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Health and long-term care use patterns for Ohio's dual eligible population experiencing chronic disability

Shahla Mehdizadeh Miami University, commons@lib.muohio.edu

Health and Long-Term Care Use Patterns for Ohio's Dual Eligible Population Experiencing Chronic Disability

Shahla A. Mehdizadeh, Ph.D.¹ Robert A. Applebaum, Ph.D.² Gregg Warshaw, M.D.³ Jane K. Straker, Ph.D.4

Brooke Trisel Co-Director Ohio Department of Human Services

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¹ Scripps Gerontology Center, Miami University
2 Scripps Gerontology Center, Miami University
3 Office of Geriatric Medicine, University of Cincinnati Medical Center
4 Scripps Gerontology Center, Miami University

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Background

Health reform has become a dominant issue for much of the American public, resulting in a national dialogue about the type, quality, and cost of health care in the United States. Although the need to make modifications to the acute care system is clear, a separate and related area, long-term care, also requires attention. With many older Americans experiencing a chronic disability requiring long-term care, or a combination of acute and long-term care, the interface between health and long-term care has become a major policy issue. For example, the per capita medical expenditures for people reporting two or more disabling chronic conditions was five times the amount incurred by those with no such limitations (Rice and LaPlante, 1992). Despite these high expenditures, particularly those incurred by the population over age 65, the Medicare and Medicaid reimbursement systems provide little incentive for the states and providers to improve the cost-effectiveness or quality of care for those served in these programs.

Although the vast majority of older people depend on Medicare coverage to support health care expenditures, a large number of the over 65 population are also supported by the Medicaid program. In 1995, there were an estimated 6 million older people eligible for both Medicare and Medicaid. Although this group accounted for 17 percent of all Medicaid beneficiaries, they spent 35 percent of the Medicaid budget (Mollica, Saucier, Riley, and Booth, 1997). The major part of Medicaid expenditures for this population was institutional care. Nationally the dually eligible population is characterized as mostly female (66%), and living alone (34%). More than three-quarters (76%) of this population is living in the community (The Muskie School of Public Service, 1997) and slightly over one in five have cognitive or mental impairments. About one-third (34%) have impairments in one ADL, while 18 percent have four

or more ADL impairments (Mollica and Riley, 1997). One in six consider themselves in poor health. About two-thirds of the poor elderly have arthritis, more than half (58%) have hypertension and about one in five have diabetes (Lyons and Rowland, 1996). The dually eligible population has high health and long-term care expenditures, making them important to both state and federal policy makers.

Ohio Experience

Ohio's success in aging mirrors the nation. The dramatic increase in life expectancy, particularly for the oldest old (those over age 85) is the result of major societal improvements in areas such as public health, nutrition, and medicine. Although extending life expectancy is good news, such changes are accompanied by a greater proportion of older people experiencing chronic disability. Long-term care has clearly become an important issue for the state, with about 43% of all Medicaid expenditures spent on long-term care, and the majority of those funds allocated to older people (AARP, 1997). Projections indicate that the challenges created by this group will expand three or four fold as the baby boom ages (Mehdizadeh, Kunkel, and Applebaum, 1996).

As in most states, Ohio's Medicaid expenditures account for about one-fifth of total state expenditures. One major factor effecting long-term care Medicaid expenditures is the high percapita costs for aged and disabled beneficiaries. For example, in 1996 the children/adult category recorded about \$1,300 in average annual expenditures, compared to just under \$10,200 for the aged and disabled category. This is due to both high institutional costs for these two groups and because of high acute care expenditures. Thus, despite representing a small proportion of beneficiaries, the aged and disabled incur almost half of all Medicaid program costs.

A population of particular interest to state is the dually eligible group. In Ohio over 100,000 people are eligible for both Medicare and Medicaid (AARP, 1997). These individuals reside in both institutional and community-based settings and are heavy users of both Medicaid and Medicare financed services.

There are several efforts now underway to serve this population. The approaches to these efforts vary considerably. For example, the PACE project (Program of All-inclusive Care for the Elderly) targets a highly disabled population and assumes responsibility for all acute and long-term care needs of this population. PACE receives a monthly capitation fee for each participant from Medicaid and Medicare. PACE uses the adult day care center as a focal point for care. A second approach, the Social Health Maintenance Organization (S/HMO) combines the principles of managed care and long-term care insurance. Targeted toward the older population in general, the approach couples long-term benefits, with traditional Medicare managed care, adding in Medicaid, and beneficiary premiums to finance the benefit. A final approach, EverCare, operated by a managed care entity, is directed exclusively toward a nursing home population. This demonstration uses financial incentives to physicians and nursing facilities to manage acute illnesses in the nursing home rather than in the hospital. Medicaid is not integrated into the model.

