Title

Impact of Community First Choice in Alaska on Home- and Community-Based Service Utilization Among Medicaid Enrollees with Intellectual and/or Developmental Disabilities

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Word Count

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Structured Abstract (298/300)

Objective. To evaluate the short-term effect of Medicaid Community First Choice (CFC) implementation on utilization of home- and community-based services (HCBS) by enrollees with intellectual and/or developmental disabilities (I/DD) in Alaska.

Study Setting and Design. Outcomes were binary indicators for utilization of three covered HCBS: home-based services, HCBS-related case management, and technical modifications/equipment. We used a synthetic difference-in-differences approach to compare changes in HCBS utilization before (2016-2018) and after (2019) CFC implementation in Alaska versus states that did not implement CFC, with enrollee-quarter as the unit of analysis. We adjusted for states' 1915(c) waiver waiting lists and the number of direct care workers. We conducted stratified analyses by race.

Data Sources and Analytic Sample. Using 2016–2019 Medicaid data, we included enrollees aged 18+ with autism, Down Syndrome, or another intellectual disability codes (N=565,143 enrollees).

Principal Findings. In Alaska, CFC implementation was associated with a 1.34 percentage point (pp) decrease (95% CI -2.32, -0.43, 11.4% reduction from baseline mean) in use of home-based services and a 1.30 pp increase (95% CI 0.24, 2.35, 6.8% increase) in use of technical modifications/equipment. No meaningful changes were found in use of case management. Among white enrollees, CFC implementation was associated with a 1.56 pp decrease in use of home-based services (95% CI -2.78, -0.33, 15.6% reduction) and a 2.74 pp increase in use of technical modifications/equipment (95% CI 1.54, 3.94, 14.1% increase), but no meaningful changes in case management. Among American Indian/Alaska Native enrollees, CFC was not associated with changes in any of the three covered HCBS categories.

Conclusions. Following one year of implementation, CFC in Alaska was not associated with any improvements in use of home-based services or case management among Medicaid enrollees with I/DD. Use of technical modifications/equipment increased for white but not AI/AN enrollees, elucidating a potential disparity.

Keywords

Medicaid, home- and community-based services, intellectual and/or developmental disabilities

Callout box (30 words/bullet point)

What is known about this topic.

- The Community First Choice (CFC) program enables Medicaid enrollees needing an institutional level of care to receive vital personal care and support services at home, promoting community living and offering states an incentive to shift from institutional to community-based care.
- While some CFC states increased spending on home- and community-based services (HCBS), little is known about how CFC impacts rural or indigenous communities, nor how it affects enrollees with intellectual and/or developmental disabilities (I/DD), communities facing compounding barriers to care.

What this study found.

- In the year following CFC implementation in Alaska, use of home-based services and case management did not increase, while use of technical modifications or equipment increased for white but not American Indian/Alaska Native Medicaid enrollees with I/DD.
- Expanding coverage of HCBS services may be insufficient to increase access and reduce inequities in HCBS use among Medicaid enrollees with I/DD, particularly in settings where workforce and rurality may pose greater barriers for receiving services at home.

Introduction

Over the past forty years, health and social policy has shifted to support deinstitutionalization, or the movement away from care provided in nursing homes and congregate settings towards home- and community-based services (HCBS) for people with disabilities and older adults.[1] HCBS includes services such as personal care services, supported employment, and respite care. Medicaid 1915(c) waivers, authorized under section 1915(c) of the Social Security Act, allow states to provide HCBS to a defined group of enrollees as an alternative to institutional care.[2,3] While 47 states currently operate 1915(c) waiver programs, not all eligible enrollees can access services, in part due to enrollment caps and waiting lists.[4] Enrollees with intellectual and/or developmental disabilities (I/DD)—such as Down Syndrome, autism, and Prader-Willi Syndrome—are disproportionately represented on waiver waiting lists, comprising almost three-quarters (73%) of the total waiting list population.[4] Due to racism embedded in health and social service systems[5-7], racially and ethnically minoritized enrollees with I/DD are generally less likely to receive waiver services and are more likely to have unmet healthcare needs and use fewer services compared to white and non-Hispanic enrollees with I/DD.[8-10] Barriers to accessing HCBS threaten the *Olmstead Act*'s promise that people with disabilities have a right to live in the community[11] and may worsen existing racial and ethnic disparities in healthcare access, outcomes, and quality of life for people with I/DD.[12-14]

The Patient Protection and Affordable Care Act (ACA) of 2010 included several provisions to expand Medicaid coverage of HCBS, including the Community First Choice (CFC) 1915(k) state plan option.[15] CFC allows states to provide comprehensive personal care services (i.e., help with daily tasks and health needs) and backup response systems such as Personal Emergency Response Systems (PERS) and mobile communication devices. While aiming to serve a similar population as 1915(c) waivers—enrollees who meet institutional level of care determinations—CFC differs in several important ways that could address barriers to accessing HCBS. States may cover case management, which can help enrollees navigate complex disability service systems and ensure that services are appropriate and meet goals of care.[16] Second, states may cover services supporting self-direction (such as assistive technology, skills training, and training to help manage personal care attendants), which can enable greater choice and control over care.[17] Third, enrollees can pay family caregivers to provide personal care services, either directly or through agencies. Fourth, states cannot cap enrollment and are therefore offered an additional 6% in Federal Medical Assistance Percentage (FMAP), the percentage of Medicaid expenditures reimbursed by the federal government, to help offset the cost for covered services. To date, ten states have adopted the program: California, Colorado, Oregon, Montana, Maryland, Texas, Washington, Connecticut, New York, and Alaska.

