

Aging Organ Systems Curriculum for Second-Year Medical Students



at Wake Forest University Sticht Center on Aging

SUMMARY

Target Audience

Second-year medical students

Purpose

To introduce the spectrum of physiological changes and common disease processes of aging across the second-year curriculum

Program

A combination of lectures and case-based, interactive learning for each of 10 organ-based topics

History

The program was launched in 2004 following a school-wide curriculum redesign, begun in 1998, which did not adequately address geriatrics content

Operating Costs

Faculty and staff time are part of the ongoing educational activities of the Office of Undergraduate Medical Education

Outcomes

Students' perception of their level of exposure to geriatrics has increased greatly since the new curriculum was introduced

Available Materials

Lecture objectives and sample cases; lecture slides from various departments (available upon request)

For More Information

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Program Overview

Traditionally, geriatrics was taught as a stand-alone course in the second year of the Wake Forest medical school curriculum. Beginning in 1998, an overall curriculum redesign provided an opportunity to integrate geriatrics content, including the demographics of aging, aging physiology, and common age-related diseases, across the entire medical school curriculum. For the second-year curriculum, this entailed integrating geriatrics into 10 organ-based topics. In addition to the educational goals, this curriculum was also intended to raise students' awareness and interest in geriatrics as a career choice.

The integration of geriatrics content first occurred by modifying the small-group case-based learning curriculum, which supplements content taught in lecture format. While this worked well in introducing clinical decision making for older people early in the curriculum, it did not sufficiently introduce the spectrum of physiological changes with aging or common disease processes in older adults.

Additionally, the weighting of course content from the case-based component of the curriculum on the examinations has been lower than that of the lecture curriculum. Thus, teaching geriatrics only in the case-based content sent a message to students that geriatrics knowledge was not "worth" as much as other disciplines. Therefore, a need was identified to integrate geriatrics into the lecture-based curriculum as well.

Program Operations

A geriatrics faculty member who served as the Lecture Coordinator oversaw the development and integration of "Aging Organ Systems" lectures into the Year 2 curriculum. With the support of the



Associate Dean for Undergraduate Medical Education and the Year 2 Curriculum Director, a key faculty member was identified to deliver the geriatrics curriculum for each topic area.

The learning objectives for the geriatrics lectures in each of the 10 organ-based topic areas are to:

- describe changes in susceptibility to disease with aging
- distinguish “normal” aging from disease
- recognize characteristics of the older patient that may affect outcomes or treatment strategies

The lectures usually begin with a case that prompts a brief discussion to engage students in the topic. An electronic curriculum allows lecturers to use technology to enhance active learning in real time in the classroom. For example, a Student Response System is used to introduce common misconceptions about aging of the nervous system. Students (who all have school-issued laptop computers) log in to a site where the lecturer has posted four True-False questions about aging of the nervous system, such as “Significant memory loss is a normal part of aging.” The students submit a response and the system allows the lecturer to display aggregate results to the class. The displayed results serve as a springboard for an initial discussion. To keep students engaged, the correct answers are given during the body of the lecture.

Staffing Requirements

A Lecture Coordinator (geriatrics faculty member) is needed during the first year to focus on integrating geriatrics content into the organ-based curriculum, at approximately one calendar-month of dedicated effort. Each course has a departmental leadership structure overseen by the Office of Medical Education, with ten faculty members needed to plan and deliver the organ-based lectures. Their time is covered by funding provided by the Office of Undergraduate Medical Education, routed through the various departments.

Ongoing support by the medical school for individual lecturers and continued Lecture Coordinator oversight is needed at approximately 0.5 calendar-months per year. A dedicated administrative assistant is helpful in the ongoing monitoring of lectures. The Lecture Coordinator is funded through the geriatrics section of the Office of Medical Education.

Program Costs and Funding Sources

The primary program cost is the faculty and staff time delineated above. Development of the program to integrate geriatrics into the Wake Forest curriculum was funded through a U.S. Health Resources and Services Administration Geriatric Academic Career Award (GACA).

Process and Outcomes Data

114 medical students go through the second-year curriculum each year. The AAMC graduation survey found that students’ perception of their level of exposure to geriatrics at Wake Forest has increased greatly since this project was introduced in 2004. In the 2003 graduating class, 31% of students agreed or strongly agreed that geriatrics/gerontology education was part of all four years of their medical education. In 2007, 63.8% of the graduating class agreed with this statement (compared with 48.1% nationally).

Implementation Lessons

- A key aspect of the success of this type of program is not only commitment from the dean’s office and course directors, but also centralized oversight of the project. As faculty leave the institution and new faculty arrive, programs such as this can become lost in the shuffle due to the fact that lecturers are based in different departments. Since the project has been developed, the electronic curriculum at Wake Forest allows quick perusal of the lecture line-up for the entire year, and any



concerns can be addressed by the Lecture Coordinator.

- While technology is very useful in getting important physiology or disease points across, there is no substitute for real patient contact to impact attitudes toward older adults. For example, in addition to discussions regarding hematological diseases in the older adult, the hematology/lymphatic lecture features a healthy elderly survivor of lymphoma who discusses his/her experiences with chemotherapy.
- In the initial implementation of the project, the Lecture Coordinator met with the faculty responsible for the "Aging Organ Systems" lectures to review the purpose and scope of the project and to discuss important aspects of aging related to the organ-system. In the first lecture of the series, a greater emphasis is placed on the demographic imperative for having the series and the plan for evaluation of content through all the topics.
- Five of the ten initial lecturers for this program had been participants in the John A. Hartford Foundation-funded Geriatrics Education Retreats (GERs), designed to train faculty about the importance of integrating geriatrics training into the subspecialties of Internal Medicine. Therefore, they easily grasped the concept of integrating geriatrics into organ-system education. Those who did not have this experience required a little more direction and development and were directed to review articles and other materials.
- The Lecture Coordinator served as the lecturer for the nervous system topic and attended all other lectures in person (or listened to the audio lectures online) and gave direct feedback. This process allowed for refinement of the initial series. Any change in the lectures or lecturers is reviewed by the Lecture Coordinator.
- In addition to working with the individual lecturers to develop content, the Lecture Coordinator can also identify unnecessary

duplication of content or essential components that may be left out of the curriculum. The program also records all lectures, and sampling of quality of the lectures is routinely done online.

Available Materials

Tools/Resources

- Lecture objectives and sample cases
- Lecture slides from various departments

For More Information

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This document is part of a compilation of approaches to geriatrics recruitment, career development, and programmatic expansion, based on the work of the John A. Hartford Foundation "Centers of Excellence in Geriatric Medicine and Training." For more information, visit www.afar.org/recruitment or www.jhartfound.org.

