



Successful Practices in
Pharmaceutical Education 2014

**School/College of Pharmacy Collaborations with Pharmacy Technician
Education/Training Programs**

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Arkansas

Harding University College of Pharmacy

Searcy, AR 72149

Arkansas State University-Beebe Pharmacy Technician Program

Beebe, AR 72012

ASHP Accredited Technician Training Program

School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Existing

Description

The director of the pharmacy technician program was working on a Master's degree and needed a venue to complete some related research. This led the dean of the college to invite the program director to sit on the college's assessment committee for several years. Subsequently, college faculty was invited to sit on the technician program advisory committee for the last four years. Through these interactions, this collaboration evolved. The motivating factor has been the mutually beneficial roles the collaboration has filled for the college and the technician program. The length of this collaboration has exceeded five years.

The focus areas of this collaboration include service learning opportunities, classroom teaching and learning opportunities, assessment and advisory committee membership, and laboratory instruction.

There have also been no major costs associated with the collaboration and the manpower necessary has been available as part of normal operations of the college and the pharmacy technician program. The pharmacy technician program contributes classroom and laboratory resources to this collaboration.

Individual pharmacy students have served as guest lecturers, paid adjunct faculty, and lab assistants in the technician training program due to contacts that have been made by the networking efforts of the college with the pharmacy technician program director. Additionally, student pharmacists have led certification review courses for technicians during the Arkansas Association of Health-System Pharmacists conference and in two areas throughout the state.

A future milestone for this collaboration is the dual alignment and satisfaction of learning objectives in the IPPE curriculum and experiential education of the pharmacy technician experience.

Currently, there are no formal contracts or memorandums of understanding between the Harding University College of Pharmacy (HUCOP) and the Arkansas State University-Beebe (ASU-Beebe). The students who served as paid adjunct faculty for ASU-Beebe have had routine

adjunct contracts. In addition, there are no financial agreements between HUCOP and ASU-Beebe.

Outcomes

Pharmacy students are able to fulfill some of their introductory pharmacy practice experience (IPPE) hours through participation in this collaboration. In addition, with the assistance of the pharmacy technician program director, the college's Student Society of Health-System Pharmacists has developed and provided a review course for pharmacy technicians who are planning to sit for the national CPT exam. This review course was most recently held during the Arkansas Association of Health-System Pharmacists fall seminar which generally attracts meeting registration from several pharmacy technicians. Over 80% of the review course participants sitting for the national exam have been successful.

This collaboration is meeting the needs of one of the college of pharmacy's student professional organizations while at the same time meeting the needs of the pharmacy technician program and desire for pharmacy technician certification by health-system pharmacists within the state. The efforts are thus mutually beneficial.

Critical Need(s) Being Addressed by the Collaboration

From the ASU-Beebe perspective, the most critical need the collaboration addresses is the exposure to the technical aspects of pharmacy within the healthcare delivery model. Student pharmacists have the opportunity to learn the elements of an accredited pharmacy technician curriculum. Additionally, student pharmacists gain knowledge of how to utilize an educated, trained and certified technician workforce in their practice by knowing the depth and breadth of the technician education. From the college perspective, the most critical need that the collaboration addresses is providing a venue for our SSHP chapter to achieve some of its national recognition requirements and an innovative site for fulfilling IPPE requirements. It is also a great way for the college to serve the pharmacy community in the state which aligns nicely with the college's mission of service.

Successful Aspect(s) of the Collaboration

The collaboration between HUCOP and ASU-Beebe has been successful due to both parties' understanding and supporting the contributions of an educated, trained and certified pharmacy technician workforce in assisting pharmacists to deliver healthcare in an evolving practice model.

Challenges to Formation/Implementation

From the ASU-Beebe perspective, the challenges in the formation and continuation of this collaboration are very minimal. The main challenge is the coordination and alignment of student pharmacists schedules' to best deliver the instruction needed for the technician program.

Stakeholder(s) Acceptance/Considerations

From the ASU-Beebe perspective, a key consideration to gain stakeholder acceptance is the realization that as pharmacy education continues to change, so to must technician education. These changes must occur in tandem to ensure healthcare delivery is optimized.

Advice or Lessons Learned

The college faculty coordinator of the collaboration was concerned that the age difference between some of the technicians and the pharmacy students might be a problem. However, it was not an issue during the training sessions. The technician training program sessions were offered for free or at a very low cost so the technicians seemed receptive and eager to attend without cost being a barrier. Area hospitals and the state association were very helpful about providing meeting rooms for us to use. The first few series of lessons were too long so the sessions have been adjusted to make them shorter and more appropriate for a technician review course. More math problems have been added into the program because this is a challenge area for many of the technician students.

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California

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ASHP Accredited Technician Training Program

East Los Angeles Occupational Center Pharmacy Technician Program
Los Angeles, CA 90033

School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Emerging/Existing

Description

The collaboration between the University of Southern California (USC) School of Pharmacy and two pharmacy technician schools (Cerritos College and East LA Occupational Center) came about as a result of a Centers for Medicare & Medicaid Services (CMS) Innovation grant that was awarded to USC. The intervention for our CMS grant consists of eleven clinical pharmacy teams, each consisting of a residency-trained PharmD pharmacist, a resident, and a clinical pharmacy technician, integrated into a large network of safety net clinics. The clinical pharmacy technician fulfills a wide range of responsibilities from direct patient care (e.g., recording medication information, check-in calls for stable patients) to administrative support (e.g., patient recruitment, appointment scheduling). Among the key deliverables for the grant, CMS wanted assurances that the workforce utilized for Innovation Award programs would be readily available. As a result, we have defined the competencies that clinical pharmacy technicians must attain in order to be an effective member of a clinical pharmacy team. We are working with our technician school partners to help modify technician school curriculums so that technicians will graduate with the training necessary to work within a clinical pharmacy team in the primary care setting.

