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Examining Black-White Disparities among Medicare Beneficiaries in Assisted Living Settings in 2014

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Abstract

Objective: Assisted living (AL) provides housing and personal care to residents who need assistance with daily activities. Few studies have examined black-white disparities in larger (25+ beds) ALs; therefore, little is known about black residents, their prior residential settings, and how they compare to whites in AL. We examined racial differences among a national cohort of AL residents and how the racial variation among AL Medicare Fee-For-Service (FFS) beneficiaries compared to differences among community-dwelling and nursing home cohorts.

Study design: Retrospective cohort study.

Participants: We include 1) a prevalence sample of 442,018 white and black Medicare beneficiaries residing in large AL settings 2) an incidence sample of new residents (n=94,741) and 3) 10% random samples of Medicare FFS community-dwelling and nursing home beneficiaries in 2014.

Measures: The Medicare Master Summary Beneficiary File was used to identify AL residents and provided demographic, entitlement, chronic condition, and healthcare utilization information. We used the American Community Survey and prior ZIP code tabulation areas of residents to examine differences in prior neighborhoods. Medicare claims and the Minimum Data Set yielded samples of Medicare FFS community-dwelling older adults and nursing home residents.

Results: Blacks were disproportionately represented in AL, younger, more likely to be Medicaid eligible, had higher levels of acuity, and more often lived in ALs with fewer whites and more duals. New black residents entered AL with higher rates of acute care hospitalizations and skilled nursing facility utilization. Across the three cohorts, blacks had higher rates of dual-eligibility.

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Conclusions: Black-white differences observed among AL residents indicate a need for future work to examine how disparities manifest in differences in care received and residents' outcomes, as well as the pathways to AL. More research is needed to understand the implications of inequities in AL as they relate to quality and experiences of residents.

Keywords

assisted living; racial disparities; long-term care; long-term services and supports

Introduction

Assisted living (AL) settings provide housing, personal care services, and healthcare to residents to assist with daily activities while promoting maximum independence.^{1,2} While AL settings are home to more than 835,000 Americans, AL is underutilized by minorities,^{3,2} and few studies have focused on blacks in larger ALs. As a result, little is known about black AL residents and how they compare to white residents in the same settings. Additionally, there exists no published research describing how racial differences among residents compare to other older adults, such those residing in the community or nursing homes (NHs).

Overall, black Medicare beneficiaries have lower levels of education, poorer self-rated health, greater functional, cognitive, and mental impairment, and higher rates of hypertension, heart conditions, diabetes, and stroke, and less access to health services.⁴ While we know relatively little about how black older adults access AL, research has shown differential rates of access in other long-term care settings. For example, there has been a growth of racial and ethnic minorities in US NHs,⁵ still, blacks receive care at lower quality nursing facilities.⁶ It is possible that similar trends exist in AL.

Black older adults are less likely to prefer to enter AL or NH settings compared to other races.⁷ However, setting characteristics vary for those who decide to live in AL. For example, black AL residents more often live in smaller AL settings (24 or fewer beds) compared to white residents.⁸ The reason for this disparity is unknown; however, AL utilization is often impacted by factors such as race/ethnicity, income, Medicaid status, and geography. Most research examining AL utilization among minorities focuses on smaller settings, oftentimes with fewer than 16 beds.⁸ These settings are more often both occupied and owned by minorities, serve individuals with more intellectual disabilities and mental illness, and are more likely to be in communities more densely populated by minorities.⁸

Accessing AL may be a greater challenge for black older adults than whites because blacks traditionally have lower incomes and are more likely to be dually eligible for Medicare and Medicaid.⁴ While the AL industry has seen a growth in the number of residents relying on public financing (i.e., Medicaid state plan and waivers) to pay for services and state options to cover room and board, AL is largely a private pay industry with most residents relying on personal resources to cover the cost of services as well as room and board.^{9,10} In 2017 in the US, the median costs for AL were roughly \$3,750 (monthly) and \$45,000 (annually).¹¹

