



OFFICE OF BEHAVIORAL HEALTH,
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Integrated Care and Health Outcomes for Dual Eligible Individuals

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EXECUTIVE SUMMARY

ES.1 Background

In 2021, 11.8 million individuals were dually enrolled in Medicare and Medicaid, a population characterized by greater health needs, resource utilization, and care coordination. This population accounted for 35% of Medicare and 27% of Medicaid spending in 2021, despite making up only 19% and 13% of Medicare and Medicaid beneficiaries, respectively. That same year, enrollment of dually eligible beneficiaries in Medicare Advantage (MA) plans rose to 51%, alongside an increase in the average number of available MA plans, which reached 33 per beneficiary. The Centers for Medicare & Medicaid Services has several programs that encourage integrated care, a concept that provides the full array of Medicaid and Medicare benefits through a single delivery system to provide quality care for dual eligible enrollees, improve care coordination, and reduce administrative burdens. (CMS 2026) Integrated MA plans, including Dual Eligible Special Needs Plans (D-SNPs), Fully Integrated Dual Eligible SNPs (FIDE-SNPs), and the Program of All-Inclusive Care for the Elderly (PACE), are designed to improve care coordination; however, research has shown mixed results regarding their effectiveness in reducing unnecessary health care services. The growing variety of integrated care models and rising enrollment in MA plans emphasize the need to evaluate whether these integrated MA plans improve care and outcomes for their enrolled beneficiaries. This study analyzes MA encounter data from 2021 to compare health service utilization and outcomes among dually eligible beneficiaries in integrated MA plans relative to their counterparts in non-integrated MA plans. We hypothesize that integrated MA plans will lead to more-optimal service use and better health outcomes, indicated by lower rates of hospitalization, emergency department (ED) visits, institutionalization, and mortality, and higher usage of home and community-based services (HCBS).

ES.2 Methods

The analysis used data from the 2021 Centers for Medicare & Medicaid Services (CMS) Chronic Conditions Data Warehouse. This included data from the Master Beneficiary Summary Base and Plan Characteristics files to identify the study population and gather demographic information, Medicare eligibility, and enrollment details. Mortality data also were sourced from the Master Beneficiary Summary Base file, whereas determinants of health care service utilization, such as inpatient hospitalizations and ED visits, were gathered from MA encounter data. Outcomes related to institutional use and HCBS use were extracted from the Common Medicare Environment file, with additional covariates derived from the V24 Risk Score and Risk Adjustment Factor files. The study focused on full-benefit, dually eligible beneficiaries consistently enrolled in either a regular, non-integrated MA plan (comparison group) or one of three types of integrated MA plans (treatment group)—PACE, FIDE-SNP, or D-SNP—for all months alive in 2021. Beneficiaries who switched between plan types in the study year were excluded from the analysis.

Five dichotomous outcome measures were created to evaluate health care service use and mortality: (1) any inpatient hospitalization, (2) any ED visit, (3) any institutional use, (Medicaid-covered institutional use) (4) HCBS use, and (5) mortality within the year. Descriptive analyses compared demographics and outcomes between enrolled beneficiaries in integrated versus nonintegrated MA plans. Multivariate logistic regression models were used to estimate the independent association of enrollment in one of the three integrated plans and each outcome measure, compared with a propensity score weighted or matched MA comparison group, while controlling for beneficiary demographics, comorbidities, and state. Using the propensity score (the predicted probability of being enrolled in a specific integrated plan type), inverse probability of treatment weighting for average treatment effect (IPTW-ATE) was applied to create statistically similar comparison groups. These IPTW-ATE weights were also applied in the logistic regression outcome models for FIDE-SNP and D-SNP. For PACE, propensity score matching, rather than weighting, was performed. Additionally, the analyses restricted comparison groups to enrollees from the same set of states where the integrated plans operated, and for PACE, the comparison group was further restricted to HCBS users only, thereby improving comparability of study populations across plan types.

ES.3 Key Findings

Descriptive analyses highlight variation in the demographic characteristics as well as service utilization and health outcomes of dually eligible beneficiaries across MA plan types in 2021:

- Beneficiaries in PACE had the highest unadjusted rates of inpatient hospitalization (26.45%) and mortality (12.35%), compared with those in other plan types, who generally had hospitalization rates around 18%. Beneficiaries in D-SNPs had the lowest unadjusted mortality rate (4.54%) but had the highest rate of ED visits (37.37%). Beneficiaries in FIDE-SNPs had the highest rate of HCBS use (32.63%). Beneficiaries in the comparison MA plan had the highest rate of institutionalization (19.07%) compared with those in any of the integrated MA plans, where rates were 8.36% or lower.
- PACE beneficiaries were the oldest, averaging 77.61 years, and D-SNP beneficiaries were the youngest at 65.64 years. D-SNP beneficiaries also had the highest proportion of racial/ethnic minorities (50.52%) and proportion originally qualifying for Medicare because of disability or end-stage renal disease (53.65%).
- The comparison MA group had the highest average number of Hierarchical Condition Categories (HCCs) (4.02), followed by PACE enrollees (3.61), FIDE-SNP enrollees (3.38), and D-SNP enrollees (3.27). Beneficiaries in PACE had the highest full-dual community risk score (2.15), whereas D-SNP enrollees had the lowest score (1.68).

The results of the propensity score analysis demonstrate adequate balancing of covariates between the treatment and comparison groups following propensity score matching for PACE and propensity score weighting for FIDE-SNP and D-SNP.

After controlling for beneficiary demographic characteristics, comorbidities, and state indicators, multivariate logistic regression analysis results, as visually summarized in **Table ES-1**, indicate that in 2021, compared with their counterparts in the MA comparison group:

- Beneficiaries in FIDE-SNPs and D-SNPs were significantly more likely to be hospitalized at least once, and beneficiaries in PACE were significantly less likely to be hospitalized.
- Beneficiaries in FIDE-SNPs and D-SNPs were significantly more likely to visit the ED at least once, and beneficiaries in PACE were significantly less likely to visit the ED.
- Beneficiaries in FIDE-SNPs and D-SNPs were significantly less likely to be institutionalized at any point. Beneficiaries in PACE were also less likely to be institutionalized, although this finding was not statistically significant.
- Beneficiaries in FIDE-SNPs and D-SNPs were significantly more likely to use HCBS at least once.
- Beneficiaries in PACE, FIDE-SNPs, and D-SNPs were significantly less likely to die.

Table ES-1. Summary of logistic regression associations between integrated care plan enrollment and service utilization patterns and mortality, relative to a MA comparison group, 2021

Outcome	Integrated Plan Type (Relative to Comparison MA)		
	PACE	FIDE-SNP	D-SNP
Any inpatient hospitalization	↓	↑	↑
Any ED visit	↓	↑	↑
Any institutional use	↓	↓	↓
HCBS use	n/a	↑	↑
Mortality	↓	↓	↓

↑ Indicates higher odds of an outcome associated with an integrated plan type than comparison MA

↓ Indicates lower odds of an outcome associated with an integrated plan type than comparison MA

	Favorable and statistically significant ($p \leq 0.05$)
	Unfavorable and statistically significant ($p \leq 0.05$)
	Not statistically significant ($p > 0.05$)
n/a	Not applicable (PACE excluded from regression model of HCBS use)

Notes: D-SNP = Dual Eligible Special Needs Plan. ED = emergency department. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCBS = home and community-based services. MA = Medicare Advantage. PACE = Program of All-Inclusive Care for the Elderly.

ES.4 Discussion and Conclusion

These findings largely align with those from the prior exploratory study using 2015 data (Feng et al., 2021). In this study, we refined the selection of the comparison group to enable a more robust and definitive comparison of service utilization and health outcomes between integrated and non-integrated plan types using data from 2021. This analysis offers fresh and strong evidence supporting the benefits of integrated care models, especially the PACE program, in promoting better health care use and health outcomes. The findings show that participants in PACE have significantly lower rates of hospitalizations, ED visits, and mortality, compared with a matched comparison group of MA enrollees with similar demographic and health characteristics. This suggests that PACE can effectively meet the complex needs of its members, leading to improved health outcomes.

Although beneficiaries enrolled in D-SNPs and FIDE-SNPs displayed varying patterns in use of health care services, the evidence underscores the critical importance of robust care coordination and community support. These insights highlight the need for policymakers to prioritize the expansion of integrated care models to enhance health outcomes, reduce reliance on institutional settings, and optimize health care utilization and expenditures. Further research is needed to better understand additional integrated care models as they emerge and evolve and their impacts on dually eligible beneficiaries, thereby informing best practices for improving care delivery in this vulnerable population.

SECTION 1 BACKGROUND

In 2021, 11.8 million individuals were dually enrolled in Medicare and Medicaid. Of those 11.8 million individuals, dually eligible beneficiaries are an important subset of the Medicare and Medicaid populations, as they are more likely to be in poor health, have functional limitations, and use certain health care services (i.e., inpatient hospital, skilled nursing facility, Medicare-covered home health services, and Medicaid-covered institutional and home and community-based services) more frequently than non-dually eligible beneficiaries (MedPAC and MACPAC, 2024). Although dually eligible individuals made up only 19% of Medicare beneficiaries and 13% of Medicaid beneficiaries in 2021, they accounted for 35% of Medicare spending and 27% of Medicaid spending (MedPAC and MACPAC, 2024).

Among dually eligible beneficiaries, 51% were enrolled in a Medicare Advantage (MA) plan in 2021, more than double the percentage enrolled in 2012 (CMS, 2022). In addition to increasing enrollment, the number of MA plans for individuals to choose from has expanded. In 2021, the average Medicare beneficiary had access to 33 MA plans, a substantial increase over the last decade; continuing this trend, in 2024, the average Medicare beneficiary had access to 43 MA plans (KFF, 2021; KFF, 2024).

The Centers for Medicare & Medicaid Services (CMS) have several programs that encourage integrated care, a concept that provides the full array of Medicaid and Medicare benefits through a single delivery system, to provide quality care for dual eligible enrollees, improve care coordination, and reduce administrative burdens (CMS, 2026). These MA plans vary in whom they enroll, what services they manage, and their responsibility to coordinate care with Medicaid. Non-integrated MA plans enroll both dually and non-dually eligible individuals, manage Medicare-covered services only, and do not coordinate with Medicaid (Offiaeli et al., 2025). Integrated MA plans, such as Dual Eligible Special Needs Plans (D-SNPs) and Fully Integrated Dually Eligible SNPs (FIDE-SNPs), enroll dually eligible individuals only and must coordinate with Medicaid. In contrast, the Program of All-Inclusive Care for the Elderly (PACE) enrolls individuals 55 years of age and older who are eligible for nursing facility level of care and integrates care between Medicare and Medicaid using a combined prospective payment (ATI Advisory, 2023).

Because of the lack of coordination with Medicaid, dually eligible beneficiaries may experience disjointed care and poor health outcomes (MACPAC, 2020). As such, integrated MA plans were designed to align the coordination of Medicare and Medicaid services. Previous studies suggest that, compared with non-integrated MA plans, integrated MA plans are associated with higher quality ratings, even though they serve beneficiaries with a high prevalence of medical and social risk factors (MACPAC, 2021; Frakt et al. 2013; Park et al., 2022; Offiaeli et al., 2025). However, evidence regarding the impact of integrated MA plans on reducing unnecessary or duplicative health care services and Medicare spending, compared with non-

integrated, less coordinated plans, is mixed. For instance, although some studies indicate that both PACE and FIDE-SNPs are linked to reductions in long-term nursing home admissions, other studies have reported null findings (Roberts et al., 2024).

The increasing variety of integrated care models and enrollment in MA plans highlights the need to assess whether integrated MA plans indeed deliver better care and outcomes for enrolled beneficiaries. In this study, we used Medicare encounter data from 2021 to analyze and compare measures of health care service utilization and outcomes for full-benefit dually eligible beneficiaries enrolled in either a PACE, FIDE-SNP, or D-SNP plan, relative to their counterparts enrolled in a regular, non-integrated MA plan. This study builds on a previous ASPE-funded exploratory study of integrated care plans (Feng et al., 2021) by using more-recent data and refined methodology (comparison group for each plan type based on propensity score weighting or matching), thereby increasing confidence in the findings related to the outcomes associated with different types of integrated care plans. We generally expect that integrated MA plans will perform better than non-integrated MA plans for dually eligible beneficiaries with similar demographic and health characteristics. Specifically, beneficiaries enrolled in integrated MA plans are expected to experience lower rates of hospitalization, emergency department (ED) visits, institutionalization, and mortality than their counterparts enrolled in a comparison MA group, and higher usage of home and community-based services (HCBS), although there may be less-consistent findings for hospitalizations and ED visits across plan types.

SECTION 2 METHODS

2.1 Data Sources

The analysis was conducted using data from 2021, sourced from the Centers for Medicare and Medicaid Services (CMS) Chronic Conditions Data Warehouse, MA encounter files, and Common Medicare Enrollment file. Specifically, we used the Master Beneficiary Summary Base and Plan Characteristics files to identify our study population and collect demographic characteristics, Medicare eligibility indicators, and plan enrollment information. Additionally, the date of death from the Master Beneficiary Summary Base file was used to create the mortality outcome measure. To assess outcome measures related to health care service utilization, we used inpatient and outpatient MA encounter files from 2021 to identify inpatient hospitalizations and ED visits, respectively. These encounter files contained fully mature data, which included at least 12 months of runout for each service month. Furthermore, we used the Common Medicare Environment file to identify the institutional use and HCBS use outcomes. We also collected the full-dual community risk score from the V24 Risk Score file and all individual Hierarchical Condition Categories (HCCs) from the Risk Adjustment Factor file to be used as covariates in the models described below.

2.2 Study Population

Our study population included full-benefit, dually eligible beneficiaries who were consistently enrolled in a regular, non-integrated MA plan (i.e., the comparison group) or one of three specific types of integrated MA plans (i.e., the treatment group)—D-SNP, FIDE-SNP, or PACE—for all months they were enrolled in MA and alive in 2021. Beneficiaries were excluded from our study population if they switched between a non-integrated and integrated MA plan or if they switched between the specific types of integrated MA plans during the study year.

2.3 Study Measures

We created five dichotomous outcome measures relating to health care service use and mortality. We based the measures on 2021 MA encounter claims, Common Medicare Environment, and Master Beneficiary Summary data. The measures were as follows:

- Any inpatient hospitalization: Whether a beneficiary had at least one inpatient hospital stay during the year.
- Any ED visit: Whether a beneficiary had at least one outpatient ED visit during the year that did not result in an inpatient admission.
- Any institutional use: Whether a beneficiary had any institutional use during the year (regardless of HCBS use). Institutional use includes Medicaid-covered stays in a nursing facility, intermediate care facility, or inpatient psychiatric hospital.
- HCBS use: Whether a beneficiary had HCBS use (without institutional use). HCBS use includes services through waivers and state plans.
- Mortality: Whether a beneficiary died during the year.

2.4 Statistical Analyses

We conducted descriptive analysis to compare beneficiaries enrolled in PACE, FIDE-SNP, or D-SNP plans and regular, non-integrated MA plans (i.e., comparison MA). For dichotomous and categorical variables such as the outcome measures, age categories, sex, race/ethnicity, and original reason for Medicare eligibility, we include the percentage of beneficiaries among each plan type. For continuous variables, including the full-dual community risk score and the number of HCCs per beneficiary, we report the mean and standard deviation. These descriptive statistics were calculated among the entire study population before applying inverse probability of treatment weights (IPTW) in the outcome analysis (further described below).

We used multivariate logistic regression models to estimate the independent association of enrollment in one of the three integrated MA plans with each of the outcome measures, compared with a propensity score weighted or matched comparison group. We controlled for

beneficiary demographic characteristics, comorbidities, and state indicators (fixed effects of unmeasured, state-specific factors influencing the outcome).

We used IPTW derived from a propensity score analysis to account for variation in the population enrolled in different integrated care plans and separately construct a comparison group that was statistically similar to each treatment group (i.e., PACE, FIDE-SNP, or D-SNP), enabling more-accurate estimation of the impact of enrollment in a specific integrated care plan on all outcome measures in the final regression models. A propensity score was calculated by predicting the probability of a beneficiary being in a specific integrated care plan (treatment group), conditional on a set of covariates (i.e., age, sex, race/ethnicity, original reason for Medicare eligibility, risk score, comorbidities as measured by the HCCs, and state of residence). The inverse of this score (i.e., $1/p$ for observations in the treatment group and $1/[1-p]$ for observations in the comparison group, where p is the propensity score) was then used to calculate IPTW weights. Furthermore, we multiplied the weights by the marginal probability of being in the treatment group to create stabilized IPTW average treatment effect (IPTW-ATE) weights to minimize the extreme weights in the treatment group. For all three treatment groups, any beneficiaries who had a propensity score below the smallest score in the treatment group were removed from the comparison group.

We applied the stabilized IPTW-ATE weights in the outcome analysis for beneficiaries in D-SNP or FIDE-SNP and their counterparts in the respective MA comparison group. This approach (i.e., propensity score weighting instead of matching) was chosen because of the large sample size of the treatment group relative to its potential comparison group (for D-SNP, it was nearly twice as large as the potential comparison group), making propensity score matching practically difficult or not feasible. In contrast, PACE was a much smaller treatment group, relative to the size of its potential comparison group. Therefore, we used propensity score matching (with the Greedy nearest neighbor matching method) to match each beneficiary in the PACE treatment group with one beneficiary in the potential comparison group with the closest propensity score.

Finally, in conducting the propensity score analysis for comparison group selection for each integrated plan type, we restricted the potential comparison group population to regular, non-integrated MA plan enrollees from the same set of states in which the specific type of integrated plan operated. For example, for FIDE-SNP (the treatment group), its potential comparison group only included regular, non-integrated MA plan enrollees residing in the 12 states in which FIDE-SNPs were in operation in 2021. Similar restrictions were applied for D-SNP and PACE, which were in operation in 43 (plus Washington, DC) and 33 states, respectively, as of 2021. For PACE, which by design provides HCBS for all program participants, we further restricted its potential comparison group to regular MA enrollees who had used any HCBS (regardless of additional use of institutional services) during 2021. These restrictions helped reduce differences in the study population between each integrated plan type and its MA comparison group.

SECTION 3 RESULTS

3.1 Descriptive Analysis Results

Table 1 shows select characteristics, by plan type, of the 3,092,493 full-benefit, dually eligible beneficiaries in 2021 included in our study. Additional characteristics, such as HCCs and state of residence, are shown in Appendix A.

Beneficiaries enrolled in PACE had the highest unadjusted rate of inpatient hospitalization (26.45%) and mortality (12.35%) when compared with those in other plan types, who generally experienced the same rate of hospitalization, around 18%. Beneficiaries in D-SNPs had the lowest unadjusted rate of mortality (4.54%) but conversely had the highest unadjusted rate of ED visits (37.37%), whereas beneficiaries in PACE and the comparison MA plan had the lowest rate of ED visits (30.76% and 30.73%, respectively). The use of HCBS was most prevalent among beneficiaries in FIDE-SNPs (32.63%); this was markedly higher than beneficiaries in D-SNPs (20.63%) and the comparison MA plan (15.39%). A higher proportion of beneficiaries in the comparison MA plan were institutionalized for at least some part of 2021 (19.07%) compared with beneficiaries in any of the other plan types, where institutionalization rates were 8.36% or less. We did not include PACE in the HCBS comparisons because PACE, by design, provides HCBS for all program participants.

Demographically, beneficiaries enrolled in PACE were the oldest, with an average age of 77.61 years, in contrast to those in D-SNPs, who had the youngest average age of 65.64 years. All plan types had more female beneficiaries than male beneficiaries, with the comparison MA plan enrollees representing the smallest female proportion, at 61.69%, and PACE enrollees exhibiting the largest proportion, at 67.46%. Approximately half of the beneficiaries in D-SNPs were racial/ethnic minorities (50.52%), a larger proportion than any other plan. They were also more likely to have originally qualified for Medicare because of disability or end-stage renal disease (ESRD) (53.65%), more so than any other plan type. Beneficiaries in the comparison MA group had a higher average number of HCCs (4.02) than any integrated plan type. Among beneficiaries of the three integrated plan types, those in PACE had the highest average number of HCCs (3.61), followed by those in FIDE-SNP (3.38) and then D-SNP (3.27). Among all plan types, beneficiaries in PACE had the highest full-dual community risk score (2.15), and beneficiaries in D-SNPs had the lowest (1.68).

Table 1. Beneficiary characteristics of study population, by plan type, 2021

Characteristic	Comparison MA	PACE	FIDE-SNP	D-SNP	TOTAL
Total beneficiaries, N	946,510	48,143	254,083	1,843,757	3,092,493
Outcome measures, %					
Any inpatient hospitalization	18.90	26.45	18.26	18.90	18.97
Any ED visit	30.73	30.76	34.63	37.37	35.01
Any institutional use	19.07	8.36	7.16	2.96	8.32
HCBS use	15.39	—	32.63	20.63	19.95
Mortality	9.55	12.35	6.50	4.54	6.35
Age, mean (SD)	70.66 (14.10)	77.61 (9.75)	71.76 (13.42)	65.64 (14.19)	67.86 (14.33)
Age group, %					
Age < 65	25.16	8.58	19.76	37.53	31.83
Ages 65–74	35.41	32.63	37.28	37.15	36.56
Ages 75–84	23.52	32.49	27.82	18.28	20.89
Ages 85+	15.91	26.29	15.14	7.04	10.72
Sex, %					
Male	38.31	32.54	35.19	37.43	37.44
Female	61.69	67.46	64.81	62.57	62.56
Race/ethnicity, %					
White, non-Hispanic	58.24	64.12	55.62	49.48	52.91
Black, non-Hispanic	18.13	20.38	17.65	28.06	24.03
Hispanic	13.46	7.92	14.96	11.93	12.58
Asian	7.26	5.18	8.45	7.81	7.65
Other	2.91	2.40	3.33	2.73	2.83
Original reason for Medicare eligibility, %					
Old age and survivors	57.81	63.12	60.07	46.35	51.25
Disability	41.59	36.18	39.56	52.99	48.14
ESRD	0.36	0.36	0.19	0.40	0.37
Both disability and ESRD	0.24	0.35	0.17	0.25	0.24
Full-dual community risk score, mean (SD)	2.08 (1.76)	2.15 (1.54)	1.76 (1.48)	1.68 (1.49)	1.82 (1.59)
Count of HCCs, mean (SD)	4.02 (3.84)	3.61 (3.56)	3.38 (3.26)	3.27 (3.28)	3.51 (3.48)

Notes: D-SNP = Dual Eligible Special Needs Plan. ED = emergency department. ESRD = end-stage renal disease. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCBS = home and community-based services. HCCs = Hierarchical Condition Categories. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly. SD = standard deviation. — = Not applicable (percentage of beneficiaries in PACE with any HCBS is not reported because HCBS delivered by PACE are not under the various Medicaid waiver programs).