This collaboration focuses on providing technician schools with the competencies, tools, and (if necessary) teaching resources to enable their graduates to function as clinical pharmacy technicians. The key resources needed for the collaboration include:

1. School of pharmacy and technician school faculty members serving as a dedicated liaisons
2. Pharmacists or pharmacy residents with teaching experience who can offer guest lectures to assist technician schools as needed
3. Objective Structured Clinical Examinations (OSCEs) or availability of clinical practice sites for assessment of applied clinical skills
4. Tools and surveys to evaluate clinical pharmacy technician performance

The collaboration is expected to continue indefinitely, with primarily resident pharmacists from USC offering teaching time to the technician schools. This is a mutually beneficial relationship, as residents gain from the teaching experience. The key milestones for this collaboration include identifying the core competencies for clinical pharmacy technicians in the primary care setting (completed), developing tools and resources to evaluate technician performance (completed), sharing these competencies with the technician schools and discussing integration into the curriculum (ongoing), identifying gaps in teaching resources / expertise and identifying school of pharmacy faculty or residents to fill these gaps (ongoing), and developing either an OSCE or on-site experience for evaluating application of skills (future). At this time, no financial agreements/incentives are anticipated, so at most a memorandum of understanding may be needed if school of pharmacy faculty and residents are utilized regularly for teaching purposes.

Outcomes

1. Pharmacy education (local, state, region and/or nation)

No outcomes generated yet, although there has been experience with training clinical pharmacy technicians on the job. The technicians have become so proficient that they are able to train first- and second-year pharmacy students in the basic elements of clinical pharmacy visits.

2. Pharmacy practice (local, state, region and/or nation)

Using evaluation tools and surveys developed through the CMS Innovation grant, we have established a method for assessing clinical pharmacy technician performance. We have determined that clinical pharmacy technicians enable the clinical pharmacy teams to provide care to up to 50% more patients per day, which is a solid return on investment. Job satisfaction and clinical pharmacist satisfaction with clinical pharmacy technicians is highly positive. We are quantifying other aspects of clinical pharmacy technician productivity and quality, and will be preparing a manuscript for publication in 2014.

3. Legislation/regulations (local, state, region and/or nation)

Defining the role of clinical pharmacy technicians and quantifying their contribution to clinical pharmacy services is a deliverable for our CMS Innovation Award. We anticipate that the role of clinical pharmacy technicians will be promoted by CMS after we share the results of our quality and productivity analyses.

Critical Need(s) Being Addressed by the Collaboration

This collaboration fulfills a key expectation of the Affordable Care Act: Expanding the roles of existing healthcare team members to enable practice at maximum level of licensure. As pharmacists continue to expand roles in primary care, it is clear that many duties typically fulfilled by pharmacist do not require a doctor of pharmacy degree. We have been able to identify the competencies required to fulfill these duties, test the impact of having technicians taking on these roles, and are now looking forward to collaborating with technician schools to help create a new generation of graduates with these skills.

Successful Aspect(s) of the Collaboration

Our greatest successes are ahead, but to date our greatest success is the relationships we have developed with the technician school faculty and their commitment to this collaboration. The defined clinical pharmacy technician competencies and data supporting the value technicians bring to the clinical pharmacy team are also important successes that support this work.

Challenges to Formation/Implementation

Our greatest challenge is time, as this grant is only three years in duration and a great deal of time and resources are required to support the key deliverables of the grant. However, our residents have been key to developing technician performance evaluation tools and surveys, conducting quality and productivity studies, and providing training to clinical pharmacy technicians. Their work is enabling us to move this year towards planning curricular modifications with the technician schools.

Stakeholder(s) Acceptance/Considerations and Advice/Lessons Learned

The win-win nature of this collaboration should require little effort to secure buy-in from stakeholders. As clinical pharmacy programs to expand in the primary care and community settings, maximizing efficiency will be key to their success and return on investment. Clinical pharmacy technicians increase productivity of clinical pharmacy services by 50% with no loss in quality. In fact, clinical pharmacy technicians are often better than pharmacists at performing some functions such as patient recruitment, particularly for specific ethnicities and cultural subgroups that technicians identify with. The role of clinical pharmacy technicians is analogous to our profession's advocacy for pharmacists fulfilling medication-related roles that physicians either do not have the time for or that physicians have variable expertise in; clinical pharmacy technicians fulfill roles that do not require a doctor of pharmacy. Pharmacy residents have a great opportunity to apply their teaching skills in the training of clinical pharmacy technicians, and clinical pharmacy technicians in turn do are able to teach young pharmacy students about basic elements of clinical practice such as medication history taking, communication, and checking in with stable patients.

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Idaho

Idaho State University College of Pharmacy
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Meridian School District Pharmacy Technician Program
Meridian Joint #2 School District (MSD Joint #2) and
the Meridian Medical Art Charter High School (MMACHS)
Meridan, ID 83642

School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Existing

Description

The Pharmacy Technician program for high school juniors and seniors was developed in the fall of 2010 with a target date for the first class being spring 2011. The planning stages included developing a budget for supplies, one compounding faculty member, one teaching assistant, a course curriculum, and cost for the space in the Skaggs Pharmacy Complex in the Idaho State University (ISU) College of Pharmacy. The Meridian Joint #2 School District (MSD Joint #2) and the Meridian Medical Art Charter High School (MMACHS) funds pay for the cost of this joint program; hence, the Idaho State University College of Pharmacy does not have to bear the major costs for the unique partnership.

In 2009, the same year as the opening of the Skaggs Pharmacy Complex and the ISU Meridian Health Science Center, the MSD Joint #2 accepted their first class of freshman in their college-bound, Early College Associate's degree and International Baccalaureate programs in cooperation with ISU. The lessons and experience with MMACHS were used in developing the concurrent and Associate of Arts (AA) program at the Renaissance High School. The overreaching goals for MMACHS, MSD Joint #2, and ISU was to provide options for high school students interested in the health professions, offer them the opportunity to earn college credits during their secondary years, ensure that these students would be ready for the rigor of a postsecondary experience (especially in the health sciences), and make their early college course work affordable. This was recognized by the Idaho State Board of Education with implementation of the Tech-Prep agreements formed with six of the Idaho higher education institutions, including Idaho State University.

