

## Geriatric Care Boot Camp: An Interprofessional Education Program for Healthcare Professionals

*Lauren B. Solberg, JD, Laurence M. Solberg, MD, AGSF, and Christy S. Carter, PhD*

In response to the need for interprofessional geriatrics education, a half-day geriatric care boot camp for healthcare professionals was held that covered core concepts in geriatric medicine: delirium and dementia, medication management, palliative care, ethics, and a general overview of older adults. Aspects of the curriculum focused on interprofessional education, and the attendees and presenters were healthcare professionals from a wide variety of fields. Primary objectives were to determine changes in knowledge of core concepts in geriatrics and level of comfort in caring for older adults. Secondary objectives assessed whether participants found the interprofessional approach beneficial and whether they used or shared this information with others in their professional activities. Participants completed pre- and postassessment surveys. Changes in participant understanding of each core concept were statistically significant, as was the change in comfort level of participants in caring for older adults. Furthermore, attendees found the multidisciplinary perspective of the boot camp beneficial. A 3-month follow-up survey assessed whether attendees applied and shared information learned in their own professional activities. Half of the respondents who reported sharing universally shared core concepts. Delirium and dementia information was most frequently shared. Information was most frequently shared with students, nurses, and patients' families. Attendees less frequently shared, or did not share, with physicians, physician assistants, social workers, physical and occupational therapists, nutritionists, and dentists. The healthcare professionals who may benefit greatly from future education programs are those with whom the boot camp information was least frequently shared; thus, they are appropriate targets for advertisements for future programs. *J Am Geriatr Soc* 63:997–1001, 2015.

**Key words:** interprofessional education; geriatrics; information dissemination; interdisciplinary health team

From the College of Medicine, University of Florida, Gainesville, Florida.

Address correspondence to Lauren B. Solberg, 1600 SW Archer Rd, Suite N1–07, PO Box 100237, Gainesville, FL 32610. E-mail: lbsolberg@ufl.edu

DOI: 10.1111/jgs.13394

Teamwork is essential when caring for older adults,<sup>1</sup> and interprofessional educational teams create a learning experience that mimics interprofessional practice in the healthcare setting. Interprofessional education for healthcare professionals on geriatric care is crucial to improving care in older adults. The World Health Organization has stressed the importance of training healthcare professionals using an interprofessional approach, which involves two or more professions learning about, from, and with each other to promote collaboration and improve health care.<sup>2</sup> The National Center for Interprofessional Practice and Education, formed in 2012, has advised that interprofessional education and patient care will improve the quality of care and patient outcomes and reduce cost.<sup>3</sup>

There is a lack of interprofessional education on caring for older adults, despite its necessity for quality care.<sup>4</sup> A 2008 Institute of Medicine report concluded that “the education and training of the entire health care workforce with respect to the range of needs of older adults remains woefully inadequate.”<sup>5</sup> The Partnership for Health in Aging notes that most healthcare professionals “have not had sufficient opportunities to learn with, from, and about other healthcare professionals.”<sup>4</sup>

Furthermore, there is a shortage of healthcare providers who are well qualified to care for older adults in different healthcare settings,<sup>5</sup> and it appears the number of healthcare professionals who lack such knowledge will increase. U.S. Department of Labor statistics indicate that fields such as medicine, nursing, and occupational therapy will show strong growth in the next decade although there is no plan to expose these practitioners to principles of aging and geriatrics during their training.<sup>6</sup>

The need to educate healthcare professionals on geriatric care issues is paramount in Florida, because a significant population of individuals aged 65 and older reside there. In 2010, the percentage of people aged 65 and older was higher there than in any other state.<sup>7</sup> Thus, the University of Florida has a long-standing commitment to caring for older individuals. The mission of the University of Florida Department of Aging and Geriatric Research and Institute on Aging is to “improve the health, independence and quality of life of older adults by means of

interdisciplinary teams in the areas of research, education, and health care.”<sup>8</sup> To achieve this mission, the department’s Division of Career Development and Education is committed to interprofessional education of healthcare professionals and seeks to foster its trainees “to become future leaders, researchers, and clinicians in geriatrics and aging research to improve the health and quality of life of older adults.”<sup>9</sup>

In response to the need for interprofessional education for healthcare professionals, a team of faculty and staff from the division designed, implemented, and evaluated an intensive interprofessional education program on core concepts in geriatric care for healthcare professionals in diverse fields. The primary objectives were to determine changes in knowledge of these core concepts and changes in level of comfort in caring for older adults. The secondary objectives were to assess whether the attendees found the interprofessional approach to be beneficial and whether they used the information learned at boot camp in their practice or shared it with others.