Understanding the impact of the CFC program can help inform policymakers' efforts to rebalance spending on long-term services and supports (LTSS) and address growing waiting lists for HCBS waivers. However, there has been only one study of the causal effect of CFC expansion, which focused on changes in state-level expenditures in six CFC states.[18] The authors found heterogeneity in treatment effects across states: HCBS expenditures increased in Oregon, Connecticut, Texas, and Maryland, but decreased in Montana and Washington (none statistically significant). They also found statistically significant declines in the proportion of HCBS expenditures spent on the Personal Care Service state plan option in Montana (relative change: 91%), Maryland (46%), and Washington (75%), and in 1915(c) waiver expenditures in Oregon (83%). These findings suggest states substituted CFC for other HCBS programs, but further work is needed to analyze the program's effects on utilization of HCBS, in particular for racially minoritized and rural enrollees that face compounding barriers to care and community living.[8,14,19]

While Alaska is only one of 15 states to have eliminated all large state-run congregate care facilities for individuals with I/DD, it ranks low (40th of 50) among all states on metrics related to community inclusion and support for individuals with I/DD and their families.[20] One in three Medicaid enrollees in Alaska are American Indian or Alaska Native (AI/AN).[21] HCBS are especially important for AI/AN communities, given the rural location of some tribal lands and the importance of retaining connections to home, community, relationships, language, and diet as a component of whole-person health.[22] While AI/AN people with I/DD report high levels of support from family, community, and tribal service agency staff, significant barriers exist to accessing state-funded HCBS, including limited transportation to services located off tribal land, a lack of communication between tribal health facilities and state-run I/DD agencies, and uncertainty whether service providers will be respectful of indigenous culture, laws and customs.[23]

To address these gaps, our objective is to estimate the short-term effect of CFC implementation on utilization of covered services by enrollees with I/DD in Alaska using a quasi-experimental approach.

Methods

Data Source

The primary data source was the 2016–2019 Medicaid Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files (TAF) data, which include Medicaid claims and enrollment data for all 50 states. Specifically, we used the Demographic and Eligibility (DE) and Other Services (OT) claims files, which are collected on an annual basis. The OT files contain claims records for a variety of Medicaid services, including home- and community-based services, and comprises fee-for-service claims, managed care encounters, and financial transaction records.

Study Sample

Our sample included Medicaid enrollees ages 18 and older with a diagnosis of autism, Down Syndrome, or another intellectual disability, based on having one inpatient or two or more other types of claims with an ICD-9 or -10 code specific to the diagnosis between 2011–2019 (Appendix 1) (n=1,471,503). We then excluded enrollees who (1) were not continuously enrolled in Medicaid (defined as >=9 months in each year 2016-2019) (n=224,586 excluded), who lived in the eight states with active CFC programs and thus could not serve as controls (n=346,295), (3) who moved states during the study period (n=38,288), and (4) who had missing reporting state, age, or zip code data (n=297,191 excluded). Appendix 2 compares baseline characteristics between the study sample and excluded enrollees.

Our exposure group included enrollees living in Alaska who met sample inclusion criteria, where Alaska was the only state to implement CFC during the period of available T-MSIS data (2016–2019). Alaska's CFC went into effect in October 2018 and covered personal care services, case management, participant training, and Personal Emergency Response Systems (a type of specialized medical equipment).[24] We considered the first quarter of 2019 to be the first exposed timepoint due to expected policy implementation lags. Our available comparison group, or donor pool from which comparators were selected, included enrollees living in states other than Alaska who otherwise met sample inclusion criteria; from this group, we excluded enrollees living in other states with active CFC programs in 2016–2019 (California, Connecticut, Maryland, Montana, New York, Oregon, Texas, and Washington).

Variables

Our outcomes included three categories of HCBS service utilization that were covered by CFC in Alaska, all measured as binary indicators at the enrollee quarter-level: (1) Home-based services, (2) HCBS-related case management services, and (3) Technical modifications or equipment (e.g., Personal Emergency Response Systems). We used a binary indicator instead of the volume of claims due to state-level differences in coding practices, making it difficult to validly compare the intensity of service use across states.[25] If a enrollee had at least one claim for a service category with a start date in a quarter, we assigned them as "yes," otherwise, we assigned them as "no."

