



**VCU**

School of Medicine  
Health Behavior and Policy

# **Commonwealth Coordinated Care Plus**

## **Evaluation Report 2017 - 2020**

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A REPORT PREPARED FOR

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The conclusions in this report are those of the authors, and no official endorsement by the Virginia Commonwealth University School of Medicine or Virginia Department of Medical Assistance Services is intended or should be inferred.

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## EXECUTIVE SUMMARY

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Commonwealth Coordinated Care Plus (CCC Plus) is a Medicaid managed long-term services and supports (MLTSS) program that the Commonwealth of Virginia implemented in August 2017 to serve members with extensive medical and/or behavioral health needs. In 2017, the Department of Medical Assistance Services (DMAS) contracted with Virginia Commonwealth University to conduct an independent evaluation of the CCC Plus program. The evaluation's initial goals were to determine whether Medicaid successfully and safely transitioned the most vulnerable members to its MLTSS program, with a focus on the role of the care coordinator.

CCC Plus is an integrated care model that provides medical, behavioral health, and long-term services and supports to members through one of six contracted managed care organizations (MCOs) that use care coordinators to assist members in the full range of their health, personal, and long-term care needs.

This report provides findings from the evaluation activities conducted over the first three years of the CCC Plus program. We placed particular focus on synthesizing our research evaluation activities to date and integrating literature when available. In developing this report, we used data from a variety of sources, including two years of representative member surveys, administrative Medicaid claims/enrollment files, and qualitative interviews with care coordinators. Additional detail on data sources is located in the report section titled 'Description of Data Sources.' The major findings of this report are as follows:

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### CCC PLUS MEMBERS ARE A VULNERABLE POPULATION, BOTH MEDICALLY AND SOCIALLY

- 46% of members report one or more difficulties with an activity of daily living (ADL), such as walking or bathing.
- Nearly 40% of members report fair or poor mental health.
- Half report food insecurity and about 20% report experiencing housing insecurity.

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### MOVING INTO MANAGED CARE DID NOT RESULT IN SIGNIFICANT CHANGES TO PROVIDERS

- About 80% of members surveyed indicated that they were not required to switch any provider after transitioning to CCC Plus from fee-for-service (FFS) (prior to CCCP implementation). However, about a fifth of member respondents indicated that they were required to switch a primary care provider, specialty provider or personal care provider at least once. Rates of required provider switching varied by Virginia region, which may be explained by variation in network adequacy.
- Among members who were required to change providers, about 30% reported greater satisfaction with their new provider than their previous provider, 39% reported the same level of satisfaction, and 34% reported less satisfaction with the new provider.

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## SOME MEMBERS WOULD LIKE TO SWITCH THEIR HEALTH PLANS, BUT ONLY A SMALL MINORITY OF MEMBERS ACTUALLY SWITCH. DENTAL/VISION COVERAGE IS THE MOST CITED REASON FOR DESIRED SWITCHING

- About 20% of members wanted to switch health plans during the last open enrollment period, but only 8% of all members reported actually switching.
- Members who wanted to switch but did not switch overwhelmingly reported that they are worried that their new health plan would not be better than their current plan. Other reasons include not knowing how to switch plans, not knowing that they could switch health plans and the perception that it is too difficult to switch health plans.
- Interest in obtaining improved coverage for dental and vision coverage were the most frequently cited reasons for wanting to change plans. Other reasons include dissatisfaction with the health plan's customer service or with the member's care coordinator, switching for a preferred provider in a different network, need for medication not covered by the current health plan, and recommendation from a family member/friend.

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## WORKING AS A CARE COORDINATOR IS A REWARDING BUT DEMANDING POSITION

- Care coordinators reported that they struggle to manage all of the demands of the required activities, number of cases and other responsibilities of the position. Activities and volumes vary by plan.
- On average, care coordinators spend about half of their time meeting with members or coordinating their needs, but this varies by MCO (44% to 63%). The remainder of their time is spent completing administrative tasks and traveling to member homes.
- Care coordinators offered ideas for HRA and ICP improvement (detailed in chapter V) and requested reduced caseloads and improved communication between the care coordinator/MCO and DMAS.

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## CARE COORDINATORS HELP MEMBERS WITH A VARIETY OF NEEDS

- Members reported that care coordinators helped them with a variety of activities, such as assistance after hospital discharge (24%), obtaining needed equipment, such as walkers (23%), and help with prescription drugs (23%).
- Care coordinators also help members with social needs, including non-medical transportation (9%) needs, locating housing/food (12%), and heating/cooling assistance (12%).

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## THE MAJORITY OF MEMBERS HIGHLY RATE THEIR CARE COORDINATOR

- Three-fourths of members rated the help they receive from their care coordinator as excellent or very good.
- On average, half of members have reached out to their care coordinator to request help. The majority of members (81%) received a call back from their care coordinator within 3 days; call return time varied by health plan.

- The vast majority of members (88%) report that their care coordinator listens carefully to them and 82% report that they explain information in a way that is easy to understand.

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#### SUBSEQUENT SERVICE UTILIZATION IN THOSE WHO MET WITH CARE COORDINATORS SUGGESTS THAT CARE COORDINATORS GUIDE MEMBERS TO NEEDED SERVICES

- Meeting with a care coordinator is positively associated with receipt of non-emergent Medicaid transportation and durable medical equipment utilization.
- Meeting with a care coordinator is associated with greater emergency department (ED) utilization, which may reflect identification by the care coordinator of health problems requiring immediate attention.

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#### ALTHOUGH A MAJORITY OF MEMBERS DO NOT HAVE ANY UNMET MEDICAL, HEALTH OR PERSONAL NEEDS, SOME NEEDS ARE SOCIAL NEEDS

- Highest unmet needs are for dental, vision, and hearing, which are enhanced benefits (29%).
- Members report high unmet needs for home modifications, despite it being a required covered service (26%).
- Members also report higher unmet needs in areas of social need, such as help locating housing, and heating and cooling assistance (26%).
- Top member-reported reasons for unmet need include the following: “worried about the cost” (27%), “not sure who to ask for help” (47%), and “health plan would not pay for it” (24%).
- Members who reported unmet needs for assistive devices (1/6 of members) also reported severe consequences as a result of the unmet need, including going without showering or soiling clothing.
- A greater number of unmet needs was correlated with a greater number of visits to the ED.

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#### THE UTILIZATION OF LONG-TERM SERVICES AND SUPPORTS CHANGED AFTER CCC PLUS IMPLEMENTATION

- Following the implementation of CCC Plus in managed care, we observed modest but statistically significant increases in the share of members enrolled in home and community-based services (HCBS) waivers among LTSS users who were dually enrolled in Medicaid and Medicare (from 56.4% to 58.6%), as well as decreases in the share enrolled in nursing facility benefits (from 49.0% to 46.3%).
- Among persons enrolled in LTSS benefits, we observed large, statistically significant increases in members’ utilization of home and community-based services (HCBS), as measured by the share of members with any personal care service use (from 37.3% to 58.4%) and the share of members with any respite care use (from 29.3% to 47.0%). These increases were found among all three populations of LTSS users that we studied: dual eligibles, non-dual eligibles ages 18 or less, and non-dual eligibles ages 19 and higher.

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## THE ROLE OF FAMILY CAREGIVERS IS ESSENTIAL, BUT THEY OFTEN EXPERIENCE STRAIN IN PERFORMING THEIR CAREGIVING ROLES DUE TO COVID-19 AND OTHER FACTORS

- Caregivers provide substantial management of daily living activities, with more than half engaging in the following activities: laundry and meals, shopping, managing medication, managing finances, and assisting members with activities of daily living (ADL).
- Despite heavy caregiving responsibilities, more than half of caregivers in this sample reported that they are employed, with the majority of those working 21 or more hours a week (90%).
- Many caregivers reported that their caregiving role impacted their own employment. About a quarter of caregivers reported working fewer hours due to caregiving responsibilities and 15% reported taking frequent leave.
- COVID-19 caused increased difficulty in caregivers' activities. Nearly half of all caregivers expressed difficulty managing the member's mental health problems and expressed increased difficulty getting medical appointments. About one-third of caregivers reported challenges getting prescribed medications and shopping for groceries during COVID-19, and about one-fourth of caregivers reported difficulty in managing medical conditions for members.

## INTRODUCTION

Commonwealth Coordinated Care Plus (CCC Plus) is a Medicaid managed long term services and supports (MLTSS) program that the Commonwealth of Virginia implemented in August, 2017 to serve members with complex care needs. CCC Plus is an expanded successor program to Commonwealth Coordinated Care (CCC), one of 12 such programs nationally that were a part of the Center for Medicare and Medicaid Services Financial and Administrative Alignment Demonstrations for Dual-Eligible Beneficiaries, in which members requiring LTSS services enrolled in managed care. The CCC program was a small, voluntary program for adults only.

With the success of the CCC Program, DMAS implemented CCC Plus, a program-wide MLTSS program. CCC Plus program enrollment is automatic for members who qualify, including; members who are ages 65 and older; are children or adults with a physical disability or serious mental illness; receive Medicare benefits and full Medicaid benefits (dual eligible); receive Medicaid long-term services and supports (LTSS) in a nursing facility or through one of the home and community-based (HCBS) waivers or are medically complex (have a medical or behavioral health condition and a functional impairment). Individuals enrolled in the Community Living, the Family and Individual Support, and Building Independence waivers, known as the Developmental Disabilities (DD) waivers, are enrolled for their non-waiver services only (DD waiver services are covered through Medicaid fee-for-service). Over 260,000 members were enrolled in CCC Plus as of January, 2022, compared to around 28,000 who had enrolled in the CCC demonstration.

A central feature of CCC Plus is that medical, behavioral health, and long-term services and supports services are provided to members through one of six managed care organizations (MCOs) that utilize care coordinators to assist members in identifying and arranging for the full range of their health, personal, and long-term care needs. Prior to implementation of this program, members received coverage for services through fee-for-service payment to providers as opposed to managed care. CCC Plus is designed to provide more person-centered care delivery and supports, as well as greater integration of members' medical, behavioral health, personal needs, and long-term care treatment needs using care coordinators. However, many members requiring MLTSS services are likely to have had little prior experience with managed care or care coordinators.

Among both the dual eligible and Medicaid-only segments of the CCC Plus population are many people who need long-term services and supports (LTSS), including those residing in nursing facilities, and those enrolled in Virginia's Home and Community Based Services (HCBS) waiver (now also called CCC Plus) or one of three Virginia waivers serving the developmentally disabled population. In total, about one-fourth of the CCC Plus population need LTSS. As Medicaid expanded eligibility for adults with family incomes at 138 percent or less of the federal poverty in January 2019, the CCC Plus population also includes persons who qualify for expanded eligibility and who are medically complex.

In 2017, the Department of Medical Assistance Services contracted with Virginia Commonwealth University to conduct an independent evaluation of the CCC Plus program. The evaluation's initial goals were to determine whether Medicaid successfully and safely transitioned their most vulnerable members to its mandatory MLTSS program. To assess this, we engaged in a number of data collection activities

and analyses, including surveys of CCC Plus members and their caregivers, interviews with health plan care coordinators, and analyses of Medicaid enrollment and claims data. This report summarizes findings from these various analyses and data collection activities related to the CCC Plus program. Below we describe in greater detail the data that were collected and used for this report.

## DESCRIPTION OF DATA SOURCES

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### CCC PLUS MEMBER SURVEY, 2018

A representative survey of CCC Plus members was conducted between May and August 2018 to understand members' early experiences with the CCC Plus program and was designed to be completed in about 15 minutes. Administered by mail, the survey yielded a 34.7% response rate for a final sample of 1,042 members, and excluded those in nursing facilities or other institutional settings. The purpose of this survey was to describe members' early experiences with CCC Plus; this includes members' experiences with their care coordinators and the health plans in which they were enrolled. The survey also obtained information on members' functional limitations, physical and mental health conditions, and social needs. A member assigned proxy (relative, guardian, friend, personal care attendants) completed about 40% of surveys in instances when the member could not complete the survey.

The study sample was comprised of a representative sample of non-institutionalized members who had six months or more experience with the CCC Plus program. The sample frame excluded members residing in nursing facilities, deceased members, and members who did not speak English as their primary language (less than 1% of members). An analysis of differences between survey respondents and non-respondents showed some differences by age (55-74 were more likely to respond than younger age groups), but little difference by gender, race/ethnicity, or region. Survey weights are used to correct for potential nonresponse bias related to age, sex, race, and region. For detailed weighting methodology, see the appendix.

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### CCC PLUS MEMBER SURVEY, 2019

Between August and November 2019, we conducted a second representative survey of Virginia Medicaid CCC Plus members. We fielded this survey to 3600 members randomly selected from CCC Plus enrollment files and yielded a 30% response rate (n= 1,048), and designed the survey to be completed in about 15-20 minutes. The goals of the survey were similar to the 2018 survey, but were expanded to include assessing members' experiences with health plans, intentions to switch health plans, switching preferences, and experiences with health plan care coordinators. The survey obtained more detailed information on CCC Plus members' unmet needs, social needs (such as food and housing insecurity), and other self-ratings of physical and mental health, general well-being, and difficulties with activities of daily living. Similar to the 2018 survey, weights are used to correct for potential nonresponse bias related to age, sex, race, and region.

To obtain the perspective of family caregivers, survey respondents were also asked to identify the family member or friend who was most involved in the health care of the CCC Plus member and to indicate if

they would allow the survey team to contact them for a follow-up survey; a total of 365 caregivers were contacted to complete the survey, with 201 eligible for and completing the survey (55%).

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### CCC PLUS CARE COORDINATOR INTERVIEWS

We conducted hour-long semi-structured interviews with 24 care coordinators (CCs) across the six participating MCOs, asking the CCs about their experiences being a care coordinator, including their role, responsibilities and key tasks. Data collection and analysis, led by Jessica Mittler, PhD, occurred in Spring 2019.

Potential interviewees were identified through a staged process. First, participating MCOs provided the names and email addresses of all of their CCC Plus CCs; each MCO was asked to inform their CCs that the VCU study team would be contacting them via email about this study. We sent every CC listed an email with a short screener survey to identify CCs that would most likely have members who use LTSS services, identify CCs across urban and rural areas, and identify CCs with varied degrees of experience with care coordination. Of the roughly CCs on the MCO lists, 531 completed a screener survey. We used the survey information to create sampling strata by MCO and years of experience (1-2 years of experience and 5 or more years of experience). Members were randomly selected across the strata to conduct semi-structured in-depth interviews.

Members were invited to participate via email; non-respondents received a follow up invite approximately one week after the initial invitation. Interviewees could schedule their interview during or after regular work hours. This selection and invitation process was repeated until we completed at least 3 interviews with each MCO. The 24 interviews resulted in approximately 750 transcribed pages for analysis.

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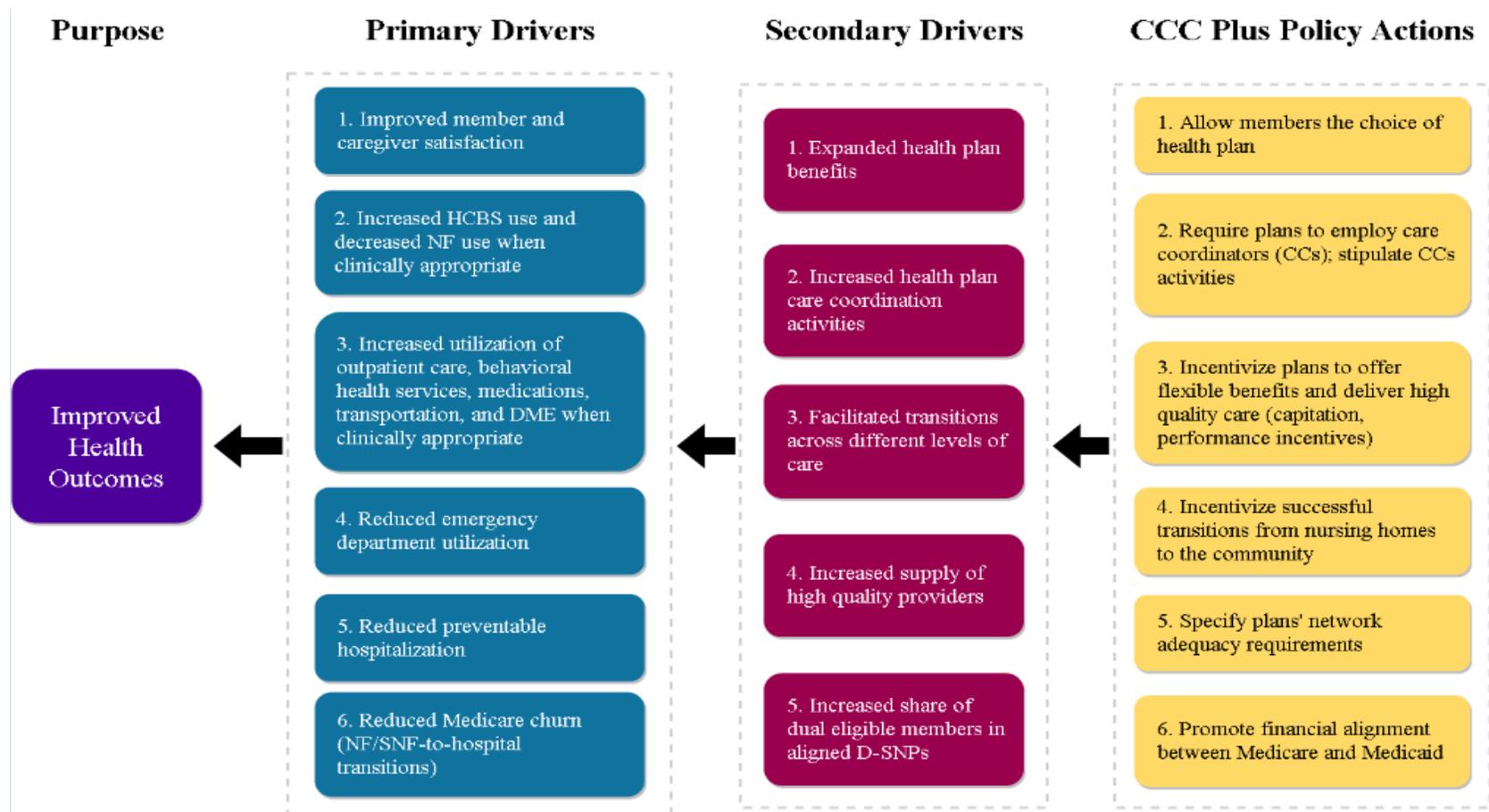
### MEDICAID ADMINISTRATIVE DATA

Medicaid administrative claims and enrollment data were used to examine changes in the use of LTSS services – including nursing facilities – following implementation of the CCC Plus program.

## CHAPTER 1: CCC PLUS PROGRAM GOALS AND DRIVERS

To help guide our evaluation of the CCC Plus program, we developed a driver diagram that is shown below. The CCC Plus driver diagram shows CCC Plus policy actions (on the far right) linked to secondary drivers, primary drivers, and the program purpose, which is ultimately improved health outcomes for the CCC Plus population.

### CCC PLUS DRIVER DIAGRAM



## DISCUSSION OF DRIVERS

Under CCC Plus, the Commonwealth of Virginia contracts with six MCOs to deliver services to several segments of the Medicaid population. The CCC Plus contract articulates various requirements and financial incentives affecting MCOs; these features, together with the administration of the CCC Plus program, constitute a set of policy actions that influence secondary and primary drivers of health outcomes.

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### POLICY ACTION 1. ALLOW MEMBERS THE CHOICE OF HEALTH PLAN

A key feature of CCC Plus is that members can choose among health plans offered by six MCOs in their region. Members can switch to another MCO during annual open enrollment periods or for 'good cause' at any time of the year. By providing members with the choice of their health plan or MCO, CCC Plus encourages competition among MCOs on a number of dimensions that may ultimately drive improved health.

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### POLICY ACTION 2. REQUIRE PLANS TO EMPLOY CARE COORDINATORS AND STIPULATE THEIR ACTIVITIES

A cornerstone of the CCC plus program is that enrolled members have a CCC Plus care coordinator. The CCC Plus contract specifies various tasks of the care coordinator related to the assessment of members' health needs and goals in various domains (social, functional, primary care, specialist care, behavioral, cognitive, LTSS, wellness and preventive). Care coordination activities should touch most primary and secondary drivers, ultimately resulting in improved health outcomes.