Despite what is understood about preferences for long-term care settings and the availability (or lack-there-of) of financial resources needed to afford AL, access to AL is multi-layered and requires consideration of sociohistorical factors such as systemic racism and, more specifically, racial segregation. Several theoretical frameworks have proposed varying lenses for understanding these concepts. We call attention to one, cumulative inequality theory (CI), which proposes that social systems develop and influence the lived experiences of individuals across the life course.¹² Black-white differences in AL experiences may be understood within a CI framework that highlights inequalities residents face as they utilize different economic advantages as well as other socioenvironmental factors when making decisions about AL settings,¹³ as AL selection likely reflects affordability as well as preferences for AL size, racial homogeneity, geographic location, and proximity to home.^{3,14} One central premise of CI is that disadvantages and advantages can accumulate simultaneously.^{12,13} Because of systemic factors such as racial segregation, a historical key determinant of racial differences in socioeconomic status, education, employment, health, and access to care^{15,16}, the selection of AL may be limited for black older adults, therefore decreasing the odds of finding a setting that will match an individual's needs, preferences, and tastes.¹³ This is also possible given that AL are more often located in counties with greater educational attainment, median household income, median home values, and lower proportions of minorities, decreasing access to both minority and dual populations¹⁷. This issue likely crosses economic thresholds – even middle-class blacks more often live in poorer areas than whites of similar economic status¹⁵. As a result, black older adults who can access AL may enter settings in attempts to maintain a level of independence (advantage), but with a higher level of need than their white counterparts (disadvantage). Examining the residential history of residents, that is, the characteristics of the neighborhoods that people live in prior to AL entry, may provide more context in understanding black-white differences in AL.

Research has shown that factors such as residential racial composition contribute to disparities in other long-term care settings. For instance, racial separation is evident across NHs and is related to disparities in NH quality, with black NH residents living and receiving care in lower quality facilities.^{6,18} The same may be true for AL settings. Evidence suggests that neighborhoods impact AL residency. For instance, research from Florida suggests that ALs in neighborhoods with a higher black population are smaller, more likely to have residents who receive optional state supplementation to help pay for the cost of AL, and more likely to be a licensed mental health facility.^{19,20} Additionally, one study analyzing disparities in AL selection across four states found that racial separation existed across and within ALs, with most blacks living in predominately black settings and the presence of blacks in an AL setting being related to the presence of blacks in a community.²¹

Research Questions

To address the lack of information about black-white disparities among AL residents, we ask the following questions:

- 1) Are there racial differences in the characteristics (i.e., demographic, entitlement, healthcare utilization, and residential characteristics) of AL residents?

- 2) How does the variation by race among AL residents compare to racial differences among community-dwelling individuals and NH residents?

Methods

Study Samples and Data

Using beneficiaries' 9-digit ZIP codes reported on the Medicare Master Beneficiary Summary File (MBSF) and an existing methodology,²² we identified a prevalence sample of 442,018 non-Hispanic white (n=422,191) and black (n=19,827) Medicare beneficiaries residing in licensed, large (25+ bed) AL settings in 2014. The MBSF also provided information about entitlement status, chronic conditions, and annual healthcare utilization. Next, we identified an incidence sample of 108,836 beneficiaries new to AL in 2014.

Using the Residential History File, a data infrastructure that combines Medicare claims with patient assessments to track beneficiaries over time, we identified a 10% random national sample of 3,250,711 white and black community-dwelling Medicare Fee-for-Service (FFS) beneficiaries in 2014 who had not been in a NH, hospital, or emergency room in 2013 and who did not have any Medicare Advantage (MA) coverage in 2013 or 2014.²³ We also identified a 10% random national sample of 105,919 white and black long-stay NH residents defined as Medicare FFS beneficiaries who had been in the NH for greater than 90 days at any point in 2014 and did not have MA coverage during 2013 or 2014. We compared these cohorts to a sample of 326,460 Medicare FFS beneficiaries residing in AL in 2014. Research protocol was approved by the (blinded for review) Internal Review Board.

