

Health Status and Risk Indicator Trends of the Aging US Healthcare Workforce

Introduction

Older Americans are an increasing proportion of the US population, which will have profound implications for the demands on the US healthcare system and its workers. Partly due to this demographic shift, the US workforce is also growing older as increasing numbers of workers delay retirement or re-enter the workforce in their later years. This phenomenon extends to the healthcare workforce in which growing numbers of older healthcare workers will be called upon to meet rising healthcare demands, both in terms of volume and the complexity of care. However, little is known about the health status of the older US healthcare workforce.



Methods

This study reports health status and risk indicator trends in a representative sample of US healthcare workers 45 years and older from the 1997-2009 National Health Interview Surveys (n=6,509). All selected health status and risk indicator measures were consistently assessed over years 1997-2009. Analyses were completed with adjustments for sample weights and design effects using SUDAAN and SAS.

Table 1. Prevalence of Select Health Status Indicators within Healthcare Occupational Categories: Pooled data from the 1997-2004 National Health Interview Surveys

Health Status/Risk Indicator	Healthcare Service Sector Occupations									
	All Health Care Sector Workers ^a		Health Diagnosing Occupations ^{a,b}		Health Assessing and Treating Occupations ^{a,b}		Health Technologist/Technician Occupations ^{a,b}		Health Service Occupations ^{a,b}	
	45-59 years (n=3,347)	60 and older (n=802)	45-59 years (n=343)	60 and older (n=131)	45-59 years (n=1,382)	60 and older (n=239)	45-59 years (n=590)	60 and older (n=109)	45-59 years (n=1,032)	60 and older (n=323)
Any Limited Functioning	28.9 [27.1-30.7]	38.1 [34.3-42.0]	11.5 [8.3-15.9]	22.6 [15.3-32.0]	26.6 [24.0-29.4]	35.0 [28.6-42.0]	32.5 [28.2-37.2]	40.4 [29.7-52.1]	37.9 [34.5-41.4]	49.3 [43.2-55.4]
Limited functioning in ≥3 domains	14.1 [12.9-15.5]	19.3 [16.3-22.6]	4.2 [2.5-7.2]	11.1 [5.9-19.9]	11.6 [9.9-13.5]	14.5 [10.2-20.2]	15.3 [12.5-18.7]	24.3 [16.1-35.0]	21.8 [18.9-25.0]	26.4 [21.2-32.4]
BMI ≥30	25.5 [23.6-27.5]	22.6 [19.3-26.3]	10.0 [6.8-14.7]	9.2 [5.0-16.2]	23.0 [20.3-25.8]	24.5 [18.6-31.5]	26.9 [22.9-31.3]	22.6 [15.1-32.5]	35.8 [32.3-39.4]	29.1 [23.6-35.3]
BMI ≥35	9.7 [8.6-11.0]	6.9 [5.0-9.4]	0.8 [0.2-2.9]	0.5 [0.1-3.1]	8.4 [6.8-10.3]	8.0 [4.7-13.1]	11.0 [8.6-14.0]	10.2 [5.6-17.6]	15.2 [12.8-17.9]	8.5 [5.3-13.4]
Visual impairment	9.2 [8.1-10.4]	9.4 [7.5-11.7]	3.5 [2.0-6.0]	7.3 [3.2-11.7]	7.3 [6.0-9.0]	6.4 [3.7-11.0]	9.2 [7.0-12.0]	13.9 [8.2-22.8]	14.7 [12.2-17.5]	12.2 [8.8-16.6]
Hearing impairment	13.2 [11.9-14.5]	21.9 [18.7-25.6]	15.6 [11.9-20.3]	29.7 [22.5-38.1]	10.7 [9.1-12.6]	19.7 [14.5-26.2]	13.1 [10.3-16.6]	11.6 [5.9-21.3]	16.0 [13.4-18.9]	23.2 [18.3-28.9]
History of cancer	7.0 [6.1-8.1]	12.1 [9.6-15.2]	7.2 [5.0-10.4]	16.1 [10.6-23.7]	7.1 [5.8-8.8]	16.6 [11.3-23.7]	6.9 [5.0-9.4]	10.6 [6.1-18.0]	7.0 [5.3-9.1]	6.3 [4.0-9.8]
History of hypertension	26.6 [24.8-28.4]	47.1 [42.7-51.5]	14.1 [10.8-18.3]	42.9 [33.7-52.6]	23.6 [21.1-26.4]	48.0 [39.9-56.2]	27.7 [23.9-31.9]	41.3 [30.8-52.6]	36.2 [32.9-39.6]	51.0 [44.6-57.4]
History of coronary heart disease	6.2 [5.4-7.2]	11.5 [9.1-14.4]	4.0 [2.1-7.5]	14.7 [9.3-22.6]	6.8 [5.5-8.3]	11.1 [6.4-18.5]	6.9 [5.0-9.4]	11.1 [5.7-19.4]	5.9 [4.4-8.0]	10.1 [6.7-14.9]
History of asthma	9.8 [8.6-11.2]	7.0 [5.3-9.2]	7.6 [4.8-11.9]	6.4 [3.0-12.9]	10.4 [8.7-12.4]	5.5 [3.1-9.5]	10.1 [7.7-13.1]	8.5 [4.2-16.4]	9.7 [7.7-12.3]	8.2 [5.5-12.2]
Current fair/poor health rating	7.3 [6.3-8.4]	9.3 [7.3-11.8]	2.3 [0.9-5.9]	4.7 [1.7-12.4]	3.9 [3.0-5.2]	4.9 [2.5-9.3]	6.4 [4.4-9.2]	5.2 [2.3-11.5]	15.6 [13.2-18.3]	17.7 [13.7-22.7]

Abbreviations: CI, confidence interval; BMI, body mass index (calculated as weight in kilograms divided by height in meters squared).
^aWithin occupational sub-group category bolded prevalence estimates for 40-59 year old and 60 and older workers are significantly different at the p<0.05 level.
^bItalicized healthcare service sector occupational sub-group prevalence estimates are significantly lower or higher than the age-group specific estimates for the entire healthcare service sector workforce (p<0.05 level).



