Financing Long-Term Supports and Services in Virginia

Options for a Sustainable Future

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LeadingAge™ Virginia

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Finally, I would like to dedicate this APP to my grandparents—those who aged and continue to age with grace and strength, and those who were never fortunate enough to age much at all. I am a proud inheritor of your stubborn wills.

Client Profile

LeadingAge Virginia is a professional association of not-for-profit aging services including life plan communities, "assisted living facilities, nursing homes, adult day care centers, and home and community-based services". LeadingAge Virginia engages in policy advocacy and shared learning to achieve their vision of positive aging for all Virginians ("Mission, Vision, and Values," 2017).

LeadingAge Virginia is one of 39 state affiliate organization of the national LeadingAge organization. The national LeadingAge organization advocates on national policy issues in addition to providing technical assistance, business tools, and communication outlets for all national members ("Our Story," 2019).

Disclaimer

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author and are not necessarily endorsed by LeadingAge, the Batten School, the University of Virginia, or any other entity.

Honor Pledge

On my honor as a student, I have neither given nor received aid on this assignment.

Acronym Definitions

ADL: Activity of Daily Living

CCC: Commonwealth Coordinated Care

CMS: Centers for Medicare and Medicaid Services

DMAS: Department of Medical Assistive Services

EHC: Enhanced Home Care

FPL: Federal Poverty Level

HCBS: Home and Community-Based Services

HIPAA: Health Insurance Portability and Accountability Act

HSA: Health Savings Account

IADL: Instrumental Activity of Daily Living

JLARC: Joint Legislative Audit & Review Commission

LTC: Long-Term Care

LTCI: Long-Term Care Insurance

LTSS: Long-Term Supports and Services

MA: Medicare Advantage

MBI: Medicaid Buy-In

MCO: Managed Care Organization

MLTSS: Managed Long-Term Supports and Services

MMNA: Monthly Maintenance Needs Allowance

MN: Medically Needy

PNA: Personal Needs Allowance

SNF: Skilled Nursing Facility

SSI: Supplemental Security Income

VAC: Virginia Administrative Code

WIN: Work Incentive Account

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Executive Summary

The population over the age of 65 in Virginia will increase by approximately 40 percent in the next 20 years. As the number of seniors grows larger, more individuals will require long-term supports and services as they experience functional limitations. Currently, Medicaid funds nearly half of all long-term care expenditures. If present trends are to continue, Medicaid cost growth will continue to outpace revenue collection and place significant financial strain on the state. Furthermore, middle-income individuals will continue to spend down their personal income and assets in order to become eligible for Medicaid, essentially impoverishing themselves in the process.

This Applied Policy Project investigates four options to reform long-term supports and services financing in Virginia, with the ultimate goals of ensuring financial sustainability over the long-run and preserving or expanding the level of high-quality care made affordable and accessible to seniors. The options are as follows:

Option 1: Mandatory, Public Catastrophic Long-Term Care Insurance
Option 2: Medicaid Buy-In Option for Long-Term Supports and Services
Option 3: Universal Home Care Benefits
Option 4: Enhanced Home Care through Medicare Advantage and Medigap Policies

This analysis evaluates each option along the following criteria: Cost, Feasibility, Access to Care, Equity, and Sustainability. Based on empirical cost estimates and assessments of all criteria, it recommends that LeadingAge Virginia focus its advocacy efforts on expanding home care services through supplemental Medicare plans, including Medicare Advantage and Medigap. This option will pose the lowest cost to the state while making basic home care services available to a large number of seniors. To the extent that these services delay the use of additional long-term supports and services, the state will defray some expected costs to Medicaid.

However, in order to pursue these options, the state must coordinate with current insurance providers and obtain a waiver to impose standards on Medigap policies. Given the uncertainty inherent in this process, this analysis also recommends that LeadingAge Virginia work with other aging services organizations to protect the best interests of patients and providers as the fiscal strain on Medicaid increases.

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Problem Definition

As the over-65 population in Virginia is expected to grow to nearly 2 million by 2040 (Sen, 2017), the state will face an increased demand for long-term supports and services (LTSS). Medicaid pays the largest total share of LTSS expenditures (Congressional Budget Office, 2013), and in 2018 Virginia spent nearly $1.6 billion delivering Medicaid long-term care services to seniors. As the need for long-term care grows over the next 20 years, I project that state expenditures for Medicaid LTSS will increase by approximately 30 percent (Virginia Department of Medical Assistance Services, 2018a). When Medicaid costs increase, they can crowd out other types of public spending like transportation and education (Joffe, 2015; Kane, 2001; Webber, 2017). Alternatively, they can lead to tax increases or more restrictive Medicaid benefits.

U.S. policymakers did not intend that Medicaid would ever serve as a primary financer of long-term care for the elderly (LeadingAge, 2019). However, it now pays for around half of all LTSS expenditures (Collelo, 2018). Not only does this result in unsustainable cost growth, but it requires that many adults spend down all of their assets and resources on long-term care in order to qualify for assistance (Brown & Finkelstein, 2008).

As the state population ages, LeadingAge Virginia must advocate for long-term care financing that maintains access and quality of care for seniors and makes fiscal sense for the state budget.

Background

Demographic Transition in Virginia

The state of Virginia is getting older, as a larger share of the population reaches the age of sixty-five. Two factors contribute to this demographic shift: increasing life expectancy in the United States and the aging of the Baby Boom cohort. Life expectancy rose steadily nationwide over the last twenty-five years. The average American can now expect to live 78.6 years from birth (National Center for Health Statistics, 2017). There are few recent estimates of state-specific expectancies due to infrequent data collection, but as of 2009, Virginia's life expectancy was on-par with the national average (Kaiser Family Foundation, 20). Despite the U.S. experiencing the first decline in life expectancy since 1993 last year, people continue to live longer, healthier lives (National Center for Health Statistics, 2017).

The Census Bureau defines "Baby Boomers" as those born in the U.S. following the end of World War II in 1946 through 1964. This cohort is already aging, as earliest Boomers reached sixty-five in 2011. The entire cohort will have turned at least sixty-five by 2029. The cohort itself remains large and comprises approximately 25 percent of the total population (Colby & Ortman, 2014).

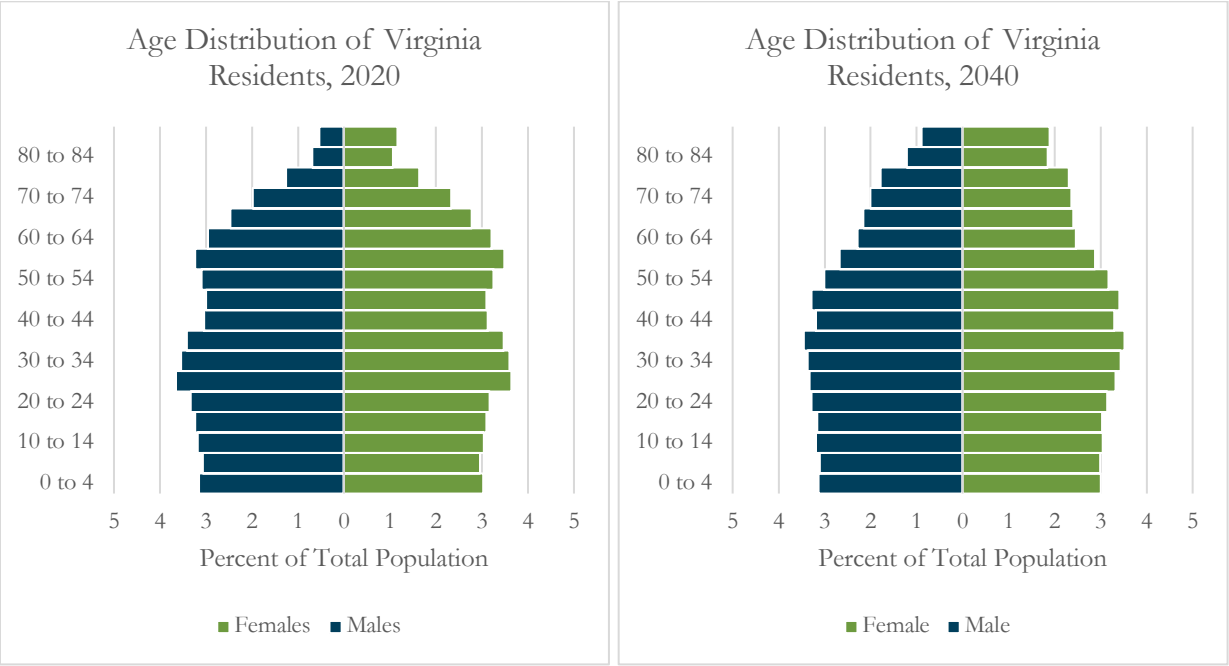

Figure 1. Population Projections for Virginia 2020-2040. Data from the U.Va. Weldon Cooper Center for Public Service Demographics Research Group, figures by author.

In Virginia specifically, there will be approximately 1.4 million adults over the age of 65 in 2020. This number will grow to 1.9 million by 2040. This constitutes a 40 percent increase over two decades (University of Virginia Weldon Cooper Center Demographics Research Group, 2017). Furthermore, older adults will become a larger share of the population, as nearly 20 percent of all Virginians will be over 65 compared to 15 percent today. The Cooper Center further projects

that demographic transitions will begin in rural areas in south and west Virginia, but that by 2030, most of the state will have experienced the aging of the local population (Sen, 2017).

Introduction to Long-Term Supports and Services

Definitions

Long-term supports and services (LTSS) assist individuals with disabilities or functional limitations to complete the activities of daily living (ADLs), which include eating, bathing, and dressing ("An Overview of Long-Term Services and Supports and Medicaid," 2018). Much of this care is non-medical, although it also may also include higher levels of medical care for chronic diseases, cognitive impairments, and physical disabilities. LTSS encompasses a full spectrum of care, ranging from nursing homes to assisted living facilities to in-home care (Nguyen, 2017). An individual may require LTSS if they need assistance completing any ADL. However, they have *insurable LTSS need* if they require assistance with two or more ADLs for at least ninety days. The Health Insurance Portability and Accountability Act, or HIPAA, established this benchmark (Thach & Wiener, 2018).[i]

Long-term supports and services consist of two broad categories: institutional services and home- and community-based services (HCBS). Institutional services encompass care delivered in nursing homes or intermediate care facilities (Reaves & Musumeci, 2015).[ii] HCBS include an entire suite of services delivered to individuals in their homes. Services may include both skilled health care services provided by a licensed home health worker and other in-home "unskilled" services, like shopping, housekeeping, and personal care. HCBS may also include residence in group homes or apartments. HCBS are generally cheaper than institutional services (Office for Aging Services, 2017; Reaves & Musumeci, 2015).