The compounding faculty member that teaches in the Pharmacy Technician program is also the same faculty member who is responsible for the Pharm. D P-2 year of compounding laboratory. In addition, she is a valued compounding pharmacist in the community; thus, she brings a great deal of experience and expertise to both groups of students.

Outcomes

Since the spring of 2011, and including spring 2014, the student enrollments for the Pharmacy Technician Program have been between 45- 55 students, with the average being 50 students per year. The curriculum covers solutions, suspensions, ointments, emulsions, troche, lollipops, capsules, sterile compounds, and using the QS1 software program. Upon completion of the coursework, students are prepared to gain real world skills through local pharmacy externships, and become industry certified through the national Pharmacy Technician Certification Board.

Approximately 10-20% of the students each year are from MMACHS, which is a public charter school and distinctly different from the MSD Joint #2 organizational structure, the latter is the largest school district in the state of Idaho. Over the course of the past several years many of the MMACHS graduates have continued their post-secondary education at Idaho State University with a focus on health professional programs including the College's Pharm. D program. The number one Pharm. D. graduate in 2013, Dr. Danielle Ahlstrom, at 23 years of age is a graduate of the MMACHS and is an excellent example of MMACHS relationship with the Idaho State University College of Pharmacy. The MSD Joint #2 Renaissance High School, which is housed in the same physical building as Idaho State University-Meridian Health Science Center, just graduated its first senior class in May 2013. Since Renaissance High School is a college bound secondary school there are many classes that their students take for college credit though Idaho State University, including the Pharmacy Technician program. Last May 2013, ten Renaissance graduates earned two degrees: one from the MSD Joint #2, and an Associate of Art Degree from Idaho State University, thus entering into a post-secondary program with junior standing.

Each year, as a follow up to the spring Pharmacy Technician program, there is a 50-minute question and answer session with future students and several past graduates regarding the Pharmacy Technician program, as well as the profession of Pharmacy and graduate education in the Pharmaceutical Sciences. In addition, there are events with the MMACHS that not only cover the Pharmacy Technician programs but the Pharm. D program and all of the other health profession careers and programs.

At the end of each year, the administrators from the respective schools and university reviews the past year experience and begin the planning for the next spring session. At this time the College of Pharmacy, MMACHS and MSD Joint #2 desires to continue this arrangement. The results-to-date indicate a very strong support for such a partnership and thus all parties are winners, and most import the students who have taken this experience and moved on to their college and university studies. In early summer, a Memorandum of Understanding (MOU) is developed that outlines the next years Pharmacy Technician Program, including any changes and the proposed fee structure.

Critical Need(s) Being Addressed by the Collaboration

The foundation of Idaho State University's collaboration with the MMACHS at its inception was centered on two questions. First, can high school students do the rigorous course work that will prepare them for post-secondary programs in the health professions; and second, can high school students work in an environment that at times deals with body fluids. The answer, discovered in

2005, was that they can do both. In addition, many of these students were enrolled in concurrent credit courses with ISU, with some students earning enough credit to enroll as juniors at various colleges and universities. Since that time many of the MMACHS students have been successful in various health professional careers.

Successful Aspect(s) of the Collaboration

The partnership between the College of Pharmacy, the MSD Joint #2, and MMACHS has been a resounding success. Many of these students have not only become certified pharmacy technicians, they have also enrolled in post-secondary intuitions with a focus on one of the many health-professional programs. In fact, several students have enrolled in pre-pharmacy course work, and some have gained entrance to a Pharm. D program either at Idaho State University or other programs in the region and nationally.

Challenges to Formation/Implementation

There have not been any significant challenges identified since developing the Pharmacy Technician Program and other collaborative programs with MMACHS and MSD Joint #2. The lack of challenges is due to the excellent communication between the invested parties, the physical location of the shareholders, as well as the agreed need to prepare secondary students for success at the post-secondary level, and meeting the goals of both parents and students who are seeking options for their high school years.

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Illinois

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South Suburban Community College Pharmacy Technician Program
South Holland, IL 60473
ASHP Accredited Technician Training Program

Thornton Township High School District 205
South Holland, IL 60473

School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Existing

Description

The technician training program is an extension of an existing collaboration between South Suburban College (SSC) and District 205 that provides technician training courses to Advanced Placement chemistry students in their senior year of high school. The Chicago State University College of Pharmacy (CSU-COP) expanded this collaboration with District 205 to include science, math, writing, and health professions enrichment during a summer program. The collaboration was launched in the summer of 2013 and includes a four-week enrichment program that includes rising juniors and rising seniors. The rising juniors participate in math, physics, and writing enrichment sessions since this aligns with their upcoming schedule. The rising seniors participate in math, chemistry, and writing enrichment sessions. All students participate in information sessions regarding a variety of health professions including: pharmacy, medicine, nursing, and occupational therapy. Weekly field trips to various pharmacy settings (community, compounding, home-health, and hospital) are provided to the students. The CSU-COP supports four Arts & Sciences faculty to provide the enrichment sessions and provides vouchers for lunch at the student union cafeteria. The high school district provides all transportation to CSU-COP and for the field trips. The CSU-COP has developed an agreement with District 205 to provide guaranteed professional program interviews for program participants if they complete prerequisite coursework at CSU-COP or SSC and maintain a minimum GPA.

Outcomes

The students are being tracked regarding changes in educational and career choices. Only the baseline information has been collected at this point since this is the first year of the program.

Critical Need(s) Being Addressed by the Collaboration

This program provides a pipeline of candidates from a predominately underserved minority high school district for professional school that have knowledge of the profession and are better prepared to succeed in prerequisite coursework.

Challenges to Formation/Implementation

The biggest challenge has been the coordination of applications and selections of candidates for the program. There were also significant challenges with communication between administrative structures of the institutions. These challenges will lessen now that the program has been implemented. It is expected that the future challenge will be the continued tracking of the all students to provide data for outcome measurement.

