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SPECIAL SECTION ARTICLE

The Health Services Research Workforce: Current Stock

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Objective. To examine the size and characteristics of the health services research (HSR) workforce; the job satisfaction, job security, and future plans reported by the workforce; and the future of the HSR workforce supply.

Data Sources. (1) AcademyHealth active and lapsed members since 2000 and annual research meeting presenters and interest group participants; (2) principal investigators of research projects listed in the HSRProj database; and (3) authors of articles published in two HSR journals.

Study Design. Data on investigators conducting HSR in selected venues were collected and compared in order to identify the percentage of the HSR workforce represented in the “core” versus related disciplines and to investigate the extent to which the “core” researchers publish, present, or participate in disciplinary venues.

Principal Findings. The field appears to have grown dramatically since 1995, from an estimated 5,000 health services researchers to an estimated 11,596 in 2007. This is a broad workforce characterized by various levels of involvement in the field. Some researchers self-identify with the field of HSR, while others are associated primarily with venues related to specific disciplines. Many researchers who identify with HSR also publish in venues related to multiple other disciplines.

Conclusions. The field may face future challenges related to demographic change, such as an aging workforce and an increased need for diversity. International collaboration appears common, and in the future the field may need to be defined internationally rather than nationally. At the same time, there are also many indications that HSR is a good field to work in. Health services researchers reported high levels of satisfaction with their profession and current employer, as well as little desire to change jobs and little concern about job security.

Key Words. Health services research, workforce, research dissemination, multi-disciplinary research

BACKGROUND

Health services research (HSR) is defined as follows: “The multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and

personal behaviors affect access to health care, the quality and cost of health care, and ultimately our health and well-being. Its research domains are individuals, families, organizations, institutions, communities, and populations” (AcademyHealth, 2000).

Little is known about the size and characteristics of the HSR workforce. In 1995, the Institute of Medicine conducted a study of the HSR workforce (Field, Tranquada, and Feasley 1995) and estimated that there were approximately 5,000 health services researchers in the United States. Since then, there have been no comprehensive studies of the HSR workforce. In 2007, AcademyHealth, the largest professional association representing health services researchers, commissioned a series of three papers on the HSR workforce. This series included papers on current supply, employer demand, and the educational pipeline. The current paper is focused on supply, although one must clearly consider the elements of all three papers for a comprehensive picture of the HSR workforce.

Demand for HSR is expected to increase substantially as concerted efforts are made to increase access to and quality of health services while controlling health care spending. HSR can inform policy makers, planners, and health care providers by producing evidence to support the improvements needed in the performance of the nation’s health care system. By definition, a health services researcher is one who produces HSR. Individuals formally trained in the interdisciplinary or multidisciplinary field of HSR are likely to comprise the core of researchers in the field. Another important component of the HSR workforce is researchers who work within specific disciplines such as sociology, health economics, medicine, and nursing. These researchers are actively engaged in HSR, but remain within related disciplines and have little interaction with the broader multidisciplinary field. The importance of this distinction is clarified by Phillips (2006) as follows:

... health services research can be done by those who don’t really consider themselves health services researchers. The topic (e.g., quality) and the goal of the study (e.g., better quality) determine whether someone is doing health services research. Those of us who consider ourselves health services researchers must recognize that our chosen field is not a closed shop where one needs a union card before they can work. We should also recognize that while many may dabble in

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our area, the need for scholars whose careers are fully committed to the field is not reduced. In point of fact, those fully committed to health services research will probably, through their teaching or publications, be the ones introducing these “dabblers” to the field.

The relationship between these two groups has been, however, poorly quantified. One way to conceptualize the universe of researchers doing HSR is shown in Figure 1. While those trained in the field of HSR represent the core of the field, there are also many researchers who primarily associate themselves with a specific discipline, but who also conduct research that meets the definition of HSR.

In an effort to describe the current stock of health services researchers, the following research questions were considered:

Figure 1: Schematic Representation of Health Services Research Workforce



- How many individuals are potentially conducting HSR, and how many of these identify as health services researchers?
- What are their demographic and employment characteristics?
- What do they study and how do they study it?

DATA AND METHODS

How Many Individuals Are Conducting HSR?

