

Implications of Using Proxy Respondents for In-Person Versus Phone Interviews

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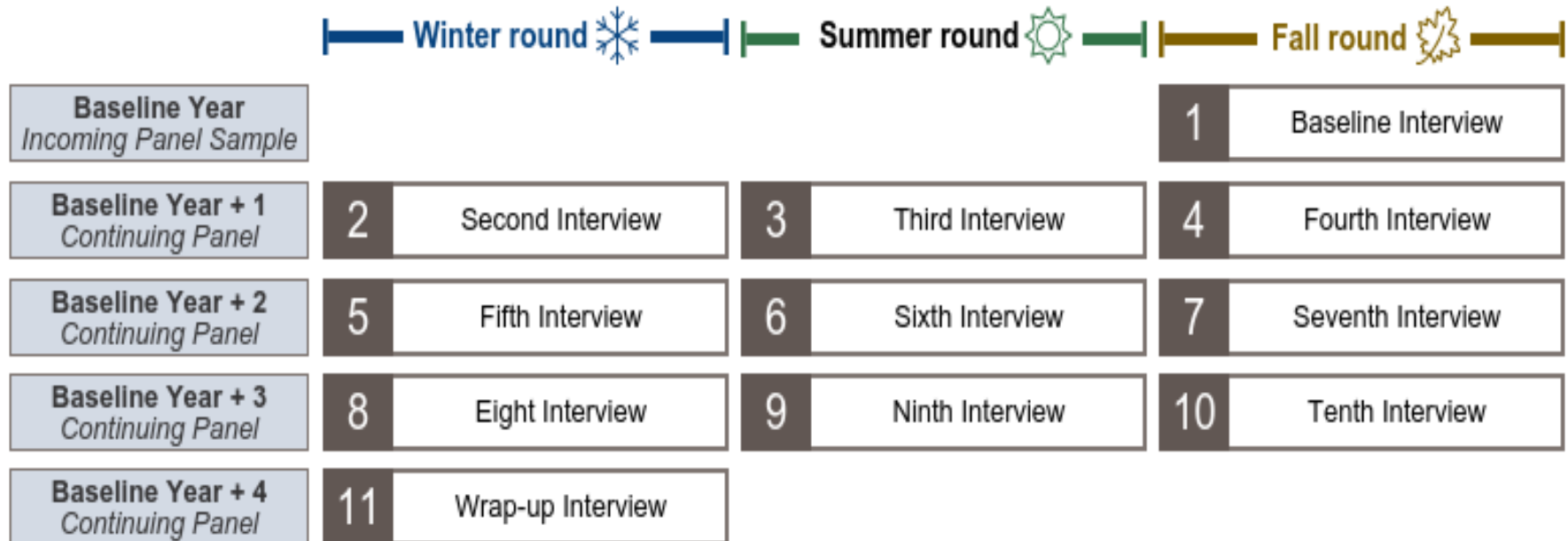
Proxy respondents are sometimes used in survey research when sampled individuals are unable to complete interviews themselves.

- Due to the COVID-19 pandemic, we transitioned a complex, longitudinal survey from in-person to phone data collection.
- The mode change might have affected when, why, and how often proxy respondents are used.
- The purpose of this analysis is to understand the operational impacts of proxy use by:
 - Determining the proportion of interviews completed with a proxy respondent
 - Identifying who uses proxies
 - Comparing data collection efforts between respondent types (direct vs. proxy)
- This will lay the groundwork for future explorations of data quality implications of proxy use (e.g., skipped items, higher item-level nonresponse, and inaccurate reporting)

Medicare Current Beneficiary Survey (MCBS)

- Serves as the leading source of information on the Medicare program and its impact on beneficiaries
- Conducted by the Centers for Medicare & Medicaid Services (CMS) through a contract with NORC at the University of Chicago
- Nationally representative sample of the Medicare population
- Continuous, multipurpose survey
 - Conducted in-person from 1991 through March 2020, then transitioned to phone data collection in response to the COVID-19 pandemic
- Round-based rotating panel design
 - Collects data for beneficiaries at three points per year over four years

MCBS Round-based Rotating Panel Design



Incoming Panel = newly selected sample members in their 1st MCBS interview
 Continuing Panels = existing sample members in their 2nd through 11th MCBS interview

