

The Johns Hopkins Geriatric Summer Scholars Program: A Model to Increase Diversity in Geriatric Medicine

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The Division of Geriatric Medicine and Gerontology at the Johns Hopkins University strives to create a workforce that represents the racial, ethnic, and sex diversity of U.S. society. To that end, the division has developed a summer program for underrepresented minority first-year medical students to expose them to geriatric medicine and research. The ultimate aim of this initiative is to recruit students to academic medicine, specifically geriatric medicine, where they are drastically underrepresented. Nineteen students participated in the program from the summer of 2002 to the summer of 2004. The participants have continued on to win seven other research fellowships, participate in the National Institute on Aging Technical Assistance Workshop, and present at four national conferences, including the American Geriatrics Society conference and the Gerontological Society of America meeting. One of the students, who is completing medical school in May 2005, is returning to begin the internal medicine residency program at Johns Hopkins Bayview, where the majority of the geriatric faculty practice medicine. Another student who is also graduating is obtaining her Masters in Public Health with a concentration in epidemiology from the Johns Hopkins Bloomberg School of Public Health before starting residency. This article describes the outcomes of the first 3 years of the program, with an emphasis on curriculum development and the recruitment and retention of underrepresented minority medical students. *J Am Geriatr Soc* 53:1607–1612, 2005.

The U.S. population is aging rapidly. The number of adults aged 65 and older is projected to double from 35 million in 2000 (12.4% of the U.S. population) to 70 million

in 2030 (20.6%).¹ Furthermore, like the U.S. population as a whole, seniors are becoming more ethnically and racially diverse. Between 2000 and 2050, the percentage of adults aged 65 and older from minority populations is expected to increase from 16% to 36%.² Of that total, the Asian and Pacific Islander and Hispanic populations will triple and the African American population will almost double.² Meeting the healthcare needs of an aging and culturally diverse population will require a physician workforce that is geriatrically and culturally competent and ethnically and racially representative of the society it serves.³

Unfortunately, the number of minority faculty in geriatrics is grossly insufficient to meet society's needs. For example, although minorities constitute 28% of the U.S. population, they constitute only 3% of medical school faculty.⁴ Similarly, the number of minority faculty in geriatric academic programs is low relative to the percentage of minorities in the general population.

Correcting this imbalance will require that academic geriatrics programs recruit and retain a faculty with expertise in geriatric medicine and gerontology who can lead the educational, research, clinical, and policy agendas in geriatrics and serve as mentors and role models for aspiring minority medical students. One strategy for achieving this goal is for current faculty to build an ethnically and racially diverse academic unit from within. A training program that intentionally exposes minority medical students to geriatrics and gerontology at a time when they are beginning to make career choices should increase the pool of qualified minority candidates for fellowship training, and ultimately increase the numbers and proportion of minority physicians in the academia.

Previous research has shown that, to interest students in a career in academic medicine, the following components are essential: positive role models, participation in research, intellectual stimulation, federal biomedical research support (there is an inverse relationship between the amount of federal biomedical research support and those who choose nonacademic careers), early intervention, and opportunities to serve in internships (e.g., summer projects).^{5–11} The Johns Hopkins University (JHU) School of Medicine, Division of Geriatric Medicine, and the Johns Hopkins Geriatric Education Center developed the Geriatric Summer Scholars Program in 2002 based on the six aforementioned components. The program

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This study was funded by the Johns Hopkins Geriatric Education Center (Health Resources and Services Administration Grant) and the John A. Hartford Foundation.

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DOI: 10.1111/j.1532-5415.2005.53527.x

provides concentrated and focused 4- and 8-week experiences in geriatric medicine and gerontology for underrepresented minority medical students who have completed their first year of medical school. The short-term objectives of the program are to increase student's knowledge, skills, and attitudes about geriatric medicine and gerontology; the long-term goal is to increase the number of minority medical students who enter an academic medicine career and will choose geriatric medicine and gerontology. The program provides a template for other universities to use to increase representation of underrepresented minority medical students in academic medicine.

METHODS

Program Development

In 2001, one of the authors (CFS) individually interviewed eight minority medical students from JHU and the State University of New York at Syracuse to determine their interest in clinical geriatrics and gerontology, their interest in academic careers and research, and the characteristics of academic leaders that would be uniquely attractive to them.

From these interviews, a composite of the students' interests emerged. The students expressed a desire for a summer program that provided intense exposure to geriatric medicine and gerontology concepts and geriatric clinical venues. Most agreed that exposure to research concepts and techniques would be valuable and that they would like to participate with a mentor in a summer research project. All wanted to meet academic leaders who "looked like them." Uniformly, the students indicated that they wanted to work in a "learner friendly" environment.