## METHODS

A review of intensive education programs on geriatric care that other institutions offer was undertaken. Other institutions have implemented boot camps on geriatrics, although not all were intended for an interprofessional audience (e.g., they were intended only for nurses, or medical residents). Others covered a limited set of topics (e.g., focused on dementia only) or were offered over the course of many days.<sup>10–14</sup> These programs are effective and critically important but indicate that there is room for other fully integrated interprofessional approaches to geriatrics education that include a variety of topics, learners, and instructors. Furthermore, there is a need for interprofessional education that is intensive and efficient, considering the heavy clinical demands of potential participants. For these reasons, an intensive interprofessional education program, called boot camp, was developed for healthcare professionals. The project received institutional review board approval through expedited review; the institutional review board waived the requirement to obtain signed informed consent from attendees.

### Program Description

The boot camp was conducted as a pilot program. Out of respect for the busy schedule of healthcare professionals, an intensive education program was conducted over the course of a half-day rather than conducting a multiday conference or series of lectures over a period of time. Event advertising targeted healthcare professionals affiliated with the institution who interact with and care for older adults.

An interprofessional program development team selected core concepts in geriatric care, including characteristics of older adults, delirium and dementia, medication management, palliative care, and ethical questions, for presentation at the boot camp. These core concepts were selected based on the team’s own expertise and the geriatrics core competencies of various healthcare fields.<sup>15</sup> Local experts (including program development team members)

presented on each core concept. A Nurses Improving Care for Healthsystem Elders (NICHE) program<sup>16</sup> nurse educator gave an overview of older adults, a geriatrician presented on delirium and dementia, a clinical pharmacist presented on medication management for older adults, a palliative care physician presented on palliative care for older adults, and a bioethicist facilitated an interactive discussion about ethical questions that may arise when caring for older adults. Specific objectives of the individual presentations were to enable participants to identify specific characteristics of older adults, distinguish the critical elements of delirium and dementia, demonstrate understanding of medications and changes in interactions in older adults, describe the principles of palliative care related to the geriatric population, and recognize ethical challenges in geriatric care.

The boot camp was designed to be an engaging and interactive program that combined traditional didactic sessions and experiential, discussion-based learning. Although the sessions on delirium and dementia, medication management, and palliative care were lecture-based, the overview of older adults and ethics case discussion offered attendees an active learning experience. These various learning strategies were implemented based on how well the session content could be adapted for a didactic or interactive experience and how comfortable presenters were in using the approach. For example, the overview gave attendees the opportunity to use visual aids such as colorful glasses that limited their sight and simulated different visual deficits that many older adults experience. The case discussion involved the presentation of real cases with all protected health information removed and gave attendees the chance to talk about how they would handle various ethical challenges, such as withdrawal and withholding of care and elder abuse, that arise when caring for older adults.

Each core concept was covered in a 30- to 45-minute session, for a total of five sessions. To provide participants with resources they could reference at a later time, binders with the presenters’ slides and room for notes were distributed to each participant at the beginning of the event.

### Assessment

Pre- and post-boot camp assessments were administered immediately before and after the event, and attendees were e-mailed a 3-month follow-up survey. The pre- and postassessments measured changes in attendees’ comfort level in caring for older adults and changes in knowledge about the topics presented. Attendees were asked to answer questions using a five-item Likert scale about how comfortable they were caring for older adults and how much they believed they knew about each core concept. The preassessment included other questions that asked about attendee demographics, including their professional title and academic degree(s), whether they had prior training in geriatrics, and what their goals were in attending the program. One of the most important questions asked was on the postassessment alone, which asked whether they found the multidisciplinary (interprofessional) nature of the boot camp beneficial. Many survey questions were

designed based on the boot camp’s learning objectives; others solicited information that could be used to design and market future educational programs.

The data were recorded from the pre- and postassessment and entered into SigmaStat (Systat Software, San Jose, CA), and a paired *t*-test was run on each question to compare change in knowledge of and comfort in caring for older adults after attending the boot camp.

Three months after the boot camp, a follow-up survey was disseminated electronically to all attendees to inquire whether (and how) they applied information they learned to their own professional activities and whether (and how) they shared the information with others.

