University of California
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*UCSF Health Workforce Research Center on Long-Term Care*

Research Report

# The Roles and Value of Geriatricians in Health Care Teams: A Landscape Analysis

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December 21, 2017

This project is/was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number U81HP26494, Cooperative Agreement for a Regional Center for Health Workforce Studies. This information or content and conclusions are those of the authors and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

Please cite as: Kottek, A., Bates, T., Spetz, J. (2017). The Roles and Value of Geriatricians in Health Care Teams: A Landscape Analysis. San Francisco, CA: UCSF Health Workforce Research Center on Long-Term Care.

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# The Roles and Value of Geriatricians in Health Care Teams: A Landscape Analysis

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## I. *Introduction*

There are concerns about the growing shortage of geriatricians to serve the population of older people in the U.S. With too few geriatricians to care for the entirety of the geriatric patient population, understanding how to best leverage geriatricians as members of an overall care team is needed. The current roles of geriatricians, how they collaborate with other health professionals, and how their work is changing has not been succinctly described or summarized.

In this 2-stage project we examine current and emerging roles of geriatricians as members of healthcare teams across different care settings. The first stage involves a comprehensive landscape analysis derived from scholarly work that assesses how geriatricians are integrated into healthcare teams and how care is delivered to the geriatric population in different types of healthcare delivery systems. This report is a summary of the stage 1 findings. A second phase, expected to be completed in 2018, will enrich this analysis by gathering new data from interviews with healthcare executives, managers, and geriatricians.

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We conducted a comprehensive review of both the peer-reviewed and grey literature. We focused the review on medical geriatricians, excluding psychiatric geriatricians, except to the extent that the literature combines these physicians.

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The supply of geriatricians over time has been influenced by a multitude of factors, including tightening training and certification requirements as well as low income compared with that of other specialists and negative return on investment in subspecialty training – i.e. an additional year of training results in lower average income.

It is difficult to know the true number of practicing geriatricians, since many physicians who initially certify in geriatric medicine fail to re-certify 10 years thereafter and yet continue to functionally work in geriatric medicine.

Experts in the field generally agree that geriatricians should focus clinical care on the most vulnerable patients with the most complex medical needs, while primary care

providers trained with critical knowledge of basic geriatric principles manage the healthier 70% of the elderly population.

Many experts agree that in the future the workforce focus should be on ensuring that every clinician caring for older adults is competent in geriatric principles and practices, rather than on increasing numbers of board-certified geriatricians.

## IV. *Conclusion*

Many reports and manuscripts recount the worsening of an already insufficient supply of geriatricians. Despite growth in geriatric fellowship programs, about half of all fellowship positions remain unfilled and efforts to incentivize young providers to pursue sub-specialty training in geriatric medicine have not been fruitful. Moreover, most geriatricians who once held a Certificate of Added Qualifications (CAQ) in geriatrics do not re-certify after 10 years.

## V. *Policy Implications*

Experts in geriatric medicine are pushing the field to focus more on leadership, education, and designing new older adult care systems, and there appears to be general consensus that clinical care by geriatricians should be reserved for the most complex patients. In this framework, consultant and leadership roles will continue to be important. In addition, it appears that clinical care settings of geriatricians are moving away from outpatient facilities toward Skilled Nursing Facilities (SNFs) and other care facilities, with the expectation of more home care and visits but less hospital care in the future.

There is general agreement on the need to shift the focus from shortages and unpopularity of the specialty toward a culture in which geriatric principles and practices are taught in mainstream education. This will ensure a primary care workforce that is competent in geriatric medicine and will allow the limited supply of specialized geriatricians (whether CAQ diplomates or not) to focus on higher level needs.

# The Roles and Value of Geriatricians in Health Care Teams: A Landscape Analysis

This report describes the landscape of current and emerging roles of geriatricians on healthcare teams across different care settings. The analysis provides detailed information about the status of the geriatrician workforce and their current roles, how they collaborate with other health professionals, and how their work is changing, as reported in the scientific and grey literature. This information is summarized in an accompanying Research Brief.

## Background

Demand for health care professionals with expertise in the care of older people is on the rise due to an aging population and the increasing burden of chronic diseases.[1] By 2030, adults age 65 and older are projected to account for more than 20% of the US population, with the population of adults age 85 and older growing by nearly 150%.[2] Available data indicate that more than 15% of Medicare beneficiaries over the age of 65 had 6 or more reported chronic conditions in 2014.[3] Geriatricians, who are physicians certified in the subspecialty of geriatric medicine, are specifically trained to care for this aging and medically complex population. Distinct from general internists or family practitioners who provide primary care to adults of all ages, geriatricians provide and coordinate comprehensive geriatric care and have specialized training to prevent, diagnose, and treat geriatric syndromes.[4]

There are concerns, however, about the growing shortage of geriatricians to serve the population of older people in the U.S. The American Geriatrics Society (AGS) estimates that a total of 30,000 geriatricians will be needed to meet care needs by 2030,[5] with a current shortfall of approximately 13,000 geriatricians.[6] The AGS projects that the shortfall will worsen absent greater numbers of clinicians choosing geriatrics fellowship training. However, some healthcare leaders believe that the tension between the needs of the aging population and the lack of geriatricians can be met by other providers, including primary care physicians, nurse practitioners, physician assistants, and others.[7] Efforts are underway to enhance gerontology curricula in education programs across all health professions.[8]

With too few geriatricians to care for the entirety of the geriatric patient population, understanding how to best leverage geriatricians as members of an overall care team is needed. The current roles of geriatricians, how they collaborate with other health professionals, and how their work is changing has not been succinctly described or summarized.