We identified HCBS service categories using the methodology outlined in the TAF Methodology Brief and supplemental Excel file *Identifying Home and Community-Based Services and the Enrollees Who Use Them in the TAF*[25] and the ASPE brief *Identifying and Classifying Medicaid Home and Community-Based Services Claims in the Transformed Medicaid Statistical Information System, 2016*–2020[26]*,* which adapted service categories from the MAX HCBS taxonomy.[27] Using codes from the Healthcare Common Procedure Coding System (HCPCS), ICD-10 Procedure Coding System (ICD-10-PCS),

or Current Procedural Terminology (CPT) codes in the OT files, we used a multi-stage hierarchical approach to ensure claims were not classified into multiple categories. First, state-specific procedure codes were prioritized over generic, nationally recognized codes because they were confirmed by states as established coding schemes for HCBS services. Second, on remaining claims, we used national procedure codes to identify HCBS claims using either: (1) procedure codes only, (2) procedure codes and a combination of other general administrative codes (type of service or procedure code modifiers), or (3) procedure codes and HCBS-funded indicator codes (program type, benefit type, HCBS code, or waiver type).

Variables included self-reported race (White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, or Unspecified or Other) and ethnicity (Hispanic or Latino or Non-Hispanic or Latino); age category (18–25, 26–34, 35–44, 45–54, 55–64, and 65–89); disability diagnosis (Down Syndrome, Autism without Down Syndrome, or Intellectual Disability without Autism or Down Syndrome), sex (male or female), dual Medicare/Medicaid eligibility, and rurality based on enrollees' five-digit zip code using the Federal Office of Rural Health Policy Data Files. Race and ethnicity variable definition is described in previous work.[28-30]

Analyses

We used synthetic difference-in-differences to compare changes in HCBS utilization before and after CFC implementation in Alaska versus states that did not implement CFC.[31] This approach estimates the average treatment effect on the treated using a two-way fixed effect regression with optimally chosen time and unit weights; we also estimated standard errors using a jackknife approach.[32] It addresses limitations of both traditional difference-in-differences (DID) and synthetic control methods; unlike DID, synthetic DID imputes the counterfactual trend for the exposed units using a weighted average of the potential donor units, with unit-weights chosen to minimize the differences in outcomes between exposed units and controls for all pre-exposure periods. Synthetic DID also uses time weights chosen to weigh more highly periods that are more predictive of post-exposure outcomes. Unlike synthetic control, synthetic DID allows the pre-exposure period to have different baseline levels between the exposed and control units and uses unit fixed effects to adjust for unobserved characteristics of controls. The synthetic DID estimator has been used in prior policy evaluation studies.[33,34]

Our unit of analysis was an enrollee-quarter, where for ease of computation we collapsed this at the state-sex-disability diagnosis-dual eligible-rural zip code-quarter level (creating a rate of service use), which was the most granular level of collapse that we could generate while retaining the balanced panel required to estimate the synthetic DID. We also conducted two stratified analyses of white enrollees and AI/AN enrollees. We chose to focus on white and AI/AN enrollees because they were the two largest

racial groups in our Alaska sample, where AI/AN enrollees with I/DD face compounding barriers to optimal health care access based on ableism, historical trauma, or the cumulative and collective psychological effects across generations resulting from long-term traumatic events, and systemic underinvestment in tribal health and social services.[35] For these stratified analyses, we collapsed the data at the state-sex-disability diagnosis-dual eligibility-quarter level. For our pooled and stratified samples, we conducted secondary analyses adjusting for two time-varying state-level covariates: the presence of a 1915(c) waiver waiting list[36] and the number of workers caring for the aged and disabled from the Bureau of Labor Statistics; for these analyses the District of Columbia was excluded from the donor pool due to a lack of provider supply data. Due to the large number of treated units, we did not report unit weights for our analyses.

Analyses were conducted using the *sdid* package on Stata 17. This study was approved by the [REDACTED] Institutional Review Board.

Sensitivity Analyses

We conducted four sensitivity analyses. First, we assigned the post-exposure period to start in the fourth quarter of 2018 to understand if our results were sensitive to the assumption of a policy implementation lag. Second, we examined utilization of a service that should be unaffected by CFC implementation in Alaska, non-medical transportation, as a falsification test. Third, we repeated the pooled analyses using a DID design and heteroskedasticity-consistent (HC2) bias-adjusted clustered standard errors to understand whether our results are sensitive to the weighting of time periods and groups, as DID assigns equal weighting to all time periods and groups. Fourth, we repeated the pooled analysis using a standard DID approach above with frequency weighting to account for variation in the number of enrollees comprising each treated unit (an option that is currently unavailable with the *sdid* command).

Results

Sample Characteristics

The analytic sample included 565,143 unique adult Medicaid enrollees with I/DD from 2016 to 2019, corresponding to 9,076,080 enrollee-quarters. **Table 1** details characteristics of enrollees in Alaska (n=31,280 enrollee-quarters) compared to all other states, excluding the eight CFC states (n=9,044,800 enrollee-quarters). Alaska had a lower mean age (35.9 vs. 40.3 years), a smaller population of white enrollees (56.2% vs. 74.2%), and a larger population of AI/AN (30.2% vs. 0.8%) compared to those living in control states. A smaller proportion of enrollees in Alaska had an Intellectual Disability without Autism or Down Syndrome (56.6% vs. 67.6%), were dual eligible (54.5% vs. 61.6%), and lived in a non-rural zip code (54.9% vs. 70.1%) compared to those living in control states.

