

Geriatrics for Residents in the Surgical and Medical Specialties: Implementation of Curricula and Training Experiences

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In 1994, under the leadership of the late Dennis Jahnigen, the American Geriatrics Society, with support of the John A. Hartford Foundation, began a project to improve the amount and quality of geriatrics education that surgical and related medical specialty residents receive. The targeted disciplines initially were general surgery, emergency medicine, gynecology, orthopedic surgery, and urology and, later, anesthesiology, ophthalmology, otolaryngology, physical medicine and rehabilitation, and thoracic surgery. A key element of this project was to develop model programs within surgical and related specialty residency education. The Geriatrics Education for Specialty Residents (GESR) program has supported 29 residencies to pilot methods for integration of geriatrics within residency programs, encouraged and inspired development of curricular content, and helped to develop faculty leaders to support these efforts in the long term and at a national level. This paper describes the GESR program, the status of curriculum development, steps for other programs to use in developing a geriatrics education program, and some of the common barriers likely to be encountered during implementation along with solutions to those barriers. *J Am Geriatr Soc* 53:511–515, 2005.

Key words: medical education; surgical specialties; medical specialties; resident graduate medical education

Surgeons and related medical specialists are increasingly required to address the unique healthcare needs of older adults. Although individuals aged 65 and older account for only 12% of the U.S. population, they undergo almost 40% of surgical procedures and use emergency departments and

rehabilitation units disproportionately. They are also more likely to suffer a wide range of postoperative complications. The provision of high-quality, “gerosensitive” care will become an even more critical issue in the surgical and related specialties.

The demographic realities driving this phenomenon are well documented. As the baby boomers age, conservative estimates suggest that the number of Americans aged 65 and older will more than double, from 35 million today to more than 78 million in 2050. The group aged 85 and older will quadruple to at least 18.2 million, although if current trends in life expectancy continue, this number may be closer to 30 million.¹

Along with these trends, striking improvements in everything from cardiac catheterization to knee replacements to liver transplants are enlarging the proportion of older adults (particularly the very old) who are candidates for surgery and other nonprimary care interventions. As a result, surgeons and related medical specialists—whether in training or in practice—will likely spend a significant proportion of their careers providing care to older patients.

Unfortunately, too few surgeons and specialists receive specific training in geriatric principles, strategies, and tactics during residency or through continuing education. A national and growing shortage of certified geriatricians and other generalists with substantial training in geriatrics means that the consultative expertise needed to “pull older patients through” traumatic events and prevent postoperative problems is often unavailable. Surgical and medical specialists therefore carry—and will continue to carry—considerable responsibility for older adults and the complexities of their care.

To respond to this need for better geriatrics training, the American Geriatrics Society (AGS), with funding from the John A. Hartford Foundation, established the Geriatrics for Specialists Project.² Launched in 1994, the project is expanding geriatric expertise in 10 surgical and related medical specialties by:

- improving the amount and quality of geriatrics education that medical and surgical specialty residents receive;
- developing faculty leaders who promote geriatrics training and research within their disciplines; and

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enabling professional certifying bodies and societies to build the capacity of their constituencies to provide better care of older adults.

The 10 specialties participating in the project include: anesthesiology, emergency medicine, general surgery, gynecology, ophthalmology, orthopedic surgery, otolaryngology, physical medicine and rehabilitation, thoracic surgery, and urology.

This article describes one component of the larger project: the Geriatric Education for Specialty Residents (GESR) program. Under this initiative, training programs in each specialty were awarded grant funding to identify and foster future leaders who are interested in the geriatric aspects of their specialty and conduct “experiments” in curriculum development at a grassroots level.

OVERVIEW

Competitive GESR awards were made to 29 specialty resident training programs to develop, initiate, and evaluate programs to increase education in the geriatric aspects of those disciplines. Fifteen awards were made for 2001–2003 and an additional 14 for 2003–2005. Although the second cohort is still in process, major themes have emerged that serve as a template for similar initiatives in specialty training programs throughout the country.