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### POLICY ACTION 3. INCENTIVIZE PLANS TO OFFER FLEXIBLE BENEFITS AND DELIVER HIGH QUALITY CARE

The CCC Plus contract is structured to provide MCOs with several financial incentives. Capitated payment can allow flexible designs that include expanded health plan benefits, such as dental, vision, and other services, not otherwise required covered services by Medicaid. Capitation and performance withholds provide MCOs with incentives to take actions that improve the quality of healthcare, such as promoting care coordination activities that align members' needs with available services, as well as increasing the supply of health providers.

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### POLICY ACTION 4. INCENTIVIZE SUCCESSFUL TRANSITIONS FROM NURSING HOMES TO THE COMMUNITY

The CCC Plus contract also incentivizes successful appropriate rebalancing from institutional settings to community settings. The Discrete Incentive Transition Program (DITP) provides a financial incentive for plans to increase care coordination activities and provide services that facilitate members' transitions across different levels of care, ultimately improving health outcomes.

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#### POLICY ACTION 5. SPECIFY PLANS' NETWORK ADEQUACY REQUIREMENTS

Network adequacy is assessed along a number of dimensions, including the number of providers, mix of providers, hours of operation, providers not accepting new patients, accommodations for individuals with physical disabilities (e.g., wheelchair access) and barriers to communication (e.g., translation services). These policy levers encourage MCOs to provide an adequate supply of high quality health providers.

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#### POLICY ACTION 6. PROMOTE FINANCIAL ALIGNMENT BETWEEN MEDICARE AND MEDICAID

The design and implementation of CCC Plus is intended to promote financial alignment between Medicare and Medicaid for members dually enrolled in both programs. Alignment can make care coordination more effective as the single MCO can access information about the member's goals, needs, and utilization. These policy actions are intended to promote an increase in the share of dual eligible CCC Plus members in aligned dual-eligible special needs plans (D-SNPs).

## CHAPTER II: CCC PLUS MEMBER POPULATION AND CHARACTERISTICS

In August 2017, the CCC Plus program was implemented as a mandatory program for all Medicare/Medicaid dual eligibles and for most adults and children with disabilities and serious mental illness. The CCC Plus populations that transitioned into managed care include adults and children with disabilities, individuals in nursing facilities, CCC Plus waiver (formerly technology assisted and elderly or disabled with consumer direction waivers), medically complex individuals – including those who became eligible with Medicaid expansion, and individuals who are dually eligible for Medicare and Medicaid. Individuals who receive services under the developmental disabilities waiver receive non-waiver services through an MCO and the waiver services through fee-for-service arrangements.<sup>1</sup>

### CCC PLUS ENROLLMENT

As of February 2020, over 244,000 Medicaid members with complex care needs were enrolled in CCC Plus. Of those, the majority were non-LTSS populations (72%) with the remaining 28% requiring higher levels of care. Nationally, about half of all MLTSS programs enroll individuals with and without immediate LTSS need.<sup>2</sup> The MCOs participating in CCC Plus include Aetna, Anthem, Molina (formerly Magellan), Optima, United, and Virginia Premier; Anthem manages the highest proportion of CCC Plus members (28%), while Magellan serves the smallest proportion of CCC Plus members (10%).

#### FEBRUARY 2020 CCC PLUS ENROLLMENT:

MCO	Non-LTSS	CCC Plus Waiver	DD	Early Intervention	Hospice	Nursing Facility	Long stay Hospital	CCC Plus Waiver w/PDN	Total <sup>3</sup> No (%)
<b>Aetna</b>	27175	4603	2074	67	107	2824	7	19	36876 (15)
<b>Anthem</b>	47189	13013	4571	180	118	3847	13	136	69067 (28)
<b>Molina (formerly Magellan)</b>	17047	2439	1158	29	81	2377	6	25	23162 (10)
<b>Optima</b>	29886	5708	2366	116	53	2268	13	48	40458 (17)
<b>United</b>	20461	3461	1296	31	54	2632	10	8	27953 (11)
<b>Va Premier</b>	35361	6189	2305	83	81	2912	6	15	46952 (19)
<b>Total No (%)</b>	177119 (72)	35413 (15)	13770 (6)	506 (0.2)	494 (0.2)	16860 (7)	55 (0.02)	251 (0.1)	244468 (100)

### CHARACTERISTICS OF CCC PLUS MEMBERS

#### DEMOGRAPHICS

Characteristics of CCC Plus members, described below, are based on the 2018 and 2019 member surveys, which include representative samples of CCC Plus members living in the community but

exclude nursing facility residents.<sup>1</sup> On average, individuals with complex health needs under age 65 make up about 2/3 of the CCC Plus population. Half of enrollees are white, and over a third have less than a high school education, which reflects educational attainment far lower than the general U.S. population. Over 90% of adults over the age of 25 in the general population have attained a high school education or greater.<sup>4</sup>

	Member Survey 2018 weighted	Member Survey 2019 weighted
Gender		
Female	56%	54%
Male	44%	46%
Age		
0-20 years	15%	11%**
21-64 years	54%	62%
65+ years	31%	27%**
Race/Ethnicity		
Non-Hispanic White	50%	50%
Non-Hispanic Black	38%	37%
Hispanic	4%	4.5%
Asian	5%	5.5%
Other	3%	3
Highest level of education (adults only) <sup>5</sup>		
Less than high school	33%	29%
High school graduate	43%	46%
More than high school	24%	25%
Marital status (adults only)		
Unmarried	80%	85%**
Married/Partnered	20%	15%**

Independent sample pairwise z-tests used to test for differences between 2018 and 2019. \*\*p<0.05

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<sup>1</sup> All estimates from the 2018 and 2019 Member Surveys were weighted to correct for differential survey nonresponse by age, race/ethnicity, sex, aid category, and region, and therefore are representative of the community-based CCC Plus population on these factors. More detail about the weighting methodology is included in the appendix.

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## HEALTH STATUS AND DIFFICULTY WITH ACTIVITIES OF DAILY LIVING

The CCC Plus program serves members with the highest level of health needs; on average, half of all survey respondents report fair or poor physical health, while two-thirds report fair or poor mental health status. As expected due to eligibility criteria for the CCC Plus program, this is far greater than the general population, where 10% report fair or poor physical health, and 8% report fair or poor mental health. The complex needs of the CCC Plus population are also evident from the high proportion of survey respondents who reported experiencing difficulty with activities of daily living (ADL), which range from a high of 36% who experience difficulty walking to 16% who experience difficulty eating, which is much higher than the general population.

<b>Overall Physical Health<sup>a</sup></b>			
	CCC Plus 2018 weighted	CCC Plus 2019 weighted	National Estimate <sup>d</sup>
Excellent/Very Good	22%	22%	66%
Good	32%	31%	24%
Fair/Poor	46%	47%	10%
<b>Overall Mental Health<sup>b</sup></b>			
Excellent/Very Good	30%	27%**	67%
Good	30%	34%**	26%
Fair/Poor	40%	39%	8%
<b>Activities of Daily Living (ADL)<sup>a</sup></b>			
Bathing or Showering	34%	34%	3%
Dressing	27%	28%	4%
Eating	17%	16%	2%
Walking	36%	36%	5%

<sup>a</sup> National estimates from the 2017 National Health Interview Survey for the U.S. civilian, non-institutionalized population.<sup>b</sup> Most recent national estimate available from the 2010 National Health Interview Survey.<sup>c</sup> National Survey on Drug Use and Health, 2017 <sup>d</sup> Unweighted estimates from 2017 National Health Interview Survey. Independent sample pairwise z-tests used to test for differences between 2018 and 2019. \*\*p<0.05.

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## SOCIAL NEEDS

The social needs of CCC Plus members further illustrate this population's vulnerability. Half of all survey respondents reported feeling concerned about having enough food and nearly 1 in 5 expressed concern about housing stability. This compares to the national average of roughly 10% of individuals who report food insecurity.<sup>6</sup> A body of literature, which examined the relationship between housing and food insecurity and healthcare utilization, found that housing/food insecurity was related to lower rates of ambulatory care utilization and higher rates of more costly acute care.<sup>7</sup> CCC Plus members also report fewer close relationships than the general population, with over half of CCC survey respondents'

reporting 2 or fewer close relationships. This is notable because healthy social integration is related to better health outcomes.<sup>8</sup>

<b>Self-Reported Social Needs</b>		
	CCC Plus 2018 weighted	CCC Plus 2019 weighted
<b>Food and Housing Security</b>		
Concerned about having enough food <sup>a</sup>	51%	50%
Lack of adequate housing or worried about losing housing <sup>b</sup>	17%	19%
<b>Number of close relationships</b>		
None	8%	7%
1-2	46%	46%
3-5	29%	28%
5+	17%	19%

<sup>a</sup> Includes responses 'sometimes true' and 'often true' <sup>b</sup> Includes responses 'I have housing today but I am worried about losing in the future' and 'I do not have housing'. Pairwise z-tests were used to test for differences between 2018 and 2019.

## INDICATORS OF ABILITY TO NAVIGATE HEALTHCARE SYSTEM

Health literacy and health insurance literacy are important predictors of access to and appropriate utilization of healthcare services.<sup>9,10</sup> While the majority of survey respondents reported feeling confident on some indicators of health system navigation, a large minority of members reported difficulty. For example, over 25% of respondents reported difficulty in their understanding of the healthcare system and expressed concern that they were not sure who to call if they need a device to help them get around their home. However, the vast majority (83%) of members reported knowing who to call with questions. This may be their health plan-assigned care coordinator, but is not required to be.

<b>Indicators of Ability to Navigate Health System<sup>a</sup></b>	
	2019 weighted
Member knows who to call with questions about health or healthcare	83%
Member feels confident in understanding of healthcare system	73%
Member knows who to call if they need a device that helps them get around home	76%

Note: Question response categories are strongly agree, agree, disagree, or strongly disagree. Strongly disagree and disagree are combined above.

## PLAN VARIATION IN MEMBER CHARACTERISTICS

There are small differences in member characteristics across health plans. Optima's member age skews younger, with about 80% of its population under the age of 65, compared to United, where those under 65 only compose about two-thirds of its member population. However, age differences are not statistically significant. We also note some difference in food and housing insecurity across health plans. However, it is difficult to determine whether this is a true difference in distribution of social need or care coordinators' identification of social needs.

### DISTRIBUTION OF MEMBER CHARACTERISTICS ACROSS HEALTH PLANS, 2019 SURVEY

Characteristics	Aetna (weighted)	Anthem (weighted)	Molina (formerly Magellan) (weighted)	Optima (weighted)	United (weighted)	VA Premier (weighted)
Age*						
0-20 years	10.2	11.5	5.3	16.8	6.8	10.8
21-64 years	67.7	59.4	63.2	62.4	59.8	63.5
65+ years	22.1	29.0	31.6	20.8	33.4	25.7
Race/Ethnicity**						
Non-Hispanic White	48.9	52.8	53.2	43.0	43.0	55.8
Non-Hispanic Black	38.1	31.7	38.6	46.3	37.4	35.7
Other	12.9	15.5	8.2	10.7	19.6	8.5
Food/housing insecurity						
Food insecure *	51.0	44.1	54.3	45.8	51.0	57.4
Housing insecure***	29.0	16.2	12.4	11.7	28.0	21.5
Difficulty with ADLs (ns)						
None	54.2	51.7	64.3	57.0	57.4	49.6
1-2	16.8	17.3	15.4	19.4	20.1	22.0
3+	29.0	31.0	20.4	23.6	22.5	28.5

Tests of statistically significant differences between health plans based on chi-square tests are identified as \*p<=0.10, \*\*p<=0.05, \*\*\*p<=0.01

## CHAPTER III: TRANSITIONING TO CCC PLUS

At the beginning of CCC Plus, DMAS assigned members to one of six MCOs, which provided access to the set of providers contracted with the member's newly assigned MCO network. MCOs not covering the member's established FFS provider was a particular concern; therefore, DMAS took several proactive steps to maximize care continuity during the CCC Plus rollout, allowing members to request a change in health plans if their established provider did not contract with their assigned MCO. Also, DMAS allowed members to continue to see their original providers for up to 6 months to allow time for these providers to enroll with the MCOs.

The 2018 member survey was conducted within a year after members began enrolling in CCC Plus. The survey included questions designed to assess the impact of transitioning from FFS to managed care, and explored (1) the rate of provider switching after CCC Plus enrollment, and (2) whether satisfaction with the new provider was better, the same, or worse than their previous provider. Members were asked whether they were required to switch their primary care provider, their specialist, or any personal care providers.

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### THE FREQUENCY OF REQUIRED CHANGES IN PROVIDERS

The majority (79%) of respondents reported that they did not have to switch any provider after transitioning to CCC Plus. About a fifth, or 21%, of survey respondents, were required to switch providers; the proportion of members required to switch 2 or more provider types was smaller, with about 7% of respondents indicating 2 or more required switches.

Required provider switching varied significantly by geographic region. Members in the Eastern Region reported the lowest rates of switching (8%) relative to individuals residing in Northern and Hampton Roads regions, where about 26% of respondents reported that they were required to switch at least one provider. Rural areas, like the Eastern region, typically have higher concentrations of Medicaid enrollees and fewer providers,<sup>11</sup> meaning that providers may be more likely to accept Medicaid in these areas, and there is greater overlap of MCO networks.

## CHANGES IN PROVIDERS FOLLOWING ENROLLMENT IN CCC PLUS

Characteristic	Provider Switch Weighted
All respondents	21%
Age	
0-20 years	22%
21-64 years	24%
65+ years	19%
Race/Ethnicity	
Non-Hispanic White	22%
Non-Hispanic Black	22%
Other	25%
ADLs	
None	20%
1-2	24%
3+	22%
Region	
Central	25%
Eastern	8%
Hampton Roads	26%
Northern	27%
Southside	19%
Southwest	14%
Valley	19%
West Central	15%

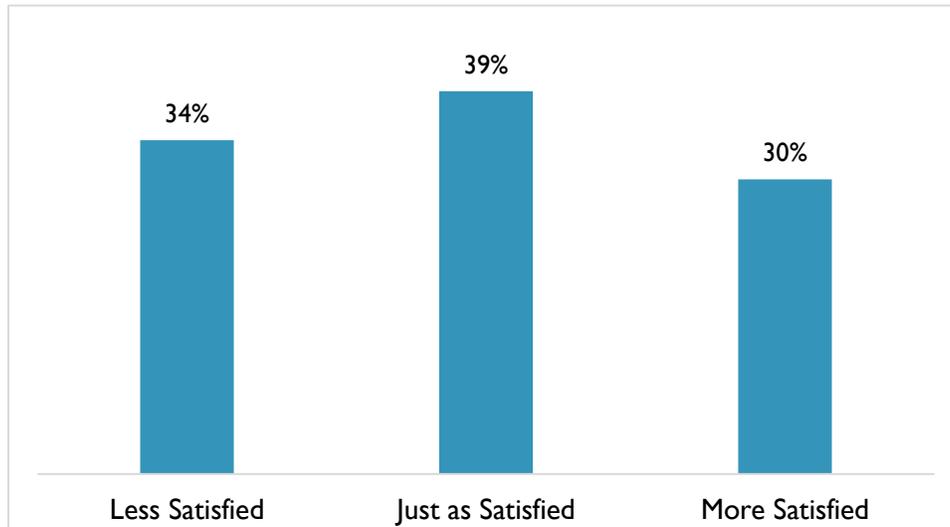
## SATISFACTION WITH NEW PROVIDERS

Changes in health care providers can have both positive and negative consequences for members; such changes can disrupt the continuity of care and the trust that is central to the patient-provider relationship. Conversely, a change in providers may bring positive benefits if new providers are better able to address members' changing health and personal care needs. Changing to “in-network” providers may also enhance coordination with other providers within the network.

Respondents who reported that they were required to switch health care providers were similarly divided between being less satisfied (34%), more satisfied (30%), and just as satisfied (39%) with their new provider relative to their previous provider. Overall, about 7% of CCC Plus survey respondents experienced negative disruptions in their care following CCC Plus enrollment (21% changed providers times multiplied by the 34% who were less satisfied with their new provider).

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#### SATISFACTION WITH NEW HEALTH CARE PROVIDER RELATIVE TO PREVIOUS PROVIDER



\*Denominator only includes individuals who were required to switch at least one provider type. Members were asked about several provider type changes so they could indicate more than one satisfaction category.

#### CONCLUSION

In conclusion, a sizable minority of members (21%) experienced at least one required provider shift due to the transition from fee-for-service to managed care. The likelihood of required switching does not appear to be aligned with indicators of vulnerability, including number of ADL difficulties, or among individuals who were aged 65 and over. We did observe some regional differences, with those in more populated areas more likely to report at least one required provider switch. Policy makers should be especially aware of how provider transitions are more likely to impact individuals in areas that may have lower network adequacy. To mitigate negative impacts of provider transitions, care coordinators were instructed to aid transitions between providers.

## CHAPTER IV: HEALTH PLAN CHOICE IN CCC PLUS

A key feature of CCC Plus is that members can choose among health plans offered by six MCOs in their region. Following initial assignment to one MCO, CCC Plus members have the option to change from one MCO to another without cause during the first 90 days of initial assignment and during subsequent open enrollment periods. By providing members with the choice of their health plan or MCO, CCC Plus encourages competition among MCOs on a number of dimensions that may ultimately drive improved health. Plans may attract additional members by expanding health plan benefits (e.g., dental, vision, hearing benefits), by increasing care coordination and other services such as facilitated transitions across different levels of care, or by increasing the size and/or quality of the provider network.

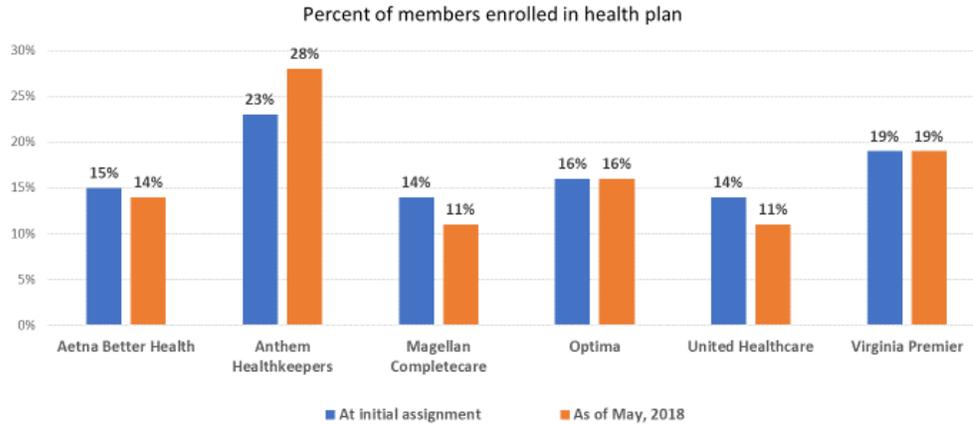
Changes in health plans can have both positive and negative effects for members. Flexibility in allowing members to change health plans at certain intervals is important for patient choice, satisfaction, and quality of care. A certain amount of plan switching reflects healthy competition between plans, which can improve the quality of services provided. On the other hand, an overly high rate of plan switching among members may indicate inefficient auto-assignment processes, as well as low patient satisfaction with certain health plans. Frequent switching by members could also disrupt continuity of care, potentially resulting in higher costs and poorer health outcomes.<sup>12</sup> For example, following a health plan switch, one study observed a temporary 15% increase in emergency department utilization for those who switched health plans, perhaps due to the new health plan's pre-authorization requirements or changes in provider networks. New physician and specialty visits also temporarily increased.<sup>13</sup> This suggests that the period immediately following a health plan switch is a vulnerable period, and policy makers may want to consider strategies to mitigate risks during this transition.