Proxy Interviewing on the MCBS

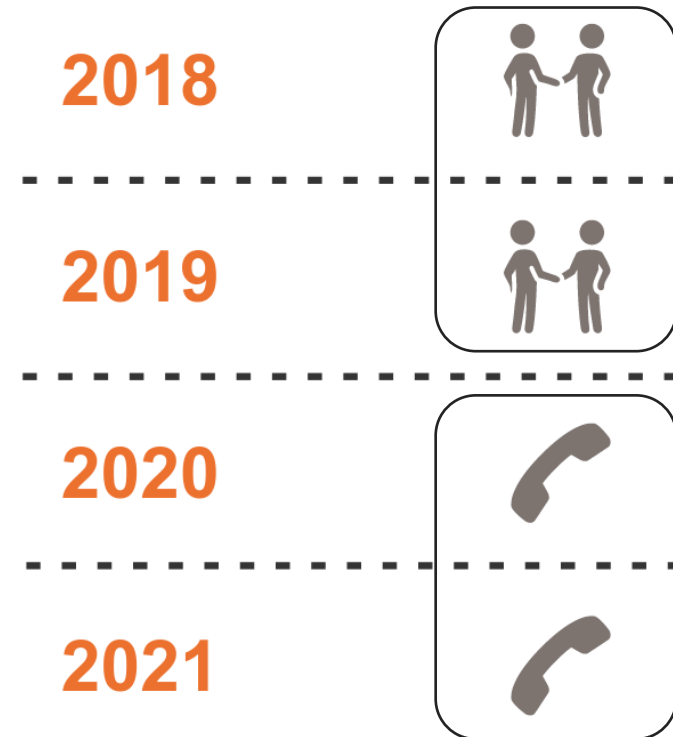
- Sampled beneficiaries who are too ill, or who cannot complete the interview for other reasons, are asked to designate a proxy. Proxies are also utilized for beneficiaries who are reported as deceased during the current round's reference period or are now living in a long-term care facility.
- A proxy is someone very knowledgeable about the beneficiary's health and living habits. In most cases, the proxy is a close relative such as a spouse or child. Rarely, the proxy is a non-relative, such as a close friend or caregiver.

Research Questions

1. How has the proportion of proxy respondent interviews changed from in-person interviewing to phone interviewing?
2. Which beneficiary characteristics predict the need for a proxy interview, and do these characteristics differ by data collection mode?
3. How do data collection efforts (i.e., interview duration and contact attempts) differ between respondent types? Are these differences stable across data collection modes?