3.2 Propensity Score Analysis Results

Tables 2 through 4 show the results of the propensity score analysis, including the mean value of each covariate in the treatment and comparison groups before and after propensity score weighting for FIDE-SNP and D-SNP and before and after propensity score matching for PACE.

Additionally, these tables demonstrate the magnitude of the differences observed in the covariates before and after propensity score weighting/matching.

Table 2 shows the covariate means for beneficiaries in PACE in contrast to their counterparts in the matched comparison MA group, before and after propensity score matching. After matching, all beneficiary-level characteristics had an absolute standardized difference in the group means below 0.25, an acceptable threshold to assess covariate balancing, indicating adequate balance between the two groups.

Table 2. PACE vs. MA comparison group: Beneficiary characteristics before and after matching by propensity score, 2021

Characteristic	Group Mean, Before Matching		Group Mean, After Matching		Standardized Difference, Matched
	PACE	Comparison MA	PACE	Comparison MA	
<i>Total beneficiaries, N</i>	47,176	140,194	34,447	34,447	68,894
Propensity score	0.56	0.15	0.45	0.39	0.282
Age < 65, %	8.34	23.98	10.35	9.32	0.029
Ages 75-84, %	32.98	27.69	32.52	32.78	-0.006
Ages 85+, %	26.67	25.05	27.93	29.28	-0.031
Female, %	67.68	66.22	68.19	69.07	-0.019
Black, non-Hispanic, %	20.05	23.62	20.31	21.50	-0.029
Hispanic, %	7.70	7.39	7.52	6.92	0.023
Asian, %	5.08	3.35	5.20	5.47	-0.013
Other race/ethnicity, %	1.86	1.68	1.97	2.08	-0.009
Disability as original reason for Medicare eligibility, %	36.34	46.89	36.80	35.47	0.027
ESRD as original reason for Medicare eligibility, %	0.34	0.17	0.29	0.26	0.005
Both disability and ESRD as original reason for Medicare eligibility, %	0.36	0.24	0.34	0.33	0.002
Full-dual community risk score, mean	2.15	2.51	2.27	2.38	-0.067

Notes: ESRD = end-stage renal disease. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table 3 shows the covariate means for beneficiaries in FIDE-SNP in contrast to their counterparts in the comparison MA before and after propensity score weighting. After weighting, none of the beneficiary characteristics had a standardized mean difference exceeding the absolute value of 0.25, indicating adequate balance between the two groups.

Table 3. FIDE-SNP vs. MA comparison group: Beneficiary characteristics before and after weighting by propensity score, 2021

Characteristic	Group Mean, Unweighted		Group Mean, Weighed		Standardized Difference	
	FIDE-SNP	Comparison MA	FIDE-SNP	Comparison MA	Unweighted	Weighted
Total beneficiaries, N	245,702	522,697	245,702	522,697	768,399	768,399
Propensity score	0.68	0.15	0.28	0.31	2.225	-0.122
Age < 65, %	19.47	19.88	14.54	22.22	-0.010	-0.193
Ages 75-84, %	28.57	26.69	29.34	26.18	0.042	0.071
Ages 85+, %	15.49	17.37	21.39	16.32	-0.051	0.137
Female, %	64.98	60.67	61.92	61.88	0.089	0.001
Black, non-Hispanic, %	16.79	13.04	12.97	14.38	0.105	-0.040
Hispanic, %	14.35	19.39	13.17	18.06	-0.135	-0.131
Asian, %	8.10	10.53	6.22	8.75	-0.083	-0.087
Other race/ethnicity, %	2.79	3.11	2.53	2.95	-0.019	-0.025
Disability as original reason for Medicare eligibility, %	39.79	34.84	31.54	38.67	0.103	-0.148
ESRD as original reason for Medicare eligibility, %	0.19	0.42	0.13	0.35	-0.042	-0.042
Both disability and ESRD as original reason for Medicare eligibility, %	0.18	0.24	0.15	0.24	-0.013	-0.020
Full-dual community risk score, mean	1.76	1.95	2.12	1.92	-0.122	0.132

Notes: ESRD = end-stage renal disease. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage.

Table 4 shows the covariate means for beneficiaries in D-SNP in contrast to their counterparts in the comparison MA before and after propensity score weighting. Before weighting, the standardized mean difference between the two groups exceeded 0.25 in absolute values for several covariates, including age less than 65 years old, age 85 years or older, being non-Hispanic Black, and having disability as original reason for Medicare eligibility. After weighting, all beneficiary-level covariates had an absolute standardized difference below 0.25, indicating balance between the two groups.

Table 4. D-SNP vs. MA comparison group: Beneficiary characteristics before and after weighting by propensity score, 2021

Characteristic	Group Mean, Unweighted		Group Mean, Weighted		Standardized Difference	
	D-SNP	Comparison MA	D-SNP	Comparison MA	Unweighted	Weighted
<i>Total beneficiaries, N</i>	1,743,820	824,001	1,743,820	824,001	2,567,821	2,567,821
Propensity score	0.77	0.49	0.66	0.67	1.252	-0.066
Age < 65, %	37.73	24.38	32.81	35.43	0.291	-0.057
Ages 75–84, %	19.26	25.18	21.50	21.04	-0.143	0.011
Ages 85+, %	7.43	17.29	12.38	10.89	-0.303	0.046
Female, %	62.87	62.00	62.70	62.20	0.018	0.010
Black, non-Hispanic, %	27.24	16.31	23.15	24.14	0.267	-0.024
Hispanic, %	11.60	13.77	12.21	11.24	-0.065	0.029
Asian, %	7.59	7.47	7.59	6.79	0.005	0.030
Other race/ethnicity, %	2.11	2.40	2.27	2.25	-0.020	0.001
Disability as original reason for Medicare eligibility, %	53.99	41.30	49.42	52.13	0.256	-0.055
ESRD as original reason for Medicare eligibility, %	0.38	0.36	0.36	0.38	0.003	-0.004
Both disability and ESRD as original reason for Medicare eligibility, %	0.26	0.25	0.25	0.28	0.002	-0.005
Full-dual community risk score, mean	1.68	2.08	1.87	1.83	-0.246	0.021

Notes: ESRD = end-stage renal disease. D-SNP = Dual Eligible Special Needs Plan. MA = Medicare Advantage.

3.3 Outcome Analysis: Multivariate Regression Results

We examined the independent association of enrollment in each type of integrated care plan, compared with enrollment in the corresponding MA comparison group, and each outcome of interest after controlling for beneficiary demographic characteristics, comorbidities, and state residence. The odds ratios (ORs) and 95% confidence intervals (CIs) for each of the integrated care plan types, the main predictor variables, are shown in Table 5 through Table 9. The full model results are shown in Appendix C.

Beneficiaries in FIDE-SNPs and D-SNPs were significantly more likely to be hospitalized at least once in 2021 compared with their counterparts in the comparison MA group (Table 5). Beneficiaries in D-SNPs had the highest odds of being hospitalized (OR = 1.086; 95% CI [1.078, 1.093]), followed very closely by beneficiaries in FIDE-SNPs (OR = 1.075; 95% CI [1.062, 1.089]). Conversely, beneficiaries in PACE were significantly less likely to be hospitalized at least once in 2021 compared with their counterparts in the comparison MA group (OR = 0.951; 95% CI [0.919, 0.985]).

Table 5. Logistic regression results predicting any inpatient hospitalization, 2021

Plan Type (Ref = Comparison MA)	Odds Ratio	95% Confidence Interval	
PACE	0.951	0.919	0.985
FIDE-SNP	1.075	1.062	1.089
D-SNP	1.086	1.078	1.093

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Beneficiaries enrolled in PACE were significantly less likely to visit the ED at least once in 2021 than beneficiaries in the comparison MA group (OR = 0.760; 95% CI [0.736, 0.785]) (Table 6). Conversely, beneficiaries enrolled in D-SNPs and FIDE-SNPs were significantly more likely to visit the ED than beneficiaries in each plan’s comparison MA group (OR = 1.302; 95% CI [1.294, 1.310] and OR = 1.187; 95% CI [1.174, 1.199], respectively).

Table 6. Logistic regression results predicting any ED visit, 2021

Plan Type (Ref = Comparison MA)	Odds Ratio	95% Confidence Interval	
PACE	0.760	0.736	0.785
FIDE-SNP	1.187	1.174	1.199
D-SNP	1.302	1.294	1.310

Notes: D-SNP = Dual Eligible Special Needs Plan. ED = emergency department. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Compared with their counterparts in the comparison MA group, beneficiaries in FIDE-SNPs and D-SNPs were significantly less likely to be institutionalized at any point in 2021; beneficiaries in PACE were also less likely to be institutionalized, although this was not statistically significant (Table 7). Beneficiaries in D-SNPs had the lowest odds of being institutionalized (OR = 0.184; 95% CI [0.182, 0.186]), followed by beneficiaries in FIDE-SNPs (OR = 0.302; 95% CI [0.296, 0.308]) and then by beneficiaries in PACE (OR = 0.980; 95% CI [0.926, 1.037]).

Findings were similarly favorable for HCBS use. Beneficiaries in both FIDE-SNPs and D-SNPs were significantly more likely to use HCBS at least once in 2021 compared with those in each plan’s comparison MA group, with the odds of HCBS use being the greatest for beneficiaries in FIDE-SNPs and then D-SNPs (OR = 2.682; 95% CI [2.646, 2.718] and OR = 1.446; 95% CI [1.435, 1.457], respectively) (Table 8). PACE beneficiaries were excluded from the HCBS model because HCBS was the default care option for those in the program.

Table 7. Logistic regression results predicting any institutional use, 2021

Plan Type (Ref = Comparison MA)	Odds Ratio	95% Confidence Interval	
PACE	0.980	0.926	1.037
FIDE-SNP	0.302	0.296	0.308
D-SNP	0.184	0.182	0.186

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table 8. Logistic regression results predicting HCBS use, 2021

Plan Type (Ref = Comparison MA)	Odds Ratio	95% Confidence Interval	
PACE	—	—	—
FIDE-SNP	2.682	2.646	2.718
D-SNP	1.446	1.435	1.457

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCBS = home and community-based services. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly. — = Not applicable (this outcome model excluded PACE).

Beneficiaries in each of the three types of integrated care plans were significantly less likely to die in 2021 than their counterparts in the respective comparison MA group (Table 9). Beneficiaries in D-SNP had the lowest odds of mortality (OR = 0.694; 95% CI [0.686, 0.702]), followed by those in FIDE-SNP (OR = 0.829; 95% CI [0.814, 0.844]) and those in PACE (OR = 0.869; 95% CI [0.829, 0.910]).

Table 9. Logistic regression results predicting mortality, 2021

Plan Type (Ref = Comparison MA)	Odds Ratio	95% Confidence Interval	
PACE	0.869	0.829	0.910
FIDE-SNP	0.829	0.814	0.844
D-SNP	0.694	0.686	0.702

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

SECTION 4 DISCUSSION

Our prior exploratory study (Feng et al., 2021), upon which this study was based, found that PACE was consistently a “high performer” compared with other integrated and non-integrated MA plans. Based on MA encounter data from 2015—the first year when these data were considered reasonably complete and reliable for research purposes—we found that

beneficiaries enrolled in PACE were significantly less likely to be hospitalized, visit the ED, or be institutionalized, and their risk of mortality was not significantly higher than other plan types. The prior study also found that beneficiaries enrolled in D-SNPs and FIDE-SNPs had lower risk of mortality and were generally more likely to experience favorable utilization outcomes than beneficiaries in non-integrated MA plans. The only utilization outcomes where beneficiaries in integrated plans had unfavorable outcomes were ED visits (more likely for both D-SNPs and FIDE-SNPs) and inpatient hospitalizations (more likely for FIDE-SNPs). These findings suggested that there could be unmet needs among these beneficiaries at home and in the community, leading to more frequent use of hospital services. We interpreted these early findings with caution considering one known limitation in the methodology—that is, we used all study-eligible regular MA enrollees nationwide as the same reference (comparison) group for beneficiaries of each integrated plan type, with all plan types included in one multivariate regression model of each outcome. As such, the results could be confounded by residual differences in the beneficiary populations across plan types (i.e., potential selection bias), despite a comprehensive list of beneficiary characteristics already adjusted for in the regression models.

In the present study, we refined the selection of the comparison group to enable a more direct and robust comparison between integrated and non-integrated plan types. First, for each integrated plan type, we separately identified its own comparison group of regular MA enrollees from the same set of states that offered the integrated plan type. Second, we applied propensity score weighting (for FIDE-SNPs and D-SNPs) or matching (for PACE) to balance the distribution of beneficiary characteristics between each integrated plan type and its respective comparison group, thereby maximizing comparability between the two groups. Furthermore, in the outcome analysis, we estimated separate regression models specific to each integrated plan type and its respective comparison group, with propensity score-based inverse probability of treatment weights applied (appropriate for FIDE-SNPs and D-SNPs but not necessary for PACE given a 1:1 matched sample used in PACE analysis), to minimize potential confounding and bias in the results. Together, these methodological improvements allow for a more definitive comparison of the outcomes beneficiaries experience with these plan types, discussed below.

4.1 Summary and Interpretation of Key Findings

A visual summary of findings from the current study is presented in Table 10. These findings largely align with those of the prior exploratory study (Feng et al., 2021). For example, beneficiaries enrolled in D-SNP or FIDE-SNP were more likely to visit the ED, while those enrolled in PACE were less likely to do so, each compared to its respective MA comparison group. Beneficiaries enrolled in any of the three integrated plan types were more likely to use HCBS (not applicable to PACE which, by design provides some form of HCBS for all participants) and less likely to be institutionalized (though for PACE, the difference in institutional use was not statistically significant). Furthermore, the current study found that

beneficiaries in all three integrated plan types were less likely to die, whereas in the prior study the difference in mortality risk was not statistically significant for PACE participants.

Table 10. Summary of logistic regression associations between integrated care plan enrollment and service utilization patterns and mortality, relative to a MA comparison group, 2021

Outcome	Integrated Plan Type (Relative to Comparison MA)		
	PACE	FIDE-SNP	D-SNP
Any inpatient hospitalization	↓	↑	↑
Any ED visit	↓	↑	↑
Any institutional use	↓	↓	↓
HCBS use	n/a	↑	↑
Mortality	↓	↓	↓

↑ Indicates higher odds of an outcome associated with an integrated plan type than comparison MA

↓ Indicates lower odds of an outcome associated with an integrated plan type than comparison MA

	Favorable and statistically significant ($p \leq 0.05$)
	Unfavorable and statistically significant ($p \leq 0.05$)
	Not statistically significant ($p > 0.05$)
n/a	Not applicable (PACE excluded from regression model of HCBS use)

Notes: D-SNP = Dual Eligible Special Needs Plan. ED = emergency department. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCBS = home and community-based services. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Notably, in the current study, we observed that beneficiaries enrolled in D-SNP were more likely to be hospitalized (Table 10), compared to similar beneficiaries in the MA comparison group. This contrasts with the finding of the previous exploratory study, in which D-SNP beneficiaries were less likely to be hospitalized. This discrepancy could result from the use of an improved—and more comparable—MA comparison group in our current analysis, which we would expect to yield more accurate and more credible results.

As for the finding of higher odds of both inpatient hospitalization and ED use among beneficiaries in FIDE-SNP and D-SNP (Table 10), one potential contributing factor is the lower rate of nursing home use among beneficiaries in these integrated plan types, compared with their counterparts in the MA comparison group. The unadjusted rate of institutionalization, mostly including stays in a nursing facility, was much higher among beneficiaries in the potential MA comparison group (19.07%) than among those in FIDE-SNP (7.16%) and D-SNP (2.96%) (Table 1). Existing evidence suggests that nursing facility use may serve as a protective factor against hospitalization, as most nursing facilities have essential clinical staff available who can effectively manage chronic conditions and even provide on-site acute care for their residents, thereby reducing hospitalizations more effectively than for those living in the community without adequate medical oversight (Segelman et al., 2024).

As in the prior exploratory study, our current analysis provides persistent—and more definitive—evidence in support of the PACE program’s superior performance on most outcomes, compared to a closely matched comparison group of regular MA enrollees with similar demographic and health characteristics. This is indicated by PACE participants’ lower odds of hospitalization, ED visits, and mortality (Table 10). It is likely that the PACE program’s highly coordinated and integrated multidisciplinary team of service providers have contributed to these favorable outcomes.

In the current analysis, we did not find a statistically significant association between PACE enrollment and institutional use (Table 10), in contrast to a statistically significant (and favorable) one from the prior exploratory study. A plausible driver of this discrepancy is the 1:1 matched comparison group of regular MA enrollees used in our current analysis who were narrowly restricted to HCBS users only. Covered under 1915(c) Medicaid waivers or state plan options, these HCBS users would have already had institutional (nursing home) level of care needs to be eligible for receiving HCBS, just as PACE participants would for program eligibility. Given such high-level resemblance in both institutional level-of-care needs and actual receipt of HCBS between PACE participants and their matched MA comparison group counterparts, the lack of a statistically significant difference in institutional use rates between the two groups would not be surprising.

The three types of integrated care models examined in this study vary in the extent of service integration and management between Medicare and Medicaid, with PACE leading in holistic care coordination and integration, followed by FIDE-SNPs, and then D-SNPs. The PACE program offers comprehensive, person-centered care through an integrated, team-based approach that includes all necessary medical, social, and supportive services. FIDE-SNPs provide a high level of integration by combining both Medicare and Medicaid services into a single plan with coordinated management and streamlined payments. In contrast, D-SNPs focus on coordination of care but may not fully integrate all covered services or payments, potentially leading to gaps in care, especially for Medicaid services—as such, they are also known as “coordination-only” D-SNPs. Given these design features, it would be reasonable to expect a performance gradient in service utilization and health outcomes for dually eligible beneficiaries by their plan’s level of integration, with PACE projecting the strongest performance, D-SNPs the weakest performance, and FIDE-SNPs somewhere in between. However, this was only partially borne out by our findings—although PACE demonstrated a highly consistent and favorable pattern of outcomes, FIDE-SNPs and D-SNPs each showed a similar pattern of mixed results.

4.2 Study Limitations

Despite the strengths of methodology for this analysis, several limitations should be noted. First, the cross-sectional nature of the analysis limits the ability to establish causal pathways between MA plan enrollment, service utilization, and health outcomes. Second, we did not account for prior history of health care utilization, which could be a significant predictor of

current utilization patterns and could potentially obscure or confound the observed associations from our analysis. Furthermore, although MA encounter data quality has improved over time, concerns regarding their accuracy and completeness remain. To the extent these concerns are valid, the conclusiveness of our findings should be taken with caution.

4.3 Areas for Future Research

Although continuous monitoring and evaluation of the PACE program, FIDE-SNPs, and D-SNPs is clearly warranted, future research should explore additional types of integrated care models serving the dually eligible population, including Highly Integrated D-SNPs (HIDE-SNPs), Institutional SNPs (I-SNPs), and Chronic Condition SNPs (C-SNPs), to develop a more comprehensive understanding of how these models perform. Importantly, conducting longitudinal or cohort analyses of individuals newly eligible for dual enrollment in Medicare and Medicaid could provide valuable insights into the dynamic process of plan selection, transitions (enrollment and disenrollment) among different plan types, and their impact on health care utilization and health outcomes. Such studies could illuminate the long-term effectiveness of integrated care models and identify best practices for optimizing care for dually eligible beneficiaries. Furthermore, beyond the examination of service utilization outcomes and mortality risk, more research is needed to shed light on the quality performance of various integrated care models serving the dually eligible population, and particularly, the beneficiary experience of care with these models.

4.4 Policy Implications

The findings from this study have significant policy implications as health systems increasingly seek to optimize care delivery for dually eligible beneficiaries. Considering these findings, policymakers could consider prioritizing the expansion of integrated care models such as those evaluated in this study, which demonstrate a capacity to lower mortality rates and promote community living, potentially reducing overall health care spending associated with decreased reliance on institutional care. The PACE program stands out with its effectiveness in reducing costly hospitalizations and ED visits for dually eligible beneficiaries. The discrepancy in hospitalization and ED visit rates across integrated plan types also highlights the need for enhanced integration and care coordination efforts—particularly for D-SNPs and FIDE-SNPs—which could be emphasized in future health care policies.

SECTION 5 CONCLUSION

This study offers fresh and strong evidence supporting the benefits of integrated care models, especially the PACE program, in promoting better health care use and health outcomes. Our findings show that participants in PACE have significantly lower rates of hospitalizations,

ED visits, and mortality, compared to a matched comparison group of MA enrollees with similar demographic and health characteristics. This suggests that PACE can effectively meet the complex needs of its members, leading to improved health outcomes.