Based on these responses, a 4- to 8-week summer program was created to meet two goals:

1. increase the students' knowledge about, skills in, and attitudes toward geriatric medicine and gerontology through lectures, selected readings, group discussions, and attendance at a broad array of geriatric clinical rotations.
2. increase the students' understanding of the research process, develop specific skills, and increase their understanding and appreciation of the available pathways to and benefits of an academic career in a supportive learning environment.

Student Recruitment

In 2002, the program director (CSF) recruited at the Student National Medical Association (SNMA) national meeting

and distributed a brochure describing the program. In 2003 and 2004, she placed four advertisements in the Journal of the SNMA and recruited at the local and national meetings of the SNMA. She then contacted students who expressed an interest in the program. In 2004, she contacted the directors of the University of Puerto Rico School of Medicine, Hispanic Center of Excellence, and the JHU Center for American Indian Health to describe the program and recruit potential students to enhance diversity of the summer program.

Student Selection

The program director selected candidates based on interest in geriatric medicine, grades, and letters of recommendation.

Faculty Recruitment

At its inception, the leaders of the JHU Division of Geriatric Medicine and Gerontology and the Center on Aging and Health, both of whom promoted the program to faculty in announcements and designated workspace for students, championed the program. Faculty of both centers ($n = 20$) expressed strong support and willingness to precept students

Curriculum

Clinical Rotations

Students were given a syllabus containing a description of each clinical rotation and an outline of lectures on topics in geriatric medicine and aging (e.g., epidemiology of aging and geriatric syndromes). The clinical rotations were selected to expose students to a broad array of geriatric services, from ambulatory to long-term care settings (e.g., Beacham Ambulatory Clinic, Geriatric Assessment Clinic, which is designed for outpatient consults of geriatric issues, Bone Clinic, Incontinence Clinic, Memory Clinic, Program for All-Inclusive Care of the Elderly, Rehabilitation, Hip Fracture Consult Service, Acute Hospital, and Wound Rounds and Nursing Home). Students spent at least half a day on each service and could elect to spend more time on any given service (Figure 1).

Research

The research component consisted of two sections: didactic and practical. The didactic component included a lecture series (e.g., developing a research question), an introductory course in epidemiology, and visits with research faculty at a unit of the National Institute on Aging's Baltimore Harbor

Monday	Tuesday	Wednesday	Thursday	Friday
8:30: Clinical Activity	8:30: Meeting with Chairman – Department of Medicine	9:00: Research	9:00-12:00: Library Skills	9:00: Epidemiology
12:00: Fellows Lecture	11:30: Geriatric Grand Rounds	11:00: Lunch with faculty in the Bloomberg School of Public Health	PubMed 1, PubMed 2, and Medical Web	10:00: United States Medical Licensing Exam Review
1:00-5:00: Clinical Activity	2:00 Program Director Research Goals	1:00-5:00: Clinical Activity	1:00-5:00: Clinical Activity	12:00: American Federation of Aging Research Lecture Series
	3:00-5:00: Research			

Figure 1. A typical weekly schedule in the Johns Hopkins University Geriatric Summer Scholars Program.

Hospital and the JHU Bloomberg School of Public Health. The students gained practical experience by attending investigator meetings, observing a research assistant perform a 3-hour health assessment, and mentored training in writing a research proposal.

Mentoring and Role Models

Each student met initially with the program director, who is black, to discuss their personal and professional goals for the summer and after medical school. Thereafter, they met biweekly with the program director to review their progress toward their summer goals. Students were also assigned a geriatric fellow partner to provide them with a comfortable peer. When possible, students and fellows were matched for race, ethnicity, and sex. In the third year of the program, the two Puerto Rican students met with a Puerto Rican faculty member from the Division of Rheumatology, and the Native American Student met with Native American faculty from the JHU Center on American Indian Health. In addition, students met each week with selected program leaders and senior faculty (e.g., director of the Geriatrics Fellowship Training Program and director of the Internal Medicine Residency Program).

Cultural Communication

The students participated in weekly workshops on cultural communication in patient care. The workshops lasted from 2 to 4 hours depending on the topic. For example, there was a 4-hour facilitated discussion on the book *The Spirit Catches You and You Fall Down*,¹² which describes the clash between Western medicine and Hmong culture. The students discussed their interpretations of the book, and then the group brainstormed on ways to improve communication between patient and physician. The students also attended a 2-hour workshop on gay and lesbian health and the patient/physician interaction. The students participated in multiple 1- to 2-hour discussions on racism in medicine led by the program director and other faculty members. The students were encouraged to discuss their perceptions of racism in medical school thus far as well as how they cope with racism. They were also encouraged to discuss their own biases. The students were then given tools to address racism (e.g., find support among senior people).