Analysis Plan and Data Sources

1. Construct datasets by combining data across rounds with the same mode
2. Compare outcomes of interest across modes



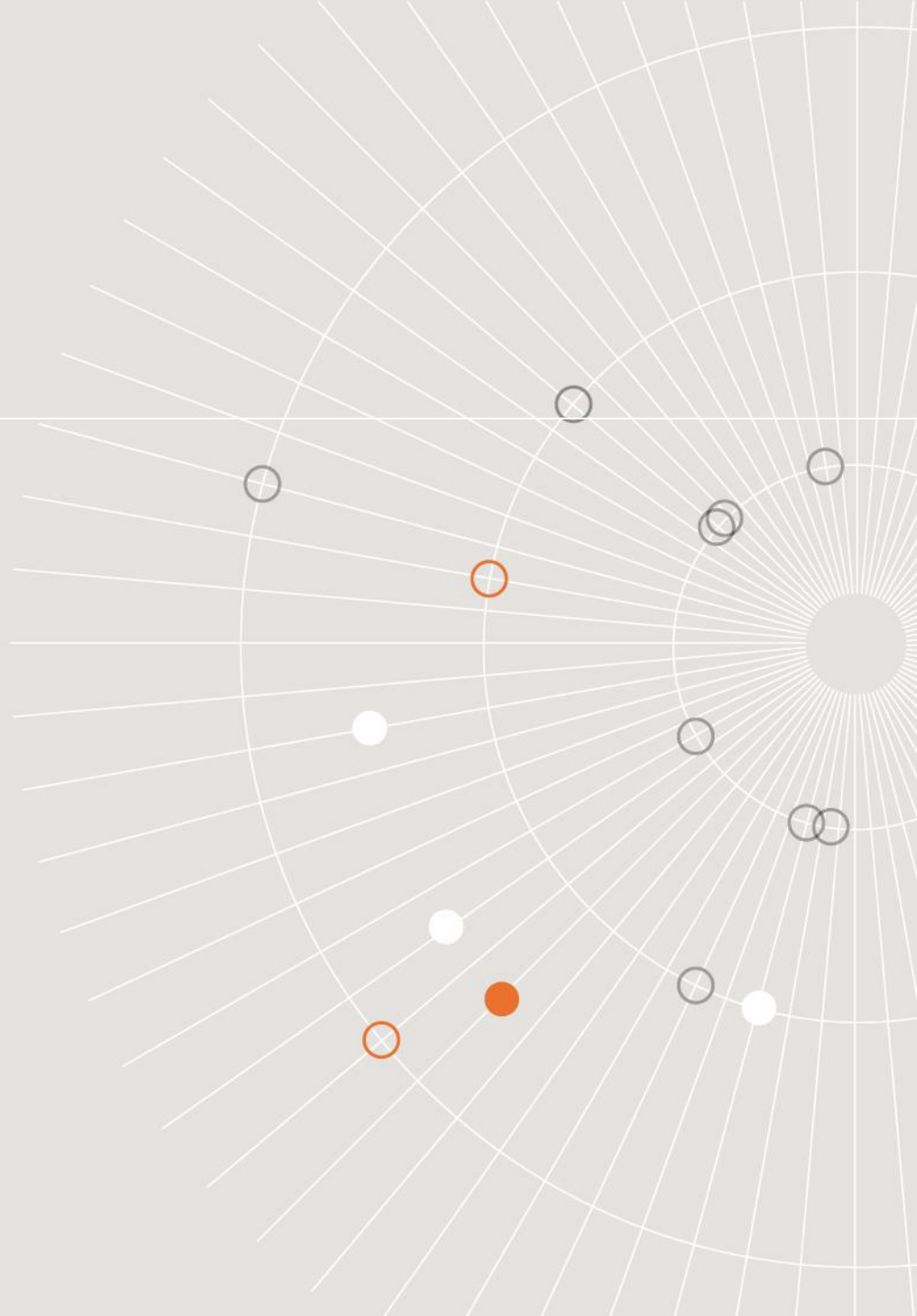
Research Design

- Universe
 - Medicare beneficiaries who completed an MCBS Community interview in at least one fall round from 2018-2021
- Regression models
 - Logistic for binary outcomes (e.g., direct vs. proxy)
 - Poisson/negative binomial for continuous/count outcomes (e.g., interview duration and contact attempts)
 - Predictors include demographic information, insurance coverage, and health-related factors

Analytic Outcomes

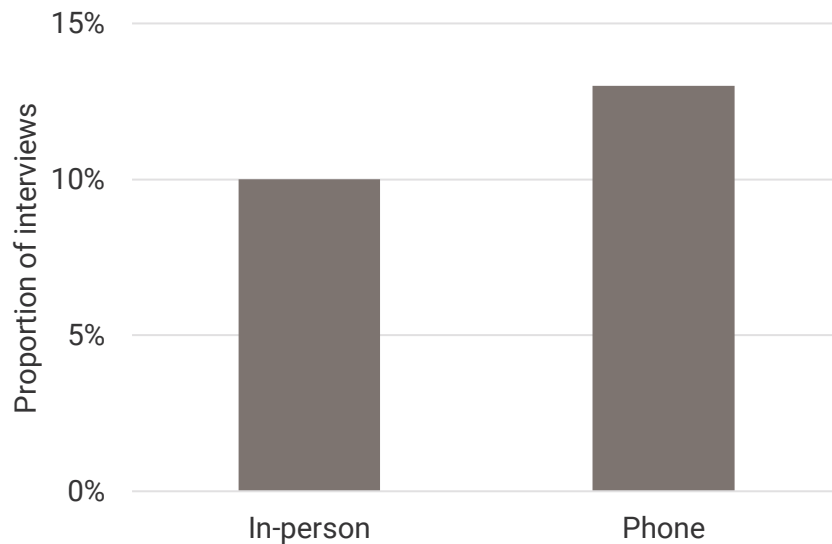
Category	Outcome Comparison: In-person vs. Phone
Overall Trends	<ul style="list-style-type: none">• Proportion of interviews completed with proxy respondents<ul style="list-style-type: none">• Overall• By panel• Reasons for proxy use
Overall Factors	<ul style="list-style-type: none">• Factors associated with proxy use<ul style="list-style-type: none">• Health-related• Demographics
Data Collection Effort	<ul style="list-style-type: none">• Interview duration by proxy use• Contact attempts by proxy use