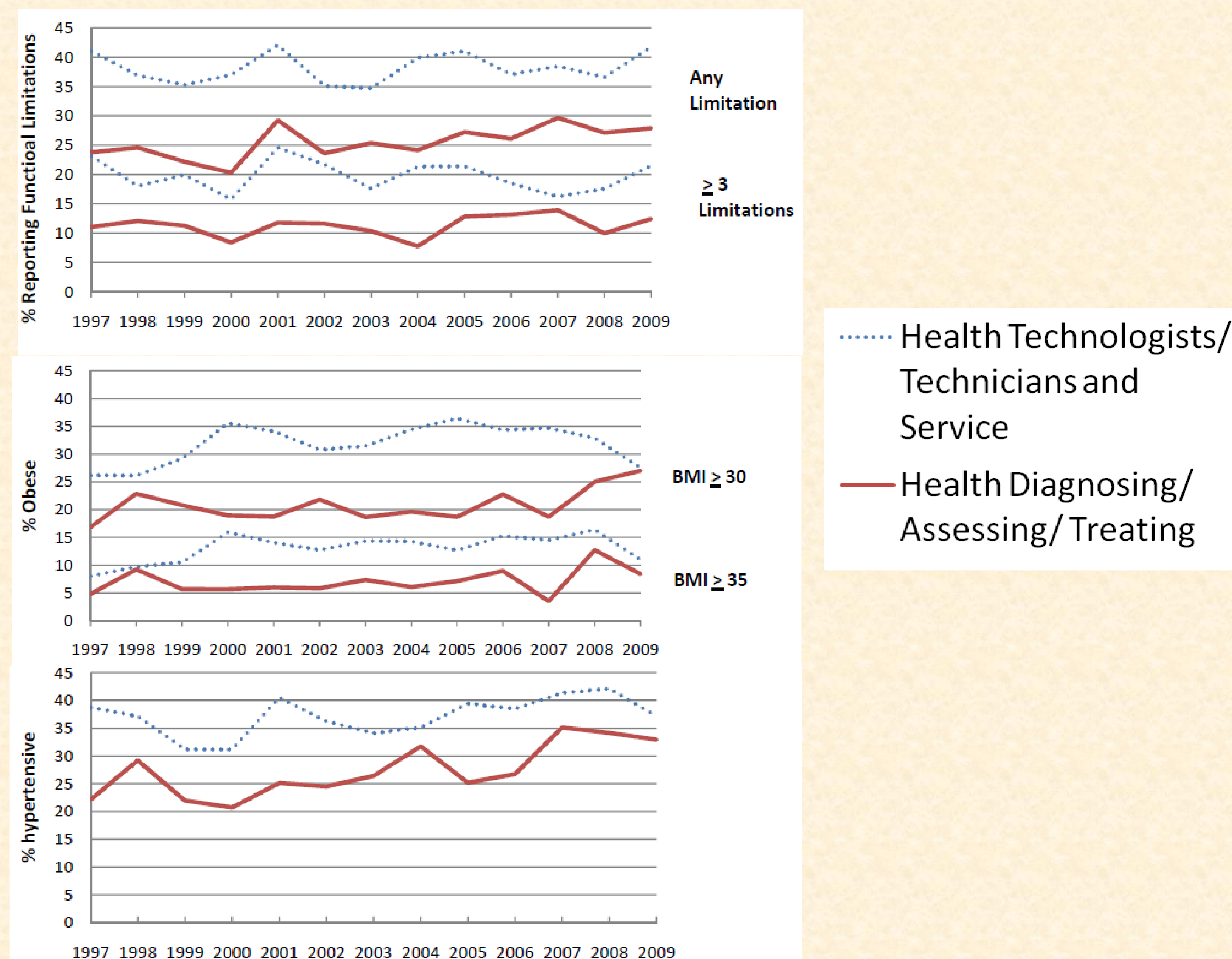
100-year old Dr. Walter Waston of Augusta, Georgia of still sees a few patients every day

http://www.syracuse.com/news/index.ssf/2009/03/denver_woman_83_still_works.html
<http://www.wctv.com/home/headlines/3880773.html>

Pauline Schlimmer, 83, attends to a patient in a Syracuse-area hospital. She works about 12 hours a week.



Figure 1. Trends in the prevalence of functional limitations (panel a), obesity (panel b), and hypertension (panel c), in US healthcare workers 45 years of age and older: the 1997-2009 National Health Interview Survey



Results

The prevalence of poor health status and risk indicators was often greater among older versus younger workers, although differences varied as a function of employment within each of the four healthcare occupational groups (Table 1).

Health Service workers were more likely to report functional limitations (up to a 3.3-fold difference), poor overall health (up to a 6.8 fold difference), and were more likely to be obese (up to a 19 fold difference) and hypertensive (up to a 2.6 fold difference) relative to other worker groups.

From 1997-2009, Health Diagnosing/Assessing/ Treating occupations experienced significant annual average increases in the prevalence of functional limitations and hypertension; both worker groups experienced increases in obesity which approached statistical significance (Figure 1).



Conclusions

Workplace accommodations and targeted interventions designed to improve the health and functioning of older healthcare worker populations, especially among healthcare service workers, are needed in order to optimize the US healthcare workforce's ability to effectively meet the growing demands of an aging US population.