### PLAN SWITCHING AFTER IMPLEMENTATION OF CCC PLUS PROGRAM

After initial MCO assignment at the start of CCC Plus, Medicaid administrative data shows that about 17% of all members switched health plans, with the highest proportion of members switching into Anthem HealthKeepers. Members initially enrolled in Molina (formerly Magellan) and United MCO were most likely to switch out of their health plans. Further, rates of switching were highest among people who reside in Tidewater and Northern Virginia regions. Plan switching between initial assignment and May 2018 following the initial implementation of CCC Plus is visualized below. Preferences for health plans may have changed since this analysis was conducted in mid-2018 and reflect greater experience with health plans.

The initial rate of plan switching in CCC Plus is somewhat higher compared to national rates of plan switching among Medicare Advantage members (10%) during open enrollment periods.<sup>14</sup> The higher rate among CCC Plus members is likely attributable to the fact that the CCC Plus program is new and members had multiple opportunities to change plans after initial assignment. After this initial sorting and as members gain greater experience with their CCC Plus health plans, it is possible that switching rates will decrease during future open enrollment periods. There is little prior research to compare switching rates in CCC Plus, although one study based on commercial and Medicaid populations found that 26% of the population switched health plans over the course of a two-year period.<sup>15</sup>

## CHANGE IN CCC PLUS ENROLLMENT AFTER PLAN SWITCHING



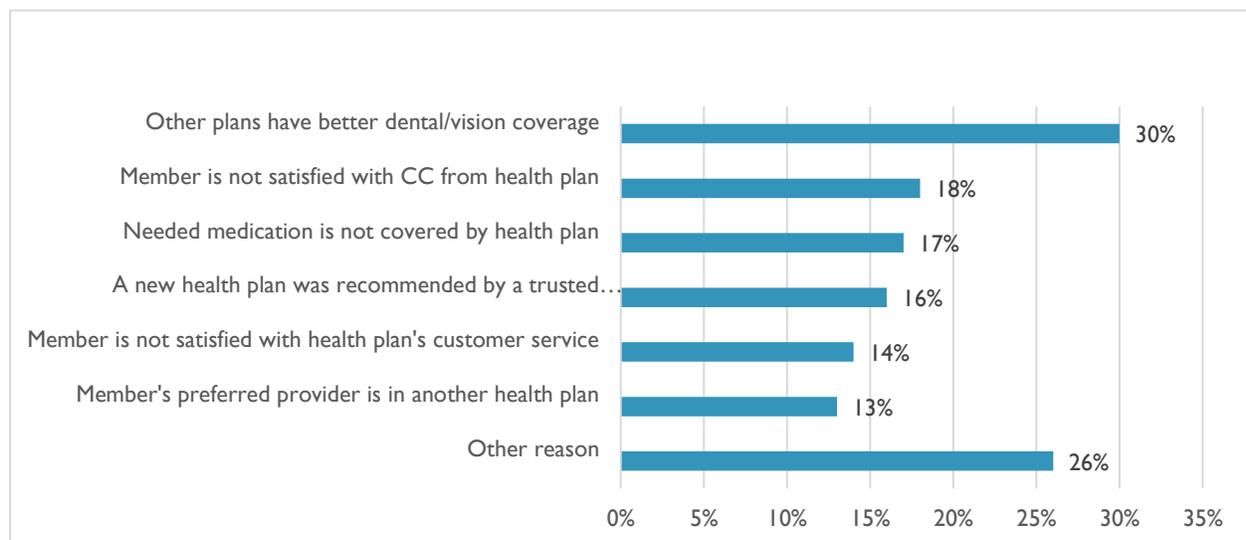
Source: CCC Plus Enrollment Data from the Virginia Department of Medical Assistance Services

## PLAN CHANGES DURING OPEN ENROLLMENT

### REASONS FOR WANTING TO CHANGE HEALTH PLANS

About one-fifth of survey respondents reported that they were likely to switch health plans during the next open enrollment period. Among these, 30% cited an interest in obtaining better dental/vision coverage; 18% reported dissatisfaction with the current health plan's care coordinator; 13% mentioned that their preferred provider is another plan. Other reasons include the need for preauthorization for medications or only allowing a 30-day refill of a prescription and a denial of services by the health plan, and difficulty finding providers covered in their MCO's network.

### REASONS FOR WANTING TO SWITCH HEALTH PLANS



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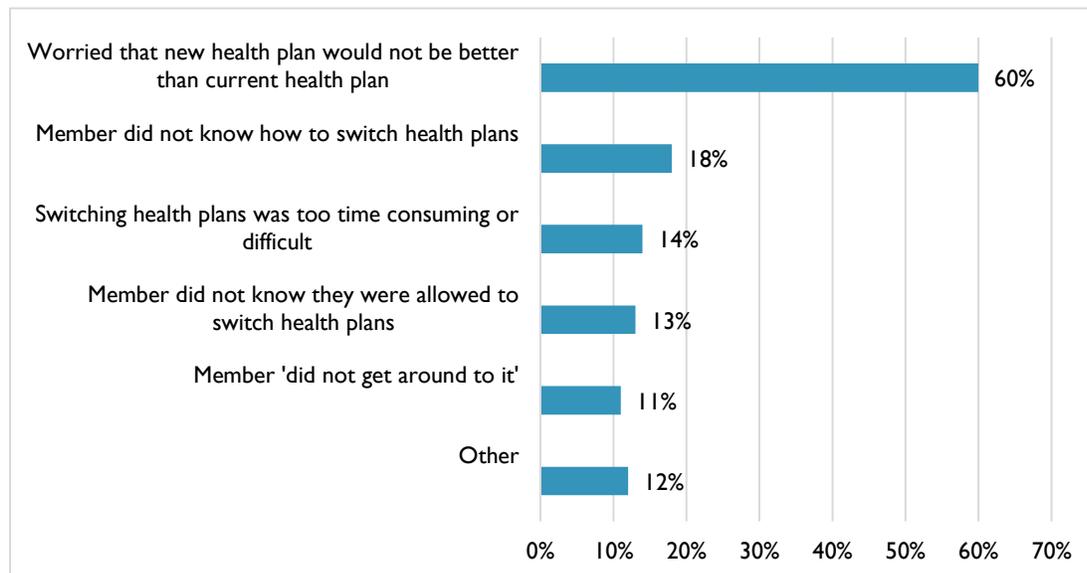
## MEMBERS WHO DID NOT FOLLOW THROUGH ON INTENTION TO SWITCH HEALTH PLANS

Many respondents who express an interest in changing health plans do not follow through with the change; when asked about the last open enrollment period, only about 8% of survey respondents actually switched health plans, while an additional one-fourth of respondents indicated that they wanted to switch during open enrollment but did not.

Respondents were asked to detail why they did not follow through on their intention to switch plans. A majority (60%) were worried that the new health plan would not be any better than their current health plan. About 18% indicated they did not know how to switch health plans and 13% said that were not aware that they could switch health plans. Among respondents who identified 'other reasons' for plan switching, a dominant reason for wanting to switch included the time involved with reauthorizing caregivers and other service providers under another MCO. For example, one survey respondent reported, "I was told that my caregivers would not get paid for at least a month while transitioning. Who can work without pay for a month?"

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## REASONS FOR FOLLOWING THROUGH ON AN INTENTION TO SWITCH PLANS

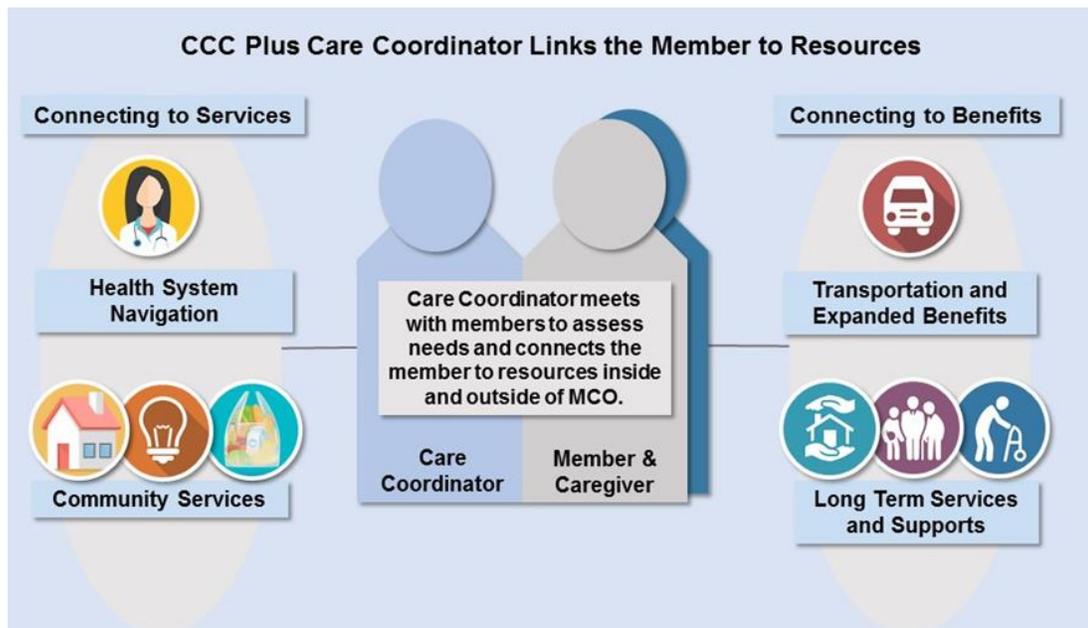


## CHAPTER V: CARE COORDINATION

CCC Plus requires health plans to employ care coordinators and stipulates their activities. A cornerstone of the CCC plus program is that every enrolled member has a CCC Plus care coordinator. The care coordinator, often a licensed clinical social worker or a registered nurse, is employed and supervised by the member's MCO. The CCC Plus contract specifies various tasks of the care coordinator related to the assessment of members' health needs and goals in various domains (social, functional, primary care, specialist care, behavioral, cognitive, LTSS, wellness and preventive).

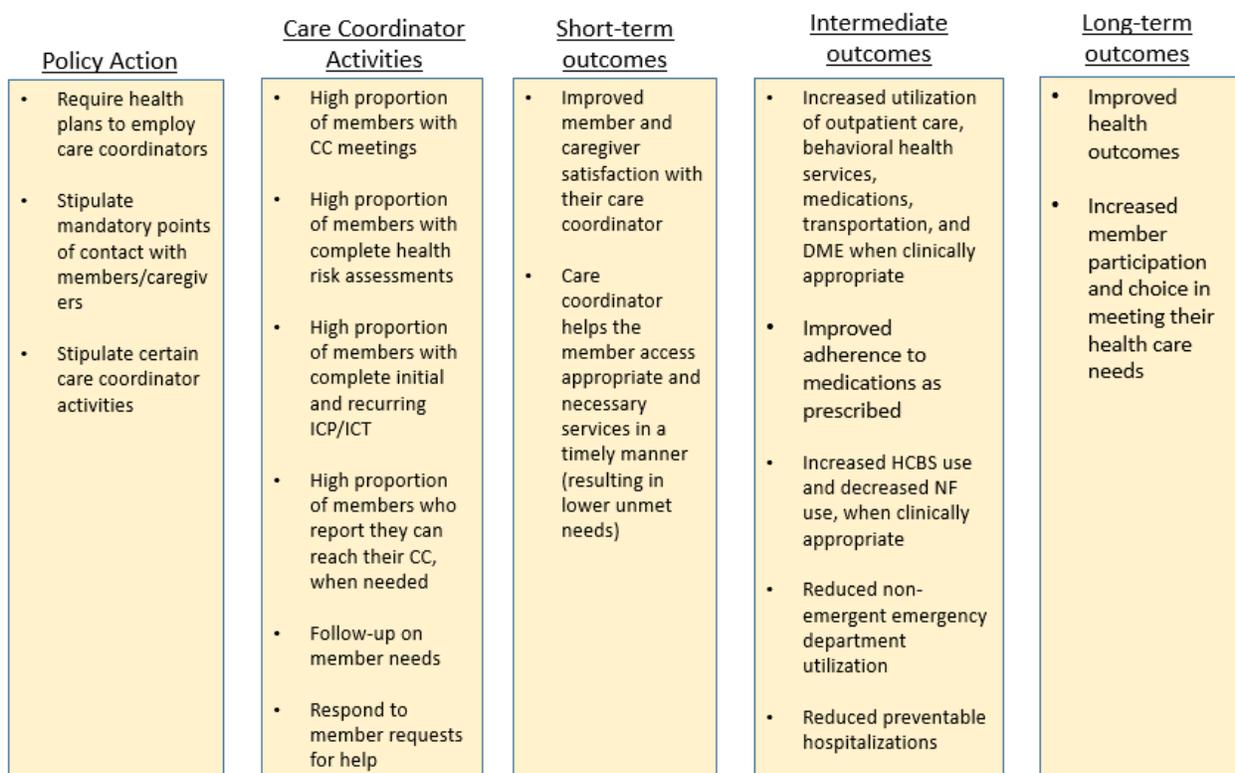
Care coordinators help to ensure that members receive the care they need through person-centered assessments and connecting them with a variety of services necessary to maintain their health and ability to stay in the community, as well as responding to requests for assistance and information. Care coordinators also help all members, especially those who are inexperienced in the MCO environment, to navigate the health system, and access needed services. The care coordinator assists members in using and getting authorization for certain MCO benefits, such as transportation, personal care services, home health aides, assistive technology, and care in nursing facilities, and other benefits. They also assist members by connecting them to providers and services, such as helping them find doctors, making appointments, and assisting with obtaining prescription medications. Given the high level of social needs among many CCC Plus members, care coordinators may also refer members to community services such as food banks, the Supplemental Nutrition Assistance Program (SNAP), the Women, Infants and Children (WIC) program, utility support programs, or housing resources. Integrating services through care coordinators is intended to help members obtain the full range of needed services and supports that allow them to continue living in the community.

### CARE COORDINATOR VISUAL



A logic model, pictured below, depicts how the care coordinator can affect change, ultimately resulting in improved member health outcomes. For example, the DMAS contract stipulates that the care coordinator should complete activities such as health risk assessments, individualized care plans, and conduct interdisciplinary care team meetings. The completion of these activities and other points of contact with the care coordinator should result in short term outcomes such as improved member and caregiver satisfaction, and help accessing needed services. These should lead to both intermediate outcomes, such as increased utilization of outpatient care, increased home and community based services, and reduced avoidable emergency department and hospital utilizations, as well as long-term health outcomes.

FIGURE 2. CARE COORDINATION LOGIC MODEL



## CARE COORDINATOR ACTIVITIES

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### STAFFING RATIOS

The CCC Plus contract specifies staffing ratios based on the member's level of risk. In July 2018, staffing ratios ranged from 1:400 for emerging high risk populations (individuals with complex conditions that are well managed) to 1:70 (long term services and supports populations).<sup>16</sup> More recent contracts have loosened the staffing requirements for some populations, adding a minimal need group for the lowest risk members at one care coordinator per 1,000 members. Staffing ratios at nursing facility and for other vulnerable populations are required to be higher.<sup>17</sup> However, recent contracts slightly reduced the care coordinator to member ratio for members with the highest risk of institutionalized care (the CCC Plus Waiver population) at 1:75 (compared to 1:70 in 2018).

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### HEALTH RISK ASSESSMENT (HRA)

The CCC Plus contract stipulates that the care coordinator must complete a health risk assessment with the member/caregiver. This person-centered assessment collects information about members' health and personal needs in various domains including the following: social, functional, primary care, specialist care, behavioral, cognitive, LTSS, wellness and preventive. Gathering this detailed information is intended to help the care coordinator determine areas of need and opportunities to link the member to services. Face-to-face requirements, completion timelines, and reassessments vary by population risk level. For CCC Plus Waiver populations who require private duty nursing services, an HRA conducted face-to-face is required within 30 days of enrollment; by contrast, low risk groups require no HRA. These requirements have also shifted over contract iterations, moving toward a general loosening of HRA requirements, particularly for members who are deemed at lower risk.

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### INDIVIDUALIZED CARE PLAN (ICP)

Information collected by the care coordinator during the HRA is intended to be used to develop an ICP, which is a person-centered plan that specifies strategies and actions to meet member needs, preferences, goals, plans for transitions, safety and crisis planning, backup plans when the caregiver is unavailable, and plans to access the member's community resources and services. The member is expected to be an active member in the development of the ICP and to sign the ICP. Similar to the HRA, the completion deadlines for the ICP vary by member risk category and have shifted somewhat over contract years. The ICP is routinely updated and upon triggering events.

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### INTERDISCIPLINARY CARE TEAM (ICT)

The interdisciplinary care team (ICT) is a group of individuals who are involved in the member's care. These should include but are not limited to the member's care coordinator, primary care provider, long term services and supports providers, case managers, and family members/caregivers. The contract stipulates that the care coordinator should arrange a meeting with the ICT every 6 months for higher risk members, and less frequently or not at all for lower risk members. Triggering events, such as hospitalizations, can lead to additional required ICT meetings.

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## OTHER CARE COORDINATOR ACTIVITIES

Care coordination is not limited to the above activities, but also assists with transition between levels of care and discharge planning. They help the members execute items or tasks identified in the HRA and ICP. Further, they are available to members via phone and email as a central point of contact in order to help members navigate within and outside of the MCO when issues or questions arise. Examples include, but are not limited to, helping members with durable medical equipment approvals, assistance with provider concerns and making medical appointments, and helping members with food and housing, if needed.

## THE CCC PLUS CARE COORDINATOR WORKFORCE

We conducted a web-based survey of CCC Plus care coordinators to gather basic workforce characteristics. MCOs provided lists of care coordinators who were assisting CCC Plus members, along with contact information including email addresses. Online surveys were sent to 1,305 care coordinators identified by the MCOs, and completed by 531 coordinators.<sup>18</sup> Findings from this survey are summarized below.

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## BACKGROUND AND EXPERIENCE

Virginia CCC Plus care coordinators come from various backgrounds including behavioral health, nursing and other health services fields. Nearly half of all care coordinators surveyed had three or more years of experience, and only 10% had less than one year of experience. While some care coordinators are new to the role, a large proportion of coordinators were already performing this professional role in some capacity prior to CCC Plus.

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## GEOGRAPHIC AREAS WHERE CARE COORDINATORS WORK

Care coordinators serve members across all Virginia regions. Of the 531 care coordinators surveyed, 33% are located in large cities or suburbs, followed by rural areas (27%) and small cities (15%). Some care coordinators work across multiple regions.

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## HOW CARE COORDINATORS SPEND THEIR TIME?

We asked care coordinators to estimate the amount of time they spend performing each of the following activities: working with members or directly coordinating their care; completing administrative tasks; and time spent on travel or other tasks.

On average, care coordinators reported that they spend 54% of their time interacting with members or coordinating member care. Care coordinators report spending about one-third of their time on administrative tasks, such as internal documentation or reporting requirements. Care coordinators spend about 12% of their time traveling to and from members' homes or on other tasks. Care coordinators in large city or suburban areas spend somewhat more of their time on direct member care activities (58%) and less time on administrative tasks (30%) compared to coordinators in rural areas or small cities (52% and 35%, respectively). Allocation of time across activities varies somewhat by care coordinator experience and MCO.

We observed variation across MCOs in how care coordinators spend their time. While DMAS provides MCOs with some specific program requirements for participating in CCC Plus, MCOs have autonomy to shape some elements of program design, such as the design of the health information systems that support care coordinators in their job activities, as well as internal documentation and reporting requirements.

These differences may contribute to variation in the amount of time that care coordinators spend on administrative tasks. For example, the average time spent on administrative tasks across MCOs varied from a low of 25% to a high of 42%. There is substantial variation across MCOs in the amount of time spent directly interacting with or coordinating care for members, from a high of 63% to a low of 44%. The survey data collected did not allow us to determine the reasons for MCO variation in how care coordinators spend their time, nor whether the variation was associated with quality of patient care. Furthermore, there are no specific guidelines or requirements with which to assess the adequacy of time spent on various activities. Nevertheless, while documentation and other administrative tasks are essential, the survey data suggests a trade-off between the amount of time spent on these activities and time spent on patient care activities.