## Purpose

In this 2-stage project we examine current and emerging roles of geriatricians as members of healthcare teams across different care settings. The first stage of the project involved a comprehensive landscape analysis derived from scholarly work that assesses how geriatricians are integrated into healthcare teams and how care is delivered to the geriatric population in different types of healthcare delivery systems. This report is a summary of the stage 1 findings. A second phase, expected to be completed in 2018, will enrich this analysis by gathering new data from interviews with health care executives, managers, and geriatricians.

## Methods

We conducted a comprehensive review of both the peer-reviewed and grey literature. We focused the review on medical geriatricians, excluding psychiatric geriatricians, except to the extent that the literature combines these physicians.

### *Search Strategy*

We conducted a literature search for scholarly work on the geriatrician workforce, broadly defined. We started with a general Web-based search to find reports from public and private institutions as well as peer-reviewed journal articles. We also conducted targeted searches in the following databases: PubMed, CINAHL, and Google Scholar. We then reviewed the bibliographies of the most relevant articles and reports to identify additional applicable articles that may have been missed using our search strategy. In addition, we utilized Google Scholar's "cited by" link to find additional pertinent articles that cited the relevant index articles. We were also referred to other reports by subject matter experts. We limited the review to articles and reports focused on the geriatrician workforce in the U.S.

### *Search Terms*

We identified a list of search terms that pertained to the geriatrician workforce. Initial searches included combinations of the following terms: "geriatrician," "geriatric medicine," and "workforce," "health systems," "care teams," "models of care," "interprofessional care," or "interdisciplinary care."

### *Search Results*

We found over 500 unique English-language articles, reports, and presentations produced between 1980 and 2017 relevant to the geriatrician workforce. We

reviewed titles and abstracts, and those sources considered to be the most relevant to the issues around the roles of geriatricians in healthcare teams were reviewed in depth to inform this landscape analysis (n=88). We cite 59 of these sources in this report.

## Key Findings

### *Geriatrician Certification and Workforce Supply*

The supply of geriatricians over time has been influenced by a multitude of factors, including training and certification requirements as well as income and the return on investment in subspecialty training. Geriatric medicine was approved as a medical subspecialty of family medicine and internal medicine by the American Board of Medical Specialties (ABMS) in 1985, with the first Certificate of Added Qualifications (CAQ) in Geriatric Medicine issued in 1988.[9,10] The American Osteopathic Association started certifying osteopathic physicians with subspecialty training in geriatrics in 1992.[11] Until 1994, board certification in geriatrics did not require a clinical fellowship, obviating what is now an important barrier to entry to the field. New requirements for geriatric certification established in 1995 included a 2-year accredited geriatric fellowship training program. This resulted in a sharp decline in career interest in geriatrics. Shortly thereafter, in 1998, the duration of required geriatric fellowship training was reduced to 1 clinical year. This remains the CAQ requirement, although many programs offer additional training. As of 2017, there were 152 geriatric medicine fellowship programs accredited by the Accreditation Council for Graduate Medical Education with 343 trainees.[12]

Despite considerable growth in the number of fellowship programs and first-year fellow positions, geriatrics programs remain far from full.[13,14] Directors of geriatric medicine fellowship training programs report that, on average, only 64.6% of first-year fellow positions were filled between 1995 and 2017 (range 42.1-91.2%); yet, the percent of filled positions has dropped from a high of 91.2% in 1998 to 44.6% in 2017. Of note, nearly half of fellows, on average, (49.0%) were international medical graduates, the proportion of which has increased over time from a low of 32.2% in 1991 to a high of 82.8% in 2014. These statistics illustrate the difficulty in attracting young U.S. medical graduates to careers in geriatric medicine.

Several initiatives have tried to incentivize practice in geriatric medicine, including the reduction of fellowship training from 2 years to 1 year and some tuition waiver and loan repayment programs,[15] but career interest in geriatrics remains weak. One major deterrent is income potential and the financial return on investment to sub-specialization. Geriatricians' incomes are substantially lower than those of other

specialists,[16,17] and geriatrics is the only specialty in which an additional year of training results in lower average income.[18] General internists earned, on average, over $200,000 in 2010, more than $12,000 more than the geriatricians' average annual income of $183,523, while specialists like neurologists earned more than $240,000. With the negative return on educational investment and low incomes compared to other specialties, mainly due to depending nearly exclusively on Medicare reimbursement,[19] it remains difficult to entice new graduates to complete additional training in geriatrics.