Follow-Up with Students

After the program, all students received regular e-mail messages informing them about other student awards and scholarships with offers to write recommendation letters for them. When the students presented their research projects, they were encouraged to pursue the next question developed from their research during the clinical years of medical school. When the students returned in their third and fourth year to further refine their projects, they also rotated in the geriatric clinical experience. This helped to reinforce geriatrics and geriatric research or at least academic medicine as a career choice. The director also sends holiday cards every year in December to all previous students and good luck baskets for the United States Medical Licensing Examination Step 1. Students were encouraged to stay in touch with the program director by e-mail or phone to discuss any concerns about their professional and personal lives.

Budget

In the first year, \$5,400 was allocated for the program from a private donor. In the second year, \$8,700 was allocated from the Johns Hopkins Geriatric Education Center. In the third year, the budget was increased to \$29,000 with support from the Johns Hopkins Geriatric Education Center and the John A. Hartford Foundation.

RESULTS

Nineteen students completed the program over the first 3 years. In the first year of the program, all of the students were recruited at the national SNMA meeting. In the second year of the program, two of the students were recruited through word of mouth from previous students. One of the students was recruited at the national SNMA meeting and another at the local SNMA meeting at the University of Maryland. In Year 3, the accepted students were recruited via word of mouth,⁷ national SNMA meeting, and local SNMA meetings at the University of Maryland. The race, sex, medical schools, and composition of each class are displayed in Table 1. In 2004, background data on the parents of the students was collected. Only two of the nine (~22%) students' parents worked in the health professions. Early program evaluation consisted of written statements by the students about the program, exit interviews, documentation of academic awards received by and scholarship produced by the alumni, and their acceptance into academic training programs.

Positive and Negative Statements About the Program *Clinical House Call Program*

Viewing the patient–physician interaction in the home setting provides students with a unique perspective on the dynamics between patient, home caregiver, family members, and healthcare provider in a real-life setting.

Mentoring and Role Models

The black students felt that the mentoring component was a real strength of the program, but they also felt that seeing “people who looked like them” in leadership helped them to realize what they could accomplish. All of the students enjoyed the fellow partner program, which enabled them to “relax” and ask questions that they were hesitant to ask attending physicians.

The only suggestion for the program is cultural diversity of the faculty that is involved with the program. For example, if there are Puerto Ricans in the program, try to involve Puerto Rican physicians or faculty in activities. The same for any cultural background. It would have been nice to meet more than one faculty member and three fellows with Hispanic backgrounds.

Epidemiology and Board Review

Give students more epi review instead of one chapter a week.

Honestly, I don't have any complaints regarding the program. If anything, possibly more board review.

Six other students repeated this latter sentiment.

Table 1. Baseline Characteristics of the Johns Hopkins Geriatric Summer Scholars

Year	Students Who Applied (n)	Students Accepted (n)	Race/Ethnicity (n)	Medical Schools (n)	Undergraduate Universities (%)	Sex (n)
2002	6	6	6 Black	SUNY-Upstate (3) Michigan State (1) Ohio University College of Osteopathic Medicine (1) Oklahoma State University College of Osteopathic Medicine (1) Oklahoma State University College of Osteopathic Medicine (1)	100	6 Female
2003	4	4	4 Black	Oklahoma State University College of Osteopathic Medicine (1) SUNY-Upstate (1) University of Maryland (1) University of Southern Alabama (1)	100	2 Male 2 Female
2004	30	9	1 Native American 2 Hispanic 6 Black	University of Maryland (4) Georgetown University (1) University of Puerto Rico (2) University of Arizona (1) University of Southern Illinois (1)	88	4 Male 5 Female

Critical Mass

I think it would be great if there were a couple more American Indian students.

Attitudes Toward Geriatric Medicine and Research

Of the 19 students who participated in the program, three (16%) stated that they were interested in geriatric medicine and gerontology at the beginning of the program; by the end of the program, 11 (66%) of the students reported that they were interested. From the first class, three of six students have decided to pursue a career in academic medicine. One student reported "the (program) provided one the chance to explore the field of research." She has presented two abstracts at national meetings. She also said, the program influenced "my decision to pursue an internal medicine residency, geriatrics fellowship, and then a career in academic medicine." This student applied and matched for an internship with the JHU Bayview Internal Medicine Residency program. Another student wrote, "I did not know so many opportunities were available to medical students within geriatric medicine. The program stimulated my interest in the field of biomedical research, particularly in geriatrics and gerontology, (and) I plan on pursuing a career in academic medicine." This student applied and was accepted to the Bloomberg School of Public Health to obtain her Masters in Public Health before starting residency. One of the students who did not choose a career in academic medicine stated, "I wanted to help my community and felt that I could do so by working in a community clinic instead of an academic institution."