#### ALLOCATION OF CARE COORDINATOR TIME BY EXPERIENCE AND HEALTH PLAN

Percent of Time Care Coordinator is Engaged in Activities			
	% of time with Members or Coordinating Member Care	% of time completing Administrative Tasks	% of time on Travel or Other Tasks
<b>Total</b>	54%	33%	12%
<b>Years of Experience</b>			
0-1	49%	37%	14%
1-3	55%	33%	12%
3-5	55%	31%	15%
5+	55%	34%	11%
<b>Health Plan</b>			
Aetna	51%***	36%***	13%
Anthem	54%	34%	11%
Molina (formerly Magellan)	58%	27%	14%
Optima	63%	25%	12%
United	58%	32%	10%
Virginia Premier	44%	42%	14%

Chi-squared tests were used to examine differences within years of experience health plan for each activity group. \*p<=0.10, \*\*p<=0.05, \*\*\*p<=0.01

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## HOW DOES CARE COORDINATION WORK IN PRACTICE? PERSPECTIVE FROM THE FRONT LINES

In-depth semi-structured interviews were conducted with a number of CCC Plus care coordinators to better understand how they actually perform their roles, as well as some of the challenges they experience in working with both CCC Plus members and MCOs. The findings discussed in this section are from hour-long interviews we conducted with 24 CCC Plus care coordinators across the six participating managed care organizations (MCOs).<sup>19</sup> In the time since these interviews were conducted in early 2019, there may have been changes in both care coordinator and MCO learning, along with changes in program requirements. We considered all of the experiences shared by the care coordinators in answering these study questions: (1) What activities do CCC Plus care coordinators perform in their job? (2) What barriers do they experience in performing their job? (3) What helps them to do their jobs well? (4) What are the opportunities for improvement, and what successes can the CCC Plus program build upon?

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### WHAT ACTIVITIES DO CARE COORDINATORS PERFORM IN THEIR JOBS?

Consistent with the activities mandated by the CCC Plus contract, care coordinators reported that they spend their time conducting health risk assessments, conducting interdisciplinary care plans, organizing interdisciplinary care team meetings, and coordinating medical and social service. For members who require long-term services and supports, care coordinators conducted level of care (LOC) determinations. A summary of care coordinator perspectives on each major activity are presented below, including the barriers and facilitators they experience in performing these activities.

**HEALTH RISK ASSESSMENT.** Nearly universally, CCs expressed that the HRA is a valuable tool for gathering information to assess member needs and assists in member relationship building. Although CCs appreciated the value of the HRA, they mentioned challenges. Some challenges related to the tool itself, such as repetitive questions within an HRA, questionable value of some sensitive questions, and questionnaire length. Other issues related to the time required to prepare for the HRA. Several CCs expressed that they felt the time pressure of multiple demands and would often weigh whether they should help an unstable member with an urgent need or complete an HRA with a relatively stable member. CCs offered ideas for improvement, including the need for tailored assessments depending on population and need, reconsidering question content (with a particular focus on sensitive topics), removing redundant questions, and coordinating with other state agencies for information like updated and accurate contact information.

**INDIVIDUALIZED CARE PLANS (ICPS).** Member-centered care planning is important for maintaining and improving member health and wellbeing, but most CCs felt that (1) to be more valuable the ICP and related processes need to allow for greater tailoring of ICP for individual needs, and (2) CCs do not have enough time and support to effectively “work the ICP” with the member. CCs differed in their views of the utility of required goal areas and the helpfulness of goals automatically generated by ICP software. CCs also differed in their perceived ability and confidence in successfully developing and addressing all of a member’s goals. To create and use the ICP as intended, CCs need more time to build constructive relationships with members. They suggested reducing caseload, minimizing caseload shifts, streamlining documentation and information transfer processes, and providing

the CCs with more flexibility in working the ICP (for example, more discretion to focus on relevant areas). It should be noted that care coordinator feedback may not always align with feedback provided by the MCOs more broadly.

**INTERDISCIPLINARY CARE TEAMS (ICTS).** Meaningful interdisciplinary care teams (ICTs) are difficult to develop given the array and dispersion of providers, resources, and competing time demands. In particular, care coordinators perceive that PCPs are just “too busy.” For example, PCPs rarely attend ICT meetings, but CCs reported that PCPs and their offices may still be cooperative and helpful in the member’s care coordination efforts. CCs wondered how to realistically achieve ICT goals since, in sum, *“I think the ICTs, while a wonderful idea, do not function like they should.”* They offered a few ideas about modifying program practices that emphasize the need for flexibility in convening ICTs based on member circumstances, streamlined information flow, and the importance of additional efforts to establish role clarity and support relationship building.

**LEVEL OF CARE (LOC) DETERMINATIONS.** Level of Care (LOC) determinations are an extremely high-priority activity for CCs since they are required for initial and continued receipt of services. As such, LOC assessments can generate time management challenges and crowd out other care coordination activities. CCs identified two key challenges to meeting LOC assessment requirements: (1) surges in demand for these assessments (that is, they receive a lot of new members at once, or a large number of annual reviews are due at the same time) and; (2) the time-intensiveness of completing the assessments (for example, scheduling, and traveling to conduct face-to-face interviews with members).

**COORDINATING MEDICAL AND SOCIAL SERVICES.** CCs connect members with both medical and social services within and outside of the MCO. Those mentioned most frequently were Durable Medical Equipment (DME), environmental modifications, and transportation, followed by housing and food security. Knowledge regarding the availability of community social services (like food pantries or housing assistance) is very localized. CCs with a medical background rely more heavily on internal supports, like housing specialists. While several MCOs have added the internal support of housing specialists, identifying affordable long-term housing continues to be a challenge. DME authorizations are essential for many members, and members often work with the CC to assist them with the process. However, the timeliness of approvals varies. This is further complicated when CCs do not have access to systems that allow them to view the status of the DME request. Many CCs described difficulty with the reliability of transportation. Problems with transportation were pervasive across regions, but seemed particularly pronounced in rural areas.

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## WHAT ARE THE OPPORTUNITIES FOR IMPROVEMENT, AND WHAT SUCCESSES CAN THE CCC PLUS PROGRAM BUILD UPON?

**TIME MANAGEMENT AND TRADEOFF DECISIONS.** Overall, CCs expressed commitment to providing high quality care coordination for members. However, CCs reported that they are often unable to execute the job as well as they would like. For example, they struggle to manage the all of the demands in the context of the number of required activities (whether required by DMAS or their MCO), number of cases, and nature of the work (that is, heavy documentation requirements,

fragmented and duplicative IT) along with numerous unplanned events that need immediate attention (for example, member calls, triggering events such as medical emergencies). CCs report making tradeoff decisions about their time. The most urgent and most consequential activities take precedence, with their prioritization criteria heavily influenced by MCO and DMAS demands and deadlines. This means that proactive activities, like following-up on less urgent member calls, are sometimes sacrificed for reactive activities, like meeting HRA deadlines or following up with a member after an ED visit.

**PROGRAM ELEMENTS THAT ARE WORKING IN THE VIEW OF CARE COORDINATORS.** When asked what parts of the program ‘worked’, most CCs mentioned that having the CC act as the liaison between the member and MCO worked well. In the words of one CC, *“I really think it works because the members have a person that they can actually put a hand on, face, and name to instead of a big huge organization.”* CCs also appreciated face-to-face interactions with members because those interactions allowed the CC to (1) build relationships; and (2) to more accurately assess member needs thus improving the likelihood of keeping them stabilized and living in the community. Some specifically mentioned that HRA and ICP assessments were helpful, as it allows them to assess member needs and to form relationships. A few CCs mentioned tailored parts of the program that also work well, such as specialized caseloads and telephonic communication for low risk members.

**PROGRAM ELEMENTS THAT CARE COORDINATORS WOULD CHANGE.** Several CCs communicated that it would be helpful to reassess the package of CC duties and responsibilities to evaluate the feasibility of performing all of these responsibilities. Many CCs wanted to see changes regarding caseloads. Specifically, many wanted reduced caseloads, and some commented that they would like more stable caseloads. CCs also wanted to see changes regarding information flow within their MCO and between the CC/MCO and DMAS. CCs advocated for changes with administrative tasks, including reduced duplication of documentation and reduced paperwork requirements. Some suggested that non-CC internal supports could share the burden of documentation. Flexibility around deadlines was another theme that arose. While CCs were pleased with recent contract deadlines changes, they specifically requested more flexibility around deadlines for assessments and documentation deadlines.

## INDICATORS OF CARE COORDINATORS COMPLETING STIPULATED ACTIVITIES

As described in previous sections, care coordinators must conduct certain activities under the CCC Plus contract. The CCC Plus member survey included questions asking members about their interactions and activities with their health plan’s care coordinator. Our objective was to determine (1) the proportion of members with CC meetings, (2) the proportion of members who completed a HRA, (3) the proportion of members who can reach their CC when needed, and (4) any other process outcomes that we measured in the surveys.

In 2018 (the first full year of CCC Plus), 77% of CCC Plus survey respondents reported they had met with their care coordinator (for completion of a health risk assessment or otherwise) at least once since their initial enrollment.<sup>20</sup> Consistent with program requirements, respondents with more complex health needs were more likely to have met with their care coordinator. Among those who had difficulty with three or more ADLs, 90% met with their care coordinator, compared to 70% who had no difficulty

with ADLs. Similarly, respondents who report four or more chronic health conditions were more likely to meet with their care coordinator (82%) than those with zero or one health conditions (69%).

In the second full year of CCC Plus (2019), 73% of survey respondents reported that they had met with their care coordinator or their care coordinator helped them access a needed service, a slight decrease from 2018. The decrease may reflect the greater length of time that survey respondents had been enrolled in CCC Plus by 2019. In addition, HRA requirements were dropped for CCC Plus members in the lowest risk group, lessening the need for care coordinator meetings. The decrease in care coordinator contact was greater for respondents with no ADL difficulties (from 70% in 2018 to 64% in 2019) than for respondents three or more ADL difficulties (from 90% in 2018 to 87% in 2019).<sup>ii</sup>

We observed some variation in care coordinator meetings and HRA completion by health plan. In 2018, about 60% of Virginia Premier members reported completing an HRA with their care coordinator, compared to 41% of Aetna members. In 2019, 79% of United members reported a care coordinator meeting, compared to 66% of Anthem members.

#### CARE COORDINATOR ACTIVITIES: MEMBER MEETINGS AND HEALTH RISK ASSESSMENTS

	Percent who completed a HRA Weighted 2018	Percent who met with care coordinator Weighted 2018	Percent who met with care coordinator Weighted 2019
<b>Total</b>	51	77**	73
<b>Difficulty with ADLs</b>			
<b>None</b>	43***	70***	64***
<b>1 or 2</b>	55	80	78
<b>3 or more</b>	64	90	87
<b>Health Plan</b>			
<b>Aetna</b>	41***	69*	71**
<b>Anthem</b>	48	76	66
<b>Molina (formerly Magellan)</b>	46	77	75
<b>Optima</b>	58	80	77
<b>United</b>	50	77	79
<b>Virginia Premier</b>	60	83	77

Chi-squared tests used to test for differences in ADLs and health plan within columns. z-test was used to test for differences in the percent who met with a care coordinator in 2018 and 2019. \*p<=0.10, \*\*p<=0.05, \*\*\*p<=0.01.

## ADDITIONAL INDICATORS OF CARE COORDINATOR AND MEMBER INTERACTIONS

The care coordinator logic model's 'activities' column indicates that care coordinators should respond to member needs/requests. To this end, the contract specifies that members should be given direct contact information for their health plan care coordinator (telephone number and email), allowing a direct line of communication for any inquiries or needs. Ideally, members who have needs will reach out to their care coordinator with any questions or unmet needs, even if outreach occurs outside of scheduled HRAs and meetings.

In the 2019 member survey, we examined the proportion of respondents who reported reaching out to their care coordinator by phone. For members who reported outreach, we inquired about the proportion of calls returned within 3 days. Overall, 50% of survey respondents called their care coordinator directly. Of these, 81% of care coordinators responded within 3 days, which varied to some extent by health plan. Optima Care and Molina (formerly Magellan) care coordinators returned about 90% of member calls within 3 days, compared to 70% of Aetna care coordinators. The proportion of care coordinators who returned calls did not vary by the number of ADL difficulties.

### OTHER INDICATORS OF MEMBER/COORDINATOR INTERACTIONS

	Member called CC at least once (%) 2019, weighted	CC Returned phone call within 3 days (%) 2019, weighted
<b>Total</b>	50	81
<b>Difficulty with ADLs</b>	***	
<b>None</b>	39	81
<b>1 or 2</b>	56	81
<b>3 or more</b>	66	81
<b>Health Plan</b>	*	***
<b>Aetna</b>	52	70
<b>Anthem</b>	43	80
<b>Molina (formerly Magellan)</b>	49	90
<b>Optima</b>	53	89
<b>United</b>	55	85
<b>Virginia Premier</b>	55	78

Chi-squared tests were used to test for differences by ADLs and health plan within columns. \*p<=0.10, \*\*p<=0.05, \*\*\*p<=0.01

## SATISFACTION WITH CARE COORDINATORS: MEMBER PERSPECTIVES

According to the ‘short-term outcomes’ column of the care coordinator logic model, satisfaction should be a product of program inputs and execution of the care coordinator’s specified activities. A small body of literature examined care coordinator satisfaction among other MLTSS programs. One study found an association between care coordinator satisfaction and unmet needs, with higher levels of care coordinator satisfaction related to a lower number of unmet needs.<sup>21</sup> Evidence from the evaluation of the prior CCC program emphasized the importance of the quality of the care coordinator and member relationship and emphasized that the relationship influenced how well a member’s social and health needs were met.<sup>22</sup>

Overall, member assessment of care coordinators was positive and relatively stable between 2018 and 2019 survey years. We note a small increase of about 4% points in member confidence in the care coordinator’s ability to help. We did not observe statistically significant differences in ratings among health plans.

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### CONFIDENCE IN CARE COORDINATOR’S ABILITY TO HELP AND RATINGS OF THE QUALITY OF HELP PROVIDED BY CC

	Confident in CC’s ability to help (%)		Positive ratings of CC’s help (%)	
	2018 weighted	2019 weighted	2018 weighted	2019 weighted
<b>Total</b>	72**	76	75	74
<b>Difficulty with ADLs</b>				
<b>None</b>	71	77	76	73
<b>1 or 2</b>	73	75	72	77
<b>3 or more</b>	73	76	76	74

Notes: Includes those who responded somewhat confident, very confident or excellent to good care. Excludes those who did not meet with a care coordinator. Chi-squared tests used to test for differences within columns. Z-tests were used to test for differences across 2018 and 2019. \*p<=0.10, \*\*p<=0.05, \*\*\*p<=0.01. “Don’t know” responses not shown.

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### INDICATORS OF QUALITY INTERACTIONS WITH CARE COORDINATORS

Prior research studies found that the quality of communication is an important factor related to patient outcomes.<sup>23</sup> When asked about indicators of communication, the vast majority of members felt that their care coordinators explained things in a way that was easy to understand and listened carefully to them (82% and 88%, respectively). Members with Optima health plans rated their care coordinators the highest on these indicators of communication. Health plan differences are not statistically significant.

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## MEMBER'S EXPERIENCE WITH CARE COORDINATOR'S COMMUNICATION

	% CC explains things in a way that is easy to understand <sup>3,5</sup> 2019, weighted	% CC listens carefully to member <sup>3,5</sup> 2019, weighted
<b>Total</b>	82	88
<b>Difficulty with ADLs</b>		
<b>None</b>	82	89
<b>1 or 2</b>	82	87
<b>3 or more</b>	83	87
<b>Health Plan</b>		
<b>Aetna</b>	78	86
<b>Anthem</b>	82	89
<b>Molina (formerly Magellan)</b>	77	88
<b>Optima</b>	89	91
<b>United</b>	82	85
<b>Virginia Premier</b>	84	87

Chi-squared tests used to test for differences within columns. \*p<=0.10, \*\*p<=0.05, \*\*\*p<=0.01. Excludes those who did not meet with a care coordinator.

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## CARE COORDINATORS' ROLE IN OBTAINING NEEDED SERVICES FOR MEMBERS

Care coordinators help members with a variety of activities. Respondents to the 2019 member survey report that in the year prior to the survey, care coordinators were most likely to help them with: assistance after hospital discharge (24%), obtaining needed equipment, like walkers (23%), obtaining other medical technology or equipment (23%), and prescription drugs (23%). Care coordinators were least likely to help members with social needs including non-medical transportation (9%), locating housing/food (12%), and heating/cooling assistance (12%).

CCC Plus members also receive considerable assistance with these activities from others, such as family caregivers. Despite the combined assistance from care coordinators and others, there are still sizable gaps in some services where members still need assistance, especially: dental, vision, or hearing care (29%), which were not covered at the time of the survey (dental benefits began July 1, 2021). Also, survey respondents identified home modifications (26%), and help locating housing or food resources (26%) as significant unmet needs. While home modifications are covered by MCO benefits, many of the social needs are not directly covered by MCO benefits, and therefore care coordinators may need more help identifying community resources. Further, lack of coordination between state agencies may be challenging for care coordinators to navigate.

## WHO HELPED THE MEMBER OBTAIN NEEDED SERVICES

In the past 12 months, who helped the member obtain needed services (weighted)			
	CC helped (%)	Someone other than CC helped member(%)	Member still needs help (%)
Medical appointments	20	68	9
Mental Health or Substance Abuse Services	18	46	14
Prescription medications	23	63	8
Dental, vision, or hearing care	19	47	29
Assistance after hospital discharge	24	53	7
Personal assistance services	18	55	15
Specialized bed, ramp, other home mods	21	34	26
Walker/cane, scooter, or wheel chair	23	43	16
Other medical technology/equipment	23	36	20
Help locating housing or food resources	12	45	26
Heating/cooling assistance	12	47	25
Transportation to a medical appointment	20	62	14
Non-medical transportation, ie grocery	9	64	18

Notes: Respondents could choose more than one person who helped them. Missing not excluded. Responses will not total 100%. Respondents who selected that they did not need help in this area were removed from the denominator.

## UTILIZATION OF SERVICES FOLLOWING INTERACTIONS WITH CARE COORDINATORS

In the care coordinator logic model, the care coordinator conducts mandated activities to assess member needs and uses the information gained during these assessments to help connect members to needed services within and outside the MCO, which is intended to improve member health outcomes. Although policymakers postulate that care coordinators will enhance the quality of care through a high-touch, hands-on approach to connecting to necessary services, there has been little research on this relationship. This analysis examines whether interactions with care coordinators are associated with the utilization of selected Medicaid-covered services.

## RESEARCH QUESTIONS AND METHODS

Our research questions are as follows: (1) Do members who report a care coordinator meeting have lower subsequent emergency department (ED) utilization, which would suggest that health needs are being met? (2) Do members who report a care coordinator meeting have higher subsequent transportation utilization? (3) Do members who report a care coordinator meeting have higher subsequent durable medical equipment (DME) utilization? Lower ED utilization associated with greater care coordinator contact would suggest that care coordinators are providing more assistance with

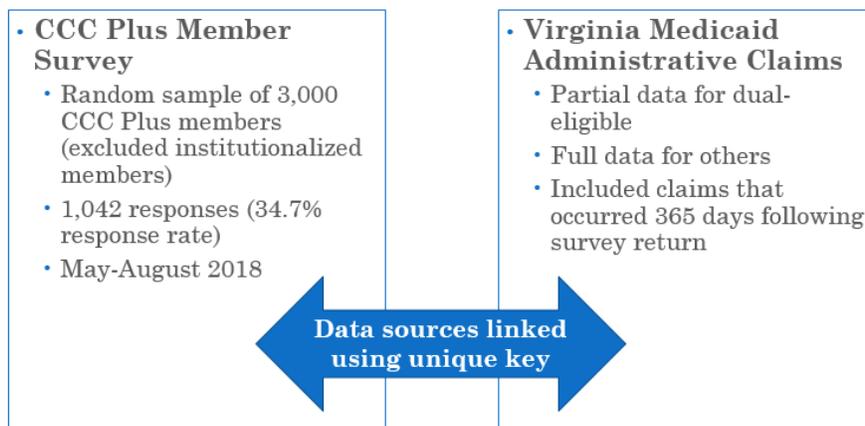
health needs, while greater use of DME and transportation would suggest that members are receiving more direct assistance from care coordinators in obtaining these services.