The current profile of the geriatrician workforce is difficult to quantify due to the relatively recent development of certification and the low proportion of geriatricians who maintain board certification. From 1988 through 2016, 14,093 physicians received geriatric medicine certification through either the American Board of Family Medicine (ABFM) (29.7%) or the American Board of Internal Medicine (ABIM) (70.3%). In order to maintain board certification, geriatricians must re-certify every 10 years, but the Association of Directors of Geriatric Academic Programs (ADGAP) reports that only 49% of ABIM-certified physicians and 59% of ABFM-certified physicians have re-certified.[10] ADGAP suggests that many certified geriatricians do not re-certify because they have not found the CAQ to provide much benefit in terms of job availability or compensation, and it has not changed their practice activities. For this reason, it is difficult to know the true number of practicing geriatricians, since many physicians who initially certify in geriatric medicine fail to re-certify 10 years thereafter and yet continue to functionally work in geriatric medicine.

According to the ABMS, there are just 7,028 board-certified geriatricians in the US as of June 30, 2017, two-thirds of whom were certified through the ABIM.[9] There were an additional 365 certified osteopathic geriatricians in 2015,[11] yielding an approximate total of 7,393 certified geriatricians. This is a significant decrease from the number of geriatricians with active certification in 1996 (11,184) and even in 2010 (8,502).[20] Experts project that 30-35% of the patient population over age 65 years will require the care of a geriatrician,[21,22] with the remaining 65-70% of care supplied by primary care physicians, assuming a reasonable patient load of 700 patients per geriatrician.[21] Using a conservative estimate of geriatrician need (30% of the 47.8 million adults >65 years[2]), the current ratio of certified geriatricians to patient population is 1:1,940 – nearly 3 times the optimal ratio. Demand for geriatricians is already significantly exceeding supply, and pipeline projections suggest a worsening of an already insufficient workforce.[20] Recent estimates from the Health Resources and Services Administration (HRSA) project a 45% increase in demand for geriatrician full time equivalents (FTEs) between 2013 and 2025, with a

summative national shortage of 26,980 FTEs in 2025,[23] which is on par with AGS projections.[5] The gross shortages are compounded by maldistribution of geriatricians across the U.S., with rural areas being most severely underserved by geriatricians.[24]

### *Current Roles of Geriatricians*

It is unrealistic to assume that the current and projected numbers of board-certified geriatricians will be able to fulfill a portfolio of tasks that requires them to: care for the growing population of old and frail patients; train more providers to care for these complex patients; engage in research on aging and health care; and be leaders in the field. To explore this issue, we profiled how geriatricians have been utilized in healthcare.

#### *Historical Landscape*

The last comprehensive survey of geriatricians, to our knowledge, was published in 2002 by the University of Rochester,[25] and surveyed recent graduates of all 107 then extant accredited geriatric medicine fellowship programs from 1990-1998, (response rate of 62% [n=490]). Of the respondents, 80% were board-certified in geriatric medicine, and 75% reported that their current position was all or primarily geriatrics, with the remaining 25% reporting geriatric clinical care as secondary to practice in either internal medicine, family medicine, or another sub-specialty. In the breakdown of professional time devoted to patient care, research, teaching, and administrative work, most geriatricians said that the majority of their time was spent in clinical work, with 66% spending more than half of their time on patient care (39% spent more than 75% of their time on patient care). A majority of respondents (about two-thirds) spent only 5-25% of their time teaching or doing administrative work, and very few geriatricians spent more than half of their time on research (11%). Despite the limited amount of time in teaching, administration, or research, 78% were involved in teaching various trainees (including medical students and residents, geriatric fellows, nurses, and other health professionals or continuing medical education commitments), 69% held academic appointments (mostly junior faculty), and 39% had been either a principal investigator or co-investigator in academic research. In terms of clinical activities and settings of care, most respondents reported that their clinical care was sited in long-term care (66%), outpatient primary care (64%), and/or providing outpatient geriatric assessments (60%) (see Table 1).

**Table 1. Profile of geriatricians' typical weekly clinical activities and settings of care (1990-1998).**

| Clinical Activity/Setting | Respondents, n (%) |
|---|---|
| **Activities** | |
| **Outpatient geriatric assessment** | 278 (60) |
| **Inpatient consultation** | 136 (29) |
| **Inpatient geriatric assessment** | 132 (28) |
| **Home visits** | 112 (24) |
| **Dementia special service** | 75 (16) |
| **Liaison consultation/other specialties** | 39 (8) |
| **Settings** | |
| **Long-term care** | 305 (66) |
| **Outpatient geriatric primary care** | 297 (64) |
| **Acute inpatient geriatric care** | 165 (35) |
| **Hospice/palliative care** | 133 (29) |
| **Rehabilitation service or institution** | 99 (21) |
| **Acute Care for the Elderly (ACE) unit** | 34 (7) |
| **Day care** | 30 (6) |

Source: All data are from a 2002 report of survey findings detailing professional activities of graduates of geriatric fellowship training programs between 1990 and 1998.[25]

Lastly, 73% of geriatricians reported working with multidisciplinary teams, and about 50% reported working with 1 to 5 other geriatrician colleagues in their current place of work, although 21% did not work with any additional geriatricians at their workplace. These data provided a cursory snapshot of the geriatrician workforce at the brink of the 21st century, but no such comparative data exist for the current era.