Stakeholder(s) Acceptance/Considerations

Since this was tying into an existing collaboration, getting stakeholder buy-in was straightforward. It was seen by all as providing additional benefit to the student participants and the only real issues were related to liability of the parties due to the variety of sites participating.

Advice or Lessons Learned

The greatest lesson learned was that when you have multiple participants in the collaboration that each has its own administration, plenty of lead time needs to be given for any decisions that need to be made.

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School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Existing

Description

The Pharmacy Technician Program at South Suburban College, one of the community colleges in Illinois, has been in existence since Fall 1983. For more than 25 years, the college has hired faculty from the surrounding colleges of pharmacy. In 1988, the first college of pharmacy instructor, Dr. Miriam Mobley-Smith, came from the University of Illinois at Chicago College of Pharmacy. For 17 years, Dr. Mobley-Smith was the instructor of the Sterile Products course and served as a faculty member for the pharmacy technician program. She filled that capacity until 2005. The Illinois Council of Health-System Pharmacists (ICHP) and the coordinator of the Pharmacy Technician Program, Dr. Jan Keresztes, were involved in developing the certification exam for pharmacy technicians. The exam went statewide in 1989 and eventually became part of what is now the Pharmacy Technician Certification Board (PTCB). Many college of faculty and members of ICHP were involved in the item-writing portion of this exam.

In her current capacity as Dean of Chicago State University College of Pharmacy, Dr. Mobley-Smith has encouraged her faculty to be involved with South Suburban College's (SSC) Pharmacy Technician Program. One current SSC adjunct faculty member is Dr. Barb Limburg-Mancini, who serves as the instructor for the Sterile Products course. Dr. Limburg-Mancini is also a member of the PTCB Council and is a contributing editor to the Extended Stability of Parenteral Products. Other faculty members from Chicago State University include Dr. Sabah Hussein who taught the SSC Fundamentals course (PHT 115) for three years, Dr. Yolanda Hardy who taught the Pharmacy Math (PHT 101) class for five years, and Dr. Angela Riley who taught Pharmacology II (PHT 109) for one semester.

Other colleges of pharmacy faculty have been hired as adjunct faculty for the SSC Pharmacy Technician Program. Dr. Peggy Bickham, an adjunct faculty member of the University of Illinois at Chicago College of Pharmacy and employed full-time at the UIC Hospital is currently teaching the SSC PHT 102 (Operations I) and PHT 108 (Operations II) courses. Dr. Jennifer

Mazan, a full-time instructor at Northwestern University Chicago College of Pharmacy is an instructor for the PHT 100 (Orientation) course.

In addition to the employment of the college of pharmacy instructors, Dr. Keresztes has been a preceptor for the Advanced Pharmacy Practice Experience (APPE) students from various colleges since January 2002. The colleges of pharmacy utilizing the SSC Pharmacy Technician Program as an APPE rotation site include University of Illinois at Chicago College of Pharmacy, Northwestern University Chicago College of Pharmacy, Purdue University College of Pharmacy, Chicago State University College of Pharmacy and, most recently, the University of Iowa College of Pharmacy. Over the last 12 years, Dr. Keresztes has precepted approximately 50 pharmacy students. In addition, Dr. Jan Keresztes lectures annually at Purdue University and Chicago State University Colleges of Pharmacy.

To increase the interest in pharmacy as a profession, South Suburban College expanded the pharmacy technician program to include high school students, the majority of whom are seniors. In the fall semester, these seniors enroll in a Pharmacy Math (PHT 101) course. During the spring semester, these students continue by taking a Pharmacy Technician Orientation (PHT 100) course. This high school program is now in its sixth year. SSC offers these courses to students in District #205 which is comprised of 3 high schools: Thornton Township, Thornridge, and Thornwood. Interested high school students must be enrolled in their high school Advanced Placement (AP) Chemistry course and be chosen to participate in the SSC Pharmacy Technician Program. Any high school student interested in the medical profession can apply. There are three different sections on three different days for each of the three high schools. This program is a 'win-win' situation for all involved. The college pays the instructor and waives the tuition for one course. If the student receives an A or B for the first semester in their Pharmacy Math course, the tuition for the next course (Pharmacy Technician Orientation) is waived as well. The high school pays for the books, the students' white jackets, their state license application and the PTCB exam, if they are interested in taking the exam. The student only has to pay for the college's activity fees. It is unknown at this time whether any of these students have entered a college of pharmacy. There have been two nurses, one biomedical engineer and a Ph.D. microbiologist from the originating class.

Outcomes

With the experience of the SSCP Pharmacy Technician Program and the mentorship of the APPE students, there have been sixteen (16) pharmacy technician students who are currently pharmacists or in a college of pharmacy program.

There have been additional outcomes from this collaboration:

- Enhanced pharmacy educational experiences from the colleges of pharmacy to the technician program and vice versa
- Enlightenment of the college of pharmacy faculty about the foundation upon which the pharmacy profession is basing their future with pharmacy technicians
- Development a potential career ladder for pharmacy technicians from high school to a college of pharmacy

- Encouragement of the professional development of pharmacy technicians
- Participation in one another's advisory councils
- Precepting AAPE college of pharmacy students (P4)
- Sharing of automation (i.e., MedDispense, QDM dispenser, isolator hoods) with the P4 students
- Utilizing P4 students on rotation to lecture, be lab assistants, develop exams, quizzes, and most importantly, be a calculations tutor to technician students having difficulty with pharmacy math
- Pharmacy technician program coordinator lecturing at the college of pharmacy for the P1 students
- College of pharmacy instructors teaching the same course for both the pharmacy students and the pharmacy technician students (i.e., pharmacy math, sterile products, pharmacology, fundamentals, operations I and II)
- Mentorship of the pharmacy technician students by the P4 students

Critical Need(s) Being Addressed by Collaboration

The internships (i.e., practicums) in the pharmacy technician program could possibly be aligned with the learning objectives in the IPPE curriculum. Transferability of some of the pharmacy technician courses into a college of pharmacy, either as a direct transfer or as an elective is also an issue that needs to be addressed.