Variables

Demographics.—Variables of interest from the MBSF included age, race, sex, and original reason for Medicare entitlement. Residents were considered to be “duals” if they had at least one month of Medicare and Medicaid coverage during the year. Similarly, we included whether beneficiaries had at least one month of MA coverage during the year.

Health conditions and healthcare utilization.—Using the Chronic Conditions segment of the MBSF, we examined health conditions that have been acknowledged as the most prevalent chronic conditions among older AL residents:²⁴ Alzheimer's disease-related dementias (ADRD), arthritis, chronic obstructive pulmonary disease, congestive heart failure, depression, diabetes, and hypertension. Data from the Cost and Use segment of the MBSF were used to determine whether an individual had any acute care hospitalization or skilled nursing facility (SNF) utilization in the year.

Prior residential characteristics.—For new AL residents, beneficiaries' 2013 ZIP codes were linked to ZIP code tabulation areas (ZCTAs) using the Uniform Data Set mapper.²⁵ ZCTAs have been used in public health and social science research as a proxy for neighborhoods because they define geographical areas, unlike ZIP codes.^{26,27} The American Community Survey (ACS) provided ZCTA-level information that included the neighborhood's percentages of residents who were age 65 years and older, homeowners, impoverished, and black as well as the median household income. We identified

neighborhoods with high densities of black residents as ZCTA's that ranked above the 90th percentile (>24% black residents). To measure urban-rural status of prior neighborhoods, we used Version 3.0 of Rural-Urban Commuting Area (RUCA) codes, Categorization D.²⁸

AL characteristics.—To examine racial differences in AL characteristics, we summed the number of residents identified in each AL setting and calculated the percentages of whites, duals, and MA beneficiaries in each AL.

Statistical Analyses

First, we compared demographic, entitlement, and health characteristics of AL residents, by race. Next, we compared prior neighborhood characteristics and AL setting characteristics of new AL residents, by race. We also compared healthcare utilization and health characteristics of new FFS AL residents by race. We then describe the demographics, dual-eligibility, healthcare utilization and health characteristics of a subsample of Medicare FFS AL residents and random samples of black and white community dwelling and long-stay NH beneficiaries. Bivariate comparisons and tests for statistical significance (Chi-square and t-tests) are reported. All statistical analyses were completed using Statistical Package for Social Sciences (SPSS).²⁹

Results

Table 1 compares demographics and health characteristics of Medicare beneficiaries residing in AL in 2014, by race. Black beneficiaries were disproportionately represented in AL - they only comprise 5% of our sample. White residents were older than blacks - 24% of black residents were 85 years of age or older, compared to 54% of white residents. Black residents were more often male and more likely to be Medicare eligible due to disability rather than age compared to whites. Almost three quarters (74%) of blacks were duals, compared to 25% of whites. With the exception of arthritis and congestive heart failure, black residents had higher rates of chronic conditions compared to whites.

Table 2 compares residential and health characteristics of new AL residents, by race. Black residents came from neighborhoods with fewer older adults and homeowners. Whites lived in neighborhoods with fewer residents below the poverty line and higher average median household incomes than blacks (\$59,815 vs. \$47,675). In addition, 56% of new black residents had previously lived in a neighborhood with a high density of blacks, compared to 8% of whites. Blacks were more likely to have resided in urban areas (95%) compared to whites (88%). Blacks moved to ALs with fewer whites, as well as ALs with more duals compared to whites. Whites had fewer acute hospitalizations and SNF admissions in the year prior to moving into an AL. Blacks had higher rates of all chronic conditions except for arthritis.