Evaluation of Recruitment and Recruitment Methods

To plan for the future, the reasons given by the students for joining the program were evaluated to identify the best method of recruitment. Over approximately 3 years, 50% of the students were recruited through word of mouth, and the others were recruited at national and local meetings. The majority of students indicated that they came because of the clinical component (39%) alone, rather than research only or the combination of research and clinical, but by the end of the program, 50% were interested in performing research. Three students from the 2002 class (50%) have continued their pursuit of academic medicine research careers.

Scholarships and Awards

From the first class of six students, there have been two RPS/American Federation of Aging Research Scholars, one Doris Duke Medical Fellowship winner, and two National Medical Fellowship winners. Two of the students have also presented at national meetings (three poster and one paper presentations). One of the students won the American Geriatrics Society Edward Henderson Award. One student from the second class has won a National Medical Fellowship.

DISCUSSION

The United States is becoming more ethnically diverse. To ensure culturally competent and clinically excellent care, trainees need role models and experience working with a

diverse ethnic population. In addition, an ideal healthcare workforce should be representative of the population it serves. This program can be used as a template for other academic institutions to increase the number of underrepresented minorities who choose academic medicine and could choose academic geriatrics.

Template for Other Academic Institutions

Based on the literature review, individual interviews with underrepresented minority medical students, and 3 years of the program, the division or department who chooses to pursue this goal should try to have the following components.

1. Ensure the support of the leaders in your department. They can provide financial support for the students and encourage faculty support. The students also appreciate when the leaders of the department take the time to meet with them.
2. Provide positive role models. Students should be exposed to the department's best clinicians and researchers who enjoy teaching medical students. This creates a learner-friendly, supportive environment. The faculty should also be responsive to inquiries from the students throughout the year and not just during the summer experience.
3. Show the heterogeneity of research/scholarly work in academic settings. The potential research projects should extend beyond basic science and should include health services, community-based participatory research, and medical education. Many of the students who developed an interest in research changed their minds because they found out that they did not have to work in a laboratory for the entire summer. If the department does not offer all of the research experiences, then partnering with other departments who may have an aging focus should be considered (e.g., neurology or psychiatry).
4. Meet with a diverse group of faculty and fellows. As noted by the students, each underrepresented minority group would like to see role models who look like them. If the department is not currently diverse, then having the students meet with faculty or fellows outside of the department is a possibility.
5. Create a critical mass. Minority organizations can be found to collaborate with to increase word of mouth and the number of students. For academic centers that do not have the opportunities to form partnerships, the national organizations, such as the Association for Native American Medical Students, Society for the Advancement of Chicanos and Native American Students, National Boriqua Latino Health Network, and the Student National Medical Association can be contacted to recruit at their local or national conferences.

Preliminary evaluation after the first 3 years suggests that using the aforementioned techniques is attracting students and making progress toward interesting students in academic medicine and continuing interest in geriatric medicine. Before the inception of the program, on average, one underrepresented minority student would participate in a

geriatrics elective every other year. In 3 years, there have been 19 underrepresented minorities participate in a geriatrics experience. With committed leadership and support of the faculty, the program can be replicated at other medical institutions.

ACKNOWLEDGMENTS

Financial Disclosure: Dr. Crystal Simpson receives financial support from the National Heart, Lung and Blood Institute and the John A. Hartford Foundation for research. She received funding from the John A. Hartford Foundation for a consultantship. She does not have any company holdings or patents. She has not received funding for any speaker forums. Dr. Linda Fried receives financial support from the National Institute on Aging for research. She does not currently receive support for any consultantships or speaker forums. She does not have any company holdings or patents at this time. Dr. Samuel Durso receives financial support from the Reynolds Foundation for teaching. He does not currently receive financial support for any consultantships or speaker forums. He does not have any company holdings or stocks at this time. Ms. Thomasina Baily receives financial support from the Doris Duke Medical Fellowship program for research. Dr. Cynthia Boyd receives financial support from the John A. Hartford Foundation and Pfizer. She is an American Geriatrics Society Pfizer Junior Faculty Award winner. She does not currently receive financial support for any consultantships or speaker forums. She does not have any company holdings or patents. Dr. John Burton receives financial support from the Health Services Research Administration for teaching. He receives support from the Atlantic Philanthropic Foundation for consultantships. He does not receive support for speaker forum. He does not currently hold any company holdings or patents.

Author Contributions: Dr. Simpson developed the study concept and study design, recruited speakers, analyzed data, and wrote the paper. Dr. Fried helped to refine the study concept and design and revised the manuscript. Dr. Durso, Ms. Bailey, Dr. Boyd, and Dr. Burton helped refine the design and revised the manuscript.

Sponsor's Role: The sponsors of the study, the John A. Hartford Foundation and the Health Services Research Administration, did not participate in the design, methods, subject recruitment, data collections, analysis, or preparation of the manuscript.

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