We linked 2018 Medicaid survey data to Medicaid claims data to answer our research questions. Each outcome of interest pertained to the 12 months following each sampled member's survey receipt. We included members with at least 60 days of enrollment in CCC Plus following the survey receipt. Medicare claims data are currently unavailable to us, so we excluded individuals ages 65 years and older from the DME and emergency department measures (n=339).

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#### LINKING SURVEY DATA WITH UTILIZATION DATA

The figure below visualizes how these data sources were linked and the populations included in the analysis.



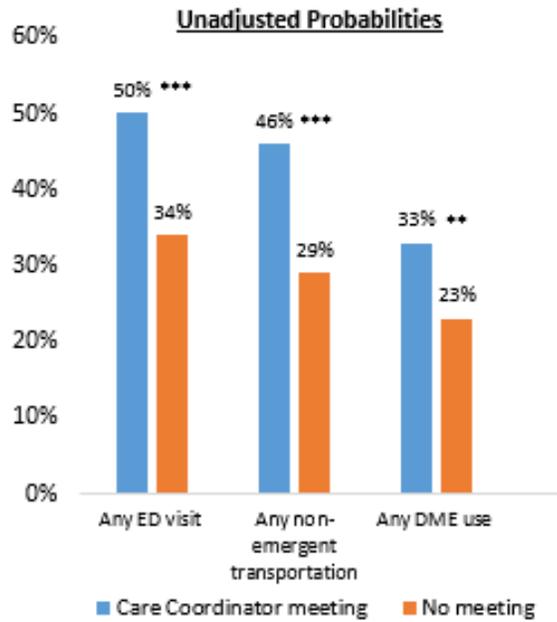
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#### RESULTS

About 80% of survey respondents reported a care coordinator meeting. Meeting with a care coordinator is positively associated with receipt of non-emergent Medicaid transportation and ED use, even after adjusting for member characteristics.

The figure below visualizes the unadjusted study results. The predicted probability of having non-emergent transportation, any DME use, and any ED visit is higher for those who met with a care coordinator than those who did not.

## ASSOCIATION BETWEEN CARE COORDINATOR MEETING AND USE OF SELECTED SERVICES



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### CONCLUSIONS

These results suggest that care coordinators help members access non-emergent medical transportation and perhaps guide them toward the ED, when needed. Appropriate utilization of outpatient and ED services for medically complex individuals supports flexible ongoing care delivery and community tenure. Accessing these needed services on an outpatient basis may be a stepping-stone that allows members to continue to live in community, rather than institutional settings.

### UNMET NEEDS BENCHMARKS

The motivation for the rapid expansion of Medicaid MLTSS programs across the country<sup>24</sup> may have come from the abundant evidence of unmet needs among vulnerable populations, such as adults and children with disabilities, as well as dual eligible beneficiaries under traditional fee-for-service designations.

For example, an analysis published in 2005, when most states operated under a fee-for-service model, found that nearly 60% of dual eligible adults with long-term care needs reported at least one unmet need.<sup>25</sup> Unmet needs for mental health were especially high, as 62% of dual eligible beneficiaries had difficulty accessing one or more psychiatric medications.<sup>26</sup> The literature also demonstrated evidence of unmet social needs, as 33.6% of dual eligible enrollees experienced food insecurity.<sup>27</sup> Regardless of the type of unmet need experienced, those who were in poverty, living alone, having difficulty with more ADLs or were in worse health, faced an increased risk of an unmet need.<sup>28, 29</sup>

Reducing unmet needs is critical because they can result in severe consequences. For example, in a population of dual eligible individuals, 30.2% of individuals with the relevant unmet need for assistance with ADLs had to stay inside, 20.9% had to stay in bed, and 9.4% went without a hot meal.<sup>30</sup> Having an unmet need for ADL assistance is also associated with increased probability of having an acute care admission into the hospital, having a readmission to the hospital within one year of the index hospitalization, and being admitted to the ED, especially for falls and injuries.<sup>31, 32, 33, 34</sup>

As the above evidence suggests, unmet need is common and leads to significant consequences. Early evidence suggests that managed care systems can reduce unmet need as compared to more fragmented fee for service systems for children and adults with disabilities.<sup>35, 36, 37</sup>

Although there seems to be promising evidence that managed care can reduce unmet needs, there are particular challenges in the population serviced under LTSS programs. For example, a study on individuals in a home and community-based services program in Massachusetts found that more than two-thirds of respondents had at least one unmet need despite the extensive services they receive.<sup>38</sup> However, care coordination, a tenant of many MLTSS programs, may reduce the unmet needs.<sup>23, 24</sup>

MLTSS programs are designed to care for high need populations, using care coordination and expansive services in order to reduce unmet needs. Enhanced understanding of the social, demographic, and health factors that are associated with unmet needs may help managed care organizations identify and provide additional outreach and support to individuals that are most at risk of unmet needs and their consequences.

## METHODS

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### DATA SOURCES

The data in this study are from the 2019 survey of CCC Plus members. The survey included items on demographics, care needs, satisfaction with care coordinator performance and self-reported health efficacy. While self-reported survey data was the primary source of information, information on health plan enrollment was obtained from the state enrollment files; additionally, in cases of missing demographic information about gender, race and age, data from enrollment files were used. Estimates were weighted to be representative of all CCC Plus members to account for differential response rates. Weights were calculated using the propensity cell method, using data on gender, race/ethnicity, age, aid category (aged, other or missing) and region of Virginia. In total, these responses represent 198,981 CCC Plus members.

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### DEFINITION OF UNMET NEED

Our primary outcome variables were the type and number of member unmet needs. In the survey, members were asked to indicate who helped them obtain services in 13 areas. For each area, members could respond with the following answers: “My health plan coordinator helped me”, “Someone else helped me”, “I still need help” and “I haven’t needed help in this area.” Those who reported “I haven’t needed help in this area” were removed from the analysis for the corresponding question, as this response suggested the member did not have a need for the service of interest. We considered a member to have unmet need in a particular area if they responded “I still need help.”

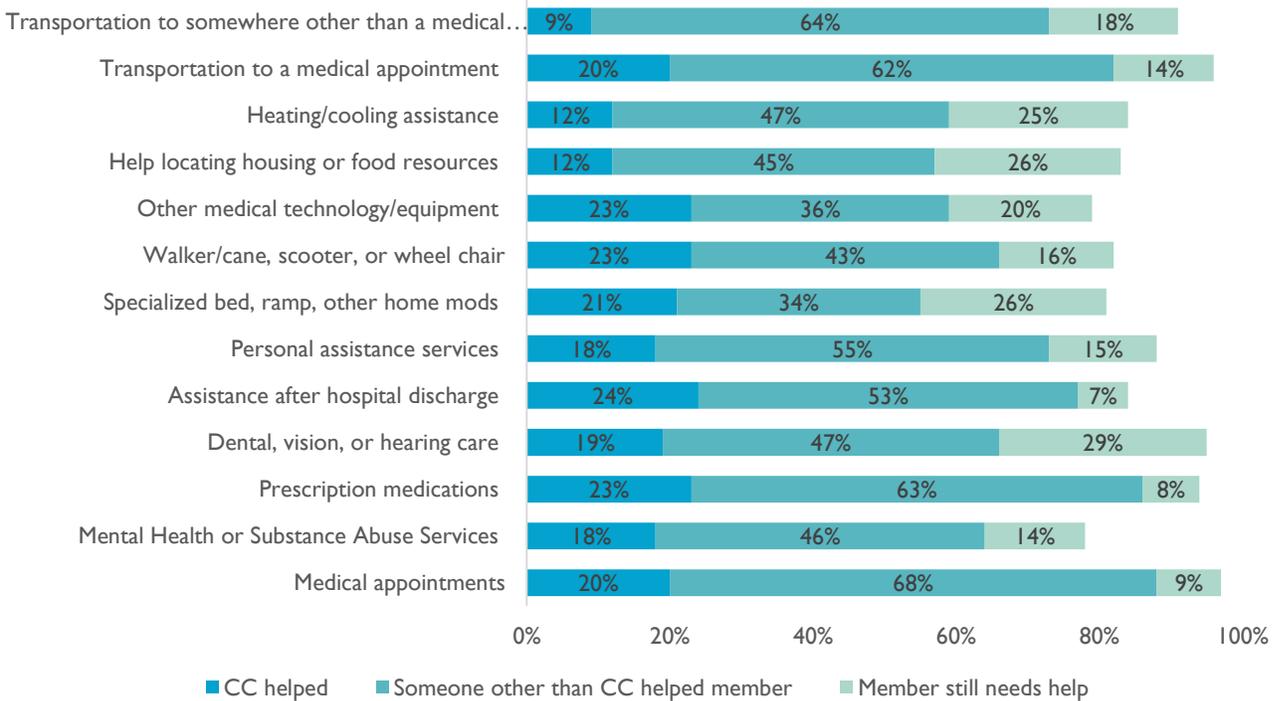
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### RESULTS

The chart below details estimates of unmet need for specific types of services. Members reported lower proportions of unmet needs for prescription medications (8%), assistance after hospital discharge (7%), and medical appointments (9%). The highest level of unmet needs was reported in dental, vision and hearing (29%), home modifications (26%), housing and heating assistance (25%). MCOs were not required to cover dental, vision, or hearing services at the time of the survey (although dental benefits are covered as of July, 2021, and some MCOs offer these benefits). MCOs are required to cover all other services in the chart.

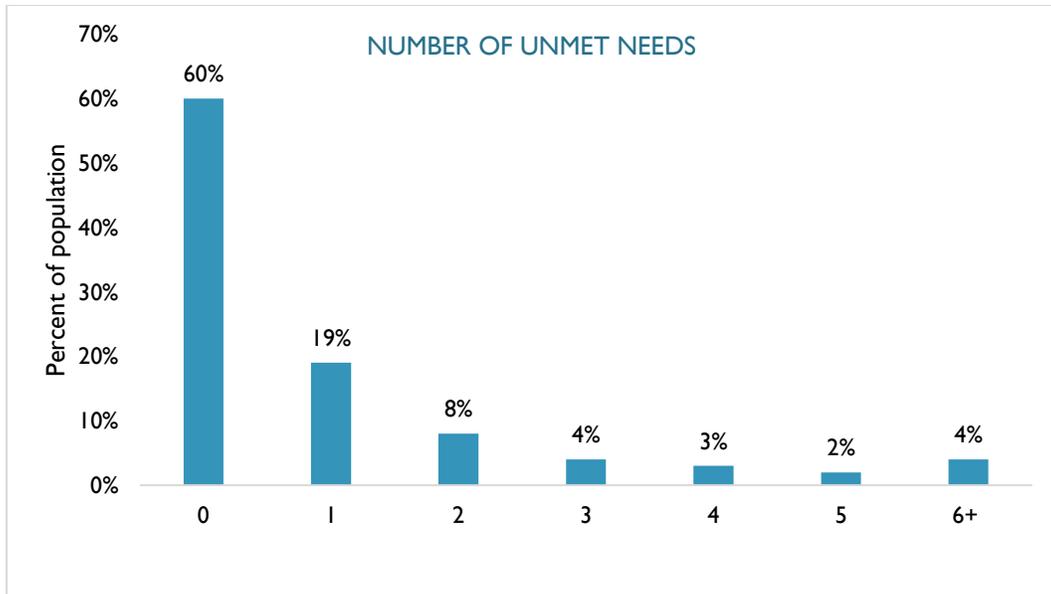
Of the areas with the highest reported unmet need, the MCO only directly and consistently covers one area—home modifications for LTSS populations. With the exception of emergency care, MCOs are not required to cover dental, vision or hearing services, although some MCOs do offer benefits. However, these enhanced benefits are not required to follow the same network adequacy requirements as other benefits so members may still experience difficulty finding providers who accept Medicaid coverage for these services.

### ASSISTANCE WITH NEEDED SERVICES



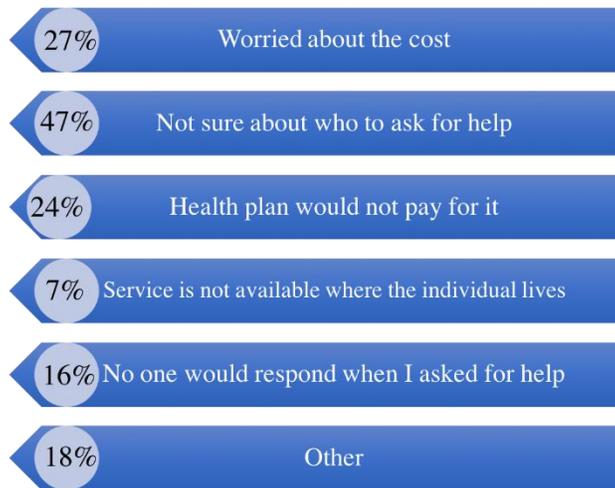
Note: Members could select multiple categories or no categories. This will not necessarily add to 100.

Overall, 40% of members had at least one of the unmet needs identified in the chart above. Almost 20% had a single unmet need, while an additional 20% had multiple unmet needs.



## REASONS FOR HAVING UNMET NEEDS

The major reasons for unmet need reflect concerns about cost and plan coverage, as well as difficulties getting assistance from the health plan. Of those with unmet needs, 47% responded that they are not sure who to ask for help, while an additional 16% cited a lack of response when they asked for help. More than one-fourth (27%) were worried about the cost of the service, while 24% said that the health plan would not cover the cost of the service, consistent with high rates of unmet need for frequently uncovered services such as dental, vision, and hearing.



Notes: Respondents could choose more than one response, so responses will not total 100%. Denominator is the number of individuals who reported needing help in any are.

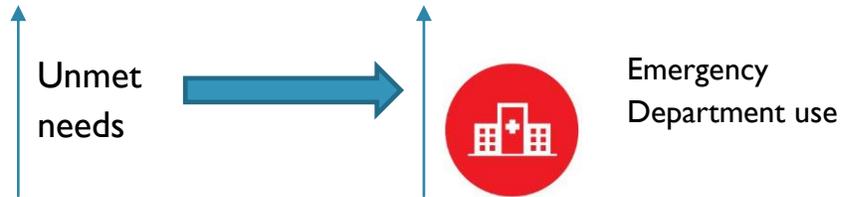
## EMERGENCY DEPARTMENT UTILIZATION AND UNMET NEEDS

Survey respondents with one or more unmet needs are more likely to have emergency department visits. Among respondents with no unmet needs, 47% did not have any ED visits, compared to 26% of respondents with three or more unmet needs not having any ED visits. Twelve percent of respondents with no unmet needs had three or more ED visits, compared to 23% having an ED visit among those with multiple unmet needs.

### EMERGENCY DEPARTMENT UTILIZATION RATE BY UNMET NEEDS

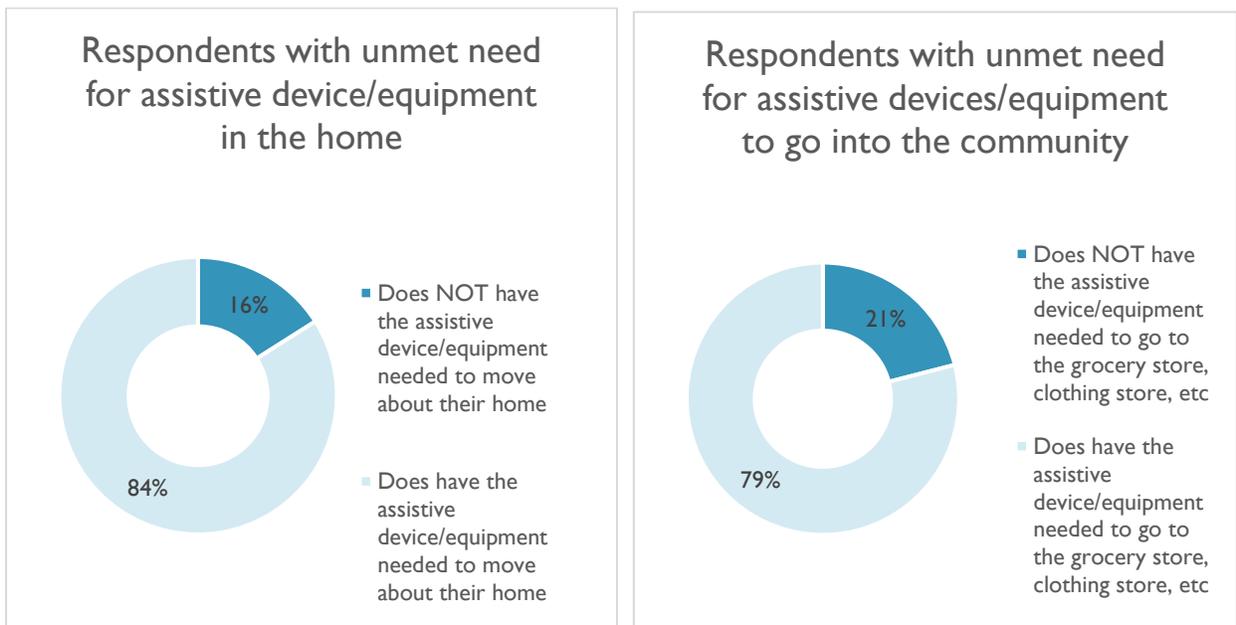
	No ED visits (%)	1 or 2 ED visits (%)	3 or more ED visits (%)
<b>No unmet needs</b>	47	42	12
<b>1-2 unmet needs</b>	31	51	18
<b>3 or more unmet needs</b>	26	51	23

Chi-squared tests used to test for differences. Significant at  $p < 0.001$



## UNMET NEED FOR ASSISTIVE DEVICE OR EQUIPMENT

The survey also asked respondents whether they have the medical equipment/assistive devices to move freely in their home and in their community. Excluding respondents who reported that they do not have a need for assistive devices, we find that about 16% of members do not have materials they need to move freely in their homes, and a little over one-fifth of members do not have the assistive equipment they need to go into their community.



Notes: Excludes respondents who indicated these questions were not applicable to their situation

## CONSEQUENCES OF UNMET ASSISTIVE DEVICE NEEDS

Survey respondents reported significant consequences as a result of unmet needs for assistive devices. Over one-third reported they had to stay inside their homes, even when they wanted to go out. Over one-third reported that they had an accident or soiled their clothes because of unmet assistive device needs. About 20% said they could not move freely in their homes. Further, 20% reported that they went without washing or showering because they did not have the home devices that they need.

<b>The member ....</b>	<b>CCC Plus (n=95)</b>
<b>went without washing/showering<sup>d</sup></b>	20%
<b>had an accident or soiled clothes</b>	30%
<b>went without getting dressed</b>	10%
<b>stayed inside when s/he wanted to go out</b>	40%
<b>was unable to get to certain parts of his/her home</b>	20%
<b>had to stay in bed when s/he wanted to get up</b>	15%
<b>respondent indicated that s/he does not feel comfortable answering this question</b>	24%

Notes: Respondents could choose more than one response, so responses will not total 100%. Analysis excludes those who reported 'strongly disagree' for assistive devices. Those who responded that they preferred not to answer were excluded from the denominator.

## CHAPTER VII: UTILIZATION OF LONG TERM SERVICES AND SUPPORTS UNDER CCC PLUS

An important goal of CCC Plus is to increase access to and utilization of home and community-based services (HCBS). Expanded use of HCBS can prevent institutional placement and can assist members in transitioning from the institutional setting and returning to the community. To promote HCBS access and use, CCC Plus health plans utilize care coordinators who assess members' LTSS needs and develop individualized care plans for meeting them. Further, plan benefits include transition services and necessary environmental modifications to the member's residence. Additionally, plans are financially incentivized to promote HCBS. Under blended capitation rates, plans receive the same payment rate for members with LTSS needs regardless of the setting of care; this encourages HCBS use given its lower cost relative to nursing facility care. In some cases, plans are also eligible for bonuses when members transition from the institutional setting and to the community setting.

To study how access to and utilization of LTSS changed following the implementation of CCC Plus, we conducted a retrospective analysis using Medicaid enrollment and claims/encounter data. The questions posed in this analysis were:

- How did enrollment in HCBS waivers change with the implementation of CCC Plus?
- How did access to nursing facility services change with the implementation of CCC Plus?
- How did utilization of HCBS services change with the implementation of CCC Plus?