Challenge to Formation/Implementation

The collaboration among all the colleges of pharmacy and the SSC pharmacy technician program is positive and mutually beneficial. With respect to the high school seniors involvement in the pharmacy technician program, it is a challenge to have all the accepted students COMPASS tested for their abilities in reading, English and math in a timely manner. Acceptance deadlines and the interview process have earlier deadlines now to address these issues.

Stakeholder(s) Acceptance/Considerations

The pharmacy technician students appreciate the guidance from the P4 students, and all the individuals associated with a college of pharmacy. The high school administration and their students also experience the 'college environment' and understand the rigor that exists when enrolling in a college course. The experience better prepares them for their future in college.

Advice or Lessons Learned

Results of a poll taken annually since 1998 until today indicates that the pharmacy technician students would like to be awarded an Associates' degree (they currently earn a certificate from the SSC Pharmacy Technician Program). There are opportunities to develop a career ladder for the pharmacy profession. A potential career ladder to explore is from high school to pharmacy technician education to pre-pharmacy curricula to a college of pharmacy degree. A mandated

curriculum for pharmacy technicians embedded in the pre-pharmacy curriculum also has a potential.

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Iowa

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School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Emerging

Description

The University of Iowa College of Pharmacy is currently developing a model to establish a consistent, uniform system of pharmacy technician education/training in the state of Iowa. This model aims to work with the fifteen (15) community colleges in Iowa by assisting in the development of a uniform curriculum design. At least two of the community colleges offer a technician education/training program, but the programs vary considerably. Several other community colleges have expressed an interest to begin a pharmacy technician education/training program, but currently do not have the necessary resources.

The University of Iowa is currently working with their local community college, Kirkwood Community College. Kirkwood Community College would serve as the “spoke of the wheel” in this model in that they would have the model technician education/training program set-up at their site and they would use the University of Iowa College of Pharmacy’s Iowa Courses Online (ICON) to deliver the planned curriculum to the other 14 community college sites.

Plans continue to evolve regarding the University of Iowa College of Pharmacy (and possibly Drake University College of Pharmacy and Health Sciences) to assist with planned experiential training by utilizing their training laboratories as well as healthcare delivery sites (i.e., hospital and community sites) in the immediate vicinity near the colleges of pharmacy. This would provide the opportunity for all students enrolled in the pharmacy technician education/training program throughout the state to travel to Iowa City (University of Iowa College of Pharmacy) or Des Moines (Drake University College of Pharmacy and Health Sciences) and lodge in the college dormitories to complete their concentrated experiences (e.g., utilizing a four-to-six week “boot camp” approach). By having a concentrated experiential segment, the collaboration could utilize structured skills assessment similar to what is utilized in APPEs to assess student pharmacist performance.

Critical Need(s) Being Addressed by the Collaboration

This program format would provide the opportunity to enroll a sufficient number of students to meet the statewide employment demand for pharmacy technicians without saturating any one particular geographical area.

Stakeholder(s) Acceptance/Considerations

There has been good receptivity to the discussion and planning of this collaborative effort. Faculty from the University of Iowa College of Pharmacy have had several effective planning meetings with the Kirkwood Community College staff regarding this collaboration. Faculty from the University of Iowa College of Pharmacy is scheduled to visit with another community college that offers a pharmacy technician education/training program to further advance this plan.

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School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Emerging

Description

PharmTech X is collaboration with the University of Maryland School of Pharmacy and three health-systems in Maryland: the University of Maryland Medical System, Medstar Health, and the Johns Hopkins Hospital. The PharmTech X will be a practice-based training certificate program specific to pharmacy technicians. This activity will utilize online content, self-study, practical experiences, and group projects to prepare experienced, highly-qualified pharmacy technicians for advanced clinical practice and/or leadership roles within their organization.

After completing this training program, pharmacy technicians will be able to:

- Assist with medication management and storage
- Conduct medication profile reviews
- Assist with medication histories of patients
- Educate patients and nurses under a pharmacist's supervision.
- Complete medication checking
- Monitor for medication errors
- Facilitate improvement of the medication process

The program will be available as three separate certificate programs that include general patient care, specialty pharmacy practice, and community pharmacy practice. Technicians are expected to complete the general patient care program and then can advance into one or more of the remaining tracks. The modules included in the three programs are as follows:

- Certificate 1: General Patient Care (Core certificate for all participants)
 - Total continuing education hours: 18
 - General patient management (6 hours)
 - Patient interviews
 - Medication histories
 - Medication reconciliation
 - Therapeutic drug monitoring
 - Adjusting medications in renal dysfunction

- Medication safety and regulatory requirements (5 hours)
 - Medication safety
 - Joint Commission
 - National Patient Safety Goals
 - USP 797
 - Controlled substance requirements
 - Pain management
 - Leadership (4 hours)
 - Supervision
 - Professionalism
 - Time and project management
 - Conflict resolution
 - Mentoring
 - Pharmacy waste
 - Lean Sigma
 - Billing and compliance
 - Transitions of care (3 hours)
 - Certificate 2: Specialty Pharmacy Practice
 - Total continuing education hours: 24 hours
 - Pediatrics (5 hours)
 - Asthma
 - IV lines
 - Fluids and electrolytes
 - Pediatric and neonatal TPN preparation
 - Advanced calculations
 - Handling drug shortages and electrolyte substitutions
 - Compounding liquids
 - Infectious disease (4 hours)
 - Pharmacology of antibiotics
 - Therapeutics of sepsis
 - IV to PO conversions
 - Cardiology (2 hours)
 - Therapeutics
 - Heparin and insulin monitoring
 - Drip calculations
 - Technology (5 hours)
 - New and investigational medications
 - Policies and procedures for new technology / information systems
 - Training personnel

- Oncology (8 hours)
 - Therapeutics
 - Chemotherapy preparation
 - Advanced calculations
- Certificate 3: Community pharmacy practice
 - Total continuing education hours: 15 hours
 - MTM (8 hours)
 - Pediatrics (2 hours)
 - Technology (5 hours)

The resources needed for this program include funding for an online education system, Connect4education, to house training materials. The program will also require compounding equipment for oral and IV medications. The school already has these resources in place. A program coordinator will be hired to assist with material development and coordination of the program for participants. Training will take place on the University of Maryland School of Pharmacy Shady Grove campus at the Universities at Shady Grove and at the University of Maryland Baltimore campus. The program will utilize already existing practice laboratory facilities and Objective Structured Clinical Examination (OSCE) training facilities.