To estimate the size of the HSR workforce, data on investigators conducting HSR in selected venues were collected and compared in order to identify the percentage of the HSR workforce represented in the “core” versus the related disciplines and to investigate the extent to which the “core” researchers publish, present, or participate in disciplinary venues.

Health Services Researcher “Core”

Data on the “core” or those health services researchers who are closely aligned with the field of HSR (a conservative count) were drawn from the following sources: AcademyHealth active and lapsed members since 2000, Annual Research Meeting presenters and Interest Group participants; principal investigators of research projects listed in the HSRProj database (AcademyHealth 2007c); authors of articles published in two health services research journals.

AcademyHealth is the leading national professional organization that represents the multidisciplinary fields of HSR and health policy. AcademyHealth produced a database of active members, lapsed members who joined in 2000 or later, and speakers and interest group participants in the 2005, 2006, and 2007 Annual Research Meetings (AcademyHealth 2007a). These individuals do not represent the entire universe of HSR, however. AcademyHealth may disproportionately draw those with degrees in HSR or health policy.

HSRProj is an online database available through the National Library of Medicine that provides descriptions of grants and contracts awarded by major public and private funding agencies and foundations. A database of all principal investigators from HSRProj projects starting in 2004 or later was obtained and added to the AcademyHealth members and meeting participant database.

While many journals publish HSR, two that publish HSR almost exclusively are *Health Services Research* and *Medical Care* (Lippincott, Williams, and Wilkins). *Health Services Research* is published six times a year, while *Medical*

Care is a monthly journal. Members of our advisory committee recommended that these two journals be used as a source of “core” health services researchers. Names of up to three authors of articles published in these journals between August 2006 and June/July 2007 were compiled. *Health Services Research* included 132 articles during this period that yielded the names of 294 authors. *Medical Care* included 141 articles that yielded the names of 385 authors. These authors were merged into the database of AcademyHealth members, meeting participants, and HSRProj investigators, and duplicate names were removed.

Other Health Services Researchers

In order to identify researchers who conduct HSR, but who identify more with their own discipline than with the field of HSR, researcher names were compiled from a variety of sources associated with various disciplines that study health care. These sources were identified with the assistance of our advisory committee as venues where health services researchers frequently publish or present, and they include: (1) 521 attendees of the 2006 inaugural conference of the American Society of Health Economists; (2) 4,398 paper and poster presenters at the 2007 American Public Health Association annual meeting; (3) 340 presenters in health-related sessions at the 2007 American Sociological Association meeting; (4) 2,584 individuals, representing the first three authors of articles on HSR in 11 health-related peer-reviewed journals selected with the assistance of the advisory committee.

What Are The Characteristics of Health Services Researchers?

There is little microlevel survey data available on health services researchers. Among the few sources are the member surveys conducted by AcademyHealth. In addition to annual member surveys, AcademyHealth has conducted a salary survey of members twice, in 2002 and again in 2007. These salary surveys, particularly the 2007 survey, include substantially more detail about background and employment than the member surveys. To describe the characteristics of the HSR workforce, data drawn from AcademyHealth’s 2007 salary survey of its membership were analyzed.

This survey, sponsored by AcademyHealth, was primarily intended to provide data on member earnings, but also collected detailed information on the demographic and educational background and employment characteristics of members. A link to the online survey was e-mailed to all current members of AcademyHealth for whom an e-mail address was known (96.3

percent). There were 1,317 respondents to the survey, for a response rate of 38.6 percent. Seventy-six percent of respondents reported that they spend at least some of their working hours doing HSR, and this group ($n = 873$) is the subset analyzed for the purposes of this paper. While this source can be expected to give a more detailed picture of the core of the HSR workforce, the findings may be much less applicable to the much broader universe of health services researchers who tend to work primarily within their own disciplines.

RESULTS

Size of the HSR Workforce

The unduplicated conservative count of the HSR workforce is defined in this paper as (1) HSRProj investigators (since 2004), (2) annual research meeting speakers 2005–2007, (3) AcademyHealth members who are now lapsed and joined in 2000 or later, (4) AcademyHealth active members, (5) AcademyHealth interest group participants, and (6) authors from the journals *Health Services Research* and *Medical Care* (August 2006 to June/July 2007). Those individuals who are or have been associated with AcademyHealth but identified themselves to AcademyHealth as primarily policy analysts (numbering approximately 1,500) were excluded from this count. These sources produced a final unduplicated count of 11,596 individuals, which is a striking increase over the 5,000 estimated by the 1995 Institute of Medicine HSR workforce study (Field, Tranquada, and Feasley 1995).