**RESULTS**

After the program had been advertised for approximately 3 weeks, 52 individuals had registered, 39 of whom attended. Five additional people registered on-site for a total of 44 attendees, 43 of whom completed the preassessment survey; all 44 completed the postassessment survey. The participation of 44 healthcare professionals proved to be manageable and permitted robust, interactive discussion throughout the program.

Boot camp participants represented a variety of professional fields, although the majority reported representing the nursing field (nearly 40% of all attendees). Pharmacy and research coordination were the next most frequently reported degrees or professional titles (Table 1). Three of the 44 attendees identified as students, including a graduate student who had already earned an MD and MPH.

Of the 43 respondents who completed the preassessment survey, 11 (26%) reported never having had training in geriatrics before attending the boot camp. The type of training the other 32 attendees reported having undergone included NICHE training,<sup>16</sup> school programs, and other continuing education programs or conferences. On the pre-assessment tool, attendees were asked to write personal goals they hoped to achieve by attending the boot camp. Responses included:

Learn more about caring for older adults

Learn more to better understand older patients

Refresh knowledge and network with other professionals interested in geriatrics

Gain confidence in my skill set as it relates to working with this population

Learn what is new in the field of geriatric care

Be better educated in order to pass information on fellow staff members

Changes from pre- to postassessment on each question about attendees’ knowledge of each of the core concepts were statistically significant. Attendees’ change in comfort level in caring for older adults was also statistically significant (Table 2).

In response to a postassessment question asking attendees to indicate whether they would be interested in attending another boot camp, topics they would like to see covered, and general feedback about the event, 32 participants explicitly stated that they would be interested in attending another boot camp event or suggested topics they would like to see covered (Table 3). Others were non-responsive to the question; no one explicitly reported being uninterested in attending another boot camp event.

All 44 attendees reported on their postassessment survey that they achieved their personal goals for the boot camp, and 34 participants (77%) strongly agreed that the multidisciplinary nature of the boot camp was beneficial. Comments about the program on the postassessment included:

I really appreciate the team approach, hearing other professionals discuss these issues.

I can now identify specific issues regarding care of the older adult.

I feel more confident in my understanding of medical issues that are faced by elderly patients.

Obtained lots of helpful info and handouts that can be taught to unit staff to ease/facilitate into practice.

I have handouts to reinforce and refer to.

There was a 50% response rate to the 3-month follow-up survey (22/44). Of the 22 respondents, 15 completed and submitted the survey, and seven partially completed the survey. Eleven of 17 respondents (65%) said that they applied information they learned in the boot camp to their own professional activities, and the same number also reported sharing information they learned in the boot camp with others. The majority of those who reported applying information they learned reported applying and sharing information about each of the core concepts taught in the boot camp. Information related to delirium and dementia was most frequently shared with others. Overall, information from the boot camp was most frequently shared with students. Nurses and patients’ families were also populations with whom boot camp attendees often shared information. Attendees less frequently shared,

**Table 1. Boot Camp Attendee Demographic Characteristics (N = 44)**

Field	n (%)
Nursing	17 (39)
Research coordination	5 (11)
Pharmacy	5 (11)
Medicine	3 (7)
Psychology	2 (5)
Physical therapy	1 (2)
Dentistry	1 (2)
Other faculty <sup>a</sup>	4 (9)
Other <sup>b</sup>	5 (11)
Not reported	1 (2)

<sup>a</sup> 3 with PhDs, 1 with a master’s degree.

<sup>b</sup> 1 office manager, 1 program coordinator, 1 bioscientist, 1 staff educator, 1 communications professional.

**Table 2. Attendee Knowledge and Comfort Level**

Question	Preassessment Average Score	Postassessment Average Score	Change	P-Value
How comfortable are you caring for older adults? <sup>a</sup>	3.88	4.27	0.39	.02
I have an understanding of how to generally care for older adults. <sup>b</sup>	3.95	4.25	0.30	.048
I have an understanding of how to care for older adults with delirium or dementia. <sup>b</sup>	3.21	4.11	0.89	<.001
I have an understanding of how to address medication management and polypharmacy issues for older adults. <sup>b</sup>	3.18	4.07	0.89	<.001
I have an understanding of the ethical issues that may arise when caring for older adults. <sup>b</sup>	3.68	4.30	0.62	<.001
I have an understanding of the palliative care issues that exist when caring for older adults. <sup>b</sup>	3.55	4.34	0.79	<.001

<sup>a</sup> 1 to 5: 1 = very uncomfortable; 2 = uncomfortable; 3 = neither uncomfortable nor comfortable; 4 = comfortable; 5 = very comfortable.

