Maybe You *Can* Go Home Again: Ohio's Strategy to Provide Long-Term Services and Supports for a Growing Older Population

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PREFACE

When we began this project 26 years ago the challenges facing Ohio's long-term services system were daunting. A system with limited options, high costs, and quality concerns, in the context of unprecedented growth in the older population, painted a troubling portrait for state policy makers. At the time, the vast majority of Medicaid long-term services dollars for individuals age 60 and older were allocated to nursing homes. In response to these circumstances, Ohio's policy makers changed course. The state dramatically shifted its approach to funding long-term services and in doing so created a new array of options for elders with disability. The changes reported in this study were unimaginable 26 years ago. Today the state serves more older people through Medicaid home- and community-based services than through Medicaid-supported nursing facilities. Ohio's balancing ranking has gone from 47th in the nation to 27th. Despite these accomplishments, the road ahead will require even more policy vision, as demographic challenges continue to intensify with the aging of the baby boom generation. These last two decades have shown that with sound policy decisions the state can address the challenges of today and tomorrow.

STUDY HIGHLIGHTS

Demographics

- Ohio has the sixth largest population age 65 and over in the nation.
- Between 2015 and 2030 Ohio's overall population growth is projected to be flat with an increase of under 1%.
- Between 2015 and 2030 the population age 65 and older is expected to increase by almost 30%; the population 80 and older will increase by 24%.
- Ohio's older population with severe disability is estimated to increase from 163,000 today to 194,000 in 2030 (19% increase).

Costs

- Total long-term services in the U.S. cost approximately $366 billion annually.
- In 2018, the median cost of a private nursing home room in Ohio was $94,900, assisted living was $51,336, and full-time homemaker care was $48,048 per year.
- Fewer than 5% of Ohioans age 40 and older have private long-term care insurance.
- In 2017, the Medicaid program spent $167 billion nationally on long-term services, accounting for 30% of all Medicaid expenditures.
- In 2017, Ohio spent $7.64 billion on long-term services, which was 35% of total Medicaid expenditures.
- Medicaid represents 21% of total state general revenue expenditures.

Long-Term Services Use

- Between 1995 and 2017, Ohio dramatically changed how it delivered long-term services to older people.
- In 1993, more than 90% of elders on Medicaid received long-term services in nursing facilities; today more than half (55%) of these individuals receive services in the community.
- Ohio served 8,300 fewer older people in nursing homes in 2017 than it did in 1997, this despite more than 100,000 more state residents age 85 and older.
- Ohio's home- and community-based services options, which include PASSPORT, the Assisted Living Waiver Program, PACE, and the MyCare Demonstration, now serve more than 48,500 older individuals each day, making it the second largest aged/disabled waiver in the nation.

Changes in Long-Term Services Utilization

- The supply of nursing home beds in the state has remained relatively constant over the past two decades, but the number of beds in service dropped by 2,300 between 2013 and 2017.
- Despite the stability in nursing home bed supply, nursing home admissions increased from 71,000 in 1992 to more than 206,000 in 2017.
- The number of short-term Medicare admissions increased substantially, rising from 30,000 in 1992 to more than 147,000 in 2017.
- The majority of nursing admissions are now for short-term stays; only 16% of all new admissions reside in the facility after three months.
- The proportion of individuals supported by Medicaid in nursing homes who are under age 65 has nearly tripled in the last two decades to approximately one in four individuals served.
- Occupancy rates in Ohio nursing homes, even with fewer beds in service, were lower in 2017.
- The number of residential care facilities, including those classified as assisted living, has increased from 265 in 1995 to 708 in 2017.
- Despite a large increase in expenditures on home- and community-based services, the overall utilization rate for long-term services has remained constant for older adults.

BACKGROUND

Ohio has 2.6 million people over the age of 60 and 1.85 million individuals over the age of 65, which translates into the sixth largest older population in the nation.[1] In addition to having a large number of older people, almost 16% of Ohio's citizens are age 65 and older, ranking 16th nationally in its proportion of older people.[2] By 2030, almost 22% of the state's population is projected to be age 65 and older. Between 2015 and 2030, Ohio's overall population growth is estimated to be below 1%. However, as a result of population aging over this same time period, the population age 65 and over is expected to grow by 29%; the population age 80 and older is estimated to increase by 24%, and the 85 and over group will grow by 15% (See Table 1). Ohio's population of older adults (age 60 and over) with severe disability from physical and cognitive impairments, the group of older adults most in need of long-term services, was 163,000 in 2017 and is projected to reach 194,500 (19% increase) by 2030. These demographic changes are unprecedented in the history of our state and nation. While we celebrate the progress and opportunities associated with a long-lived society, such accomplishments also present new and growing challenges for the state.

One of the critical issues faced by Ohio and other states is the growing cost of long-term services and supports (LTSS). With total national long-term services spending exceeding $336 billion, these expenditures represent a continuing challenge for both individuals and government.[3], [4] The 2018 Genworth national long-term care analysis reported that the median cost of a private nursing home in Ohio was $94,900 annually; assisted living was $51,300; and a full-time homemaker service was $48,000 per year.[5] As only a small proportion of Americans have long-term care insurance, these expenditures represent out-of-pocket contributions for most. Recent data showed that 4.6% of Ohioans age 40 and older had private long-term care insurance, just below the national average of 5%.[6] Because of the very high costs of long-term care, and the small proportion of individuals with private long-term care insurance, many Americans, particularly those that require nursing home care, eventually need assistance from the public Medicaid program. Nationally, Medicaid spent $167 billion on long-term services in FY 2017 (both state and federal share). Ohio accounted for about $7.6 billion of that total. Medicaid expenditures represent a significant share of Ohio's budget, with FY 18 state-only Medicaid expenditures accounting for about 21% of total state expenditures. Thirty-five percent of Ohio's Medicaid expenditures were allocated to long-term services, compared to 30% for the nation overall.[7] When these high expenditures are coupled with state population projections, it is clear why Ohio has been actively involved in system reform and why this area will continue to present challenges over the next 25 years.

Table 1. Ohio's Aging Population (2015-2030)			
Age Group	**Population 2015**	**Population 2030**	**Percent Change 2015-2030**
All Ages	11.61 million	11.65 million	0.3
60 and over	2.6 million	3.1 million	17.6
65 and over	1.84 million	2.4 million	29.1
80 and over	481,800	596,900	23.9
85 and over	252,300	291,000	15.3

Source: Ohio Development Services Agency.[8]

THIS REPORT

In 1993, the Ohio Legislature and the Ohio Department of Aging (ODA) recognized that providing long-term services to a growing population of older individuals presented current and future financial and delivery system issues for the state. With a desire to have future decisions based on empirical information, the state embarked on an extensive data collection effort to track the use of LTSS by older Ohioans with severe disability. This study, now completing its 26th year, is designed to provide Ohio policy makers, providers and consumers with the information needed to make good decisions to ensure that Ohio has an efficient and effective long-term services system. It is uncommon for a state to be able to look two decades into the future to anticipate and respond to a potential problem. In fact, in their 2013 report on *States' Use of Cost-Benefit Analysis: Improving Results for Taxpayers*, a PEW Charitable Trust-MacArthur Foundation analysis used Ohio's work in this area as an example of how a state can use data to make good decisions.[9] This report describes Ohio's response to the changing demographics of the past two decades and identifies issues for the future. State policy makers, providers, consumer groups, and researchers have all recognized these trends, and dramatic changes have been made in Ohio. Despite this substantial progress, the path ahead will be even more difficult than the trail of change that Ohio has already traveled.

LONG-TERM SETTINGS IN OHIO

For many years, receiving long-term services was synonymous with nursing home care. In 2017, the 163,000 older Ohioans (age 60 and over) with severe disability (physical and cognitive) received support in an array of settings. About one in five older individuals (21.4%) with severe disability are long-stay residents (100 days or longer) in skilled nursing facilities. The majority of these (80%) are supported by Medicaid. Additionally, 5% of older individuals with severe disability (7,700) pay privately to reside in residential care facilities, most often assisted living residences. An expanded Assisted Living Medicaid Waiver Program served more than 5,000 in 2017. Even when focusing on older people with severe disability, we find that seven in ten reside in the

community, either in their own homes or with relatives or friends. More than 48,000 elder Ohioans, or about one-quarter of older people with severe disability living in the community, receive long-term services through Ohio's Medicaid home- and community-based services (HCBS) waiver programs or MyCare. The MyCare Program, designed to integrate long-term services with acute care for individuals eligible for both Medicare and Medicaid, began in May 2014 in the major urban areas of the state. Participants in that program use HCBS as part of the integrated services received, and are included in our counts of long-term services use. Finally, an additional 6,000 Ohioans with severe disability living in the community receive assistance through aging services levies available across the state.

OHIO'S COMMUNITY SERVICE SYSTEM

As noted, seven in ten older people with severe disability reside in the community. Families and privately purchased services provide assistance to four in ten older Ohioans with severe disability. These findings are consistent with national estimates indicating the tremendous amount of LTSS provided to older people by family and friends, with an estimated value of $470 billion annually. Unpaid care provided to older people in Ohio is estimated to be $16.5 billion annually.[10] For those Ohioans needing more assistance in their homes than can be provided through private providers, family, and friends, there are two major public sector sources of support for in-home services: county property tax levies and Medicaid waiver programs.

COUNTY LEVY PROGRAMS

In the mid-1970s, Lois Brown, a local advocate in Clermont County, expressed concern that the growing older population in her community did not have the necessary services available. After meeting with county officials, she approached the Ohio Legislature with an idea to use property tax levies to support senior services. Following a legislative law change, she returned to Clermont County and championed a successful levy campaign. Today, 74 of Ohio's 88 counties have aging services levies and last year they generated about $180 million. The revenue for Ohio's county levy programs is larger than the combined total funds generated by all of the other 15 states with levy programs. The county levies vary in size and scope, with some generating more than $35 million annually and others $50,000 or less.[11] The levy programs typically target older people with moderate disability, but we estimate that 6,000 elders with severe disability are served by these programs. The assumption is that by serving older people with moderate disability these levy programs may be helping Ohio in its efforts to assist older individuals with disability to remain in the community longer. Recent studies have shown that states with a higher level of funds allocated to supportive services, such as home-delivered meals, have a lower proportion of low-care residents in nursing homes.[12]

WAIVER PROGRAMS

In addition to paying for nursing home care, Ohio currently has two Medicaid waiver programs that serve older people with severe disability (PASSPORT, Assisted Living), a state plan program (PACE), and an Integrated Care Demonstration (MyCare) that manages acute and long-term services in conjunction with the waiver programs. PASSPORT and the Assisted Living Waiver Program are jointly administered at the state level by the Ohio Department of Medicaid (ODM), the single state Medicaid agency, and the Department of Aging, which is responsible for program operations. PACE operates in one site (Cleveland) and is directly managed by the Department of Aging and serves about 400 individuals. Using adult day care as a focal point, PACE coordinates both acute and long-term services. MyCare is operated by five independent health plans, and managed by the Ohio Department of Medicaid. The PASSPORT and assisted living waivers are operated on a regional level by Ohio's 12 area agencies on aging and one private, non-profit human service organization.

