Background

Social Determinants of Health (SDOH) are defined by the World Health Organization as the “conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.” SDOH are widely recognized by health experts and policymakers as a significant contributor to an individual’s well-being and health outcomes. Socioeconomic factors and the physical environment impact 50 percent of an individual’s health outcomes.1 As a result, SDOH and the social risk factors they create are a key driver of health disparities.

The Department of Health and Human Services’ (HHS) Healthy People campaign organizes SDOH into five domains:

1. **Economic Stability** - which includes employment, food insecurity, poverty, and housing instability
2. **Education** - which includes early childhood education, higher education, high school graduation, and language and literacy skills
3. **Social and Community Context** - which includes civic participation, discrimination, incarceration, and social cohesion
4. **Health and Health Care** - which includes access to care and health literacy
5. **Neighborhood and Built Environment** - which includes access to healthy foods, crime and violence, and quality of housing

This study evaluates several key SDOH factors from the Healthy People campaign, including education, language, housing, transportation, and food insecurity, in the Medicare population.2

The COVID-19 public health emergency is highlighting many health disparities across race and income level. Recent data from the Centers for Medicare & Medicaid Services (CMS) show that low-income Black Medicare beneficiaries are nine times more likely than higher-income, white Medicare beneficiaries to be hospitalized due to the virus.3 Among white beneficiaries who have Medicare only (i.e., they are not also covered by Medicaid) the hospitalization rate due to COVID-19 is 120 beneficiaries per 100,000. This compares with a hospitalization rate of 1,086 beneficiaries per 100,000 among Black beneficiaries covered by both Medicare and Medicaid (dual eligibles, who are low-income).

In response to the disproportionate impact of the COVID-19 public health emergency on disadvantaged Medicare beneficiaries, Better Medicare Alliance (BMA) commissioned a study on the prevalence of social risk factors in the Medicare population in both Medicare Advantage and Traditional Fee-for-Service (FFS) Medicare. This brief is the third in a series of data briefs prepared by ATI Advisory and continues with a more granular look at socioeconomic vulnerability in the Medicare population.

The previous data briefs demonstrated that although Medicare Advantage beneficiaries experience clinical and functional care needs at levels similar to Traditional FFS Medicare, the Medicare Advantage population tends to be more financially vulnerable.4 This latest research finds that Medicare beneficiaries, in general, also experience important social risk factors. Those enrolled in Medicare Advantage are as likely as Traditional FFS Medicare beneficiaries to experience social risk factors that negatively impact their health status and often are more likely to experience certain risk factors, even when holding income level constant.

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3 CMS.gov; Preliminary Medicare COVID-19 Data Snapshot; data through June 20, 2020.
Overview and Implications

This research adds to existing literature by quantifying SDOH experience within the low-income Medicare population. Given the financial protections available to consumers in Medicare Advantage, coupled with the expanded benefits Medicare Advantage plans offer, the program attracts low- and modest-income beneficiaries. With the recent implementation of Medicare Advantage non-medical supplemental benefits such as access to healthy foods, transportation for non-medical needs, equipment to help with air quality indoors, and other benefits targeted to those with chronic conditions, the role and importance of Medicare Advantage will continue to grow in serving low- and modest-income beneficiaries with significant social risk factors.

Given the flexibility in Medicare Advantage to provide additional benefits and to manage care holistically, there are opportunities for these beneficiaries to receive supportive services to address SDOH, and to improve their health outcomes and overall health status. Policymakers should ensure Medicare Advantage plans have appropriate flexibility and resources to deploy clinical models and benefits that improve outcomes for all beneficiaries, especially those with a high prevalence of socioeconomic risk factors.

