Racial and Ethnic Differences in Healthcare Utilization among Medicare Fee-For-Service Enrollees

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INTRODUCTION

Most existing literature about racial/ethnic disparities focuses on differences among Blacks and Hispanics.[1] Asian Americans (Asians), the fastest growing population in the USA,[2] are found to be low healthcare utilizers.[3, 4] However, it is unclear whether this arises from differences in access to care (i.e., lack of health insurance) or care-seeking behavior. A closer examination of potential differences in healthcare utilization among Asians is important for many reasons. First, recent studies have shown poor health outcomes among Asians and we hypothesize that this may be associated with low healthcare utilization.[5] Second, continuity of care or frequent ambulatory care utilization is associated with improved healthcare outcomes and lower rates of emergency room visits. Third, the Asian population has been growing faster than the overall national population, which means that their health outcomes will have increasing significance in national healthcare outcomes.[2] The purpose of this study is to address an important gap in the literature by exploring healthcare utilization among continuously insured Medicare fee-for-service beneficiaries, with a focus on Asians.

METHODS

This was a retrospective analysis of the Centers for Medicare and Medicaid data, which included a stratified random sample ($n = 999{,}814$) from all enrollees aged 66 and older as of 1 January 2010 (i.e., baseline) and continuously enrolled in the Medicare fee-for-service program during 1 January 2009–31 December 2012 or until death. We identified three types of healthcare services: ambulatory visits (Medicare wellness visits, evaluation and management office visits, and consultations), emergency room visits, and short-stay hospitalizations, using ICD9-CM and CPT codes. To focus on the lack of use of services, our main outcomes were dichotomous indicators (0/1) of non-use of ambulatory clinic visits, emergency room visits, and hospitalizations during 1 January 2010–31 December 2012 (or until date of death). The five racial/ethnic groups identified in the data were non-Hispanic Whites, Blacks, Hispanics, Asians, and Others. We included socio-demographic characteristics (race/ethnicity, gender, age, Medicaid and Medicare dual eligibility, and region) and geographic characteristics (community type, provider availability, and distance to nearest hospital) known to be associated with healthcare utilization. We characterized individual baseline health status based on indicators (0/1) of baseline prevalence of 23 chronic conditions developed by the Centers for Medicare and Medicaid Services and included in Medicare claims data.[6] We used zip code–level geocoded data to obtain area-level healthcare access indicators. We performed descriptive analyses of the key outcomes and covariates by race and ethnicity. Our core analysis used Poisson regression models to estimate the relative risk of each non-use indicator by race/ethnicity adjusted for covariates.

RESULTS

Our study population represented 21.6 million Medicare fee-for-service enrollees (Table 1). Asians had favorable characteristics associated with healthcare access; they had the highest percentage residing in a Metropolitan area, in close proximity (< 2 mile) to a hospital, and in areas with physician availability (all p values < 0.01). Compared with other racial groups, Asians had the highest percentage with no ambulatory care (Asians $= 28.8\%$, Whites $= 15.3\%$, Blacks $= 20.2\%$, and Hispanic $= 23.8\%$; $p < 0.01$), no emergency room visits (Asians $= 55.8\%$, Whites $= 42.5\%$, Black $= 36.7\%$, and Hispanic $= 43.9\%$; $p < 0.01$), and no short-stay hospitalization (Asians $= 68.7\%$, Whites $= 57.8\%$, Black $= 54.7\%$, and Hispanic $= 60.2\%$; $p < 0.01$). After adjusting for covariates, Asians had

Table 1 Descriptive Statistics of Medicare Fee-For-Service Enrollees by Race and Ethnicity

