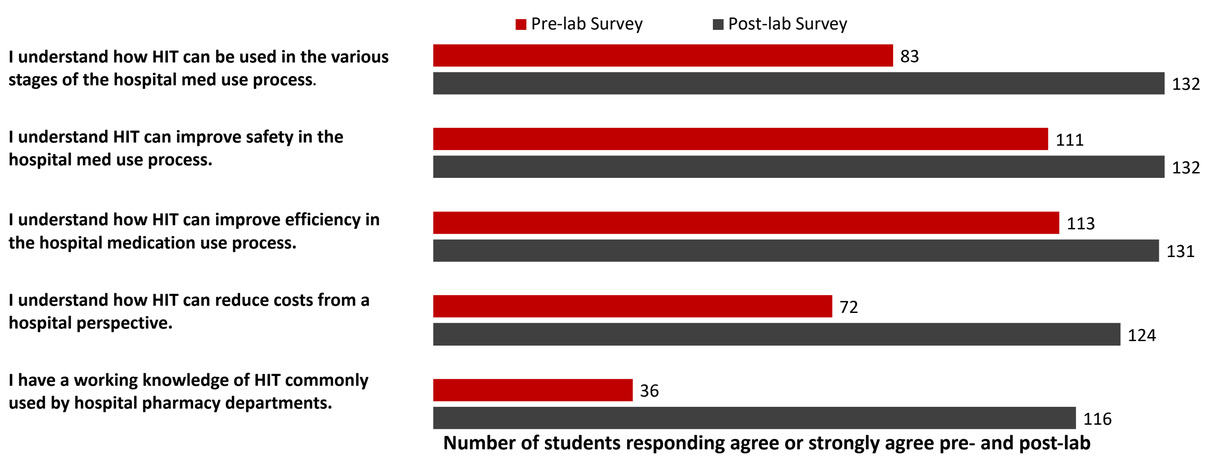
- College faculty and industry representatives collaborated to develop a skills lab designed to provide hands-on exposure to current and emerging health information technology.
- Skills lab included vendor presentations, vendor demonstration, and faculty debriefing.
- Vendor presentations described types of automation equipment, role of technology in the medication use process and pharmacy operations, quality and safety, and cost reduction.
- Study period: Spring Semester 2017
- Inclusion criteria: 132 students who completed a pre- and post- survey describing the impact the activity had on their understanding of HIT.
- Data analysis was conducted by UGA faculty utilizing paired t-tests and descriptive statistics.
- This study was determined not to be human subjects research by the UGA IRB.

Skills Lab Overview



Results

Skills Lab Experience: Perceptions of Health Information Technology



Note: Data based on student evaluations on a 5-point Likert scale (Strongly disagree to Strongly agree). Student responses showed statistically significant improvement ($p<0.05$) in all above items.

Students agreed or strongly agreed the design of this lab improved their understanding (97%, 128/132) and confidence in using (89%, 118/132) health technology.

Discussion and Implications

- Student perceptions of understanding of HIT showed significant improvement following the skills lab.
- Advantages:
  1. Lab structure provided an opportunity to expose students to HIT at no cost to the college.
  2. Vendor interactions provided non-faculty perspective on informatics.
- Limitations:
  1. Time intensive coordination, setup, and storage of equipment.
  2. Scheduling 130+ students to participate in a short time frame.
  3. Absences were unable to be made up.
- Future directions will target improvements to lab efficiency, by decreasing waiting time between activities and increasing exposure time with equipment.
- Partnering with industry representatives is a strategy allowing colleges of pharmacy to strengthen informatics curricula and work toward meeting CAPE outcomes and ASHP expectations.

References

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4. Clauson KA, Breeden EA, Fingado AR, et al. A progress report on the state of pharmacy informatics education in US colleges of pharmacy [published online ahead of print 2017 Oct 17]. *Am J Pharm Educ*. https://www.ajpe.org/doi/pdf/10.5688/ajpe6332 (accessed 2018 May 22).

Disclosures: The authors of this study have nothing to disclose.

Corrections: The abstract stated 133 students completed the survey. One survey was found to be incomplete and was removed, leaving a total of 132 completed surveys.