Table 3 describes the demographic, entitlement, healthcare utilization, and health characteristics for AL, community-dwelling, and long-stay Medicare FFS beneficiaries, by race. Across the cohorts, blacks were younger than whites and had higher rates of dual-eligibility. The long-stay NH sample had higher rates across all chronic conditions, compared to the other cohorts. Racial differences were present in the majority of conditions,

with blacks having higher rates of diabetes and hypertension, and lower rates of arthritis across settings.

Discussion

Our findings reveal racial differences in the demographic, residential, and health characteristics among white and black AL residents. Despite making up 9% of the population of older adults age 65+ years in 2015,³⁰ Blacks are disproportionately represented in AL – only 5% of residents in our sample are black, compared to 11% in our community-dwelling sample and 15% in our NH sample. Key findings from this study suggest that black AL residents were more often younger, dually-eligible for Medicare and Medicaid, disabled, and had higher rates of chronic conditions compared to white AL residents. Black AL residents were also more likely to have previously lived in more disadvantaged neighborhoods, as well as entered AL with higher rates of healthcare utilization and comorbidity burden compared to white residents.

Our findings indicate that black Medicare beneficiaries have more complex health needs than white beneficiaries in AL. This is also true for new black residents, who enter AL with higher rates of healthcare utilization, as well as diagnoses of ADRD, COPD, CHF, depression, diabetes, and hypertension. Because more impaired residents may require functional assistance with daily living activities such as walking and toileting,³ it is important for settings to acknowledge disparities that may impact the service needs of residents. For example, while typical AL services include supervision and assistance, housekeeping, meals, personal care, and transportation, these services may be accessed at different rates by black residents with more chronic conditions and functional impairments.^{1,2,9} Additionally, while some residents may move to an AL setting for benefits associated with social connectivity, beneficiaries with more disabilities may move to an AL setting to receive supportive services. The differences we observed in the health characteristics of black and white residents indicate a need for future work to understand how disparities may manifest in pathways to AL, as well as differences in care received and residents' outcomes.

Among new AL residents, blacks were more likely to have previously lived in younger and more urban neighborhoods with more black residents, fewer homeowners, and lower median household incomes. Further, blacks were more likely to move to settings with fewer white residents and more duals. Prior studies support these findings and acknowledge the existence of racial separation among settings: black residents are usually concentrated in predominately black settings.³ Additionally, settings with higher proportions of black residents are usually in communities with more blacks, have a black administrator, and are home to more males and younger residents.²¹ As proposed by our conceptual framework,¹² this racial separation may be due to a number of factors, including: economic resources, exclusionary practices, and resident choice, which may reflect preferences for facility size, racial homogeneity, geographic location, or proximity to home.²¹ Prior studies have also found a similar pattern in NH residence, with blacks living in NHs with lower concentrations of white patients and more duals, in neighborhoods with higher proportions of black residents.^{18,31,32} These differences are accompanied with greater odds of understaffing and poorer performance on measures of quality.^{6,33,34} Future work is needed to understand if

differences revealed in the present study contribute to poorer quality outcomes in AL as is seen in the NH industry.

In consequence of racial differences in health characteristics and healthcare utilization, once in AL, blacks may have a pent-up demand for services. Additionally, the length of AL residency is likely impacted by the level of care required by residents. Tenure in AL may be shortened, and transition to long-term NH care accelerated, if AL settings are unable to meet the needs of residents. One Canadian study showed that AL residents were more likely to enter NHs for long-term care if they were older, had cognitive/functional impairment, health instability, as well as hospitalizations and emergency room visits.³⁵ With new black residents having higher rates of healthcare utilization, as well as chronic conditions such as ADRD, they may transition from AL to NH settings sooner than white residents. While our study did not observe the time to long-term nursing home placement, we did observe that black AL residents were more likely to utilize skilled nursing facilities for post-acute care than whites. More research is needed to examine effective methods ALs might use to respond to the disparate needs of incoming black residents as well as to understand whether disparities among incoming AL residents contribute to the rate at which individuals transition to other long-term care settings.