	All	White	Black	Hispanic	Asian	Other	*p* value
Socio-demographic characteristics (2010)							
Number	999,814	305,940	305,943	305,959	45,028	36,944	
Weighted number	21.6 M	18.5 M	1.5 M	0.9 M	0.5 M	0.2 M	
Gender							
Male	41.7	42.0	38.3	42.8	41.0	43.8	< 0.01
Female	58.3	58.1	61.7	57.2	59.0	56.2	
Age group							
65–74	44.4	43.5	48.8	49.9	45.9	57.9	< 0.01
75–84	37.4	37.6	35.4	36.6	38.0	33.4	
85+	18.3	18.9	15.8	13.5	16.0	8.7	
Comorbidities (top 5)							
Hypertension	61.2	60.2	73.0	62.1	62.8	57.9	< 0.01
Hyperlipidemia	48.8	49.1	45.1	48.1	52.0	43.9	
Diabetes	27.1	25.1	40.4	39.7	35.3	34.7	
Ischemic heart disease	33.4	33.7	31.6	34.8	29.3	29.3	
Rheumatoid arthritis	30.5	30.4	32.2	32.5	26.4	26.6	
Dual Medicaid-Medicare eligibility	12.2	8.1	29.1	45.1	48.0	24.5	< 0.01
Region							
Northeast	19.1	19.8	15.1	15.2	16.3	15.7	< 0.01
Midwest	24.2	25.8	19.7	8.9	9.2	15.8	
South	39.8	38.9	58.5	41.2	19.0	29.8	
West	16.9	15.6	6.7	34.8	55.6	38.8	
Geographical characteristics (2010)							
Community type*							
Metropolitan	77.5	75.9	84.9	89.7	96.1	70.3	< 0.01
Micropolitan	12.4	13.3	7.8	6.7	3.1	15.3	
Rural and other	10.1	10.8	7.3	3.6	0.8	14.4	
No. of primary care physicians/100 k, average†							
Less than 50	5.7	5.6	4.3	12.2	3.2	3.7	< 0.01
50 to 80	62.3	63.0	59.7	60.9	49.8	51.1	
More than 80	32.1	31.5	36.1	26.9	47.1	45.3	
Proximity to the nearest hospital							
Less than 2 miles	24.2	22.6	32.8	35.6	38.9	24.1	< 0.01
2 to 5 miles	35.4	35.2	38.8	33.3	41.3	30.6	
More than 5 miles	40.4	42.3	28.4	31.1	19.8	45.4	
Follow-up period (2010–2012)							
Died during 2010–2012	16.2	16.3	17.8	13.8	11.0	12.8	< 0.01
Average follow-up period (months)	34.1	33.9	33.7	34.5	34.9	34.8	–
Healthcare utilization (2010–2012)							
Number of ambulatory clinic visit(s)							
0 visit	16.3	15.3	20.2	23.8	28.8	17.9	< 0.01
1–6 visits	13.4	13.3	15.3	13.1	12.3	13.8	
7 or more visits	70.3	71.4	64.5	63.1	58.9	68.3	
Number of emergency room visit(s)							
0 visit	42.6	42.5	36.7	43.9	55.8	50.9	< 0.01
1 or more visits	57.5	57.5	63.4	56.1	44.2	49.1	
Number of short-stay hospitalization(s)							
0 stay	58.0	57.8	54.7	60.2	68.7	62.5	< 0.01
1 stay	20.4	20.7	19.4	18.4	16.3	18.7	
2 or more stays	21.6	21.5	26.0	21.5	15.0	18.7	

*Area-level urban categorizations based on population size obtained from the US Department of Agriculture
†Area-level provider availability information was obtained from the Area Health Resources File from the Health Resources and Services Administration

increased incidence rate (IRR) of not having any ambulatory care visits (IRR = 1.51 [1.45–1.56]), emergency room visits (IRR = 1.27 [1.25–1.30]), and short-stay hospitalization (IRR = 1.14 [1.12–1.15]) compared with Whites. Hispanics had similar healthcare utilization patterns: 1.25 [1.23–1.27] times IRR of no ambulatory clinics, 1.05 [1.04–1.06] times IRR of no emergency rooms, and 1.04 [1.03–1.05] times IRR of not having any short-stay hospitalizations compared with Whites. Medicaid-Medicare dual eligibility was associated with not having any ambulatory clinic visits (IRR = 1.27 [1.24–1.31]) but increased emergency room visits (IRR of no ER visits = 0.87 [0.86–0.89]) and short-stay hospitalizations (IRR of no short-stay hospitalizations = 0.97 [0.96–0.99]) (Table 2).