Incidence

Approximately half (52 percent) of all Americans turning 65 this year will require HIPAA-level LTSS during their lifetime. The full population of older adults do not incur equal levels of risk. Women are more likely to require LTSS than men due to longer life expectancies. Lower-income individuals are slightly (around 2-5 percentage points) more likely to require LTSS at any point in their life. Around one-fifth of those in need of LTSS will rely only on informal, unpaid care from family members, neighbors, and friends. The rest will enter formal care for an average of 2 years (M. Favreault & Dey, 2016). The growth rate of the senior population will outpace the growth of the HIPAA-level LTSS population, implying that LTSS need may become less prevalent proportionally over the next forty years (M. Favreault & Dey, 2016).

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[i] The terms "insurable LTSS need", "HIPAA-level need", and "high-needs LTSS" throughout this report will all refer to two or more ADL limitations.

[ii] In the Virginia state code—and throughout this report—"nursing home" refers to "any facility or any identifiable component of any facility licensed pursuant to Article 1 (§ 32.1-123 et seq.) of Chapter 5 of Title 32.1 of the Code of Virginia, in which the primary function is the provision, on a continuing basis, of nursing services and health-related services for the treatment and inpatient care of two or more nonrelated individuals, including facilities known by varying nomenclature or designation such as convalescent homes, skilled nursing facilities or skilled care facilities, intermediate care facilities, extended care facilities and nursing or nursing care facilities" (12 V.A.C. 5-215-10)

There is no official estimate of the full number of individuals receiving LTSS in Virginia. As of 2018, approximately 142,000 individuals received LTSS Medicaid benefits. This amounts to approximately nine percent of the state's over-65 population (Virginia Department of Medical Assistance Services, 2018a). This of course only captures one portion of total LTSS recipients. Beneficiaries are split almost-evenly between nursing home and community settings. I estimate that approximately 214,000 Virginians will require LTSS as of 2020, or around 15 percent of all seniors (AARP Public Policy Institute, n.d.; Virginia Department of Medical Assistance Services, 2018a).

Cost

The average person in the U.S. will pay over $138,000 for long-term care services over the course of their life. However, this average includes people who will never use any form of paid LTSS at all. Conditional on *using* paid LTSS services, the average, lifetime cost of care exceeds $265,000. This average reflects a cost distribution that is exceptionally skewed on the upper end. Over thirty percent of people who need LTSS will spend more than $250,000. Costs are drastically different for women compared to men—given that they are expected to spend twice as long in care due to longer life expectancies, they also face average costs that are twice as high (M. Favreault & Dey, 2016).

The Genworth Life Insurance Company conducts an annual Cost of Care Survey to estimate the financial cost of LTSS services across the country. The chart below lists median annual costs for six different types of long-term care in Virginia:

	Median Annual Cost	5-year Annual Growth
Homemaker Services (based on 44 hours/wk.)	$45,760	3%
Home Health Aid (44 hours/wk.)	$48,048	3%
Adult Day Health Care (5 days/wk.)	$18,200	3%
Assisted Living Facility	$53,415	3%
Nursing Home, Semi-Private Room	$89,425	4%
Nursing Home, Private Room	$102,000	4%

Figure 2. Median annual costs by type of long-term care in Virginia. (Genworth Financial, 2018)

These costs are generally within a few thousand dollars of the national averages, with slightly lower costs for home health services and slightly higher costs for nursing home care (Genworth Financial, 2018). It is important to note that the private costs are not equal to the costs paid by Medicaid. Based on analysis of Virginia's Medicaid expenditure data, the state paid an average of $20,338 per recipient in FY 2017. Given than Virginia paid 49.8 percent of the total cost of Medicaid,[iii] this implies that the total cost of care per capita was $40,839. The cost of institutional services was exceeded the cost of home- and community-based services by nearly double (Virginia Department of Medical Assistance Services, 2018a). Overall, the 2017 Long Term Care Scorecard Foundation, which is produced annually by health care and aging advocacy groups, ranked Virginia 17th out of 50

[iii] The federal government financed 50.2 percent of the cost of Medicaid in FY 2017 ("Federal Medical Assistance Percentage (FMAP) for Medicaid and Multiplier," 2019). See "Medicaid" subsection below for a full explanation of the Federal Medical Assistance Percentage.

states in terms of long-term care affordability and access. This metric included relative costs of LTSS and available financial supports (SCAN Foundation, Commonwealth Fund, & AARP Foundation, 2017).

Who Pays for LTSS?

There are three primary routes by which an individual can finance long-term care needs: out-of-pocket spending, private insurance, or Medicaid. Most individuals will use some combination of the three alternatives. Overall, public programs bear approximately 70 percent of the financial costs of LTSS. Medicaid pays for 42 percent of all LTSS costs, with state governments and the federal government sharing the cost. Individuals pay nearly 16 percent out-of-pocket and long-term care insurance providers cover 8 percent of all costs. Medicare, Medicaid, other public programs (e.g. the Veterans' Health Agency) and other forms of private insurance cover the remainder (Collelo, 2018).[iv]

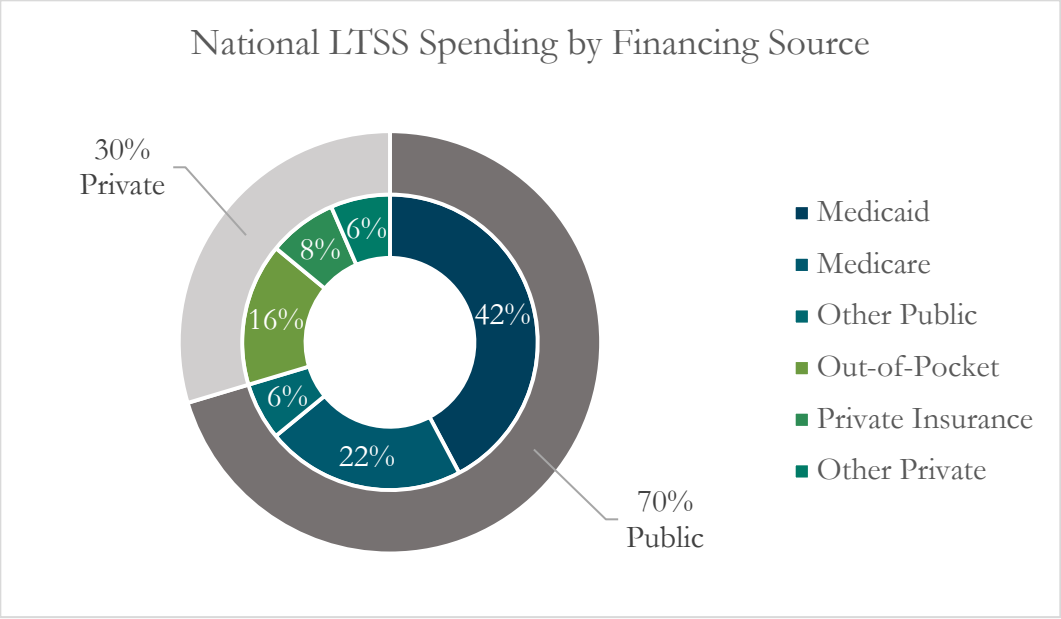

Figure 3. Total LTSS Expenditures by Financing Source. Figure originally produced by CRS (2018) using National Health Expenditure Account data from CMS, reproduced by author (Collelo, 2018)

Out-of-Pocket Spending

Individuals can pay for the costs of long-term care as they incur them using personal savings, income, or assets. Out-of-pocket spending also includes any applicable deductibles or co-

[iv] These statistics are collected on a national scale. There is no readily available information on the payment and incidence of all LTSS services at the state level (specifically in Virginia). However, It is reasonable to assume that payment methods are unlikely to vary significantly in Virginia, with the exception of the relative generosity of Medicaid programs in covering optional LTSS populations. (Molliet-Ribet, Lunardi, Berday-Sacks, Harrison, & Major, 2016). See "Medicaid" sub-section below.

payments for services covered by insurance (Collelo, 2018). Forty-one (41) percent of all Americans approaching the age of 65 have no retirement savings whatsoever. Of those than do, the average amount of savings is just over $106,000 (Jeszeck, Collins, Glickman, Grover, & Hoffrey, 2015). There are also mechanisms that can assist LTSS recipients in saving and accessing private wealth. Health savings accounts (HSAs) allow individuals tax-protected savings that can be used for any health expenditures, including long-term care (Tell, 2013). Reverse mortgages allow individuals to receive cash from the equity of their home without having to sell it (Stucki, 2014). Sixteen percent of all spending on long-term care comes out-of-pocket (Collelo, 2018).

Family Caregiving

Informal caregivers provide the largest share of LTSS, yet remain largely unaccounted for in federal and state budgets. As of 2013, there were over 1 million caregivers in the state of Virginia providing over 950 annual hours of care on average (AARP Public Policy Institute and the National Alliance for Caregiving, 2015; Virginia Office for Aging Services, 2015). While this care comes at no charge to the recipient, insurer, or government, it does carry an economic cost. Informal caregivers are providing their time and services at the cost of other activities, including paid work and leisure. Scholars estimate the total opportunity cost of unpaid care in the United States to be between $450 and $522 billion (Chari, Engberg, Ray, & Mehrotra, 2015; Feinberg, Reinhard, Houser, & Choula, 2011). The average caregiver serves in that role for nearly four years and assists with at least one ADL. Nearly half (46%) of family caregivers support an older adult whose household income is less than $50,000. Many are adult children caring for their parents, and many are elderly individuals themselves caring for a spouse (AARP Public Policy Institute and the National Alliance for Caregiving, 2015).

Private Long-Term Care Insurance

Despite the prevalence of long-term care needs in the elderly population and the high cost of care, only 10 percent of Americans over the age of sixty-five hold long-term care insurance (LTCI) policies. High-income earners hold the vast majority of all LTCI policies. For example, households earning over $1 million annually are nearly ten times more likely to hold a LTCI policy than households earning $50,000 or less. These individuals would be less likely to qualify for Medicaid anyway, even in the absence of insurance (Johnson, 2016). These policies typically provide a daily or annual benefit for a fixed period of time if the individual becomes impaired in at least two ADLS. (American Association of Long Term Care Insurance, 2018).

Several factors contribute to the low uptake of LTCI policies. Many customers under-estimate their risk of requiring long-term care insurance (Pauly, 1990; Zhou-Richter, Browne, & Gründl, 2010). This may be due to underestimation of the prevalence of long-term care needs or misperception that Medicare will fund long-term care services (Malato, 2017). However, even with perfect information, fewer than ten percent of adults without a LTCI policy report being able to afford one at current costs (M. Cohen, Feder, & Favreault, 2018). LTCI premiums are notably high, averaging at approximately $2,700 per year. Furthermore, they often do not provide unlimited benefit coverage, with the average plan providing a maximum of three years of support (Stark, 2019).