While beneficiaries enrolled in D-SNPs and FIDE-SNPs displayed varying patterns in utilization of health care services, the evidence underscores the critical importance of robust care coordination and community support. These insights highlight the need for policymakers to prioritize the expansion of integrated care models to enhance health outcomes, reduce reliance on institutional settings, and optimize health care utilization and expenditures. Further research is needed to better understand additional integrated care models as they emerge and evolve and their impacts on dually eligible beneficiaries, thereby informing best practices for improving care delivery in this vulnerable population.

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APPENDIX A
DISTRIBUTION OF BENEFICIARY HCCS AND STATES

Table A-1. Distribution of beneficiary HCCs, by plan type, 2021

HCCs, %	Comparison MA	PACE	FIDE-SNP	D-SNP	TOTAL
<i>Total beneficiaries, N</i>	946,510	48,143	254,083	1,843,757	3,092,493
HCC1: HIV/AIDS	0.72	0.28	0.98	1.31	1.08
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	5.80	6.90	4.28	3.76	4.47
HCC6: Opportunistic Infections	0.34	0.26	0.34	0.37	0.36
HCC8: Metastatic Cancer and Acute Leukemia	1.15	0.81	1.15	1.07	1.10
HCC9: Lung and Other Severe Cancers	1.03	1.22	1.35	1.12	1.11
HCC10: Lymphoma and Other Cancers	1.06	0.83	1.17	0.97	1.01
HCC11: Colorectal, Bladder, and Other Cancers	1.27	1.44	1.60	1.26	1.30
HCC12: Breast, Prostate, and Other Cancers and Tumors	3.55	3.82	4.40	3.61	3.66
HCC17: Diabetes with Acute Complications	0.91	1.08	0.92	0.86	0.89
HCC18: Diabetes with Chronic Complications	31.49	29.42	31.86	29.49	30.29
HCC19: Diabetes without Complication	6.01	8.65	8.25	7.14	6.91
HCC21: Protein-Calorie Malnutrition	7.46	4.59	3.62	3.30	4.62
HCC22: Morbid Obesity	14.97	9.46	13.48	17.19	16.08
HCC23: Other Significant Endocrine and Metabolic Disorders	9.57	5.46	6.26	7.27	7.86
HCC27: End-Stage Liver Disease	0.90	0.86	0.76	0.83	0.85
HCC28: Cirrhosis of Liver	1.14	1.15	1.26	1.32	1.26
HCC29: Chronic Hepatitis	1.57	0.94	1.72	2.30	2.01
HCC33: Intestinal Obstruction/Perforation	2.06	1.86	1.58	1.44	1.65
HCC34: Chronic Pancreatitis	0.46	0.33	0.39	0.55	0.51
HCC35: Inflammatory Bowel Disease	0.98	0.71	0.99	1.01	1.00
HCC39: Bone/Joint/Muscle Infections/Necrosis	1.70	1.73	1.34	1.43	1.51
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	8.34	5.20	8.13	9.55	9.00
HCC46: Severe Hematological Disorders	0.46	0.38	0.48	0.48	0.47
HCC47: Disorders of Immunity	2.94	1.42	2.24	2.39	2.53
HCC48: Coagulation Defects and Other Specified Hematological Disorders	13.09	6.57	7.50	7.95	9.46

(continued)

Table A-1. Distribution of beneficiary HCCs, by plan type, 2021 (continued)

HCCs, %	Comparison MA	PACE	FIDE-SNP	D-SNP	TOTAL
HCC51: Dementia with Complications	8.04	6.90	4.27	1.74	3.96
HCC52: Dementia without Complications	12.77	16.39	9.95	6.19	8.68
HCC54: Substance Use with Psychotic Complications	0.55	0.39	0.36	0.35	0.41
HCC55: Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	11.00	4.79	6.73	10.45	10.23
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	0.81	0.41	0.62	1.26	1.06
HCC57: Schizophrenia	5.07	4.13	4.98	6.18	5.71
HCC58: Reactive and Unspecified Psychosis	1.34	0.85	0.67	0.59	0.83
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	28.05	17.60	23.63	24.97	25.69
HCC60: Personality Disorders	0.11	0.11	0.14	0.14	0.13
HCC70: Quadriplegia	1.55	0.56	0.70	0.47	0.82
HCC71: Paraplegia	0.65	0.42	0.54	0.49	0.54
HCC72: Spinal Cord Disorders/Injuries	1.11	0.86	0.98	1.20	1.15
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	0.08	0.06	0.07	0.05	0.06
HCC74: Cerebral Palsy	0.84	0.32	0.76	1.01	0.93
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	2.97	1.10	2.49	3.27	3.08
HCC76: Muscular Dystrophy	0.12	0.07	0.12	0.12	0.12
HCC77: Multiple Sclerosis	1.08	0.99	0.93	0.85	0.93
HCC78: Parkinson's and Huntington's Diseases	2.86	3.60	2.25	1.47	1.99
HCC79: Seizure Disorders and Convulsions	7.05	5.81	5.98	7.00	6.91
HCC80: Coma, Brain Compression/Anoxic Damage	0.79	0.79	0.58	0.51	0.60
HCC82: Respirator Dependence/Tracheostomy Status	0.78	0.50	0.64	0.62	0.67
HCC83: Respiratory Arrest	0.03	0.02	0.02	0.02	0.03
HCC84: Cardio-Respiratory Failure and Shock	7.87	10.14	6.31	5.98	6.65
HCC85: Congestive Heart Failure	21.69	23.29	18.26	17.08	18.69
HCC86: Acute Myocardial Infarction	2.47	3.19	2.41	1.92	2.15
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	1.46	1.81	1.49	1.39	1.43

(continued)

Table A-1. Distribution of beneficiary HCCs, by plan type, 2021 (continued)

HCCs, %	Comparison MA	PACE	FIDE-SNP	D-SNP	TOTAL
HCC88: Angina Pectoris	5.27	3.67	4.60	5.44	5.29
HCC96: Specified Heart Arrhythmias	14.72	17.89	13.68	10.30	12.05
HCC99: Intracranial Hemorrhage	0.90	0.89	0.69	0.47	0.62
HCC100: Ischemic or Unspecified Stroke	4.87	5.39	4.27	3.29	3.89
HCC103: Hemiplegia/Hemiparesis	5.55	5.85	4.27	3.56	4.26
HCC104: Monoplegia, Other Paralytic Syndromes	0.35	0.34	0.33	0.33	0.34
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	1.36	1.50	0.88	0.83	1.01
HCC107: Vascular Disease with Complications	2.58	2.84	2.71	2.15	2.34
HCC108: Vascular Disease	34.37	27.60	26.29	25.46	28.29
HCC110: Cystic Fibrosis	0.02	0.01	0.02	0.03	0.02
HCC111: Chronic Obstructive Pulmonary Disease	22.13	19.55	20.38	24.27	23.22
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	1.32	0.86	1.05	1.07	1.15
HCC114: Aspiration and Specified Bacterial Pneumonias	1.82	1.87	1.45	0.99	1.30
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	1.17	0.95	0.91	0.77	0.91
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	1.67	2.27	1.49	1.35	1.47
HCC124: Exudative Macular Degeneration	1.23	1.99	1.35	0.72	0.95
HCC134: Dialysis Status	1.82	2.95	1.21	1.41	1.55
HCC135: Acute Renal Failure	8.39	11.13	7.31	6.02	6.93
HCC136: Chronic Kidney Disease, Stage 5	0.41	0.48	0.38	0.34	0.36
HCC137: Chronic Kidney Disease, Severe (Stage 4)	1.42	1.62	1.40	1.05	1.20
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	11.30	8.98	10.02	8.39	9.42
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	0.73	0.47	0.37	0.25	0.41
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	1.63	1.36	0.89	0.54	0.92
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	1.10	1.18	0.80	0.43	0.68
HCC161: Chronic Ulcer of Skin, Except Pressure	2.99	3.20	2.69	2.29	2.55

(continued)

Table A-1. Distribution of beneficiary HCCs, by plan type, 2021 (continued)

HCCs, %	Comparison MA	PACE	FIDE-SNP	D-SNP	TOTAL
HCC162: Severe Skin Burn or Condition	0.02	0.02	0.02	0.03	0.03
HCC166: Severe Head Injury	0.01	0.01	0.01	0.01	0.01
HCC167: Major Head Injury	1.24	1.35	1.07	0.89	1.02
HCC169: Vertebral Fractures without Spinal Cord Injury	1.32	1.69	1.15	0.91	1.07
HCC170: Hip Fracture/Dislocation	1.69	2.10	1.04	0.72	1.06
HCC173: Traumatic Amputations and Complications	0.46	0.59	0.38	0.34	0.39
HCC176: Complications of Specified Implanted Device or Graft	2.77	3.65	2.35	2.33	2.49
HCC186: Major Organ Transplant or Replacement Status	0.30	0.14	0.35	0.32	0.32
HCC188: Artificial Openings for Feeding or Elimination	2.39	1.63	1.79	1.35	1.71
HCC189: Amputation Status, Lower Limb/Amputation Complications	1.52	1.42	1.25	1.27	1.34

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table A-2. Distribution of beneficiary state of residence, by plan type, 2021

State, %	Comparison MA	PACE	FIDE-SNP	D-SNP	TOTAL
<i>Total beneficiaries, N</i>	946,510	48,143	254,083	1,843,757	3,092,493
Alabama	0.98	0.32	0.01	1.51	1.21
Alaska	0.01	0.00	0.01	0.00	0.01
Arizona	1.83	0.06	3.90	4.74	3.71
Arkansas	0.74	0.78	0.00	0.93	0.79
California	32.36	18.08	5.23	6.56	14.53
Colorado	1.40	8.88	0.01	0.92	1.12
Connecticut	0.89	0.03	0.02	0.70	0.69
Delaware	0.15	0.49	0.01	0.15	0.14
District of Columbia	0.08	0.02	0.00	0.36	0.24
Florida	6.35	4.43	0.14	9.07	7.43
Georgia	1.93	0.05	0.03	2.47	2.06
Hawaii	0.26	0.01	0.00	1.30	0.86
Idaho	0.36	0.00	3.67	0.01	0.42
Illinois	6.72	0.05	0.02	0.03	2.07
Indiana	1.68	0.81	0.01	2.13	1.80
Iowa	0.66	1.12	0.02	0.84	0.72
Kansas	0.42	1.06	0.00	0.42	0.40
Kentucky	0.63	0.01	0.00	1.28	0.96
Louisiana	0.79	0.82	0.00	2.56	1.78
Maine	0.45	0.01	0.01	0.68	0.54
Maryland	0.71	0.30	0.02	0.34	0.43
Massachusetts	1.31	8.98	23.23	0.02	2.46
Michigan	2.46	7.13	0.01	2.59	2.41
Minnesota	0.69	0.01	15.43	0.39	1.71
Mississippi	0.49	0.01	0.00	0.95	0.72
Missouri	1.91	0.01	0.01	2.38	2.01
Montana	0.05	0.01	0.01	0.02	0.03
Nebraska	0.26	0.39	0.00	0.48	0.37
Nevada	0.58	0.04	0.01	0.07	0.22
New Hampshire	0.41	0.04	0.02	0.00	0.13
New Jersey	1.48	2.09	22.34	0.05	2.35
New Mexico	1.43	0.85	0.01	0.50	0.75
New York	6.03	9.73	8.99	17.28	13.04
North Carolina	1.92	3.91	0.03	4.69	3.45
North Dakota	0.11	0.31	0.05	0.00	0.04

(continued)

Table A-2. Distribution of beneficiary state of residence, by plan type, 2021 (continued)

State, %	Comparison MA	PACE	FIDE-SNP	D-SNP	TOTAL
Ohio	1.75	0.99	0.02	2.61	2.11
Oklahoma	1.52	1.14	0.01	0.74	0.92
Oregon	2.33	2.98	0.02	1.17	1.46
Pennsylvania	3.81	14.03	14.44	6.49	6.44
Rhode Island	0.60	0.62	0.02	0.24	0.34
South Carolina	1.76	0.82	0.02	2.49	2.04
South Dakota	0.17	0.00	0.02	0.00	0.06
Tennessee	1.04	0.52	0.74	4.33	2.97
Texas	2.62	2.17	0.04	7.30	5.19
Utah	0.71	0.01	0.01	0.37	0.44
Vermont	0.25	0.01	0.00	0.00	0.08
Virginia	1.47	2.78	0.24	2.39	1.94
Washington	1.35	1.99	0.03	2.47	1.92
West Virginia	0.46	0.02	0.01	0.56	0.48
Wisconsin	1.62	1.03	1.08	2.40	2.03
Wyoming	0.02	0.06	0.00	0.00	0.01

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

APPENDIX B
BENEFICIARY HCCS AND STATES, BEFORE AND AFTER PROPENSITY SCORE
WEIGHTING OR MATCHING

Table B-1. PACE vs. Comparison MA: Beneficiary HCCs, before and after matching by propensity score, 2021

Characteristic	Group Mean, %, Before Matching		Group Mean, %, After Matching		Standardized Difference, Matched
	PACE	Comparison MA	PACE	Comparison MA	
<i>Total beneficiaries, N</i>	47,176	140,194	34,447	34,447	68,894
HCC1: HIV/AIDS	0.29	0.89	0.37	0.43	-0.008
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	7.01	7.79	7.74	8.42	-0.026
HCC6: Opportunistic Infections	0.27	0.42	0.30	0.34	-0.007
HCC8: Metastatic Cancer and Acute Leukemia	0.82	1.56	1.00	1.18	-0.016
HCC9: Lung and Other Severe Cancers	1.25	1.50	1.30	1.44	-0.012
HCC10: Lymphoma and Other Cancers	0.84	1.43	0.95	1.09	-0.013
HCC11: Colorectal, Bladder, and Other Cancers	1.46	1.64	1.51	1.65	-0.011
HCC12: Breast, Prostate, and Other Cancers and Tumors	3.89	4.64	4.15	4.38	-0.012
HCC17: Diabetes with Acute Complications	1.09	1.18	1.16	1.22	-0.006
HCC18: Diabetes with Chronic Complications	29.93	36.12	32.73	34.66	-0.041
HCC19: Diabetes without Complication	8.80	6.17	8.18	8.08	0.004
HCC21: Protein-Calorie Malnutrition	4.66	8.95	5.72	6.68	-0.038
HCC22: Morbid Obesity	9.62	18.75	11.29	12.33	-0.030
HCC23: Other Significant Endocrine and Metabolic Disorders	5.55	12.58	6.65	7.31	-0.023
HCC27: End-Stage Liver Disease	0.87	0.97	0.87	1.01	-0.014
HCC28: Cirrhosis of Liver	1.17	1.26	1.22	1.23	-0.001
HCC29: Chronic Hepatitis	0.95	1.23	1.07	1.16	-0.008
HCC33: Intestinal Obstruction/Perforation	1.89	2.75	2.18	2.50	-0.021
HCC34: Chronic Pancreatitis	0.33	0.57	0.39	0.41	-0.004
HCC35: Inflammatory Bowel Disease	0.72	1.22	0.85	1.00	-0.015
HCC39: Bone/Joint/Muscle Infections/Necrosis	1.76	2.45	2.01	2.14	-0.009
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	5.29	10.17	6.22	7.02	-0.030

(continued)

Table B-1. PACE vs. Comparison MA: Beneficiary HCCs, before and after matching by propensity score, 2021 (continued)

Characteristic	Group Mean, %, Before Matching		Group Mean, %, After Matching		Standardized Difference, Matched
	PACE	Comparison MA	PACE	Comparison MA	
HCC46: Severe Hematological Disorders	0.39	0.66	0.50	0.52	-0.003
HCC47: Disorders of Immunity	1.44	3.34	1.66	2.08	-0.027
HCC48: Coagulation Defects and Other Specified Hematological Disorders	6.66	15.61	8.07	8.99	-0.030
HCC51: Dementia with Complications	6.99	9.87	8.27	9.23	-0.035
HCC52: Dementia without Complications	16.65	20.60	19.28	21.15	-0.048
HCC54: Substance Use with Psychotic Complications	0.39	0.51	0.44	0.47	-0.004
HCC55: Substance Use Disorder, Moderate/ Severe, or Substance Use with Complications	4.87	10.65	5.76	6.27	-0.019
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	0.42	0.80	0.48	0.55	-0.009
HCC57: Schizophrenia	4.20	4.99	4.65	4.94	-0.013
HCC58: Reactive and Unspecified Psychosis	0.86	1.56	1.03	1.13	-0.009
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	17.89	31.59	20.95	22.99	-0.048
HCC60: Personality Disorders	0.11	0.14	0.13	0.12	0.002
HCC70: Quadriplegia	0.58	2.28	0.76	0.87	-0.009
HCC71: Paraplegia	0.43	1.23	0.53	0.66	-0.014
HCC72: Spinal Cord Disorders/Injuries	0.88	1.79	1.01	1.20	-0.017
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	0.06	0.20	0.08	0.12	-0.009
HCC74: Cerebral Palsy	0.32	2.32	0.43	0.52	-0.008
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	1.12	3.69	1.43	1.58	-0.010
HCC76: Muscular Dystrophy	0.07	0.23	0.09	0.10	-0.002
HCC77: Multiple Sclerosis	1.00	1.84	1.14	1.36	-0.018
HCC78: Parkinson's and Huntington's Diseases	3.66	4.66	4.21	4.60	-0.020
HCC79: Seizure Disorders and Convulsions	5.89	11.05	6.80	7.41	-0.022

(continued)

Table B-1. PACE vs. Comparison MA: Beneficiary HCCs, before and after matching by propensity score, 2021 (continued)

Characteristic	Group Mean, %, Before Matching		Group Mean, %, After Matching		Standardized Difference, Matched
	PACE	Comparison MA	PACE	Comparison MA	
HCC80: Coma, Brain Compression/Anoxic Damage	0.80	1.03	0.92	1.01	-0.009
HCC82: Respirator Dependence/Tracheostomy Status	0.51	1.03	0.60	0.70	-0.011
HCC83: Respiratory Arrest	0.03	0.05	0.03	0.04	-0.003
HCC84: Cardio-Respiratory Failure and Shock	10.31	11.49	11.46	12.69	-0.039
HCC85: Congestive Heart Failure	23.68	31.78	26.60	28.57	-0.044
HCC86: Acute Myocardial Infarction	3.25	3.52	3.60	3.85	-0.014
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	1.84	1.92	2.01	2.19	-0.013
HCC88: Angina Pectoris	3.73	6.72	4.37	4.78	-0.018
HCC96: Specified Heart Arrhythmias	18.20	21.22	19.94	21.14	-0.030
HCC99: Intracranial Hemorrhage	0.91	1.28	1.05	1.16	-0.010
HCC100: Ischemic or Unspecified Stroke	5.48	7.08	6.34	7.13	-0.033
HCC103: Hemiplegia/Hemiparesis	5.94	8.62	6.98	8.15	-0.045
HCC104: Monoplegia, Other Paralytic Syndromes	0.34	0.60	0.42	0.49	-0.010
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	1.53	1.87	1.70	1.81	-0.009
HCC107: Vascular Disease with Complications	2.89	3.92	3.33	3.47	-0.008
HCC108: Vascular Disease	28.06	40.04	31.43	33.92	-0.053
HCC110: Cystic Fibrosis	0.01	0.02	0.01	0.01	-0.002
HCC111: Chronic Obstructive Pulmonary Disease	19.87	28.71	22.48	24.55	-0.049
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	0.87	1.68	0.99	1.12	-0.012
HCC114: Aspiration and Specified Bacterial Pneumonias	1.90	2.50	2.09	2.33	-0.016
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	0.96	1.48	1.09	1.24	-0.014
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	2.31	1.92	2.33	2.40	-0.005
HCC124: Exudative Macular Degeneration	2.02	1.89	2.06	2.09	-0.002

(continued)

Table B-1. PACE vs. Comparison MA: Beneficiary HCCs, before and after matching by propensity score, 2021 (continued)

Characteristic	Group Mean, %, Before Matching		Group Mean, %, After Matching		Standardized Difference, Matched
	PACE	Comparison MA	PACE	Comparison MA	
HCC134: Dialysis Status	3.01	2.46	3.01	3.17	-0.010
HCC135: Acute Renal Failure	11.32	12.25	12.45	13.32	-0.027
HCC136: Chronic Kidney Disease, Stage 5	0.49	0.49	0.51	0.52	-0.001
HCC137: Chronic Kidney Disease, Severe (Stage 4)	1.64	2.05	1.78	1.89	-0.008
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	9.12	14.03	10.51	11.43	-0.029
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	0.48	0.92	0.56	0.65	-0.011
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	1.38	2.25	1.64	1.82	-0.013
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	1.20	1.83	1.41	1.59	-0.015
HCC161: Chronic Ulcer of Skin, Except Pressure	3.25	4.54	3.55	3.72	-0.009
HCC162: Severe Skin Burn or Condition	0.02	0.03	0.03	0.02	0.004
HCC166: Severe Head Injury	0.01	0.02	0.01	0.01	0.002
HCC167: Major Head Injury	1.37	1.73	1.50	1.64	-0.011
HCC169: Vertebral Fractures without Spinal Cord Injury	1.72	2.03	1.93	2.08	-0.011
HCC170: Hip Fracture/Dislocation	2.13	2.34	2.39	2.58	-0.013
HCC173: Traumatic Amputations and Complications	0.60	0.67	0.68	0.75	-0.009
HCC176: Complications of Specified Implanted Device or Graft	3.70	4.20	4.03	4.28	-0.013
HCC186: Major Organ Transplant or Replacement Status	0.14	0.38	0.18	0.21	-0.006
HCC188: Artificial Openings for Feeding or Elimination	1.66	3.30	1.92	2.22	-0.019
HCC189: Amputation Status, Lower Limb/Amputation Complications	1.45	2.16	1.62	1.80	-0.014

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table B-2. PACE vs. Comparison MA: Beneficiary state of residence, before and after matching by propensity score, 2021