## METHODS

### SAMPLE

Using administrative data on Medicaid enrollment from DMAS, we constructed two samples of Medicaid members and examined their enrollment in LTSS benefits and the utilization of selected services and supports. Given that CCC Plus followed a phased implementation starting August 2017 through January 2018, the first sample consists of members enrolled in fiscal year 2017 (the year ending June 30, 2017). For this sample, we examined enrollment and utilization prior to CCC Plus. The second sample consists of members enrolled in fiscal year 2018 (beginning July 1, 2018 and ending June 30, 2019). For this sample, we examined enrollment and utilization after the complete phase-in of CCC Plus. Our goal was to construct the two samples so that they would be as similar as possible in terms of their Medicaid enrollment, LTSS needs, and CCC Plus eligibility. The first sample consists of 54,697 members, and the second consists of 56,319 members.

Table I below shows the methodology behind the sample construction. Both samples consist of members who, during the relevant 12-month period, had some period of enrollment in LTSS benefits (row 1). LTSS benefit enrollment was defined by the presence of enrollment benefit segments for either nursing facility benefits (either intermediate or skilled nursing facility) or HCBS benefits (the EDCD or the Tech waiver in FY17, or the CCC Plus waiver in FY19).<sup>39</sup> Both samples consist of members who had at least 6-months continuous Medicaid enrollment in the relevant 12-month period (row 2).

Our definition of continuous enrollment allowed for a single gap of up to one month. Both samples exclude persons who died during the year, plus those who were enrolled in the Commonwealth’s waiver for the developmentally disabled (row 3). The latter restriction is made since LTSS benefits were carved out of the CCC Plus contract for this population. Finally, the FY 2019 sample consists of members who were enrolled in CCC Plus for at least one month; to identify comparable members from the FY 2017 sample, we used a database provided by DMAS that included persons who would have been eligible for CCC Plus had the program been in place (row 4). This final restriction excluded members who were not eligible for CCC Plus in both periods, such as residents of Intermediate Care Facilities for Individuals with Intellectual or Developmental Disabilities (ICF/IID), and PACE enrollees, among others.

TABLE I. SAMPLE CONSTRUCTION

	<b>FY 2017: Pre-CCC Plus</b> <b>N= 54,697 members</b>	<b>FY 2019: Post-CCC Plus</b> <b>N=56,319 members</b>
<b>1</b>	Include persons enrolled in LTSS benefits during 12-month period <u>before transitions</u> to CCC Plus	Include persons enrolled in LTSS benefits during 12-month period <u>after transitions</u> occurred
<b>2</b>	Include persons w/ 6-months continuous Medicaid enrollment*	Include members w/ 6-months continuous Medicaid enrollment*
<b>3</b>	Exclude persons whose LTSS benefits were carved out and persons who died	Exclude persons whose LTSS benefits were carved out and persons who died
<b>4</b>	Exclude persons ineligible for CCC Plus	Include members enrolled in CCC Plus for at least one month

\*Allowing for a single gap of up to one month

## OUTCOMES

In each sample, we used enrollment records to construct several outcomes. *Any NF* is a binary indicator equal to one if the member had at least one day of nursing facility benefits according to their benefit enrollment segments and during their measured LTSS enrollment period. *Any HCBS* is a binary indicator equal to one if the member had at least one day of HCBS waiver enrollment according to their benefit enrollment segments and during their measured LTSS enrollment period. *Share HCBS* is the ratio of the member’s days enrolled in HCBS benefits to the days enrolled in LTSS benefits. One minus this share equals the member’s share of LTSS days enrolled in nursing facility benefits. We also used claims/encounter data to define additional outcomes in each sample. *Any Personal Care* is a binary indicator equal to one if the member had any claim with the service codes associated with personal assistance services (S5126, T1019). *Any Respite Care* is a binary indicator equal to one if the member had any claim with the service codes associated with respite care use (S5150, S9125, T1005, T1030, T1031).

## STATISTICAL METHODS

We calculate the means of the outcome measures in both samples and test for statistically significant differences across the samples/time periods. Notably, across the two periods, there were no changes in Medicaid eligibility for members who use LTSS, or changes in the type of HCBS services that plans were

required to provide to members.<sup>40</sup> The main programmatic change that took place pertained to the delivery of and payment for Medicaid benefits. Namely, members transitioned from either fee-for-service, Medallion 3.0, or the CCC program, and were enrolled in one of six private managed care plans under CCC Plus.

That said, it is possible that some other changes took place across the years examined and that other such changes could lead to differences in the outcomes (e.g., changes in the intensity of members' LTSS needs, or changes in the availability of informally provided care). Because we are not able to account for all such factors that may affect LTSS utilization, we caution that our results cannot be interpreted as causal effects of CCC Plus. Instead, our results provide evidence of changes that are associated with the implementation of CCC Plus.

## FINDINGS

We conducted our analysis separately on three different types of members. In our main analysis, we examined dual Medicaid-Medicare enrollees. Dual eligibles comprise about 74% of each of the pre and post period samples of LTSS users. We then separately examined non-duals aged 18 and under (about 13% of all LTSS users) and non-duals aged 19 and up (another 13-14% of all LTSS users in each year).

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### DUALS

Table 2 reports mean outcomes for dual eligibles who use LTSS in both time periods. Prior to CCC Plus, 58.8% of dual eligibles who used LTSS were enrolled in HCBS waivers, while following CCC Plus, 60.9% of dual eligibles were enrolled in HCBS waivers.

Consistent with this, the mean share of LTSS days covered by HCBS waivers increased by a statistically significant 2.2 percentage points (from 56.4% to 58.6%). Given that in both time periods, mean LTSS days numbered 319 days, this 2.2 percentage point increase corresponds to 7 additional days enrolled in HCBS benefits (and 7 fewer days in NF benefits) for the average dual eligible who used LTSS.

The remaining rows of Table 2 report changes in HCBS utilization defined from claims/encounter data. The results show large and statistically significant increases in the percent of members with any personal care use and any respite care use. The percent of members using at least one personal care service rose by 21.1 percentage points (from 37.3% to 58.4%), while the percent of members using at least one respite care service rose by 17.7 percentage points (from 29.3% to 47%).

TABLE 2. DIFFERENCES IN OUTCOMES, ALL DUAL ELIGIBLES

Outcomes	FY 2017	FY 2019	Difference	p-value
	Pre CCC Plus (n=40,298)	Post CCC Plus (n=41,500)		
<i>Defined from Benefit Enrollment Records</i>				
Any NF (%)	49.0	46.3	-2.7 pp	<0.0001
Any HCBS (%)	58.8	60.9	+2.1 pp	<0.0001
Share HCBS (mean)	56.4	58.6	+2.2 pp	<0.0001
<i>Defined from Claims/Encounter data</i>				
Any Personal Care (%)	37.3	58.4	+21.1 pp	<0.0001
Any Respite Care (%)	29.3	47.0	+17.7 pp	<0.0001

### NON-DUALS

Table 3 reports changes in HCBS utilization for non-duals in two different age groups. Similar to the analysis of dual eligibles, these results show large and statistically significant increases in the percent of members with any personal care use and any respite care use.

We also examined changes in outcomes defined from enrollment records (*Any NF, Any HCBS, and Share HCBS*) for non-duals. The results (not shown here) show little change across the two time periods, and show that much smaller shares of members have any NF benefit enrollment. For example, for non-duals age 18 and under, the mean share of LTSS days in HCBS waivers was 99% in both periods. For non-duals over age 18, about 23% had any NF benefit enrollment in both time periods.

Table 3. Differences in HCBS Utilization, Medicaid-only population, By Age

Outcomes	FY 2017	FY 2019	Difference	p-value
	Pre CCC Plus	Post CCC Plus		
<i>Age 18 and Under</i>				
Any Personal Care (%)	19.7	83.9	+64.2 pp	<0.0001
Any Respite Care (%)	22.8	78.9	+56.1 pp	<0.0001
<i>Age 19 and Up</i>				
Any Personal Care (%)	31.2	73.9	+42.7 pp	<0.0001
Any Respite Care (%)	25.3	60.8	+35.5 pp	<0.0001

## SUMMARY

We summarize our key results below.

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### HOW DID ENROLLMENT IN HCBS WAIVERS CHANGE WITH THE IMPLEMENTATION OF CCC PLUS?

- Following CCC Plus, we observed modest but statistically significant increases in the share of members enrolled in HCBS waivers among LTSS users who were dually enrolled in Medicaid and Medicare.
- We did not find evidence that non-duals experienced significant changes in HCBS waiver enrollment, but waiver enrollment among this group was already high (at 79% among non-duals aged 19 and up, and 99% among non-duals aged 18 or less).

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### HOW DID ACCESS TO NURSING FACILITY SERVICES CHANGE WITH THE IMPLEMENTATION OF CCC PLUS?

- Among dual eligibles, we observed modest but statistically significant decreases in the share of members enrolled in nursing facility benefits.

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### HOW DID UTILIZATION OF HCBS SERVICES CHANGE WITH THE IMPLEMENTATION OF CCC PLUS?

- Among persons enrolled in LTSS benefits, we observed large, statistically significant increases in members' utilization of HCBS, as measured by the share of members with any personal care service use and the share of members with any respite care use. These increases were found among all three populations of LTSS users that we studied: dual eligibles, non-duals age 18 and under, and non-duals age 19 and up.

## DISCUSSION

Our results show that the implementation of CCC Plus was associated with increased utilization of two important types of HCBS services by members enrolled in LTSS benefits: personal care and respite care. A question that remains is whether the increases shown here are the result of another change that occurred at the same time as CCC Plus implementation. In subsequent analysis, we plan to estimate multivariate analysis that control for changes in observable member traits over time, including changes in non-duals' comorbid conditions using measures defined from Medicaid claims. We lack the Medicare claims required to measure comorbid conditions among duals.

We are currently exploring other options to account for additional factors that could also contribute to increases in HCBS use among dual eligibles. Controlling for these differences will increase our ability to attribute the increases shown here to the CCC Plus program. Specifically, we are investigating the use of assessment record data on members' chronic conditions and activity limitations, and we are investigating

the use of PACE enrollees as a potential comparison group for duals. Since PACE enrollees were not eligible for CCC Plus, a finding that their HCBS use was unchanged (or increased by a smaller degree than what we report here) would increase our ability to interpret the increases for duals as being caused by CCC Plus. Given the large size of the increases reported above, it would take a very significant shift affecting the use of HCBS timed exactly with CCC Plus to completely eliminate the associations reported above. It is worth noting that we know of no such shift.

## CHAPTER VIII: CAREGIVERS

Caregivers provide essential help to many CCC Plus members who live with complex medical/social conditions. Caregiving can be incredibly taxing and some caregivers, many of whom struggle with their own mental and physical health problems, experience burnout. Lower educational attainment, residing with the recipient, being female, experiencing depression, and lack of choice in being a caregiver are factors that are associated with an increased risk of caregiver burnout.<sup>41</sup> Realizing the essential role that caregivers play in helping members stay in community settings, rather than institutional care, Medicaid programming aims to support caregivers by providing personal support hours and sometimes even paying family members to provide those support activities. Further, the Medicaid contract directs care coordinators to involve family/caregivers in the interdisciplinary care meetings and other care activities, when appropriate. Nationally, increased focus on caregivers and their role in maintaining member health and well-being has garnered growing attention as organizations advocate for an increased focus on the role that MLTSS programs play in involving caregivers in MLTSS conversations.<sup>42</sup>

To learn more about caregivers in Virginia's MLTSS program, we conducted a follow-up survey to caregivers of members participating in the 2019 CCC Plus member survey. In addition to general characteristics, caregivers were asked to describe: (1) the extent of their caregiving activities, (2) how caregiving has affected employment, and (3) the impact of COVID-19 on their ability to care for CCC Plus members.

### CAREGIVER DEMOGRAPHICS

Most caregivers are unmarried (53%), Black or White race (38% and 52%, respectively), female (77%), with an average age of 54 years (about 20% are 65+), and have more than a high school education (although 11% have not graduated from high school). Other than a higher representation of females in our respondents, these demographics align with a national comparison of a 2019 caregiver survey conducted by the Behavioral Risk Factor Surveillance System (BRFSS).<sup>43</sup>

More than half of caregivers (53%) have annual family incomes under \$25,000, compared to about 22% from the BRFSS caregiver sample. Despite reporting a lower income, caregivers from Virginia report similar rates of employment as the national sample, with over half reporting being employed (52%).

We also asked about caregiver health. Similar to the national survey responses, most respondents reported good to excellent health (79%), while about 20% reported fair or poor health. Of those who reported fair or poor health, 37% reported pain that limits activity, 21% reported low energy, and 11% reported difficulty with breathing.

CCC PLUS CAREGIVERS' CHARACTERISTICS (N=201)

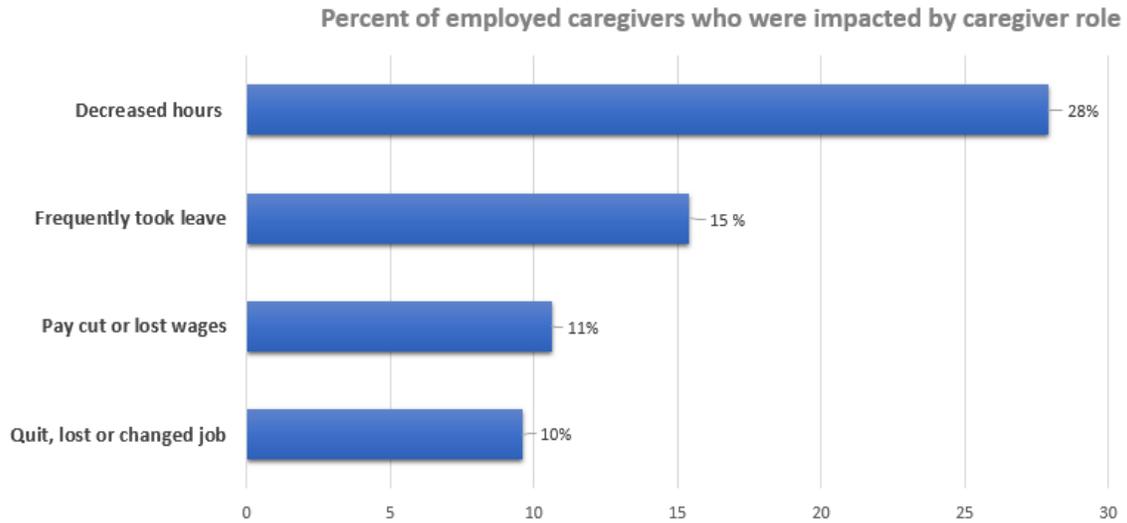
	N=201	Frequency	National result*
<b>Age</b>			
<b>Under 65</b>	144	71.64%	74.39%
<b>Gender</b>			
<b>Female</b>	156	77.61%	59.23%
<b>Marital status</b>			
<b>Unmarried</b>	90	47.12%	42.28%
<b>Education</b>			
<b>Less than high school graduation</b>	22	10.95%	9.88%
<b>High school graduate/GED</b>	45	22.39%	26.82%
<b>More than high school</b>	126	62.69%	63.12
<b>Missing</b>	8	3.98%	0.18%
<b>Race/ Ethnicity</b>			
<b>White / Non-Hispanic</b>	97	48.26%	62.36%
<b>Black/Other</b>	104	51.74%	37.64%
<b>Income</b>			
<b>Less than \$25,000</b>	107	53.23%	21.74%
<b>Employment</b>			
<b>Employed</b>	104	51.74%	53.85%
<b>Caregiver overall health</b>			
<b>Excellent/ Very good</b>	76	37.81%	43.45%
<b>Good</b>	83	41.29%	33.91%
<b>Fair/Poor</b>	39	19.40%	22.23%
<b>Missing</b>	3	1.50%	0.41%

\*National results were extracted from Behavioral Risk Factor Surveillance System Caregiver Supplement (**BRFSS**) year 2019

CAREGIVING AND EMPLOYMENT

Caregiving can be demanding and sometimes requires caregivers to take time off work to help the person they are assisting to get to medical appointments or to provide general care. Therefore, we asked caregivers how their role as a caregiver influenced their own employment status. About half of caregivers in this sample reported that they are employed with the majority of those working 21 or more hours a week (90%). Among those who were employed, 28% reported working fewer hours due to caregiving responsibilities and 15% reported taking frequent leave. A smaller, but sizable minority, reported lost wages or that they had to quit or changed jobs due to caregiving (10%).

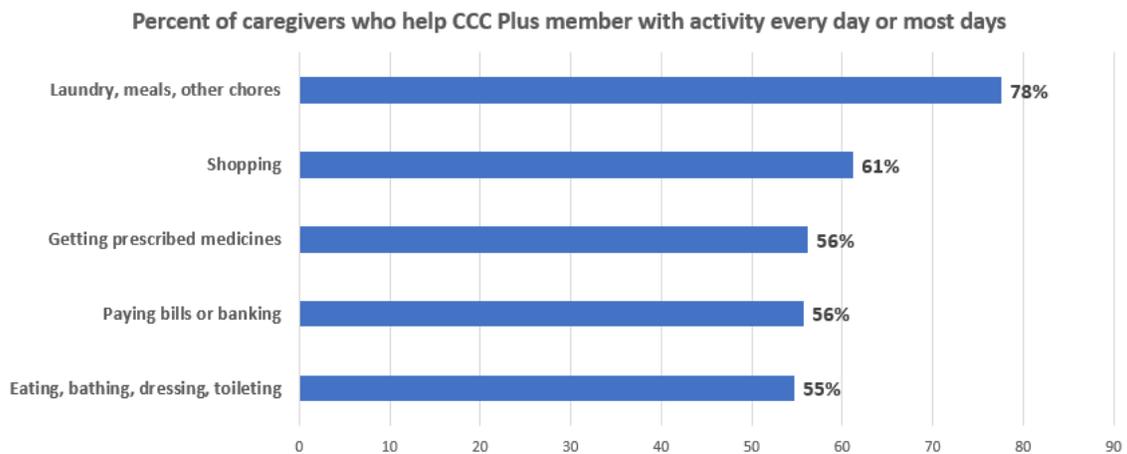
## IMPACT OF CAREGIVER ROLE ON EMPLOYMENT



## CAREGIVER ACTIVITIES

Caregivers provide a broad range of assistance to members they take care of. Undoubtedly, this labor (mostly unpaid) provides the additional support that allows members to live in the community, rather than institutional settings. Almost half of all caregivers (47%) reported spending more than 100 hours in the past month caring for the CCC Plus member, and the vast majority have been providing care for over a year (93%). Caregivers provide substantial management of daily living activities with over half engaging in the following activities: laundry and meals (78%), shopping (61%), managing medication (56%), managing finances (56%) and assisting members with activities of daily living (55%).

## CAREGIVER ACTIVITIES PERFORMED EVERYDAY OR MOST DAYS BEFORE COVID-19



## COVID-19 IMPACT ON CAREGIVERS

Caregivers reported substantial disruptions from COVID-19 in terms of caregiving. COVID-19 affected the frequency and mode of caregiving visits for about a quarter of caregiver respondents. Employment was also affected with about a fifth of members reporting disruption to employment.

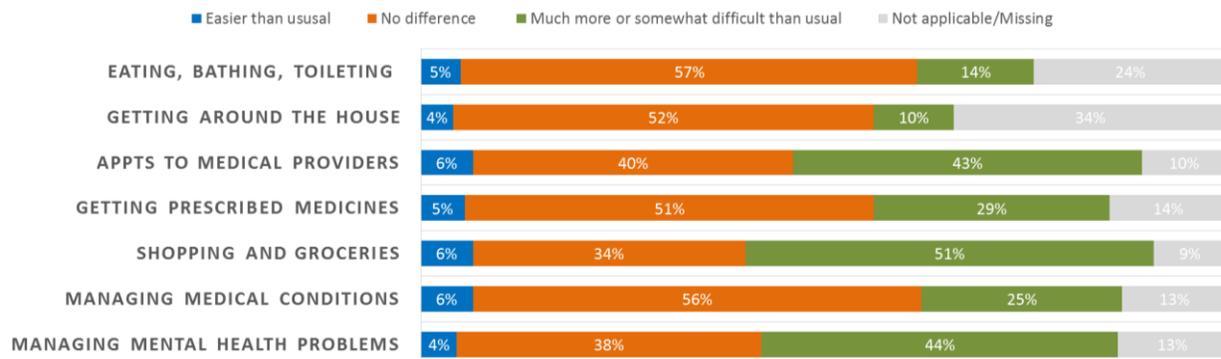
### HOW DID COVID-19 IMPACT CAREGIVING?