Findings from this study suggest that racial differences in demographic and health characteristics, as well as healthcare utilization, are similar across Medicare FFS beneficiaries in the community, AL, and NHs. By examining racial variation across these cohorts, we are essentially describing characteristics of older adults across different levels of independence, with community-dwelling beneficiaries requiring the least assistance or supervision, and NH residents requiring the most. Our findings indicate disparities in dual-eligibility across all three settings, with blacks having disproportionately higher rates of Medicare-Medicaid eligibility than whites. Among AL residents specifically, three-quarters of blacks are duals compared to one-quarter of whites. This finding is not surprising – while Medicaid spending has shifted from traditional settings of care toward HCBS, the majority of AL residents use some form of private finances to cover the cost of AL services.^{1,2} Additionally, black older adults more often rely on Medicaid for health insurance for care in long-term care settings.³⁷ Still, the reason for differences in dual-eligibility among white and black AL residents is likely multidimensional, and may be attributable to variation in spend-down once in ALs, differences in settings accepting Medicaid waivers, or differences in states allowing for Medicaid to cover services in AL.

Further complicating the issue of access, Medicaid does not finance the cost of beneficiaries' room-and-board expenses in AL. These fees are typically covered by a resident's income, which may include Social Security, Supplemental Security Income, state supplements, private pensions, federal housing subsidies, and family contributions.¹⁷ This challenge likely impacts both access to, and quality of AL. For instance, ALs that accept low-income residents usually have fewer resources for discretionary amenities beyond requirements enforced by states.¹³ As states continue their shift toward providing HCBS in lieu of NH care, it will be important to understand how these changes affect the racial composition of ALs.

For NH residents, the explanation of racial differences in healthcare utilization is less clear. Additionally, white residents in the NH cohort disproportionately experienced diagnoses of arthritis, COPD, and depression. While studies have examined hospitalizations among NH residents and cite contributing factors such as patient preferences, provider attitudes, and facility characteristics, including racial concentration in these settings,^{37–41} there are no studies to our knowledge that have examined the reasons behind the differences in utilization observed between black and white NH residents. Future studies should examine both individual and facility characteristics that may contribute to disparities in acute care hospitalizations and SNF admissions among NH residents.

Our findings also suggest that while there are little racial differences in rates of ADRD in the community-dwelling and NH Medicare FFS cohorts, black AL residents disproportionately have a diagnosis of ADRD. This finding contradicts findings from 2008, which suggest that blacks with ADRD are less likely to live in AL and emphasizes the changing AL population.⁴² With such a large gap in ADRD diagnoses – 41% of white versus 53% of black Medicare FFS AL residents – research is needed to understand what drives these racial differences in AL. Further, more work is needed to examine the role of initiatives such as dementia special care units, which have policies and regulations more supportive of the needs of individuals with ADRD,⁴² and whether disparate rates of accessibility exist among black and white AL residents, as is the case in NH.⁴³

Similarly, while white community-dwelling and NH residents more often have a diagnosis of depression, the opposite is true for AL residents. It is possible that black residents are more vulnerable to depression due to increased morbidity or for reasons such as social isolation, as depression in AL is associated with medical comorbidity, need for assistance with daily living activities, more days spent in bed, and less participation in organized activity.⁴⁴ Additionally, while racial homogeneity may be important in the decision to move into AL, black residents may be susceptible to feelings of isolation if other needs take priority in the decision to move, such as a need for services or assistance with disease management. Social isolation may also be a result of racial discrimination from other residents. Among AL staff, some report racist attitudes from residents, such as white residents not wanting black aides to help with care.⁴⁵ These attitudes may impact the experiences of black residents, as well. Little to no research has studied this issue, nor the cultural competence of AL, which likely impacts the overall experience of black residents. Future research should make efforts to understand the contributing factors to the mental health of AL residents, with particular emphasis on black residents.