Characteristic	Group Mean, %, Before Matching		Group Mean, %, After Matching		Standardized Difference, Matched
	PACE	Comparison MA	PACE	Comparison MA	
<i>Total beneficiaries, N</i>	47,176	140,194	34,447	34,447	68,894
Alabama	0.32	0.64	0.40	0.40	0.000
Arkansas	0.79	1.02	1.00	1.11	-0.012
Colorado	8.97	3.05	8.51	8.22	0.012
Delaware	0.49	0.23	0.50	0.52	-0.003
Florida	4.47	13.30	5.88	5.60	0.010
Illinois	0.05	14.55	0.07	0.17	-0.004
Indiana	0.82	2.04	1.10	1.38	-0.024
Iowa	1.12	1.00	1.35	1.59	-0.024
Kansas	1.04	0.48	1.07	1.12	-0.006
Kentucky	0.01	0.53	0.01	0.02	-0.002
Louisiana	0.83	0.40	0.80	0.71	0.012
Massachusetts	9.06	0.75	4.74	2.91	0.086
Maryland	0.31	0.34	0.38	0.39	-0.002
Michigan	7.17	1.91	6.30	5.85	0.022
Missouri	0.01	2.07	0.02	0.05	-0.003
Nebraska	0.39	0.26	0.43	0.48	-0.009
New Jersey	2.09	4.27	2.66	2.64	0.001
New Mexico	0.87	2.51	1.17	1.25	-0.006
New York	9.84	10.57	13.01	17.66	-0.154
North Carolina	3.93	0.41	1.81	1.35	0.032
North Dakota	0.31	0.05	0.18	0.15	0.008
Ohio	1.00	2.53	1.29	1.20	0.007
Oklahoma	1.14	1.92	1.38	1.46	-0.006
Oregon	3.02	6.96	3.82	3.23	0.027
Pennsylvania	14.09	4.98	13.13	12.91	0.008
Rhode Island	0.62	0.58	0.75	0.84	-0.012
South Carolina	0.82	2.24	1.02	0.91	0.009
Tennessee	0.52	0.84	0.69	0.79	-0.012
Texas	2.19	2.60	2.56	2.61	-0.003
Virginia	2.83	1.91	3.21	3.60	-0.025
Washington	2.01	3.63	2.46	2.34	0.007
Wisconsin	1.03	3.58	1.41	1.64	-0.015

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table B-3. FIDE-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021

Characteristic	Group Mean, %, Unweighted		Group Mean, %, Weighted		Standardized Difference	
	FIDE-SNP	Comparison MA	FIDE-SNP	Comparison MA	Unweighted	Weighted
<i>Total beneficiaries, N</i>	245,702	522,697	245,702	522,697	768,399	768,399
HCC1: HIV/AIDS	1.01	0.79	0.59	0.93	0.023	-0.036
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	4.39	5.48	6.43	5.30	-0.050	0.052
HCC6: Opportunistic Infections	0.36	0.32	0.27	0.33	0.006	-0.011
HCC8: Metastatic Cancer and Acute Leukemia	1.19	1.15	1.17	1.18	0.004	-0.001
HCC9: Lung and Other Severe Cancers	1.39	1.02	1.31	1.15	0.034	0.014
HCC10: Lymphoma and Other Cancers	1.20	1.08	1.21	1.13	0.012	0.007
HCC11: Colorectal, Bladder, and Other Cancers	1.64	1.29	1.59	1.40	0.029	0.015
HCC12: Breast, Prostate, and Other Cancers and Tumors	4.53	3.79	4.20	4.00	0.037	0.010
HCC17: Diabetes with Acute Complications	0.95	0.81	0.78	0.88	0.015	-0.010
HCC18: Diabetes with Chronic Complications	32.79	33.61	33.26	33.50	-0.017	-0.005
HCC19: Diabetes without Complication	8.50	5.81	5.89	6.50	0.105	-0.024
HCC21: Protein-Calorie Malnutrition	3.71	6.99	9.09	6.01	-0.146	0.137
HCC22: Morbid Obesity	13.86	13.78	13.37	14.23	0.002	-0.025
HCC23: Other Significant Endocrine and Metabolic Disorders	6.43	9.74	11.22	8.71	-0.122	0.092
HCC27: End-Stage Liver Disease	0.78	0.93	0.90	0.90	-0.017	0.000
HCC28: Cirrhosis of Liver	1.29	1.17	1.10	1.21	0.011	-0.010
HCC29: Chronic Hepatitis	1.77	1.90	1.43	1.83	-0.010	-0.030
HCC33: Intestinal Obstruction/Perforation	1.62	2.06	2.07	1.94	-0.033	0.010
HCC34: Chronic Pancreatitis	0.40	0.42	0.43	0.45	-0.003	-0.004

(continued)

Table B-3. FIDE-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	FIDE-SNP	Comparison MA	FIDE-SNP	Comparison MA	Unweighted	Weighted
HCC35: Inflammatory Bowel Disease	1.02	0.91	1.37	0.96	0.012	0.042
HCC39: Bone/Joint/Muscle Infections/Necrosis	1.38	1.48	1.65	1.54	-0.009	0.009
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	8.36	9.00	9.12	9.06	-0.023	0.002
HCC46: Severe Hematological Disorders	0.50	0.47	0.64	0.49	0.003	0.021
HCC47: Disorders of Immunity	2.30	3.09	3.92	2.92	-0.049	0.061
HCC48: Coagulation Defects and Other Specified Hematological Disorders	7.71	15.72	16.98	13.37	-0.251	0.113
HCC51: Dementia with Complications	4.34	6.84	8.46	6.06	-0.109	0.105
HCC52: Dementia without Complications	10.19	12.82	14.98	12.02	-0.083	0.093
HCC54: Substance Use with Psychotic Complications	0.37	0.45	0.68	0.44	-0.013	0.037
HCC55: Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	6.91	11.49	11.90	10.48	-0.159	0.049
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	0.63	0.85	0.74	0.84	-0.025	-0.011
HCC57: Schizophrenia	5.11	4.48	4.09	4.81	0.030	-0.034
HCC58: Reactive and Unspecified Psychosis	0.68	1.25	1.29	1.09	-0.059	0.020
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	24.27	28.95	31.44	28.45	-0.106	0.068
HCC60: Personality Disorders	0.14	0.09	0.08	0.10	0.016	-0.007
HCC70: Quadriplegia	0.72	1.55	1.77	1.33	-0.078	0.041
HCC71: Paraplegia	0.56	0.58	0.44	0.65	-0.002	-0.027

(continued)

Table B-3. FIDE-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	FIDE-SNP	Comparison MA	FIDE-SNP	Comparison MA	Unweighted	Weighted
HCC72: Spinal Cord Disorders/Injuries	1.01	1.05	0.97	1.10	-0.004	-0.013
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	0.07	0.09	0.12	0.09	-0.006	0.011
HCC74: Cerebral Palsy	0.78	0.69	0.62	0.75	0.011	-0.016
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	2.57	3.31	4.69	3.31	-0.044	0.082
HCC76: Muscular Dystrophy	0.12	0.11	0.08	0.13	0.005	-0.015
HCC77: Multiple Sclerosis	0.96	0.90	1.08	1.02	0.006	0.006
HCC78: Parkinson's and Huntington's Diseases	2.31	2.86	3.23	2.72	-0.035	0.032
HCC79: Seizure Disorders and Convulsions	6.14	5.97	6.13	6.34	0.007	-0.009
HCC80: Coma, Brain Compression/Anoxic Damage	0.59	0.70	0.87	0.71	-0.014	0.019
HCC82: Respirator Dependence/Tracheostomy Status	0.66	0.70	0.68	0.72	-0.005	-0.004
HCC83: Respiratory Arrest	0.02	0.03	0.03	0.03	-0.005	0.003
HCC84: Cardio-Respiratory Failure and Shock	6.48	6.67	8.09	6.78	-0.008	0.053
HCC85: Congestive Heart Failure	18.77	20.73	23.02	20.17	-0.049	0.072
HCC86: Acute Myocardial Infarction	2.48	2.30	2.34	2.38	0.012	-0.003
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	1.54	1.49	1.81	1.52	0.004	0.024
HCC88: Angina Pectoris	4.74	5.77	6.02	5.52	-0.046	0.022
HCC96: Specified Heart Arrhythmias	14.06	14.29	16.39	14.12	-0.007	0.065
HCC99: Intracranial Hemorrhage	0.71	0.85	1.03	0.83	-0.016	0.023

(continued)

Table B-3. FIDE-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	FIDE-SNP	Comparison MA	FIDE-SNP	Comparison MA	Unweighted	Weighted
HCC100: Ischemic or Unspecified Stroke	4.38	4.19	4.58	4.39	0.009	0.009
HCC103: Hemiplegia/Hemiparesis	4.37	5.06	5.12	5.10	-0.033	0.001
HCC104: Monoplegia, Other Paralytic Syndromes	0.34	0.33	0.41	0.35	0.001	0.010
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	0.90	1.24	1.37	1.17	-0.033	0.020
HCC107: Vascular Disease with Complications	2.78	2.31	2.89	2.56	0.030	0.020
HCC108: Vascular Disease	27.03	39.19	39.45	35.41	-0.260	0.086
HCC110: Cystic Fibrosis	0.02	0.02	0.01	0.02	0.005	-0.005
HCC111: Chronic Obstructive Pulmonary Disease	20.97	20.64	21.94	21.02	0.008	0.023
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	1.08	1.79	1.85	1.59	-0.060	0.021
HCC114: Aspiration and Specified Bacterial Pneumonias	1.48	1.57	2.26	1.60	-0.007	0.053
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	0.94	1.04	1.24	1.01	-0.010	0.023
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	1.53	1.99	1.73	1.90	-0.035	-0.014
HCC124: Exudative Macular Degeneration	1.38	1.37	1.76	1.33	0.001	0.037
HCC134: Dialysis Status	1.25	1.93	1.53	1.78	-0.055	-0.020
HCC135: Acute Renal Failure	7.51	7.34	8.74	7.51	0.006	0.047
HCC136: Chronic Kidney Disease, Stage 5	0.39	0.44	0.44	0.43	-0.008	0.002
HCC137: Chronic Kidney Disease, Severe (Stage 4)	1.44	1.51	1.59	1.47	-0.006	0.010
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	10.30	12.95	14.13	12.00	-0.083	0.067

(continued)

Table B-3. FIDE-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	FIDE-SNP	Comparison MA	FIDE-SNP	Comparison MA	Unweighted	Weighted
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	0.38	0.62	0.79	0.58	-0.034	0.030
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	0.90	1.39	1.94	1.28	-0.046	0.062
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	0.82	1.01	1.47	0.99	-0.020	0.050
HCC161: Chronic Ulcer of Skin, Except Pressure	2.77	2.67	2.71	2.78	0.006	-0.004
HCC162: Severe Skin Burn or Condition	0.02	0.02	0.02	0.02	0.004	0.000
HCC166: Severe Head Injury	0.01	0.01	0.01	0.01	0.000	-0.004
HCC167: Major Head Injury	1.10	1.11	1.41	1.22	-0.001	0.018
HCC169: Vertebral Fractures without Spinal Cord Injury	1.18	1.28	1.83	1.27	-0.010	0.051
HCC170: Hip Fracture/Dislocation	1.07	1.54	2.14	1.41	-0.041	0.064
HCC173: Traumatic Amputations and Complications	0.38	0.40	0.61	0.43	-0.003	0.028
HCC176: Complications of Specified Implanted Device or Graft	2.42	2.49	2.39	2.62	-0.005	-0.014
HCC186: Major Organ Transplant or Replacement Status	0.36	0.30	0.24	0.35	0.010	-0.020
HCC188: Artificial Openings for Feeding or Elimination	1.84	2.06	2.18	2.10	-0.016	0.006
HCC189: Amputation Status, Lower Limb/Amputation Complications	1.28	1.30	1.28	1.38	-0.002	-0.009

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table B-4. FIDE-SNP vs. Comparison MA: Beneficiary state of residence, before and after weighting by propensity score, 2021

Characteristic	Group Mean, %, Unweighted		Group Mean, %, Weighted		Standardized Difference	
	FIDE-SNP	Comparison MA	FIDE-SNP	Comparison MA	Unweighted	Weighted
<i>Total beneficiaries, N</i>	245,702	522,697	245,702	522,697	768,399	768,399
Arizona	3.94	3.11	3.81	3.71	0.045	0.005
Florida	0.14	10.94	11.03	7.59	-0.486	0.155
Idaho	3.71	0.59	1.41	1.78	0.216	-0.026
Massachusetts	23.62	2.09	7.89	8.12	0.679	-0.007
Minnesota	15.70	1.12	5.09	5.67	0.544	-0.021
New Jersey	22.19	2.40	7.56	8.24	0.632	-0.022
New York	9.19	10.40	7.59	9.85	-0.041	-0.076
Pennsylvania	14.14	6.58	7.74	9.33	0.250	-0.052
Tennessee	0.75	1.82	1.48	1.50	-0.095	-0.002
Virginia	0.21	2.54	1.77	1.82	-0.201	-0.004
Wisconsin	1.10	2.80	2.39	2.30	-0.123	0.007

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table B-5. D-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	D-SNP	Comparison MA	D-SNP	Comparison MA	Unweighted	Weighted
Total beneficiaries, N	1,743,820	824,001	1,743,820	824,001	2,567,821	2,567,821
HCC1: HIV/AIDS	1.38	0.75	1.15	1.20	0.062	-0.004
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	3.97	6.21	5.24	5.05	-0.102	0.009
HCC6: Opportunistic Infections	0.39	0.35	0.38	0.41	0.007	-0.004
HCC8: Metastatic Cancer and Acute Leukemia	1.13	1.20	1.17	1.25	-0.007	-0.007
HCC9: Lung and Other Severe Cancers	1.18	1.07	1.13	1.15	0.011	-0.002
HCC10: Lymphoma and Other Cancers	1.03	1.11	1.07	1.07	-0.008	0.000
HCC11: Colorectal, Bladder, and Other Cancers	1.33	1.33	1.34	1.33	0.000	0.001
HCC12: Breast, Prostate, and Other Cancers and Tumors	3.82	3.70	3.77	3.74	0.006	0.002
HCC17: Diabetes with Acute Complications	0.91	0.94	0.94	0.96	-0.003	-0.001
HCC18: Diabetes with Chronic Complications	31.16	33.56	32.25	31.77	-0.051	0.010
HCC19: Diabetes without Complication	7.54	6.25	7.02	7.06	0.051	-0.001
HCC21: Protein-Calorie Malnutrition	3.49	8.05	5.34	4.94	-0.196	0.017
HCC22: Morbid Obesity	18.16	15.55	17.14	17.62	0.070	-0.013
HCC23: Other Significant Endocrine and Metabolic Disorders	7.68	10.20	8.66	8.55	-0.088	0.004
HCC27: End-Stage Liver Disease	0.88	0.95	0.92	0.94	-0.008	-0.002
HCC28: Cirrhosis of Liver	1.39	1.20	1.33	1.34	0.017	-0.001
HCC29: Chronic Hepatitis	2.43	1.68	2.11	1.96	0.053	0.011
HCC33: Intestinal Obstruction/Perforation	1.52	2.20	1.84	1.81	-0.050	0.002
HCC34: Chronic Pancreatitis	0.58	0.48	0.55	0.58	0.014	-0.004
HCC35: Inflammatory Bowel Disease	1.07	1.02	1.05	1.10	0.005	-0.005

(continued)

Table B-5. D-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	D-SNP	Comparison MA	D-SNP	Comparison MA	Unweighted	Weighted
HCC39: Bone/Joint/Muscle Infections/Necrosis	1.51	1.79	1.68	1.71	-0.022	-0.002
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	10.09	8.91	9.48	9.56	0.040	-0.003
HCC46: Severe Hematological Disorders	0.50	0.49	0.49	0.50	0.002	-0.002
HCC47: Disorders of Immunity	2.53	3.14	2.69	2.66	-0.037	0.002
HCC48: Coagulation Defects and Other Specified Hematological Disorders	8.40	14.24	10.63	10.14	-0.185	0.015
HCC51: Dementia with Complications	1.84	8.84	5.22	4.18	-0.315	0.047
HCC52: Dementia without Complications	6.54	13.83	9.94	9.01	-0.243	0.031
HCC54: Substance Use with Psychotic Complications	0.37	0.59	0.45	0.45	-0.032	0.000
HCC55: Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	11.05	11.66	10.63	10.65	-0.020	-0.001
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	1.33	0.86	1.16	1.18	0.046	-0.002
HCC57: Schizophrenia	6.53	5.32	6.03	6.20	0.051	-0.007
HCC58: Reactive and Unspecified Psychosis	0.62	1.44	0.97	0.89	-0.081	0.007
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	26.38	30.08	27.67	27.20	-0.082	0.010
HCC60: Personality Disorders	0.15	0.11	0.14	0.15	0.010	-0.004
HCC70: Quadriplegia	0.49	1.71	0.96	0.91	-0.116	0.005
HCC71: Paraplegia	0.51	0.70	0.62	0.63	-0.024	-0.002
HCC72: Spinal Cord Disorders/Injuries	1.27	1.17	1.28	1.36	0.009	-0.008
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	0.05	0.09	0.07	0.07	-0.016	0.001

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Table B-5. D-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	D-SNP	Comparison MA	D-SNP	Comparison MA	Unweighted	Weighted
HCC74: Cerebral Palsy	1.07	0.91	1.07	1.19	0.016	-0.012
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	3.46	3.20	3.18	3.12	0.015	0.003
HCC76: Muscular Dystrophy	0.13	0.13	0.13	0.14	-0.001	-0.002
HCC77: Multiple Sclerosis	0.90	1.13	1.01	1.04	-0.023	-0.003
HCC78: Parkinson's and Huntington's Diseases	1.55	3.10	2.38	2.15	-0.103	0.015
HCC79: Seizure Disorders and Convulsions	7.40	7.49	7.66	7.81	-0.004	-0.006
HCC80: Coma, Brain Compression/Anoxic Damage	0.54	0.85	0.74	0.71	-0.038	0.003
HCC82: Respirator Dependence/Tracheostomy Status	0.65	0.82	0.79	0.79	-0.020	0.000
HCC83: Respiratory Arrest	0.02	0.04	0.03	0.03	-0.006	0.000
HCC84: Cardio-Respiratory Failure and Shock	6.32	8.35	7.33	7.30	-0.078	0.001
HCC85: Congestive Heart Failure	18.06	22.77	19.98	19.70	-0.117	0.007
HCC86: Acute Myocardial Infarction	2.03	2.57	2.31	2.30	-0.036	0.000
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	1.47	1.54	1.57	1.56	-0.006	0.001
HCC88: Angina Pectoris	5.74	5.60	5.58	5.48	0.006	0.004
HCC96: Specified Heart Arrhythmias	10.88	15.69	13.12	12.80	-0.142	0.009
HCC99: Intracranial Hemorrhage	0.50	0.96	0.75	0.69	-0.054	0.008
HCC100: Ischemic or Unspecified Stroke	3.47	5.18	4.20	4.11	-0.084	0.004
HCC103: Hemiplegia/Hemiparesis	3.76	5.92	4.93	4.65	-0.101	0.013
HCC104: Monoplegia, Other Paralytic Syndromes	0.35	0.37	0.38	0.37	-0.003	0.002

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Table B-5. D-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	D-SNP	Comparison MA	D-SNP	Comparison MA	Unweighted	Weighted
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	0.88	1.45	1.14	1.11	-0.053	0.002
HCC107: Vascular Disease with Complications	2.27	2.67	2.48	2.50	-0.026	-0.002
HCC108: Vascular Disease	26.91	36.93	31.85	30.09	-0.216	0.038
HCC110: Cystic Fibrosis	0.03	0.02	0.03	0.03	0.002	-0.002
HCC111: Chronic Obstructive Pulmonary Disease	25.65	23.12	24.47	24.50	0.059	-0.001
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	1.14	1.44	1.40	1.34	-0.027	0.006
HCC114: Aspiration and Specified Bacterial Pneumonias	1.05	1.94	1.52	1.44	-0.073	0.007
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	0.81	1.26	0.96	0.97	-0.044	-0.001
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	1.43	1.80	1.58	1.58	-0.030	0.000
HCC124: Exudative Macular Degeneration	0.77	1.33	1.06	0.96	-0.055	0.009
HCC134: Dialysis Status	1.49	1.96	1.75	1.78	-0.035	-0.002
HCC135: Acute Renal Failure	6.36	8.79	7.62	7.50	-0.092	0.005
HCC136: Chronic Kidney Disease, Stage 5	0.36	0.43	0.38	0.39	-0.012	0.000
HCC137: Chronic Kidney Disease, Severe (Stage 4)	1.11	1.52	1.27	1.24	-0.036	0.002
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	8.86	12.17	10.25	9.88	-0.108	0.012
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	0.26	0.79	0.53	0.47	-0.073	0.008
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	0.57	1.75	1.12	1.00	-0.110	0.012
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	0.46	1.20	0.82	0.73	-0.082	0.010

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Table B-5. D-SNP vs. Comparison MA: Beneficiary HCCs, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	D-SNP	Comparison MA	D-SNP	Comparison MA	Unweighted	Weighted
HCC161: Chronic Ulcer of Skin, Except Pressure	2.42	3.14	2.74	2.71	-0.044	0.002
HCC162: Severe Skin Burn or Condition	0.03	0.02	0.03	0.03	0.003	0.000
HCC166: Severe Head Injury	0.01	0.01	0.01	0.01	-0.003	0.000
HCC167: Major Head Injury	0.94	1.32	1.15	1.13	-0.036	0.002
HCC169: Vertebral Fractures without Spinal Cord Injury	0.97	1.42	1.20	1.15	-0.042	0.005
HCC170: Hip Fracture/Dislocation	0.76	1.82	1.32	1.15	-0.094	0.015
HCC173: Traumatic Amputations and Complications	0.36	0.49	0.41	0.42	-0.020	-0.001
HCC176: Complications of Specified Implanted Device or Graft	2.47	2.93	2.80	2.80	-0.029	0.000
HCC186: Major Organ Transplant or Replacement Status	0.34	0.31	0.34	0.36	0.006	-0.003
HCC188: Artificial Openings for Feeding or Elimination	1.42	2.57	2.03	1.93	-0.082	0.007
HCC189: Amputation Status, Lower Limb/Amputation Complications	1.34	1.62	1.47	1.49	-0.023	-0.002