<sup>b</sup> 1 to 5: 1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree.

**Table 3. Attendee Suggestions for Future Boot Camp Topics Grouped According to Category**

Topic Category	Suggesting Topic, n
Palliative care or pain management	7
Geriatric care in diverse settings	5
Social work issues	3
Pharmacy issues	2
Comorbidities	2
Other <sup>a</sup>	6

<sup>a</sup> Cultural diversity, elderly adults as research subjects, legal issues, vendors with available resources for older adults, pediatrics.

or did not share, information with physicians, physician assistants, social workers, physical and occupational therapists, nutritionists, and dentists.

## DISCUSSION

The pilot boot camp program answered the need for inter-professional education on geriatric care issues and represented an important step by the division in expanding its educational offerings to healthcare professionals. The inter-professional approach provided the opportunity for collaboration in the program development process, because a faculty member on the program development team had a primary appointment in the Department of Community Health and Family Medicine and another had a Veteran's Affairs hospital appointment.

The boot camp was designed for a broad population because it was unknown what health professions the attendees would ultimately represent. The core concepts covered were therefore based on the competencies of a variety of healthcare fields.<sup>15</sup> Many boot camp attendees were nurses, which is understandable given that this population of healthcare providers is on the forefront of providing care to older adults, although there was solid representation of attendees from a variety of healthcare fields.

A literature review indicated that it is likely that most healthcare professionals have limited learning experiences about geriatric care in inter-professional settings. The qualitative responses to the preassessment survey question

about type of prior geriatrics training undergone supports this finding; for example, seven of the 17 nurses (41%) who attended the boot camp reported having undergone NICHE training, which is intended only for nurses. This learning experience was inter-professional because of the proximity of different healthcare professionals to each other as well as program content. For example, in the ethics discussion, attendees were informed that they represented a variety of healthcare professions, and the goal was to suggest possible approaches for different members of the care team. The importance of collaboration and communication in problem-solving were emphasized.

An unexpected group of attendees were those involved in research. Although it was anticipated that interest in the boot camp would come primarily from clinical healthcare professionals, it was learned through their attendance that the research community and administrative professionals identified a need for a better understanding of older adults. This finding emphasizes the need to target the clinical care and research communities for future boot camps.

Individuals clearly expressed their goals in attending the session, which were commensurate with the boot camp's learning objectives. Because all attendees said they met their professional goals in attending, it was concluded that the information presented was useful and of interest even to the 74% of attendees who had previously undergone some level of training in geriatrics.

Based on the number of attendees who shared information about delirium and dementia in geriatric care, it was concluded that this was an important topic to cover in inter-professional geriatrics education. Furthermore, because information was not indicated to have been shared with physicians, physician assistants, social workers, physical and occupational therapists, nutritionists, and dentists, these professions may be targeted when future educational programs are advertised to ensure dissemination of geriatric care knowledge to these healthcare professionals.

Attendees' suggested topics and other postassessment comments will be used to design future boot camps. Furthermore, future assessment surveys will use the term "inter-professional" rather than "multidisciplinary" when asking attendees about their experience with the program; although sometimes used interchangeably,<sup>17</sup> the goal is to emphasize the difference between them. Namely,

interprofessional “refers to interactions between team members” and multidisciplinary “refers ... to a group of people who come from different health ... professions but who do not necessarily interact.”<sup>17</sup> This difference will be emphasized to reinforce the importance of collaboration among healthcare team members.

## CONCLUSION

There is interest in and need for interprofessional education on geriatric care; the curriculum delivered at the boot camp improved healthcare professionals’ knowledge of and comfort in caring for older adults. The program development team will work to develop curricula for future boot camps on other topics relevant to geriatric care.

## ACKNOWLEDGMENTS

Data from this study were presented at the 2014 Gerontological Society of America Annual Scientific Meeting and will be presented at the 2015 Association for Gerontology in Higher Education Annual Meeting and 2015 Society of Teachers of Family Medicine Annual Spring Conference.

**Conflict of Interest:** The editor in chief has reviewed the conflict of interest checklist provided by the authors and has determined that the authors have no financial or any other kind of personal conflicts with this paper. Dr. Carter is supported by the University of Florida Claude D. Pepper Older Americans Independence Center NIH P30AG028740.