The Institute of Medicine study used a very similar methodology, basing their estimates on the membership and meeting attendees of the Association for Health Services Research (the precursor organization to AcademyHealth) and on the names found in HSRProj. They did not analyze the authors from *Medical Care* and *Health Services Research*, but they also collected data from a survey of 500 employers of health services researchers, from the brochures of about 50 research centers doing HSR, and from the membership of the nursing research honorary society Sigma Theta Tau. The only sources used in the current study that were not used in the Institute of Medicine study were the two journals, which yielded the names of 679 individuals (some of whom already appeared in the core group due to their appearance in either HSRProj or AcademyHealth records). Even excluding these 679 individuals from the count, the current estimate is twice as high as the Institute of Medicine estimate (which also included sources that are not included in the current estimate). There is no doubt that the HSR workforce has increased dramatically since 1995.

Table 1 shows how many individuals were identified from each of the sources used to identify the “core” group and “other” health services researchers. Ten percent of the core group of researchers appeared in both “core” and “other” sources (1,159 out of 11,596). By definition, the “other health services researchers” did not appear in any of the core sources. “Core” health services researchers made up a substantial percentage of those attending the American Society of Health Economists Annual Meeting (256 out of 519, or 49 percent) and constituted a substantial percentage of those publishing in the *International Journal of Health Care Finance and Economics* (28 out of 64, or 44 percent), the *Milbank Quarterly* (47 out of 110, or 43 percent), or *Health Affairs* (124 out of 308, or 40 percent). It is important to note that those who appear only in the “other” sources are doing

Table 1: Number of Health Services Researchers Identified from Sources

	Core Health Services Researchers	Other Health Services Researchers	Total from Each Source
Core sources			
AcademyHealth	8,463	N/A	8,463
HSRProj	3,947	N/A	3,947
<i>Health Services Research Medical Care</i>	294	N/A	294
	385	N/A	385
Total (with duplicates)	13,089	N/A	13,089
Unduplicated count	11,596	N/A	11,596
Other sources			
Conferences			
American Society of Health Economists	256	263	519
American Public Health Association	485	3,910	4,395
American Sociological Association (health-related sessions)	37	303	340
Journals			
			0
<i>International Journal of Health Care Finance and Economics</i>	28	36	64
<i>Milbank Quarterly</i>	47	63	110
<i>Health Affairs</i>	124	184	308
<i>Journal of Healthcare Management</i>	35	56	91
<i>Journal of Health Politics, Policy and Law</i>	32	59	91
<i>Journal of Mental Health Policy and Economics</i>	26	56	82
<i>Journal of Health and Social Behavior</i>	15	77	92
<i>American Journal of Public Health</i>	110	574	684
<i>Journal of the American Medical Association</i>	62	414	476
<i>Journal of Public Health Policy</i>	7	72	79
<i>New England Journal of Medicine</i>	41	516	557
Total (with duplicates)	1,305	6,583	7,888
Unduplicated count	1,159	6,448	7,607

health-related research that may or may not strictly meet the definition of HSR, and should perhaps be considered “potentially” health services researchers.

Characteristics of the Current HSR Workforce

Demographic Characteristics. The typical respondent doing HSR in the AcademyHealth survey was middle-aged, female, and non-Hispanic White. Respondents were notably older than the civilian labor force (median age of 47 versus 40.3 [U.S. Department of Labor, Bureau of Labor Statistics, 2005]), and the percentage of respondents age 55 or older was substantially larger than the percentage of respondents under the age of 35 (26.1 versus 14.7 percent). Fifty-six percent were women, and 84.4 percent were non-Hispanic White. Asians were the largest minority group (8.6 percent), followed by Black/African Americans (3.1 percent) and Hispanics/Latinos (2.2 percent).