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In general, Medicare Advantage beneficiaries are more likely than those in Traditional FFS Medicare to be low-income, which impacts SDOH experiences. Approximately half of Medicare Advantage beneficiaries have incomes below 200 percent of the Federal Poverty Level (FPL) compared with 41 percent of beneficiaries in Traditional FFS Medicare, and 25 percent have incomes above 400 percent FPL compared with 34 percent of beneficiaries in Traditional FFS Medicare (Figure 1).⁹

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**Figure 1.**

**Percent of Medicare Beneficiaries by Income Level**

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Medicare Advantage</th>
<th>Fee-for-Service Medicare</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;100% FPL</td>
<td>22%</td>
<td>20%</td>
</tr>
<tr>
<td>100-199% FPL</td>
<td>28%</td>
<td>21%</td>
</tr>
<tr>
<td>200-399% FPL</td>
<td>25%</td>
<td>26%</td>
</tr>
<tr>
<td>400%+ FPL</td>
<td>25%</td>
<td>34%</td>
</tr>
</tbody>
</table>

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Figures 1. Differences between point estimates for Medicare Advantage and Traditional FFS Medicare at <100% FPL, 100-199% FPL, and 400%+ FPL are statistically significant.

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⁷ Given the interaction between income level and social need, the tables and graphs in this report are generally limited to beneficiaries with income below 200 percent of the Federal Poverty Level (FPL). This approach ensures sufficient sample size, as prevalence of social risk factors tends to be low among those with incomes above 200 percent FPL. Additionally, by limiting analyses in this data brief to individuals at lower income levels, and comparing low-income beneficiaries within specific income categories, the study team was able to better account for income level as a driver for social risk factors.

⁸ 200 percent of the FPL was equal to $24,523 a year in 2017, for a single individual.

⁹ The study team assessed statistical significance at 90% confidence (two-sided) for each measure to account for potential sample size effects given small differences in some measures. Details are provided with each graph.
Finding

Low-Income Beneficiaries Enrolled in Medicare Advantage Are More Likely to Be from a Racial/Ethnic Minority than Traditional FFS Medicare Counterparts

The COVID-19 public health emergency is exacerbating long-standing racial disparities in disease burden and health outcomes. Black, Asian, and Hispanic Medicare beneficiaries are considerably more likely to be hospitalized with COVID-19 than white Medicare beneficiaries, at 670, 267, and 400 hospitalizations per 100,000 beneficiaries, respectively, compared with 175 per 100,000 white beneficiaries.\(^\text{10}\) The difference in impact of COVID-19 on racial minorities has increased awareness of these disparities.\(^\text{11}\)

Across the entire Medicare population, a considerable portion of low-income beneficiaries are from racial/ethnic minorities, and this portion declines as income increases. More than half of the lowest-income (under 100 percent of FPL) beneficiaries in Medicare Advantage are from a racial/ethnic minority, compared with 42% in Traditional FFS Medicare. This higher percentage continues for beneficiaries between 100 and 199 percent FPL with 31 percent in Medicare Advantage and 20 percent in Traditional FFS Medicare (Figure 2).

![Figure 2. Percent of Medicare Beneficiaries Who are from a Racial/Ethnic Minority](image)

**Figure 2. Differences between point estimates for Medicare Advantage and Traditional FFS Medicare at both lower-income levels are statistically significant.**

\(^{10}\) CMS.gov; Preliminary Medicare COVID-19 Data Snapshot; data through June 20, 2020.

\(^{11}\) https://www.annualreviews.org/doi/10.1146/annurev-publhealth-040218-043750
Social Determinants of Health Factors in the Medicare Population

Finding

Medicare Advantage Beneficiaries Have Lower Levels of Education than Traditional FFS Medicare Beneficiaries

Education is a strong predictor of health outcomes, and Medicare Advantage beneficiaries have lower levels of education attainment than Traditional FFS Medicare beneficiaries. For example, 19 percent of all Medicare Advantage beneficiaries completed less than a high school degree, compared with 13.5 percent of Traditional FFS Medicare beneficiaries. That finding is updated here to reflect how this varies among low-income beneficiaries. The likelihood of completing less than a high school degree is more than double among individuals earning less than 100 percent FPL than it is for the entire Medicare population (36 percent compared with 15 percent; data not shown), with a higher likelihood among beneficiaries enrolled in Medicare Advantage (Figure 3).

Figure 3.
Percent of Medicare Beneficiaries with Less than a High School Degree

Figure 3. Differences between point estimates at 100-199% FPL are statistically significant.