The Role of Medicare

Many Americans believe that Medicare will fund their LTSS needs (Malato, 2017). However, **Medicare is limited in its capacity to provide for LTSS. All adults over the age of 65 may qualify for Medicare benefits, which provide primarily for acute and post-acute care needs** (Collelo, 2018; U.S. Department of Health and Human Services, 2014). This includes no more than 100 days of care in a skilled nursing facility (SNF) after exiting hospital care (Reaves & Musumeci, 2015) as well as some home care benefits (CRS, 2018). Some Medicare beneficiaries choose to enroll in Medicare Advantage (MA) plans, which are offered by private companies that contract with Medicare to provide the full set of benefits at varying levels of out-of-pocket costs (U.S. Department of Health and Human Services, 2015a). Following a rule issued in 2018 by the Center for Medicare and Medicaid Services (CMS), MA plans can now offer supplemental benefits unrelated to acute care. These include but are not limited to assistive technology devices, nonemergency transportation, respite care for family caregivers, and limited adult day care services (Bell, 2018; Centers for Medicare and Medicaid Services, 2018b). Other seniors purchase Medicare Supplement Insurance—or Medigap—plans, which provide services beyond those covered by Medicare (U.S. Department of Health and Human Services, 2015b). The CMS rule applies to Medigap plans as well (Centers for Medicare and Medicaid Services, 2018).

Medicaid

Medicaid provides health coverage to low-income individuals in the United States and is the primary payer for long-term supports and services (Center for Medicare and Medicaid Services, 2015). Medicaid serves individuals who are under the age of 19, over the age of 65, blind, disabled, pregnant, or legal guardians of a dependent child who meet the corresponding financial eligibility criteria (Center for Medicare and Medicaid Services, 2015). Under Medicaid expansion, this group also now includes low-income adults. This analysis is concerned with the "Aged" category of individuals over the age of 65. For this category, there are three primary eligibility pathways:

1. An individual receives Supplemental Security Income (SSI).
2. An individual earns less than 80% of the federal poverty level (FPL).[v]
3. An individual earns less than 300% of the SSI payment standard for one person[vi], is deemed eligible for LTSS based on a functional needs assessment[vii], *and* does not qualify through another eligibility category (Virginia Department of Medical Assistance Services, 2017b).

Of the groups above, federal law requires that Virginia provide Medicaid benefits only to the first (SSI recipients). The 80% FPL and 300% SSI categories are optional to cover. Specifically, the Virginia 300% SSI group—also called the "special income group"—is the most expansive currently allowable under federal law (Molliet-Ribet, Lunardi, Berday-Sacks, Harrison, & Major, 2016). There is also a fourth eligibility pathway to LTSS Medicaid for adults over 65:

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[v] The Federal Poverty Level as of January 11, 2019 is $12,490 for a single-person household and $16,910 for a two-person household (HHS ASPE, 2019). Eight percent would be $10,232 and $13,528 respectively

[vi] As of 2019, this amounts to $9,259.67 for one person, so 300% would be $27,779 (Social Security Administration, 2019b).

[vii] Individuals must be dependent in at least two ADLs, be at risk of institutional placement, and require ongoing medical care. Determinations are made using the Universal Assessment Instrument (UAI) by community- and hospital-based teams. Virginia's LTSS functional requirements are relatively stricter than those in other states (Molliet-Ribet et al., 2016).

4. An individual qualifies as "Medically Needy". This requires that the individual have limited resources that would otherwise qualify them for Medicaid, but earn income above the eligibility threshold. However, their income is "insufficient…to meet their medical care needs" (Virginia Department of Medical Assistance Services, 2017a)

Medically Needy (MN) individuals have income above the Medicaid eligibility threshold. They become eligible for Medicaid spenddown. Virginia DMAS estimates the difference between the recipient's income and the eligibility threshold (Virginia Department of Medical Assistance Services, 2017a). This becomes the "spenddown liability" which functions similarly to an insurance deductible. The individual must incur medical expenses equal to the spenddown liability. Once the have spent that amount, they qualify for Medicaid benefits until the end of the 1-6 month spenddown period (Virginia Department of Social Services, 2004).

In order to qualify for Medicaid, individuals must also spend down their assets to the eligibility threshold. Not all assets are countable—some exemptions include an individual's principal residence up to a value of $585,000, their car, and various personal belongings. As of 2005, states "look back" over the last five years to determine whether or not an applicant has transferred their assets to others at a rate below fair market value in order to accelerate eligibility(Centers for Medicare and Medicaid Services, 2008).

Eligibility Category	Income Limit (Annual)	Asset Limit[viii]	Federally Required
Supplemental Security Income	$9,252 single $13,884 married	$2,000 single $3,000 married	Yes
< 80% Federal Poverty Level	$10,232 single $13,528 married	$2,000 single $4,000 married	No, optional
<300% SSI Payment	$27,779 single $55,558 married	$2,000 single $4,000 married	No, optional
Medically Needy	$5,870 single $7,948 married	$2,000 single $3,000 married	Yes

Figure 4. Pathways to Qualify for LTSS Medicaid for Adults over 65 in Virginia

Once an individual qualifies for Medicaid, they are able to receive Medicaid services within one month of approval. There is no co-payment for LTSS or any premium charged for Medicaid LTSS services. If an individual has private insurance, that policy is billed first before Medicaid covers any remaining costs (Virginia Department of Medical Assistance Services, 2014). The LTSS recipient must contribute their income towards any services received, unless they qualify through the SSI pathway. For home- and community-based beneficiaries, the amount of patient pay is equal to the beneficiary's countable income less a Monthly Maintenance Needs Allowance (MMNA) of $2,057.[ix] For nursing home beneficiaries, the level of patient pay is equal to countable income less a Personal

[viii] Note that "Married" asset limits in this figure assume that both spouses are applying for Medicaid. In the case that only one spouse seeks eligibility, the "community spouse" is allowed to retain up to $126,420 in assets. They are also able to retain $24,684 in income. If an individual is married but only one spouse applies for Medicaid, the applicant is evaluated using the "Single" criteria.

[ix] This amount may increase to accommodate a shelter allowance for applicable seniors but will not exceed a $3,160 maximum.

Needs Allowance (PNA) of $40 per month (Virginia Department of Medical Assistance Services, 2015).

State spending represents only part of the total LTSS cost. The federal government pays a portion of all Medicaid costs, called the Federal Medical Assistance Percentage. In Virginia, the FMAP is exactly 50 percent and costs are shared evenly between state and federal funds (Kaiser Family Foundation, 2019).

Spenddown: Why It Matters

The term spenddown refers to two phenomena: first is the defined spenddown process for the Medically Need group by which they spend excess income to qualify for Medicaid for a period of time. The second is the more general process by which LTSS recipients exhaust their personal resources on care until they become eligible for Medicaid. The SCAN Foundation estimates that 10 percent of the previously non-Medicaid, elderly population spends down to the asset limit as they age. Within nursing homes, various methodologies estimate the share of patients who spend down to be between 10 and 30 percent (The SCAN Foundation, 2013).

Generally, this implies that **Medicaid spend-down does not allow an individual to optimally spend their wealth and assets across all states of health and care** (Brown & Finkelstein, 2008). Spend-down allows LTSS beneficiaries very little income and assets to spend on non-care items. Furthermore, if an individual exits long-term care, they are still left with limited assets to either consume or to bequeath after death, both of which may have been an individual's preferred use of funds. Regardless of their eligibility for Medicaid, high-need LTSS patients report more difficulties paying for everyday expenses like utilities, rent, and food and higher levels of credit card debt (Willink, Davis, Mulcahy, Wolff, & Kasper, 2019). Some seniors may intentionally transfer wealth to other family members in order to hasten Medicaid qualification. While this does occur, in practice the transfer amounts and incidence are on average relatively small, especially compared to the monthly cost of LTSS (Jinkook Lee, Kim, & Tanenbaum, 2006; Wiener, Anderson, Khatutsky, Kaganova, & O'Keeffe, 2013).

The State of Medicaid LTSS in Virginia

The Virginia Department of Medical Assistance Services (DMAS) is responsible for administering Medicaid. This includes determinations of eligibility, benefit provision, and enrollment oversight. As previously stated, approximately 142,000 individuals over the age of 65 received Medicaid LTSS benefits in Virginia in 2018. LTSS beneficiaries account for 10 percent of all Medicaid enrollees. The state spent approximately $1.6 billion on LTSS for beneficiaries over the age of 65. This accounts for 16 percent of all state Medicaid spending (Virginia Department of Medical Assistance Services, 2018a). The Virginia Joint Legislative Audit and Review Commission (JLARC) estimates that Medicaid spending grew at a rate of nearly 9 percent annually over the last decade and now accounts for 20 percent of Virginia's General Fund expenditures. This growth has been driven by enrollment rather than cost increases (Molliet-Ribet et al., 2016). **I estimate that LTSS spending for Aged enrollees increased by 45 percent between 2010 and 2018, or approximately 5.5 percent on average each year.**

In 2018, Virginia completed its first year under a new, managed long-term supports and services (MLTSS) system. Under the managed care system—called Commonwealth Coordinated Care (CCC) Plus—the state contracts with six managed care organizations (MCOs) across the state. MCOs provide all health care services to enrollees via a network of care providers, nursing facilities, and doctors. All eligible Medicaid LTSS beneficiaries over the age of 65 are required to enroll in CCC Plus. In January of 2019, DMAS reported that 96 percent of all Medicaid beneficiaries are now enrolled in managed care (Jennifer Lee, 2019). Each MCO receives a flat, capitated reimbursement rate for all Medicaid services (Molliet-Ribet et al., 2016).

The MLTSS system designates all beneficiaries as either "Nursing Home Eligible" or "Community Well." MCOs receive monthly payments based on designation alone, without regard to the setting in which a beneficiary receives care. (PricewaterhouseCoopers, 2016). This is called a blended reimbursement rate. For example, an MCO would receive the same reimbursement rate for a Nursing Home Eligible patient receiving HCBS as for one in a nursing home. This eliminates the financial incentive for an MCO to direct patients into high-reimbursement settings (Molliet-Ribet et al., 2016). Midway through the year, DMAS adjusts the rate based on the MCO's beneficiary population and their "target mix"—the share of patients that the MCO should aim to serve in the community and in nursing homes (Virginia Department of Medical Assistance Services, 2018b).

Why Managed LTSS?

MLTSS systems have gained popularity across the country for their potential to generate cost savings while maintaining quality of care for beneficiaries. While evidence is still preliminary, MLTSS allow states to budget more predictably for long-term care costs by paying fixed reimbursement rates. These rates are more stable than fee-for-service costs, by which Medicaid pays for the value of whatever services a beneficiary receives. Furthermore, they provide opportunities to rebalance towards HCBS with blended capitation rates (Molliet-Ribet et al., 2016; Weissert, Lesnick, Musliner, & Foley, 1997). Finally, managed care has the potential to improve both satisfaction and quality of care for patients by consolidating all health services under a single MCO (Dobson, Gibbs, Mosey, & Smith, 2017).

Virginia's managed care reforms demonstrate that the state is already taking concrete steps to ensure cost-effective and high-quality long-term care for seniors. They also restrict the scope of policy options. This analysis does not consider any proposed changes to the current managed care delivery system. It is inadvisable to propose modifications to CCC Plus when its costs and benefits have not yet been fully realized.