	Frequency N=201	Percent
<b>Changes in the frequency of contact with members by caregivers</b>		
<b>Less than usual</b>	17	9%
<b>As usual</b>	148	74%
<b>More than usual</b>	11	6%
<b>Not able to see or talk to them</b>	4	2%
<b>Not able to see them but talk to them by phone or video chat</b>	15	8%
<b>Missing</b>	6	3%
<b>COVID-19 impact on caregiver employment</b>		
<b>Lost job, or to work fewer hours than usual during COVID-19 season</b>		
<b>Yes</b>	41	20%
<b>No</b>	153	76%
<b>Missing</b>	7	4%

### CAREGIVERS REPORT GREATER DIFFICULTY PROVIDING CARE DURING COVID-19

COVID-19 caused increased difficulty in caregivers' ability to help members. Nearly half of all caregivers expressed difficulty managing the member's mental health problems and getting medical appointments (44% and 43%, respectively). About one-third of caregivers reported challenges getting prescribed medications, shopping and groceries, with about one-fourth reporting difficulty managing medical conditions.

## PERCENT OF CAREGIVERS REPORTING GREATER DIFFICULTY IN ASSISTING MEMBERS WITH ACTIVITIES DURING COVID-19



## WHAT DO CAREGIVERS SAY ABOUT LIVING THROUGH COVID-19?

The caregiver survey also asked respondents to describe other experiences during COVID-19 that affected their ability to care for members. Below are a sampling of quotes from these responses.

- “I didn't care for myself because my mom came first. Also, it was lots more expensive not just foods, I'm talking about mentally, the things I had to buy for them to feel safer to go out today.”
- “We were unable to this day arrange any f/n appointments with Oncology office.”
- “He was hospitalized during COVID for another reason and I had to fight the hospital to be able to stay with my nonverbal Traumatic Brain Injury survivor.”
- “The strain on family since her adult daycare was closed and she was at home with us all the time.”
- “It was a disaster in the house. No food, no job, but family is upset, depression, anxiety.”
- “The patient ended up falling and breaking a hip while at home. Most care was provided in facilities but getting good information about her condition was a challenge. When discharged from the facility it was impossible to find an aide or company to help provide care. It has taken 3 weeks to get an aide even though the process to find one started 1 week before being discharged.”
- “We stopped having the aid come due to the pandemic. My son has an increased risk due to his medical condition.”
- “I lost work and was unable to take other employment offered due to the risk of infecting the person I care for. She asked for emergency help and so did I and we were turned down. There were no attempts to help with any emergency requests from the managed care organization or facilitators. My client's mental health and my own were affected, I gave personal time for other employments and to her.”

## CONCLUSIONS

CCC Plus is a relatively new and innovative MLTSS program. It provides coverage to a larger, more diverse segment of the Medicaid population than MLTSS programs in many other states, including members who are often ineligible for MLTSS in other states. For example, Virginia's CCC Plus program includes individuals who are considered to be at risk of needing LTSS but do not currently receive these services, such as individuals who experience challenges with everyday tasks due to serious mental illness (SMI) or substance use disorders (SUD). Through the use of required assessments, screenings, and high-touch person-centered interactions with care coordinators, CCC Plus aims to increase coordination of care both within and outside of the MCO. The underlying goal behind these and other design features of CCC Plus is to improve members' health outcomes.

While Medicaid MLTSS programs are growing in number across states, few studies have explored MLTSS program effectiveness. Further, there is considerable variation across states in how MLTSS programs are structured and which populations they enroll, making lateral comparisons challenging. Limited access to benchmark data from comparable Medicaid programs adds additional challenges.

Below we summarize findings from the first three years of evaluating CCC Plus. Where possible, we point out strengths and opportunities for improvement, and present questions for further inquiry.

### Population

- **Finding:** Our analysis of member surveys confirms that CCC Plus members are a medically vulnerable population, with more than half of survey respondents reporting fair to poor health and at least one challenge with ADL, such as walking or bathing. We also find that a large share of respondents struggle with major social problems. Fifty percent report food insecurity, and about one fifth of respondents live with housing insecurity. In addition to facing significant physical health and social struggles, members face mental health challenges, with nearly 40% of members reporting fair or poor mental health.
- **Strength:** The CCC Plus program appears to be appropriately targeting the population with significant needs.
- **Opportunity:** Given the vulnerable state of members, DMAS should continue to conduct programmatic changes that require member adaptation slowly and thoughtfully, with plenty of built in additional supports.
- **Future questions:** Since a large share of the CCC Plus population faces social and mental health risks, future work could use MMHS (MCO member health screening), claims data, and qualitative surveys with MCOs to examine questions such as: how are MCOs integrating social risk information into their IT infrastructure, and how do care coordinators act on that information? Given the wide variation in member traits and risk levels, does CCC Plus serve some populations more effectively than others? In particular, do lower risk CCC Plus members receive the same level of value from CCC Plus program participation?

## Transitioning to CCC Plus

- **Finding:** After initial MCO assignment at the start of CCC Plus, Medicaid administrative data shows that about 17% of all members switched health plans. Due to MCO required provider network changes following the transition to CCC Plus, member survey analyses suggest that a large share of members changed health care providers as CCC Plus was implemented across the Commonwealth. About 20% of survey respondents said they had to switch medical or personal care providers during the transition. The majority of survey respondents were equally satisfied (39%) or more satisfied (30%) with their new providers and one third reported lower satisfaction. Seven percent of all respondents reported low provider satisfaction due to a required provider switch.
- **Strength:** Across the state, the proportion of members who reported lower satisfaction due to a required switch was low, at 7%. Unfortunately, we do not have comparable data from other states' experiences with their MLTSS program roll-outs.
- **Opportunity:** If CCC Plus decides to transition the remaining FFS populations to the managed care environment, policy makers and program administrators should be mindful of the implications of members' relationships with existing providers and continue to give additional member supports to ensure a smooth transition. For example, DMAS should consider network adequacy, particularly in shortage areas, as limited networks may reduce care coordinators' ability to connect members with contracted providers. When care coordinators are unable to connect members to needed services due to an insufficient network, care coordinators should have access to other methods within their MCO to help members find alternate, perhaps out-of-network, providers.
- **Future questions/research:** Using future member surveys, ask members about satisfaction with their providers and whether they were required to change providers.

## Health Plan Switching

- **Finding:** After the initial MCO assignment at the start of CCC Plus, Medicaid administrative data shows that about 17% of all members switched health plans. Member surveys collected in the years following the implementation of CCC Plus revealed that the share of members who switched plans decreased to about 8%. However, about 20% of members reported that they would like to switch health plans during the next open enrollment. Overwhelmingly, the dominant reason cited for wanting to switch health plans is that members desire better dental and vision coverage. Dental and vision care were not included in comprehensive benefits at the time of this report, but many plans offered expanded benefits that included limited coverage for these services. Members who wish to switch also list as reasons their dissatisfaction with their health plan's customer service or their care coordinator, and their desire to switch to have access to a preferred provider in a different network.
- **Strength:** After initial CCC Plus implementation, members seem to be aware that they can switch and successfully switch health plans, as indicated by the 17% switching rate.
- **Opportunity:** Many members indicate that they want to switch health plans but never follow through. Of those who indicate a desire to switch but do not follow through, many indicate that

they were not sure that the new health plan would be any better. Further, some respondents who qualify for LTSS expressed concern around the transition's impact on their current use of personal care, medications, durable medical equipment, or other services that may require pre-authorization or an additional MCO approval process. These findings suggest that there may be opportunities for DMAS to improve the information provided to members around switching, including providing adequate and easily accessible information, helping members to understand the logistics of switching. Further, DMAS may want to explore how to reduce the administrative burden associated with new MCO authorizations for particularly vulnerable members who depend on LTSS services.

- Future questions/research: Other research has indicated that the period following a health plan switch may be a particularly challenging time for members, with some studies finding a 15% rise in ED visits for Medicaid populations following plan switches.<sup>44</sup> Future analysis of DMAS encounter data might examine whether such changes in utilization are observed among CCC Plus populations who switch health plans, and if there are differences across populations. For example, duals who switch to aligned plans may experience improved care coordination. In addition, future analysis of member survey data could examine whether members who were required to switch providers used less primary and preventive care and experienced more preventable hospitalizations.

### **Care Coordinator Role**

- Finding: Care coordinators are a key component of Virginia's MLTSS program. They assist members with navigation within and outside of the MCO and are expected to serve as a primary point of contact for members with complex health or social needs. In a survey, CCC Plus care coordinators reported the time spent on various activities including administrative tasks, coordinating care and other tasks. Time spent on administrative tasks varied widely across MCOs, from a low of 25% to a high of 42%, as did the amount of time spent directly interacting with and providing coordination for members, from a high of 63% to a low of 44%. Results from a qualitative analysis show that care coordinators are committed to providing high-quality care coordination for members. As instructed, they complete HRAs, ICPs, and ICTs for members and address issues that arise. The care coordinators report great value in the personalization of these services and assessments; however, they also offer suggestions for tool and process improvement. Notably, care coordinators struggle to manage all of the demands of their role, including the high numbers of required activities, the high caseload, and the complex nature of the work (i.e., significant documentation requirements, and fragmented and duplicative IT). They are also challenged to address numerous unplanned events that need immediate attention (e.g., member calls, medical emergencies).
- Strength: Care coordinators are committed to serving members, and they juggle multiple demands from members and MCO management.
- Opportunity: Care coordinators' workload should be weighed against the value of services they provide to members. Given the essential role that care coordinators serve in CCC Plus, and the struggles they report, member experience and quality of care could be improved by reducing unnecessary care coordinator administrative burdens. When possible, DMAS should implement

policies to remove duplicative documentation processes and ease overall documentation burden through efficient integration of information across IT systems. Further, the MCOs and DMAS should seek regular feedback from care coordinators to improve the systems and processes that support care coordinators so that they can meet member needs.

- Future questions/research: Relative to 2019, do care coordinators report an increase in the time spent on direct patient care activities? Are there MCO or DMAS-level policy changes that reduce care coordinator administrative burden, freeing up time from care coordinators to serve members more effectively? Care coordinator caseloads have gradually increased since the implementation of CCC Plus, particularly for lower risk populations. Linking surveys to claims data, do we observe reductions in indicators of access to preventive services for the years and populations for which care coordinator caseload increased?

### **Care Coordinators from the Member and Caregiver Perspective**

- Finding: Due to the importance of care coordinators in Virginia's MLTSS program, multiple surveys of members and their caregivers, conducted as part of the evaluation, have collected valuable information on these groups' experiences of and satisfaction with care coordinators. In the member survey, the majority of respondents (77%) reported that their care coordinators met with them at least once by phone or in person. A smaller share of respondents (51%) reported that they completed a health risk assessment with their care coordinator. Completion of health risk assessments varied by members' need for assistance with ADLs and their health plan. Compared to year 1 of CCC Plus, a slightly smaller share of respondents (73%) reported meeting with a care coordinator in year 2; this may reflect a change in the CCC Plus contract that relaxed requirements for HRAs among lower-need members in year 2. On both surveys, large shares of caregiver and member respondents who met with care coordinators reported satisfaction with the help that care coordinators provide and say they are confident that care coordinators can help them with future needs. When we linked members' surveys to administrative claims data, we observed a positive association between care coordination and the receipt of DME services, although these differences were not statistically significant after adjusting for demographics, difficulty with ADLs, and the length of time in CCC Plus. Meeting with a care coordinator is positively associated with receipt of non-emergent Medicaid transportation and ED use ( $p < 0.001$ ).
- Strength: The majority of members surveyed report meeting with their care coordinator and rate their care coordinator positively. Most promising, about half of all surveyed members report that they have directly reached out to their care coordinator. This indicates that many members know how to contact their care coordinators and view care coordinators as a resource to help resolve their current issue. Further, 81% of surveyed members indicated that their care coordinator responded to their request for help within three days. In addition, care coordinators appear to be connecting members to needed services.
- Opportunity/Future questions: For what sub-populations, or risk levels, do care coordinators make the biggest impact? Policymakers may wish to explore how CCC Plus helps members where care coordinators do not have minimum contact requirements. Further, more information about care coordinator contact and MCO risk assignment would be helpful in

determining which members have the greatest level of care coordinator inputs. Additional studies that link member surveys to claims-based measures of utilization can lead to a more nuanced understanding of the relationship between care coordination, member utilization and outcomes.

## Unmet Needs

- Finding: Member survey results show that the majority of respondents (60%) had no unmet needs; however, 40% of respondents reported having one or more unmet needs. The most commonly reported unmet needs were dental and vision care. Many members also reported unmet needs in the areas of social services, such as assistance in locating housing and heating/cooling assistance. The most cited reason for unmet needs was not knowing who to ask for help. Those with unmet needs were more likely to have emergency department visits. Further, unmet needs for assistive devices have severe consequences for those who require those devices, such as not showering or soiling their clothing. Factors associated with the number of unmet needs include less social support, being a person of color, increased difficulties with ADLs, lower appraisal of the care coordinator and lower self-efficacy.
- Strength: Unmet needs for most MCO covered non-LTSS services are less than 10%.
- Opportunity/Questions: Explore why unmet needs are higher for some LTSS services than other types of services. For example, the unmet needs for specialized beds and home modifications are relatively high, at 26%. Unmet needs for social services and dental care are also relatively high. Perhaps MCOs can screen for the factors associated with unmet needs during health risk assessments and closely follow members who may be at a higher risk for unmet needs. Many members indicate that their unmet needs are due to not knowing whom to call. Is there a way to improve the distribution of care coordinator role and contact information?

## Rebalancing

- Finding: An important goal of CCC Plus is the rebalancing of LTSS toward more access to and utilization of HCBS, while reducing nursing facility utilization. Our retrospective analysis of Medicaid enrollment and claims/encounters studied CCC Plus members who qualified for LTSS use, and found that a higher share of dual eligible members were enrolled in HCBS waivers after implementation of CCC Plus. Similarly, we found large increases in the utilization of HCBS (e.g., personal care, respite care) by dual eligible members, as well as Medicaid-only members. We observed modest decreases in the share of dual members enrolled in nursing facility benefits.
- Strength: Overall, this evidence is consistent with the expectation that CCC Plus helps members maintain residence in the community and, for some members, forego institutional care settings.
- Opportunity/questions: Additional factors that changed over time could also contribute to increased HCBS use observed among CCC Plus members. Opportunities to control for changes in these factors would increase our ability to attribute the changes directly to CCC Plus. Future work might study whether the increased receipt of HCBS lowers the use of medical services among dual and Medicaid-only populations.

## Caregivers

- Finding: We find that caregivers are a valuable component of members' support systems and that caregivers provide an immense amount of care to members. Nearly half of caregivers reported spending more than 100 hours/week providing essential care to members despite the fact that many are employed full- or part-time. Many caregivers reported that their caregiving role impacted their own employment. About a quarter of caregivers reported working fewer hours due to caregiving responsibilities, and 15% reported taking frequent leave. Caregivers report paying for assistive devices (12.9%), home modifications (15.4%), and mobility devices (12.9%) out of pocket. COVID-19 caused increased difficulty in caregivers' activities. Nearly half of all caregivers expressed difficulty managing the member's mental health problems and expressed increased difficulty getting medical appointments.
  - Opportunity: Caregivers reported increased difficulty with caregiving activities during COVID-19. Do these difficulties decline in the post-COVID period? Where eligible, are caregivers compensated for their caregiving activities, particularly for those who experienced a reduction or loss of employment due to caregiving activities?
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## APPENDIX: UNMET NEEDS

### DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS BY NUMBER OF UNMET NEEDS

	Overall				Number of unmet needs					
	Unweighted		Weighted		0		1 to 2		3 or more	
	N	%	N	%	N	%	N	%	N	%
<b>Age (n(%))</b>										
<b>0-20</b>	96	9.4	20964	10.9	15903	13.7	3434	6.8	1627	6.3
<b>21-44</b>	235	23.0	50802	26.4	31849	27.4	13932	27.5	5022	19.4
<b>45-64</b>	362	35.4	69283	35.9	37767	32.5	19846	39.1	11670	45.0
<b>65-74</b>	179	17.5	26581	13.8	14754	12.7	7536	14.9	4291	16.5
<b>75+</b>	152	14.8	25128	13.0	15774	13.6	6013	11.9	3341	12.9
<b>Gender (n(%))</b>										
<b>Female</b>	613	57.9	109506	55.0	63818	53.2	29477	56.4	16212	60.6
<b>Male</b>	446	42.1	89475	45.0	56115	46.8	22798	43.6	10562	39.5
<b>Hispanic n(%)<sup>III</sup></b>										
<b>No</b>	987	95.8	185089	95.5	112699	96.0	47629	94.3	24761	95.4
<b>Yes</b>	43	4.2	8790	4.5	4703	4.0	2879	5.7	1208	4.7
<b>Race (n(%))<sup>IV</sup></b>										
<b>White</b>	541	52.6	101003	52.3	65510	56.2	25094	49.4	10398	40.6
<b>Black or African American</b>	383	37.2	73248	37.9	39754	34.1	22273	43.9	11221	43.8
<b>Other</b>	105	10.2	18799	9.7	11406	9.8	3394	6.7	3999	15.6
<b>Education level (n(%))</b>										
<b>Did not finish high school</b>	330	31.2	61138	30.7	39204	32.7	12853	24.6	9082	33.9
<b>High school graduate</b>	402	38.0	77400	38.9	49359	41.2	19823	37.9	8218	30.7
<b>More than high school</b>	226	21.3	40971	20.6	19383	16.2	13405	25.6	8184	30.6
<b>Missing</b>	101	9.5	19472	9.8	11988	10.0	6194	11.9	1290	4.8

<sup>III</sup> Missing for 29 respondents

<sup>IV</sup> Missing for 30 respondents

	Overall				Number of unmet needs					
	Unweighted		Weighted		0		1 to 2		3 or more	
	N	%	N	%	N	%	N	%	N	%
<b>Marital Status(n(%))<sup>∨</sup></b>										
Single (never married)	501	48.3	100832	51.7	66166	56.3	24668	48.0	9998	38.3
Married or partnered	150	14.5	27021	13.9	15491	13.2	7401	14.4	4128	15.8
Previously married or partnered (divorced or widowed)	386	37.2	67104	34.4	35829	30.5	19287	37.6	11988	45.9
<b>Employment Status (n(%))</b>										
Part-time	66	6.6	13744	7.3	8398	7.5	3539	7.1	1807	7.2
Full-time	19	1.9	4146	2.2	3329	3.0	655	1.3	162	0.7
Unemployed	210	21.0	41573	22.2	25646	22.9	11052	22.1	4875	19.5
Disabled/Retired	706	70.5	127804	68.3	74806	66.7	34794	69.5	18204	72.7
<b>Difficulty with ADLs (n(%))</b>										
0 ADLs	534	53.4	101832	54.1	68752	60.4	25134	50.3	7946	32.4
1-3 ADLs	248	24.8	45646	24.2	23368	20.5	12689	25.4	9589	39.1
More than 3 ADLs	219	21.9	40812	21.7	21632	19.0	12172	24.4	7008	28.6
<b>Assessment of care coordinator effectiveness</b>										
Top quartile	208	19.6	39802	20.0	27655	23.1	9062	17.3	3085	11.5
Second quartile	180	17.0	33474	16.8	20783	17.3	8655	16.6	4036	15.1
Third quartile	203	19.2	37666	18.9	21690	18.1	12181	23.3	3795	14.2
Fourth quartile	201	19.0	37108	18.7	15682	13.1	12057	23.1	9368	35.0
Did not assess care coordinator	267	25.2	50932	25.6	34123	28.5	10320	19.7	6490	24.2
<b>Health specific self-efficacy</b>										
Top quartile	283	27.2	52842	27.0	39933	33.9	10099	19.7	2810	10.6
Second quartile	196	18.9	37398	19.1	22769	19.3	10824	21.1	3805	14.4
Third quartile	310	29.8	57409	29.3	37369	31.7	13983	27.3	6056	22.9

