

Impact of Baby Boomers on hospitalizations for coronary heart disease and stroke in the United States[☆]

Hylan D. Shoob^{*}, Janet B. Croft, Darwin R. Labarthe

Division for Heart Disease and Stroke Prevention, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 4770 Buford Highway, NE, Mailstop K-47, Atlanta, GA 30341, USA

Available online 8 January 2007

Abstract

Objective. Comparison of hospitalizations for coronary heart disease and stroke in older Baby Boomers, aged 45–54 years (the 1946–1955 birth cohort) in 2000 with that of the 1936–1945 birth cohort in 1990 and the 1926–1935 birth cohort in 1980.

Method and data source. Analysis of the annual National Hospital Discharge Survey that collects data on discharges from non-federal short-stay hospitals.

Results. Among hospitalizations for coronary heart disease, 294,000 (15.4%) in 1980, 289,000 (14.7%) in 1990, and 329,000 (15.2%) in 2000 occurred among adults aged 45–54 years. However, the age-specific hospitalization rate (per 100,000) for coronary heart disease was lower in 2000 than in 1990 or 1980 ($p < 0.05$). Among hospitalizations for stroke, 37,000 (6.0%) in 1980, 42,000 (6.5%) in 1990, and 64,000 (8.5%) in 2000 were observed in this age group. The age-specific hospitalization rate (per 100,000) for stroke in 2000 compared to that in 1990 or 1980 was higher among women ($p < 0.05$) but lower among men ($p < 0.05$). The proportion of transfers to another care facility after discharge in 2000, 1990, and 1980 increased for coronary heart disease and stroke in successive decades of middle-aged adults.

Conclusion. Baby Boomers made a greater impact on absolute numbers of coronary heart disease and stroke hospitalizations in 2000 relative to that of 45–54-year-olds in 1990 and 1980.

Published by Elsevier Inc.

Keywords: Aging; Coronary heart disease; Epidemiology; Morbidity; Statistics; Stroke; Baby boom

Introduction

“Baby Boomer” (BB) is the name given to the post-war generation born between 1946 and 1964 (Himes, 2002; Dunn-Cane et al., 1999). This birth cohort in 2005 included all persons aged 50–59 years (born 1946–1955) and those aged 41–49 years (born 1956–1964). Today there are almost 76 million Baby Boomers (BBs), who comprise one-third of the United States (US) population and include US live births plus immigration of this birth cohort into the US (Himes, 2002). Another BB attains age 50 every 7 s (Bartlett and Sorelli, 1999; Kent and Mather, 2002) and BBs will enter the Medicare population at age 65 in 2011. Medicare is a nationwide health

insurance program providing health insurance protection to people 65 years of age and over, people entitled to social security disability payments for 2 years or more, and people with end-stage renal disease, regardless of income. This age cohort is expected to impact future utilization of health care resources and Medicare services.

Coronary heart disease (CHD) and stroke are the first and third leading causes of mortality and leading causes of disability in the US. National Hospital Discharge Survey (NHDS) data was used to provide a national perspective on the recent impact of the BB population on hospitalizations for CHD and stroke. Hospitalizations for CHD and stroke in the older half of the BB generation were compared to those aged 45–54 years (the 1946–1955 birth cohort) in 2000, with that of adults aged 45–54 years in 1990 (the 1936–1945 birth cohort) and in 1980 (the 1926–1935 birth cohort) to determine whether this particular cohort had already begun to differ in their need for and utilization of US health care resources as

[☆] This paper/abstract was presented in part at the 2nd International Conference on Heart Disease and Stroke, Orlando, Florida, 2005.

^{*} Corresponding author. Fax: +1 770 488 8151.

E-mail address: hms4@cdc.gov (H.D. Shoob).

middle-aged adults compared to previous middle-aged birth cohorts.

Methods

The NHDS is conducted annually by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention since 1965. The NHDS is a national probability survey designed to meet the need for information on characteristics of inpatients discharged from non-Federal short-stay hospitals in the US. The NHDS collects data from a sample of approximately 270,000 inpatient records acquired from a national sample of about 500 hospitals. Only hospitals with an average length of stay of fewer than 30 days for all patients, general hospitals, or children's general hospitals are included in the survey. Federal, military, and Veterans Administration (VA) hospitals, as well as hospital units of institutions (i.e., prison hospitals), and hospitals with fewer than six beds staffed for patient use, are excluded. Demographic and medical information including patient characteristics, diagnoses, and procedures are abstracted from inpatient records (Kozak et al., 2002; McCarthy, 1983; Graves, 1992; Haupt and Kozak, 1989). The International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) has been used by the NCHS for coding hospital diagnoses and procedures in the NHDS since 1979 (NCHS, 1980).