Awards were made in the following distribution: anesthesiology (4), emergency medicine (4), general surgery (5), gynecology (4), ophthalmology (1), orthopedic surgery (2), physical medicine and rehabilitation (4), urology (3), otolaryngology (1), and a joint program between general surgery and emergency medicine (1).

These projects model how to integrate geriatrics into subspecialty training; each has left a lasting mark on the local program, and the effect of these projects has been felt nationally. This collective experience is critical as certifying bodies and the general public increasingly recognize the importance of quality geriatric care. The GESR leaders met at the end of the first year of the projects to discuss strategies, barriers, and successes; those discussions are summarized here. Themes have emerged from these programs to guide development of future programs.

THEMES FOR SUCCESSFUL GESR PROGRAMS

There were five common themes within GESR programs.

- A designated faculty leader in the specialty program
- Collaboration with the geriatrics program in the institution
- Creating “buy in” by the residents
- Setting a structured curriculum
- Use of technology

Each had a designated faculty leader to drive the project. Reasons faculty “bought in” to being geriatrics leaders for their projects fell into general categories. Some saw the opportunity to become leaders in a rapidly developing field for the specialty. Others believed that geriatrics represented new opportunities for research and funding. Some faculty saw an opportunity for faculty development to improve teaching skills and study evidence-based medicine. Support from the residency program director was

critical to the faculty leader. The Accreditation Council for Graduate Medical Education (ACGME) requirements for geriatrics training has bolstered that support.

Faculty leaders also described a belief that teaching principles of geriatric care would improve the quality of care for older patients by reducing complications, reducing length of stay, improving outcomes, and providing better care for the terminally ill.

Another common theme for these projects was the collaboration by the specialty program with the geriatrics-training program at the institution. Usually specific members of the geriatrics faculty were charged with the responsibility to collaborate with the specialty program. In some cases the involvement of geriatrics faculty was viewed as temporary assistance during curriculum development. For others, having residents work with geriatricians was viewed as an efficient means of achieving the necessary training. Some programs involved geriatricians in residents’ established training activities.

Typical activities included multidisciplinary conferences with surgery and geriatrics, joint symposia, and bedside rounds involving specialists and geriatricians. Other programs required residents to make home visits, attend nursing home rounds, hold clinics in nursing facilities, and attend geriatric assessment clinics. One of the programs required geriatric consultation for every age-appropriate patient in that discipline to facilitate interaction with geriatricians.

Essentially all programs struggled with how to make geriatrics relevant (to create “buy in” by the residents). The traditional emphasis on training residents in the technical aspects of the specialty seemed in sharp contrast with the geriatrics content. Most programs convey the demographic imperative by describing local or national data on the prevalence of the older population within the practice of the discipline.

A variety of other strategies proved effective for drawing residents in. Creating learning environments in which residents were members of a team helped convince them that such collaboration was fun and rewarding. Education was also linked to outcomes such as reduced length of stay. Understanding community resources for geriatrics was also a positive message to assist with transition from the hospital. For some, understanding Medicare reimbursement issues was a financial incentive. Residents were also drawn in to learning that care could be offered to patients by understanding and consulting hospice services when cure was no longer possible.

Each of the disciplines has struggled to identify aspects of the geriatric knowledge base critical to that specialty and to set a structured curriculum. This process is established and ongoing. An important outgrowth of these projects has been draft curricula for several of the disciplines (Appendix 1).

Early in this process, the specialties requested assistance from the AGS to develop a succinct summary of the critical content for specialists. The response was publication of the text “The Geriatric Syllabus for Specialists.” A second AGS product that has also found favor among the specialties is the pocket-sized handbook, “Geriatrics at Your Fingertips” (GAYF). This quick reference to geriatric care became available free of charge for personal digital

assistants (PDAs) in 2004.³ A new grant has been proposed to develop a version of GAYF for specialists or additional “pages” in PDA format oriented toward specialists. Although these content guidelines are important, how the content is taught in individual training programs is equally so.