Compared to those living in control states, a lower proportion of enrollees in Alaska had claims for any home-based services (11.8%, 95% Confidence Interval 11.4, 12.2 vs. 25.4%, 95% CI 25.3, 25.4). Enrollees in Alaska had higher rates of claims for case management (71.1%, 95% CI 70.6, 71.7 vs. 45.7%, 95% CI 45.6, 45.7) and technical modifications or equipment (19.2%, 95% CI 18.7, 19.7 vs. 10.4%, 95% CI 10.3, 10.4) compared to controls (Table 1). Appendix 2 details rates of HCBS utilization by race, before versus after CFC implementation in Alaska.

Unadjusted and Adjusted Synthetic Difference-in-Differences Estimates

Unadjusted and Adjusted Pooled Analyses

Before adjusting for time-varying confounders, we found that CFC implementation in Alaska was associated with a 1.17 percentage point (pp) decrease (95% CI -2.09, -0.25) in utilization of any home-based services and a 1.34 pp increase (95% CI, 0.31, 2.36) in utilization of any technical modifications or equipment in our pooled analysis of Alaska versus controls—small but statistically significant changes (**Table 2**, **Figure 1**). Relative to the pre-CFC implementation means, this represented a 9.9% decrease in utilization of any home-based services and a 7.0% increase in utilization of any technical modifications or equipment (Table 2). We did not find significant changes in case management rates (Table 2, Figure 1).

After adjusting for 1915(c) waiver waiting lists and the number of workers caring for the aged and disabled in each state, we found that CFC implementation was associated with a 1.34 pp decrease (95% CI -2.32, -0.43, 11.4% decrease) in utilization of any home-based services and a 1.30 pp increase (95% CI, 0.24, 2.35, 6.8% increase) in utilization of any technical modifications or equipment (Table 2, Figure 2). No significant changes were found in use of any case management services (Table 2, Figure 2).

Unadjusted and Adjusted Analyses Stratified by Race

In our unadjusted stratified analyses of white enrollees, CFC implementation in Alaska was associated with a 1.37 pp (95% CI 0.13, 2.60) decrease in any home-based services and 2.82 pp (95% CI 1.55, 4.09) increase in technical modifications or equipment for white enrollees in Alaska compared to controls (Table 2, Figure 1). These correspond to a 13.7% reduction and 14.5% increase from pre-implementation means, respectively. After adjustment, we found a 1.56 pp decrease in use of any home-based services (95% CI -2.78, -0.33, 15.6% reduction) and a 2.74 pp increase in use of any technical modifications or equipment (95% CI 1.54, 3.94, 14.1%) (Table 2, Figure 2). We did not find any meaningful changes in the use of case management among white enrollees. Before and after adjustment, we did not find significant changes in utilization of any of the three covered service categories for AI/AN enrollees following CFC implementation in Alaska (Table 2, Figure 1, Figure 2).

Sensitivity Analyses

Appendix 4 details the results of our sensitivity analyses. When using an alternative treatment start date of the fourth quarter of 2018, we found a small increase in the magnitude of the case management effect estimate (1.66 pp, 95% CI 0.00, 3.31, p=0.05). We found results similar in magnitude and direction to our main pooled analysis when using a standard DID with and without frequency weighting, except we observed increases in use of case management. As expected, we did not find significant changes in utilization of a non-covered service or non-medical transportation after implementation of CFC in Alaska compared to controls, which served as a falsification test.

Discussion

Using 2016–2019 Medicaid data, we estimated the short-term effects of CFC implementation in Alaska on utilization of three categories of covered HCBS. Before and after adjustment for confounders, we found that after one year, CFC implementation in Alaska was associated with small but statistically significant decreases in rates of home-based services and increases in rates of technical modifications or equipment for all enrollees with I/DD; there were no changes to case management rates. We found similar trends among white enrollees, however, no significant changes were observed in HCBS rates among AI/AN enrollees.