*Current Era Scope of Practice and Setting of Geriatric Clinical Care*

More detailed descriptions of the scope of the geriatrician workforce can be pieced together from a variety of other sources. Researchers recently published a short report detailing the proportion of time that family medicine-certified geriatricians report providing dedicated geriatric care. By extracting data from the ABFM Geriatrics CAQ examination application for all applicants between 2005 and 2013, we have a finer and updated lens into the proportion of clinical care spent devoted to geriatrics.[26] Nearly one-quarter of family medicine geriatricians spent >80% of their time practicing geriatrics, with 47.7% spending >60% of their time so engaged. The quintiles of time were fairly evenly distributed at around 20% in each quintile, with only 8.8% reported spending <20% of their time devoted to the care of older patients. Another telephone survey conducted in 2006 of graduates of one geriatric fellowship program from 1978 to 2002 (n=88, 80% response rate), reported similar findings to the aforementioned research.[27] Of these survey respondents, 80% spent at least half of their clinical time treating geriatric patients, with 55% of geriatricians spending more than three-quarters of their time with elder patients. With this fellowship program in particular, it appeared that graduates chose to continue to treat mostly elder patients after more than 15 (and up to 25) years of practice. A figure from a study projecting the future supply and demand of geriatricians supports the relatively high proportion of geriatricians' time in clinical care: Reuben estimated that geriatricians spend about 43% of their time in direct clinical care, with the remaining time split between administration, research, and teaching.[22]

Data on practice setting are scarcer. In a study profiling the care of Medicare beneficiaries using 1998 Medicare claims data, Xakellis breaks down the distribution of care settings by physician type (family medicine, internal medicine, and geriatrics).[28] Table 2 reproduces these statistics. Care for Medicare beneficiaries, the vast majority of whom are elderly, is mainly performed in an outpatient office setting for all physician types, although it is much less common for geriatricians (47% vs. 77% for family medicine and 69% for internal medicine).

**Table 2. Distribution of location of service for Medicare claims, by physician type, 1998**

| Location | Family Medicine Physicians, % (n) | Internal Medicine Physicians, % (n) | Geriatricians, % (n) |
|---|---|---|---|
| **Office** | 77 (34,812) | 69 (37,763) | 47 (377) |
| **Inpatient hospital** | 9 (4,117) | 19 (10,374) | 16 (131) |
| **Outpatient hospital** | 2.2 (1,012) | 3.4 (1,879) | 6.1 (49) |
| **Nursing home** | 7 (3,157) | 6.2 (3,406) | 27 (217) |
| **Custodial board and care** | 0.3 (125) | 0.2 (83) | 1.2 (10) |
| **Emergency room** | 3 (1,352) | 1.6 (872) | 0.4 (3) |
| **Home** | 0.6 (307) | 0.4 (205) | 1.7 (14) |
| **Other** | 0.9 (390) | 0.2 (353) | 0.6 (5) |
| **Total** | 100 (45,272) | 100 (54,935) | 100 (806) |

Source: All data are from a 2004 report analyzing a representative sample of Medicare claims data from 1998 (n=13,024 Medicare beneficiaries).[28]

A more recent study analyzing 2012-2013 Medicare claims is consistent with past claims data analyses: only 30.9% of geriatricians see patients exclusively in outpatient settings, compared with 69.8% of family physicians and 37.5% of internal medicine physicians.[29] Geriatricians are more likely to see patients in both inpatient and outpatient settings; 35.3% of geriatricians report this combination of practice types, although there is a growing trend of geriatric hospitalists. Between 2012 and 2013, the number of geriatric hospitalists rose by 9.2%, possibly indicating a move toward more inpatient than outpatient care. Most of the nursing home claims were billed by geriatricians indicating that nursing home care is an important component of geriatricians' practice and, though they were few in number, the proportion of claims billed from home visits was more than twice as high for geriatricians (1.7%) compared with family medicine (0.6%) and internal medicine (0.4%) physicians.

Because the nursing home patient population tends to be frailer and have more functional limitations, the high proportion of geriatricians' claims billed for services provided at skilled nursing facilities (SNFs) is no surprise, as they are particularly suited to care for this medically complex population. Recent data suggest, however,

that nursing home care is shifting toward nurse practitioners (NPs) and physician assistants (PAs) who are specializing in care at these facilities (dubbed "SNFists").[30] Though the study does not distinguish geriatricians from all physicians generally, between 2007 and 2014, the proportion of physicians ever billing in a nursing home decreased from 13.7% to 9.8%, while the proportion of claims at SNFs billed by NPs and PAs increased from 10.4% to 17.2%, eclipsing the proportion of claims billed by physicians. It may be that long-term care facilities are relying more heavily on advanced practitioners instead of geriatricians for clinical management of their residents, though more research is required to support this claim.