The Case for Government Intervention

The current state of long-term supports and services justifies government intervention across three dimensions. First, the shortcomings of the LTCI market suggest market failure due to information asymmetry (Malato, 2017) and high transactions costs, since insurance sales and claims processing are very expensive (Brown & Finkelstein, 2007). Policies are currently too expensive for most consumers and do not cover very-long-term care risks. Second, Medicaid is partially responsible for suboptimal market conditions. Medicaid "crowds out" some private market insurers, since it will always pay long-term care costs for eligible beneficiaries without LTCI (Brown, Coe, & Finkelstein, 2006; Friedberg, Hou, Sun, Webb, & Li, 2014; Kang, Mathios, & Tennyson, 2004). It also may cause moral hazard, reducing individual saving, since Medicaid will bear the cost of any long-term care

after spenddown. Third, there is a rationale for intervention on the basis of the "basic needs externality." Providing long-term care to those most in need, either due to poverty or high medical need, provides societal benefit and merits public investment. In the case of unrestrained cost growth, the state risks inability to meet those needs in full (Harberger, 1984).

Evaluative Criteria

The goal of this analysis is to provide LeadingAge Virginia with an evidence-based policy option for LTSS reform to inform their advocacy strategy. The ultimate recommendation should also be consistent with LeadingAge Virginia's mission, vision, and values in supporting "positive aging for each Virginian" ("Mission, Vision, and Values," 2017). I will evaluate each of four policy options along the following criteria:

1. Cost to the state of Virginia
2. Political and administrative feasibility
3. Equity
4. Access to care
5. Sustainability

Overall, these criteria map loosely to those used by Naylor, et al. (2015) in evaluating cross-state LTSS reforms, consolidated for brevity and to focus on the primary goal of cost-efficient LTSS reform in Virginia. I explain each of the five criteria below.

Total Cost to Virginia

I will estimate the total cost to Virginia for each policy option. Three parts will comprise this estimate:

1. Direct costs of the program, including the dollar value of any program benefits
2. Administrative costs for establishing or maintaining the program
3. Private costs incurred as a result of the program

Exact cost calculations are included in the technical appendix along with sensitivity analyses regarding relevant estimates from the literature. I estimate direct cost based on projected client load and per-patient annual costs. I estimate administrative costs based on comparable cost projections for the state and the approximate resources required for each policy option, or by using fixed percentages of expenditures. Finally, I estimate private costs based on individual expenditures (both cash and in-kind) for any long-term care or related activities as enumerated in the appendix.

It is important to note that the total social cost will differ from both the total program cost and the bottom-line budgetary impact. The latter two are undoubtedly of concern when addressing a fiscal challenge and balancing the state budget. However, the state of Virginia as a whole does not save money if it transfers all costs to private citizens, it simply changes the incidence of costs. I assess costs over a 20-year period.

Feasibility

This qualitative criterion will assess the likelihood that Virginia will implement a given proposal. I will assess feasibility on a scale from 1 to 5 taking into consideration the following factors:

1. Success or failure of similar proposals in other states
2. Advocacy groups and coalitions supporting or opposing the proposal

3. Strength of evidence in support of (or in opposition to) the proposal
4. Fit within the mission and capabilities of LeadingAge Virginia

I also consider the projected political and budgetary climate in the Virginia House of Delegates and the likelihood that a given policy becomes regulation or law. I will also evaluate the administrative feasibility of accomplishing a policy option. This requires reflection on the long-term care market infrastructure, including relevant caregivers, providers, and insurers, as well as any legal or regulatory barriers to implementation.

Equity

This qualitative criterion will estimate the distributional effects of each option, primarily across income groups. I will assess equity by determining which populations will bear the majority of costs of each proposal (e.g. tax burden, private costs of care or insurance) and which will stand to benefit from services provided. I will rank each option on a scale from 1 to 5 with present trends fixed at a 3. It is important to note that present trends are progressive and redistributive by design. This criterion values policies more highly if they ensure that at-risk, low-income populations receive the benefits of the option.

Access

This qualitative criterion will assess the degree to which affordable, person-centered LTSS is available to residents in the state of Virginia. Access to LTSS is a function of two primary components: the level of care provided (sufficiency to meet user needs) and the number of people who receive it. Affordability is a critical component of access, but will be included in my cost-benefit calculations when estimating the number of recipients of each program. I will not combine these metrics into a single figure but will evaluate the tradeoffs between delivering high-levels of care to fewer people versus low-levels of care to more people.

Sustainability

This criterion will evaluate the underlying question of whether or not a proposal provides an effective LTSS financing mechanism for the foreseeable future. LeadingAge highlights the fact that Medicaid was never intended to serve as the primary financer of LTSS (LeadingAge, 2019). Sustainability will reflect the expected solvency and reliability of the financing mechanism, its likely adaptability to future changes in policy, and its likelihood of adapting to future market shifts in LTSS demand. I will evaluate each option relative to the continuation of present trends, which will be fixed at a 3. The current reliance on Medicaid is inherently unsustainable, as it is unlikely to persist over the next 20 years without the incidence of additional taxation or budget cuts.

Present Trends

In the absence of policy change, Virginia will have to accommodate increased demand for Medicaid LTSS among older adults**. I project that over the next twenty years, LTSS Medicaid expenditures will increase by an average of 7 percent annually, totaling 140 percent growth in total expenditures for that category** (Virginia Department of Medical Assistance Services, 2018a). This far outpaces the growth in state revenue collection, which the Virginia Department of Taxation estimates to be approximately 3.5 percent annually (Layne & Burns, 2018).

When facing entitlement cost growth, state governments can respond by either raising revenues or decreasing expenditures. As a state, Virginia tends towards fiscal conservatism, and tax hikes are generally unlikely (Scheppach, 2019). The state currently relies on a combination of income, sales, and property taxes. Current macroeconomic trends and reforms from other states suggest that broadening the tax base to include services and online sales could provide sustainable and more feasible revenue increases for states (Institute on Taxation and Economic Policy, 2016; Wiehe et al., 2018). Indeed, Virginia may levy a tax on online sales in the near future (Arnold, 2018). However, the magnitude of these taxes—and their ability to fund LTSS—is uncertain.

Expenditure cuts could occur either within the Medicaid program or outside of it. Historically, increases in Medicaid obligations have shifted funds away from investment in higher education (Kane, 2001; Webber, 2017). Universities tend to pass funding cuts on to students in the form of tuition increases (Webber, 2017). Additional research indicates that increasing Medicaid costs will continue to strain education funding, as well as transportation infrastructure (Joffe, 2015). Potential cutbacks to Medicaid itself are constrained by its status as an entitlement program; however, seniors receiving LTSS are especially at risk. Medicaid cuts could occur by either decreasing enrollment or decreasing reimbursements. Given that Virginia currently enrolls an expanded group of optional LTSS beneficiaries, they could increase the restrictiveness of financial eligibility criteria. The actual unenrollment impact of this would be uncertain, as some individuals would still qualify for Medicaid through other pathways (Molliet-Ribet et al., 2015).

The managed care LTSS system remains in the early implementation stages, which presents additional uncertainty in projecting outcomes over the long-term. This uncertainty is not unique to this analysis—DMAS underestimated total Medicaid costs for SFY 2018 by $460 million. DMAS staff attributed the miscalculation to underestimated administrative costs and overestimated savings to nursing homes (Carroll, 2018).

I estimate that Medicaid LTSS for older adults will cost $39.6 billion over the next 20 years.[x]

Policy Options

Option 1: Public Catastrophic Long-Term Care Insurance Program

This option proposes that Virginia implement a mandatory catastrophic long-term care insurance program. Catastrophic—also known as "back-end"—coverage insures against incurring extended

[x] All cost estimates throughout the document are in net present values.

and expensive long-term care costs. Given that few to no private insurers will provide lifetime benefits—or even benefits beyond five years—this is an un-insurable risk that necessitates spenddown (Hayes et al., 2017; Stark, 2019). A public long-term care insurance program would cover these high-cost needs using funds raised through a 1 percentage point payroll tax on all workers aged 45 to 65 (M. Cohen et al., 2018).

This option is based primarily on the program outlined by the Urban Institute and the LeadingAge LTSS Center @ UMass Boston and modified to fit a state-specific context. The program would cover catastrophic long-term care costs for all individuals who meet the eligibility criteria: at least ten years of full-time work and impairments in at least 2 activities of daily living (ADLs). The insurance program would begin to pay benefits after an established waiting period. The waiting period would range from 1 to 4 years depending on the income quintile of the beneficiary at age 65. The lowest two income quintiles would receive benefits only after the first year of LTSS need. The waiting period would increase by one year for each of the remaining quintiles. The state would pay beneficiaries in the form of a daily cash benefit of $105[xi] as long as need persists (M. Cohen et al., 2018).

Individuals would still need to finance care during the waiting period and their options would remain the same: private pay, private insurance, or Medicaid. However, this option significantly reduces the level of uncertainty that individuals and insurers would face in planning for long-term care. Private insurers would be able to market "gap-filling," front-end insurance policies and individuals could purchase policies based on the expected duration of their waiting period. Simulations estimate that annual premiums for a private LTCI policy for an individual's given waiting period would cost between 2 and 4 percent of that individual's income. According to survey data, middle income individuals are willing to pay around 2 percent of their income for LTCI policies, placing the new, short-term policies within reach. The model projects, however, that the lowest income quintile would still face costs as high as 10 percent of income and likely remain priced out of the market (M. Cohen et al., 2018).

[xi] Daily payout rates would be indexed to the wages of home health care workers and increase annually. The $105 payout estimate is based on five hours of care from a home health aide, the method used by Cohen, et al (2018) applied to the 2018 median cost of a home health aide in Virginia (Genworth Financial, 2018).