Records were limited to those with either CHD (ICD-9-CM codes 410–414, 429.2) or stroke (ICD-9-CM codes 430–434 and 436–438) recorded as the first-listed diagnosis or principal cause for the hospitalization. These diagnoses were chosen for compatibility with future ICD-10 codes selected by the World Health Organization for reporting CHD and stroke (Anderson et al., 2001). Among patients with CHD, cardiac revascularization, which includes angioplasty and coronary bypass surgery, was defined if any ICD-9-CM procedure code 36 was reported; cardiac catheterization was defined by any report of procedure codes 37.22, 37.23, or 88.5. Information on length of hospital stay, insurance status, and discharge outcomes were also abstracted from the hospital record.

Nationally representative estimates were calculated from the 1980, 1990, and 2000 NHDS using weighted analyses to account for the complex sampling design. Civilian resident populations as of July 1 for each year were obtained from the US Bureau of the Census (Kozak et al., 2002) and used to calculate age-specific hospitalization rates (per 100,000) for hospitalizations among persons aged 45–54 years. Race-specific estimates are not provided due to incomplete reporting of race on hospital records (Kozak, 1995). Because persons with discharges during the year may be sampled more than once, estimates are for discharges not persons.

Results

Among all US hospitalizations for CHD, 15.2% of 2,173,000 in 2000, 14.7% of 1,964,000 in 1990, and 15.4% of 1,902,000 in 1980 were estimated to have been among adults aged 45–54 years. The estimated number of CHD hospitalizations in this age group was higher in 2000 than in 1990 or 1980 but the age-specific hospitalization rate (per 100,000) for CHD was lower ($p < 0.05$). Among CHD hospitalizations for 45–54-year-olds, the proportion of patients who were women was similar (28–31%) during the two decades and the proportion of patients with private insurance was similar (Table 1). During CHD hospitalizations, use of cardiac procedures (revascularization and cardiac catheterization) increased among those aged 45–54 years; in 2000, 42.5% had received cardiac revascularization and 52.9% had received cardiac catheterization. The mean stay for a CHD hospitalization declined. Among CHD patients in this age group, the proportion of hospital stays resulting in transfer to short-term or long-term care facilities increased while in-hospital deaths were less than 2%. The numbers of hospitalizations for CHD

Table 1

Comparison of selected characteristics of hospitalizations for coronary heart disease among persons aged 45–54 years, by survey year: National Hospital Discharge Survey, 1980, 1990, and 2000

Characteristic	1980 [N=294,000]	1990 [N=289,000]	2000 [N=329,000]
Birth cohort	1926–1935	1936–1945	1946–1955
Hospitalization rate per 100,000 (95% confidence interval)	1292.8 (1288.1, 1297.5)	1147.8 (1143.6, 1152.0)	886.5 (883.5, 889.5)
% of total hospitalizations for coronary heart disease	15.4	14.7	15.2
Women (%)	29.1	28.0	30.9
Primary source of payment			
Private insurance (%)	75.5		72.6
Government (%)	23.0	17.7	23.4
Other (%)	1.5	8.7	4.0
Procedures			
Cardiac revascularization (%)	11.2	31.9	42.5
Cardiac catheterization (%)	14.4	46.4	52.9
Mean days of stay (range)	8.1 (1, 88)	5.3 (1, 94)	3.3 (1, 65)
Discharge outcome			
Discharged home (%)	88.4	82.5	77.0
Transferred to another short-term care facility (%)	4.2	11.2	14.9
Transferred to long-term care facility (%)	0.0	1.1	1.1
Death in hospital (%)	1.8	1.2	1.7
Other (%)	5.6	4.0	5.4

were higher in men than women and were higher in 2000 than in 1990 or 1980 for both men and women (Fig. 1). However, age-specific hospitalization rates for CHD were lower in 2000 than in 1990 or 1980 ($p < 0.05$) among both men and women (Fig. 2).

Among all US hospitalizations for stroke, 8.5% of 757,000 in 2000, 6.5% of 647,000 in 1990, and 6.0% of 603,000 in 1980 were estimated among adults aged 45–54 years. The number of stroke hospitalizations in this age group was higher in 2000 than in 1990 or 1980 as was the age-specific hospitalization rate for stroke ($p < 0.05$). Among stroke hospitalizations for 45–54-year-olds, the proportion of patients who were women increased during the two decades and the proportion of patients with private insurance decreased (Table 2). The mean stay for a stroke hospitalization declined. Among stroke patients in this age group, the proportion of hospital stays that resulted in transfers to short-term facilities declined while transfers to long-term care facilities increased; the proportion of deaths during the hospital stay for stroke was higher in 2000 than in 1980 for 45–54-year-old stroke patients. Estimated numbers of hospitalizations for stroke were similar in men and women at ages 45–54 years in 2000 and were higher in 2000 than in 1990 or 1980 for both men and women (Fig. 3). However, age-specific hospitalization rates for stroke declined in men by 2000 ($p < 0.05$) while hospitalization rates for

Download English Version:

<https://daneshyari.com/en/article/3101841>

Download Persian Version:

<https://daneshyari.com/article/3101841>

[Daneshyari.com](https://daneshyari.com)