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Medicare Advantage Beneficiaries Are More Likely than Traditional FFS Medicare Beneficiaries to Speak English as a Second Language, or Not at All

A large portion of low-income Medicare beneficiaries speak English as a second language (Figure 4) or do not speak English well or at all (Figure 5). This is more prevalent among Medicare Advantage beneficiaries and, in particular, beneficiaries with incomes between 100 and 199 percent FPL. Medicare Advantage beneficiaries in this income category are nearly twice as likely to speak a language other than English in the home as are those in Traditional FFS Medicare (17 percent and 10 percent, respectively), and more than twice as likely to not speak English well or at all (8 percent and 3 percent, respectively).

**Figure 4.**
Percent of Medicare Beneficiaries Who Speak a Language Other than English at Home

- **<100% FPL**
  - Medicare Advantage: 28%
  - Fee-for-Service Medicare: 24%

- **100-199% FPL**
  - Medicare Advantage: 17%
  - Fee-for-Service Medicare: 10%

Figure 4. Differences between point estimates for Medicare Advantage and Traditional FFS Medicare at both lower-income levels are statistically significant.
Figure 5.
Percent of Medicare Beneficiaries Who Report Speaking English “Not Well” or “Not at All”

<table>
<thead>
<tr>
<th>FPL Range</th>
<th>Medicare Advantage</th>
<th>Fee-for-Service Medicare</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;100% FPL</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>100-199% FPL</td>
<td>8%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Figure 5. Differences between point estimates at 100-199% FPL are statistically significant.
Finding

Low-Income Medicare Beneficiaries Are More Likely than Higher-Income Beneficiaries to Rent Their Home, with Moderately Higher Rates Among Those Enrolled in Medicare Advantage

Housing instability is a reflection of numerous challenges, including difficulty paying rent, overcrowding, moving frequently, and spending a high portion of income on housing.\textsuperscript{14} While the Medicare Current Beneficiary Survey (MCBS) does not have a metric specific to housing instability, it does capture whether a Medicare beneficiary rents or owns his/her home. Renting can decrease residential tenure in a single home (i.e., increase the need to move more frequently).\textsuperscript{15}

Given sample sizes for this measure, the study team was able to assess home ownership across all income levels. The likelihood that a Medicare beneficiary rents his/her home declines as income increases. 52 percent and 46 percent of the lowest income Medicare beneficiaries rent their home, for Medicare Advantage and Traditional FFS Medicare, respectively. Only 6 percent of all Medicare beneficiaries with the highest income rent their home (Figure 6).

\textbf{Figure 6.}

\textbf{Percent of Medicare Beneficiaries Who Rent Their Home}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure6.png}
\caption{Differences between point estimates at <100\% FPL are statistically significant.}
\end{figure}

\textsuperscript{14} https://pubmed.ncbi.nlm.nih.gov/16423128/
\textsuperscript{15} https://www.census.gov/data/tables/time-series/demo/geographic-mobility/historic.html?kbid=93121
(Table A-4: Geographic Mobility by Tenure)
Finding

Medicare Advantage Beneficiaries Are More Likely than Traditional FFS Beneficiaries to Be Food Insecure

Nearly half of the lowest-income Medicare beneficiaries are food insecure.16 Among Medicare beneficiaries with income less than 100 percent FPL, 48 percent in Medicare Advantage and 44 percent in Traditional FFS Medicare report not having enough money for food (Figure 7). Food insecurity remains high among those with incomes between 100 percent and 199 percent FPL, at one third of Medicare Advantage beneficiaries and 26 percent of those in Traditional FFS Medicare.

Temporary closures of senior centers and other congregate settings where low-income Medicare beneficiaries often access meals, coupled with the risks associated with trips to the supermarket, likely exacerbated food insecurity during the current public health emergency. A separate study found that benefits provided to Medicare Advantage beneficiaries through special supplemental benefits for the chronically ill, known as SSBCI, have helped this at-risk population with access to food services during COVID-19.17

Figure 7.
Percent of Medicare Beneficiaries Who Are Food Insecure

![Figure 7. Differences between point estimates at 100-199% FPL are statistically significant.](image-url)

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16 Beneficiaries are considered “food insecure” if they report skipping a meal, eating less, or going hungry as a result of not having enough money for food.