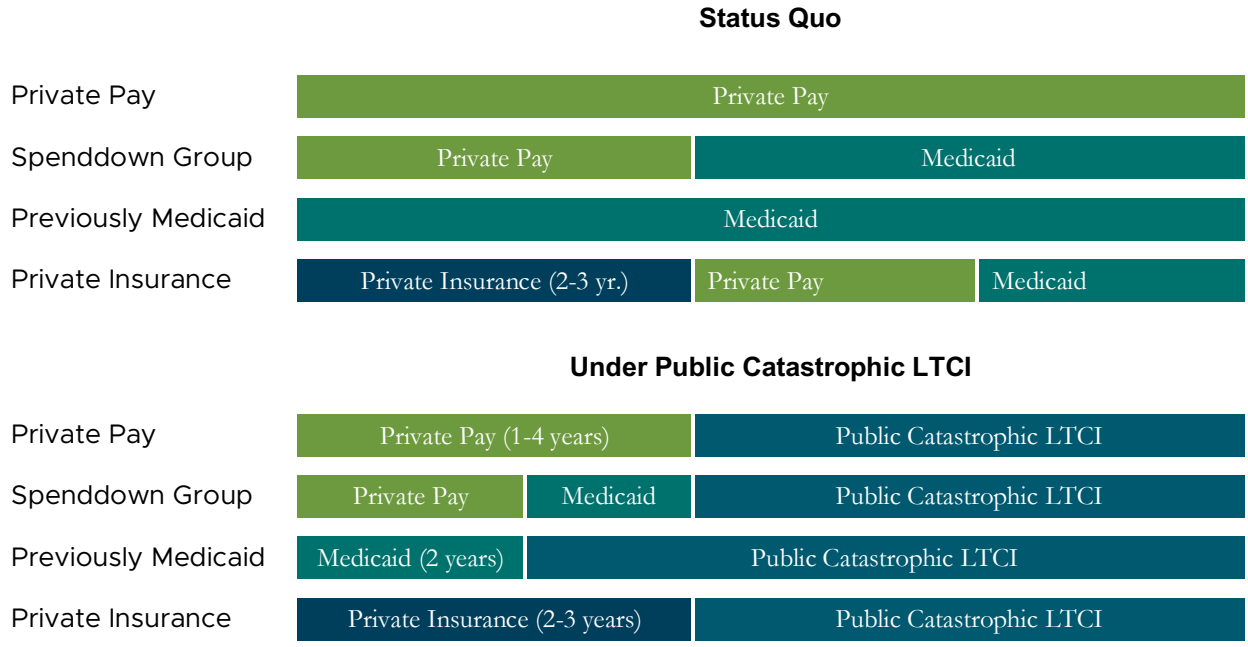

Figure 5. Comparison of payment structures under current financing system and a mandatory catastrophic public LTCI program. Based on program as outlined in Cohen, et al. 2018.

Under the new program, Medicaid would only fund LTSS during the waiting period for individuals who (1) qualified for Medicaid prior to gaining LTSS eligibility or (2) spent down during the waiting period. All expenditures for care outside of the waiting period could be allocated to the new insurance program. This would be a transfer of costs rather than any real savings. Savings would accrue from any individuals who purchased private long-term care insurance due to lower market prices but would have spent down to Medicaid otherwise. Private benefits accrue to those who are able to substitute covered long-term care for uncompensated family care.

This option would eliminate the adverse selection problem for catastrophic long-term care insurance by enrolling the entire population of Virginia seniors. Adverse selection can only be eliminated by drastically increasing the insurance pool (Sloan & Norton, 1997). It is unlikely to significantly crowd out the private market, given that few companies offer unlimited benefit packages anyway. Rather, it will likely change the market offering of products to focus on short-term, front-end insurance policies. This is the most ambitious and comprehensive proposal of the four, aiming to establish an entirely separate financing mechanisms for long-term care.

Cost

I project that a mandatory, catastrophic LTCI program would cost the state of Virginia $20 billion in additional costs over the next twenty years. **This brings the total cost of LTSS in Virginia to $59 billion.** I calculate this cost estimate by assuming a ten-year vesting period by which individuals begin paying taxes into the program in Year 1 and benefits are disbursed beginning in Year 10. Of the total program expenditures, approximately 32 percent would directly substitute for Medicaid dollars. Approximately 25 percent of outlays would directly substitute for unpaid family

care. Overall, this program constitutes a 52 percent increase from the current projected LTSS Medicaid expenditures baseline.

This program is more expensive than Medicaid for two reasons. First, it expands coverage to a much wider range of individuals. Second, the cost of coverage is higher than that incurred with Medicaid. The daily cash benefit rate exceeds the current capitated payment to managed care organizations by nearly twofold. Furthermore, Virginia would no longer benefit from federal cost-sharing for long-term care recipients and would incur 100 percent of costs rather than 50 percent ("Federal Medical Assistance Percentage (FMAP) for Medicaid and Multiplier," 2019).

Feasibility

This option ranks low with regards to feasibility and receives a 1 on this criterion. The primary barrier to implementation is the payroll tax increase for residents of a certain age. As mentioned previously, personal tax increases are likely to be very legislatively unpopular. Virginia currently levies no uniform payroll tax on workers, although state employers do bear the responsibility of withholding state income taxes and paying unemployment insurance taxes Virginia Employment Commission, n.d.). While it is administratively feasible to implement one using current withholding forms (Virginia W-4) and expanding upon the employer unemployment insurance tax, the new *type* of tax is likely to generate substantial opposition (Washington H-1732.1). Furthermore, this calls for a large-scale expansion of the state's social safety net while losing matching federal dollars for long-term care through Medicaid. This compounds the fiscal risk of such a transition. Universal insurance proposals are relatively new for the state level, but the most recent proposal (for short-term, front-end insurance) has progressed steadily through the Washington state legislature (Bunis, 2019). There is a large and robust body of academic work on catastrophic, public programs, but I believe that the political resistance against such a tax increase outweighs the strong coalition behind the alternative (M. M. Favreault, Gleckman, & Johnson, 2016; Guoxuan & Wei, 2017; Ma & Sun, 2017).

Access:

This policy provides high levels of care to an estimated 61,000 Virginians. It provides catastrophic coverage for all individuals needing long-term care at the HIPAA-level. The effective premium of this policy is equal to the tax paid over the fifteen-year period from age 40 to age 65. For all recipients, premiums cost 1 percent of total income. This will well below the willingness to pay for most middle-income individuals and far below the private market price of LTCI premiums (M. Cohen et al., 2018). Therefore, this option succeeds in providing relatively affordable long-term care coverage at the catastrophic level. However, the waiting period may remain problematic for many beneficiaries. As mentioned, even if the private LTCI market is able to decrease annual premiums for short-term policies, the lowest income quintile(s) may remain priced out of the market. One year of full-time, long-term care is sufficient to impoverish those groups, whose earnings are less than $50,000 per year (Genworth Financial, 2018). This would result in continued spenddown and transition to Medicaid.

Equity

This option performs moderately well with regards to equity and receives a score of 4. The imposition of a flat tax will affect all working adults equally as they pay a fixed proportion of their wages. The benefit structure is progressive by design and provides coverage earlier for individuals with lower incomes (M. Cohen et al., 2018). This option may place a disproportionate strain on middle-income Virginians, who will likely be those most likely to purchase a private LTCI policy to avoid spenddown during the waiting period. However, this may be offset to some extent by a longer expected benefit period if a catastrophic level of care is needed.

Sustainability

This option receives a 4 with regards to sustainability. A public, catastrophic insurance system may better enable older adults to plan for their care needs by reducing uncertainty. Individuals would be able to approximate the period of time during which they would self-finance long-term care. Furthermore, due to the projected decrease in private LTCI premiums, individuals could also purchase private policies and avoid self-impoverishment (M. Cohen et al., 2018).

However, the ultimate metric of sustainability is the revenue mechanism's capacity to finance the program. Given the estimated ten-year vesting period, this option generates approximately $7 billion in net revenues over the twenty-year analysis period. However, by 2040, program expenditures appear to exceed costs by around $2 billion. While the accumulated revenues serve to cover that shortfall, the remaining $7 billion would not support that level of spending were it to continue. The gap is likely driven by the increase of older adults relative to the taxable working population and the higher inflation of medical services relative to general wage inflation (U.S. Bureau of Labor Statistics, 1956).

	Cost	Feasibility	Access	Equity	Sustainability
Option 1: Public Catastrophic LTCI	**+ $20 billion**	**1** Low chance of tax increase	**61,000** reached - **High** level of care	**4** Flat tax, progressive benefit structure	**4** Self-funding through 2040, potential deficit

Option 2: Medicaid Buy-In Option for LTSS

This option proposes a Medicaid Buy-In program for long-term supports and services that allows individuals over the current financial eligibility threshold to purchase LTSS Medicaid—specifically CCC Plus Managed Care plans—in the same way that they purchase private plans (Ollove, 2019).

Currently, Virginia offers a Medicaid Buy-In option called Medicaid Works for individuals with disabilities. The program intends to incentivize work and savings for those whose earned income would make them ineligible for Medicaid benefits. Anyone between the ages of 16 and 65 who meets the residency, citizenship, and asset requirements for Medicaid but has earned income up to $75,000 can receive Medicaid coverage as long as they maintain a "Work Incentive" (WIN) account. Applicants may also have resources up to $36,548 (Virginia Department of Medical Assistance Services, 2019a). The state of Virginia currently does not charge a premium for individuals enrolled in Medicaid Works, but other states (for example, Colorado) charge premiums on a sliding income scale (Wikelius & O'Toole, 2018). Furthermore, Virginia intends to implement premiums for its current program (Virginia Department of Medical Assistance Services, 2019b).

This option proposes creating a Medicaid Buy-In option for long-term care specifically, made available to Virginians earning less than 450% of the SSI but not yet qualifying for Medicaid. The benefit package would be equivalent to enrollment in any of Virginia's six managed care LTSS plan. At age sixty-five, the policyholder would qualify for benefits if they require assistance with two or more ADLs. The General Assembly would authorize DMAS to charge cost premiums sufficient to cover or exceed the cost of patient care.[xii] Managed LTSS simplifies these estimates, as the state will expect to pay the flat, capitated rate to all patients with insurable need, regardless of services used (Summer & Hoadley, n.d.). **The buy-in option makes long-term care insurance more available to all Virginians by charging lower premiums than the average LTCI plan** (Boozang, Brooks-LaSure, Grady, & Traube, 2019). One concern with this option is that providers may refuse to accept Medicaid at higher rates if they find themselves with diminishing profit margins due to a higher share of Medicaid patients (Cardwell, 2017). Furthermore, there may be weak incentives for low-income individuals to purchase such a plan when spend-down is likely. The primary drivers for purchase would be risk aversion and desire to maintain a higher level of assets in the case of long-term care needs.

In order to pursue this option, Virginia would need to acquire a 1915(c) waiver, which would allow them to expand the eligibility requirements for Medicaid above the 300% SSI maximum (Centers for Medicare and Medicaid Services, 2018a). The legislature would also need to authorize the buy-in program (Massachusetts S.2202). **Savings to Medicaid would accrue to the extent that individuals enroll in the Buy-In program in lieu of spending down to the eligibility threshold.**

Cost

I caveat cost estimates for this section heavily, as actuarial premium estimates are outside my area of expertise. However, the cost to Medicaid for this option is equal to the cost of MLTSS for the Buy-In eligibility group between 300 and 450 percent of the SSI benefit level, scaled by the share expected to purchase the plan. Given the incidence of HIPAA-level LTSS need and the income

[xii] Based approximately in the language from Massachusetts S.2202 (2018).

distribution in Virginia, I estimate cost to be approximately **$3.1 billion for the twenty-year period of interest**, in which all premiums have been vested at the five-, ten-, and fifteen-year level.

I estimate that premiums could be approximately $1050 if we assume a fifty-percent take-up rate of eligible policyholders. For reference, Boozang, et al (2019) estimate a 53-55 percent take-up rate for a similarly-targeted Medicaid buy in program for all health services. However, long-term care insurance markets are subject to adverse selection by which those who expect to need long-term care will insure against it (Finkelstein & McGarry, 2006).