*Looking Forward: Incorporation of Geriatricians into Healthcare Systems*

Experts in the field generally agree that geriatricians should focus clinical care on the most vulnerable patients with the most complex medical needs. Directors of geriatric academic programs came to consensus on the following patient profile to identify which patients benefit the most from a geriatrician's care: all patients age >85 years, or those younger than age 85 with complex multi-morbidity, frailty, or other geriatric conditions, disability (e.g., functional impairment) or dementia, and/or in need of palliative or end-of-life care.[31] The directors agreed that these characteristics or conditions were ideal for care by a geriatrician in both primary care and hospital settings, although there was not quite as much agreement on the value of geriatric consultations. Hearkening back to the debate on the demand for geriatrician services, the expectation of these directors is that geriatric specialists will care for the most frail older adults (about 30% of the population over age 65[21]), while primary care providers trained with critical knowledge of basic geriatric principles (e.g., comprehensive geriatric assessments, geriatric syndromes) will manage the healthier 70% of the elderly population. There is still some contention in this assertion, as the field is struggling with an identity crisis, as Dr. Mary Tinetti, MD, Director of the Yale Program on Aging and MacArthur Foundation awardee astutely states:

*"Perhaps most disconcerting is that we have failed to provide a single, consistent, unified understanding of who we are and what we do. Everyone knows what a pediatrician, surgeon, or cardiologist does, but it is not surprising that the public is unaware or confused about what a geriatrician is, given the conflicting perceptions among geriatricians themselves. Are we meant to be the primary care providers for all older adults or only the oldest old? Are we the experts in healthy aging or a specialty with skills in chronic care, frailty, geriatric syndromes, long term care, or conditions of aging?"*[32]

Most of the scientific literature surrounding the geriatrician workforce is written by or sourced from experts in geriatric medicine, including geriatricians themselves, directors of academic programs, and administrators and leaders in the field. What is missing in this discussion, however, is how healthcare organizations and systems are leveraging geriatricians. Each geriatrician's role likely depends on organizational structure, administration, patient population characteristics, availability of and collaboration with alternative providers, and care setting, among other factors. Healthcare systems must strategically capitalize on their limited supply of geriatricians, focusing geriatrician care on locally defined needs. Callahan et al. posit that there are generally 3 models for incorporating this care:[33]

1. Concentrate geriatric expertise on the most vulnerable older adults, including those with disabilities (e.g., functional limitations), geriatric syndromes (e.g., dementia), or those that require care in long-term care facilities (e.g., SNFs). Largely in concert with the views of the directors of geriatric academic programs reported above,[31] and with some reported practice patterns, this approach most closely aligns with a traditional specialty model of care in which specialists are funneled to care for a distinct, more medically complex subset of the patient population for which the specialty team has specific training. While long-term approaches of redesigning sustainable, cost-effective, integrative models of care for the elderly are important, a short-term solution may be to redefine and focus geriatric care on only the very old and frail, also known as "gerogeriatrics."[34] In a study comparing the care of hospitalized elder patients seen by geriatricians and primary care physicians, geriatricians' patients were significantly older (mean age 83.0 years vs. 78.9 years; $P<0.001$), had more diagnoses on average (mean number of diagnoses 8.6 vs. 7.8; $P<0.001$), and more comorbidities like dehydration, malnutrition, and anemia (all $P<0.001$).[35]

2. A consultancy and co-management model where geriatricians assist primary care physicians or other specialists in geriatric care. This approach deemphasizes the geriatrician's role as a central provider and instead relies on partnerships between physicians and interdisciplinary teams in the care of individual patients. Examples of this approach are programs designed to provide interdisciplinary care for hospitalized elderly patients, in which geriatricians are included as a core member of a multi-professional care team. One such program at the University of Alabama at Birmingham is an adaptation of the successful Acute Care for Elders (ACE) interdisciplinary team model of care,[36] but is centered on staff geriatricians who provide consultation for attending hospitalists and coordinate follow-up care,

including comprehensive geriatric assessments, daily rounds focused on geriatric care, and discharge planning from the first day of admission.[37] In a comparison of the interdisciplinary ACE unit and the usual and customary multidisciplinary care without the consultation and coordination of staff geriatricians, the UAB ACE unit team model significantly reduced costs and all-cause hospitalizations within 30 days of discharge. Similar programs have been implemented in several hospital systems (e.g., GEM,[38] ACE Tracker,[39] the Proactive Geriatrics Consultation Service[40]), home-based programs (e.g., GRACE,[41] COACH[42]), and primary care outpatient clinics (e.g., Group Health Cooperative of Puget Sound's Senior Resource Team,[43] Commonwealth Care Alliance's geriatric consultation program[44]). Lastly, when needed, partnerships between geriatricians and other specialists – oncologists for example – are usually established as joint consultative/specialists roles, leaving the main responsibility of care with the primary care physician.[45] In this example, the geriatrician and oncologist could partner in a multidisciplinary cancer team or the oncologist could refer the patient to general geriatrics care. For cancer care in particular, however, a systematic review determined that only weak data supported the notion of positive benefits from the involvement of geriatricians.[46]