**Author Contributions:** All authors contributed to the development of the study concept and design, data collection and analysis, and preparation of manuscript. All authors approved the final version of the manuscript.

**Sponsor’s Role:** The sponsors had no role in study concept or design, data collection or analysis, or preparation of manuscript.

## REFERENCES

1. Fulmer T, Hyer K, Flaherty E et al. Geriatric interdisciplinary team training program evaluation results. *J Aging Health* 2005;17:443–470.

2. World Health Organization. Framework for action on interprofessional education and collaborative practice 2010 [on-line]. Available at [http://whqlibdoc.who.int/hq/2010/WHO\\_HRH\\_HPN\\_10.3\\_eng.pdf?ua=1](http://whqlibdoc.who.int/hq/2010/WHO_HRH_HPN_10.3_eng.pdf?ua=1) Accessed September 26, 2014.
3. National Center for Interprofessional Practice and Education [on-line]. Available at <https://nexusipe.org/about> Accessed December 3, 2014.
4. Partnership for Health in Aging Workgroup on Interdisciplinary Team Training in Geriatrics. Position statement on interdisciplinary team training in geriatrics: An essential component of quality healthcare for older adults. *J Am Geriatr Soc* 2014;62:961–965.
5. Institute of Medicine. *Retooling for an Aging America*. Washington, DC: National Academies Press, 2008.
6. Department of Labor, Bureau of Labor Statistics. Economics News Release, Table 6. Employment by Major Occupational Group, 2012 and Projected 2022, 2013 [on-line]. Available at <http://www.bls.gov/news.release/eco-pro.t06.htm> Accessed December 3, 2014.
7. Federal Interagency Forum on Aging-Related Statistics. *Older Americans 2012: Key Indicators of Well-Being*. Washington, DC: Government Printing Office, 2012.
8. University of Florida, Institute on Aging, Department of Aging & Geriatric Research, College of Medicine [on-line]. Available at <http://aging.ufl.edu/about/> Accessed December 3, 2014.
9. University of Florida, Institute on Aging, Department of Aging & Geriatric Research, College of Medicine. Division of Career Development & Education [on-line]. Available at <http://aging.ufl.edu/department-of-aging-and-geriatric-research/division-of-career-development-and-education/> Accessed December 3, 2014.
10. Saint Louis University School of Medicine. Geriatric Medicine Boot Camp [on-line]. Available at <http://internalmed.slu.edu/geriatrics/index.php?page=geriatric-medicine-boot-camp> Accessed December 3, 2014.
11. University of Nebraska Medical Center. Aging & Integrated Medicine Scholars Tract (AIMS) [on-line]. Available at <http://www.unmc.edu/intmed/divisions/geriatrics/education/medical-students/aims-tract.html> Accessed December 3, 2014.
12. UNC School of Medicine. Geriatrics Classes [on-line]. Available at <http://www.med.unc.edu/ags/news-1> Accessed December 3, 2014.
13. Dartmouth-Hitchcock Medical Center. 2-Day Geriatric Boot Camp for Advanced Practice Nurses [on-line]. Available at [http://www.dartmouth-hitchcock.org/classes\\_events/dhmc\\_eventdetail/62943/](http://www.dartmouth-hitchcock.org/classes_events/dhmc_eventdetail/62943/) Accessed December 3, 2014.
14. Dartmouth-Hitchcock Medical Center. 3-Day Geriatric Boot Camp for RNs [on-line]. Available at [http://patients.dartmouth-hitchcock.org/classes\\_events/dhmc\\_eventdetail/62942/](http://patients.dartmouth-hitchcock.org/classes_events/dhmc_eventdetail/62942/) Accessed December 3, 2014.
15. The American Geriatrics Society. Existing Formal Geriatrics Competencies and Milestones [on-line]. Available at [http://www.americangeriatrics.org/health\\_care\\_professionals/education/curriculum\\_guidelines\\_competencies/existing\\_formal\\_geriatrics\\_competencies](http://www.americangeriatrics.org/health_care_professionals/education/curriculum_guidelines_competencies/existing_formal_geriatrics_competencies) Accessed December 3, 2014.
16. Nurses Improving Care for Healthsystem Elders [on-line]. Available at <http://www.nicheprogram.org/> Accessed December 3, 2014.
17. Atwal A, Caldwell K. Nurses’ perceptions of multidisciplinary team work in acute health-care. *Int J Nurs Pract* 2006;12:359–365.

Copyright of Journal of the American Geriatrics Society is the property of Wiley-Blackwell and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.