Savings to Medicaid accrue through insuring any individual who would have spent down to the Medicaid eligibility threshold rather than buying in. Given that the threshold for buy-in eligibility is relatively low, this share has the potential to be quite large. However, individuals also know about the Medicaid eligibility threshold and may choose to spend down instead at risk of losing their assets. Therefore, this assumption presents considerable uncertainty for this analysis and its potential cost savings.

Feasibility

This option ranks moderately with regards to feasibility and receives a score of 3. Because it is a voluntary option by which individuals are not taxed as a premium, I anticipate less legislative resistance. However, I do anticipate significant pushback from the current long-term care insurance providers in the state. As mentioned, the LTCI market is highly concentrated among large-scale companies (Brown & Finkelstein, 2007). The state holds a competitive advantage in selling affordable LTCI to middle-income individuals. As mentioned above, providers may also oppose the potential loss in income from a higher proportion of Medicaid reimbursement rates.

A number of states (including Nevada, New Mexico, Idaho, and Minnesota) have explored a broad Medicaid Buy-In option that would allow all individuals under a given income threshold to purchase Medicaid on health care exchanges (Cardwell, 2017). Broader Medicaid Buy-In plans have yet to become law, but have been well-received by state legislatures. Nevada passed such a bill, but it was vetoed by the governor. It is expected to be passed again in 2019 and presented to a Democratic governor, who is likely to sign it into law (Ollove, 2019). Therefore, it is plausible that in a favorable political climate, such a bill could become law. There is a growing body of work and research in support of buy-in options, which seem to be gaining traction in both legislative proposals and popular discourse (Cardwell, 2017). Finally, the feasibility of this option hinges on the approval of the 1915(c) waiver. The Trump administration has given no signal as to how they would treat waivers for buy-in programs (Ollove, 2019)

Access

This policy performs moderately with regards to access. **While it has the potential to provide a very high quality of care, equivalent to that under Medicaid, the reach is relatively low at around 2,000 to 6,000 people, depending on premiums and take-up rates.** This option remains accessible with regards to cost, as I approximated the premium to be well within the willingness to pay for someone of the qualifying income level. The main premium estimate is 3-4 percent of the annual income for the eligible group, which is very close to the expected willingness to pay for middle-income beneficiaries (M. Cohen et al., 2018). However, this policy applies to a relatively

small and specific group of people (approximately 15 percent of seniors), even fewer of whom require care in the long-term. Policymakers must confront the tradeoff between potential enrollees and quality of care for each of these options. The increased competition may also drive down prices of comparable LTCI coverage (Wikelius & O'Toole, 2018).

Equity

This policy receives a 4 with respect to equity. The costs and benefits accrue to the same population—individuals making more than 300% and less than 450% of the federal poverty level. Given that the income eligibility threshold for Medicaid is 300% of the FPL, this is the group most at risk of spenddown. This policy is well-targeted and allows individuals to preserve some of their assets by investing in Medicaid as a buy-in option.

Sustainability

This option maintains Medicaid as a primary payer for long-term care. However, it also generates a relatively sustainable market mechanism that will both appeal to future consumers and stimulate private supplemental Medicare product sales. It establishes a precedent of a Medicaid Buy-In option that the state might choose to expand in the future, either to serve a broader range of income levels or to the Medicaid population at large, as other states are considering (Mann, 2017).

The sustainability of this option is highly dependent on the level of premiums that the state charges and the take-up rate over the period of interest. Furthermore, the premium amount might fluctuate based on any adverse selection issues that the state encounters. **Due to this level of uncertainty, even though the Buy-In process itself is sustainable, I rank this option as a 3.**

	Cost	Feasibility	Access	Equity	Sustainability
Option 2: Medicaid Buy-In for LTSS	**+$3.1 billion from 2020-40**	**3** Other states interested, no tax burden, fed. approval	**6,000** reached X **High** level of care	4 Benefits + Costs: 300-450% FPL	**3** Costs exceed premium collections by 2040

Option 3: Home Care Benefit

This option proposes a universal home care benefit modeled after the 2018 referendum in Maine. The proposal will make all adults over the age of 65 requiring assistance with at least one ADL limitation eligible for a home care benefit. All individuals with a disability would also be made eligible, but remain outside the immediate scope of analysis for this project. The state would levy a payroll tax of 1.9 percent (IB0003 L.D. 1864) on all wages earned over $132,900. This threshold of "high income earners" is equal to the maximum taxable income for Social Security (Social Security Administration, 2019a). The state would also tax unearned income above the threshold at the rate of 3.8 percent. The state would establish a Universal Home Care Trust Fund to contain all collected revenues (IB0003 L.D. 1864).

This option would establish a Universal Home Care Trust Fund Board to oversee administration of collected funds. The Director of DMAS, the Deputy Director for Administration, Deputy Director for Programs, and the Chief Health Economist would serve as *ex oficio* members of the Board. The Governor would appoint nine additional "non-legislative citizen members" from the aging services field to complete the Board. Members would serve for no more than two terms of four years and would serve in a voluntary capacity. State law requires that the General Assembly confirm the Governor's nominees (Va. Code § 33.2-200).[xiii]

The Maine proposal established a nine-member Trust Fund Board to oversee program development and fund disbursement. Three representatives each of personal care agencies, direct care service providers, and HCBS recipients (or their family members) would comprise the volunteer Board. An Advisory Board of the Commissioners of Labor and Education, the state Treasurer, the Speaker of the House, and the President of the Senate (or designees) would advise. The Board had full direction over program design and fund allocation (IB0003 L.D. 1864).

While the Maine proposal allowed the Board to determine the specifications of the caregiver benefit, I propose adopting broad standards aligned with provisions of the current Hawaii Kupuna Caregiver Program, which provides benefits for home care. The program provides a $70 daily cash benefit to recipients meeting the following criteria:

- At least 65 years old (modified)
- Does not hold private long-term care insurance coverage or yet qualify for Medicaid
- Living in the community
- Requires assistance with at least two ADLs or IADLs, or a "substantive cognitive impairment requiring substantial supervision"
- Cared for informally by someone who also works at least 30 hours per week (ADRC Hawaii, 2017)

Cash benefits would be indexed to the average wage of home health care workers and could not be paid to family caregivers (ADRC Hawaii, 2017). The Trust Fund Board would assume responsibility for program administration, including developing a system for allocating funds among competing applicants. Furthermore, the Board would direct and administer any supplemental programming to promote enrollment. **This program would generate Medicaid savings to the extent that it**

[xiii] I model this structure after the structure of the Commonwealth Transportation Board, which currently administers the Transportation Trust Fund (Va. Code § 33.2-201), and the Maine proposal (IB0003 L.D. 1864).

could delay Medicaid utilization, which is supported by the literature (Young, Kalamaras, Kelly, Hornick, & Yucel, 2015).

Cost

I estimate that the home care benefit will cost approximately $7 billion over the next 20 years. The specifications of this policy limit expenditures to value of revenues collected by the tax increase. Therefore, if the program is implemented effectively, this proposal will be budget neutral. While maintaining budget neutrality, the program could provide services to 24,600 seniors and people with disabilities in the state in 2040. This is around 2 percent of the total population of seniors in Virginia and approximately one-fourth of those expected to experience ADL impairments.

Cost savings to Medicaid accrue from individuals who would have otherwise (1) spent down to the financial eligibility threshold due to home care costs and (2) individuals who would require nursing home level care in the absence of supportive home services. This would amount to approximately $762 million, assuming that home care delays nursing home entry by an average of 4 months.

This proposal also has the potential to generate benefits for informal caregivers. The option would finance approximately 23 hours of care per week at current rates (ADRC Hawaii, 2017; Genworth Financial, 2018). However, individuals with 2 ADL limitations still requite closer to 40 hours of care per week (M. A. Cohen & Feder, 2018). This would not eliminate the need for informal caregiving. However, it would allow family caregivers to potentially return to work part-time. This generates both income for the worker and an increase in tax revenue for the state government. Ultimately, the magnitude of this benefit is exceptionally small. Even if all caregivers returned to work for all 23 hours, the economic benefit is less than one percent of total costs.

Feasibility

This program also ranks relatively low with regards to feasibility and receives a score of 2. Again, this option would necessitate a tax increase. Due to a more highly concentrated cost incidence among higher-income earners, this option may be slightly more feasible than a broader-based tax expansion. There may also be a stronger equity argument to be made for high-income earners to pay the share of their income that would go towards Social Security in the absence of an income cap (Social Security Administration, 2019a). State success on home care programs has been mixed. Maine's referendum failed to enact an equivalent tax last year (Meyer, 2018) I believe this option is slightly more robust than the Maine proposal, which delegated almost all of the planning capacity to the Trust Fund Board, which was entirely comprised of industry members. In Hawaii, the Kupuna Caregivers program passed the state legislature, but was funded by General Revenues rather than a designated tax increase, "regardless of availability of appropriations" (Hawaii H.B. 607 S.D. 2).

Access

I estimate that this program has the potential to reach approximately 46,000 seniors who do not qualify for Medicaid and require assistance with two or more ADLs. However, it is also worth noting that the benefit provides only half of the total level of care that such an individual would require. Ultimately, the Trust Fund Board and the General Assembly could

select another daily benefit rate at the expense of access. Policymakers must confront the tradeoffs between providing full benefits to a smaller subset of people or limited benefits to a wider population. If the former, the Trust Fund Board would need to establish selection criteria, perhaps considering level of care, availability of family caregivers, or income level. These things would change the equity evaluation conducted above.

While access improves, this option does suffer from imperfect targeting. Currently, approximately half of all LTSS recipients rely on informal care. While this does impose a social cost due to lost hours of work, it also represents an equilibrium (Chari et al., 2015). Individuals decide to provide family care when the benefits (residence at home, avoiding spenddown) outweigh the costs (lost wages). This policy will compensate individuals who otherwise would have provided care for free, making it somewhat inefficient.

Equity

This program ranks moderately with regards to equity and receives a 4. The cost burden falls entirely on the top 5th percentile of earners in the state of Virginia. Benefits would accrue more broadly. Individuals who qualify for Medicaid (or are perhaps very close to the financial eligibility threshold) would likely not take advantage of this benefit as a substitute for Medicaid. Beyond that, it seems reasonable that individuals across the income distribution would have similar rates of application for the care benefit. Therefore, this policy would have a slightly progressive effect as benefits accrue broadly to all individuals above 300% of the SSI benefit threshold. Application rates may be slightly higher in middle- or high-income households due to better information, but that could likely be offset by robust information campaigns and cooperation with local social service agencies to conduct outreach to eligible seniors.

Sustainability

This proposal ranks high with regards to sustainability and receives a 4. By design, total expenditures will not exceed the value of the trust fund. At that level of expenditure, the home care benefit can actually cover an increasing share of the eligible senior population as time goes on. For example, the program can provide care to 21 percent of eligible seniors in 2020 but 28 percent in 2040. This is due to diminishing rate of increase in the senior population after 2030. One factor that may limit the ultimate sustainability of this option is the diminishing availability of both formal and informal caregivers over the next several decades. There is already a shortage of home health care workers and this proposal would only increase demand (Institute for the Future of Aging Services, 2007). Furthermore, the ratio of older adults to potential informal caregivers will continue to decrease as we approach 2040 (Sen, 2017).