The GESR projects served as a series of experiments in teaching geriatrics to specialty residents. The projects suggest that there are a variety of ways to instill geriatrics in subspecialty programs. The approaches varied greatly, although certain themes emerged.

Although some programs employed 1- to 2-month block rotations, it was also common for programs to integrate geriatrics throughout the year as a series of lectures, grand rounds, and journal clubs.

Some programs targeted residents during a specific year; a decision to do so considered the process of maturation of the resident (e.g., interns might need to focus on the specialty’s basic content, whereas second-year residents would be able to expand the perspective with geriatrics content).

A vast majority of sites implemented a geriatric lecture series, which often included geriatricians, but also other disciplines pertinent to geriatric problems seen by that specialty. For example, in ophthalmology, didactics also involved low-vision specialists; psychiatrists; and ear, nose, and throat faculty. Most lecture series repeat so that residents are exposed to content twice during training.

Teaching tools have been developed that are readily exportable. A nine-panel pocket card guides residents through issues in caring for older surgical patients after surgery at the University of California at Los Angeles. These include diagnosis and treatment of delirium, discharge planning, pain, indications for preoperative consultation, assessing decision-making capacity, activities of daily living, cognition, advance directives, communicating with families, and renal function.

USE OF TECHNOLOGY

Technology played two roles in these projects; materials are available for use by trainees in a flexible time frame, and those same materials are available for review and use by other programs. Many of these materials are undergoing external review and are being piloted by other programs, some are being evaluated for effectiveness in influencing knowledge and behavior, and most are or will be available for distribution. Examples are listed here.

“Top Blade—Geriatrics Edition,” developed by the Department of Surgery (RM Bell, BE Krantz) at the University of South Carolina, is a series of 20 cases with radiographs and special studies on CDROM. Another program is evaluating this tool. It is also being tested for its ability to improve surgical residents’ recognition of geriatric syndromes in patients.

Faculty from Summa Health in Akron and MetroHealth in Cleveland have developed a Web-based curriculum to teach aspects of geriatric trauma. Video encounters lead trainees through care of older patients at the trauma

scene, hospital care, rehabilitation, and home care. The curriculum is being piloted.

Geriatric patient simulators have been developed and are in use with anesthesia (Johns Hopkins) and emergency medicine (North Shore, NYC) residents. Resident’s performance during simulation is videotaped for review and discussion with faculty.

Several programs developed computer-based cases, some with videotaped interviews of preoperative patients and other common scenarios. Some employ completely Web-based curricula, whereas others post slide sets and grand rounds on the program Website.

Further information on these products and links to available materials can be found at the Portal for Online Geriatric Education.⁴

NATIONAL OUTCOMES

Although only 29 programs were funded, the effect has extended far beyond those institutions through national symposia, presentations, and publications. Although not all of the outcomes described here can be directly attributed to the GESR program, it has helped to push the field forward. Several examples are given here.

In psychiatry, a symposium at the 2004 meeting of the American Academy of Physical Medicine and Rehabilitation (AAPM&R) will be dedicated to the care of elderly musculoskeletal patients, and the Board of Governors of the Psychiatric Association of Spine, Sports and Occupation Rehabilitation, which provides the major physical medicine programming for the AAPM&R annual meetings, has agreed that all future courses will include components addressing care of older adults. Furthermore, the success of the geriatrics training at Harvard led that faculty to set a goal to develop fellowship training in geriatric physical medicine and rehabilitation.

With leadership from the surgery program at East Carolina, efforts are underway to develop a database of questions for the qualifying and certifying examinations of the American Board of Surgery on geriatrics. That faculty also taught a curriculum on palliative care to 70 other surgical educators.