Each of these programs uses care managers to link an array of in-home services to the 48,600 older people participating in the programs every day. About half of these individuals are in the original HCBS waiver programs, while the remainder are enrolled in the MyCare demonstration. Regardless of the program, each of the regional administrative agencies determines participant functional eligibility, works with consumers to assess their needs, develops and arranges for services, and monitors the services delivered. The PASSPORT program serves individuals residing in the community and uses care managers to coordinate a package of home-based services. The Assisted Living Waiver Program serves residents in an approved residential care facility and personal care and meal services are provided within the residence.

Between May and July 2014 about 60% of Ohioans who were eligible for both Medicaid and Medicare became part of the MyCare demonstration. MyCare is designed to integrate long-term services with acute care and these individuals, while continuing to receive HCBS, are no longer technically in the traditional waiver programs. Under the MyCare demonstration the goal is for the area agencies on aging in participating regions to ensure the continuation of HCBS, which are combined with acute care to form an integrated package of services.

A profile of older adults with severe disability by region is provided in Table 2. In 2017, Ohio had an estimated 163,000 older people with severe disability and just over half of these individuals had incomes below 300% of poverty. On any given day Ohio waiver programs for older people served more than 48,600 individuals, encompassing more than half of the low income 60-plus population with severe disability, indicating that the aging waiver programs have a large presence in the state.

Table 2. Profile of Ohio's Older Population: Disability and Poverty by Region, 2017				
Area Agency on Aging (AAA)	**Location**	**Estimated Total 60+ Population[i]**	**Estimated Population 60+ with Severe Physical and/or Cognitive Disability[ii]**	**Estimated Population 60+ with Severe Physical and/or Cognitive Disability with Income at or Below 300% of Poverty**
1	Cincinnati	354,493	20,771	9,835
2	Dayton	202,354	12,506	6,150
3	Lima	85,911	5,332	2,804
4	Toledo	215,673	12,893	6,785
5	Mansfield	128,989	7,877	4,419
6	Columbus	369,151	20,659	9,185
7	Rio Grande	105,583	6,137	3,777
8	Marietta	64,981	3,743	2,319
9	Cambridge	123,729	7,579	4,690
10A	Cleveland	515,174	32,073	16,501
10B	Akron	294,662	17,869	9,184
11	Youngstown	175,887	10,983	6,267
CSS[iii]	Sidney	82,336	4,851	2,684
	Total	**2,718,923**	**163,274**	**84,600**

Source: [ii] United States Census Bureau 2013-2017 American Community Survey, 5 Year Summary File. Integrated Public Use Microdata Sample, National Historic Geographic Information Systems (IPUMS NHGIS).[13]

[ii] Mehdizadeh, S. Kunkel, S. and Nelson, I. (2014). *Projections of Ohio's Population with Disability by County, 2010-2030.* Scripps Gerontology Center, Miami University, Oxford, OH.[14]

[iii] Catholic Social Services is also a PASSPORT provider in the Dayton region.

RESIDENTIAL CARE

For about three in ten older Ohioans with severe disability, skilled nursing facilities or residential care facilities (which encompass assisted living residences) are their long-term residential setting. In this section we provide an overview of these two sectors of the long-term services delivery system.

NURSING HOMES

At the close of 2017, there were 968 skilled nursing facilities in the state containing 90,958 licensed beds (See Table 3). This represents a decrease of about 2,300 licensed beds since 2013. National data in 2016 reported the average state bed supply in the U.S. was 80 beds per 1,000 individuals age 75 and older. Ohio's rate of 112 beds

per 1,000 individuals results in a state ranking of 12th highest number of beds in the nation.[15]

More than 95% of Ohio's nursing home beds are either free-standing or part of a continuing care retirement community. Sixteen skilled nursing facilities (1.6%) are located in hospitals, continuing a drop in hospital-based units. For example, in 2000 there were 59 hospital-based skilled nursing home units, and in 2005 there were 50. Seventeen skilled facilities (1.8%) are county homes, down from 30 in 2000. Ohio nursing homes average 94 beds per facility and three in four are located in urban areas of the state. One in five Ohio nursing homes are not-for-profit.

Table 3. Ohio's Nursing Facility Characteristics, 2017

	All Nursing Facilities	County Homes	Hospital-Based Long-Term Care Unit
Number of Facilities (as of 12/31/2017)	968	17	16
Licensed/certified nursing facility beds 12/31/17	90,958	1,675	809
Average number of beds available daily	90,464	1,653	809
Average number of licensed beds	94	99	51
Location (percent)			
Urban	76.5	47.0	75.0
Rural	23.5	53.0	25.0
Ownership (percent)			
Proprietary	79.1	–	37.5
Not-for-profit	18.8	–	50.0
Government	2.1	100.0	12.5

RESIDENTIAL CARE/ASSISTED LIVING FACILITIES

Residential care facilities (RCFs) provide personal care to 17 or more individuals and generally have a limit of 120 days of skilled nursing care per person in a year. In 2017, there were 708 residences containing 56,790 beds and 40,450 units; up from 10,700 beds in 1995 (See Table 4). The increase in the number of residential care facility beds is driven by growth in the number of assisted living facilities. Because Ohio does not have a licensing definition of assisted living, we have applied the criteria that a facility must meet to participate in the Assisted Living Medicaid Waiver Program to systematically identify assisted living facilities. Requirements include such elements as a private bedroom and bathroom, locking door, 24-hour staffing, and the availability of a registered nurse. Based on our statewide survey, we estimate that 616 facilities (87%)

appear to meet the state definition of assisted living. Currently, 376 facilities of the 616 who meet the assisted living waiver definition (61%) participate in the Ohio Assisted Living Waiver Program, with an average daily census of over 5,000 individuals (including those who are now part of MyCare).

Residential care facilities report an average of 80 licensed beds and 57 units per residence. Most of the units, while licensed for two occupants, typically have one resident, making unit occupancy the more important indicator when analyzing the industry supply and use patterns. Four in five (79%) are located in urban areas, and three in ten (28%) are part of a continuing care retirement community. A variety of room configurations operate under the residential care licensure category, ranging from double occupancy with no private bathroom, to two-bedroom units with kitchen and sitting areas. As a result, the average monthly charge varies considerably, ranging from $685 to $8,995 depending on the type of unit. The overall average statewide rate for a private unit was $4,190 per month for a non-memory care unit. Monthly charges in facilities that meet the assisted living definition were slightly higher than those who do not ($4,198 vs. $4,137).

Table 4. Ohio's Residential Care Facility Characteristics, 2017

	All RCFs	RCF Only	Assisted Living*
Number of Facilities	708	92 (13%)	616 (87%)
Total licensed RCF beds	56,790	4,952	51,838
Total number of units	40,450	3,851	36,599
Average number of beds	80	53	84
Average number of units	57	41	59
Average Monthly Rate (Private Non-Memory)	$4,190	$4,137	$4,198
Location (percent)			
Urban	79.2	76.9	80.0
Rural	20.8	23.1	20.0
Ownership (percent)			
Proprietary	72.9	76.2	72.3
Not-for-profit	27.1	23.5	27.6

* Defined as meeting the criteria required to participate in Ohio's Assisted Living Waiver Program.
Source: Biennial Survey of Residential Care Facilities, 2017.

TRENDS IN LONG-TERM SERVICES USE IN OHIO

In this section we present data tracking long-term service use in Ohio from 1992 to 2017. Because long-term services are provided in a range of settings through a wide variety of funders, our examination of service use relies on a number of different sources. Information describing the nursing home and residential care industries comes from the Biennial Survey of Long-Term Care Facilities conducted by Scripps. The most recent data were collected in 2018, covering calendar year 2017. Response rates were high, with 91% of skilled nursing facilities and 88% of residential care facilities completing the on-line survey. The survey includes basic information about facilities and residents, such as actual beds in service, number of admissions, and rate structure. It also includes information from administrators such as industry challenges and special modules that focus on industry issues such as memory care units and employee retention. We supplement the nursing home survey data with the Medicaid Cost Report, which is completed by each Medicaid-certified facility and compiled and provided to us by ODM.[16] A federal nursing home tracking system-Certification and Survey Provider Enhanced Reports (CASPER) — compiled by the Centers for Medicare and Medicaid Services (CMS) also provides nursing home industry-level data.[17] To track characteristics of nursing facility residents the study relies on the Nursing Home Minimum Data Set (MDS 2.0) and (MDS 3.0) completed by facilities upon resident admission and at least quarterly during a resident's stay.[18], [19] Resident characteristics come from the second quarter of 2018 (April through June). Data on PASSPORT and assisted living participants come from the PASSPORT Information Management System (PIMS) operated by ODA and cover fiscal year 2018. [20]

NURSING FACILITY USE

The changes experienced in the nursing home industry over the last two decades are considerable. The supply of beds available has remained relatively stable, going from 91,530 in 1992, to 90,460 in 2017, but all other aspects of the industry are drastically different (See Table 5). For example, in 1992, Ohio nursing homes recorded 71,000 admissions, and that number peaked in 2013 at 219,000 (200% increase). In 2017, 207,000 admissions; were recorded. This small decline in overall admissions between 2013 and 2017 appears to be largely driven by changes in private pay admissions as more and more home- and community-based options become available. Even more dramatic over the last 25 years is the growth in short-term admissions through the Medicare program for individuals leaving the hospital for a skilled nursing rehabilitation stay. In 1992, 30,000 of those entering a nursing home were Medicare admissions; by 1999 that number had grown to 79,000, and in 2017 that number was more than 147,000 (390% increase). Driven by the Medicare prospective payment shift, which

incentivized hospitals to reduce the average length of stay for individuals, the way in which nursing homes are used is now very different.

Occupancy rates for Ohio nursing homes dropped from 92% in 1992 to 81% in 2017; representing the lowest recorded state occupancy rates since we began tracking these in 1992. What makes this drop in rates even more significant is that Ohio had 1,000 fewer beds in service during the last two-year time period. The average daily overall census was actually down from 77,973 to 73,314 (See Figure 1). This reduction was driven by a 20% drop in the private pay average daily census.