Results

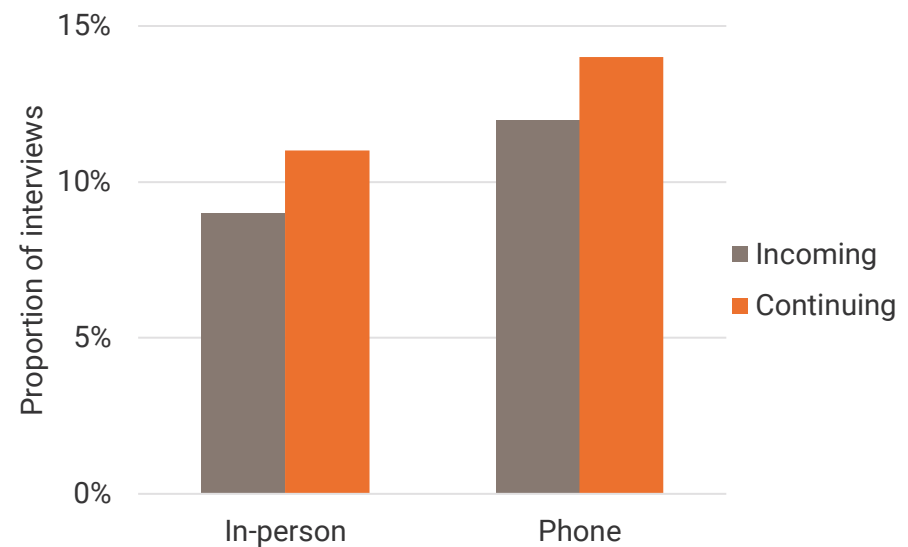


Overall Trends: Proxy use overall and by panel

Overall Proxy Use



Proxy Use by Panel



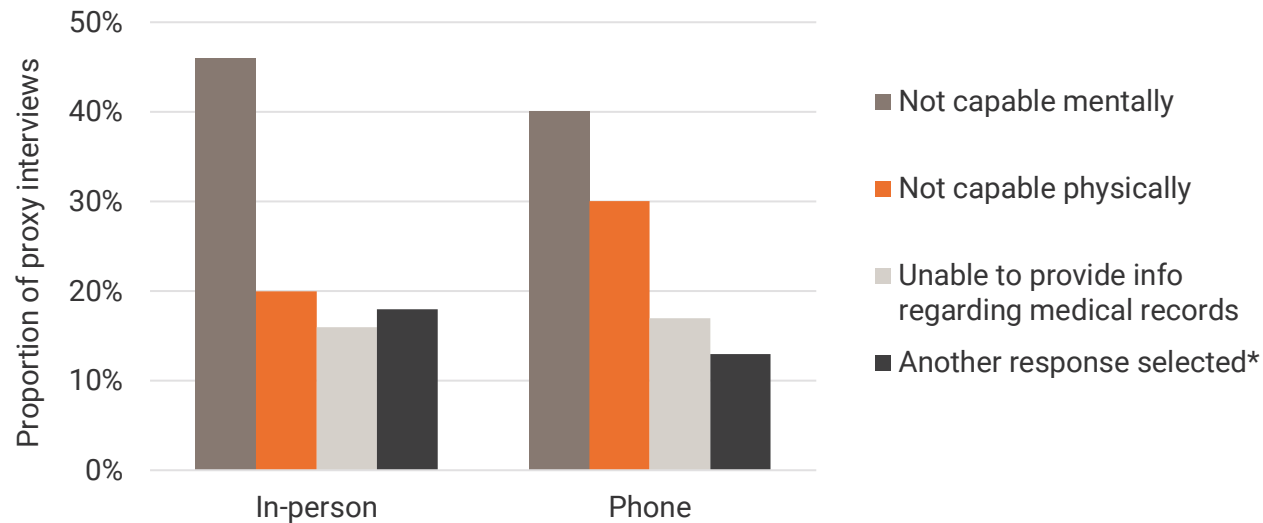
In-person: Fall 2018 R82 and Fall 2019 R85, N=27,775

Phone: Fall 2020 R88 and Fall 2021 R91, N=26,857

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey

Overall Trends: Reasons for proxy use

Most Common Reasons for Proxy Use



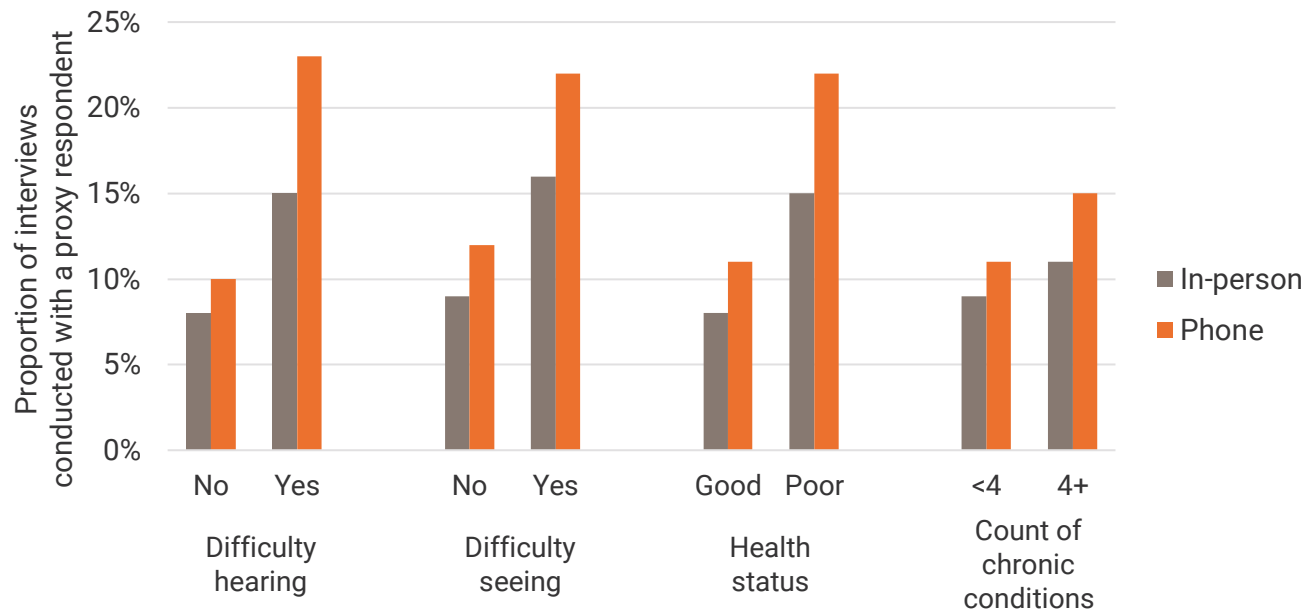
*Another response selected includes: In hospital, language problem, deceased, institutionalized, not available this round, authorized proxy must answer questions, and other
In-person: Fall 2018 R82 and Fall 2019 R85, N=2,797
Phone: Fall 2020 R88 and Fall 2021 R91, N=3,508
SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey

Overall Trends: Summary of findings

- **Proxy use** remained relatively rare overall, but **increased 30% with phone interviewing**.
- Proxy use is generally slightly **higher for Continuing Panels** compared to the Incoming Panel in both in-person and phone interviews.
- The most common reasons for using a proxy remained stable, but **not being capable mentally became less common** and **not being capable physically became more common in phone interviews**.

Overall Factors: Factors associated with proxy use – health-related

Health-Related Factors Associated with Proxy Use

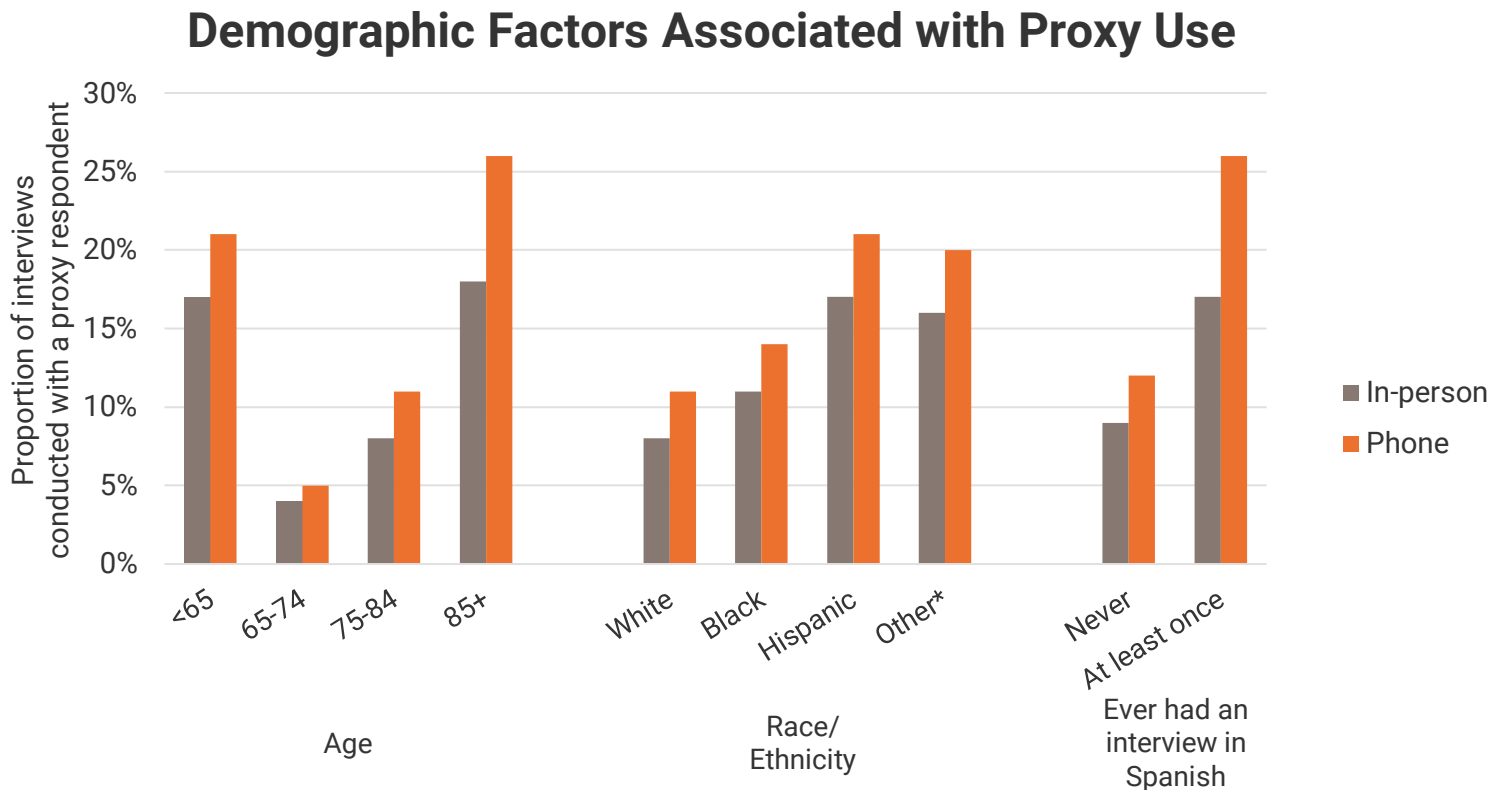


In-person: Fall 2018 R82 and Fall 2019 R85, N=27,621

Phone: Fall 2020 R88 and Fall 2021 R91, N=26,711

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey

Overall Factors: Factors associated with proxy use – demographics