African Americans appeared more likely to be women (72.0 percent) than the other groups (non-Hispanic Whites, 55.6 percent; Hispanics/Latinos, 42.0 percent; Asian/Pacific Islanders, 58.9 percent), although this difference was not statistically significant. Respondents younger than age 35 were twice as likely to be female as male (68.3 versus 31.8 percent), while respondents age 55 and older were 53.1 percent male. If this trend continues, HSR will become increasingly female dominated in the future.

By far, the majority of respondents (81.0 percent) had doctorates as their highest degree, and most of the remainder held master’s degrees (16.0 percent). More than two-thirds of respondents (69.0 percent) received their most recent advanced degree since 1990 and 37.3 percent had received their most recent advanced degree since 2000, but median years since graduation varied dramatically by educational background. For example, respondents with Ph.D.s in sociology or psychology had graduated a median of 21 and 19 years ago, respectively, while those with master’s degrees in public health or doctorates in health policy graduated a median of 8 years ago. Those with doctorates in HSR were also relatively recent graduates, earning their most recent degree a median of 9.5 years ago.

Table 2 shows the 10 most common degrees held by survey respondents in 2007, highlighting the intensely multidisciplinary nature of the field. More than two-thirds of respondents who reported doing HSR held one of these 10 degrees, with another 30 percent holding a variety of master’s or doctoral degrees and 3 percent holding no advanced degree.

Table 2: Ten Most Common Educational Backgrounds of AcademyHealth Members Who Do HSR, 2007

<i>Top 10 Degrees</i>		
Doctorate in HSR	168	19.2%
Doctorate in Medicine (M.D.) or Osteopathy (D.O.)	99	11.3%
Doctorate in Economics	92	10.5%
Doctorate in Health Policy	52	6.0%
Master's in Public Health	35	4.0%
Doctorate in Sociology	49	5.6%
Doctorate in Psychology	39	4.5%
Master's in Public Policy	23	2.6%
Doctorate in Nursing	26	3.0%
Doctorate in Public Health	22	2.5%
Total	605	69.3%

HSR, health services research.

Employment Characteristics. More than half of respondents (54.8 percent) worked in academic settings (settings were self-identified), although many also reported working in research organizations (12.5 percent) or governmental settings (8.4 percent). Most worked in public or nonprofit organizations (47.1 and 40.3 percent, respectively), and hours that exceeded the standard 40-hour work week were common (69.8 percent of respondents).

Nearly half of respondents had some level of professorship (43.3 percent), while 7.6 percent had another academic title (e.g., lecturer, fellow, etc.). The most common nonacademic titles were research staff (17.4 percent) and administration (6.6 percent). One in four respondents reported some other type of title.

Despite long hours worked in primary jobs, some respondents also reported secondary employment (14.7 percent). Respondents with clinical doctorates were much more likely than other respondents to have secondary employment. The majority of dual-employment respondents worked in some combination of academic and nonacademic settings (75.0 percent).

Employment Conditions. The median base salary at the primary job was U.S.\$100,000, while total median income from the primary job from all sources (including bonuses and summer salary) was U.S.\$105,000. Base salary varied substantially by the characteristics of both the respondent and his or her employment. Women in the field earned less than men on average, at all levels of education and experience, all job settings and all job titles.

It was estimated that 46.3 percent of respondents had some outside income (e.g., honoraria, publishing royalties). Outside income was most likely to be reported by those working in colleges and universities for their primary employment (59.6 percent).

Few respondents reported that they were “very anxious” about their job security over the next year (3.3 percent), and 6 in 10 (59.9 percent) felt no anxiety about their job security.

There was a significant negative correlation between age and job security worries ($r = -0.083$, $p = .018$). Those between the ages of 25 and 34 were about twice as likely to say they were very anxious about job security compared with those between the ages of 55 and 64 (6.3 versus 1.9 percent). More job insecurity was reported in academia (4.4 percent, compared with government [2.9 percent] and other organizations [1.9 percent]), but this was not statistically significant (Table 3).