3. To shift geriatricians toward healthcare administration, leadership, and policymaking to enhance the long-term goal of designing a health system that best fulfills the needs of older adults. It is in this capacity that geriatricians arguably have the greatest capacity to reach the maximum number of older adults, but this approach may be less desirable for geriatricians since it pulls them away from clinical care. In many of the programs described above, geriatricians not only participate as members of the care team, but are also integral to the development, implementation, and dissemination of the programs.[10] An example is the growing field of geriatric emergency medicine. One out of every two seniors visit the Emergency Department (ED) at least once a year, with many visits resulting in hospitalization.[47] It was these statistics that spurred the John A. Hartford Foundation, the Gary and Mary West Health Institute, and the AGS to initiate the Geriatric Emergency Department Collaborative (GEDC). The GEDC brings together geriatric professional societies, hospitals, health systems, and other stakeholders to increase knowledge of geriatric EDs and advocate for providing appropriate care in the ED to address both acute and long-term service needs of the geriatric population. Though geriatricians do not always staff geriatric EDs (geriatric ED personnel are most commonly advanced

practice nurse practitioners, geriatric nurse liaisons, case managers, and palliative care consultants),[48] they are generally involved in planning, education, and follow-up care or as consultants (e.g., GEDI WISE[49]). Geriatricians often also serve as medical directors of various health institutions, coordinating clinical care teams and providing education and resources when necessary. Evercare and Sutter Medical Group (two non-profit health care systems) and Aetna (a large national health insurance company) are a few examples of health care organizations that have had geriatricians at the helm in leadership positions.[50] Geriatricians are also important in developing formularies tailored to the older adult population. The ability to manage formularies is a major reason that geriatricians are well-suited for leadership roles, in addition to their training to lead and coordinate care between different networks of care providers.[50] The underlying rationale behind this approach is the fact that geriatricians appear to reduce healthcare costs by managing the interdisciplinary system more efficiently resulting from their training in managing the complex problems of patients and families.[31,51]

Of course, many healthcare systems will utilize aspects or all 3 of these approaches, and there are certainly models that were not identified in this landscape analysis. An example of a program that integrates multiple approaches is the Indiana University geriatrics program, in which a multidisciplinary team (14 geriatricians, 10 nurse practitioners, 6 registered nurses, 7 social workers) led by geriatrics faculty provides a continuum of services across many different practice settings, including the inpatient ACE unit, outpatient primary care with geriatric consults, a network of SNFs, and a home care program.[33] Geriatrics faculty coordinate the geriatric education programs of these disciplines while also conducting research and serving in various leadership positions at the university (e.g., as a member of the institutional review board) and in the community. A key component of this training program involves teaching primary care physicians to know when to hand off care to a geriatrician; thus, in this example, the healthcare system favors the second approach but includes components of both the first and third approaches as well. Many more examples highlight the capacity of geriatricians to coordinate the team-based, interdisciplinary approach to care as the practice of geriatrics seems to be moving away from the care of "geriatric giants" (i.e., falls, confusion, incontinence, immobility) toward comprehensive assessment and team-based management of multiple chronic conditions.[50,52,53]

*Education and Research*

Although teaching is not a primary focus for most geriatricians,[25] they are charged with teaching physicians, both in geriatrics and other fields, and other health professionals how to provide excellent care for older persons. But, just as there is a shortage of geriatric physicians overall, there is also a dearth of academic geriatricians to continue training future geriatric experts.[53] Though the mean number of academic geriatric faculty per program has increased from 9.6 FTEs in 2005 to 11.12 in 2010, there is considerable range in the depth and breadth of academic geriatric programs (range of geriatric full time equivalent (FTE) faculty was 0 to 58).[54] The proposed minimum number of geriatrics-trained physician faculty engaged in education, research, and clinical care for an effective geriatrics training program was 9 FTEs:[55] in 2010, 51% of medical schools reported fewer than 9 geriatric physician faculty.[54] This proportion has been steadily increasing from 29% in 2001 to 49% in 2005 and 51% in 2010, but has started to stabilize.[10] Further, many geriatrics faculty focus on clinical care, leaving very little time for teaching and research,[53,56] and the geriatric workforce itself is aging, with the initial generation of academic faculty leaders close to retirement.[54]

Several dedicated funding mechanisms have supported geriatric workforce development and research, including the Geriatrics Workforce Enhancement Programs (GWEPs, funded by HRSA); Geriatric Research Education and Clinical Centers (GRECC, funded by the Department of Veterans Affairs); and the now-defunct Geriatrics Training Program for Physicians, Dentists, and Behavioral and Mental Health Professionals (funded by HRSA) and the Geriatric Academic Career Award (GACA, funded by HRSA). GACA was a critical resource that supported early career development for a total of 222 junior academic clinician educators from 1998-2015, effectively protecting their time in academic research against the competing demands of clinical practice.[57] However, this funding mechanism was interrupted in 2006 and discontinued in 2015. GWEP funding replaced GACA funding, though the mandate of the GWEPs is broader than solely supporting junior faculty in research endeavors. The GWEP program is intended to provide awardees more flexibility to identify and respond to interprofessional geriatric education training gaps specific to their local needs.[58] Despite this greater flexibility in funding, few of the organizations that currently receive GWEP funding offer GACA-like support of research faculty. Moreover, total funding for all GACA-like programs sponsored by GWEPs is far below prior GACA funding levels.[57] A survey of past GACA recipients found several negative consequences to the interruption in funding, including ending GACA-sponsored research (36%) or abandoning academic geriatrics as a potential career altogether (6%), with one estimate suggesting that