Outcomes

For outcomes, initially we will analyze the first cohort to determine what changes will need to be made in materials and assessments. This will be based on data from activity evaluation, administrative data, item analysis from assessments, qualitative interviews of a sample of participants, and faculty reflection and assessments. Eventually, employer surveys and interviews will be done one year after completion of a certificate to determine changes in employment or roles in practice for technicians.

Critical Need(s) Being Addressed by the Collaboration

The American Society of Health-System Pharmacists (ASHP) is working to advance the practice of pharmacy through the Pharmacy Practice Model Initiative (PPMI). The goal of this model is to advance the health of patients while increasing the utilization of pharmacists in direct patient care. The collaboration of PharmTech X stemmed from local hospitals wanting to advance the practice of technicians based on recommendations in PPMI. Hospital leaders recognized the need for advanced technician training. Members from the three health systems participate on the committee developing PharmTech X. They offer guidance on topics and some have offered to support development of topic areas such as technology, leadership, and regulations. The planning for this program began in 2013 and the program will launch in Summer 2014. To compensate members from the hospital systems for their time and expertise, scholarships for the certificate programs will be given to their technicians. We anticipate a total of 20-30 scholarships to be awarded.

Stakeholder(s) Acceptance/Considerations

Overall, the goal of this program is to have pharmacy technicians advance their practice so that pharmacists can spend more time on direct patient care. In order for the program to continue to recruit participants, there will be a need for job promotions or advanced technician roles in the health system and community pharmacies. Currently this is in place at one of the health systems while the others are moving forward with these advanced positions.

Advice or Lessons Learned

For lessons learned, we worked hard to differentiate our program from an entry-level technician training program in order not to compete with local entry-level programs. Our goal was to develop a training program that would advance technicians skills and abilities to the next level and to target those who consider being a pharmacy technician a career. Also, determining an appropriate platform for the program can be a challenge and a costly endeavor especially if the resources are not already in place. Last, continuing education (CE) certificate programs are often only 15 credit hours in length. If much longer, it can be a challenge to keep participants enrolled and moving forward in the program. Our program contained several topics and was quite large until we decided on the breakdown of three certificate programs that allowed participants to select tracks based on their practice interests.

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Montana

University of Montana Skaggs School of Pharmacy

Missoula, MT 59812

Missoula College at the University of Montana Pharmacy Technician Program

Missoula, MT 59801

ASHP Accredited Technician Training Program

School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Existing

Description

Since the inception of the Pharmacy Technology Program in 1996, Dr. Lori Morin has served on the Pharmacy Technology Advisory Committee. Dr. Morin, the past two Technology Program directors and the current director are graduates of the Montana Skaggs School of Pharmacy, so it has been a natural and comfortable connection. Before serving as program director, Dr. Mary McHugh sat on the Pharmacy Technology Program Advisory Committee as the director of a local hospital pharmacy where students from both programs receive training. Since serving as the Technology Program director, Dr. McHugh has been a member of the Board of Visitors for the School of Pharmacy. Other University of Montana Skaggs School of Pharmacy faculty also participate on the Technology Advisory Board. They have added a beneficial dimension with their understanding of both the profession and academia.

Some common points of collaboration for the programs includes experiences with online teaching, utilization of the same intravenous (IV) lab instructor, and a trial class for students from both programs. Dr. Morin participates in applicant interviews for the technician program and Dr. McHugh participates in applicant interviews for the pharmacy program. The physical location of the Missoula College will soon be moving to be less than a mile from the University of Montana Skaggs School of Pharmacy and it is anticipated that additional future collaborations will be much more convenient.

There have been no formal aspects of collaboration, nor monetary incentives. The programs work together as a friendly team. Faculty from both programs has held important positions in state and national pharmacy associations as well as on regulatory boards.

Outcomes

We are not currently anticipating any need to generate, track or evaluate outcomes with regard to our collaboration. The pharmacy technician education/training program is successful in terms of retention, Pharmacy Technician Certification Examination (PTCE) pass rate and graduate employment. The Montana state board of pharmacy is progressive with regulations regarding pharmacy technicians.

Successful Aspect(s) of the Collaboration

The common goals of the two programs have created the feeling of teamwork and support for each program.

Challenges to Formation/Implementation

The current University of Montana Skaggs College of Pharmacy challenge is that of funding. It is too early to know how this will unfold for programmatic adjustments that may affect this collaboration, but both groups believe that they have a strong and positive relationship to assist with any challenges that might occur.

Stakeholder(s) Acceptance/Considerations

Both programs work well together, have not had nor anticipate great challenges, and appear to have buy-in at a local and state level with stakeholders.

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Pennsylvania

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Bidwell Training Center, Inc. Pharmacy Technician Program
Pittsburgh, PA 15233
ASHP Accredited Technician Training Program

School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Existing

Description

Susan M. Meyer, PhD, associate dean for education and professor, at the University of Pittsburgh School of Pharmacy, offers an elective course, Principles and Techniques for Teaching, for PharmD students interested in pursuing careers in academic pharmacy. The course, first instituted in fall 2007, introduces the students to the process of instructional design, principles that guide the development of instruction, and strategies for teaching and assessment. The course is taught in the context of health professions and higher education.