DISCUSSION

These data are not without significant limitations. There is no good, comprehensive source of data on health services researchers, and this paper represents a “best effort” at identifying members of this workforce whether they identify themselves as such. It is clear that the data are incomplete in failing to

Table 3: Employment Satisfaction, Job Search Plans, and Job Security of AcademyHealth Members Who Do HSR, 2007

Satisfaction with . . .	
Current occupation/profession	93.4%
Current primary employer	85.1%
Current compensation	76.4%
Geographic location	89.1%
Rate of advancement	78.5%
Likelihood of initiating a job search in next year	
Very unlikely	42.0%
Somewhat unlikely	23.9%
Somewhat likely	17.4%
Very likely	16.7%
Anxiety about job security in next year	
Not at all anxious	59.9%
Slightly anxious	23.1%
Somewhat anxious	13.7%
Very anxious	3.3%

identify every person doing HSR, but at the same time may include individuals whose research does not meet the prevailing definition of HSR. Other aspects of the data collection were limited by time and resources as well. In particular, the recording of only the first three authors from each journal article is problematic as various disciplines have different conventions for authorship order. Furthermore, the sampled journals did not include every journal that publishes HSR. Journals such as *Health Economics, Inquiry, Journal of Urban Health*, etc. may have improved the representativeness of the sample and should be considered in future work.

Despite their lack of precision, these data raised several important issues related to the future of the HSR workforce. First, the field has grown dramatically since 1995, using even a conservative estimate. The growth from an estimated 5,000 health services researchers in 1995 (Field, Tranquada, and Feasley 1995) to an estimated 11,600 in 2007 represents growth of 132 percent over a 12-year period. Even though the enumeration methodology used in this study is not identical to that used in 1995, the differences are still striking evidence of substantial growth.

Second, this is a broad workforce characterized by various levels of involvement in the field. Some researchers self-identify as health services researchers, as evidenced by their membership in AcademyHealth, attendance at AcademyHealth meetings, or submission of their research to HSR-Proj, *Health Services Research*, or *Medical Care*. Other researchers may do only one study related to HSR and never publish in the field again, and funding may be a driver of researchers moving into and out of HSR throughout their careers. Some researchers who identify as health services researchers also present and publish in venues related to multiple other disciplines, providing an important bridge between related disciplines and the HSR “core.”

Third, some attention is required to the changing demographics of the field. The recent expansion in the number of HSR education programs (T. Ricketts, unpublished data) contributes to an increase in the number of younger researchers who join AcademyHealth and are part of the core HSR workforce. In the past, with fewer HSR education programs, there was a tendency for people to move into the field of HSR from other disciplines over the course of their career, resulting in a workforce that seemed skewed toward older ages. Graduates of the growing number of HSR education programs represent a pipeline of younger researchers who enter the HSR workforce at an earlier point in their career. Furthermore, the HSR workforce lacks racial/ethnic diversity. This is a particularly important issue given the increasing racial and ethnic diversity of the country’s population. While women are well

represented in the HSR workforce, salary differences between men and women persist. This gender disparity is troubling and merits further detailed investigation.

Finally, the question arose of how to quantify the U.S. workforce in HSR in a world where international collaboration has become more common. A number of journals that publish HSR were not included in the analyses because researchers based in other countries produced the vast majority of their articles. Even in journals targeted primarily to an American audience, it was common to see research in which at least one of the top three authors was based overseas. One could argue that these individuals are very much part of the U.S. HSR workforce because they are publishing work read by American researchers, but their inclusion could further complicate efforts to assess the supply and characteristics of this workforce. However, it reveals a clear growth of the field outside the United States and, given the increasing amount of collaboration among researchers around the world, in the future we may define the field internationally rather than nationally.

Despite issues and challenges highlighted by these data, there were also many indications that HSR is a good field of work. Health services researchers reported high levels of satisfaction with their profession and their current employer, as well as little desire to change jobs and little concern about job security.

To better support future research, the size and composition of the HSR workforce should be routinely monitored. It is not sufficient to take a periodic “snapshot” of the HSR workforce to fully understand the size and composition of this workforce and their issues. More in-depth data could help to evaluate targeted efforts to increase diversity or address pay inequities in the HSR workforce. Such efforts require collaborations among key stakeholders, including HSR professional associations, funders, and educators. For example, routinely collecting and compiling standardized data on HSR authors, researchers receiving funding for their work, and HSR professional association memberships could support the development of a profile of the HSR workforce. Such efforts hold the potential to assure a strong and well-prepared HSR workforce for the future.

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SUPPORTING INFORMATION

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Appendix SA1: Author Matrix.

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