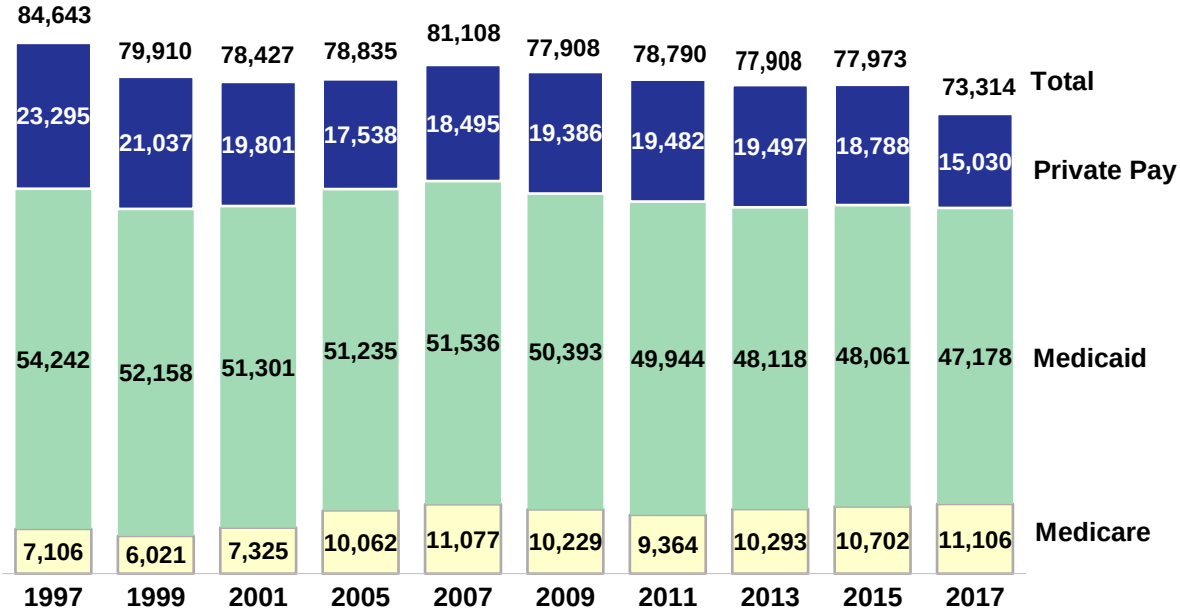
Ohio's nursing home daily census showed 7,000 fewer individuals supported by Medicaid in 2017 than in 1997. This has occurred despite the fact that during this time period Ohio's 85 and older population, a group most likely to need long-term services, increased by more than 100,000 individuals.

Table 5. Ohio Nursing Facility Admissions, Discharges, and Occupancy Rates, 1992-2017									
	1992	**1999**	**2001**	**2005**	**2009**	**2011**	**2013**	**2015**	**2017**
Adjusted Nursing Facility Beds[i]									
Total beds	91,531	95,701	94,231	91,274	93,209	94,710	92,787	91,503	90,464
Medicaid certified	80,211	93,077	87,634	87,090	90,876	90,724	89,063	88,479	88,016
Medicare certified	37,389	47,534	62,088	86,701	91,928	91,650	90,730	89,555	89,307
Number of Admissions									
Total	70,879	149,838	149,905	190,150	197,233	207,148	218,992	211,338	206,636
Medicaid resident	17,968	28,150	24,442	34,432	27,040	31,212	36,859	35,182	35,647
Medicare resident	30,359	78,856	90,693	116,810	109,315	148,426	144,959	146,756	147,194
Occupancy Rate (percent)									
Total	91.9	83.5	83.2	86.4	84.7	83.2	83.9	84.7	81.0
Medicaid resident	67.4	55.4	58.5	58.8	55.4	54.9	54.3	54.3	53.6

[i] Total beds include private, Medicaid, and Medicare certified beds. Because some beds are dually certified for Medicaid and Medicare, the individual categories cannot be summed. The total beds, Medicaid, and Medicare certified beds are based on the Scripps Biennial Survey, the Medicaid Cost Report, and CASPER.

Source: Annual Survey of Long-Term Care Facilities. Ohio Department of Health 1992, Annual and Biennial Survey of Long-Term Care Facilities, Ohio Department of Aging and Scripps Gerontology Center, 1999-2017, Ohio Medicaid Cost Report, 2017, Certification and Survey Provider Enhanced Reporting System, 2017.[21], [22]

Figure 1. Average Daily Nursing Facilities Census, 1997-2017



Source: Biennial Survey of Long-Term Care Facilities, 1997-2017.
Ohio Medicaid Cost Report, 2017, Certification and Survey Provider Enhanced Reporting, 2017.[23], [24]

To get a better understanding of length of stay, we followed two cohorts of nursing home residents admitted for the first time 10 years apart for a three-year time period (See Table 6). The first group was admitted in 2001, and even then, a good proportion of those admitted stayed only a short period of time. For the 2001 cohort, 43% of all of those admitted were still residents after three months. After six months, one-third of all of those admitted remained residents. In our 2001 study, we reported these findings and discussed how the system was changing. Our recent data for the period 2011 to 2014 show even greater change, with 16% of those admitted remaining as residents after three months. After six months, 12% of all admissions remained in the facility. What was once thought of as the *Last Home for the Aged* (a popular gerontology book in the 1970's) is now short-term care provided after a hospitalization for most admissions. While there are many individuals who continue to use nursing homes for extended stays, use patterns have changed significantly over the last two decades.

Table 6. Newly Admitted Nursing Facility Residents and Changes in Their Stay Pattern over a Three-Year Period (2001-2004 and 2011-2014) Percentage Remaining

	Admissions	0-3 Months	At 6 Months	At 9 Months	At 12 Months	At 24 Months	At 36 Months
2001-2004	15,250	43.1	32.5	20.7	16.1	9.0	5.7
2011-2014	23,475	16.3	12.4	11.1	10.4	8.8	8.2

Source: MDS 3.0 (2011-2014) and MDS 2.0 (2001-2004).[25], [26]

These findings indicate that the skilled nursing facility of today has become a mixed-use provider, delivering both acute and long-term services. There are three major implications of this shift. First, it means that many residents will leave the facility after a brief rehabilitation visit to return to the community. Ensuring that the needed planning occurs so that an individual is able to continue recovery at home requires coordination between the nursing home, the in-home services network, and the family. A review of the MDS Section Q item which asks residents at admission about returning to the community, found three in five respondents indicated a desire to return home. It is essential that a good system be established so that a resident who could go home does not become a long-term resident. Such a system necessitates considerable communication between nursing home, hospital, and community; and requiring a new skill set for all parties in the network.

A second prominent challenge resulting from this shift is the focus on the transition from hospital to nursing home. A major concern now being voiced is that Medicare patients transitioning from hospital to nursing home or community have a very high rate of hospital re-admissions—more than 20% nationally. CMS reimbursement changes are beginning to penalize hospitals for high re-admissions and there is now considerable attention being paid to this issue.

The high volume of short-term residents means that regulatory and quality strategies may need to be altered. For example, the measures used to assess quality, whether it be resident satisfaction or clinical outcomes, may need to be modified. The CMS-mandated survey approach may also need to be reconsidered. A one-time annual survey with a four to five person team may no longer be the most efficient strategy to monitor quality in this rapidly shifting system.

Finally, the increase in volume suggests that the nursing home pre-admission assessment process, put into place more than 25 years ago to prevent inappropriate long-stay admissions, needs to be modified to reflect these utilization changes. For example, delaying an assessment for those admitted with certain conditions could be warranted.

NURSING FACILITY RESIDENT CHARACTERISTICS

Understanding who uses Ohio's nursing homes and how much the care costs is important for both individuals and state policy makers. Nursing homes today have a growing proportion of individuals under age 65 (See Table 7). In the final quarter of 2018, 12% of residents were below age 60; almost one in five (19%) were under age 65, and three in ten (29%) were under age 70. The Medicaid population has an even higher proportion of individuals in the younger age groups. More than 16% of Medicaid

residents are under age 60; more than one-quarter (26%) are under age 65, and 37% are under age 70.

Table 7. Demographic Characteristics of Ohio Certified Nursing Facility Residents by Source of Payment, April-June 2018

	All (Percentages)	Medicaid (Percentages)	Medicare (Percentages)
Age			
45 and under	2.1	3.0	0.8
46-59	9.5	13.3	5.3
60-64	7.6	9.9	4.5
65-69	9.7	10.6	12.0
70-74	11.0	10.4	13.9
75-79	12.9	11.8	16.1
80-84	14.4	12.6	16.7
85-89	15.3	12.9	16.0
90-94	12.0	10.3	11.0
95+	5.5	5.2	3.7
Average Age	77.0	74.7	78.3
Gender			
Female	62.8	64.9	59.9
Race			
White	84.5	80.0	89.8
Black	14.3	18.5	9.3
Other	1.2	1.5	0.9
Marital Status			
Never married	19.0	25.6	11.2
Widowed/Divorced/Separated	57.3	59.0	53.7
Married	23.7	15.4	35.1
Resident Population Size*	97,305	57,383	19,718

* Data presented here reflect the characteristics of all residents, and those with Medicare and Medicaid (April-June 2018) as source of payment.

Source: MDS 3.0 April-June 2018.[27]

As shown in Table 8, in 1996, 6.4% of residents were under age 60 compared to today's 12% and the under-65 group has increased from 9% to more than 19% during the same time period. Individuals age 80 and above, the population most often thought of as using nursing homes in the United States, made up about two-thirds of those living in nursing homes in 1996, but accounted for less than half of residents in 2018. The trend appears to have leveled off as there were minimal differences between 2012 and 2018. The shift in resident ages is associated with other changes in resident characteristics. The proportion of female nursing home residents is now 63%, down from almost 74% in 1996. While the majority of residents are not married, the proportion of married residents has increased from 16% in 1996 to 24% in 2018.

These demographic changes are indicative of the shift to short-term use by many nursing home residents. When nursing homes were primarily venues for a long-term

services population, we saw an industry that was 75 to 80% female and widowed. As nursing home use becomes more focused on short-term rehabilitative care associated with Medicare, the profile is becoming more consistent with acute care use patterns for older people. Again, it will be important to make sure the policies, insurance coverage, and support systems shift to acknowledge these changes.

Table 8. Demographic Characteristics of Ohio's Certified Nursing Facility Residents over Time, 1996, 2006-2018						
	1996 (Percentages)	**2006 (Percentages)**	**2012 (Percentages)**	**2014 (Percentages)**	**2016 (Percentages)**	**2018 (Percentages)**
Age						
45 and under	2.6	2.7	2.3	2.1	2.1	2.1
46-59	3.8	9.1	10.4	10.4	9.9	9.5
60-64	2.6	4.5	6.4	6.5	7.1	7.6
65-69	4.4	5.9	7.9	8.3	9.6	9.7
70-74	8.1	8.1	9.5	9.7	9.9	11.0
75-79	13.1	13.2	12.0	12.1	12.3	12.9
80-84	18.7	19.2	16.4	15.3	14.5	14.4
85-89	21.2	19.4	18.2	17.6	16.7	15.3
90+	25.5	17.9	16.9	18.0	17.9	17.5
Average Age	80.7	78.4	77.3	77.5	77.2	77.0
Gender						
Female	73.5	68.5	65.5	65.1	63.8	62.8
Race						
White	88.3	86.3	86.0	85.5	85.3	84.5
Marital Status						
Never married	13.8	15.1	16.1	16.7	17.9	19.0
Widowed/Divorced/ Separated	70.7	63.7	58.7	59.9	57.9	57.3
Married	15.5	21.2	25.2	23.4	24.2	23.7
Population	80,417♦	92,297♦	107,737*	101,279*	100,881*	97,305*

♦ Residents present at the end of the quarter specified below.