The collaboration emerges from an ongoing relationship between the course instructor, the program director at the Bidwell Training Center, and the two primary instructors in the pharmacy technician training program. Scheduling is done on an *ad hoc* basis, based on current cohorts of students in the pharmacy technician training program and the semesters in which the elective course is offered for student pharmacists. No formal agreements or memos of understanding have been executed, nor are there any financial agreements or incentives.

Each semester the elective course is offered, instructors from the Bidwell Training Center provide a list of topics that would fit into the curriculum for the pharmacy technician students. The student pharmacists, either alone or in pairs, select topics from the list, then design a 20-minute unit of instruction appropriate for the learner group, including learning objectives, instructional resources, and presentation materials. Student pharmacists must also be prepared to respond to questions from learners at the end of the teaching unit.

Student pharmacists visit the Bidwell Training Center once to meet the pharmacy technician students, become familiar with the teaching environment, and observe instructors in the pharmacy technician training program as they interact with their students. Then, as the primary assessment at the conclusion of the teaching elective course, the student pharmacists deliver their units of instruction. Pharmacy technician students provide written feedback to the student pharmacists on their effectiveness as instructors.

Student pharmacists in the elective course repeatedly identify the opportunity to teach at the Bidwell Training Center as the most valuable aspect of the course.

“The Bidwell presentation was a very good way to allow us to present material to a group of people we did not know. This differs from our regular classmates in many ways and I believe it was a good way to truly evaluate our presentation skills.”

“The most helpful aspect of this class was teaching a lecture to the Bidwell students. Applying what is learned in the classroom is one of the best teaching strategies and it gave me a greater appreciation for what my professors do every day.”

“The discussion in class was helpful, and the presentation at Bidwell was the perfect way to practice teaching using methods we learned.”

Outcomes

To accurately assess the course outcomes (i.e., use resources on teaching in higher education and health professions; apply instructional design principles to create a unit of instruction; deliver an effective unit of instruction; and assess the quality of instruction provided by others), the course instructor sought a learner group and environment that would allow for the students to demonstrate achievement of the outcomes without complicating the activity with the content of the teaching unit. That is, students in the teaching elective would not need to master new content before teaching it to others. The Bidwell Training Center welcomed the opportunity to bring student pharmacists into their classroom to expose their students to learners in a program that some of them may pursue in the future and to engage their students with future practice colleagues.

Successful Aspect(s) of the Collaboration

This has been a successful collaboration and is mutually beneficial in multiple ways:

- Students in the pharmacy technician training program at the Bidwell Training Center value the interactions with student-pharmacists at the University of Pittsburgh. Often, pharmacy technician students ask questions about the education and training program leading to the PharmD degree and the experiences of the student pharmacists. These conversations are particularly useful to those pharmacy technician students who aspire to careers as pharmacists.
- Questions from the pharmacy technician students provide opportunities for student pharmacists to refine question-answering skills and to customize instruction to specific learners.
- The collaboration provides the student pharmacists a student audience and learning environment in a closely related field. This allows for the student pharmacists to focus primarily on the learning objective for their course (application of principles and techniques for teaching) without needed to focus on learning new profession-specific content). Additionally, the teaching situation is authentic, not contrived nor simulated.

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Texas

The University of Texas at Austin College of Pharmacy
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Austin Community College Pharmacy Technician Program
Austin, TX 78702
ASHP Accredited Technician Training Program

School/College of Pharmacy Collaborations with Pharmacy Technician Education/Training Programs

Collaboration Type: Existing

Description

The primary motivating factor that initiated this collaboration was due to a natural progression as W. Renee' Acosta transitioned from her original position as the department chair of the pharmacy technician program at Austin Community College (ACC-PHRA), to her new position at the University of Texas – College of Pharmacy (UT-COP). Renee' has long been a supporter of technician education and her input on the ACC pharmacy technician program advisory committee continues to be invaluable. The collaboration between UT-COP and the ACC PHRA program has been in place for over 15 years.

There are currently several areas of collaboration between UT-COP and ACC-PHRA including: acceptance of core curriculum transfer credits from ACC to UT, and participation on our advisory committee. Additionally, students who have completed the ACC PHRA course 1345 (Sterile Compounding and Aseptic Technique) have an opportunity to test out of the sterile compounding course requirement at UT and have done well. We have recently identified several potential opportunities for additional collaboration between our programs, including:

- Encouraging students on the UT-COP "wait list" or who have been denied immediate acceptance into pharmacy school to attend the ACC-PHRA as a way of boosting their potential for admission to the UT-COP
- Including completion of the ACC-PHRA as a factor when ranking students for admission to the UT-COP
- Consider accepting completion of ACC-PHRA course 1345 (Sterile Compounding and Aseptic Technique) for direct credit transfer to UT-COP
- Consider accepting completion of ACC-PHRA course(s) as elective credits transferrable to UT-COP
- Consider accepting completion of ACC-PHRA course 2266 (practicum course) as credit or partial credit for UT-COP student's P1 rotation
- Referral of UT-COP students and graduates to ACC-PHRA specialty certification courses (ACPE Accredited Continuing Education [CE] activities) such as: chemotherapy

compounding, TPN Compounding, Pediatric Preparations, Basic Extemporaneous (non-sterile) Compounding

- Consider cross-program speaker opportunities for UT-COP students and faculty, and ACC PHRA faculty.

At this time, due to the informal nature of our collaboration, the only resources needed are the time to attend our advisory committee meetings, and the desire to continue our collaboration. Going forward, it will likely require formal conversations and an official determination by both programs as to the adoption of any additional initiatives. At that time, additional resources and needs may be identified.

Key milestones of this collaboration include: ASHP Accreditation and Reaccreditation of the ACC-PHRA program, Renee' Acosta's commitment to and willingness to continue her participation on the ACC-PHRA advisory committee, ACC-PHRA program's acceptance as ACPE Accredited Providers of Continuing Pharmacy Education, and the ACC-PHRA departments adoption of an Associate's Degree (AAS in Pharmacy Technology) track for students. Future milestones may include the adoption of a formal collaborative agreement between the programs.