The GESR projects have resulted in reports, presentations, and publications that describe the programs and the educational content. A principal investigator in urology published *Progress and Inclusion of Geriatrics in Urology*.⁵ The training program in ophthalmology presented their curriculum at the annual meeting of the American Academy of Ophthalmology. Similarly, an emergency medicine curriculum and its evaluation were presented at the Society of Emergency Medicine.⁶ Two programs in gynecology collaborated on three review articles^{7–9} based on areas important for practicing gynecologists, and a teaching slide set is under development. The effect of enhanced preoperative evaluation before gynecological surgery (part of a training initiative) has also been reported.¹⁰ A series of publications and a presentation^{11–17} in the anesthesia literature have appeared under authorship of principal investigators on preoperative and perioperative anesthesia issues and pain in older patients. The curriculum in anesthesia has been presented at the Society for Advancement of Geriatric Anesthesia meeting, and textbook chapters have been

published.^{18,19} Research in geriatrics by faculty and residents in physical medicine and rehabilitation has been presented and published.^{20,21} Presentations and publications have helped raise the profile of geriatrics in the targeted specialties.

LESSONS LEARNED

The GESR program has produced a set of principles pertaining to development of geriatrics education programs within the specialties. For programs beginning similar efforts, the following steps may be helpful.

- Identify a lead faculty person to direct the effort.
- Establish a relationship with faculty in the geriatrics program.
- Perform a needs assessment among trainees and faculty.
- Review and prioritize recommendations for curricular content.
- Obtain support from the program director and department chair for the initiatives and for time in the department curriculum.
- Identify learning objectives.
- Develop a lecture series (grand rounds, journal club, etc.) to supplement other initiatives.
- Identify and initiate clinical venues for teaching.
- Evaluate effectiveness of the training.

Essentially, this involves faculty development, needs assessment, curriculum design, implementation, and evaluation. These steps are not completely sequential, because it is important to begin negotiating time in the curriculum as soon as faculty leaders are identified. The needs assessment and curricular objectives will support the amount of time.

From discussions with GESR leaders, a set of barriers to teaching geriatrics and possible solutions for overcoming barriers have been identified. These are given below.

BARRIERS TO SUCCESS

1. There is too little time to convey the increasing content in the specialty. Adding geriatric content is challenging. The ACGME 80-hour workweek has exacerbated this.

Solutions

- a. Each specialty notes uniqueness of the geriatric patient through its ACGME requirements or in-service or board examinations.
 - b. The ACGME requires that residents receive training in “Core Competencies” (patient care, medical knowledge, practice-based learning and improvement, interpersonal skills and communication, professionalism, and systems based practice). Some programs combine geriatrics with training on one or more core competencies as geriatrics is linked with each.
 - c. It is critical to negotiate sufficient time with the program director/department chair for didactic sessions and to integrate content during teaching rounds and through the use of technology.
 - d. Citing published curricular recommendations specific to the specialty is useful in making the case for geriatrics.
2. There is pressure on faculty members who have less “protected” time to mentor and teach residents or pursue

research. It has become necessary to see more patients than in the past to “run the business.”

Solutions

- a. It is critical that involved faculty evaluate and publish educational tools and outcomes to have academic credit for their efforts.
 - b. Junior faculty qualify for Jahnigen Career Development Awards sponsored by the Geriatrics-for-Specialists project with funding from the Hartford Foundation and Atlantic Philanthropies. Awards provide 2 years of support, often followed by a National Institutes of Health career development award. Information is available at www.americangeriatrics.org. In addition to facilitating research, these awards promote training within the home residency program.
 - c. Recently, the Geriatrics-for-Specialists project published *Frontiers in Geriatrics Research: An Agenda for Surgical and Related Medical Specialties*. This book was designed for faculty interested in research on the geriatric aspects of their specialty. Its research agenda, based on systematic literature reviews, reveals gaps, controversies, and discrepancies that require further research. This volume is available free of charge from www.americangeriatrics.org or can be downloaded from that Website.
3. There is little opportunity to exchange information and methods at educational meetings related to geriatric aspects of the specialty.