the loss of GACA funding may have resulted in nearly half as many new academic geriatricians.[57,59] Despite the difference in funding and focus, GWEPs hold much promise in identifying innovative solutions to current challenges facing the field of geriatrics, especially at the local community level.[60] Similarly, the GRECC program, established in 1975 through the Department of Veterans Affairs, continues to be the main source of funding for geriatric training and research.[10,61] GRECCs are affiliated with accredited medical schools that provide education in geriatrics for physicians, nurses, and other health professionals, and support research projects on aging. Although HRSA does not currently fund the program, the Geriatrics Training Program for Physicians, Dentists, and Behavioral and Mental Health Professionals is another significant training program.[62] In 1988, HRSA authorized the Geriatrics Training Program for Physicians and Dentists, and in 1998, Behavioral and Mental Health Professionals were added. The Program received an appropriation from 1988 to 2005 and then from 2007 to 2015. The Program was designed to provide intensive 1-year retraining and 2-year fellowship training in geriatrics for individuals who planned to teach geriatric medicine, geriatric dentistry, and geriatric behavioral and mental health. HRSA only had one grantee who received funding for the 1-year retraining option; the rest were 2-year fellowships. Fellows who completed the Program in geriatric medicine and geriatric behavioral and mental health were eligible to apply for GACA funding, and in 2010 funding for eligible applicants in geriatric dentistry was added by statute.

The solution of integrating core geriatric principles into all health professional curricula is gaining traction. An example of this approach is the use of a geriatrics education team (GET) model to develop, implement, and sustain geriatrics curricula that are specific and meaningful to each medical specialty.[63] The GET model works locally with specialty training programs to invite collaboration between geriatric faculty and other specialty faculty and residents to develop a sustainable and tailored geriatrics training program. Over 4 years of GET, 15 specialty residency and fellowship training programs were developed, 93% of which were intact as of 2016. Similar short-term, geriatrician-led training programs have been developed for primary care physicians, with favorable responses regarding the content and quality of the presentations (e.g., ACOVE[64]).

Some experts argue there is a need to develop medical school geriatrics programs of the size and scope of other academic disciplines and to engage specialties to become more involved in the education effort.[65] Ironically, the redesign of these curricula is hampered by the current shortage of geriatricians qualified to undertake such initiatives.

*Administration and Leadership*

Geriatrician time devoted to administration is fairly limited,[25] although geriatricians are in high demand to fill leadership positions as health systems begin to grapple with the "silver tsunami" of older patients and how to provide optimal care for this population.[10] The administrative and leadership qualities that allow geriatricians to work effectively in team environments are rarely taught to most physicians, which is what prepares geriatricians specifically for leadership roles.[66] In the capacity of medical director or CEO of a health organization, geriatricians can draw from their own experiences and skills to develop programs that best suit the needs of elder patients and extract the most benefit from the limited geriatrician workforce. Furthermore, with the massive financial implications of the growing and increasingly medically complex Medicare population, there is a need to prepare geriatricians to actively participate in policy and system redesign to develop new, innovative, and cost-effective models of care that adhere to geriatric principles and practices.[18] Many of the programs described in this report are examples of how geriatrician leaders are being used to design Medicare demonstration programs, assess patients, and educate other physicians;[50] many other reports on the geriatrician workforce implore more geriatricians to move into administrative and leadership positions.[18,53,54,67]

### *Future Roles of Geriatricians*

With the current state of the geriatrician workforce in flux, it is hard to predict its future, but some publications describe where leaders in geriatric medicine think the field is heading. First is the distinction between board-certified geriatricians – which some call big "G" geriatricians – and the remainder of the primary care workforce that should attain competencies for the care of older adults – described as little "g" geriatrics.[32] Many experts argue that the focus should not continue to be on increasing numbers of board-certified geriatricians, but instead on developing a "small elite workforce that discovers and tests geriatrics principles through our research, that teaches these geriatric principles to all health professions and to the public, and that disseminates and implements these geriatric principles through our health system and health policy leadership."[32,68] This supports the notion that the best use of a limited resource in clinical settings is to focus on the oldest, most frail, complex, or severely ill, and that the workforce focus should be on ensuring that every clinician caring for older adults is competent in geriatric principles and practices. Table 3 compares the current status, models and strategies with tactics that could be deployed to redesign the field of geriatric medicine.

**Table 3. Current and proposed status and tactics to redesign the field of geriatric medicine**

| Current Status and Strategies | Proposed Strategies/Tactics |
|---|---|
| Focus on shortage of geriatricians and the unpopularity of the field. | Train a small cadre of geriatricians who ensure geriatric competency in all clinicians. |
| Conflicting primary clinical foci from health aging to primary care to chronic disease to frailty to long-term care to oldest old. | Endorse multi-morbidity and complexity as our defining conditions. Care directly only for the subset of the most complex patients. Provide consults to clinicians caring for all other older adults. |
| Redundancy in curricula, educational materials, and tools. | Develop and disseminate a single, unified national geriatric curriculum. |
| Develop and implement multiple standalone site- and condition-specific models of care. | Reach consensus on and disseminate core geriatric principles and elements imbedded in all of these models. Ensure these principles and elements define care across all settings. |
| Practice and teach traditional disease-based care with attention to geriatric conditions and syndromes added on. | Make geriatric care mainstream care. Develop and disseminate patient-centered clinical assessment tools with focus on patient health outcome goals and preferences. |

