Collaboration at Midwestern University Chicago College of Pharmacy for the Big Three: Teaching, Service, Scholarship
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Abstract

The College consists of two departments; pharmacy practice and pharmaceutical sciences. The departments are housed together in the same office suite, which has made collaborations both organic and purposeful. Successful collaborations in the areas of teaching, service, and scholarship are highlighted. In the area of teaching, collaborations between the two departments and the Pharmacology Department in integrating course sequences (Pharmacotherapeutics, Pharmacology, and Medicinal Chemistry) have helped streamline the course content and removed redundancies to ensure optimal student learning. Faculty members from both departments have formed interdisciplinary teams to pursue Scholarship of Teaching and Learning (e.g., a web-based game). In the area of service, pharmaceutical science faculty routinely observe the delivery of clinical pharmacy services by pharmacy practice faculty. This has offered additional opportunities for communication, research collaboration, and incorporation of clinical perspectives in didactic teaching in pharmaceutical science courses (i.e., case studies). In the area of scholarship, several interdepartmental research teams have been formed in the last decade, bringing together the strengths of clinical and basic science faculty. This has led to successful research endeavors, posters, publications, and the purchase of university-funded laboratory equipment. Intramural and extramural grant funding continues to support ongoing collaborations. With these collaborations, teams have been able to study and contribute to innovative translational research in the areas of infectious diseases and women’s health. Successes and challenges of each will be reviewed and faculty perceptions will be highlighted. Future plans include expanding collaborations in teaching, service, and scholarship to include other colleges at Midwestern University.

Background

Chicago College of Pharmacy (CCP) Values Statement
The Chicago College of Pharmacy at Midwestern University is committed to developing a truly unique and exceptional learning community comprised of diverse learners who will address the critical needs of contemporary pharmacy practice and the health care profession through the delivery of a research-informed, experiential, and interprofessional education. The Chicago College of Pharmacy at Midwestern University recognizes its responsibility to provide graduates with the tools to accomplish this mission by committing faculty, students, and staff to the following values:

Value

Teaching

• Involvement in teaching activities is an integral part of every faculty member’s responsibilities, guided by the mission statement.

• Faculty members voluntarily participate in professional and community activities that enhance their educational contributions.

• Faculty members are committed to ongoing professional development leading to excellence in teaching.

• Faculty members are responsible for the development of students through personal performance and service as role models.

Service

• Faculty members are engaged in service activities that support their professional growth and the well-being of their communities.

• Faculty members are committed to the development of compassionate practitioners.

• Faculty members are dedicated to providing leadership with students and colleagues.

Scholarship

• Faculty members are engaged in scholarship activities that contribute to their professional growth and the advancement of the college.

• Faculty members are committed to the development of compassionate practitioners.

• Faculty members are dedicated to providing leadership with students and colleagues.

Table 1: Current Collaborations between pharm sci. and pharmacy practice departments at CCP

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Pharm Sci Role</th>
<th>Pharm Pract Role</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of a rapid and robust method to detect vancomycin-resistant Enterococci (VRE) infections and distinguish live versus dead pathogens.</td>
<td>Developed PCR based assay for VRE and PA</td>
<td>Provided clinical specimens for blind testing of the assays</td>
<td>MWU faculty research grant, CCP_KAS student research awards, Recaptured laboratory funds and start-up funds</td>
</tr>
<tr>
<td>NOH enabling studies for cefepime as a reactivating agent for hypervirulent shock</td>
<td>Overall study design/assay/conductassay</td>
<td>Pharmacokinetic studies and statistical analyses</td>
<td>SBIR</td>
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<tr>
<td>Beta-lactamase Gene Types and the Inoculum Effect with Cefazolin among Methicillin-Susceptible Staphylococcus aureus isolates in Chicago Medical Centers: A multi-center prevalence study</td>
<td>Extracted genomic DNA, performed PCR</td>
<td>Overview collection of MWU follows MSSA isolates from 5 Chicagoland sites. Statistical analysis of results.</td>
<td></td>
</tr>
<tr>
<td>Oral lorpazepam for seizure prophylaxis in adult patients treated with high dose intravenous busulfan before hematopoietic stem cell transplantation</td>
<td>Overview of statistical analysis</td>
<td>Overview of student accessing clinical records</td>
<td>CCP_KAS Student Research Award</td>
</tr>
<tr>
<td>Evaluation of durations of pneumonia treatment and viable pathogen eradication</td>
<td>Establish and validate VPI-PCR for clinically relevant PA in biologic matrices</td>
<td>Determine cefepime concentrations by HPLC and astemizole in LC-MS/MS</td>
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<tr>
<td>Classifying and overcoming fetal and maternal vancomycin-induced kidney injury: a rat model to understand and a new formulation to circumvent</td>
<td>Estimation of vancomycin content in rat kidneys using HPLC/CLSM assays</td>
<td>Formulation development</td>
<td>MMU intramural multidisciplinary grant</td>
</tr>
<tr>
<td>Elucidation of an informed drug dosing scheme to minimize kidney injury</td>
<td>HPLC assay development</td>
<td>Study design and overall conduct/assessment</td>
<td>NIH R15</td>
</tr>
<tr>
<td>Overview of study design/assay/conductassay</td>
<td>All relevant expertise</td>
<td>Establishing a dedicated laboratory for the work.</td>
<td></td>
</tr>
<tr>
<td>An Evaluation of Meropenem Pharmacokinetics in Critically Ill Patients on Extracorporeal Membrane Oxygenation (ECMO)</td>
<td>HPLC assay development and analysis of samples</td>
<td>Study design and overall conduct/assessment</td>
<td>CCP faculty intramural funding</td>
</tr>
<tr>
<td>Understanding the cellular toxicity of vancomycin in combination with commonly utilized antibiotics</td>
<td>Recaptured laboratory funds and start-up funds</td>
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</tr>
</tbody>
</table>

II: Teaching

Teaching Innovation Seminars (Twice Yearly)
• Faculty share their experiences with innovations they have tried in the classroom.
• Encourages an exchange of ideas and foster future collaborations in SOTL.

Interdepartmental Peer Evaluation
Success: Faculty gain differing perspectives on didactic material/delivery
Challenge: Not available for every faculty member

Integration of Courses: Pharmacology, Medicinal Chemistry, and Therapeutics

Successes:
• Global framework established by faculty
• Understanding the pedagogic needs of each discipline with a goal for a better learning experience
• Identified areas of redundancies
• Bringing together content experts from the two departments for planning/coordination
• Exchange of ideas for better content coordination and delivery
• Emergence of new pedagogical tools/strategies to optimize content delivery and student learning
• Potential development of innovative assessment tools

Students will see the drug classes/topics from basic science to therapeutics application in close proximity

Challenges
• Labor intensive
• Required thorough planning and rearrangement of topics to ensure good alignment
• Required several meetings of course directors during planning and implementation stages
• Course content was shifted and some courses were split into smaller credit hour courses
• Student acclimation to this model of teaching and the pace of the material

Courses are taught by three separate disciplines, therefore discrepancies in content and differences in policies exist

III: Service

Peer Shadowing
• Pharmaceutical Science faculty spend a half day with pharmacy practice faculty at their clinical site
• The word cloud on the right depicts common themes in faculty responses when asked to reflect on their peer shadowing experience

Summary and Future Directions

• Interdepartmental elective courses could be developed in drug development
• Assess course integration and optimize delivery for student learning
• Foster research relationships based on areas of interest
• Continue option shadowing of activities for a full college perspective

References


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