Despite a few state efforts and the growth of Medicare managed care in general, it is the case that the vast majority of dual eligibles remain in separate fee for service programs. This is clearly the case in Ohio where, despite expansion, about 16% of Medicare beneficiaries are enrolled in a managed care option. Although these dually eligible individuals incur high costs in both Medicare and Medicaid, there is little integration or communication between programs. In

fact, the states and the federal government appear to be intent on shifting costs between these two programs. Little discussion appears on the effects that these financing limitations have on quality of care. Very little information exists on the location and service trajectories of these individuals.

In response to these information challenges this paper will present data from a sample of dually eligible older people in Ohio, who were in need of long-term care. We initially describe the characteristics of these individuals, including how they accessed the long-term care system. We next provide data on the health and long-term trajectories of this sample, highlighting their use of hospitals, nursing homes, and mortality rates as well as health and long-term care expenditures. Finally, we discuss the implications of these data for state policy.

Method and Data

Data for this study come from a longitudinal study of Ohio's Medicaid long-term care pre-admission review program. This group does not represent a random sample of dually eligible older people in Ohio. Rather it represents a random sample of older Ohioans who applied for long-term care between December, 1993 and January 1995. The dual eligibles that do not have long-term care needs are not represented in this sample.

To construct our sample, state data for all long-term care applicants over age 60 were stratified by referral setting and requested service outcome into four categories. For example, referrals from the community to a nursing home would be one category, while referrals from the hospital to nursing facilities would be a second. We selected 2,700 individuals for study participation. Because the original research had an evaluation of Ohio's nursing home preadmission review process as its major objective, the study over-sampled applicants from the

community applying for nursing facility care and under-sampled those nursing home residents already in a facility, but who were now applying for Medicaid assistance (Applebaum, Mehdizadeh, Straker, Pepe, 1995).

Of the original sample, 2,406 individuals were eligible for long-term care under Medicaid and 2,302 individuals were Medicare beneficiaries. In total 1,892 of the original sample were dual eligibles and this group represents the final sample for this study. Sample members were followed for 24 months after their long-term care referral. To track health utilization and mortality rates we used claims data from Medicare and Medicaid, and state death records.

As presented in Table 1, there were four referral source and outcome possibilities. About 15% of the sample were already residing in nursing facilities and were either changing reimbursement status, from private pay to Medicaid, or were switching facilities. The second group resided in the community (12.5%), but were now in the hospital awaiting nursing home admission. A third group (19.2%) included those residing in the community, but applying for nursing home admission. The fourth group (53.5%) consisted of individuals who were either in the community, hospital, or nursing home applying for in-home care services from the PASSPORT (Ohio's 2176 Medicaid waiver home and community based care) program. Because these groups represent distinct conditions and care patterns, data will be presented both for the overall sample and for each of these individual groups.

Table 1
Sample Distribution by Referral Setting and Long-Term Care Outcome

(Percentage)
14.8
53.5
19.2
12.5

Source: Ohio's Long-Term Care Applicant Sample

Sample Characteristics

A review of demographic characteristics for the sample presents a picture that one would expect to see when viewing older people in need of long-term care (see Table 2). The average age of sample members at the start of the study was 80, with about one-third of the sample age 85 or above. As is typical for a population in need of long-term care, about three quarters were female, four out of five were not married, and four of five were white. The sample experiences a high level of disability. On average sample members are impaired in three of the six activities of daily living (ADL) and four of ten are impaired in four or more activities. About one-third of the sample is cognitively impaired. The sample also experiences a series of health conditions.

Among the most frequent diagnoses at the time of pre-admission were cardiovascular disease, stroke, diabetes, cancer, Parkinson's disease, chronic lung disease, renal failure, arthritis, and dementia.

Table 2 Characteristics of Sample at the Initial Pre-admission Review

	(Percentage) ^a
Age	
65-74	27.6
75-84	41.5
85-90	20.1
90+	10.8
AVG Age	80.2
Sex	
Female	74.3
Race	
White	78.2
Black	20.1
Other	1.7
Marital Status	
Never Married	5.7
Married	20.5
Widowed/Divorced/Separated	73.8
Cognitive Impairment	30.0
Percentage Needing Assistance in Activities ^b of Daily Living (ADLs)	
Bathing	88.5
Dressing	66.8
Transferring	42.4
Toileting	41.6
Eating	16.3
Grooming	66.5
Number of ADL ^c Impairments	
0	6.1
1	4.4
2	25.8
3	22.8
4 or more	40.9
AVG ADL	3.3
Sample	1,892

Source: Ohio's Long-Term Care Applicant Sample.

Percentages are adjusted to reflect only those clients for whom information was available on each variable.

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

"From the list above.

When compared to the national dual eligible population, a higher proportion of our sample were female (74% versus 66%), a higher proportion were institutionalized (46.5% versus 24%) and a smaller proportion were living alone (17% versus 34%). A higher proportion of the sample were cognitively impaired compared to the national dual eligible population (30% versus 20%). The clients in our sample were considerably more disabled than the national population with 10% of our sample having one or no ADL impairment (versus 34%) and almost 41 percent with four or more ADL impairments (compared to 18%).