*The "Other Race/Ethnicity" category includes other single races not of Hispanic origin, Two or More Races, or unknown races.

In-person: Fall 2018 R82 and Fall 2019 R85, N=27,621

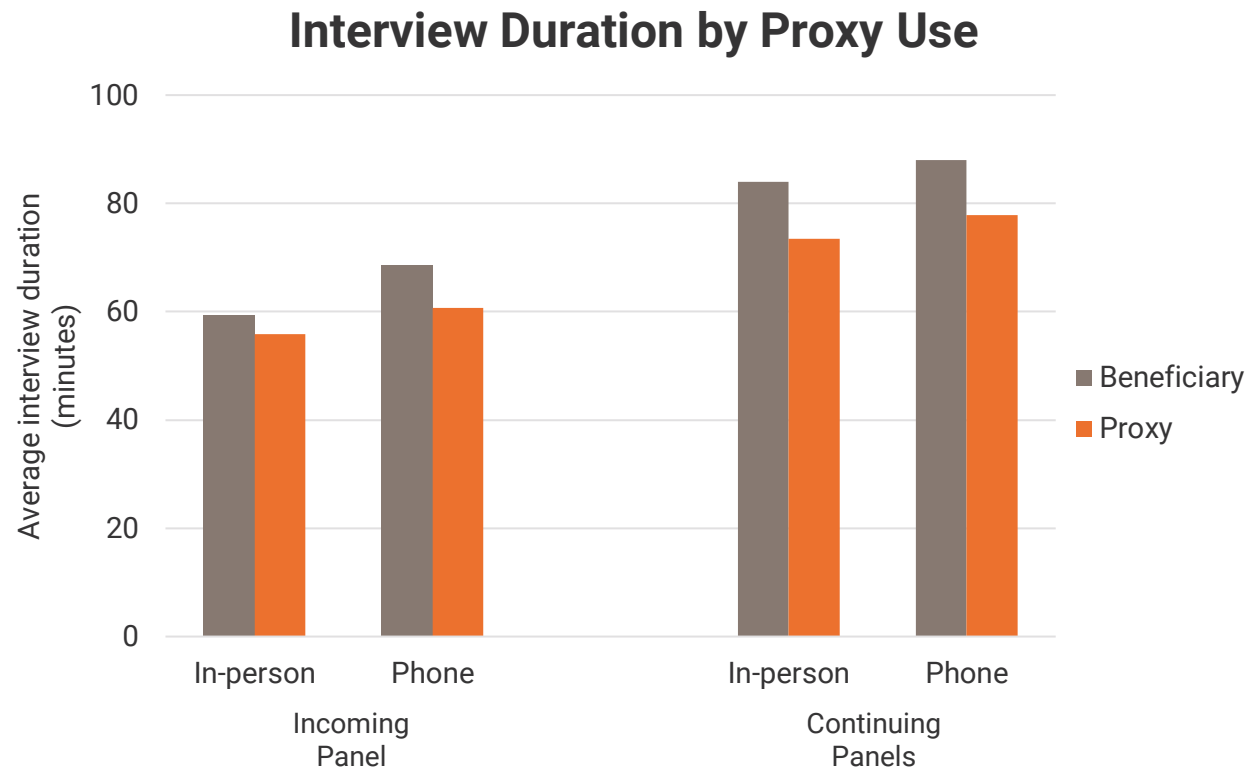
Phone: Fall 2020 R88 and Fall 2021 R91, N=26,711

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey

Overall Factors: Summary of findings

- Beneficiaries with **difficulty seeing or hearing, poor health status, and at least four chronic conditions are generally more likely to use proxy respondents** than those without these characteristics.
- Beneficiaries who are **85 years and over, of Hispanic ethnicity, and ever had an interview in Spanish** are **more likely to use proxies** than their comparison groups.
- Some of these differences became **more pronounced with phone interviewing** – particularly difficulty seeing and hearing, 85 years and over, and ever had an interview in Spanish.