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table B-6. D-SNP vs. Comparison MA: Beneficiary state of residence, before and after weighting by propensity score, 2021

Characteristic	Group Mean, % Unweighted		Group Mean, % Weighted		Standardized Difference	
	D-SNP	Comparison MA	D-SNP	Comparison MA	Unweighted	Weighted
<i>Total beneficiaries, N</i>	1,743,820	824,001	1,743,820	824,001	2,567,821	2,567,821
Alabama	1.54	1.09	1.31	1.35	0.040	-0.004
Arizona	4.66	1.97	3.67	3.93	0.150	-0.015
Arkansas	0.91	0.72	0.88	0.98	0.021	-0.011
Colorado	0.89	1.46	1.04	1.12	-0.053	-0.007
Connecticut	0.69	0.98	0.72	0.78	-0.031	-0.007
Delaware	0.15	0.15	0.14	0.15	0.001	-0.002
District of Columbia	0.37	0.08	0.27	0.30	0.061	-0.007
Florida	9.08	6.94	8.26	8.87	0.079	-0.023
Georgia	2.51	2.15	2.29	2.42	0.024	-0.008
Hawaii	1.32	0.28	0.96	1.17	0.117	-0.024
Idaho	0.01	0.38	0.14	0.13	-0.084	0.003
Indiana	2.14	1.86	1.93	2.02	0.020	-0.006
Iowa	0.86	0.71	0.79	0.85	0.017	-0.007
Kansas	0.42	0.46	0.43	0.45	-0.005	-0.004
Kentucky	1.25	0.64	1.00	0.96	0.063	0.004
Louisiana	2.53	0.85	1.93	2.08	0.130	-0.012
Maine	0.70	0.50	0.61	0.62	0.025	-0.002
Maryland	0.33	0.72	0.39	0.45	-0.055	-0.008
Massachusetts	0.02	1.32	0.58	0.45	-0.159	0.016
Michigan	2.50	2.57	2.41	2.54	-0.004	-0.008
Minnesota	0.40	0.71	0.45	0.49	-0.042	-0.005
Mississippi	0.96	0.54	0.81	0.93	0.049	-0.014
Missouri	2.43	2.09	2.23	2.39	0.023	-0.010
Montana	0.02	0.05	0.03	0.03	-0.015	-0.001
Nebraska	0.49	0.29	0.41	0.42	0.033	-0.002
Nevada	0.07	0.65	0.29	0.26	-0.096	0.005
New Jersey	0.05	1.51	0.51	0.53	-0.167	-0.003
New Mexico	0.50	1.54	0.94	0.88	-0.103	0.006
New York	16.89	6.59	12.92	11.79	0.324	0.036
North Carolina	4.77	2.12	3.74	3.74	0.146	0.000
Ohio	2.57	1.86	2.21	2.18	0.048	0.002
Oklahoma	0.75	1.67	1.05	1.08	-0.085	-0.003
Oregon	1.19	2.44	1.60	1.66	-0.094	-0.004
Pennsylvania	6.62	4.17	5.52	5.51	0.108	0.000

(continued)

Table B-6. D-SNP vs. Comparison MA: Beneficiary state of residence, before and after weighting by propensity score, 2021 (continued)

Characteristic	Group Mean, Unweighted		Group Mean, Weighted		Standardized Difference	
	D-SNP	Comparison MA	D-SNP	Comparison MA	Unweighted	Weighted
Rhode Island	0.24	0.65	0.32	0.37	-0.061	-0.008
South Carolina	2.52	1.95	2.31	2.55	0.038	-0.016
Tennessee	4.29	1.15	3.16	3.07	0.194	0.005
Texas	7.45	2.90	5.80	6.38	0.206	-0.026
Utah	0.39	0.77	0.51	0.53	-0.051	-0.003
Virginia	2.41	1.61	2.12	2.36	0.057	-0.017
Washington	2.49	1.36	2.05	2.13	0.082	-0.006
West Virginia	0.55	0.50	0.50	0.52	0.008	-0.003
Wisconsin	2.41	1.77	2.11	2.12	0.045	-0.001

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

APPENDIX C
FULL LOGISTIC REGRESSION MODEL RESULTS

Table C-1a. Full logistic regression model results predicting any inpatient hospitalization in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
Enrollment in integrated plan (PACE, FIDE-SNP, or D-SNP)	0.951	0.919	0.985	1.075	1.062	1.089	1.086	1.078	1.093
Age (ref = 65–74)									
< 65	0.823	0.767	0.883	0.868	0.850	0.887	0.919	0.910	0.929
75–84	1.066	1.015	1.120	1.259	1.238	1.280	1.198	1.186	1.209
85+	1.128	1.060	1.201	1.537	1.503	1.571	1.425	1.406	1.443
Sex (ref = Male)									
Female	0.944	0.907	0.982	0.917	0.905	0.929	0.964	0.957	0.971
Race/ethnicity (ref = White, Non-Hispanic)									
Black, non-Hispanic	1.059	1.010	1.109	1.162	1.142	1.183	1.037	1.028	1.046
Hispanic	0.912	0.846	0.982	0.873	0.857	0.890	0.814	0.804	0.823
Asian	0.648	0.587	0.715	0.697	0.678	0.717	0.679	0.668	0.690
Other	0.849	0.743	0.969	0.893	0.859	0.929	0.831	0.811	0.851
Original reason for Medicare eligibility (ref = Old age and survivors)									
Disability	1.064	1.016	1.115	1.192	1.172	1.212	1.150	1.139	1.161
ESRD	1.045	0.760	1.436	1.630	1.476	1.800	1.744	1.661	1.832
Both disability and ESRD	1.200	0.894	1.612	1.772	1.587	1.980	1.618	1.529	1.711
Full-dual community risk score	1.252	1.163	1.348	0.990	0.963	1.017	1.111	1.095	1.126
HCCs									
HCC1: HIV/AIDS	0.963	0.734	1.262	1.162	1.090	1.240	1.081	1.050	1.114
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	1.038	0.962	1.121	1.076	1.045	1.108	1.129	1.111	1.147
HCC6: Opportunistic Infections	1.076	0.804	1.440	1.261	1.149	1.383	1.185	1.132	1.240
HCC8: Metastatic Cancer and Acute Leukemia	0.991	0.786	1.250	2.177	2.012	2.355	1.518	1.457	1.582
HCC9: Lung and Other Severe Cancers	0.969	0.828	1.133	1.711	1.623	1.803	1.388	1.348	1.429
HCC10: Lymphoma and Other Cancers	1.133	0.955	1.343	1.300	1.232	1.372	1.203	1.167	1.240
HCC11: Colorectal, Bladder, and Other Cancers	0.932	0.812	1.069	1.280	1.223	1.339	1.193	1.162	1.224
HCC12: Breast, Prostate, and Other Cancers and Tumors	0.927	0.850	1.011	1.064	1.033	1.096	1.027	1.010	1.044

(continued)

Table C-1a. Full logistic regression model results predicting any inpatient hospitalization in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC17: Diabetes with Acute Complications	1.184	1.014	1.383	1.440	1.360	1.524	1.583	1.537	1.630
HCC18: Diabetes with Chronic Complications	1.098	1.046	1.153	1.238	1.217	1.259	1.192	1.181	1.203
HCC19: Diabetes without Complication	1.040	0.972	1.113	1.083	1.055	1.112	1.115	1.101	1.130
HCC21: Protein-Calorie Malnutrition	0.912	0.837	0.993	1.051	1.021	1.081	1.002	0.986	1.019
HCC22: Morbid Obesity	1.016	0.955	1.082	1.110	1.088	1.132	1.079	1.069	1.090
HCC23: Other Significant Endocrine and Metabolic Disorders	1.049	0.977	1.127	0.976	0.955	0.997	0.983	0.971	0.995
HCC27: End-Stage Liver Disease	1.399	1.162	1.686	2.029	1.911	2.155	1.587	1.537	1.640
HCC28: Cirrhosis of Liver	1.155	0.991	1.346	1.335	1.271	1.404	1.312	1.279	1.345
HCC29: Chronic Hepatitis	1.051	0.891	1.239	1.160	1.109	1.214	1.170	1.145	1.196
HCC33: Intestinal Obstruction/Perforation	1.240	1.109	1.386	1.433	1.380	1.488	1.304	1.276	1.332
HCC34: Chronic Pancreatitis	1.525	1.174	1.982	1.528	1.416	1.649	1.509	1.453	1.566
HCC35: Inflammatory Bowel Disease	1.161	0.978	1.379	1.505	1.431	1.584	1.125	1.092	1.158
HCC39: Bone/Joint/Muscle Infections/Necrosis	1.111	0.972	1.269	1.303	1.244	1.366	1.259	1.229	1.291
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	1.067	0.993	1.147	1.099	1.075	1.124	1.048	1.036	1.060
HCC46: Severe Hematological Disorders	0.623	0.466	0.833	1.266	1.168	1.371	1.321	1.258	1.387
HCC47: Disorders of Immunity	0.917	0.798	1.053	1.093	1.054	1.132	1.036	1.015	1.058
HCC48: Coagulation Defects and Other Specified Hematological Disorders	0.968	0.906	1.034	0.955	0.937	0.973	0.979	0.968	0.989
HCC51: Dementia with Complications	0.905	0.846	0.970	0.951	0.926	0.976	1.027	1.012	1.044
HCC52: Dementia without Complications	0.926	0.880	0.974	0.994	0.974	1.015	1.067	1.054	1.080
HCC54: Substance Use with Psychotic Complications	0.934	0.723	1.205	1.799	1.674	1.933	1.858	1.782	1.936
HCC55: Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	1.017	0.938	1.104	1.269	1.241	1.299	1.255	1.240	1.271
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	1.127	0.893	1.421	1.729	1.631	1.832	1.423	1.385	1.462
HCC57: Schizophrenia	1.012	0.925	1.106	1.403	1.361	1.446	1.507	1.486	1.529
HCC58: Reactive and Unspecified Psychosis	1.055	0.892	1.247	0.972	0.921	1.026	1.254	1.216	1.293
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	0.987	0.940	1.036	1.068	1.051	1.085	1.031	1.023	1.040
HCC60: Personality Disorders	1.413	0.894	2.233	1.033	0.859	1.242	1.001	0.918	1.091

(continued)

Table C-1a. Full logistic regression model results predicting any inpatient hospitalization in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC70: Quadriplegia	0.889	0.727	1.088	0.960	0.911	1.012	1.092	1.056	1.129
HCC71: Paraplegia	1.018	0.812	1.277	1.564	1.455	1.681	1.343	1.293	1.396
HCC72: Spinal Cord Disorders/Injuries	1.058	0.898	1.245	1.303	1.235	1.375	1.128	1.098	1.159
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	1.126	0.669	1.895	2.314	1.990	2.691	1.385	1.245	1.542
HCC74: Cerebral Palsy	0.754	0.567	1.003	0.896	0.830	0.968	0.908	0.878	0.940
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	0.910	0.790	1.049	0.995	0.964	1.028	0.895	0.879	0.912
HCC76: Muscular Dystrophy	0.977	0.561	1.700	1.190	1.004	1.410	1.204	1.109	1.307
HCC77: Multiple Sclerosis	1.070	0.909	1.260	1.255	1.184	1.330	1.192	1.155	1.230
HCC78: Parkinson's and Huntington's Diseases	1.048	0.956	1.149	1.247	1.204	1.292	1.155	1.131	1.180
HCC79: Seizure Disorders and Convulsions	1.049	0.978	1.125	1.118	1.091	1.146	1.215	1.200	1.229
HCC80: Coma, Brain Compression/Anoxic Damage	1.061	0.891	1.265	1.147	1.077	1.221	0.945	0.912	0.978
HCC82: Respirator Dependence/Tracheostomy Status	0.683	0.527	0.886	1.253	1.153	1.362	0.974	0.933	1.016
HCC83: Respiratory Arrest	1.089	0.464	2.559	1.186	0.896	1.570	1.302	1.117	1.517
HCC84: Cardio-Respiratory Failure and Shock	1.082	0.996	1.174	1.280	1.241	1.319	1.273	1.253	1.294
HCC85: Congestive Heart Failure	1.148	1.077	1.224	1.364	1.332	1.396	1.263	1.247	1.279
HCC86: Acute Myocardial Infarction	1.081	0.985	1.187	1.262	1.218	1.307	1.216	1.192	1.240
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	1.205	1.073	1.352	1.333	1.280	1.389	1.306	1.277	1.336
HCC88: Angina Pectoris	1.058	0.976	1.148	1.040	1.014	1.065	1.048	1.034	1.062
HCC96: Specified Heart Arrhythmias	1.094	1.036	1.156	1.322	1.295	1.349	1.248	1.234	1.262
HCC99: Intracranial Hemorrhage	0.926	0.776	1.104	1.039	0.976	1.106	1.021	0.985	1.059
HCC100: Ischemic or Unspecified Stroke	1.082	1.002	1.168	1.110	1.078	1.144	1.110	1.092	1.129
HCC103: Hemiplegia/Hemiparesis	0.919	0.851	0.993	1.069	1.038	1.101	1.116	1.098	1.134
HCC104: Monoplegia, Other Paralytic Syndromes	0.836	0.649	1.076	0.950	0.867	1.041	1.102	1.051	1.156
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	0.839	0.704	1.000	1.347	1.264	1.436	1.284	1.240	1.329
HCC107: Vascular Disease with Complications	0.976	0.881	1.080	1.332	1.285	1.381	1.162	1.139	1.186
HCC108: Vascular Disease	0.975	0.932	1.020	1.007	0.991	1.024	1.005	0.997	1.014

(continued)

Table C-1a. Full logistic regression model results predicting any inpatient hospitalization in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC110: Cystic Fibrosis	1.564	0.295	8.286	1.373	0.915	2.060	1.423	1.200	1.689
HCC111: Chronic Obstructive Pulmonary Disease	1.142	1.075	1.213	1.244	1.219	1.269	1.275	1.261	1.288
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	0.911	0.769	1.079	1.182	1.130	1.236	1.104	1.074	1.134
HCC114: Aspiration and Specified Bacterial Pneumonias	0.780	0.688	0.883	1.242	1.189	1.297	0.960	0.936	0.985
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	0.949	0.814	1.106	1.160	1.105	1.219	1.133	1.101	1.166
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	1.130	1.008	1.266	1.345	1.291	1.400	1.236	1.207	1.265
HCC124: Exudative Macular Degeneration	1.002	0.887	1.131	1.057	1.009	1.107	0.932	0.904	0.961
HCC134: Dialysis Status	1.761	1.551	2.000	2.596	2.472	2.726	2.278	2.218	2.341
HCC135: Acute Renal Failure	1.239	1.148	1.337	1.700	1.653	1.749	1.522	1.499	1.545
HCC136: Chronic Kidney Disease, Stage 5	1.272	1.012	1.599	1.641	1.519	1.772	1.697	1.624	1.773
HCC137: Chronic Kidney Disease, Severe (Stage 4)	1.344	1.187	1.522	1.535	1.470	1.604	1.574	1.535	1.615
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	1.074	1.014	1.138	1.083	1.063	1.103	1.138	1.126	1.151
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	0.577	0.438	0.760	1.008	0.922	1.102	0.848	0.805	0.893
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	0.746	0.634	0.877	1.029	0.973	1.089	0.912	0.882	0.942
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	0.938	0.814	1.081	0.755	0.715	0.796	1.075	1.041	1.110
HCC161: Chronic Ulcer of Skin, Except Pressure	1.205	1.088	1.334	1.401	1.351	1.453	1.322	1.296	1.349
HCC162: Severe Skin Burn or Condition	0.829	0.295	2.330	1.244	0.889	1.742	1.270	1.075	1.500
HCC166: Severe Head Injury	0.407	0.041	4.065	0.941	0.564	1.570	0.763	0.594	0.980
HCC167: Major Head Injury	0.894	0.772	1.034	1.100	1.045	1.158	1.136	1.104	1.169
HCC169: Vertebral Fractures without Spinal Cord Injury	1.151	1.019	1.300	1.139	1.088	1.192	1.277	1.243	1.312
HCC170: Hip Fracture/Dislocation	0.963	0.861	1.076	1.124	1.077	1.173	1.107	1.078	1.136
HCC173: Traumatic Amputations and Complications	1.135	0.932	1.382	1.086	1.009	1.169	1.003	0.960	1.048

(continued)

Table C-1a. Full logistic regression model results predicting any inpatient hospitalization in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC176: Complications of Specified Implanted Device or Graft	1.123	1.010	1.248	1.479	1.422	1.538	1.286	1.259	1.313
HCC186: Major Organ Transplant or Replacement Status	0.931	0.635	1.366	1.304	1.188	1.432	1.134	1.080	1.192
HCC188: Artificial Openings for Feeding or Elimination	0.993	0.872	1.130	1.427	1.369	1.488	1.350	1.319	1.382
HCC189: Amputation Status, Lower Limb/Amputation Complications	1.095	0.950	1.260	1.285	1.222	1.351	1.252	1.220	1.286

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table C-1b. Full logistic regression model results predicting any inpatient hospitalization in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
State (ref = California)									
Alabama	0.852	0.632	1.147	—	—	—	1.249	1.213	1.285
Alaska	—	—	—	—	—	—	—	—	—
Arizona	—	—	—	1.385	1.342	1.429	1.183	1.160	1.206
Arkansas	1.632	1.378	1.931	—	—	—	1.312	1.269	1.356
Colorado	1.167	1.077	1.265	—	—	—	1.221	1.183	1.261
Connecticut	—	—	—	—	—	—	1.255	1.210	1.302
Delaware	1.043	0.809	1.346	—	—	—	1.194	1.099	1.298
District of Columbia	—	—	—	—	—	—	1.251	1.177	1.329
Florida	1.354	1.239	1.479	1.338	1.308	1.368	1.159	1.142	1.175
Georgia	—	—	—	—	—	—	1.269	1.241	1.297
Hawaii	—	—	—	—	—	—	1.045	1.006	1.085
Idaho	—	—	—	1.245	1.187	1.305	1.679	1.551	1.818
Illinois	1.874	1.166	3.010	—	—	—	—	—	—
Indiana	1.336	1.137	1.570	—	—	—	1.311	1.280	1.343
Iowa	1.181	1.013	1.378	—	—	—	1.081	1.042	1.122
Kansas	1.418	1.197	1.680	—	—	—	1.326	1.264	1.390
Kentucky	2.942	0.730	11.847	—	—	—	1.369	1.326	1.414
Louisiana	1.346	1.098	1.650	—	—	—	1.277	1.246	1.309
Maine	—	—	—	—	—	—	0.919	0.878	0.963
Maryland	1.091	0.816	1.459	—	—	—	1.028	0.976	1.084
Massachusetts	1.271	1.147	1.408	1.361	1.330	1.394	1.289	1.235	1.344
Michigan	1.821	1.672	1.984	—	—	—	1.305	1.277	1.335
Minnesota	—	—	—	1.365	1.328	1.402	1.201	1.143	1.262
Mississippi	—	—	—	—	—	—	1.260	1.216	1.306
Missouri	1.681	0.676	4.181	—	—	—	1.441	1.410	1.473
Montana	—	—	—	—	—	—	1.564	1.308	1.870
Nebraska	1.054	0.804	1.382	—	—	—	1.131	1.074	1.190
Nevada	—	—	—	—	—	—	1.415	1.334	1.501
New Hampshire	—	—	—	—	—	—	—	—	—
New Jersey	1.255	1.114	1.413	1.341	1.310	1.373	1.305	1.249	1.363
New Mexico	1.032	0.868	1.227	—	—	—	1.259	1.215	1.304
New York	1.470	1.373	1.574	1.543	1.510	1.577	1.342	1.325	1.359
North Carolina	1.316	1.137	1.523	—	—	—	1.142	1.120	1.164
North Dakota	1.345	0.880	2.056	—	—	—	—	—	—
Ohio	0.644	0.534	0.777	—	—	—	1.266	1.237	1.295

(continued)

Table C-1b. Full logistic regression model results predicting any inpatient hospitalization in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
Oklahoma	1.268	1.087	1.478	—	—	—	1.384	1.342	1.428
Oregon	0.931	0.831	1.043	—	—	—	1.086	1.056	1.116
Pennsylvania	1.028	0.956	1.106	0.809	0.789	0.830	1.288	1.268	1.309
Rhode Island	1.756	1.452	2.125	—	—	—	1.161	1.097	1.229
South Carolina	0.809	0.663	0.987	—	—	—	1.285	1.256	1.314
South Dakota	—	—	—	—	—	—	—	—	—
Tennessee	1.133	0.920	1.396	1.443	1.378	1.510	1.213	1.189	1.238
Texas	1.054	0.932	1.191	—	—	—	1.201	1.182	1.220
Utah	—	—	—	—	—	—	1.164	1.110	1.220
Vermont	—	—	—	—	—	—	—	—	—
Virginia	1.418	1.275	1.576	1.437	1.378	1.499	1.251	1.222	1.280
Washington	1.199	1.057	1.360	—	—	—	1.082	1.055	1.109
West Virginia	—	—	—	—	—	—	1.311	1.255	1.370
Wisconsin	1.126	0.968	1.311	1.494	1.439	1.551	1.160	1.132	1.188
Wyoming	—	—	—	—	—	—	—	—	—

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly. — = State not included in model.