There was no evidence of improved utilization rates of home-based services and case management in the year following CFC implementation in Alaska. There are several possible explanations for this. First, Alaska may have used CFC to substitute care by shifting them to these programs instead of enroll new individuals in HCBS. Qualitative evaluations of other states' CFC implementation has described this as a "money swap on the backend" and may be more common among HCBS-oriented versus institutionally-oriented states.[37] Second, a new assessment approach was implemented for CFC services that evaluated individuals' ability to complete activities of daily living and instrumental activities of daily living, which may not be as tailored to the needs of the I/DD community as the goal-setting assessments used under waiver programs.[38] This may have disrupted or hindered home-based service use if enrollees were required to undergo novel service assessments. Losing access to personal care services could result in challenges completing daily activities, a loss of independence, and increased strain on unpaid caregivers to address unmet care needs, further depleting the healthcare system. Third, enrollees' service needs may have been adequately met at baseline. For example, the pre-implementation case management rate in Alaska was 71.1% compared to 45.7% in control states. This is possibly due to several ongoing systems change efforts in Alaska to integrate and expand case management services.[39] Fourth, it is possible the CFC program did not meaningfully increase the number of enrollees with I/DD receiving HCBS services, but rather increased intensity of services; however,

we were unable to reliably measure this in our data. Overall, our results suggest that the CFC program may not provide adequate incentives or support to states to expand access to home-based services or case management to “service-naïve” enrollees in the short-term.

We also found a small but significant increase in the use of any technical modifications or equipment in our pooled analysis and among white enrollees, but not among AI/AN enrollees. Personal Emergency Response Systems (PERS), a benefit covered under CFC, can help promote independence and mobility at home for people with I/DD.[40] American Indian or Alaska Native enrollees in Alaska had slightly lower baseline rates of use, which raises the concern that CFC implementation may have widened disparities in utilization rates. While our findings may reflect differences in demand for PERS, they may also be explained by disparities in accessibility. Some states only offer this benefit if enrollees live alone or have limited support[40], which may exclude AI/AN enrollees who have strong family and community ties, even if they may benefit from this service offering. Living in a rural location may also pose a barrier to accessing PERS because it requires installation and setup in the home. While PERS use has shown to decrease hospital admissions among community-dwelling older adults[41], more research on access and racial equity among enrollees with I/DD is needed to understand enrollees’ perception of PERS availability and appropriateness.

Our findings may also reflect HCBS workforce constraints. Provider reimbursement rates were reported as a barrier to successful CFC implementation in Maryland and Texas[18]; Montana experienced a decline in service utilization and enrollment after reducing service rates for CFC and two other HCBS programs.[42] An evaluation of care coordination providers in Alaska found a 43% reduction in the number of care coordinators from 2015 to 2022. Care providers reported numerous barriers to building workforce capacity including conflict-free federal case management regulation, road infrastructure, increasing workloads, stagnant wages, and limited employee benefits. These challenges resulted in practices that could have hindered access to HCBS, such as restrictive referral practices of accepting referrals for individuals already receiving waiver services.[43] Expanding coverage of HCBS may not be sufficient for facilitating service access without corresponding workforce reforms to recruit and retain HCBS providers, especially providers that reflect the linguistic and cultural diversity of the enrollees they serve.

We did not observe significant changes in HCBS utilization among AI/AN enrollees in Alaska after implementation of CFC, underscoring the need for strong Medicaid-Tribal partnerships and meaningful community engagement by disability service organizations. Tribal consultation , a formal, two-way, government-to-government dialogue between Tribal representatives and state governments, is required during the submission of a CFC State Plan Amendment[44]. Some states such as Montana and Washington have

further strengthened this process through state regulation.[45] A needs assessment of Native individuals with I/DD found low awareness of state I/DD agencies and a lack of consistent presence by I/DD Network agencies in the surveyed AI/AN communities.[23] To improve access to I/DD services, recommended strategies include building relationships with trusted community members, increasing awareness among agencies about the needs of AI/AN individuals with I/DD, ensuring consistent engagement by I/DD agencies in Tribal communities, training providers in Tribal culture, laws, and customs, and using a co-design approach throughout program planning, implementation, and evaluation.[46,47]

Our approach had several limitations. First, we did not evaluate the number of claims for each service given variation between states in coding and billing practices that made it difficult to compare the true intensity of services.[25] Second, we were only able to evaluate short-term effects of CFC implementation given available years of data before the onset of the COVID-19 pandemic, which disrupted patterns of care. Third, we examined broad categories of home- and community-based services, not utilization of specific services. Fourth, we did not account for possible time-varying changes to Tribal disability service systems or regional service systems, however, we did include all the time-varying state-level factors that we were able to find in existing data sources. Despite these limitations, our study adds to the limited research on HCBS programs created under the ACA (Money Follows the Person, Balancing Incentive Program)[48-52] and represents the first analysis of CFC implementation using enrollee-level data, providing novel insights into the effectiveness of HCBS policy in a rural state and for racially minoritized enrollees.

Our findings indicate that expanding HCBS coverage and reimbursement may be insufficient to connect enrollees with I/DD to new services and support, at least in the short term. While the CFC program contains several provisions that may theoretically overcome barriers to accessing HCBS, such as case management, services supporting self-direction, and increased Federal Medical Assistance Percentage, service utilization may be influenced by state- and region-specific factors (rurality, workforce capacity, partnerships with regional disability agencies) and administrative factors (the appropriateness of service assessments). We also observed important heterogeneity in treatment effect across service categories, underscoring the need to disaggregate HCBS utilization in future research since policy changes may increase use of some services while reducing others. In states such as Alaska that have divested from congregate care facilities for people with I/DD, ensuring access to HCBS is critically important for supporting self-determination for the I/DD and AI/AN community and addressing enrollees' unmet health and social service needs. Policymakers should consider access, quality, and equity goals during HCBS program planning and implementation; this may require forging re-

lationships with trusted tribal community advocates, streamlining assessment and authorization processes, and investing in the direct care and care coordination workforce.