Data Collection Effort: Interview duration by proxy use

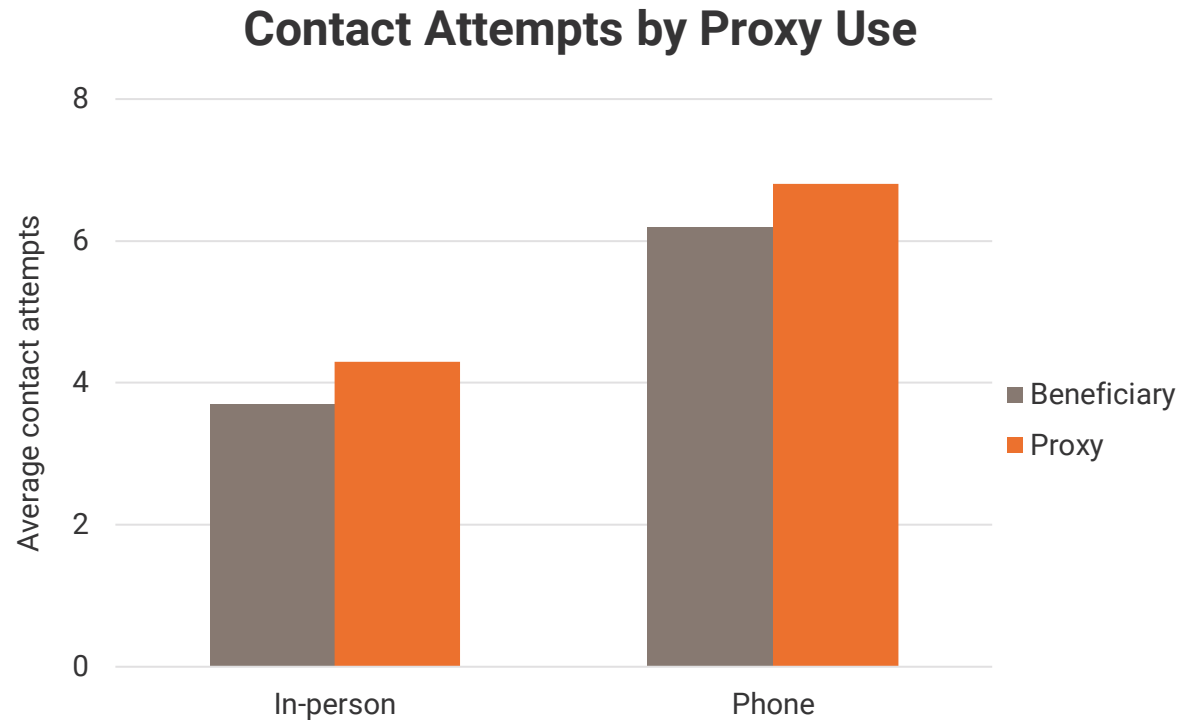


In-person: Fall 2018 R82 and Fall 2019 R85, N=27,044

Phone: Fall 2020 R88 and Fall 2021 R91, N=24,535

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey

Data Collection Effort: Contact attempts by proxy use



In-person: Fall 2018 R82 and Fall 2019 R85, N=27,619

Phone: Fall 2020 R88 and Fall 2021 R91, N=26,711

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey

Data Collection Effort: Summary of findings

- Proxy use results in **shorter interviews**.
 - Proxy use is associated with an **8-minute reduction in average interview duration for the Incoming Panel in phone interviews** and a **3-minute reduction for in-person interviews**.
 - Proxy use is associated with a **10-minute reduction in average interview duration for Continuing Panels** in both in-person and phone interviews.
- Proxy use is associated with **more contact attempts required to complete an interview**. This **increases with phone interviews**.

Differences by respondent type (direct vs. proxy)

Finding	Apparent Drivers
Decreased interview duration for proxy respondents	Questions skipped for proxy respondents, potential data quality impacts on reporting
Increase in contact attempts required to complete an interview for proxy respondents	Additional contact attempts required to identify or locate a proxy

Differences by data collection mode

Finding	Apparent Drivers
Increase in proxy use in phone interviews	Burden of providing complex healthcare information over the phone, ease of reaching proxies by phone even if they live far away
Not being capable mentally became a less common reason for proxy use in phone interviews	Potential increased difficulty in reaching those with cognitive difficulties via phone
Not being capable physically became a more common reason for proxy use in phone interviews	Burden of providing complex healthcare information via phone, especially for those with difficulty seeing/hearing

Differences by data collection mode (continued)