* Data presented here reflect the characteristics of all residents that spent some time in a nursing facility during the quarter specified below.

Source: MDS Plus April-June 1996. MDS 2.0 April-June 2006, 2010. MDS 3.0 April-June 2012-2018.

In addition to examining demographic characteristics, we also review the disability patterns for nursing home residents. The primary approach used to measure disability rates for residents is an assessment of functional ability based on a measure of activities of daily living (ADLs). These ADLs include such tasks as the ability of the resident to bathe, dress, and transfer from bed to chair. In general, to be eligible to receive nursing home care as reimbursed by Medicaid, an individual needs to have limitations requiring hands-on assistance in at least two ADL or cognitive impairment such that they are unable to make day-to-day decisions. This is referred to as “meeting nursing home level of care.” On average, today’s nursing home residents are quite impaired, averaging between four and five ADL impairments (See Table 9). Twelve percent of residents however, record zero or one ADL limitation and for Medicaid residents the proportion is almost 15%. While an increase in the proportion with cognitive difficulty could explain how individuals with limited functional disability are residing in nursing homes, it is important to better understand this finding.

In Table 10 we examine the level of disability over the past two decades. Overall, the average level of impairment has been consistent. We have seen an increase in the very disabled population, with individuals with four or more impairments going from 76% to 81% over the time period. We have also seen an increase in resident incontinence; going from 61% to more than 73%.

Table 9. Functional Characteristics of Ohio Certified Nursing Facility Residents by Source of Payment, April-June 2018			
	All (Percentages)	**Medicaid (Percentages)**	**Medicare (Percentages)**
Needs Assistance in Activities of Daily Living (ADL)[i]			
Bathing	86.6	86.0	83.2
Dressing	84.4	80.7	86.1
Mobility	84.0	79.1	89.9
Toileting	83.5	79.3	86.8
Eating	22.7	24.8	15.7
Grooming	81.0	78.8	78.6
Number of ADL Impairments[ii]			
0	6.5	8.2	4.5
1	5.5	6.6	4.3
2	3.5	4.0	3.8
3	4.3	4.2	5.1
4 or more	80.2	77.0	82.3
Average Number of ADL Impairments	4.4	4.3	4.4
Incontinence[iii]	73.2	75.4	61.2
Cognitive Impairment[vi]	39.6	46.6	19.1
Resident Population Size*	97,305	57,383	19,718

* Data presented here reflect the characteristics of all residents, and those with Medicare and Medicaid (April-June 2018).

[i] "Needs assistance" includes limited assistance, extensive assistance, total dependence, activity occurred only once or twice, and activity did not occur.

[ii] From list above.

[iii] "Occasionally, frequently, or multiple daily episodes."

[vi] "Moderately" or "severely" impaired.

Source: MDS 3.0 April-June 2018.[28]

Table 10. Functional Characteristics of Ohio's Certified Nursing Facility Residents over Time, 1996, 2006-2018						
	1996 (Percentages)	**2006 (Percentages)**	**2012 (Percentages)**	**2014 (Percentages)**	**2016 (Percentages)**	**2018 (Percentage)**
Needs Assistance in Activities of Daily Living[i]						
Bathing	94.3	86.9	86.2	87.2	86.8	86.6
Dressing	84.5	85.9	86.7	87.1	85.5	84.4
Mobility/Transfer♠	69.9	80.6	85.8	85.1	84.7	84.0
Toileting	76.6	81.8	85.4	84.9	84.2	83.5
Eating	38.7	29.5	26.8	26.8	24.3	22.7
Grooming	83.9	84.0	82.6	84.0	82.0	81.0
Number of ADL Impairments[ii]						
0	4.7	6.9	5.7	5.6	6.1	6.2
1	6.9	4.9	4.0	4.0	4.7	5.2
2	4.7	3.7	3.6	3.2	3.3	3.5
3	7.3	4.7	4.1	4.0	4.1	4.2
4 and More	76.4	79.8	82.6	83.2	81.8	80.9
Average Number of ADL Impairments	4.5	4.5	4.5	4.6	4.5	4.4
Incontinence[iii]	60.7	55.8	64.1	68.3	70.7	73.2
Population*	80,417♦	92,297♦	107,737*	101,279*	100,881*	97,305*

♦ Residents present at the end of the quarter specified above.

* Data presented here reflect the characteristics of all residents that spent some time in a nursing facility during the quarter specified below.

♠ In 1996 the ADL transferring, one of the components of mobility is reported.

[i] "Needs assistance" includes limited assistance, extensive assistance, total dependence, and activity did not occur.

[ii] From list above.

[iii] "Occasionally, frequently, or multiple daily episodes."

Source: MDS Plus April-June 1996. MDS 2.0 April-June 2006, 2010. MDS 3.0 April-June 2012-2018.

Because of a continuing increase in Medicaid residents under age 60, we examine this group in comparison to the age 60 and older Medicaid resident population. It should be noted that the majority of the under-60 group (82%) are between the ages of 45 and 59. However, the demographic profile of the under-60 group looks markedly different than the over-60 group of residents (See Table 11). For example, fewer than half of the younger group (47.5%) is female, compared to 68% of the over-60 group. One-quarter of the under-60 group is black compared to 17% for the older group. Finally, six in ten of the under-60 group (61%) have never been married, compared to one in five (19.5%) for the older group.

Table 11. Demographic Characteristics of Medicaid Residents in Ohio's Certified Nursing Facilities by Age Group, April-June 2018		
	Under 60 Years (Percentages)	**60 Years and Older (Percentages)**
Age		
Less than 45	18.4	–
45-59	81.6	–
60-64	–	11.9
65-69	–	12.6
70-74	–	12.5
75-79	–	14.1
80-84	–	15.1
85-89	–	15.4
90-94	–	12.3
95+	–	6.1
Average Age	51.4	79.2
Gender		
Female	47.5	68.2
Race		
White	72.9	81.4
Black	25.4	17.2
Other	1.7	1.4
Marital Status		
Never married	61.4	19.5
Widowed/Divorced/ Separated	25.8	64.5
Married	12.8	16.0
Total Residents*	9,342	48,041
Percent of Residents	16.2	83.8

* The data present the characteristics of the Medicaid residents that spent some time in a nursing facility between April and June 2018.

Source: MDS 3.0 April-June 2018.[29]

The disability rates for the residents under age 60 are also quite different, averaging almost one fewer ADL impairment than the older group (See Table 12). More importantly, 27% of the under-60 group record zero or one ADL impairment, compared to 12.5% for the over-60 group. Many residents in the under-60 group are very impaired, with six in ten individuals having four or more ADL limitations, compared to 80% for the over-60 group, but the high proportion of low-impaired younger residents warrants continued study.

Table 12. Functional Characteristics of Medicaid Residents in Ohio's Certified Nursing Facilities by Age Group, April-June 2018		
	Under 60 Years (Percentages)	**60 Years and Older (Percentages)**
Needs Assistance in Activities of Daily Living (ADL)[i]		
Bathing	73.1	88.4
Dressing	67.0	83.4
Mobility	66.5	81.6
Toileting	65.9	81.9
Eating	21.7	25.4
Grooming	64.8	81.6
Number of ADL Impairments[ii]		
0	18.0	6.3
1	8.9	6.2
2	5.6	3.7
3	5.5	4.0
4 or more	62.0	79.8
Average Number of ADL Impairments	3.6	4.4
Incontinence[iii]	56.8	78.6
Cognitive Impairment[vi]	20.7	51.7
Residents* **(number)**	9,342	48,041

* The data present the characteristics of all residents that spent some time in a nursing facility between April and June 2018 by age.

[i] "Needs assistance" includes limited assistance, extensive assistance, total dependence, and activity did not occur.

[ii] From list above.

[iii] "Occasionally, frequently, or multiple daily episodes."

[vi] "Moderately" or "severely" impaired.

Source: MDS 3.0 April-June 2018.[30]

NURSING FACILITY COSTS

In this section we present information about the costs of nursing home care in Ohio. As shown in Table 13, there is an array of payment sources for nursing home care. Medicaid is the largest source of funding and the average daily reimbursement rate in 2017 was $193, an increase from $178 in 2015. Medicare reimbursement varies depending on whether the resident is in the fee-for-service (FFS) system or in a Medicare Advantage managed care plan. In 2017, the average FFS Medicare rate was $460 and the Medicare managed care rate was $382. The Medicare rate includes the cost of medications and therapies, neither of which are included in the Medicaid or private pay rate. The average single occupancy private pay rate was $270 and the shared room rate was $237. The private insurance rate of $338 per day includes both

health insurance rehabilitation coverage and private long-term care insurance. Finally, the Veterans daily rate was reported to be $307 per day.

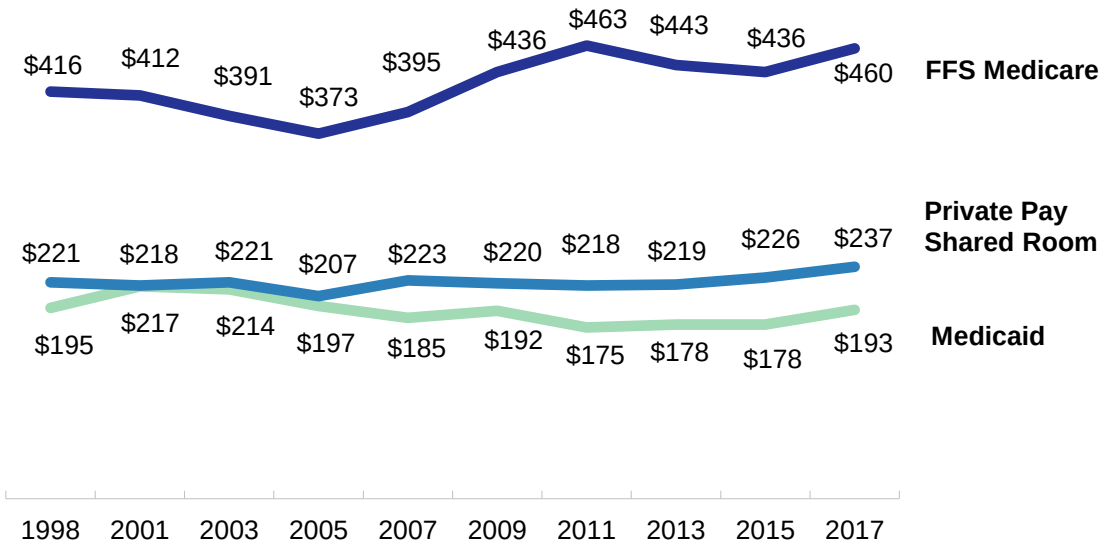
Table 13. Ohio's Nursing Facility Daily Rates, 2017

	All Nursing Facilities	County Homes	Hospital-Based Long-Term Care Unit
Number of Facilities	968	16	17
Average Daily Charge (dollars)			
Medicaid	193	181	196
Fee-for-Service Medicare	460	449	441
Medicare Advantage	382	411	444
Private pay (private room)	270	226	343
Private pay (shared room)	237	200	326
Private insurance	338	343	661
Veterans	307	351	373

Source: Biennial Survey of Long-Term Care Facilities, 2017.