Conclusion

The Community First Choice (CFC) 1915(k) state plan option, implemented under the Affordable Care Act, allowed states the opportunity to expand coverage of home- and community-based services (HCBS) for Medicaid enrollees meeting institutional level-of-care requirements. Using 2016–2019 Medicaid data, we assessed the short-term impact of CFC implementation in Alaska on the use of three covered categories of HCBS among adults with intellectual and developmental disabilities (I/DD). Before and after adjustment for confounders, we found significant changes of around one percentage point in the use of home-based services and technical modifications or equipment among all enrollees and among white enrollees. We did not find any significant changes in use of case management. Notably, CFC implementation did not result in any significant changes in service use for American Indian or Alaska Native enrollees before or after adjustment. Expanding HCBS coverage and reimbursement may not be sufficient to connect enrollees with I/DD to new services and supports, especially for racially minoritized enrollees. State-specific factors (rurality, workforce capacity) and administrative barriers (new service assessments, coordinating between tribal and state disability service systems) are key considerations for policymakers seeking to implement new HCBS programs in their states.

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Tables

Table 1. Study Sample Characteristics (n=9,076,080 enrollee-quarters) (2016–2019)

Characteristic	Percent of Enrollee-Quarters			
	Alaska (n=31,280)		All other states[a] (n=9,044,800)	
	Pre-Exposure Period[b] (2016–2018)	*Post-Exposure Period[c] (2019)*	*Pre-Exposure Period[b] (2016–2018)*	*Post-Exposure Period[c] (2019)*
Sex				
Male	59.7	59.7	57.8	57.8
Female	40.3	40.3	42.2	42.2
Age (mean)	35.9	37.9	40.3	42.3
Age category				
18–25	28.8	20.8	21.7	15.3
26–34	27.9	30.5	23.3	25.4
35–44	17.5	20.4	16.8	18.3
45–54	12.6	12.8	15.8	15.2
55–64	9.2	10.4	14.2	15.5
65–89	4.0	5.2	8.2	10.3
Race				
White	56.2	56.2	74.2	74.2
Black or African American	4.7	4.7	21.7	21.7
Native Hawaiian or Pacific Islander	3.9	3.9	0.4	0.4
Asian	4.1	4.1	1.3	1.3
American Indian or Alaska Native	30.2	30.2	0.8	0.8
Unspecified or Other	0.9	0.9	1.6	1.6
Ethnicity				
Non-Hispanic or Latino	97.1	97.1	92.7	92.7
Hispanic or Latino	2.9	2.9	7.3	7.3
Disability Diagnosis				
Down Syndrome	9.4	9.4	7.6	7.6
Autism without Down Syndrome	34.0	34.0	24.8	24.8
Intellectual Disability without Autism or Down Syndrome	56.6	56.6	67.6	67.6
Dual Eligible				
Yes	54.5	54.5	61.6	61.6
No	45.5	45.5	38.4	38.4
Rural zip code				
Yes	45.1	44.9	29.9	29.9
No	54.9	55.1	70.1	70.1
HCBS Utilization				
Any home-based services	11.8 (11.4, 12.2)	12.4 (11.7, 13.1)	25.4 (25.3, 25.4)	27.3 (25.3, 27.4)
Any case management	71.1 (70.6,	74.5 (73.6,	45.7 (45.6,	47.3 (47.3,

	71.7)	75.5)	45.7)	47.4)
Any technical modifi-cations or equipment	19.2 (18.7, 19.7)	21.6 (20.7, 22.5)	10.4 (10.3, 10.4)	12.2 (12.2, 12.3)

[a]Excluding California, Connecticut, Maryland, Montana, New York, Oregon, Texas, Washington, and the District of Columbia

[b]Pre-exposure time periods include the first quarter of 2016 through the fourth quarter of 2018.