Solutions

- a. The AGS initiated the Section of Surgical and Related Specialties in 2001 as a forum for research and education in the specialties. This provides an opportunity annually to present and learn from like-minded colleagues.
- b. Annual meetings for GESR awardees as part of the AGS Section of Surgical and Related Specialties. These sessions might be expanded to include former awardees and other interested educators.

SUMMARY

Surgical and related medical specialists increasingly serve a population of advanced age. This is because of a burgeoning number of older individuals and advances in technology that make persons of advanced age candidates for specialty services. Unfortunately, it has been rare for surgeons and specialists to receive training in geriatrics. Ten years ago, under the Geriatrics for Specialists Project, this began to change, and now all of the specialty organizations acknowledge the importance of geriatrics training through ACGME requirements or through content on board and in-service training examinations.

The GESR projects provide lessons on how residency programs in the specialties can implement geriatrics in their curriculum. Successful GESR projects had the following themes: a faculty member in the specialty to lead the efforts, support and collaboration from the geriatrics program at the institution, identification by the programs (with help of their residents) of why geriatrics education was important to their training, and finally implementation and continuation of a structured curriculum.

An outgrowth of these projects is development of curricula specific to individual disciplines (Appendix 1). Following a trend in medical education, technology has played a role in the curricula of the GESR programs. Technology makes content available in a flexible time frame for trainees and makes teaching tools available for export. GESR project leaders have also been productive in publication and presentation of their programs and curricula in specialty journals and at regional and national meetings.

Specialty resident training programs can meet training goals and prepare residents for geriatrics on in-training and certifying examinations by borrowing from the experience of the GESR projects following the steps outlined above. There are always barriers to curricular change, and the experience of the GESR programs in overcoming barriers should be helpful to developing programs.

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Appendix 1. Geriatrics Curricula for Specialists

Anesthesiology: American Society of Anesthesiologists—Syllabus on Geriatric Anesthesiology. www.asahq.org/clinical/geriatrics/syllabus.htm Emergency Medicine: American College of Emergency Physicians Curriculum. www.acep.org/library/pdf/model_of_clin_pract_em.pdf Society for Academic Emergency Medicine. www.saem.org/model/geriatr.htm General Surgery: Association of Program Directors in Surgery. www.apds.org/curricsurgical_resident1.htm Gynecology: American College of Obstetrics and Gynecology, Clinical Updates in Women's Health Care: Care of the Aging Woman, Volume III, Number 1. January 2004. http://sales.acog.com/acb/stores/1/product1.cfm?SID=1&Product_ID=265 Ophthalmology: American Academy of Ophthalmology. Basic and Clinical Science Course, Section 1, Update on General Medicine, 2004–05. San Francisco. Orthopedics: American Academy of Orthopaedic Surgeons. Symposium on Geriatrics. Clinical Orthop Rel Res in press. Susan Day, MD, Hartford/Jahnigen Scholar. Case Studies in Geriatric Orthopaedics CDROM, under development. Otolaryngology: American Academy of Otolaryngology—Head and Neck Surgery Geriatric Otolaryngology CDROM. www.entlink.net/education/index.cfm Physical Medicine and Rehabilitation: American Academy of Physical Medicine and Rehabilitation. Robinson KM, ed. Geriatric rehabilitation. *Arch Phys Med Rehabil* 2004;85(Suppl 3):S1–S86. Thoracic Surgery: Thoracic Surgery Directors Association—Comprehensive Thoracic Surgery Curriculum www.tsda.org/curriculum/geriatrics.htm Urology: American Urology Association—the Society of University Urologists. Wein AJ, ed. Objectives for Urology Residency Education, 5th Ed. Society of University Urologists, 2001. See chapters on Aging and Urinary Incontinence.