In Figure 2 we present the nursing home reimbursement rates and private pay changes for the time period 1998 to 2017. All of the yearly rates are presented in 2017 dollars to adjust for inflation. Results show that over this time period nursing home reimbursement rate changes have varied depending on funding source. The private pay shared room charge recorded a relatively small increase going from $221 per day in 1998 (in 2017 dollars) to $237 in 2017. The FFS Medicare rate has shown a moderate increase above inflation, going from $416 in 1998 to $436 in 2015 to $460 in 2017. We have only tracked the Medicare Advantage rate since 2013, when it was $371 per day, compared to $382 in 2017. The Medicaid program has actually seen a reduction in reimbursement rate when holding inflation constant. In 1998, the daily rate was $195 (2017 dollars); in 2001 the adjusted rate was $217, and the 2017 Medicaid daily rate was $193, although this did represent an increase from 2013 when the rate was $178. Ohio's Medicaid reimbursement rate relative to other states has changed. In 2003, Ohio's rate was the sixth highest in the nation and in 2009, the last year of published national data, the Ohio rate had a ranking of 21.

Figure 2. Average Nursing Facility per Diem by Source of Payment in 2017 Dollars, 1998-2017



Source: Annual and Biennial Survey of Long-Term Care Facilities, Ohio Department of Aging and Scripps Gerontology Center, 1998-2017. For inflation adjustment used CPI from Bureau of Labor Statistics 'CPI Inflation Calculator.'[31]

RESIDENTIAL CARE FACILITY USE

The growth in licensed RCFs has been dramatic. From 1995 to 2017, the number of facilities increased from 265 to 708, and the number of beds increased by more than 400% from 10,700 in 1995, to 56,790 in 2017. Much of the growth has occurred as a result of the development of the assisted living industry. As noted earlier, we estimate that 616 facilities (87%) meet the Medicaid waiver definition of an assisted living residence. As of May 2019, 376 of these facilities were participating in the Assisted Living Medicaid Waiver Program. A review of RCF use patterns finds an overall unit occupancy rate of 85%; down from the 89% rate in 2015 (See Table 14.) Because units are licensed for two, but typically house one person, we focus on unit occupancy rather than bed occupancy. Occupancy rates, while bolstered by the Assisted Living Waiver Program, which by 2017 had grown to over 5,000 residents per day, appear to be impacted by a 12.5% increase (4,471 units) in the number of units in the last two years and a 22% increase (7,300 units) from 2013-2017. The average length of stay for all RCF residents has dropped from 2.4 years to 2.15 years, contributing to the drop in occupancy rates.

Table 14. Occupancy and Length of Stay in Ohio's Residential Care Facilities, 2013-2017

	Overall (Percentages)			RCF Only (Percentages)			Assisted Living (Percentages)		
	2013	**2015**	**2017**	**2013**	**2015**	**2017**	**2013**	**2015**	**2017**
Number of Facilities	606	655	708	105	73	92	501	582	616
Number of Units	33,182	35,979	40,450	3,843	3,312	3,851	29,339	32,667	36,599
Unit Occupancy	87.8	88.9	85.3	84.2	85.3	80.2	88.5	89.3	86.0
Bed Occupancy	67.3	70.6	68.2	70.8	72.1	68.2	66.5	70.4	68.0
Average Length of Stay (days)	867	823	795	877	872	851	865	821	786

Source: Biennial Survey of Residential Care Facilities, 2013-2017.
Ohio Nursing Home Resident Satisfaction Data (Vital Research), 2017.[32]

Information on the characteristics of individuals who use RCFs is presented in Table 15. Unlike our nursing home data, which are based on individual records, these findings represent summary estimates provided by the facilities. To generate these numbers, facilities were asked to report on the number of their residents with a functional impairment in areas such as bathing, dressing, and cognitive functioning. The proportion of residents in each facility was calculated and then averaged across all facilities statewide. These findings indicate that RCF residents had an average age of 85, higher than individuals in the home care waiver or nursing home residents. More than four in ten residents had two or more ADL limitations. Reflecting changes in the industry, 27% had a cognitive impairment, an increase from 12% 10 years earlier.

Table 15. Functional Characteristics of Ohio's Residential Care Facilities Residents, 2015, 2017						
	Overall (Percentages)*		RCF Only (Percentages)*		Assisted Living (Percentages)*	
	2015	2017	2015	2017	2015	2017
Number of Facilities	655	708	73	92	582	616
Average Age	85.0	85.1	83.0	83.4	85.0	85.3
Needs Assistance in Activities of Daily Living (ADL)						
Bathing	70.0	64.7	71.8	67.0	69.8	64.3
Dressing	54.8	48.7	58.3	53.3	54.4	47.9
Transferring	27.1	28.6	28.5	32.4	27.0	28.0
Toileting	36.7	36.9	40.0	41.4	36.3	36.2
Eating	8.3	8.6	7.4	14.6	8.4	7.7
Medication	80.4	78.0	79.3	74.6	80.6	79.6
Walking	24.9	26.9	26.3	32.3	24.7	26.1
With two or more activities	41.1	40.2	40.1	47.8	41.2	39.1
Behavior Problems	7.8	8.9	12.1	16.5	7.3	7.7
Cognitive Impairment	29.2	27.3	30.6	37.8	29.1	25.7

* Percentages are provided by facilities. The numbers are averaged for all facilities that provided a response to each question.

Source: Biennial Survey of Residential Care Facilities, 2017.

More detailed data are available for participants in the Assisted Living Medicaid Program (See Table 16). Because part of the state is now under the MyCare demonstration, our 2016 and 2018 waiver data include only the non-MyCare counties. Despite this limitation, the profile of waiver participants has been relatively constant over the course of the program. The average age (around 80) and gender balance (between 75-80% female) has remained quite stable since 2008. Waiver participants continue to average between two and three ADLs (2.5). Assisted living waiver residents report high levels of instrumental activity impairments. In part because our 2016 and 2018 sample excludes Ohio's major urban centers, the demographic profile looks different. For example, the non-MyCare participants are less likely to be non-white. There has been an increase in participants needing 24-hour supervision between 2008 (11.5%) and 2018 (19.9%) but the 2018 percentage is actually down from 2012 (20.3%).

Table 16. Demographic and Functional Characteristics of Enrollees in the Assisted Living Waiver Program, FY 2008-2018						
Characteristics	**2008**	**2010**	**2012**	**2014**	**2016**	**2018**
Age						
≤45	1.2	0.8	0.8	0.9	1.4	1.2
46-59	7.4	6.5	6.4	7.4	7.9	4.6
60-64	5.7	5.1	6.1	6.7	7.2	5.5
65-69	5.3	5.4	6.5	7.8	7.7	8.0
70-74	8.2	7.7	7.6	8.9	8.1	8.8
75-79	12.1	11.4	11.4	11.7	11.6	12.2
80-84	17.7	17.0	16.4	15.6	15.2	16.0
85-89	23.0	22.4	20.5	20.1	20.7	18.3
90-94	12.5	16.3	16.8	13.3	16.1	15.7
95+	6.9	7.4	7.5	7.6	4.1	9.7
Average Age	**79.5**	**80.6**	**81.7**	**79.4**	**79.0**	**80.1**
Gender						
Female	79.1	80.1	80.4	78.4	78.5	75.9
Male	20.9	19.9	19.6	21.6	21.5	24.1
Race						
White	88.0	88.6	89.1	84.2	88.3	95.0
Black	9.8	9.0	9.6	12.1	8.9	2.3
Other	2.2	2.4	1.3	3.7	3.8	2.7
Marital Status						
Non-married	93.1	92.4	91.9	90.8	91.4	89.9
Married	6.9	7.6	8.1	9.1	8.6	10.1
ADL Impairment						
Bathing	91.8	87.5	88.8	88.0	86.4	89.3
Dressing	48.5	49.8	51.6	50.3	49.6	54.3
Mobility	72.4	72.6	73.3	74.6	75.0	56.9
Toileting	25.2	20.2	23.2	21.9	19.7	21.7
Eating	3.9	4.9	4.6	4.0	2.7	3.0
Grooming	22.7	20.6	20.8	18.7	17.8	16.6
Average Number of ADL Impairments	**2.6**	**2.6**	**2.6**	**2.6**	**2.5**	**2.5**
IADL Impairment						
Community access	96.4	96.0	97.9	97.7	97.6	96.5
Environmental management	99.7	98.2	99.8	99.9	99.9	100.0
Shopping	97.9	97.4	97.1	97.2	97.5	95.4
Meal preparation	98.3	97.1	98.1	97.5	98.6	97.7
Laundry	94.3	95.3	98.1	95.2	94.9	93.7
Medication administration	83.2	80.8	95.7	88.1	87.8	84.9
Needs Supervision						
24-hour	11.5	13.9	20.3	18.1	17.6	19.9
Partial time	27.8	23.4	27.3	26.2	26.1	16.2
Consumers Served	**413**	**1,943**	**4,102**	**5,788**	**3,416**	**1,240**

***Source*:** PASSPORT Information Management System (PIMS), 2008-2018.[33]

Note. The 2018 data include only non-MyCare counties.

PASSPORT USE AND COSTS

Ohio's PASSPORT program began as a two-site demonstration in 1984 designed to expand the HCBS available to older people with severe disability. By 1992, the program had expanded across the state, serving 4,215 older Ohioans with severe disability. With continued support from state lawmakers and a growing older population, the program continued to increase. In 2006, there were 26,000 participants each day, and by 2018, 48,000 older people participated daily in one of the HCBS programs funded through Medicaid (PASSPORT, Assisted Living Waiver or MyCare Ohio). The HCBS programs use a care manager to assess participant eligibility and need, develop a plan of services, and monitor the individual's condition, circumstances, and the services received to make sure that participant needs are being met. In 2007, Ohio developed the Assisted Living Waiver Program as an expanded home- and community-based service and in 2014 the state began the MyCare integrated care service delivery demonstration. The MyCare demonstration builds on the HCBS waiver programs by adding an array of acute care services designed to integrate the short-term and long-term services systems. While MyCare participants with severe disability typically enter the program through the PASSPORT and Assisted Living Waiver Program, once enrolled in MyCare these individuals are no longer tracked in the same manner. Data in this section include only HCBS users in non-MyCare counties.