An important marker of access to care is transportation. The study found that low-income beneficiaries are more likely to use public transportation than higher-income beneficiaries, posing challenges for beneficiaries outside of metropolitan centers with accessible public transportation systems. 9 percent of all Medicare beneficiaries under 100 percent FPL compared with 2 percent of all Medicare beneficiaries at or above 400 percent FPL rely on public transportation (data not shown). As Figure 8 shows, 10 percent of the lowest-income Medicare beneficiaries enrolled in Medicare Advantage and 8 percent of those in Traditional FFS Medicare use some form of public transportation. A similar finding can be seen among those with incomes between 100 percent and 199 percent FPL. Benefits offered in Medicare Advantage, such as transportation to medical appointments, can help mitigate access barriers.

Figure 8. Differences between point estimates for Medicare Advantage and Traditional FFS Medicare are not statistically significant.
Conclusion

Social determinants of health have been found to impact as much as 50 percent of an individual’s health outcomes. This data brief provides additional evidence on the prevalence of SDOH factors in the Medicare population, with data suggesting beneficiaries enrolled in Medicare Advantage are more likely to experience these risk factors.

Medicare Advantage’s role in addressing SDOH has expanded in recent years, particularly with the Chronic Care Act of 2018 allowing Medicare Advantage plans to offer non-medical services and supports to beneficiaries with specific chronic conditions, referred to as Services and Support Benefits for the Chronically Ill or “SSBCI”, beginning in 2020. A year prior, CMS waived benefit uniformity requirements which allows Medicare Advantage plans to target benefits to populations in need. However, there are limitations on what Medicare Advantage plans can offer and to which beneficiaries.

The awareness of the impact of social determinants on health outcomes has been highlighted during the public health emergency, making clear the critical needs of many older adults, including food insecurity, lack of social supports, loneliness, and vulnerability to illness exacerbated by poor health status. Recent research commissioned by BMA on the role of telehealth and virtual care during the COVID-19 pandemic found, even as telehealth improved access to care for Medicare beneficiaries, the lack of access to technology and functional limitations in older adults inhibited their access to telehealth. The need for attention to social risks factors in conjunction with medical care is more evident than ever.

It is important for policymakers to consider the role that Medicare Advantage is able to play in integrating medical care and social supports. Medicare Advantage serves a higher percentage of low-income beneficiaries who have a higher likelihood for social risk factors as compared to Traditional FFS Medicare.

In addition, Medicare Advantage enrollment continues to increase proportional to the overall Medicare population, having reached close to 40 percent of the Medicare population in 2020. The financial protections, extra benefits, and low or zero-dollar premiums offered in Medicare Advantage make them more affordable for many low- and modest-income seniors and people with disabilities. Given the recent growth pattern, it is likely that the prevalence of social risk factors will continue to increase in the Medicare Advantage population.

With the appropriate flexibilities, including polices that allow for broad use of social support services made possible by a strong payment structure, effective care management tools, and accurate risk adjustment, Medicare Advantage is well positioned to address health disparities and social determinants of health in their beneficiary populations. Including social risk factors and functional limitations in risk adjustment and in the Star Ratings System will continue to enable Medicare Advantage plans to address SDOH and improve health for low-income and modest income Medicare beneficiaries.

Methods

Using the 2017 Medicare Current Beneficiary Survey (MCBS), ATI Advisory examined prevalence of social risk factors and demographic characteristics within the Medicare population. Most analyses were limited to Medicare beneficiaries with income below 200 percent FPL to limit low case counts among those earning 200 percent of the FPL and higher, to ensure better data reliability. This also allowed the study team to mitigate the effect of lower income levels generally in the Medicare Advantage program from artificially inflating differences between Medicare Advantage and Traditional FFS Medicare. Where appropriate and where data were sufficiently available, comparisons were made at all income levels. All analyses are limited to beneficiaries residing in the community.


Unless otherwise noted, all data are from the 2017 MCBS and exclude assisted living and nursing home residents.