Limitations

We acknowledge several limitations. First, we are unable to capture all AL residents with our methodology. Our AL samples may be missing residents who do not receive Medicare or who have not updated their addresses to reflect their AL residence. Because we are unable to identify the population of AL residents, we cannot determine the likelihood of entering AL. However, we are able to compare our sample of AL residents to community-dwelling and NH residents, and findings yield information that is helpful in better understanding the characteristics of individuals in each setting. Last, our methodology is limited in its

definition of AL. While the literature supports this definition,^{22,17,46} there are settings licensed with fewer than 25 beds that will not be represented in these data. Given the documented racial differences by facility size, it is important that the implications for these findings only pertain to large, licensed ALs. Additional work is needed to see if these findings can be extended to other residential care settings, including smaller ALs as well as unlicensed residential care facilities.

Conclusion

Findings from the present study have implications for providers, policymakers, and researchers, alike. For AL providers, findings highlight racial differences in residents that may impact the implementation of services. For example, given the high rates of ADRD among black residents, culturally relevant dementia training and programming is warranted. For policymakers, results indicate a need for targeted efforts to address the needs of racial minorities, particularly black Medicare beneficiaries, residing in AL settings. Recently, the federal government called for the Centers for Medicare and Medicaid Services (CMS) to provide greater oversight over Medicaid beneficiaries living in AL.⁴⁷ As our results indicate that black residents are three times as likely to be Medicaid eligible compared to white residents, and prior research shows that the decision to move to AL is largely influenced by socioeconomic status⁴, future changes to AL regulation stand to impact the way in which black beneficiaries access AL, as well as experiences of care once residents. For researchers, next steps include examining the pathways to AL as well as the implications of inequities in AL as they relate to AL quality and the experiences of residents. Findings provide the basis for studies that should further investigate individual and AL setting characteristics to address existent disparities in order to better serve all residents.

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Table 1.

Demographic and Health Characteristics of Medicare Beneficiaries in Large (25+ Bed) Assisted Living Settings, by Race (2014)

Characteristic	White 95% n=422,191	Black 5% n=19,827
<u>Age group, %</u> ***		
<65	6	26
65–74	12	25
75–84	28	25
>85	54	24
<u>Sex, %</u> ***		
Male	31	43
Female	69	57
<u>Original reason for Medicare entitlement, %</u> ***		
Age	87	56
Disability	13	42
Dual eligibility ^a , % ***	25	74
Medicare Advantage ^b , % *	26	27
<u>Health Characteristics^c, %</u>		
At least 3 chronic conditions ^d ***	60	56
At least 6 chronic conditions ^d ***	35	36
Alzheimer's disease or related dementia ***	41	53
Arthritis ***	47	40
Chronic obstructive pulmonary disorder ***	19	22
Congestive heart failure	33	33
Depression ***	32	35
Diabetes ***	29	53
Hypertension ***	74	81

Note.

* $p < .01$

*** $p < .001$. Pearson's chi-square test conducted for all comparisons.

^a Dual-eligibility: at least one month of Medicare-Medicaid dual eligibility in the year.

^b Medicare Advantage: At least one month of Medicare Advantage coverage in the year.

^c Chronic conditions reported for Medicare fee-for-service beneficiaries only.

^d Number of conditions present out of 26 reported in the Chronic Condition Warehouse.

Table 2.