PASSPORT and assisted living care managers work with program participants and family caregivers in developing the service plan. Services supported under the PASSPORT Medicaid waiver include areas such as personal care, adult day care, home-delivered meals, medical transportation, respite care, and medical equipment. As shown in Table 17, about three quarters of PASSPORT program service dollars are allocated to personal care and an additional 5% to homemaker services. This is typical for home- and community-based waiver programs, because individuals must have severe functional impairments meeting the nursing home level of care criteria to qualify. Individuals with severe disability rely on support for the tasks of daily living such as bathing, dressing and meal preparation. About 11% of funds are allocated to home-delivered meals, another core component of the home care system. Other expenditure categories are transportation (3.5%), emergency response systems (1.9%), and medical equipment and supplies (1.8%).

Table 17. PASSPORT Expenditures by Type of Service, 2008-2018						
Type of Services	**FY 2008 (Percentages)**	**FY 2010 (Percentages)**	**FY 2012 (Percentages)**	**FY 2014 (Percentages)**	**FY 2016 (Percentages)**	**FY 2018 (Percentages)**
Personal care	75.6	71.3	67.6	69.0	73.6	73.8
Home-delivered meals	11.2	14.8	15.8	12.0	10.9	11.3
Adult day services	3.5	2.6	2.5	3.7	2.3	1.0
Transportation	3.8	3.5	4.4	4.4	4.3	3.5
Home medical equipment and supplies	2.0	2.4	2.8	2.3	2.2	1.8
Homemaker services	1.0	1.3	2.5	5.6	5.0	4.8
Emergency response	1.9	3.4	3.3	1.8	1.9	1.9
Home modification	0.7	0.6	0.8	0.9	0.9	1.0
Other	0.3	0.1	0.3	0.3	0.6	0.9

Source: PASSPORT Information Management System (PIMS), 2008-2018.[34]

Note. The 2018 data are limited to non-MyCare counties.

The PASSPORT program continues to serve a higher proportion of women (74%) and a high proportion of individuals who are not married (79%). However, the profile of participants has changed in some important ways over the last two decades (See Table 18). Today the program serves many more individuals under age 70 (36%) than in 2006 (27%), with the average age dropping by three years since 1996. The proportion of participants reporting to be never married has increased from 6% in 1996 to 11% today. Even the gender profile has shifted slightly, going from 77% women to 74% over the two decades. Perhaps reflecting the younger age of the group, today a higher proportion of PASSPORT participants live in their own home or apartment rather than with family (87% vs. 77%) compared to 1996.

The disability profile of PASSPORT participants has remained relatively constant; with participants reporting on average three ADL impairments (See Table 19). More than half of PASSPORT participants have three or more ADL impairments. There has been some shifting within the specific ADL items, but we believe this to be the result of changes in assessment guidelines rather than actual shifts in disability rates. More than nine in ten (94%) report four or more instrumental activity limitations in such areas as shopping and meal preparation. One in five participants has a need for supervision.

Table 18. Demographic Characteristics of PASSPORT Consumers, FY 1996, 2006-2018						
PERCENT	**FY 1996**	**FY 2006**	**FY 2012**	**FY 2014**	**FY 2016**	**FY 2018**
Age						
60-64	10.5	10.7	12.2	12.2	18.0	14.6
65-69	13.1	16.0	18.2	19.2	21.5	21.0
70-74	17.7	17.4	18.2	19.2	18.3	19.9
75-79	18.8	18.5	17.0	17.4	15.7	17.4
80-84	17.4	18.2	15.5	14.5	12.6	12.5
85-89	13.8	11.5	11.6	11.0	9.0	8.7
90-94	6.5	5.8	5.4	4.8	4.2	4.7
95+	2.2	1.9	1.9	1.7	0.7	1.2
Average Age	76.8	76.7	75.6	75.3	73.6	74.1
Gender						
Female	77.0	78.7	75.9	75.4	73.8	73.9
Race						
White	72.8	74.1	70.4	65.9	71.6	89.6
Black	25.9	23.8	25.6	26.7	19.1	4.6
Other	1.3	2.1	4.0	7.2	9.3	5.8
Marital Status						
Never married	5.8	6.6	10.2	11.6	13.8	10.5
Widowed	56.7	49.4	41.0	37.6	33.8	34.2
Divorced/Separated	17.2	24.2	29.2	29.7	31.1	35.0
Married	20.3	19.8	19.5	19.8	21.3	20.3
Usual Living Arrangement						
Own home/ apartment	76.7	79.5	83.9	84.3	84.4	87.2
Relative or friend	21.5	17.9	15.3	14.8	15.2	12.1
Congregate housing for elderly/RCF	0.6	0.2	0.2	0.2	0.1	0.1
Nursing facility	0.9	1.3	0.3	0.7	0.2	0.2
Other	0.1	1.1	0.3	0.1	0.1	0.4
Number of Consumers Served	3,883	28,565	34,173	42,868	22,128	10,788

Source: PASSPORT Information Management System (PIMS).[35]

Note. The 2018 data are limited to non-MyCare counties.

Table 19. Functional Characteristics of PASSPORT Consumers, FY 1996, 2006-2016						
	FY 1996 (Percentages)[a]	**FY 2006 (Percentages)[a]**	**FY 2012 (Percentages)[a]**	**FY 2014 (Percentages)[a]**	**FY 2016 (Percentages)[a]**	**FY 2018 (Percentages)[a]**
Percentages with Impairment/Needing Hands-On Assistance in Activities of Daily Living (ADL)[b]						
Bathing	96.1	96.0	95.6	94.7	95.8	96.0
Dressing	64.1	60.1	62.8	62.6	66.5	67.5
Mobility[c]	57.8	75.6	83.9	83.6	77.1	67.8
Toileting	30.1	21.1	21.8	21.3	21.3	17.3
Eating	8.0	10.9	5.5	4.3	4.2	2.9
Grooming	59.0	32.9	29.1	26.5	29.4	32.6
Number of ADL impairments*						
0	1.5	0.8	1.1	1.4	0.7	0.5
1	3.7	3.5	3.4	4.1	4.2	4.2
2	29.3	34.6	34.2	34.8	35.1	39.0
3	32.0	33.6	33.9	33.4	34.0	34.3
4 or more	33.5	27.5	27.4	26.2	26.0	22.1
Average Number of ADL Impairments	3.2	3.0	3.0	2.9	2.9	2.8
Percentage with Impairment in Instrumental Activities of Daily Living (IADL)						
Community access[e]	91.8	84.8	85.9	83.4	80.5	76.2
Environment management[f]	99.9	95.2	99.8	99.9	99.7	99.6
Shopping	97.5	97.4	96.6	96.2	96.3	95.8
Meal preparation	85.3	88.5	88.3	87.9	90.0	89.9
Laundry	95.6	95.7	96.0	95.6	95.7	94.8
Medication Administration	49.6	41.4	42.1	41.3	41.0	37.4
Number of IADL Impairments**						
0	0.0	3.9	0.1	.04	0.0	0.0
1	0.0	1.0	0.2	0.3	0.2	0.2
2	0.4	0.5	0.8	0.8	0.7	0.8
3	4.4	3.8	4.5	5.0	4.9	5.8
4 or more	95.2	90.8	94.5	94.7	94.3	93.2
Average Number of IADL Impairments**	5.2	4.9	5.1	5.1	5.0	5.0
Supervision Needed[g]						
24-hour	–	9.5	9.6	9.1	8.0	5.7
Partial time	–	9.1	11.2	11.9	13.3	13.5
Number of Consumers Served	3,883	28,565	34,173	42,868	22,128	10,788

[a] Percentages are adjusted to reflect only those consumers for whom information was available on each variable.

[c] Impairment includes all who could not perform the activity by themselves or could with mechanical aid only.

[d] Needs hands-on assistance with at least one of the following three activities: *bed mobility*, *transfer* or *"locomotion."*

[e] Needing hands-on assistance with using a *telephone*, using *transportation*, or handling *legal or financial matters* constitutes impairment in community access.

[f] Needing hands on assistance with *house cleaning*, *yard work*, or *heavy chores* constitutes impairment in environmental management.

[g] Between June 2001 and September 2004 the Ohio Department of Aging gradually changed to a new PASSPORT information management system designed to keep track of PASSPORT consumers' characteristics and service utilization. Not all the information presented in this report was electronically available prior to this change, therefore some analysis is limited to the PASSPORT sites that changed to the new system prior to July, 2003.

Source: PASSPORT Information Management System (PIMS)[36]

Note. The 2018 data are limited to non-MyCare counties.

PASSPORT AND ASSISTED LIVING WAIVER PROGRAM

DISENROLLMENT

Given the frailty of the program participants, it is not surprising that the two major reasons for disenrollment from PASSPORT and the Assisted Living (AL) Waiver Program were that the participant died or was admitted to a skilled nursing home for more than 30 days (See Table 20). Because the 2018 sample includes only non-MyCare counties it is difficult to assess trends. In 2018 half of the PASSPORT terminations and 41% of the AL Waiver terminations were as a result of death. Three in ten PASSPORT participants (28%) and almost half of the AL Waiver residents were admitted for long-stay nursing home care. As noted in our last report, the higher AL Waiver termination rate to nursing home is unexpected based on the 24-hour support available in the assisted living setting. However, we have heard repeated concerns from AL Waiver providers and care managers that the reimbursement waiver rate, which has not been increased since 2007, creates an incentive for providers to transfer high-need residents to nursing homes.