	Cost	Feasibility	Access	Equity	Sustainability
Option 3: Home Care Benefit	**+ $7 billion**	**2** Unlikely tax increase	46,000 reached x **Moderate** level of care	**4** Costs: High inc. earners Benefits: All eligible	**4** Self-funding but at risk of labor shortages

Option 4: Home Care Benefits through Medicare Advantage and Medigap

This option proposes that the state of Virginia begin negotiations with Medicare Advantage (MA) and Medigap providers and amend state regulations to incorporate a suite of long-term care services in all plans sold in the state. As mentioned in the background section, due to federal interpretation of standing regulations, Medicare Advantage and Medigap plans are now able to provide services that are not directly related to acute care and improve health for seniors in their communities (Bell, 2018). These supports are broadly referred to as "enhanced home care" or EHC. This policy is modeled off of proposals by the Commonwealth Fund as well as initiatives under Minnesota's Own Your Future program (Dawson & Cutler, 2019).

EHC benefits broadly include:

- "Personal emergency response system
- Homemaker services
- Chore services
- Training and education of family caregivers
- Home delivered meals
- Adult day care services
- Care coordination
- Personal care services" (John Cutler Consulting, 2018)

These care services are not directly medical, but they enable individuals to remain in their homes and live independently, which may delay ADL impairments (Fox-Grage & Walls, 2013; Marek, Stetzer, Adams, Popejoy, & Rantz, 2012; Young et al., 2015). **The supplemental Medicare plans would also cover services that may lead an individual to spend down to the Medicaid threshold and delay eligibility.** Home services are also lower-cost than services under Medicaid. Projections for Minnesota based on a robust model of long-term care needs estimate significant cost savings (approximately 20 percent of the baseline in the final year of implementation) for a similar policy proposal (Blewett, 2018).

In order to pursue this option fully, Virginia would need to obtain a Medigap standardization waiver that would allow the state to mandate that plans include the EHC benefits outside of the federal standards for Medigap policies (Center for Medicare Advocacy, n.d.). DMAS Medicare Advantage modifications could pursue Medicare Advantage modifications independently at the state level, as states currently regulate the plans that are approved for sale within the state. Consumers generally responded favorably to the idea of EHCs embedded in a Medicare policy.

Cost

Depending on the health impact of home services, this option will increase spending by no more than $2 billion and may decrease spending. United Health Actuarial Services estimated premium increases of approximately $17 and $21 per month for Medicare Advantage and Medigap policies respectively. These estimates are on the upper end of the projected range, as they include a full suite of personal care services. While I anticipate that a small share of current enrollees may exit

due to premium, the overall effect is small. I assume that supplemental Medicare purchases will not necessarily increase as price increases, although there may be a marginal effect of new benefits.

Given that regulatory oversight of the Medicare supplement product market already occurs in Virginia (NAIC, 2018), I estimate no new administrative cost increases. The entirety of the costs come from user premiums. I assume that insurance companies incur no additional costs and that premiums are actuarially fair. The effect on the state budget is positive, generated by cost savings to Medicaid and transfer of costs to private citizens.

Feasibility

This option is politically feasible, but faces uncertainty regarding implementation. For this reason, it receives a 3. State agencies (such as DMAS) already regulate insurance products like MA and Medigap. Only slight regulatory changes would be required to mandate that all plans offer EHC benefits. These changes would have to pass through the regulatory process, including a public comment period, before finalization. However, Minnesota has led by example in working with private insurers to craft sound regulations that allow them to take advantage of this new market opportunity (Dawson & Cutler, 2019). The profit motive will likely drive collaboration. In fact, it is possible that these plans adapt without any government intervention whatsoever. However, state regulation would serve to eliminate the adverse selection problem by requiring that all plans offer EHC benefits.

Access

This option provides low levels of care to a broad base of recipients. The policy could reach as many as 600,000 seniors, albeit providing a relatively basic level of care. By changing the services provided by these policies, Virginia has the opportunity to extend home care services on a large scale. However, these home care services are largely non-medical in nature. While they assist with allowing seniors to live in their own homes, they do not provide a full suite of medical services and supports that someone with more developed care needs would require. It is possible that individuals would still need to supplement care with their own private pay. However, because of the very broad reach of this program, any slight diversion from Medicaid-funded care generates relatively large savings.

Equity

T**his option ranks highly with regards to equity and scores a 4**. All of the costs and benefits are borne by the holders of Medicare Advantage and Medigap plans. These groups are disproportionately low-income and at risk of high-needs LTSS. Therefore, this option effectively targets a needy population. The individuals who are priced out of the market due to premium increase are likely to be the most economically vulnerable of the purchasers (or those who value coverage least). However, that proportion is relatively small.

Sustainability

This option ranks well regards to feasibility and scores a 4. Medicare Advantage and Medigap supplement plans are popular in Virginia. This option leverages those existing markets in order to

extend care services to older Virginians. Both Medigap and Medicare Advantage plans are relatively robust to price shocks (Cartwright, Hu, & Huang, 1992; E Dowd, Feldman, & Coulam, 2003). In other words, they are unlikely to experience a drop-off in demand were prices to increase. Therefore, it is likely that Virginians will continue to buy MA and Medigap plans in the foreseeable future. Furthermore, insurance providers will be able to sustain levels of service.

Full Evaluation of Policy Options

	Cost	Feasibility	Access	Equity	Sustainability
Option 1: Public Catastrophic LTCI	**+$20 billion from 2020-40**	**1** Low chance of tax increase	**61,000** reached X **High** level of care	**3** Costs: Flat Tax Benefits: Progressive	**2** Exacerbates deficit by 2040
Option 2: Medicaid Buy-In for LTSS	**+$3.1 billion from 2020-40**	3 Other states interested, no tax burden	**6,000** reached X **High** level of care	4 Benefits + Costs: 300-450% FPL	**3** Costs exceed premium collections by 2040
Option 3: Home Care Benefit	**+ $7 billion from 2020-40**	**2** Unlikely tax increase	**46,000** reached x **Moderate** level of care	**3** Costs: High inc. earners Benefits: All eligible	**4** Self-funding but at risk of labor shortages
Option 4: Medicare Advantage and Medigap Benefits	**+$0.5 billion from 2020-2040**	3 Politically feasible, depends on insurance co.	**3-600,000** reached X **Low** level of care	4 Benefits + Costs: MA policyholders	**4** Cost savings generated, market change sustainable

Figure 6. Outcomes Matrix of Policy Options

Recommendation

I recommend that LeadingAge Virginia advocate for the inclusion of enhanced home care benefits into Medicare Advantage and Medigap policies, while actively working to ameliorate the impact of present trends. The MA and Medigap enhancement—called the "MediSupp Option" (Blewett, 2019)—places the least amount of financial burden on the state of Virginia. Even with the most expensive premium options, the MediSupp Option performs best as long as it diverts some level of care from Medicaid. Furthermore, this option is the most feasible. Because it requires no legislative action, the primary focus is to collaborate with private insurers to identify a premium structure and marketplace options to move forward. Insurers now have federal permission and a compelling profit motive in order to pursue more comprehensive benefits. Finally, this option is sustainable. It does not generate unfunded state obligations over the next twenty years. Furthermore, it uses a reliable program base to expand opportunities.

However, I fully acknowledge that marginal home care benefits will do little to slow the cost growth of Medicaid, despite the cost savings mentioned in the section for this option. However, that is preferable to incurring unsustainable obligations over the long-term. Therefore, LeadingAge Virginia must prepare for the realities of the next few decades as LTSS cost growths place an increasing demand on the state budget. In the implementation section below, I outline a few concrete steps that LeadingAge may want to pursue in the best financial interest of their member organizations and in support of quality care for seniors.

Implementation

In order to advance this alternative, LeadingAge Virginia should work with DMAS to suggest and develop a regulation that requires all Medicare Advantage plans to include EHC benefits in Virginia. Furthermore, they should request that DMAS submit for a 1915(c) waiver to extend the same benefits to Medigap plans. Furthermore, LeadingAge members—specifically its home- and community-based service providers—should meet with MA and Medigap insurance providers in the state to emphasize the mutual benefit of EHC services for both insurers and care providers. LeadingAge Virginia should maintain consistent communication with advocates on the ground in Minnesota as they take steps towards EHC benefits. One next step might be formal modelling and cost estimates equivalent to the SHADAC simulation that Minnesota has used to estimate cost savings (Cartwright, Hu, & Huang, 1992; E Dowd, Feldman, & Coulam, 2003).

As Medicaid costs continue to increase, LeadingAge Virginia must also focus its advocacy efforts on preserving quality of care for seniors in Virginia and maintaining the financial health of its member organizations. To achieve this end, they should ensure that the state does not decrease provider reimbursement rates or managed care capitation rates in the face of rising costs. They should be prepared to advocate for other mechanisms for balancing the budget, including general tax increases and reallocation of funds from other sources. There is also the possibility that the General Assembly proposes more restrictive Medicaid eligibility criteria. LeadingAge Virginia should weigh the relative costs and benefits of this proposal in order to determine their preferences compared to other cost-cutting approaches. Fortunately, LeadingAge Virginia is well-positioned with a network of aging advocacy and patient care organizations to generate coalitional support on this topic.

LeadingAge Virginia may also want to pivot to support ongoing work at the federal level. There is a broad range of policy options that can only be implemented nationally. These include things like changing the way in which individuals use tax-protected savings vehicles, additional benefits covered under Medicare, and deeper restructuring of the federal benefits landscape (Wiener et al., 2013). Virginia's capacity to finance proposals at the state level is somewhat restricted by federal matching funds for Medicaid, which effectively subsidize Medicaid services compared to another funding mechanism. LeadingAge's deep expertise and broad connections can assist them in leading this conversation.

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Appendix A: State Reforms

LTSS Reforms across the Country

Multiple states have anticipated the impending demographic shift and researched or invested in LTSS reforms to prevent cost growth. However, some of these strategies are unlikely to provide significant benefit to Virginia Medicaid. I therefore ruled out these policies as potential options.

Long-Term Care Insurance Subsidies

In theory, subsidizing the cost of long-term care insurance should increase the number of people willing and able to purchase it and decrease the number of individuals who may have to rely on Medicaid for long-term care benefits. Long-term care insurance subsidies take the form of a tax deduction. The Internal Revenue Service permits that individuals deduct medical and dental expenses from their income taxes, provided that the expenses exceed 7.5 percent of adjusted gross income. Taxpayers can deduct long-term care insurance premiums[xiv] up to a dollar limit that begins at $420 and increases with age to $5,200 (Internal Revenue Service, 2018). States may offer their own credits, deductions, or both. Most states only offer deductions if one is not taken on federal income taxes. Virginia offers both a tax credit and a tax deduction. The tax credit is equal to 15 percent of all premiums paid during the tax year, and not to exceed 15 percent of all premiums paid during the policyholders' first tax year (Virginia Code § 58.1-339.11 A). Premiums are tax deductible only if the policyholder has not already claimed the deduction on their federal income taxes (Va. Code § 58.1-322 D 10).

