Evolution of an Integrated Pharmacotherapy Sequence at the University of Texas College of Pharmacy

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ABSTRACT

The B.S. Pharmacy curriculum at the University of Texas through the 1980's consisted of a classical, discipline-based set of courses, which separately addressed the basic pharmacological and clinical sciences. While there were attempts to coordinate topics across courses, separation of courses across the multiple years of the curriculum, and difficulties for students in terms of integrating content and concepts remained a major challenge. Curriculum redesign associated with the entry level PharmD Program provided us the opportunity to develop an integrated pharmacotherapy sequence across three semesters.

Each therapeutic module consisted of the appropriate pathophysiology, medicinal chemistry, pharmacology/toxicology, and therapeutics presented by modular teams of faculty. Facilitated case-based laboratories allowed reinforcement of concepts and team-based design of therapeutic plans. A comprehensive program assessment conducted each semester allowed for monitoring and refinement of the eight courses associated with the integrated pharmacotherapy sequence.

In anticipation of implementing our revised (2009) PharmD curriculum, two Task Forces undertook a comprehensive review of the integrated pharmacotherapy sequence to assess redundancies, omissions, and format.

One of the challenges of the previous sequence involved students juggling multiple unrelated therapeutic modules, resulting in a focus only on the upcoming modular exam. Thus, a new "immersion" model for pharmacotherapy was implemented in 2010 with a focus on a single module until it is completed.

Overall, this new structure has been well received by faculty and students. We continue to use the ongoing program assessment (and other instruments) to evaluate outcomes in comparison with the previous models.

Discipline-Based Approach; B.S. Pharmacy

Since the 1970's the B.S. Pharmacy curriculum consisted of a set of discipline-based courses in the basic pharmaceutical sciences (medicinal chemistry, pharmacology, pharmacaceutics), the pharmacy administration, and the clinical sciences. With our "1+4" model (one year of pre-pharmacy) students entering the second professional year would begin the linear set of courses illustrated in Figure 1 (focusing only on that coursework which was eventually integrated).

Initial Integrated Pharmacotherapy Model

In the mid 1990's the Curriculum Committee charged faculty involved in teaching related topics to work together to develop integrated 'modules' based on disease state management (infectious diseases, cardiovascular diseases, etc.). With consolidation of coverage in an integrated fashion, a 23 SCH, three-semester sequence was developed, with a companion case-based laboratory for each semester, beginning in the P2 year. It should be noted that Medicinal Chemistry and Pharmacology retained 13SCH courses in the first year to introduce disciplinary principles essential to the integrated sequence. Both students and faculty rapidly accepted this redesign.

The Immersion Model for Integrated Pharmacotherapy

The Curriculum Committee undertook a major curriculum revision associated with ACPE Standards 2007. This revision was fully implemented with the entering class of 2009.

As part of the process, two task forces undertook a thorough review of the integrated pharmacotherapy sequence, the first focusing on coverage (areas of redundancy or gaps in coverage), and the second focusing on sequence (including module groupings within courses, prerequisite modules, and implementation of the immersion model).

The results of these deliberations are presented in Figure 3.

Conclusions

The current sequence (Figure 4) was implemented in the Fall 2010 semester with P2 students, and will be fully implemented at the end of the Fall 2011 semester. The most significant change is the "immersion" approach, where students focus on a single disease state module (Non-Wed-Fri) up until it is complete, rather than juggling multiple modules at the same time. All course syllabi are publicly available at http://www.utexas.edu/pharmacy/courses. Feedback from students and faculty has been positive and constructive, and use of ongoing standardized assessments will allow further refinements in individual modules and courses in the future.

Figure 3. Task Force Review of the Pharmacotherapy Sequence

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Figure 4. Current Integrated Pharmacotherapy Model

CONCLUSIONS

The College has used an iterative process to develop our integrated pharmacotherapy sequence, designed to overcome the problems perceived with a traditional discipline-based sequence of courses. The process for revision has involved close coordination between the College's Curriculum Committee and the Program Assessment Team, and the evolving model has been well received by students and faculty alike.

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