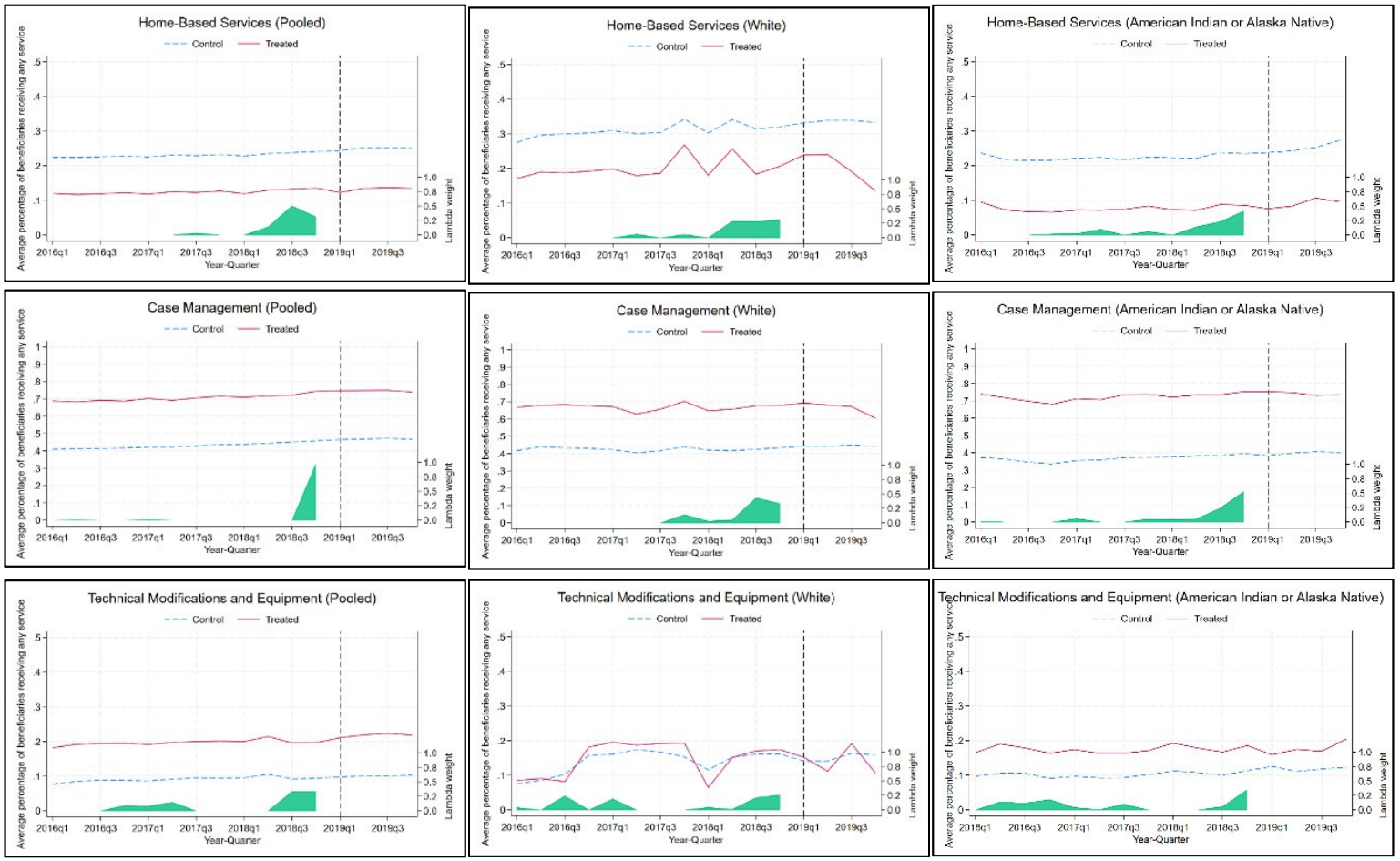
[c]Post-exposure time periods include the first through fourth quarter of 2019.

Table 2. Unadjusted and Adjusted Synthetic Difference-in-Differences Estimates of Home- and Community Based Services Utilization in Alaska Following Community First Choice Implementation Compared to Synthetic Controls (n=9,076,080 enrollee-quarters) (2016–2019)

	Pooled			White			American Indian or Alaska Native		
Outcome	**DID (95% CI)**	**P value**	**% change from pre-exposure mean**	**DID (95% CI)**	**P value**	**% change from pre-exposure mean**	**DID (95% CI)**	**P value**	**% change from pre-exposure mean**
Unadjusted									
Any home-based services	-1.17 (-2.09, -0.25)	0.01	-9.9	-1.37 (-2.60, -0.13)	0.03	-13.7	-1.19 (-3.35, 0.98)	0.28	-12.1
Any case management	-0.73 (-1.78, 0.31)	0.17	-1.0	-0.05 (-1.64, 0.72)	0.43	-0.1	-1.30 (-3.93, 1.34)	0.35	-1.8
Any technical modifications or equipment	1.34 (0.31, 2.36)	0.01	7.0	2.82 (1.55, 4.09)	<0.001	14.5	-1.64 (-4.31, 1.04)	0.23	-9.3
Adjusted[c]									
Any home-based services	-1.34 (-2.32, -0.43)	<0.01	-11.4	-1.56 (-2.78, -0.33)	0.01	-15.6	-1.72 (-3.92, 0.48	0.13	-17.6
Any case management	-0.61 (-1.68, 0.46)	0.26	-0.9	-0.33 (-1.56, 0.89)	0.59	-0.5	-0.99 (-3.66, 1.68)	0.47	-1.4
Any technical modifications or equipment	1.30 (0.24, 2.35)	0.02	6.8	2.74 (1.54, 3.94)	<0.001	14.1	-1.13 (-4.01, 1.76)	0.44	-6.4