At this time, the collaboration between the UT-COP and the ACC-PHRA program is informal in nature and there are no written agreements. In addition, there are no financial agreements/incentives with regard to the collaboration between the UT-COP and the ACC-PHRA program. However, these elements may change as the collaboration between our programs expands.

Outcomes

Due to the informal nature of our collaboration, there has been no formal outcome tracking. We continue to evaluate emerging trends in pharmacy education with an eye toward their impact on our collaboration. Of specific interest are the Task Force on Pharmacy Technician Education that is being conducted by the Texas State Board of Pharmacy (TSBP)-Lisa McCartney is participating on the task force, the change-over from ASHP accreditation (of pharmacy technician programs) to Pharmacy Technician Accreditation Commission (PTAC) accreditation, and initiatives being advocated by the Pharmacy Technician Educator's Council.

We continue to evaluate emerging trends in pharmacy practice with an eye toward their impact on our collaboration. One of the areas of current evaluation is the impact of the PPMI on pharmacy practice as meeting the needs of the rapidly changing scope of practice for pharmacists and technicians is likely to offer opportunities for additional areas of collaboration between our programs.

We continue to evaluate emerging trends with regard to legislative and regulatory issues that may impact our collaboration. Some of the areas that are of specific interest are the TSBP Task Force on Pharmacy Technician Education, the upcoming changes to the Pharmacy Technician Certification Board requirements, and the new (effective September 1, 2015) Texas legislation requiring that all pharmacists and pharmacy technicians who prepare (or who supervise those

who prepare) sterile compounds must complete a single course (20 hours for pharmacists, 40 hours for pharmacy technician) in sterile compounding and aseptic technique which provides CE from an ACPE accredited provider.

We continue to evaluate additional, relevant sources of information and literature for potential areas for future collaboration between our programs. One area of interest is the Bureau of Labor and Statistics outlook for pharmacist job growth (14% between 2012– 2022) and for pharmacy technician job growth (20% between 2012 – 2022) in the United States and how our programs can best meet the needs for well educated and highly skilled pharmacy workforce.

Critical Need(s) Being Addressed by the Collaboration

A critical need being addressed by this collaboration is an awareness of the importance of well educated pharmacy technicians (i.e., ASHP accreditation, AAS degree, etc) and how technicians who have completed the ACC-PHRA program might either transition to UT-COP and/or work effectively as future team members/colleagues of UT-COP graduates.

Successful Aspect(s) of the Collaboration

A successful aspect of this collaboration is an appreciation of the important roles that pharmacists, technicians, and students play in providing safe, effective pharmaceutical services, and a commitment to the provision of excellent pharmacy education and training.

Challenges to Formation/Implementation

Due to the informal nature of this collaboration, there has not identified any specific challenges. However, should challenges arise, they will be met head-on a spirit of cooperation.

Stakeholder(s) Acceptance/Considerations

As we endeavor to pursue a more formal collaborative agreement, it will be essential to bring in all stakeholders (i.e., advisory committee members, faculty, staff, students, residents) to get their feedback, acceptance, and buy-in prior to determining the future course of our collaboration.

Advice or Lessons Learned

There are a multitude of opportunities to create win-win collaborations that are mutually beneficial to the involved programs as well as the students, faculty, employers, and patients being served. Programs should pursue their willingness to “look outside the box” for solutions to meet the challenges facing pharmacy in the future.

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Wisconsin

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ASHP Accredited Technician Training Program

**School/College of Pharmacy Collaborations with Pharmacy Technician
Education/Training Programs**

Collaboration Type: Emerging

Description

The primary motivating factor for this collaboration was increasing the exposure and utility of the compounding course, which was originally developed as a continuing education offering. However, upon discussion with some of the faculty in the pharmacy technician education/training program, it was discovered that this was a necessary part of the pharmacy technician education/training program. In addition, the laboratory facilities at the pharmacy school are much better equipped than the facilities used for the technician education/training program. It was decided that the pharmacy technician students would attend the same laboratory sessions that practicing technicians would attend, and that they would also listen to the lectures prior to the laboratory sessions. There are at least two cohorts of pharmacy technician students going through the program each year, and therefore the course is scheduled accordingly. The focus area of the collaboration is the non-sterile compounding component of the pharmacy technician education/training program. The resources needed are the lecture materials and the laboratory and corresponding supplies for the instruction. The collaboration began in the spring of 2013 and is ongoing. Milestones were the creation of prepared lectures and the laboratory sessions. Future laboratory sessions will be milestones and lectures may be modified based on student feedback.

This is a relatively informal arrangement with a memorandum of understanding. The financial arrangement is that \$150 per pharmacy technician student is paid to the University of Wisconsin Madison School of Pharmacy Division of Pharmacy Practice Development (DPPD) to cover laboratory materials and course development. This is a discounted fee compared to the continuing education student rate.

Outcomes

The students are evaluated directly in the laboratory with final projects. They are also tested online after the lecture components are completed. Since this course depends upon a laboratory component, the outcome will be primarily local/regional. Inquiries about the course have already come from both the East and West coasts. The desired outcome is improved pharmacy education and practice for technicians. There are unlikely to be any regulatory changes or

additional outcomes. One potential is for greater exposure of the continuing education (CE) offerings from the DPPD for technicians.

Critical Need(s) Being Addressed by the Collaboration

This collaboration will provide quality laboratory compounding instruction for pharmacy technician students and practicing pharmacy technicians.

Challenges to Formation/Implementation

One challenge encountered was that the baseline knowledge of the pharmacy technician students was less than expected. The laboratory was modified (calculations simplified) to take this into account. A key consideration is that the facilities and instruction are better handled by the School of Pharmacy and the benefit for DPPD is that the collaboration means a guaranteed number of students.

Advice or Lessons Learned

In some cases, a collaboration may be waiting just across the street from your site. Scheduling facility use can be a challenge since space is finite. In this case, however, the space isn't in constant use and the collaboration has allowed for even more utility of the laboratory space.

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