Table C-2a. Full logistic regression model results predicting any ED visit in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
Enrollment in integrated plan (PACE, FIDE-SNP, or D-SNP)	0.760	0.736	0.785	1.187	1.174	1.199	1.302	1.294	1.310
Age (ref = 65–74)									
< 65	0.961	0.902	1.023	1.237	1.215	1.259	1.213	1.203	1.224
75–84	1.124	1.074	1.177	1.067	1.052	1.082	1.067	1.059	1.076
85+	1.116	1.052	1.183	1.161	1.139	1.183	1.161	1.148	1.174
Sex (ref = Male)									
Female	1.093	1.053	1.134	1.139	1.127	1.151	1.172	1.165	1.178
Race/ethnicity (ref = White, Non-Hispanic)									
Black, non-Hispanic	0.955	0.914	0.998	1.157	1.140	1.175	1.166	1.158	1.174
Hispanic	0.899	0.840	0.963	0.940	0.926	0.954	0.909	0.901	0.918
Asian	0.549	0.502	0.601	0.572	0.559	0.586	0.521	0.514	0.528
Other	0.667	0.587	0.757	0.778	0.753	0.804	0.740	0.726	0.755
Original reason for Medicare eligibility (ref = Old age and survivors)									
Disability	1.155	1.107	1.206	1.306	1.287	1.325	1.247	1.237	1.257
ESRD	0.840	0.615	1.146	1.225	1.115	1.347	1.300	1.240	1.363
Both disability and ESRD	1.130	0.851	1.501	1.426	1.282	1.585	1.345	1.275	1.419
Full-dual community risk score	0.980	0.914	1.050	0.856	0.835	0.877	0.866	0.855	0.877
HCCs									
HCC1: HIV/AIDS	1.264	0.980	1.630	1.296	1.228	1.368	1.236	1.206	1.267
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	0.958	0.889	1.033	1.129	1.098	1.160	1.136	1.119	1.153
HCC6: Opportunistic Infections	1.237	0.932	1.642	1.225	1.124	1.334	1.253	1.201	1.307
HCC8: Metastatic Cancer and Acute Leukemia	1.294	1.035	1.617	2.077	1.932	2.233	1.764	1.698	1.832
HCC9: Lung and Other Severe Cancers	1.129	0.971	1.313	1.467	1.397	1.541	1.336	1.300	1.373
HCC10: Lymphoma and Other Cancers	1.209	1.026	1.424	1.201	1.144	1.260	1.267	1.234	1.301
HCC11: Colorectal, Bladder, and Other Cancers	1.090	0.957	1.241	1.137	1.092	1.185	1.196	1.169	1.224
HCC12: Breast, Prostate, and Other Cancers and Tumors	1.101	1.016	1.193	1.137	1.109	1.166	1.178	1.162	1.195
HCC17: Diabetes with Acute Complications	1.302	1.121	1.512	1.418	1.345	1.494	1.519	1.478	1.561
HCC18: Diabetes with Chronic Complications	1.165	1.113	1.220	1.213	1.195	1.231	1.245	1.236	1.255
HCC19: Diabetes without Complication	1.117	1.050	1.189	1.149	1.125	1.173	1.171	1.159	1.184

(continued)

Table C-2a. Full logistic regression model results predicting any ED visit in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC21: Protein-Calorie Malnutrition	0.800	0.736	0.869	0.929	0.904	0.954	0.950	0.935	0.964
HCC22: Morbid Obesity	1.051	0.991	1.114	1.112	1.094	1.131	1.127	1.117	1.136
HCC23: Other Significant Endocrine and Metabolic Disorders	1.019	0.951	1.092	0.954	0.936	0.973	1.030	1.020	1.041
HCC27: End-Stage Liver Disease	1.354	1.132	1.621	1.683	1.592	1.781	1.486	1.442	1.532
HCC28: Cirrhosis of Liver	1.195	1.032	1.383	1.403	1.341	1.467	1.313	1.283	1.344
HCC29: Chronic Hepatitis	1.048	0.897	1.224	1.149	1.105	1.194	1.168	1.147	1.191
HCC33: Intestinal Obstruction/Perforation	1.209	1.085	1.348	1.290	1.246	1.337	1.345	1.318	1.372
HCC34: Chronic Pancreatitis	1.488	1.154	1.919	1.670	1.556	1.792	1.706	1.646	1.767
HCC35: Inflammatory Bowel Disease	1.075	0.910	1.269	1.670	1.595	1.747	1.345	1.311	1.380
HCC39: Bone/Joint/Muscle Infections/Necrosis	1.189	1.044	1.355	1.191	1.140	1.244	1.254	1.226	1.284
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	1.235	1.154	1.322	1.203	1.181	1.226	1.278	1.266	1.291
HCC46: Severe Hematological Disorders	1.060	0.805	1.395	1.646	1.528	1.773	1.700	1.625	1.778
HCC47: Disorders of Immunity	1.106	0.969	1.263	1.037	1.004	1.071	1.121	1.100	1.142
HCC48: Coagulation Defects and Other Specified Hematological Disorders	0.999	0.938	1.064	0.965	0.949	0.981	1.013	1.003	1.023
HCC51: Dementia with Complications	1.059	0.994	1.129	0.869	0.849	0.890	0.998	0.984	1.012
HCC52: Dementia without Complications	1.106	1.055	1.159	0.973	0.956	0.991	1.088	1.077	1.099
HCC54: Substance Use with Psychotic Complications	1.139	0.898	1.444	1.671	1.563	1.786	1.777	1.708	1.849
HCC55: Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	1.111	1.029	1.200	1.224	1.200	1.249	1.351	1.337	1.365
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	1.297	1.041	1.616	1.508	1.431	1.590	1.678	1.638	1.719
HCC57: Schizophrenia	1.212	1.115	1.317	1.353	1.318	1.388	1.409	1.392	1.427
HCC58: Reactive and Unspecified Psychosis	1.250	1.068	1.464	1.085	1.035	1.139	1.420	1.382	1.459
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	1.181	1.129	1.235	1.195	1.179	1.211	1.253	1.244	1.262
HCC60: Personality Disorders	1.233	0.792	1.921	1.089	0.934	1.270	1.246	1.165	1.332
HCC70: Quadriplegia	0.841	0.689	1.026	0.966	0.920	1.015	0.996	0.966	1.027
HCC71: Paraplegia	1.003	0.805	1.249	1.281	1.198	1.370	1.192	1.151	1.235
HCC72: Spinal Cord Disorders/Injuries	1.158	0.993	1.351	1.273	1.214	1.334	1.236	1.208	1.265
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	1.315	0.796	2.172	2.238	1.937	2.584	1.309	1.186	1.444

(continued)

Table C-2a. Full logistic regression model results predicting any ED visit in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC74: Cerebral Palsy	0.858	0.674	1.091	0.689	0.649	0.733	0.782	0.762	0.803
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	0.940	0.821	1.076	1.091	1.061	1.122	0.995	0.979	1.011
HCC76: Muscular Dystrophy	1.150	0.687	1.928	1.092	0.946	1.260	1.076	1.004	1.154
HCC77: Multiple Sclerosis	1.204	1.035	1.402	0.938	0.891	0.987	1.186	1.154	1.218
HCC78: Parkinson's and Huntington's Diseases	1.215	1.114	1.325	1.268	1.227	1.309	1.284	1.260	1.309
HCC79: Seizure Disorders and Convulsions	1.368	1.282	1.460	1.390	1.361	1.419	1.308	1.295	1.322
HCC80: Coma, Brain Compression/Anoxic Damage	1.102	0.931	1.305	1.031	0.973	1.093	1.056	1.023	1.090
HCC82: Respirator Dependence/Tracheostomy Status	0.883	0.687	1.135	1.447	1.339	1.563	1.195	1.148	1.244
HCC83: Respiratory Arrest	0.821	0.356	1.892	1.286	0.982	1.683	1.224	1.056	1.419
HCC84: Cardio-Respiratory Failure and Shock	1.039	0.960	1.124	1.150	1.118	1.182	1.148	1.131	1.165
HCC85: Congestive Heart Failure	1.127	1.060	1.198	1.220	1.195	1.246	1.221	1.208	1.235
HCC86: Acute Myocardial Infarction	1.239	1.131	1.356	1.348	1.304	1.394	1.356	1.331	1.381
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	1.325	1.184	1.483	1.346	1.295	1.399	1.548	1.515	1.581
HCC88: Angina Pectoris	1.146	1.060	1.239	1.156	1.131	1.181	1.211	1.196	1.225
HCC96: Specified Heart Arrhythmias	1.174	1.113	1.237	1.279	1.256	1.303	1.327	1.313	1.340
HCC99: Intracranial Hemorrhage	1.067	0.904	1.261	1.076	1.017	1.138	1.051	1.017	1.086
HCC100: Ischemic or Unspecified Stroke	1.117	1.038	1.202	1.169	1.138	1.201	1.189	1.172	1.207
HCC103: Hemiplegia/Hemiparesis	1.054	0.980	1.133	1.054	1.026	1.082	1.079	1.063	1.094
HCC104: Monoplegia, Other Paralytic Syndromes	1.186	0.939	1.497	1.102	1.019	1.192	1.050	1.006	1.095
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	0.948	0.799	1.124	1.272	1.198	1.350	1.274	1.233	1.316
HCC107: Vascular Disease with Complications	1.218	1.104	1.343	1.366	1.322	1.413	1.283	1.259	1.307
HCC108: Vascular Disease	1.058	1.015	1.104	1.029	1.015	1.043	1.078	1.070	1.086
HCC110: Cystic Fibrosis	3.925	0.716	21.526	1.817	1.270	2.599	1.779	1.521	2.081
HCC111: Chronic Obstructive Pulmonary Disease	1.227	1.159	1.298	1.319	1.296	1.342	1.362	1.350	1.374

(continued)

Table C-2a. Full logistic regression model results predicting any ED visit in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	1.134	0.970	1.327	1.372	1.320	1.425	1.217	1.190	1.245
HCC114: Aspiration and Specified Bacterial Pneumonias	0.956	0.847	1.080	1.036	0.994	1.081	0.998	0.974	1.023
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	1.070	0.922	1.242	1.093	1.043	1.145	1.219	1.186	1.252
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	1.230	1.103	1.373	1.198	1.154	1.243	1.196	1.170	1.222
HCC124: Exudative Macular Degeneration	1.122	1.001	1.257	1.172	1.125	1.221	1.173	1.143	1.205
HCC134: Dialysis Status	1.726	1.525	1.954	2.231	2.130	2.338	1.811	1.765	1.859
HCC135: Acute Renal Failure	1.240	1.153	1.335	1.454	1.416	1.492	1.383	1.364	1.403
HCC136: Chronic Kidney Disease, Stage 5	1.586	1.274	1.975	1.276	1.185	1.374	1.252	1.201	1.306
HCC137: Chronic Kidney Disease, Severe (Stage 4)	1.149	1.017	1.298	1.186	1.139	1.236	1.133	1.106	1.161
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	1.042	0.986	1.100	1.024	1.008	1.041	1.026	1.017	1.036
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	0.852	0.652	1.114	0.787	0.722	0.858	0.973	0.927	1.021
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	0.794	0.678	0.929	1.024	0.971	1.080	0.933	0.904	0.962
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	0.876	0.761	1.008	0.987	0.940	1.036	1.016	0.986	1.048
HCC161: Chronic Ulcer of Skin, Except Pressure	1.112	1.007	1.228	1.227	1.186	1.269	1.256	1.233	1.279
HCC162: Severe Skin Burn or Condition	0.666	0.243	1.829	1.249	0.920	1.695	1.108	0.953	1.290
HCC166: Severe Head Injury	2.274	0.356	14.525	1.004	0.636	1.582	0.750	0.601	0.936
HCC167: Major Head Injury	1.124	0.983	1.286	1.301	1.245	1.360	1.283	1.252	1.316
HCC169: Vertebral Fractures without Spinal Cord Injury	1.336	1.188	1.501	1.357	1.303	1.414	1.412	1.378	1.447
HCC170: Hip Fracture/Dislocation	0.969	0.871	1.079	1.317	1.266	1.369	1.152	1.124	1.180
HCC173: Traumatic Amputations and Complications	1.420	1.173	1.718	0.969	0.903	1.040	1.070	1.027	1.115
HCC176: Complications of Specified Implanted Device or Graft	1.471	1.328	1.629	1.697	1.636	1.760	1.623	1.591	1.655

(continued)

Table C-2a. Full logistic regression model results predicting any ED visit in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC186: Major Organ Transplant or Replacement Status	1.161	0.802	1.679	1.210	1.109	1.320	1.176	1.124	1.231
HCC188: Artificial Openings for Feeding or Elimination	1.315	1.161	1.491	1.496	1.439	1.555	1.472	1.440	1.504
HCC189: Amputation Status, Lower Limb/Amputation Complications	1.051	0.916	1.205	1.075	1.026	1.127	1.185	1.157	1.214

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table C-2b. Full logistic regression model results predicting any ED visit in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
State (ref = California)									
Alabama	0.851	0.652	1.112	—	—	—	1.013	0.989	1.037
Alaska	—	—	—	—	—	—	—	—	—
Arizona	—	—	—	1.224	1.192	1.258	0.982	0.967	0.997
Arkansas	1.461	1.247	1.712	—	—	—	1.107	1.077	1.138
Colorado	1.451	1.351	1.559	—	—	—	1.233	1.202	1.265
Connecticut	—	—	—	—	—	—	1.250	1.213	1.288
Delaware	1.136	0.905	1.426	—	—	—	1.011	0.944	1.083
District of Columbia	—	—	—	—	—	—	0.869	0.826	0.915
Florida	0.745	0.684	0.811	1.047	1.027	1.067	0.797	0.788	0.806
Georgia	—	—	—	—	—	—	1.060	1.040	1.079
Hawaii	—	—	—	—	—	—	1.105	1.073	1.137
Idaho	—	—	—	1.562	1.504	1.621	1.210	1.129	1.296
Illinois	1.217	0.773	1.917	—	—	—	—	—	—
Indiana	1.270	1.095	1.472	—	—	—	1.317	1.291	1.343
Iowa	1.697	1.482	1.943	—	—	—	1.256	1.220	1.293
Kansas	1.338	1.144	1.563	—	—	—	1.223	1.176	1.272
Kentucky	1.202	0.321	4.508	—	—	—	1.307	1.273	1.342
Louisiana	1.488	1.236	1.792	—	—	—	1.367	1.341	1.394
Maine	—	—	—	—	—	—	1.296	1.254	1.340
Maryland	0.779	0.590	1.029	—	—	—	0.844	0.809	0.880
Massachusetts	1.122	1.021	1.233	1.298	1.273	1.323	0.934	0.900	0.968
Michigan	1.404	1.296	1.520	—	—	—	1.092	1.073	1.112
Minnesota	—	—	—	1.544	1.510	1.578	1.041	1.002	1.082
Mississippi	—	—	—	—	—	—	1.281	1.245	1.318
Missouri	1.382	0.577	3.314	—	—	—	1.188	1.167	1.210
Montana	—	—	—	—	—	—	1.240	1.066	1.444
Nebraska	1.714	1.360	2.161	—	—	—	1.192	1.145	1.241
Nevada	—	—	—	—	—	—	0.860	0.816	0.906
New Hampshire	—	—	—	—	—	—	—	—	—

(continued)

Table C-2b. Full logistic regression model results predicting any ED visit in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
New Jersey	0.960	0.860	1.073	1.100	1.079	1.122	0.804	0.774	0.836
New Mexico	1.164	1.001	1.355	—	—	—	1.078	1.048	1.108
New York	0.756	0.709	0.806	0.914	0.896	0.932	0.770	0.762	0.778
North Carolina	1.179	1.030	1.349	—	—	—	1.119	1.102	1.136
North Dakota	0.867	0.577	1.301	—	—	—	—	—	—
Ohio	0.728	0.619	0.856	—	—	—	1.379	1.354	1.405
Oklahoma	1.414	1.229	1.626	—	—	—	1.305	1.272	1.339
Oregon	1.337	1.213	1.474	—	—	—	1.100	1.077	1.125
Pennsylvania	0.949	0.888	1.013	1.204	1.181	1.227	1.007	0.994	1.020
Rhode Island	1.218	1.015	1.462	—	—	—	0.941	0.898	0.985
South Carolina	0.935	0.784	1.115	—	—	—	1.237	1.215	1.259
South Dakota	—	—	—	—	—	—	—	—	—
Tennessee	1.052	0.868	1.275	1.292	1.242	1.344	1.075	1.058	1.092
Texas	0.991	0.886	1.107	—	—	—	0.999	0.986	1.012
Utah	—	—	—	—	—	—	1.019	0.982	1.058
Vermont	—	—	—	—	—	—	—	—	—
Virginia	1.391	1.261	1.534	1.365	1.316	1.416	1.171	1.149	1.193
Washington	1.085	0.967	1.217	—	—	—	1.044	1.023	1.064
West Virginia	—	—	—	—	—	—	1.272	1.227	1.319
Wisconsin	1.319	1.153	1.510	1.709	1.655	1.764	1.322	1.298	1.347
Wyoming	—	—	—	—	—	—	—	—	—

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly. — = State not included in model.

Table C-3a. Full logistic regression model results predicting any institutional use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
Enrollment in integrated plan (PACE, FIDE-SNP, or D-SNP)	0.980	0.926	1.037	0.302	0.296	0.308	0.184	0.182	0.186
Age (ref = 65–74)									
< 65	0.588	0.517	0.668	0.338	0.327	0.350	0.366	0.359	0.373
75–84	1.191	1.099	1.290	1.733	1.691	1.776	1.716	1.690	1.744
85+	1.280	1.157	1.416	2.644	2.565	2.726	2.767	2.713	2.823
Sex (ref = Male)									
Female	0.983	0.922	1.048	1.033	1.013	1.052	0.885	0.875	0.896
Race/ethnicity (ref = White, Non-Hispanic)									
Black, non-Hispanic	0.803	0.744	0.867	0.527	0.514	0.541	0.589	0.580	0.597
Hispanic	0.544	0.476	0.623	0.252	0.242	0.262	0.253	0.246	0.260
Asian	0.510	0.432	0.602	0.350	0.333	0.369	0.311	0.301	0.321
Other	0.538	0.416	0.697	0.425	0.398	0.454	0.475	0.455	0.495
Original reason for Medicare eligibility (ref = Old age and survivors)									
Disability	1.038	0.964	1.118	1.184	1.157	1.212	1.200	1.183	1.218
ESRD	0.868	0.454	1.658	0.973	0.769	1.231	1.400	1.260	1.554
Both disability and ESRD	0.885	0.526	1.489	1.434	1.166	1.765	1.348	1.209	1.503
Full-dual community risk score	1.131	1.005	1.272	1.271	1.222	1.322	1.256	1.228	1.286
HCCs									
HCC1: HIV/AIDS	1.127	0.723	1.759	0.896	0.796	1.008	0.806	0.755	0.861
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	1.106	0.989	1.238	1.180	1.137	1.225	1.168	1.142	1.196
HCC6: Opportunistic Infections	1.187	0.782	1.800	0.692	0.600	0.797	0.791	0.734	0.853
HCC8: Metastatic Cancer and Acute Leukemia	0.696	0.477	1.016	0.460	0.409	0.518	0.498	0.464	0.534
HCC9: Lung and Other Severe Cancers	0.810	0.623	1.051	0.600	0.554	0.650	0.655	0.622	0.689
HCC10: Lymphoma and Other Cancers	0.783	0.580	1.056	0.815	0.756	0.879	0.767	0.729	0.808
HCC11: Colorectal, Bladder, and Other Cancers	0.991	0.800	1.226	0.973	0.914	1.037	0.746	0.714	0.779
HCC12: Breast, Prostate, and Other Cancers and Tumors	1.010	0.884	1.155	0.842	0.808	0.877	0.802	0.780	0.825
HCC17: Diabetes with Acute Complications	1.317	1.068	1.624	0.994	0.921	1.073	1.097	1.049	1.147
HCC18: Diabetes with Chronic Complications	0.918	0.848	0.994	0.861	0.841	0.882	0.897	0.883	0.911
HCC19: Diabetes without Complication	0.979	0.874	1.097	1.055	1.018	1.094	1.082	1.058	1.107

(continued)

Table C-3a. Full logistic regression model results predicting any institutional use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC21: Protein-Calorie Malnutrition	1.355	1.203	1.527	1.489	1.435	1.544	1.408	1.376	1.441
HCC22: Morbid Obesity	0.969	0.876	1.073	1.201	1.168	1.236	1.144	1.125	1.164
HCC23: Other Significant Endocrine and Metabolic Disorders	1.040	0.932	1.160	1.077	1.047	1.108	0.908	0.891	0.925
HCC27: End-Stage Liver Disease	1.254	0.957	1.644	0.897	0.819	0.984	0.961	0.911	1.014
HCC28: Cirrhosis of Liver	1.031	0.811	1.311	0.752	0.695	0.812	0.991	0.949	1.035
HCC29: Chronic Hepatitis	0.849	0.645	1.117	0.715	0.659	0.775	0.866	0.830	0.904
HCC33: Intestinal Obstruction/Perforation	1.088	0.927	1.277	0.834	0.792	0.878	0.942	0.913	0.973
HCC34: Chronic Pancreatitis	0.638	0.410	0.993	0.903	0.800	1.018	0.861	0.806	0.920
HCC35: Inflammatory Bowel Disease	0.916	0.696	1.206	0.481	0.445	0.521	0.841	0.800	0.884
HCC39: Bone/Joint/Muscle Infections/Necrosis	0.962	0.792	1.168	1.154	1.086	1.227	0.968	0.933	1.004
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	0.890	0.789	1.004	0.598	0.578	0.619	0.627	0.613	0.640
HCC46: Severe Hematological Disorders	0.790	0.499	1.253	0.551	0.492	0.617	0.584	0.539	0.631
HCC47: Disorders of Immunity	0.892	0.720	1.105	1.137	1.082	1.195	0.980	0.948	1.013
HCC48: Coagulation Defects and Other Specified Hematological Disorders	1.010	0.917	1.113	0.767	0.747	0.787	0.815	0.801	0.829
HCC51: Dementia with Complications	2.402	2.192	2.633	4.704	4.571	4.841	5.568	5.464	5.674
HCC52: Dementia without Complications	1.628	1.507	1.758	2.965	2.893	3.039	3.068	3.019	3.118
HCC54: Substance Use with Psychotic Complications	1.761	1.286	2.411	1.215	1.113	1.326	1.634	1.544	1.730
HCC55: Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	1.159	1.026	1.309	1.097	1.062	1.134	1.081	1.059	1.103
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	1.086	0.770	1.532	0.643	0.577	0.717	0.864	0.817	0.914
HCC57: Schizophrenia	2.010	1.773	2.278	3.424	3.290	3.563	3.043	2.972	3.115
HCC58: Reactive and Unspecified Psychosis	1.770	1.446	2.165	2.594	2.446	2.752	3.099	2.982	3.221
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	1.274	1.182	1.372	1.499	1.467	1.533	1.611	1.589	1.634
HCC60: Personality Disorders	2.177	1.195	3.968	2.725	2.222	3.342	2.489	2.198	2.817
HCC70: Quadriplegia	1.208	0.927	1.574	2.090	1.961	2.227	1.923	1.842	2.008
HCC71: Paraplegia	1.272	0.906	1.786	1.685	1.540	1.844	1.542	1.462	1.626
HCC72: Spinal Cord Disorders/Injuries	0.953	0.739	1.229	0.936	0.868	1.010	1.042	0.998	1.088
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	1.090	0.491	2.420	1.016	0.819	1.260	1.568	1.358	1.810