An empirical analysis of these subsidies on a national scale demonstrated that these subsidies did significantly increase LTCI coverage. The average level of state subsidy increased insurance purchase by 28 percent. However, those purchasing LTCI were high-income and unlikely to qualify for Medicaid anyway. The authors estimated that each dollar in subsidy generated only $0.42 in savings to the state (Goda, 2011). Additional research suggested even less of an effect on LTCI purchase (Nixon, 2014; Yin, 2001). Based on the low projected return on investment, I chose not to further examine LTCI subsidies as a policy proposal for this analysis.

Long-Term Care Insurance Partnership Programs

In order to guard against self-impoverishment to fund long-term care, the Deficit Reduction Act of 2005 allowed states to implement LTCI Partnership Programs (Rothstein, 2007). Under the Partnership model, each dollar that a qualifying[xv] long-term care insurance policy pays in benefits increases the Medicaid eligibility threshold by one dollar for the policyholder. The individual could then become eligible for Medicaid based on their income, required level of care, and new asset limit (Virginia Department for the & Aging, n.d.).

[xiv] For qualifying long-term care insurance programs, which must (1) be guaranteed renewable, (2) have no surrender cash value, (3) use all refunds or dividends to reduce future premiums or augment future benefits, and (4) not pay or reimburse services provided under Medicare (Internal Revenue Service, 2018).

[xv] Qualifying Partnership policies must (1) provide inflation protection for all policyholders and annual compound inflation protection for policyholders under 61 and (2) have been issued after September 1, 2007.

While evidence indicated that partnership programs increased LTCI purchase (Greenhalgh-Stanley, 2012), the majority of buyers are higher-income individuals unlikely to qualify for Medicaid (Government Accountability Office, 2007). Additional statistical models estimate that only those between the 60th and 80th wealth percentiles take up partnership policies, and that for every dollar a state would aim to save in Medicaid expenditures, it would have to spend twice that on partnership subsidies (Sun & Webb, 2013). Ultimately, partnership policies are still too expensive for low- and middle-income customers. This is because partnership policies still engage in underwriting, denying coverage to high-risk applicants, and because most consumers are uninformed about these policies (Bergquist, Costa-Font, & Swartz, 2016; Cornell & Grabowski, 2018).

Asset Recovery Programs

Federal law requires that states attempt to recover costs paid through Medicaid for long-term care, hospital stays, and prescription drugs from the estates of deceased beneficiaries with no surviving spouse or dependents. The law allows states flexibility to define 'estate,' which at a minimum must include any and all assets that pass through probate ("Medicaid Estate Recovery," 2015). Virginia assumes a broader definition of estate that includes all individually- and jointly-held assets at the time of death, regardless of passage through probate (12 V.A.C. 30-20-141).

In FY 2014, Virginia collected $883,000 through Medicaid asset recovery (Molliet-Ribet et al., 2015). This amounts to approximately 0.01 percent of annual Medicaid expenditures (Henry J. Kaiser Family Foundation, 2014). No recent data on asset recovery administrative costs exist, but as of 2003, Virginia spent $50,000 on asset recovery personnel, facilities, and information systems (Karp, Sabatino, & Wood, 2005). Currently, Oregon has the highest rate of estate recovery nationwide at 5.8% with an estimated return on investment of $14 to every $1 invested in estate recovery.

Private Market Product Innovation

Some states are collaborating with private LTCI providers to provide a more innovative and robust selection of policies in the private market. Two such plans include LifeStage Protection and Retirement Plus. The Society of Actuaries estimated that LifeStage Protection plans could save as much as $737 million in state and federal Medicaid spending over a fifty-year period. Retirement Plus could save approximately $832 million in Medicaid spending over the same period (Society of Actuaries, 2017). For reference, the federal government spent $557 billion on Medicaid in 2017 alone (Kaiser Family Foundation, 2019). The amount of savings is negligible by comparison. At the state level, where insurers would not benefit from as favorable returns to scale, savings would likely also be trivial.

Appendix B: Technical Appendix for Cost Estimates

All documents for cost estimation can be found at this Dropbox link.

General Assumptions

Incidence of ADL Limitations

I estimate the incidence rate of impairment in at least two ADLs from the cumulative incidence rate using a Poisson distribution as follows:

$$CI = 1 - e^{-IR * T}$$

Where CI is the cumulative lifetime probability of incurring ADL disability from age 65 and IR is the annual incidence rate. T is the time at risk, which I approximate to be the average life expectancy at age sixty-five. I assume homogenous risk distribution across the population I base the model off of the Boston University School of Public Health Measures of Disease Frequency guide (Boston University School of Public Health, 2017). I use the projected cumulative incidence of ADL limitation from the Urban Institute DYNASIM projections for individuals reaching age 65 in 2019 (M. Favreault & Dey, 2016). I assume **no change in functional limitations over the next 20 years.** This is consistent with current research that note no discernible change in incidence over the 2000-2010 period (Congressional Budget Office, 2013).

Inflation Rates

I use the medical services rate of inflation for all relevant estimates, including premium cost increases over time and the increase in home health care wages. This rate is 3.6%. I use the general rate of inflation (2.2%) for all other costs, including wage growth, indexed tax increases, and non-medical costs.

Discount Rate

I use a discount rate of 3% throughout this analysis, as it is approximately consistent with the social rate of return (Shobe, 2019). This is consistent with other estimates that I encountered in the literature, which used rates between 3 and 3.5 percent for discounting. An alternative rate would be 7 percent, which is the approximate return on capital investment.

Time Period

I project all costs over a 20-year time period from 2020 to 2040. Unless otherwise specified below, I project that costs and benefits will begin to accrue in 2020 as Year 1. I use this period strictly due to the availability of reliable population projections from the Weldon Cooper Center and fully acknowledge that more robust estimates of social insurance programs would analyze a longer period of at least 50 years where possible (Society of Actuaries, 2017).

FMAP Share

I use a federal matching percentage of 50%, which is the rate for 2019. I project no significant change over time.

Administrative Costs

Due to the relative magnitude of program expenditures, I do not quantify line-items for administrative costs. Instead, I assume a flat rate of administrative costs equal to 2.5 percent of total expenditures, which is approximately equal to the current breakdown of costs in Virginia DMAS.

Projecting the Medicaid Baseline

I used decennial population estimates from the Weldon Cooper Center for Public Service Demographics Research Group as the basis for the over-65 population and estimated intermediate values using a quadratic regression model. Using the DMAS Data Book, which contained information from years 2011 through 2018, I estimated the average proportion of seniors receiving Medicaid (using intercensal population estimates from the Census Bureau). **I assume that this proportion is fixed over the twenty-year period.** Implicit in this assumption is that there is no change in disability incidence or significant shift in eligibility criteria or income distribution over the next twenty years.

I estimate costs, using average FFS costs over the pre-period (2011-2018) and capitation rates as calculated for CCC Plus in FY 2016, adjusted for inflation (PricewaterhouseCoopers, 2018). I assume no change in capitation rates beyond adjustment for inflation over the 20-year period. I also assume that the 96% enrollment in managed care marks a ceiling for DMAS and that all FFS enrollees are unlikely to transition (potentially due to waiver status). I include administrative costs over the period as a fixed funding level inflated annually.

Option 1: Public Catastrophic Long-Term Care Insurance

In projecting Option 1, I largely rely on estimates from Cohen, et al (2018) for the parameters of the program. I assume that taxes are levied on all working adults between ages 40 and 65 at a rate of 1 percentage point. This includes a ten-year phase in period by which individuals will meet the expected work requirements. Furthermore, I project that the share of individuals with catastrophic care needs will be equal to the annual incidence calculated above and constant over time. Administration is 2.5% of the total expenditures (or revenues). Medicaid savings arise from those diverted to private insurance. I estimate the proportion using an estimate from Wei and Guaxuan, which suggests that 7 percent of people are induced to purchase private LTCI who would otherwise spend down.

Option 2: Medicaid Buy-In

I conduct this assessment as a break-even analysis to determine what combination of premiums and take-up rate leads this option to be self-financing. Program expenditures for an actuarially sound insurance program will equal to the premiums generated. I use this as my base, allowing a 2.5% share of administrative overhead. Cohen, et al estimates that for middle-income individuals, willingness to pay for LTCI is approximately 2-3 percent of their annual income. I use this as a baseline to estimate what 2-3 percent of the average eligible income is and I estimate the take-up rate

necessary for that premium to cover expected costs. Mannatt analysts in their assessment of New Mexico's buy-in program estimated take-up rates of between 53 and 55 percent for individuals under 400% SSI threshold purchasing general health insurance. This seems exceptionally high given the availability of Medicaid spenddown. However, this parameter has no bearing on the net cost of the option, only the share of costs that replace Medicaid outlays.

Option 3: Home Care Benefit

I estimate the parameters of the home care benefit based on the guidelines outlined in Hawaii's Kupuna Care program. I use wages of home health workers to estimate the level of care that each individual is able to receive under this program. Given that it is self-financing, I conduct a break-even analysis to identify the number of seniors this program could logically serve. This is only 20-25% of total expected need, severely limiting the coverage of each option. Using my calculations, one could estimate the total tax needed to finance a program that served all seniors in the state. I use Cohen, et al's (2018) estimate to approximate the hours of care that an individual with HIPAA-level LTSS needs requires. Furthermore, I use estimates from AARP on the number of hours provided by family caregivers to anticipate the benefit that accrues to family caregivers from this program. One sensitive assumption of this analysis is the share of family caregivers who would return to work for the additional ten hours per week that they are now available. This is uncertain, as some people may continue to provide complementary rather than substitute care for their loved one even with the program in place.

Share Returning to Work	NPV of Costs
40%	$8.08 billion
50%	$7.84 billion
60%	$7.59 billion

The same caveats regarding share of substitution for Medicaid apply to this estimate. Again, since Medicaid savings is not a decision criterion, the effects are somewhat beyond this scope of analysis.

Option 4: Medicare Advantage and Medigap Home Care

The New Mexico Quantitative analysis by DuGoff, et al (2019) provide estimates for premium increases under expanded MA and Medigap benefits. I calculate the percent change in price (using state averages). I think use estimates for the price elasticity of demand for Medigap and Medicare Advantage plans from Atherly, et al. and Huang, et al respectively to estimate the amount of unenrollment due to price increases. I then calculate private costs by multiplying the increase in premiums times the remaining enrollees. Young, et al (2014) estimate that home care services can generally delay nursing home care by 4 months. Using estimates from DuGoff, et al. I estimate the share of MA and Medigap enrollees likely to eventually require Medicaid. I then calculate cost savings from care delay using a 4-month approximation to be conservative. Again, this uncertainty pertains to Medicaid cost savings rather than NPV of costs.