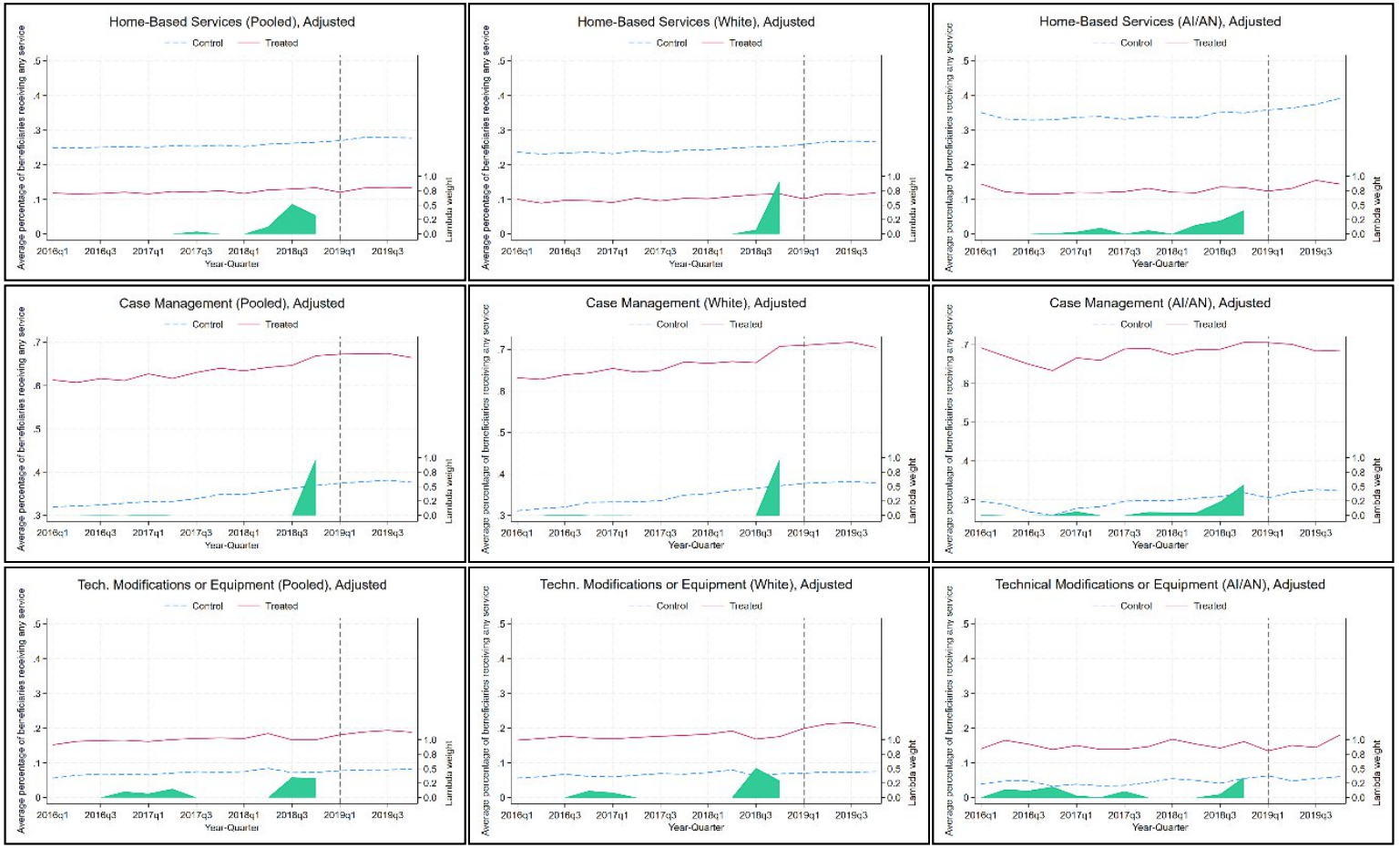
[c] For adjusted analyses, state-level covariates include the presence of a 1915(c) waiver waiting list and the number of workers caring for the elderly and people with disabilities from the Bureau of Labor Statistics on annual basis. The District of Columbia was excluded from the donor pool due to a lack of provider supply data.

Figure 1. Unadjusted Synthetic Difference-in-Difference Estimates of Home- and Community-Based Services Utilization in Alaska Following Community First Choice Implementation Compared to Synthetic Controls (n=9,076,080 beneficiary-quarters) (2016–2019)



Green shaded area represents the lambda (time-specific) weight contribution to the overall control unit.

Figure 2. Adjusted Synthetic Difference-in-Difference Estimates of Home- and Community-Based Services Utilization in Alaska Following Community First Choice Implementation Compared to Synthetic Controls (n=9,076,080 beneficiary-quarters) (2016–2019)



AI/AN = American Indian or Alaska Native
Green shaded area represents the lambda (time-specific) weight contribution to the overall control unit.
Adjusted for annual presence of a 1915(c) waiver waiting list and the number of workers caring for the aged and disabled.