(continued)

Table C-3a. Full logistic regression model results predicting any institutional use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC74: Cerebral Palsy	0.941	0.609	1.455	2.316	2.126	2.524	1.962	1.874	2.055
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	0.812	0.649	1.017	0.720	0.687	0.755	0.669	0.648	0.690
HCC76: Muscular Dystrophy	1.185	0.513	2.735	1.498	1.203	1.866	1.272	1.117	1.448
HCC77: Multiple Sclerosis	1.280	0.997	1.643	1.847	1.722	1.981	2.065	1.974	2.159
HCC78: Parkinson's and Huntington's Diseases	1.103	0.963	1.262	1.229	1.178	1.283	1.256	1.221	1.291
HCC79: Seizure Disorders and Convulsions	1.125	1.015	1.247	1.475	1.432	1.520	1.343	1.319	1.367
HCC80: Coma, Brain Compression/Anoxic Damage	1.072	0.845	1.360	0.911	0.844	0.985	1.292	1.235	1.351
HCC82: Respirator Dependence/Tracheostomy Status	0.761	0.518	1.119	1.190	1.065	1.330	0.976	0.915	1.040
HCC83: Respiratory Arrest	1.271	0.401	4.032	0.520	0.351	0.769	0.804	0.647	0.999
HCC84: Cardio-Respiratory Failure and Shock	1.010	0.887	1.149	1.035	0.993	1.079	1.097	1.069	1.125
HCC85: Congestive Heart Failure	1.060	0.957	1.175	1.097	1.063	1.133	1.066	1.045	1.088
HCC86: Acute Myocardial Infarction	0.912	0.792	1.050	0.781	0.745	0.819	0.785	0.762	0.808
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	0.938	0.786	1.118	0.708	0.668	0.750	0.752	0.725	0.780
HCC88: Angina Pectoris	0.865	0.756	0.989	0.785	0.758	0.813	0.613	0.598	0.628
HCC96: Specified Heart Arrhythmias	0.986	0.904	1.076	1.050	1.022	1.079	1.040	1.022	1.058
HCC99: Intracranial Hemorrhage	0.926	0.725	1.185	0.983	0.914	1.058	1.163	1.111	1.217
HCC100: Ischemic or Unspecified Stroke	1.186	1.059	1.328	1.302	1.256	1.349	1.298	1.269	1.328
HCC103: Hemiplegia/Hemiparesis	1.189	1.060	1.334	1.932	1.865	2.002	1.882	1.841	1.924
HCC104: Monoplegia, Other Paralytic Syndromes	0.805	0.540	1.201	0.814	0.722	0.918	1.367	1.279	1.461
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	1.492	1.157	1.925	1.822	1.674	1.984	1.825	1.734	1.922
HCC107: Vascular Disease with Complications	1.237	1.061	1.441	1.382	1.318	1.450	1.546	1.500	1.593

(continued)

Table C-3a. Full logistic regression model results predicting any institutional use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC108: Vascular Disease	1.194	1.112	1.281	1.751	1.713	1.790	1.682	1.658	1.706
HCC110: Cystic Fibrosis	<0.001	<0.001	>999.999	0.366	0.178	0.750	0.295	0.195	0.447
HCC111: Chronic Obstructive Pulmonary Disease	0.894	0.811	0.986	0.768	0.746	0.791	0.777	0.764	0.792
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	0.749	0.569	0.986	0.322	0.297	0.348	0.609	0.579	0.641
HCC114: Aspiration and Specified Bacterial Pneumonias	0.946	0.796	1.125	0.646	0.611	0.682	0.944	0.913	0.977
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	1.042	0.838	1.296	1.124	1.056	1.195	1.179	1.132	1.228
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	1.031	0.852	1.248	0.799	0.746	0.856	0.869	0.833	0.905
HCC124: Exudative Macular Degeneration	0.899	0.737	1.097	0.759	0.715	0.806	0.877	0.840	0.916
HCC134: Dialysis Status	1.038	0.843	1.279	0.872	0.810	0.938	1.122	1.075	1.171
HCC135: Acute Renal Failure	1.183	1.052	1.329	0.940	0.904	0.978	1.131	1.105	1.158
HCC136: Chronic Kidney Disease, Stage 5	0.974	0.651	1.458	1.580	1.419	1.760	1.145	1.063	1.233
HCC137: Chronic Kidney Disease, Severe (Stage 4)	0.803	0.639	1.008	0.935	0.880	0.994	1.058	1.015	1.103
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	1.021	0.931	1.119	1.088	1.062	1.115	0.984	0.967	1.002
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	1.293	0.886	1.886	1.062	0.947	1.192	1.514	1.411	1.624
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	1.390	1.112	1.737	1.181	1.099	1.268	1.685	1.614	1.760
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	1.361	1.123	1.649	1.480	1.397	1.568	1.440	1.385	1.498
HCC161: Chronic Ulcer of Skin, Except Pressure	1.342	1.153	1.563	1.371	1.307	1.438	1.513	1.469	1.557
HCC162: Severe Skin Burn or Condition	2.168	0.691	6.800	0.786	0.476	1.297	1.279	0.997	1.641
HCC166: Severe Head Injury	<0.001	<0.001	>999.999	1.946	1.063	3.560	0.671	0.479	0.941
HCC167: Major Head Injury	1.281	1.057	1.553	0.992	0.932	1.056	1.145	1.100	1.190

(continued)

Table C-3a. Full logistic regression model results predicting any institutional use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC169: Vertebral Fractures without Spinal Cord Injury	1.252	1.057	1.483	1.162	1.099	1.229	1.100	1.059	1.142
HCC170: Hip Fracture/Dislocation	1.619	1.403	1.867	1.769	1.685	1.858	1.849	1.791	1.909
HCC173: Traumatic Amputations and Complications	0.991	0.754	1.303	1.195	1.093	1.306	1.219	1.151	1.291
HCC176: Complications of Specified Implanted Device or Graft	0.875	0.743	1.031	0.947	0.898	0.999	0.871	0.843	0.899
HCC186: Major Organ Transplant or Replacement Status	0.546	0.247	1.207	0.399	0.330	0.482	0.564	0.508	0.625
HCC188: Artificial Openings for Feeding or Elimination	0.984	0.814	1.188	1.557	1.478	1.641	1.403	1.358	1.449
HCC189: Amputation Status, Lower Limb/Amputation Complications	1.060	0.853	1.317	1.309	1.226	1.398	1.257	1.209	1.307

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table C-3b. Full logistic regression model results predicting any institutional use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
State (ref = California)									
Alabama	0.269	0.136	0.532	—	—	—	3.840	3.676	4.011
Alaska	—	—	—	—	—	—	—	—	—
Arizona	—	—	—	1.712	1.636	1.792	0.469	0.446	0.494
Arkansas	0.354	0.250	0.503	—	—	—	3.861	3.692	4.039
Colorado	0.297	0.255	0.346	—	—	—	1.772	1.685	1.864
Connecticut	—	—	—	—	—	—	2.875	2.734	3.025
Delaware	0.756	0.519	1.100	—	—	—	2.147	1.882	2.448
District of Columbia	—	—	—	—	—	—	1.524	1.356	1.714
Florida	0.660	0.581	0.750	1.361	1.316	1.408	0.418	0.405	0.431
Georgia	—	—	—	—	—	—	2.880	2.783	2.980
Hawaii	—	—	—	—	—	—	2.120	1.998	2.250
Idaho	—	—	—	2.697	2.528	2.878	2.608	2.346	2.899
Illinois	1.246	0.662	2.346	—	—	—	—	—	—
Indiana	3.501	2.963	4.136	—	—	—	2.649	2.553	2.749
Iowa	0.729	0.576	0.922	—	—	—	3.156	2.998	3.323
Kansas	0.487	0.357	0.665	—	—	—	1.646	1.525	1.777
Kentucky	<0.001	<0.001	>999.999	—	—	—	3.789	3.614	3.972
Louisiana	0.362	0.235	0.558	—	—	—	3.339	3.210	3.474
Maine	—	—	—	—	—	—	1.285	1.191	1.388
Maryland	0.340	0.191	0.608	—	—	—	3.918	3.654	4.201
Massachusetts	0.690	0.596	0.799	3.235	3.125	3.350	1.840	1.737	1.949
Michigan	0.902	0.799	1.017	—	—	—	2.378	2.293	2.465
Minnesota	—	—	—	4.770	4.606	4.939	1.858	1.711	2.018
Mississippi	—	—	—	—	—	—	2.049	1.922	2.184
Missouri	1.407	0.449	4.414	—	—	—	2.131	2.054	2.210
Montana	—	—	—	—	—	—	2.330	1.770	3.068
Nebraska	1.557	1.146	2.116	—	—	—	2.869	2.663	3.091
Nevada	—	—	—	—	—	—	0.984	0.889	1.088
New Hampshire	—	—	—	—	—	—	—	—	—

(continued)

Table C-3b. Full logistic regression model results predicting any institutional use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
New Jersey	1.048	0.897	1.223	2.134	2.058	2.214	1.135	1.064	1.211
New Mexico	0.096	0.052	0.175	—	—	—	1.080	1.010	1.154
New York	0.234	0.207	0.266	3.297	3.201	3.396	1.590	1.555	1.626
North Carolina	0.727	0.584	0.904	—	—	—	2.327	2.256	2.400
North Dakota	0.439	0.201	0.960	—	—	—	—	—	—
Ohio	1.457	1.187	1.789	—	—	—	3.572	3.454	3.693
Oklahoma	0.375	0.275	0.511	—	—	—	1.506	1.423	1.593
Oregon	0.261	0.209	0.325	—	—	—	0.959	0.916	1.005
Pennsylvania	0.803	0.725	0.889	6.348	6.160	6.541	2.502	2.439	2.567
Rhode Island	0.926	0.699	1.227	—	—	—	2.204	2.028	2.394
South Carolina	0.669	0.497	0.902	—	—	—	1.559	1.495	1.625
South Dakota	—	—	—	—	—	—	—	—	—
Tennessee	0.534	0.388	0.735	4.711	4.461	4.975	1.808	1.744	1.873
Texas	0.369	0.292	0.466	—	—	—	2.453	2.393	2.515
Utah	—	—	—	—	—	—	1.293	1.190	1.405
Vermont	—	—	—	—	—	—	—	—	—
Virginia	0.482	0.402	0.579	3.649	3.456	3.852	2.173	2.094	2.256
Washington	0.288	0.224	0.371	—	—	—	1.205	1.157	1.256
West Virginia	—	—	—	—	—	—	3.775	3.551	4.014
Wisconsin	0.632	0.508	0.785	3.669	3.504	3.841	1.811	1.743	1.883
Wyoming	—	—	—	—	—	—	—	—	—

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly. — = State not included in model.

Table C-4a. Full logistic regression model results predicting HCBS use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics

Parameter	FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
Enrollment in integrated plan (FIDE-SNP or D-SNP)	2.682	2.646	2.718	1.446	1.435	1.457
Age (ref = 65–74)						
< 65	1.124	1.099	1.150	0.891	0.882	0.901
75–84	1.799	1.765	1.834	1.755	1.738	1.773
85+	2.755	2.689	2.823	2.994	2.954	3.034
Sex (ref = Male)						
Female	1.135	1.119	1.152	1.056	1.048	1.063
Race/ethnicity (ref = White, Non-Hispanic)						
Black, non-Hispanic	1.524	1.497	1.551	1.190	1.180	1.201
Hispanic	1.033	1.010	1.056	0.951	0.940	0.963
Asian	1.524	1.476	1.572	1.626	1.603	1.649
Other	1.351	1.294	1.411	1.305	1.276	1.335
Original reason for Medicare eligibility (ref = Old age and survivors)						
Disability	1.622	1.591	1.653	1.812	1.794	1.830
ESRD	1.069	0.921	1.241	0.944	0.883	1.010
Both disability and ESRD	1.707	1.488	1.958	1.657	1.552	1.769
Full-dual community risk score	0.912	0.884	0.940	0.903	0.889	0.917
HCCs						
HCC1: HIV/AIDS	1.243	1.161	1.330	1.214	1.177	1.252
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	0.991	0.958	1.026	0.991	0.973	1.010
HCC6: Opportunistic Infections	1.143	1.023	1.276	1.248	1.187	1.313
HCC8: Metastatic Cancer and Acute Leukemia	1.715	1.564	1.879	1.533	1.463	1.606
HCC9: Lung and Other Severe Cancers	1.490	1.402	1.583	1.375	1.331	1.421
HCC10: Lymphoma and Other Cancers	1.430	1.347	1.517	1.205	1.166	1.244
HCC11: Colorectal, Bladder, and Other Cancers	1.022	0.969	1.077	1.114	1.083	1.146
HCC12: Breast, Prostate, and Other Cancers and Tumors	1.089	1.054	1.125	1.086	1.067	1.105
HCC17: Diabetes with Acute Complications	1.255	1.175	1.340	1.209	1.170	1.249
HCC18: Diabetes with Chronic Complications	1.220	1.197	1.243	1.246	1.234	1.258
HCC19: Diabetes without Complication	1.040	1.013	1.068	1.101	1.087	1.116
HCC21: Protein-Calorie Malnutrition	0.717	0.693	0.741	0.916	0.899	0.933
HCC22: Morbid Obesity	1.144	1.119	1.169	1.216	1.204	1.229
HCC23: Other Significant Endocrine and Metabolic Disorders	0.795	0.775	0.815	1.034	1.021	1.047

(continued)

Table C-4a. Full logistic regression model results predicting HCBS use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC27: End-Stage Liver Disease	1.372	1.270	1.483	1.169	1.125	1.215
HCC28: Cirrhosis of Liver	1.236	1.162	1.314	1.074	1.043	1.107
HCC29: Chronic Hepatitis	1.084	1.027	1.145	0.985	0.961	1.010
HCC33: Intestinal Obstruction/Perforation	1.077	1.030	1.127	1.075	1.048	1.102
HCC34: Chronic Pancreatitis	1.044	0.947	1.150	1.114	1.066	1.165
HCC35: Inflammatory Bowel Disease	1.314	1.240	1.392	0.959	0.928	0.991
HCC39: Bone/Joint/Muscle Infections/Necrosis	1.087	1.030	1.148	1.098	1.067	1.129
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	1.199	1.170	1.229	1.142	1.128	1.157
HCC46: Severe Hematological Disorders	1.406	1.283	1.540	1.333	1.264	1.406
HCC47: Disorders of Immunity	0.736	0.703	0.770	1.027	1.003	1.051
HCC48: Coagulation Defects and Other Specified Hematological Disorders	0.950	0.929	0.971	1.053	1.040	1.066
HCC51: Dementia with Complications	1.321	1.286	1.356	1.614	1.589	1.640
HCC52: Dementia without Complications	1.432	1.402	1.463	1.781	1.759	1.802
HCC54: Substance Use with Psychotic Complications	1.661	1.539	1.793	0.659	0.625	0.695
HCC55: Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	0.824	0.802	0.847	0.799	0.788	0.810
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	0.909	0.848	0.975	0.751	0.726	0.777
HCC57: Schizophrenia	0.935	0.905	0.966	0.957	0.941	0.972
HCC58: Reactive and Unspecified Psychosis	0.903	0.854	0.954	1.047	1.013	1.083
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	1.016	0.999	1.034	1.067	1.057	1.076
HCC60: Personality Disorders	0.906	0.753	1.090	1.030	0.946	1.123
HCC70: Quadriplegia	1.223	1.157	1.293	2.164	2.091	2.239
HCC71: Paraplegia	2.211	2.049	2.387	2.866	2.756	2.980
HCC72: Spinal Cord Disorders/Injuries	1.610	1.520	1.706	1.617	1.574	1.662
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	3.889	3.293	4.592	2.699	2.424	3.005
HCC74: Cerebral Palsy	5.188	4.863	5.535	6.529	6.354	6.707
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	1.191	1.147	1.238	1.265	1.241	1.290
HCC76: Muscular Dystrophy	2.543	2.165	2.987	2.751	2.547	2.971
HCC77: Multiple Sclerosis	1.625	1.536	1.719	1.693	1.641	1.747
HCC78: Parkinson's and Huntington's Diseases	1.475	1.420	1.532	1.590	1.557	1.625

(continued)

Table C-4a. Full logistic regression model results predicting HCBS use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC79: Seizure Disorders and Convulsions	1.311	1.278	1.344	1.706	1.686	1.727
HCC80: Coma, Brain Compression/Anoxic Damage	1.118	1.045	1.196	0.901	0.867	0.936
HCC82: Respirator Dependence/Tracheostomy Status	1.174	1.068	1.290	1.342	1.279	1.408
HCC83: Respiratory Arrest	1.167	0.814	1.673	1.232	1.028	1.475
HCC84: Cardio-Respiratory Failure and Shock	1.173	1.133	1.215	1.319	1.295	1.343
HCC85: Congestive Heart Failure	1.148	1.119	1.178	1.254	1.237	1.271
HCC86: Acute Myocardial Infarction	0.960	0.920	1.002	0.929	0.908	0.950
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	1.205	1.148	1.265	1.005	0.978	1.031
HCC88: Angina Pectoris	1.095	1.064	1.127	1.083	1.067	1.098
HCC96: Specified Heart Arrhythmias	1.146	1.120	1.172	1.097	1.084	1.111
HCC99: Intracranial Hemorrhage	1.146	1.072	1.224	0.897	0.863	0.932
HCC100: Ischemic or Unspecified Stroke	1.050	1.017	1.084	1.080	1.061	1.099
HCC103: Hemiplegia/Hemiparesis	1.382	1.339	1.427	1.698	1.670	1.727
HCC104: Monoplegia, Other Paralytic Syndromes	1.619	1.475	1.777	1.405	1.338	1.476
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	1.053	0.978	1.133	1.230	1.183	1.280
HCC107: Vascular Disease with Complications	1.216	1.168	1.266	1.141	1.115	1.166
HCC108: Vascular Disease	0.925	0.908	0.941	1.052	1.042	1.062
HCC110: Cystic Fibrosis	1.053	0.647	1.716	1.252	1.023	1.531
HCC111: Chronic Obstructive Pulmonary Disease	1.199	1.173	1.226	1.093	1.081	1.105
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	1.434	1.364	1.506	1.095	1.064	1.127
HCC114: Aspiration and Specified Bacterial Pneumonias	1.255	1.194	1.318	0.917	0.891	0.944
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	0.884	0.835	0.937	0.902	0.873	0.933
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	1.253	1.190	1.319	1.222	1.190	1.254
HCC124: Exudative Macular Degeneration	1.239	1.178	1.303	1.216	1.179	1.254
HCC134: Dialysis Status	1.533	1.443	1.628	1.338	1.297	1.380
HCC135: Acute Renal Failure	1.244	1.204	1.285	1.133	1.113	1.152
HCC136: Chronic Kidney Disease, Stage 5	0.939	0.851	1.037	1.312	1.248	1.379
HCC137: Chronic Kidney Disease, Severe (Stage 4)	1.349	1.281	1.420	1.314	1.277	1.351

(continued)

Table C-4a. Full logistic regression model results predicting HCBS use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	1.032	1.011	1.054	1.077	1.064	1.089
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	1.195	1.083	1.318	1.106	1.045	1.170
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	1.293	1.216	1.374	1.024	0.988	1.062
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	0.790	0.747	0.837	1.339	1.294	1.385
HCC161: Chronic Ulcer of Skin, Except Pressure	1.151	1.105	1.200	1.228	1.202	1.256
HCC162: Severe Skin Burn or Condition	1.153	0.782	1.699	1.181	0.979	1.426
HCC166: Severe Head Injury	1.726	1.036	2.874	1.404	1.102	1.787
HCC167: Major Head Injury	1.397	1.326	1.471	1.175	1.141	1.211
HCC169: Vertebral Fractures without Spinal Cord Injury	1.145	1.086	1.207	1.231	1.195	1.268
HCC170: Hip Fracture/Dislocation	0.889	0.848	0.932	1.044	1.014	1.075
HCC173: Traumatic Amputations and Complications	1.147	1.054	1.248	1.073	1.022	1.127
HCC176: Complications of Specified Implanted Device or Graft	1.147	1.095	1.201	1.204	1.175	1.232
HCC186: Major Organ Transplant or Replacement Status	1.215	1.085	1.361	1.107	1.046	1.172
HCC188: Artificial Openings for Feeding or Elimination	1.072	1.023	1.124	1.242	1.211	1.275
HCC189: Amputation Status, Lower Limb/Amputation Complications	1.393	1.316	1.474	1.466	1.424	1.509

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table C-4b. Full logistic regression model results predicting HCBS use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence

Parameter	FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
State (ref = California)						
Alabama	—	—	—	2.695	2.602	2.791
Alaska	—	—	—	—	—	—
Arizona	12.987	12.548	13.442	1.955	1.903	2.009
Arkansas	—	—	—	3.258	3.135	3.386
Colorado	—	—	—	15.734	15.294	16.187
Connecticut	—	—	—	9.725	9.402	10.060
Delaware	—	—	—	9.528	8.857	10.249
District of Columbia	—	—	—	6.061	5.714	6.429
Florida	14.293	13.913	14.684	5.037	4.952	5.122
Georgia	—	—	—	5.672	5.539	5.807
Hawaii	—	—	—	2.221	2.133	2.313
Idaho	25.698	24.617	26.827	10.555	9.810	11.355
Illinois	—	—	—	—	—	—
Indiana	—	—	—	3.461	3.364	3.560
Iowa	—	—	—	8.310	8.033	8.596
Kansas	—	—	—	4.508	4.289	4.739
Kentucky	—	—	—	2.806	2.696	2.921
Louisiana	—	—	—	1.681	1.622	1.742
Maine	—	—	—	2.094	1.978	2.218
Maryland	—	—	—	2.090	1.961	2.228
Massachusetts	2.678	2.585	2.775	3.712	3.550	3.881
Michigan	—	—	—	1.217	1.174	1.261
Minnesota	25.441	24.696	26.209	19.724	18.956	20.522
Mississippi	—	—	—	9.957	9.637	10.286
Missouri	—	—	—	5.085	4.961	5.211
Montana	—	—	—	5.209	4.305	6.303
Nebraska	—	—	—	3.500	3.309	3.702
Nevada	—	—	—	4.093	3.845	4.358
New Hampshire	—	—	—	—	—	—
New Jersey	10.621	10.325	10.925	8.670	8.330	9.023
New Mexico	—	—	—	19.463	18.891	20.053
New York	27.230	26.515	27.965	13.550	13.350	13.754
North Carolina	—	—	—	0.886	0.858	0.915
North Dakota	—	—	—	—	—	—
Ohio	—	—	—	7.265	7.096	7.438

(continued)

Table C-4b. Full logistic regression model results predicting HCBS use in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence (continued)

Parameter	FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
Oklahoma	—	—	—	5.454	5.276	5.637
Oregon	—	—	—	17.991	17.562	18.432
Pennsylvania	8.318	8.081	8.562	7.903	7.763	8.045
Rhode Island	—	—	—	3.867	3.640	4.108
South Carolina	—	—	—	4.008	3.908	4.111
South Dakota	—	—	—	—	—	—
Tennessee	11.516	10.985	12.072	1.742	1.692	1.792
Texas	—	—	—	3.238	3.176	3.301
Utah	—	—	—	3.984	3.791	4.187
Vermont	—	—	—	—	—	—
Virginia	14.801	14.182	15.448	6.015	5.872	6.161
Washington	—	—	—	12.186	11.915	12.462
West Virginia	—	—	—	5.472	5.229	5.725
Wisconsin	29.078	27.996	30.201	8.639	8.440	8.842
Wyoming	—	—	—	—	—	—

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly. — = State not included in model.