Table 20. Disenrollment Reasons for PASSPORT and Assisted Living (AL) Waiver Program Participants

Reasons (percent)	2016 PASSPORT	2016 AL Waiver	2018 PASSPORT	2018 AL Waiver
Died	36.7	27.5	50.2	41.2
Admitted to nursing facility for 30+ days	28.3	51.8	27.8	46.2
Admitted to Hospice Care	0.1	0.0	0.0	0.2
Admitted to hospital for 30+ days	0.7	0.3	0.7	1.3
Did not meet financial eligibility	5.2	5.0	NA	NA
Could not agree on a plan of care	1.4	1.5	NA	NA
Did not meet level of care	0.6	NA	NA	NA
No longer resides in Ohio	5.3	0.8	4.0	1.1
Other (including transfer to other waivers)	12.8	8.8	7.9	7.1
Voluntarily withdrew from program	8.9	4.3	9.3	2.9

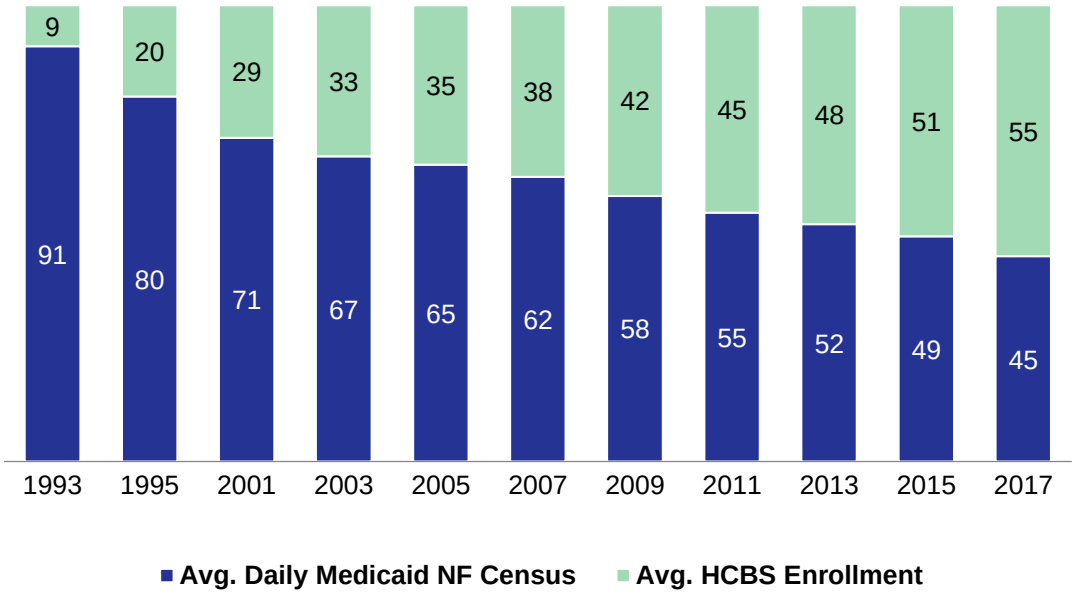
Note. The 2018 data are limited to non-MyCare counties.

LONG-TERM SERVICES AND SUPPORTS (LTSS) SYSTEM CHANGES

SYSTEM BALANCE

In 1993, the initial year of this study, critics consistently identified Ohio as a state with an LTSS system that emphasized the nursing home care option over HCBS. In fact, a report on system balance in the U.S. using on data from 1997 ranked Ohio as the 47th least balanced state in the nation.[37] Over the years, our reports have described a substantial expansion of home- and community-based waiver services and a reduction in nursing home use by older people. In combination, these changes mean that Ohio has dramatically changed its long-term services profile and now ranks 20th in percentage of Medicaid funds allocated to HCBS for older adults and people with physical disabilities.[38] As shown in Figure 3, in 1993 more than nine in ten older people receiving long-term services from Medicaid did so in a nursing home setting. By 2017, that ratio had changed so that 55% of older individuals receiving long-term services through Medicaid did so in the community compared to 45% in nursing facilities. Ohio has continued its progress in this area, and data for the 2013 to 2017 time period showed that Ohio's overall HCBS spending increase (36% increase in HCBS expenditures) was the second highest in the nation.[39]

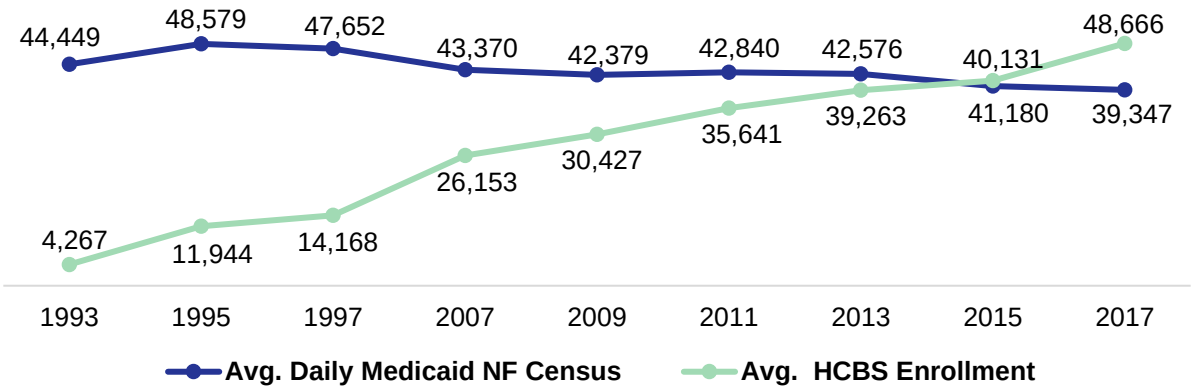
Figure 3. Percent Distribution of Ohio's Long-Term Services and Supports Use by Medicaid Recipients Age 60 and Older, 1997-2017



***Source*:** Unpublished Medicaid Claims data, Ohio Department of Medicaid SFY 2005-2013.
Health Policy Institute of Ohio, '*Ohio Medicaid Basics 2015.*'[40]
PASSPORT Information Management System (PIMS) 1993-2015.[41]
Ohio Department of Medicaid, 'Waiver Comparison Charts – Enrollment Figures for May 2017.'[42]
Ohio Department of Medicaid, 'Caseload Report: Actual versus Estimated Medicaid Eligibles.[43]

The strategy that the state used to change its LTSS was one that recognized the rapidly growing older population and the need to provide a better range of home- and community-based options. The hope of policy makers was that the expansion of options would reduce the rate of nursing home use by older people. Ohio continues to accomplish that goal. Figure 4 illustrates the shift in service settings of Ohio's Medicaid long-term services participants age 60 and older. In 1997, the Medicaid long-term services system served just under 62,000 individuals age 60 and older, with 47,650 (77%) of those persons in the nursing home setting. In 2017, reflecting the large increase in the sheer number of older people, the system served 88,000 older individuals, with 39,347 (45%) of those in a nursing home setting. Between 1997 and 2017 the average daily census of older people on Medicaid in Ohio nursing homes has been reduced by 8,300 (17%). Ohio was able to reduce the use of nursing homes while it was experiencing a significant growth in its older population. For example, in 1995, Ohio had 157,200 individuals age 85 and older and by 2015 that number had grown to over 252,000 (60% increase).

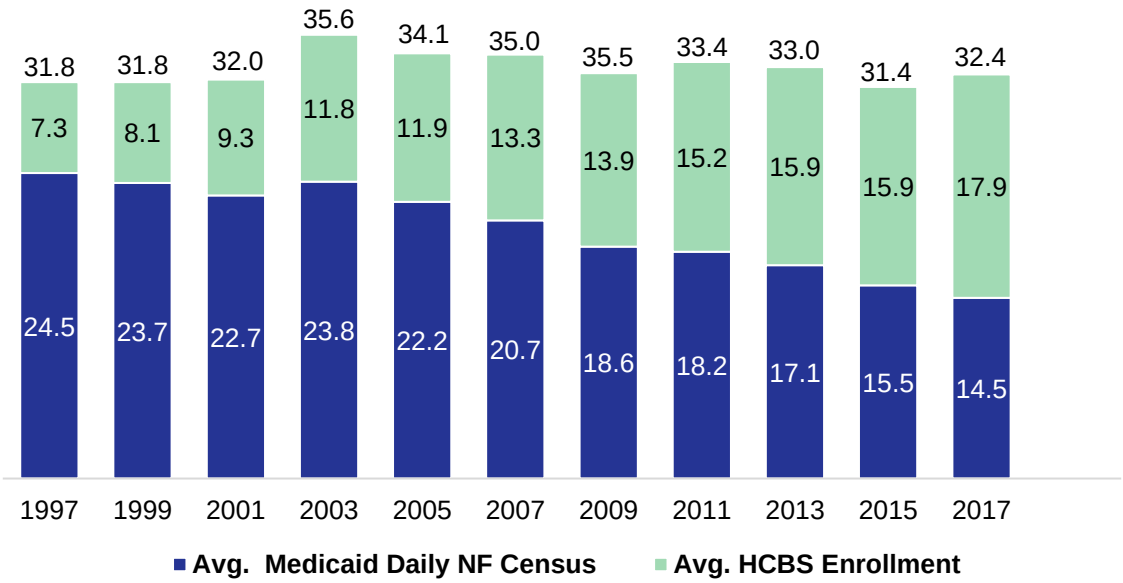
Figure 4. Medicaid Long-Term Services and Supports for Individuals Age 60 and Older, 1997-2017



***Source*:** Unpublished Medicaid Claims data, Ohio Department of Medicaid SFY 2005-2013. Health Policy Institute of Ohio, 2015. '*Ohio Medicaid Basics 2015.*'[44]
PASSPORT Information Management System (PIMS) 1993-2015.[45]
Ohio Department of Medicaid, 'Waiver Comparison Charts – Enrollment Figures for May 2017.'[46]
Ohio Department of Medicaid, 'Caseload Report: Actual versus Estimated Medicaid Eligibles.[47]

While nursing home use among Ohio's Medicaid recipients has declined over the last two and a half decades, one of the questions that policy makers asked at the outset of HCBS expansion was, will the growth of HCBS increase the demand for Medicaid long-term services? In other words, would the number of Medicaid participants increase at a faster rate than the overall aging population? Figure 5 displays the increase in the number of individuals using long-term services in the context of overall population growth. To address this question we examine the utilization rates of long-term services as a rate of the number of Ohioans age 60 and older residing in the state. In 1997, the Medicaid long-term services utilization rate was 31.8 per 1,000 people age 60 and older. In 2017, the rate was 32.4 per 1,000, people nearly equivalent to the number from 20 years earlier. During this time period, utilization rates of nursing homes declined, while the use of HCBS increased. While the overall number of individuals receiving services paid for by Medicaid increased, these data indicate that the state strategy did not increase the utilization rate above the growth expected as a result of an increased aging population.

Figure 5. Number of People Age 60 and Older on Medicaid Residing in Nursing Facility or Enrolled in HCBS (including MyCare) per 1,000 Persons in Population, 1997-2017



Source: Annual and Biennial Survey of Long-Term Care Facilities, 1995-2015. Health Policy Institute of Ohio. 2015' *Ohio Medicaid Basics 2015.*'[48] PASSPORT Information Management System (PIMS) 1993-2015.[49] United States Census Bureau 2013-2017 American Community Survey, 5 Year Summary File. Integrated Public Use Microdata Sample, National Historic Geographic Information Systems (IPUMS NHGIS).[50] Unpublished Medicaid Claims data, Ohio Department of Medicaid SFY 2005-2013.
Ohio Department of Medicaid, 'Waiver Comparison Charts – Enrollment Figures for May 2017.'[51]
Ohio Department of Medicaid, 'Caseload Report: Actual versus Estimated Medicaid Eligibles.[52]

STUDY RECOMMENDATIONS

The progress Ohio has made in its efforts to provide LTSS to a growing population of older people with severe disability continues. In 1993, nine in ten older people with severe disability receiving long-term services through Medicaid did so in an institutional setting. By 2017, more than half (55%) of individuals age 60 and older received services in a community-based setting, in their own home, with family members, or in an assisted living residence. The state has improved its balance by expanding HCBS and reducing the number of older people using nursing home care. Between 1997 and 2017, the average daily census of older nursing home residents supported by Medicaid decreased by 8,300 (17%). In the same time period, the number of Ohioans age 85 and older increased by 100,000.