DISCUSSION

Asians had favorable markers of access to health care, but higher percentages of Asians did not utilize ambulatory clinic visits, emergency room visits, or short-stay hospitalization compared with Whites. Hispanics also had similar healthcare utilization patterns as Asians. The study is limited by a lack of information on ethnic background, immigration status, and acculturation. These findings suggest that minorities are not utilizing ambulatory clinic visits which typically include preventive care regardless of health insurance status. Further research is needed to understand the socio-demographic etiology of such low utilization including the use of alternative medicines and how differences in care-seeking behavior translate into health outcomes among Asians.

Table 2 Predictors of Having no Healthcare Utilization among Medicare Fee-For-Service Enrollees

	No ambulatory clinic visits	No emergency room visits	No short-stay hospitalizations
Race (reference: non-Hispanic White)			
Black	1.18 [1.16–1.21]	0.90 [0.89–0.91]	0.99 [0.98–1.00]
Hispanic	1.25 [1.23–1.27]	1.05 [1.04–1.06]	1.04 [1.04–1.05]
Asian	1.51 [1.45–1.56]	1.27 [1.25–1.30]	1.14 [1.12–1.15]
Age (reference: 65–74 years old)			
75–84 years old	0.94 [0.92–0.96]	0.84 [0.83–0.85]	0.91 [0.90–0.91]
85+ year old	1.42 [1.38–1.46]	0.70 [0.69–0.72]	0.87 [0.86–0.88]
Female (reference: male)	0.72 [0.71–0.73]	0.93 [0.92–0.94]	0.99 [0.98–1.00]
Dual Medicaid-Medicare coverage eligibility (reference: no dual coverage)			
Dual coverage	1.27 [1.24–1.31]	0.87 [0.86–0.89]	0.97 [0.96–0.99]
Region (reference: Northeast)			
Midwest	0.73 [0.71–0.76]	0.96 [0.95–0.98]	0.99 [0.98–1.00]
South	0.96 [0.93–0.99]	1.00 [0.98–1.01]	0.99 [0.97–1.00]
West	0.98 [0.93–0.99]	1.00 [0.99–1.02]	1.03 [1.02–1.04]
Community type (reference: Metropolitan Statistical Area)			
Micropolitan Statistical Area	0.71 [0.68–0.73]	0.93 [0.92–0.94]	1.01 [1.00–1.02]
Other	0.65 [0.63–0.67]	0.91 [0.90–0.93]	1.09 [1.08–1.10]
PCP availability (reference: lowest quartile)			
Middle two quartiles	1.00 [0.96–1.04]	1.01 [0.99–1.04]	1.01 [1.00–1.03]
Highest quartile	0.98 [0.94–1.02]	1.01 [0.99–1.03]	1.03 [1.01–1.04]
Distance to the nearest hospital (reference: ≤2 miles away)			
2–5 miles	0.98 [0.95–0.99]	1.00 [0.99–1.01]	1.00 [0.99–1.01]
5+ miles	0.92 [0.89–0.94]	1.01 [0.99–1.02]	1.00 [0.99–1.01]

The models are adjusted for 23 chronic conditions (Alzheimer's, atrial fibrillation, chronic kidney disease, chronic obstructive pulmonary disease, heart failure, diabetes, hip/pelvic fracture, ischemic heart disease, depression, osteoporosis, rheumatoid arthritis, stroke, breast cancer, colorectal cancer, prostate cancer, lung cancer, endometrial cancer, anemia, asthma, hyperlipidemia, benign prostatic hyperplasia, hypertension, acquired hypothyroidism) as covariates

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Compliance with Ethical Standards:

Conflict of Interest: *The authors declare that they do not have a conflict of interest.*

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