The University of Texas at Austin College of Pharmacy first instituted an integrated pharmacotherapy course sequence with implementation of the entry level Pharm.D. in 1996. Four large, multi-module courses addressed the appropriate pathophysiology, medicinal chemistry, pharmacology/toxicology and therapeutics for specific disease states. Case-based laboratories reinforced didactic content. In 2010, the first major revision of the sequence involved moving to an “immersion” model with focus on a single disease state module coverage until completion rather than simultaneous attention to multiple disease state modules.

In 2016, the creation of a new Physiology/Pathophysiology course sequence in the first professional year allowed for reduction of the pathophysiology content in the therapeutic modules. A task force undertook a review of the entire pharmacotherapy sequence for streamlining of module content, sequencing, and a redesign for Fall-2019 where each disease state module will represent one of thirteen standalone courses. The new sequence will allow for better horizontal integration with the Nonprescription Pharmacotherapeutics sequence and other courses taught in the P2/P3 years. Additional integration of the contents from our current capstone Special Populations Pharmacotherapy course (i.e., pediatrics, geriatrics, pharmacogenetics) into the appropriate modules will also occur.

The course-based program assessment we conduct each semester will allow for continuous monitoring of the new sequence. A number of College policies have been reconsidered: for example, in contrast to the current model, student failure in a single module will not preclude progression to the next module (reducing delays) and will allow for more expeditious, targeted remediation. The new sequence will provide a better structure for faculty accountability in modular integration and course coordination.

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CONCLUSIONS

The College has used an iterative process to continue to develop our integrated pharmacotherapy sequence, designed to overcome the problems perceived with a traditional discipline-based sequence of courses as well as sequencing in such a way as to maximize student learning and alignment with the rest of the curriculum. 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.

ABSTRACT

In the mid-1990’s the Curriculum Committee charged faculty involved in teaching related topics to develop integrated modules based on disease state management (infectious diseases, cardiovascular diseases, etc.). With consolidation of coverage in an integrated fashion, a 21 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 1 SCH courses in the first year to introduce disciplinary principles essential to the integrated sequence. Both students and faculty rapidly accepted this redesign.

A second problem identified with this model was that entirely different disease states were being covered in the three separate courses (on Monday, Wednesday, and Friday). Thus, it was not uncommon for students to focus solely on the module associated with the upcoming exam, while ignoring the other two courses. It was determined that an ‘immersion’ model would be a better approach, and served as a foundation for a revision in our sequencing.

The Curriculum Committee undertook a major curriculum revision associated with ACPE Standards 2007. This revision was fully implemented with the entering class for 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 2.

The current sequence (Figure 3) was implemented in the Fall-2010 semester with P2 students, and was 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 (Mon-Wed-Fri) until it is complete, rather than juggling multiple modules at the same time, as in our initial integrated pharmacotherapy model.

As indicated in Figure 1, the pharmacotherapy courses consisted of multiple modules. It was soon recognized that a student could demonstrate poor performance in one module but adequate in another, and still pass the course (with unacceptable mastery of the first module). Thus a course policy of ‘module mastery’ was implemented, in which the student must attain a score of at least 70% on the regular module exam(s). If not, the module questions on the cumulative final exam represented a second opportunity to demonstrate mastery. If unsuccessful on this second attempt, the student would fail the course.

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