Source: Strategies and tactics are reproduced and adapted from a 2016 article.[32]

In alignment with these shifting strategies and tactics, at the 2016 Donald W. Reynolds Foundation annual meeting a group of national leaders in geriatrics education reached consensus on what they believe will be the future of geriatrician job roles (Table 4): complexivist, consultant, health system leader and innovator, functional preventionist, and educator, for big "G" and little "g" providers.[69]

**Table 4. Future geriatrician job roles and settings**

| Geriatrician (big "G") Job Role | Description | Direct Patient Care | System Roles |
|---|---|---|---|
| Complexivist | Adaptable, continuous learners who optimally apply latest discoveries, analytics, and tools to inform care of medically complex individuals with emphasis on function, patient values, care preferences | X | X |
| Consultant | Support primary and specialist clinical care (little "g") for older adults using dashboard analytics, prognostic and diagnostic tools, and skillful communication to optimize patient health and function | X | X |
| Health system leader and innovator | Lead interprofessional teams caring for geriatric populations; lead hospitals and systems; serve as medical director for large population-based health systems; partner in design of clinical and home environments, new technologies, and care models | | X |
| Functional preventionist | Use data and prognostics to create preventive care models and plans for older and complex populations and monitor performance with clear metrics | | X |
| Educator for big "G" and little "g" providers | Design medical education curriculum to ensure that all geriatrics principles are core elements in care provided; coach clinicians with subpar geriatrics quality metrics; prepare adaptable learners | X | X |

Source: Strategies and tactics are reproduced from a 2017 article.[69]

Simpson et al. suggest that these roles can be cross-cutting, and that geriatric fellowship programs may have to differentiate into specific training tracks to accommodate these newly defined roles. Of note, research was not included as a core job role for all geriatricians, and there was no mention of geriatrician hospitalists, a recent role in geriatric care.[29] These roles predict a shift away from hospitals and outpatient clinics and toward SNFs and other facility care or home

visits, which is partially supported by previous research tracking the shift from outpatient to inpatient and facility care. It remains to be seen if and when these projections of the geriatric field will come to fruition; the field appears to be at a crossroads in the scientific literature.

### *Limitations*

The major limitation of this landscape analysis is its reliance on previously published research and the low availability of studies of geriatricians. Although many search terms and several search strategies were employed, it is possible that this review of the literature missed seminal articles on the topic.

## Future Directions

This work is the first step in a larger study aimed to better understand the roles geriatricians play as members of health care teams and how their roles vary across different types of health care delivery systems, including integrated care systems, accountable care organizations, and free-standing hospitals. Our landscape analysis profiled the current and projected roles of geriatricians, but perspectives from healthcare delivery systems were missing in the literature. Most of the scientific literature surrounding the geriatrician workforce is written by experts in geriatric medicine, including geriatricians themselves, directors of academic programs, and administrators and leaders in the field.

What is missing in this discussion is the voice of health care organizations and systems, and what they see is the right niche for geriatricians. As the field moves into what appears to be a strategic planning phase, it will be important to understand how administrators and different types of healthcare organizations are re-structuring geriatric care around geriatricians. Evidence to support the various new roles for geriatricians will be necessary to gauge how to best leverage this workforce. To answer these questions, we will conduct case studies with different health care delivery systems to learn how geriatricians are being utilized in these systems, if they are being used in different ways, and what evidence they have to support their configuration of care. If possible, we will measure and weigh the value of geriatricians in these roles from multiple stakeholder perspectives to better identify the optimal roles for geriatricians in various settings. These case studies will be enriched with stakeholder interviews to develop recommendations to optimize future investments in geriatric education.

## Related Resources

Health Workforce Policy Brief – December 2017: The Roles and Value of Geriatricians in Healthcare Teams: A Landscape Analysis.

**Acronyms Used in this Report**

ABFM – American Board of Family Medicine

ABIM – American Board of Internal Medicine

ABMS – American Board of Medical Specialties

ACE – Acute Care for the Elderly

ACOVE – Assessing Care of Vulnerable Elders

ADGAP – Association of Directors of Geriatric Academic Programs

AGS – American Geriatrics Society

CAQ – Certificate of Added Qualifications

CEO – chief executive officer

CINAHL - Cumulative Index to Nursing and Allied Health Literature

COACH – Caring for Older Adults and Caregivers at Home

ED – emergency department

FTE – full time equivalents

GACA – Geriatric Academic Career Award

GEDC – Geriatric Emergency Department Collaborative

GEDI WISE – Geriatric Emergency Department Innovations in care through Workforce, Informatics, and Structural Enhancements

GEM – geriatric evaluation and management

GET – geriatrics education team

GRACE – Geriatric Resources for Assessment and Care of Elders

GRECC – Geriatric Research Education and Clinical Center

GWEP – Geriatric Workforce Enhancement Program

HRSA – Health Resources and Services Administration

NP – nurse practitioner

PA – physician assistant

SNF – skilled nursing facility

U.S. – United States of America

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