Characteristics of New Assisted Living Residents, by Race (2014)

Characteristic	White (n=90,638)	Black (n=4103)
<u>Prior Neighborhood characteristics^a</u>		
Percentage of neighborhood 65 years of age and older ^b , M (SD) ***	17 (9)	13 (5)
Percentage of neighborhood homeownership ^b , M (SD) ***	67 (15)	55 (18)
Percentage of neighborhood below poverty line ^b , M (SD) ***	13 (8)	21 (11)
Neighborhood median household income ^b , M ***	\$59,815	\$47,675
Beneficiaries living in neighborhoods with high density of black		
Population ^c , % ***	8	56
Rural-Urban		
Beneficiaries living in urban areas ^d , %	88	95
Beneficiaries living in rural areas, %	12	5
<u>AL setting characteristics^{b,e}, %</u>		
Percentage of White beneficiaries, M (SD) ***	94	67
Percentage of Duals, M (SD) ***	29	62
Percentage of MA, (SD)	27	28
<u>Healthcare utilization^f, %</u>		
Any Acute Care Hospitalization in the prior year ***	23	28
Any Skilled Nursing Facility Use in the prior year ***	13	20
<u>Health characteristics^g, %</u>		
Alzheimer's disease or related dementia ***	38	55
Arthritis ***	51	47
Chronic obstructive pulmonary disorder**	20	23
Congestive heart failure ***	32	36
Depression ***	36	41

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Characteristic	White (n=90,638)	Black (n=4103)
Diabetes ***	30	54
Hypertension ***	78	84

Note.

*** $p < .001$.

Pearson's chi-square test unless otherwise noted.

^aNeighborhood characteristics based on residents' previous (2013) ZCTA.

^bIndependent samples t-test.

^cHigh density of black population defined as ZCTAs of neighborhoods above the 90th percentile (>23%) of black residents

^dRural/urban classification based on RUCA codes that correspond with 2010 US Census data.

^eAL setting characteristics based on beneficiaries identified using published methodology.

^fHealthcare utilization based on 2013 claims.

^gChronic conditions reported if beneficiaries had 12 months of Medicare Fee-For-Service coverage.

Table 3.
Within Setting Characteristics of Medicare Fee-For-Service Assisted Living Residents Compared with Community-Dwelling Beneficiaries and Long-Stay Nursing Home Residents, by Race (2014)

Characteristic	Community-dwelling Beneficiaries			Assisted Living Residents			Long-Stay Nursing Home Residents		
	White (n=2,920,513)	Black (n=330,198)	p	White (n=312,025)	Black (n=14,435)	p	White (n=88,943)	Black (n=13,801)	p
<u>Age group, %</u>			<.001			<.001			<.001
<65	11	27		7	28		9	18	
65–74	26	26		12	25		15	23	
75–84	30	25		27	24		30	30	
>85	33	22		54	23		46	29	
<u>Sex, %</u>			<.001			<.001			<.001
Male	44	44		32	45		32	40	
Female	56	56		68	55		68	60	
<u>Dual-eligibility^a, %*</u>	11	28	<.001	25	75	<.001	72	91	<.001
<u>Healthcare utilization, %</u>									
Any Acute Care Hospitalization	17	17	.23	32	32	.29	44	49	<.001
Any Skilled Nursing Facility Use	9	8	<.001	18	19	<.001	40	43	<.001
<u>Health characteristics, %</u>									
At least 3 chronic conditions	43	40	<.001	82	77	<.001	91	89	<.001
At least 6 chronic conditions	18	17	<.001	47	49	<.001	63	64	<.001
Alzheimer's disease or related dementia	14	14	<.001	41	53	<.001	77	77	.32
Arthritis	35	34	<.001	47	40	<.001	49	44	<.001
Chronic obstructive pulmonary disease	14	12	<.001	19	22	<.001	26	23	<.001
Congestive heart failure	16	18	<.001	33	33	.14	46	49	<.001
Depression	20	16	<.001	32	35	<.001	51	43	<.001
Diabetes	28	41	<.001	29	53	<.001	41	61	<.001
Hypertension	64	72	<.001	74	81	<.001	79	89	<.001

Note. Pearson's chi-square test conducted for all comparisons.

Dual-eligibility: at least one month of Medicare-Medicaid dual eligibility in the year.

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