Finding	Apparent Drivers
Difficulty seeing or hearing was more predictive of proxy use in phone interviews	Challenges with reading details from physical documentation and hearing interviewers via phone
Ages 85 and over, Hispanic ethnicity, and ever had an interview in Spanish were more predictive of proxy use in phone interviews	In-person interviews with these groups may have been conducted with “helpers” in the room, but helpers may have become proxies for phone interviews

Analysis Uses

- This analysis can be used to:
 - Inform multimode data collection efforts and training plans
 - Ensure questionnaire design is more sensitive to proxy reporting
 - Inform guidance for repeated cross-sectional analysis to control for increases in proxy use
 - Predict future proxy use

Limitations

- Inability to isolate mode effects from pandemic effects
- We used fall round data, but make the assumption that our findings are generalizable to all rounds of data collection


Next steps

- Investigate the effect of proxy use on utilization and cost reporting
 - Preliminary results suggest there is no difference in utilization reporting in in-person interviews, proxies report more utilization in phone interviews, and there is no difference in cost reporting in in-person and phone interviews.
- Investigate the effect of proxy use on data quality
 - Preliminary results suggest proxy use generally has no impact on item-level nonresponse, but there are some differences for select utilization/cost items related to physical documentation.

A group of four people are gathered around a table, looking at a document. The document features a pie chart with four segments in green, blue, orange, and grey. One person is pointing at the chart with a pen. The scene is dimly lit, with a warm, brownish tint.

Thank you.

Kylie Carpenter
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 **NORC** at the
University of
Chicago

Model results predicting proxy use during in-person and phone data collection

Characteristic	Proxy use during in-person data collection (N=27,621)		Proxy use during phone data collection (N=26,711)	
	Odds Ratio (OR)	95% Confidence Interval (CI)	Odds Ratio (OR)	95% Confidence Interval (CI)
Age group (reference: <65 years)				
65-74 years	0.44***	(0.38, 0.51)	0.40***	(0.35, 0.46)
75-84 years	0.94	(0.82, 1.07)	0.96	(0.85, 1.08)
85+ years	2.52***	(2.19, 2.90)	2.86***	(2.51, 3.26)
Race/ethnicity (reference: White non-Hispanic)				
Black non-Hispanic	0.92	(0.80, 1.06)	0.92	(0.80, 1.05)
Hispanic	1.44***	(1.25, 1.67)	1.26**	(1.10, 1.45)
Other Race/Ethnicity*	1.65***	(1.40, 1.96)	1.78***	(1.51, 2.11)
Male	1.66***	(1.52, 1.82)	2.04***	(1.88, 2.22)
Some college/vocational school or more	0.44***	(0.39, 0.49)	0.37***	(0.33, 0.40)
Income less than \$25,000 per year	1.51***	(1.34, 1.70)	2.45***	(2.21, 2.72)
Lives in rural area	0.97	(0.84, 1.11)	1.06	(0.93, 1.21)

+ indicates $P < 0.05$. * indicates $P < 0.01$. ** indicates $P < 0.001$. *** indicates $P < 0.0001$.

*The "Other Race/Ethnicity" category includes other single races not of Hispanic origin, Two or More Races, or unknown races.

Model results predicting proxy use during in-person and phone data collection (continued)

Characteristic	Proxy use during in-person data collection (N=27,621)		Proxy use during phone data collection (N=26,711)	
	Odds Ratio (OR)	95% Confidence Interval (CI)	Odds Ratio (OR)	95% Confidence Interval (CI)
Excellent/very good/good health status	0.72***	(0.65, 0.80)	0.73***	(0.66, 0.80)
Medicare Advantage member	0.66***	(0.60, 0.72)	0.75***	(0.69, 0.82)
Dually eligible for Medicare and Medicaid	2.28***	(2.02, 2.57)	1.75***	(1.57, 1.95)
4 or more chronic conditions	1.13*	(1.03, 1.25)	1.08	(0.99, 1.18)
Count of medical events reported in the current round is higher than the 75th percentile	0.79+	(0.65, 0.95)	1.35**	(1.16, 1.58)
Count of costs reported in the current round is higher than the 75th percentile	1.00	(0.82, 1.21)	1.08	(0.92, 1.26)
Difficulty hearing	1.50***	(1.35, 1.66)	2.04***	(1.85, 2.24)
Difficulty seeing	1.16+	(1.03, 1.31)	1.27**	(1.13, 1.43)
Lives alone	0.26***	(0.23, 0.29)	0.27***	(0.24, 0.29)
Ever had an interview in Spanish	0.71*	(0.56, 0.90)	1.16	(0.93, 1.43)
Incoming Panel	0.71***	(0.64, 0.78)	0.98	(0.89, 1.07)

+ indicates $P < 0.05$. * indicates $P < 0.01$. ** indicates $P < 0.001$. *** indicates $P < 0.0001$.