Table C-5a. Full logistic regression model results predicting mortality in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
Enrollment in integrated plan (PACE, FIDE-SNP, or D-SNP)	0.869	0.829	0.910	0.829	0.814	0.844	0.694	0.686	0.702
Age (ref = 65–74)									
< 65	0.693	0.617	0.779	0.757	0.729	0.786	0.661	0.649	0.674
75–84	1.272	1.186	1.364	1.444	1.408	1.482	1.369	1.348	1.390
85+	1.886	1.736	2.050	2.432	2.359	2.507	2.558	2.511	2.605
Sex (ref = Male)									
Female	0.804	0.764	0.847	0.860	0.844	0.877	0.812	0.802	0.821
Race/ethnicity (ref = White, Non-Hispanic)									
Black, non-Hispanic	0.766	0.719	0.815	0.860	0.838	0.883	0.832	0.820	0.844
Hispanic	0.740	0.666	0.822	0.691	0.670	0.712	0.689	0.676	0.703
Asian	0.522	0.453	0.602	0.643	0.616	0.671	0.567	0.552	0.581
Other	0.760	0.635	0.910	0.746	0.703	0.791	0.776	0.748	0.805
Original reason for Medicare eligibility (ref = Old age and survivors)									
Disability	0.834	0.783	0.888	0.870	0.848	0.892	0.961	0.947	0.976
ESRD	1.269	0.859	1.873	1.478	1.282	1.704	1.405	1.311	1.505
Both disability and ESRD	1.137	0.804	1.608	1.421	1.213	1.665	1.291	1.193	1.398
Full-dual community risk score	1.750	1.590	1.925	1.804	1.739	1.871	1.591	1.560	1.623
HCCs									
HCC1: HIV/AIDS	0.647	0.427	0.980	0.677	0.600	0.763	0.821	0.776	0.869
HCC2: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	0.828	0.753	0.910	0.808	0.779	0.838	0.944	0.924	0.964
HCC6: Opportunistic Infections	0.709	0.492	1.022	0.924	0.820	1.041	0.849	0.797	0.904
HCC8: Metastatic Cancer and Acute Leukemia	1.163	0.884	1.530	1.382	1.252	1.525	2.026	1.919	2.140
HCC9: Lung and Other Severe Cancers	1.225	1.022	1.467	1.430	1.341	1.525	1.511	1.454	1.570
HCC10: Lymphoma and Other Cancers	0.900	0.723	1.120	1.010	0.942	1.084	1.115	1.068	1.165
HCC11: Colorectal, Bladder, and Other Cancers	0.961	0.812	1.139	1.152	1.085	1.223	1.102	1.061	1.144
HCC12: Breast, Prostate, and Other Cancers and Tumors	0.873	0.778	0.979	0.850	0.815	0.888	0.912	0.888	0.937
HCC17: Diabetes with Acute Complications	0.774	0.633	0.946	0.686	0.632	0.745	1.070	1.026	1.116

(continued)

Table C-5a. Full logistic regression model results predicting mortality in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC18: Diabetes with Chronic Complications	0.788	0.739	0.842	0.857	0.837	0.878	0.901	0.888	0.914
HCC19: Diabetes without Complication	0.806	0.734	0.886	0.953	0.918	0.991	0.971	0.949	0.993
HCC21: Protein-Calorie Malnutrition	0.970	0.877	1.073	1.077	1.040	1.115	1.187	1.163	1.212
HCC22: Morbid Obesity	0.666	0.609	0.728	0.628	0.609	0.648	0.773	0.760	0.786
HCC23: Other Significant Endocrine and Metabolic Disorders	0.910	0.830	0.997	0.864	0.840	0.889	0.879	0.864	0.895
HCC27: End-Stage Liver Disease	0.957	0.761	1.204	1.437	1.332	1.550	1.505	1.442	1.570
HCC28: Cirrhosis of Liver	1.054	0.867	1.282	1.184	1.106	1.267	1.307	1.260	1.356
HCC29: Chronic Hepatitis	1.004	0.796	1.267	0.842	0.779	0.911	1.088	1.048	1.129
HCC33: Intestinal Obstruction/Perforation	0.907	0.790	1.042	0.791	0.753	0.831	0.881	0.855	0.908
HCC34: Chronic Pancreatitis	0.596	0.414	0.856	0.872	0.779	0.976	0.900	0.849	0.954
HCC35: Inflammatory Bowel Disease	0.914	0.728	1.148	0.921	0.855	0.992	0.780	0.743	0.820
HCC39: Bone/Joint/Muscle Infections/Necrosis	0.722	0.609	0.856	0.670	0.629	0.714	0.725	0.700	0.752
HCC40: Rheumatoid Arthritis and Inflammatory Connective Tissue Disease	0.757	0.684	0.837	0.752	0.727	0.777	0.765	0.750	0.780
HCC46: Severe Hematological Disorders	0.375	0.257	0.547	0.477	0.429	0.529	0.577	0.539	0.618
HCC47: Disorders of Immunity	0.758	0.638	0.902	0.762	0.726	0.800	0.833	0.809	0.859
HCC48: Coagulation Defects and Other Specified Hematological Disorders	0.874	0.804	0.949	0.857	0.836	0.879	0.862	0.848	0.876
HCC51: Dementia with Complications	1.828	1.691	1.977	2.117	2.054	2.181	2.304	2.261	2.348
HCC52: Dementia without Complications	1.386	1.303	1.474	1.654	1.613	1.696	1.554	1.530	1.580
HCC54: Substance Use with Psychotic Complications	0.482	0.336	0.693	0.514	0.462	0.572	0.717	0.672	0.764
HCC55: Substance Use Disorder, Moderate/Severe, or Substance Use with Complications	0.621	0.553	0.697	0.783	0.758	0.810	0.833	0.816	0.849
HCC56: Substance Use Disorder, Mild, Except Alcohol and Cannabis	1.012	0.743	1.379	1.173	1.072	1.282	1.010	0.961	1.061
HCC57: Schizophrenia	0.576	0.503	0.661	0.611	0.581	0.642	0.754	0.734	0.775

(continued)

Table C-5a. Full logistic regression model results predicting mortality in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC58: Reactive and Unspecified Psychosis	0.695	0.563	0.859	0.694	0.651	0.740	0.822	0.788	0.857
HCC59: Major Depressive, Bipolar, and Paranoid Disorders	0.740	0.693	0.790	0.782	0.764	0.800	0.789	0.779	0.800
HCC60: Personality Disorders	0.786	0.426	1.450	1.245	0.989	1.567	0.630	0.536	0.740
HCC70: Quadriplegia	0.851	0.672	1.079	0.753	0.708	0.801	0.858	0.822	0.896
HCC71: Paraplegia	0.679	0.494	0.933	0.647	0.580	0.721	0.751	0.708	0.797
HCC72: Spinal Cord Disorders/Injuries	0.550	0.428	0.707	0.633	0.580	0.690	0.787	0.752	0.824
HCC73: Amyotrophic Lateral Sclerosis and Other Motor Neuron Disease	2.293	1.320	3.983	1.803	1.489	2.182	1.689	1.478	1.930
HCC74: Cerebral Palsy	0.534	0.319	0.896	0.836	0.732	0.955	0.820	0.767	0.876
HCC75: Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy	0.638	0.523	0.778	0.805	0.769	0.842	0.706	0.686	0.727
HCC76: Muscular Dystrophy	1.166	0.592	2.296	1.171	0.915	1.498	1.246	1.094	1.420
HCC77: Multiple Sclerosis	0.513	0.393	0.670	0.689	0.629	0.755	0.815	0.771	0.861
HCC78: Parkinson's and Huntington's Diseases	0.864	0.770	0.971	0.931	0.891	0.972	1.047	1.018	1.076
HCC79: Seizure Disorders and Convulsions	0.804	0.731	0.884	0.899	0.869	0.930	0.948	0.930	0.967
HCC80: Coma, Brain Compression/Anoxic Damage	0.910	0.737	1.122	1.331	1.238	1.431	1.066	1.021	1.114
HCC82: Respirator Dependence/Tracheostomy Status	0.408	0.297	0.562	0.410	0.368	0.457	0.559	0.527	0.593
HCC83: Respiratory Arrest	1.359	0.552	3.346	0.747	0.533	1.048	0.961	0.798	1.157
HCC84: Cardio-Respiratory Failure and Shock	0.982	0.885	1.090	1.109	1.067	1.154	1.212	1.185	1.239
HCC85: Congestive Heart Failure	0.946	0.871	1.028	0.979	0.948	1.010	1.011	0.992	1.030
HCC86: Acute Myocardial Infarction	0.911	0.815	1.019	0.807	0.771	0.844	1.019	0.993	1.046
HCC87: Unstable Angina and Other Acute Ischemic Heart Disease	0.902	0.781	1.042	0.885	0.839	0.934	0.977	0.946	1.009
HCC88: Angina Pectoris	0.855	0.766	0.955	0.845	0.816	0.875	0.864	0.846	0.883
HCC96: Specified Heart Arrhythmias	0.934	0.871	1.001	0.954	0.929	0.980	1.016	1.000	1.032

(continued)

Table C-5a. Full logistic regression model results predicting mortality in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC99: Intracranial Hemorrhage	0.752	0.605	0.936	0.771	0.714	0.832	0.986	0.942	1.033
HCC100: Ischemic or Unspecified Stroke	0.833	0.754	0.919	1.077	1.038	1.118	0.952	0.931	0.974
HCC103: Hemiplegia/Hemiparesis	0.830	0.751	0.918	0.845	0.813	0.878	0.952	0.930	0.974
HCC104: Monoplegia, Other Paralytic Syndromes	0.669	0.474	0.945	0.878	0.778	0.991	0.830	0.771	0.893
HCC106: Atherosclerosis of the Extremities with Ulceration or Gangrene	0.511	0.411	0.636	0.571	0.526	0.619	0.709	0.676	0.743
HCC107: Vascular Disease with Complications	0.736	0.647	0.838	0.845	0.805	0.886	0.852	0.828	0.877
HCC108: Vascular Disease	0.845	0.797	0.895	0.857	0.838	0.877	0.896	0.884	0.908
HCC110: Cystic Fibrosis	<0.001	<0.001	>999.999	0.280	0.146	0.536	0.434	0.323	0.582
HCC111: Chronic Obstructive Pulmonary Disease	0.843	0.777	0.914	0.806	0.782	0.830	0.957	0.941	0.973
HCC112: Fibrosis of Lung and Other Chronic Lung Disorders	0.802	0.647	0.995	1.095	1.031	1.162	0.938	0.900	0.976
HCC114: Aspiration and Specified Bacterial Pneumonias	0.915	0.794	1.054	0.871	0.827	0.917	0.890	0.863	0.918
HCC115: Pneumococcal Pneumonia, Empyema, Lung Abscess	0.987	0.826	1.179	0.834	0.785	0.887	0.987	0.951	1.025
HCC122: Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	0.871	0.744	1.019	0.863	0.810	0.920	0.937	0.903	0.972
HCC124: Exudative Macular Degeneration	0.719	0.616	0.839	0.799	0.753	0.847	0.867	0.833	0.903
HCC134: Dialysis Status	1.465	1.252	1.713	1.404	1.316	1.497	1.770	1.708	1.835
HCC135: Acute Renal Failure	0.902	0.818	0.994	1.054	1.015	1.094	1.128	1.104	1.153
HCC136: Chronic Kidney Disease, Stage 5	1.280	0.956	1.712	1.384	1.248	1.534	1.445	1.354	1.542
HCC137: Chronic Kidney Disease, Severe (Stage 4)	1.331	1.143	1.549	1.453	1.375	1.535	1.496	1.444	1.550
HCC138: Chronic Kidney Disease, Moderate (Stage 3)	1.057	0.980	1.139	1.102	1.075	1.130	1.079	1.061	1.097
HCC157: Pressure Ulcer of Skin with Necrosis Through to Muscle, Tendon, or Bone	0.585	0.424	0.807	0.413	0.370	0.460	0.715	0.671	0.763

(continued)

Table C-5a. Full logistic regression model results predicting mortality in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary characteristics (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
HCC158: Pressure Ulcer of Skin with Necrosis with Full Thickness Skin Loss	0.855	0.708	1.033	1.054	0.987	1.125	0.913	0.877	0.951
HCC159: Pressure Ulcer of Skin with Necrosis with Partial Thickness Skin Loss	1.197	1.021	1.403	0.807	0.761	0.857	1.228	1.183	1.275
HCC161: Chronic Ulcer of Skin, Except Pressure	0.918	0.807	1.044	0.915	0.872	0.961	1.112	1.081	1.144
HCC162: Severe Skin Burn or Condition	0.597	0.129	2.768	1.031	0.653	1.630	0.630	0.473	0.839
HCC166: Severe Head Injury	1.425	0.140	14.491	0.574	0.263	1.251	0.531	0.367	0.766
HCC167: Major Head Injury	1.070	0.895	1.278	1.040	0.972	1.111	0.967	0.927	1.008
HCC169: Vertebral Fractures without Spinal Cord Injury	0.766	0.658	0.891	0.834	0.789	0.883	1.014	0.979	1.051
HCC170: Hip Fracture/Dislocation	0.813	0.712	0.928	0.925	0.880	0.973	0.866	0.838	0.894
HCC173: Traumatic Amputations and Complications	0.788	0.616	1.008	0.741	0.674	0.814	0.790	0.744	0.838
HCC176: Complications of Specified Implanted Device or Graft	0.708	0.619	0.809	0.733	0.696	0.772	0.742	0.720	0.764
HCC186: Major Organ Transplant or Replacement Status	0.416	0.246	0.703	0.509	0.441	0.586	0.482	0.445	0.522
HCC188: Artificial Openings for Feeding or Elimination	0.753	0.642	0.882	0.755	0.717	0.796	0.788	0.763	0.813
HCC189: Amputation Status, Lower Limb/Amputation Complications	0.756	0.629	0.908	0.886	0.828	0.947	0.937	0.902	0.973

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. HCC = Hierarchical Condition Category. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly.

Table C-5b. Full logistic regression model results predicting mortality in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
State (ref = California)									
Alabama	1.284	0.846	1.950	—	—	—	1.281	1.221	1.344
Alaska	—	—	—	—	—	—	—	—	—
Arizona	—	—	—	1.218	1.162	1.277	0.903	0.871	0.936
Arkansas	2.031	1.639	2.517	—	—	—	1.423	1.354	1.496
Colorado	1.282	1.140	1.441	—	—	—	1.090	1.036	1.147
Connecticut	—	—	—	—	—	—	0.924	0.872	0.978
Delaware	1.581	1.125	2.221	—	—	—	1.185	1.034	1.358
District of Columbia	—	—	—	—	—	—	1.120	1.008	1.244
Florida	1.581	1.403	1.781	1.567	1.520	1.617	0.917	0.896	0.938
Georgia	—	—	—	—	—	—	1.478	1.429	1.529
Hawaii	—	—	—	—	—	—	0.789	0.740	0.842
Idaho	—	—	—	1.885	1.761	2.017	0.715	0.614	0.833
Illinois	2.213	1.223	4.005	—	—	—	—	—	—
Indiana	1.645	1.336	2.027	—	—	—	1.258	1.210	1.307
Iowa	1.286	1.029	1.608	—	—	—	1.250	1.178	1.328
Kansas	2.236	1.806	2.767	—	—	—	1.305	1.212	1.405
Kentucky	1.466	0.289	7.423	—	—	—	1.591	1.515	1.671
Louisiana	1.668	1.255	2.217	—	—	—	1.434	1.377	1.494
Maine	—	—	—	—	—	—	1.140	1.061	1.225
Maryland	1.445	0.974	2.142	—	—	—	1.184	1.096	1.278
Massachusetts	1.328	1.151	1.533	1.187	1.143	1.233	0.546	0.507	0.589
Michigan	1.915	1.704	2.153	—	—	—	1.172	1.129	1.216
Minnesota	—	—	—	1.823	1.754	1.893	0.991	0.899	1.091
Mississippi	—	—	—	—	—	—	1.561	1.475	1.653
Missouri	4.630	1.837	11.673	—	—	—	1.231	1.187	1.277
Montana	—	—	—	—	—	—	6.844	5.691	8.231
Nebraska	1.369	0.969	1.935	—	—	—	1.199	1.102	1.305
Nevada	—	—	—	—	—	—	1.586	1.462	1.719
New Hampshire	—	—	—	—	—	—	—	—	—
New Jersey	1.156	0.976	1.370	1.295	1.248	1.343	0.847	0.792	0.905
New Mexico	1.374	1.089	1.735	—	—	—	1.307	1.238	1.380
New York	1.498	1.359	1.651	1.459	1.415	1.504	0.944	0.925	0.964
North Carolina	1.725	1.419	2.097	—	—	—	1.251	1.214	1.290
North Dakota	1.477	0.833	2.619	—	—	—	—	—	—
Ohio	0.953	0.740	1.226	—	—	—	0.796	0.763	0.830

(continued)

Table C-5b. Full logistic regression model results predicting mortality in 2021, by integrated care plan enrollment (reference = comparison MA): Beneficiary state of residence (continued)

Parameter	PACE			FIDE-SNP			D-SNP		
	Odds Ratio	95% CI		Odds Ratio	95% CI		Odds Ratio	95% CI	
Oklahoma	1.405	1.133	1.742	—	—	—	1.344	1.278	1.413
Oregon	1.989	1.735	2.281	—	—	—	1.263	1.214	1.315
Pennsylvania	1.747	1.579	1.933	1.676	1.623	1.730	1.122	1.093	1.152
Rhode Island	1.386	1.056	1.820	—	—	—	0.995	0.909	1.090
South Carolina	2.034	1.610	2.569	—	—	—	1.289	1.241	1.338
South Dakota	—	—	—	—	—	—	—	—	—
Tennessee	1.910	1.498	2.435	2.319	2.191	2.453	1.539	1.491	1.589
Texas	1.389	1.178	1.638	—	—	—	1.152	1.124	1.181
Utah	—	—	—	—	—	—	1.184	1.093	1.281
Vermont	—	—	—	—	—	—	—	—	—
Virginia	1.973	1.715	2.271	1.849	1.747	1.955	1.325	1.278	1.374
Washington	1.972	1.688	2.305	—	—	—	1.261	1.215	1.308
West Virginia	—	—	—	—	—	—	1.487	1.392	1.589
Wisconsin	1.711	1.427	2.053	1.754	1.669	1.844	1.180	1.136	1.226
Wyoming	—	—	—	—	—	—	—	—	—

Notes: D-SNP = Dual Eligible Special Needs Plan. FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan. MA = Medicare Advantage. PACE = Program of All-inclusive Care for the Elderly. — = State not included in model.