Despite this progress, challenges remain. By 2030, Ohio's population over age 65 and age 80 will increase by 29% and 24% respectively. Thirty-five percent of the state's Medicaid budget is allocated to long-term services; adding costs to a program that already accounts for more than one-fifth of the state general revenue budget. In response to these challenges we offer the following recommendations:

- Today more than half of all older people in Ohio with severe disability use long-term services funded through the Medicaid program. If the disability rate remains constant between now and 2040, the economic pressures to the state could over-shadow other areas of need. Today, 90% of older people living in the community do not use Medicaid, but two-thirds of nursing home residents rely on the program. Moderate and middle income elders typically do not turn to Medicaid until they require nursing home care or their disability becomes so severe that they need substantial assistance at home or in assisted living. A continued challenge facing the state and the nation overall is how to reduce the proportion of older people that will need Medicaid assistance. Expanding activities to prevent or delay disability will be critical. However, many federal, and even state, funding sources provide almost no support for such initiatives.

  One unique aspect of Ohio's care system that could provide an innovative solution to this challenge is the use of locally funded senior services programs. Today, 74 of Ohio's 88 counties have local property tax levies that deliver an array of in-home and supportive services. Under the current system, counties have an incentive to shift levy program recipients to the Medicaid program wherever possible. Although in some cases this transfer may be appropriate, in other instances it may not be efficient from an overall system cost perspective, or best for the participant, since they would now be subject to Medicaid financial requirements. If an alternative partnership can be developed between the county

programs and the state, incentives could be better aligned, resulting in improved and more cost-effective services.

A second area of promise involves the movement to develop age-friendly communities across the state. Localities that can create environmental and support adaptations that assist older people in remaining in their communities can help individuals and families remain independent for longer, both enhancing life quality and using resources most efficiently. Communities with more supportive services have been shown to have fewer low-care residents in nursing homes.

- The technological changes now being experienced across our society are dramatic. Ohio will need to embrace technology and environmental adaptation to help older people with disability remain independent in the community. We are in the true age of robotics, with substantial potential impacts in the key areas of transportation and personal care. Ohio already has established sectors of high technology; applying this innovation to issues affecting older adults is a potentially vital area of economic and social development that would not only fuel the state economy, but could also assist the state in providing assistance to a growing population. Ohio could become a leading state in support technology for older adults.

- Even with technology, long-term services, regardless of setting, will remain a labor-intensive and personal set of services. Ohio should continue efforts to better train and support the direct care workforce. Our survey of nursing homes found an average retention rate of 60% of state tested nursing assistants; in some facilities those rates are below 20%, meaning that a large number of direct care workers stay less than one year on the job. Ohio's in-home care providers also report workforce challenges. The LTSS worker shortage is one of the most critical challenges now facing long-term service providers. Wages and benefits, staffing patterns, organizational structure, market conditions, and a host of other factors have been shown to impact workforce quality and rates of turnover. However, our data show that even in similar labor markets, variation in retention rates are significant, suggesting that technical assistance, as well as administrative and policy changes, can have a considerable impact in this area.

- The dramatic increase in short-term nursing home stays has major implications for program policies and procedures. For example, in 1993 Ohio implemented an extensive pre-admission screen and resident review requirement for individuals being admitted to Ohio's skilled nursing facilities. At that time there was a

concern that individuals were entering nursing homes inappropriately, without understanding possible HCBS options. In 1993, when pre-admission screening was initially implemented, about 60% of those admitted continued to reside in the facility after three months, compared to 16% twenty years later. Our challenge today is to design a process that is streamlined at the front end, but includes a review mechanism for those individuals who could be long stayers. This could involve a delayed assessment completed after 30 days and/or the development of an algorithm that attempts to identify individuals who could be long-stay residents.

The results of the last two decades demonstrate that state policy decisions can have a large impact on the LTSS delivery system. Over this time period Ohio's ranking went from ranking 47th (with 50 being the least balanced state in the nation) to 27th. The large expansion of HCBS however, did not result in an increased Medicaid utilization rate by older people in the state. Despite this progress, because of the demographic changes occurring in Ohio, the path forward will be even more difficult than the road already travelled. Planning for the growth in our older population is not a luxury, but a necessity for Ohio to ensure a solid future economic and social foundation.

ENDNOTES

[1] Administration for Community Living. (2018). 2017 Profile of older Americans. Retrieved from https://acl.gov/aging-and-disability-in-america/data-and-research/profile-older-americans

[2] Houser, A., Fox-Grage, & Ujvari, K. (2018). *Across the states: Profiles of long-term services and supports* (pp. 1-27). AARP Public Policy Institute.

[3] Congressional Research Service. (2018). Who pays for long-term services and supports? Retrieved from www.crs.gov

[4] Harris-Kojetin, L., Sengupta, M., Park-Lee, E., Valverde, R., Caffrey, C., Rome, V., & Lendon, J. (2016). Long-term care providers and services users in the United States: data from the National Study of Long-Term Care Providers, 2013-2014. *Vital & Health Statistics. Series 3, Analytical and Epidemiological Studies/[US Dept. of Health and Human Services, Public Health Service, National Center for Health Statistics]*, (38), 1–118.

[5] Genworth. (2018). *Compare long-term care costs across the United States [Ohio].* Retrieved June 15, 2017 from https://www.genworth.com/about-us/industry-expertise/cost-of-care.html

[6] Reinhard, S., C., Accius, J., Houser, A., Ujvari, K., Alexis, J., & Fox-Grage, W. (2017). *Picking Up the Pace of Change, 2017: A State Scorecard on Long-Term Services and Supports for Older Adults, People with Physical Disabilities, and Family Caregivers* (pp. 1–67). AARP Public Policy Institute. Retrieved from: http://www.longtermscorecard.org/~/media/Microsite/Files/2017/Web%20Version%20LongTerm%20Services%20and%20Supports%20State%20Scorecard%202017.pdf

[7] Eiken, S., Sredl, K., Burwell, B., & Amos, A. (2018). *Medicaid expenditures for long-term services and supports in FY 2016* (pp. 1-17). IAP Medicaid Innovation Accelerator Program.

[8] Ohio Department of Development Services Agency, Office of Research. (2018). Population Projections: Ohio and Counties by Age and Sex-2015 to 2040. Retrieved from: https://development.ohio.gov/reports/reports_pop_proj_map.htm

[9] Pew Charitable Trust/MacArthur Foundation. (2013). *States' use of cost-benefit analysis: Improving results for taxpayers*. Washington, DC: Pew Charitable Trusts and MacArthur Foundation. Retrieved from:

http://www.pewtrusts.org/~/media/legacy/uploadedfiles/pcs_assets/2013/pewresultsfirst50statereportpdf.pdf

[10] Reinhard, S., C., Feinberg, L., F., Choula, R., & Houser, A. (2015). *Valuing the invaluable: 2015 update* (Insight on the Issues No. 104) (pp. 1–25). AARP Public Policy Institute. Retrieved from: http://www.aarp.org/content/dam/aarp/ppi/2015/valuing-the-invaluable-2015-update-new.pdf

[11] Payne, M., Applebaum, R., & Straker, J. (2012). *Locally funded services for the older population: A description of senior service property tax levies in Ohio*. Oxford, OH: Scripps Gerontology Center, Miami University. Retrieved from: https://sc.lib.miamioh.edu/bitstream/handle/2374.MIA/4470/Locally%20Funded%20Services%20for%20the%20Older%20Population_2012_Revised.pdf?sequence=1

[12] Thomas, K., S., & Mor, V. (2013). The relationship between older Americans Act Title III state expenditures and prevalence of low-care nursing home residents. *Health Services Research*, *48*(3), 1215–1226. https://doi.org/10.1111/1475-6773.12015

[13] United States Census Bereau. (2013-2017). American Community Survey, 5 Year Summary File. Integrated Public Use Microdata Sample, National Historic Geographic Information Systems (IPUMS NHGIS).

[14] Mehdizadeh, S., Kunkel, S., and Nelson, I. (2014). *Projections of Ohio's Population with Disability by County, 2010-2030.* Scripps Gerontology Center, Miami University, Oxford, OH. www.ohio-population.org

[15] See 2.

[16] Ohio Department of Medicaid. (2017). *Medicaid Cost Report*. Columbus, OH: Ohio Department of Medicaid.

[17] Centers for Medicare and Medicaid Services. (2017). Certification and Survey Provider Enhanced Reporting (CASPER).

[18] Centers for Medicare and Medicaid Services. (2001-2004). Nursing Home Minimum Data Set 2.0.

[19] Centers for Medicare and Medicaid Services. (2011, 2012, 2014, 2016, 2018). Nursing Home Minimum Data Set 3.0.

[20] Ohio Department of Aging. (1993-2017). PASSPORT Information Management System (PIMS). Unpublished raw data.

[21] See 16.

[22] See 17.

[23] See 16.

[24] See 17.

[25] See 19.

[26] See 18.

[27] See 19.

[28] Ibid.

[29] Ibid.

[30] Ibid.

[31] Department of Labor Statistics. (2019). CPT Inflation Calculator. Retrieved from: http://data/bls.gov/cgi-bin/cpicalc.pl?

[32] Vital Research. (2017). Ohio Nursing Home Resident Satisfaction Data: Unpublished Raw Data, Oxford, OH: Scripps Gerontology Center, Miami University.

[33] See 20.

[34] Ibid.

[35] Ibid.

[36] Ibid.

[37] AARP. (2000). *Across the States: Profiles of long-term care and independent living.* Washington, DC: AARP Public Policy Institute.

[38] See 7.

[39] Ibid.

[40] Health Policy Institute of Ohio. (2015). Ohio Medicaid Basics 2015. Retrieved from: www.healthpolicyohio.org/ohio-medicaid-basics-2015

[41] See 20.

[42] Ohio Department of Medicaid. (2019). Waiver Comparison Charts – Enrollment Figures for May 2017 Retrieved from: http://www.medicaid.ohio.gov/Portal/0/For%20Ohioans/Programs/Waivers/HCBSwaivers/2017/WaiverComparison-05.pdf

[43] Ohio Department of Medicaid. (2019). Caseload Report: Actual Versus Estimated Medicaid Elgibles July 2017 retrieved from: https://medicaid.ohio.gov/Portals/0/Resources/Reports/Caseload/2017/07-Caseload.pdf?ver=2017-08-11-160404-407

[44] See 40.

[45] See 20.

[46] See 42.

[47] See 43.

[48] See 40.

[49] See 20.

[50] See 13.

[51] See 42.

[52] See 43.