<sup>∨</sup> Missing for 22 respondents

	Overall				Number of unmet needs					
	Unweighted		Weighted		0		1 to 2		3 or more	
	N	%	N	%	N	%	N	%	N	%
<b>Fourth quartile</b>	251	24.1	48024	24.5	17881	15.2	16328	31.9	13815	52.2
<b>Number of people can count on with serious problems (n(%))</b>										
<b>None</b>	71	6.9	13791	7.1	4193	3.6	5978	11.7	3620	13.9
<b>1 to 2</b>	482	46.5	88626	45.5	51372	43.6	21866	42.7	15389	59.2
<b>3 to 5</b>	290	28.0	55299	28.4	36796	31.3	14370	28.0	4132	15.9
<b>5+</b>	193	18.6	37264	19.1	25347	21.5	9039	17.6	2877	11.1
<b>Health Plan (n(%))</b>										
<b>Aetna Better Health</b>	159	15.0	30126	15.1	16125	13.4	8784	16.8	5217	19.5
<b>Anthem Healthkeepers</b>	314	29.7	58826	29.6	38776	32.3	13607	26.0	6443	24.1
<b>Molina (formerly Magellan)</b>	101	9.5	18894	9.5	10263	8.6	6392	12.2	2240	8.4
<b>Optima Health Plan</b>	164	15.5	31570	15.9	19710	16.4	6621	12.7	5238	19.6
<b>United Healthcare</b>	126	11.9	23597	11.9	13820	11.5	5940	11.4	3837	14.3
<b>Virginia Premier Health Plan</b>	195	18.4	35967	18.1	21239	17.7	10931	20.9	3798	14.2

**APPENDIX: UTILIZATION OF LONG TERM SERVICES AND SUPPORTS UNDER CCC PLUS**

**TABLE A. DESCRIPTIVE STATISTICS, DUALS WITH >= 6-MONTHS OF CONTINUOUS MEDICAID ENROLLMENT ('ALL DUALS')**

	<b>FY 2017 Pre CCC Plus (n=40,298)</b>	<b>FY 2019 Post CCC Plus (n=41,500)</b>	<b>p-value</b>
<b>Mean LTSS days (max 365 days)</b>	319.0	319.1	0.87
<b>Mean age (yrs)</b>	74.0	73.9	0.36
<b>Age category</b>			0.0004
<b>19-44</b>	4.3	4.2	
<b>45-64</b>	18.6	18.5	
<b>65-74</b>	23.4	24.7	
<b>75-84</b>	26.9	26.6	
<b>85+</b>	26.9	26.1	
<b>Sex</b>			0.18
<b>Female</b>	69.6	69.2	
<b>Male</b>	30.4	30.8	
<b>Race/Ethnicity</b>			0.0001
<b>White</b>	54.9	54.0	
<b>African American</b>	38.7	38.9	
<b>Other</b>	6.4	7.1	
<b>Eligibility Category</b>			<0.0001
<b>Disabled</b>	31.9	25.5	
<b>Age 65+</b>	68.2	74.5	
<b>Prior Enrollment in CCC</b>	34.3	26.0	<0.0001
<b>Urbanicity</b>			<0.0001
<b>Urban</b>	73.0	74.4	
<b>Rural</b>	27.0	25.6	
<b>Region</b>			<0.0001
<b>Central</b>	24.2	24.0	
<b>Charlottesville/Western</b>	16.1	15.7	
<b>Northern/Winchester</b>	19.7	21.0	
<b>Roanoke/Alleghany</b>	12.9	12.4	
<b>Southwest</b>	7.7	7.0	
<b>Tidewater</b>	19.5	19.8	

	<b>FY 2017</b> <b>Pre CCC Plus</b> <b>(n=40,298)</b>	<b>FY 2019</b> <b>Post CCC Plus</b> <b>(n=41,500)</b>	<b>p-value</b>
<b>Female LF Participation Rate*</b>	72.7	73.0	<0.0001
<b>NF Occupancy Percent*</b>	85.7	85.6	0.0023
<b>NF Beds/1000 pop 65+*</b>	34.9	31.9	<0.0001
<b>HH Agencies/1000 pop 65+*</b>	0.22	0.21	0.0006

\*Missing data for some Virginia counties reduces the sample size slightly

**APPENDIX: SURVEY WEIGHTING METHODOLOGY**  
**CONSTRUCTION OF WEIGHT VARIABLE FOR CCC+ ROUND I**

A representative survey of CCC Plus members was conducted between May and August, 2018 by the Department of Health Behavior and Policy, Virginia Commonwealth University. The primary objective of the survey was to assess members' early experiences with their care coordinators and health plans. A total of 3,000 members were randomly selected from CCC Plus enrollment files. The sample frame excluded members residing in nursing facilities, members who were deceased, and members who did not speak English as their primary language (less than 1% of members).

A total of 3000 CCC Plus members were randomly sampled from enrollment files. A total of 1073 sampled members responded, with a response rate of 35.8%.

**a) Comparison between survey respondents, nonrespondents, and sample.** The table below compares survey respondents and non-respondents on gender, race, age, aid category, and Virginia region. The distribution of the sample is very similar to that of the sample frame.

**CHARACTERISTICS OF TOTAL SAMPLE, RESPONDENTS, AND NONRESPONDENTS TO ROUND I CCC PLUS MEMBER SURVEY**

<b>Denominator</b>	<b>1073 Respondents(%)</b>	<b>1927 Non-Respondents(%)</b>	<b>3000 Total Sample(%)</b>
<b>Gender</b>			
<b>Female</b>	58.3	55.3	56.4
<b>Male</b>	41.8	44.7	43.6
<b>Race/Ethnicity</b>			
<b>Asian</b>	4.4	5.0	4.8
<b>Hispanic</b>	0.2	0.3	0.2
<b>Other</b>	0.8	0.7	0.7
<b>Non-Hispanic Black</b>	39.5	41.4	40.7
<b>Non-Hispanic White</b>	55.2	52.6	53.5
<b>Age</b>			
<b>0-17</b>	10.8	13.1	12.3
<b>18-34</b>	13.6	18.8	16.9
<b>35-54</b>	19.0	23.7	22.0
<b>55-64</b>	24.3	18.3	20.4
<b>65-74</b>	19.4	12.9	15.2
<b>75-84</b>	8.7	9.3	9.1
<b>&gt;=85</b>	4.2	3.9	4.0
<b>Aid_category</b>			

Denominator	1073	1927	3000
	Respondents(%)	Non-Respondents(%)	Total Sample(%)
<b>Aged</b>	32.0	26.0	28.1
<b>Blind</b>	1.2	0.7	0.9
<b>Child</b>	0.8	1.5	1.2
<b>Disabled</b>	66.1	71.8	69.7
<b>Region</b>			
<b>Central</b>	24.9	23.8	24.2
<b>Charlottesville</b>	12.8	14.7	14.0
<b>Northern</b>	17.7	17.9	17.8
<b>Roanoke</b>	12.2	10.6	11.2
<b>Southwest</b>	9.9	9.9	9.9
<b>Tidewater</b>	22.2	21.9	22.0
<b>Missing</b>	0.4	1.2	0.9

Respondents and non-respondents differ the most by gender, aid category and age. Females were more likely to respond than males, while people ages 55-74 were more likely to respond than younger age groups. The other variables also show some smaller differences.

### b) Weight computing process

Step 1: Create an indicator variable for respondents and add the base weight for each person in the sample, which is computed as  $212603/3000=70.87$  (total number of members eligible for the sample divided by total sample selected). The base weight shows that each person in the sample represents 70.87 people in the sample frame.

Step 2: Adjust the base weight with cell factors that are adjusted to reflect differences between respondents and nonrespondents. Fit a logistic regression model that pools responders and nonresponders with response indicator variable as the outcome variable. Predictors include gender, age, and race. Age groups are <35, 35-54, 55-64, 65-74, 75+ and race groups are white and non-white. After fitting the model, a new dataset is created with estimated response probabilities given to each person in the sample data. The estimated response probabilities are sorted and ranked into 5 groups. People in the sample data are divided into 5 groups that are marked as 0, 1, 2, 3, 4, based on the sorted values of probabilities. The base weight is adjusted by multiplying adjustment cell weight inflation factors to get the final weights for each group. The adjustment cell factor equals the frequency in each cell of sample data divided by the frequency in each cell of respondent data based on new groups. The following is the final weighting factors created for the CCC Plus survey.

Rank	0	1	2	3	4
<b>Weight</b>	277.5	227.7	203.3	171.3	151.7

In the final sample data, each person is given the rank for their estimated response probability and their weights for adjusting responses.

Step 3: Add weight variables to sample data and apply the weight to adjust the distribution of characteristic variables in sample data. The following table compares the weighted and unweighted distribution of demographic information in sample and frame with different merged auxiliary variables. Combined race groups include only white and non-white; combined age groups include <35, 35-54, 55-64, 65-74, 75+.

**CHARACTERISTICS OF RESPONDENTS TO CCC PLUS ROUND 1 MEMBER SURVEY, WEIGHTED TO REFLECT DISTRIBUTION OF SAMPLING FRAME**

<b>Denominator</b>	<b>3000</b>	<b>1073</b>	<b>212603</b>
	<b>Total Sample (%)</b>	<b>Respondents (unweighted %)</b>	<b>Respondents (weighted with CCCPIWGT)</b>
<b>Gender</b>			
<b>Female</b>	56.4	58.3	56.1
<b>Male</b>	43.6	41.8	43.9
<b>Race/Ethnicity</b>			
<b>Non-Hispanic Black</b>	46.5	44.8	46.0
<b>Non-Hispanic White</b>	53.5	55.2	54.0
<b>Age</b>			
<b>0-34</b>	29.2	24.4	28.5
<b>35-54</b>	22.0	19.0	22.9
<b>55-64</b>	20.4	24.3	19.5
<b>65-74</b>	15.2	19.4	15.8
<b>75 and over</b>	13.1	12.9	13.2
<b>Aid_category</b>			
<b>Aged</b>	28.1	32.0	28.8
<b>Blind</b>	0.9	1.2	1.2
<b>Child</b>	1.2	0.8	0.8
<b>Disabled</b>	69.7	66.1	69.2
<b>Region</b>			
<b>Central</b>	24.2	24.9	25.0
<b>Charlottesville</b>	14.0	12.8	12.5
<b>Northern</b>	17.8	17.7	17.2
<b>Roanoke</b>	11.2	12.2	12.4
<b>Southwest</b>	9.9	9.9	10.0
<b>Tidewater</b>	22.0	22.2	22.5
<b>Missing</b>	0.9	0.4	0.4

Weights calculated with different set of variables were applied to adjust the distribution of demographic information in order to find the best group of auxiliary variables to reduce bias. The table shows that applying the survey weights to the sample of respondents (column 3) produces sample distributions that are closer to the total sample.

Step 4: Apply survey weight to other survey variables. Below we compare unweighted survey responses on selected variables to those based on applying the survey weight. In general, the survey weights did

not have a large impact on the estimates. With the exception of activities of daily living, weighted estimates were within 1 percentage points of the unweighted estimates.

## CONSTRUCTION OF WEIGHT VARIABLE FOR CCC PLUS ROUND 2

A second survey of CCC Plus members was conducted between July and November, 2019. As with the Round 1 survey, the sample for the survey was based on a representative cross-section of members enrolled in CCC Plus and who were not residing in nursing facilities or deceased. The sample was based on a representative cross-section of the CCC Plus population in 2019, and was not based on the same cohort sampled in the Round 1 survey. For the Round 2 survey, 3,600 CCC Plus members were randomly selected from enrollment files, with 1,059 responding to the survey for a response rate of 29.4%.

**a) Comparison between survey respondents, nonrespondents, and sample.** The table below compares survey respondents and non-respondents on gender, race, age, aid category, and Virginia region.

### CHARACTERISTICS OF TOTAL SAMPLE, RESPONDENTS, AND NONRESPONDENTS TO ROUND 2 CCC PLUS MEMBER SURVEY.

Denominator	1059 Respondents(%)	2541 Non-Respondents(%)	3600 Total Sample(%)
<b>Gender</b>			
<b>Female</b>	57.6	53.4	54.6
<b>Male</b>	42.4	46.6	45.4
<b>Race/Ethnicity</b>			
<b>Caucasian</b>	57.1	54.0	54.9
<b>African American</b>	36.9	40.6	39.5
<b>Hispanic</b>	0.2	0.2	0.2
<b>Asian</b>	5.2	4.3	4.6
<b>Other</b>	0.6	0.9	0.8
<b>Age</b>			
<b>&lt;18</b>	8.7	11.3	10.5
<b>18-34</b>	13.7	18.7	17.2
<b>35-54</b>	23.0	26.9	25.8
<b>55-64</b>	22.1	19.4	20.2
<b>65-74</b>	18.3	11.7	13.6
<b>75-84</b>	9.1	8.2	8.5
<b>85+</b>	5.1	3.9	4.3
<b>Aid_category</b>			
<b>Aged</b>	31.1	23.3	25.6
<b>Other</b>	62.0	67.2	65.6
<b>Missing</b>	7.0	9.6	8.8
<b>Region</b>			
<b>Central</b>	25.2	24.3	24.6
<b>Charlottesville</b>	12.9	12.4	12.6
<b>Northern</b>	18.3	17.4	17.7
<b>Roanoke</b>	12.0	12.0	12.0

Denominator	1059	2541	3600
	Respondents(%)	Non-Respondents(%)	Total Sample(%)
Southwest	11.1	11.1	11.1
Tidewater	19.9	22.5	21.7
Missing	0.5	0.3	0.3

Gender, aid category, race and age show the most difference between respondents and non-respondents. Females were more likely to respond than males, while people ages 55+ were more likely to respond than people in younger age groups. The other variables also show some smaller differences.

**b) Weight computing process**

Step 1: Create an indicator variable for respondents and add the base weight to each person in the sample data. The base weight is calculated as the total number of members eligible for the sample divided by the total number selected for the sample, or  $198669/3600=55.186$ . The base weight shows that each person in the sample represents 55.186 people in the sample frame.

Step 2: Adjust the base weight with cell factors that are adjusted to reflect differences between respondents and nonrespondents. Fit a logistic regression model that pools responders and non-responders with response indicator variable as the outcome variable. Predictors include gender, age, and race. Age groups are <18, 18-34, 35-54, 55-64, 65-74, 75+ and race groups are white and non-white. After fitting the model, a new dataset is created with estimated response probabilities given to each person in the sample data. Sort and rank the estimated response probabilities into 5 groups. Then people in the sample data are divided into 5 groups that are marked as 0, 1, 2, 3, 4, based on the sorted values of probabilities. Adjust the base weight by multiplying adjustment cell weight inflation factors to get the final weights for each group. The adjustment cell factor equals the frequency in each cell of sample data divided by the frequency in each cell of respondents' data based on new groups. The following is the final weight factors created for the Round 2 CCC+ survey.

Rank	0	1	2	3	4
Weight	263.9	228.9	162.3	203.3	143.7

In the final sample data, each person is given the rank for their estimated response probability and their weights for adjusting responses. The resulting weight variable is named `weight_adj_prop_cell`.

Step 3: Add weight variables to sample data and apply the weight to adjust the distribution of characteristic variables in sample data. The following table compares the weighted and unweighted distribution of demographic information in sample and frame with different merged auxiliary variables. Combined race groups include only white and non-white; combined age groups include <35, 35--54, 55-64, 65-74, 75+.

**CHARACTERISTICS OF RESPONDENTS TO CCC PLUS ROUND 2 MEMBER SURVEY,  
WEIGHTED TO REFLECT DISTRIBUTION OF SAMPLING FRAME**

<b>Denominator</b>	<b>3600</b>	<b>1059</b>	<b>198981</b>
	<b>Sample(%)</b>	<b>Respondents (unweighted %)</b>	<b>Respondents (weighted with CCCP2WGT)</b>
<b>Gender</b>			
<b>Female</b>	54.6	57.6	54.4
<b>Male</b>	45.4	42.4	45.6
<b>Race/Ethnicity</b>			
<b>White</b>	54.9	57.1	56.5
<b>Nonwhite</b>	45.1	6.0	43.5
<b>Age</b>			
<b>&lt;35</b>	27.7	22.4	25.4
<b>35-54</b>	25.8	23.0	27.6
<b>55-64</b>	20.2	22.1	20.1
<b>65-74</b>	13.6	18.3	14.4
<b>75+</b>	12.7	14.2	12.5
<b>Aid_category</b>			
<b>Aged</b>	25.6	31.1	25.7
<b>Other</b>	74.4	68.9	74.3
<b>Region</b>			
<b>Central</b>	24.6	25.2	25.3
<b>Charlottesville</b>	12.6	12.9	13.2
<b>Northern</b>	17.7	18.3	18.0
<b>Roanoke</b>	12.0	12.0	12.1
<b>Southwest</b>	11.1	11.1	11.3
<b>Tidewater</b>	21.7	19.9	19.5
<b>Missing</b>	0.3	0.5	0.5

Weights calculated with different set of variables were applied to adjust the distribution of demographic information in order to find the best group of auxiliary variables to reduce bias. In the table, the group of combined race, age and gender (second column in the table) is more similar to the original distribution of sample. Thus, this group of variables are chosen to calculate the final weight for CCC+ round 2.

Step 4: Apply survey weights to estimates in survey data and compare with unweighted estimates. In general, the survey weights did not have a large impact on the estimates. Weighted estimates were within 1 percentage points of the unweighted estimates.

## Notes

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<sup>1</sup> Division of Integrated Care Department of Medical Assistance Services. Commonwealth Coordinated Care Plus. Powerpoint presentation. Available on DMAS website.

<sup>2</sup> Who Enrolls in Medicaid Managed Care Programs that Cover Long-Term Services and Supports? <https://www.hhs.gov/guidance/sites/default/files/hhs-guidance-documents/1115-ib1-508-mltss-enrollment.pdf>

<sup>3</sup> Division of Integrated Care Department of Medical Assistance Services. Commonwealth Coordinated Care Plus. Powerpoint presentation. Available on DMAS website.

<sup>4</sup> High School Completion Rate Is Highest in U.S. History, <https://www.census.gov/newsroom/press-releases/2017/educational-attainment-2017.html#:~:text=Dec.,had%20a%20high%20school%20diploma>

<sup>5</sup> Adults defined as those 20 or younger. The 2019 survey has a high rate of missing for education, as the 9-12<sup>th</sup> grade education response category was unintentionally removed.

<sup>6</sup> Food Security Status of U.S. Households in 2019, [https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx#:~:text=10.5%20percent%20\(13.7%20million\)%20of,from%2011.1%20percent%20in%202018.](https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx#:~:text=10.5%20percent%20(13.7%20million)%20of,from%2011.1%20percent%20in%202018.)

<sup>7</sup> Housing Instability and Food Insecurity as Barriers to Health Care Among Low-Income Americans? [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1484604/pdf/jgi\\_278.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1484604/pdf/jgi_278.pdf)

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<sup>11</sup> Garfield R., Artiga S., Foutz J., The Role of Medicaid in Rural America, The Kaiser Family Foundation Brief, April 2017 <https://www.kff.org/medicaid/issue-brief/the-role-of-medicaid-in-rural-america/>

<sup>12</sup> Cunningham, P.J. Few Americans Switch Employer Plans for Better Quality, Lower Costs. National Institute for Health Care Reform Issue Brief. January 2013. [http://nihcr.org/wp-content/uploads/2015/03/NIHCR\\_Research\\_Brief\\_No.\\_12.pdf](http://nihcr.org/wp-content/uploads/2015/03/NIHCR_Research_Brief_No._12.pdf)

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- <sup>17</sup> CCC Plus MCO Contract for Managed Long-term Services and Supports, July 2020 – June 2021 <https://www.dmas.virginia.gov/files/links/5384/FINAL%20CCC%20Plus%20Contract%20Effective%20July%202020.pdf>
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- <sup>39</sup> The CCC Plus contract requires MCOs to ensure that members are enrolled in the correct level of care for LTSS. This means seeing that members meet requirements for nursing facility use or be enrolled in waiver for HCBS.
- <sup>40</sup> While two existing waivers (the Tech waiver and the EDCD waiver) were combined under the CCC Plus waiver, the set of covered HCBS services did not change.

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