There were some major differences in characteristics across the four sub-groups. As Table 3 shows, those that had been residing in nursing homes were likely to be older, (40% over age 85 compared to 25%) and more likely to be white (88% versus 77%). Those entering nursing homes via the hospital were less likely to be women (63% versus 75%), possibly reflecting the increasing use of nursing facilities by both genders for rehabilitation after a hospitalization. Those nursing facility applicants that reside in the community were least likely to be married (18.4%), compared to the home care sample (20% married).

The groups differ widely in the degree of impairment. As expected, those already residing in nursing facilities experienced the highest levels of impairment, reporting more than four activity of daily living limitations out of a possible six. About three-quarters of this group had four or more limitations, compared to about one-third of the remaining sample members. Those going to nursing facilities via the hospital reported the lowest level of disability, averaging 1.7 ADL limitations. There was also variation in the proportion experiencing a cognitive impairment. Almost half of the community to nursing facility sample were reported to be cognitively impaired, compared to less than one in six of the in-home services sample.

Table 3 Characteristics of the Sample at the Initial Pre-admission Review

	Nursing Home to Another Nursing Home/Payment Status change to Medicaid	Community to Hospital to Nursing Fac.	Community to Nursing Facility	Nursing Fac., Hospital, Community to PASSPORT
	(Percentage) ^a	(Percentage)	(Percentage)	(Percentage)
Age				
65-74	17.5	30.5	21.2	31.9
75-84	42.5	39.8	38.0	42.8
85-90	25.7	19.9	25.6	16.6
90+	14.3	9.7	15.2	8.6
Avg. Age	82.5	79.4	82.0	79.1
Sex				
Female	65.7	63.3	74.7	78.8
Race				
White	87.7	74.8	82.3	75.5
Black	9.4	23.0	16.4	23.1
Other	2.9	2.2	1.3	1.4
Marital Status				
Never Married	6.4	14.7	7.5	4.4
Married	27.4	19.4	18.4	20.1
Widowed/Divorced/Separated	66.2	65.9	74.1	75.5
Percentage Needing Assistance in Activities ^b of Daily Living (ADLs)				
Bathing	88.5	40.4	86.9	96.7
Dressing	83.5	32.3	60.9	70.2
Transferring	67.9	21.7	43.6	38.9
Toileting	74.5	23.5	50.9	32.8
Eating	35.9	15.1	20.3	10.5
Grooming	79.0	35.7	66.9	68.2
Number of ADL ^c Impairments				
0	7.8	54.1	8.1	0.8
1	5.0	3.5	3.2	4.7
2	4.6	8.2	25.5	32.2
3	8.3	9.4	18.6	28.8
4 or more	74.3	24.8	44.6	33.5
Avg. ADL	4.4	1.7	3.3	3.2
In continent	31.6	33.5		
Cognitively Impaired	42.7	35.2	47.9	16.4
Sample	280	237	363	1,012

Source: Ohio's Long-Term Care Applicant Sample.

^a Percentages are adjusted to reflect only those clients for whom information was available on each variable.

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

From the list above.

The health status of the four groups at the time of pre-admission review was considerably different. In-home service clients (PASSPORT clients) were more likely to have conditions requiring monitoring and occasional hospitalization compared to the other 3 groups. For example, diabetes was associated with 11.6 % PASSPORT clients versus 6% of the nursing facility clients. Other important differences in diagnoses showed that PASSPORT clients were more likely to experience cardiovascular disease (22.4% versus 18.2%); chronic lung disease (10.4% versus 5.1%); and stroke (13.3% versus 8.8%). On the other hand, the incidence of dementia was considerably lower among the PASSPORT clients (8.9% versus 27%).

Health and Long-Term Trajectories of Sample Members

In this section we present longitudinal data for sample members over the 24 months following entry into the sample. We report both hospital and nursing home admissions and rates of mortality. Tables 4 and 5 present mortality, inpatient hospital, and nursing home utilization. The overall death rate was high for the sample with one of five deceased during the first 12 months and over 40% deceased after two years. The group that transferred to a nursing home following hospitalization had the highest death rate (28.3%) during the first year, while those that transferred to the nursing home from community had the highest overall mortality rate (52.7%) after two years. PASSPORT clients, with mortality rates of 16.5 percent in the first year and 35.3 percent after two years, had the lowest mortality rates.

As expected, given the reported mortality rates and the frailty of these individuals, the sample experienced high rates of hospital use. During the first year almost half of the sample was admitted to the hospital at least once, while during year two just over 40% recorded at least one admission. Hospitalization rates were highest among the PASSPORT sample in both years,

Table 4
Health and Long-Term Care Trajectory
First 12 Months

Referral Setting and Expected Outcome	Percent Died	Percent Hospitalized ^a	Percent Admitted to NF ^b	Total Sample
Nursing Facility to Nursing Facility or Change of Pay	21.1	41.1	90.4	280
Community to Hospital to Nursing Facility	28.3	40.9	90.7	237
Community to Nursing Facility	19.0	45.7	91.5	363
Community, Nursing Facility, Hospital to PASSPORT	16.5	56.5	21.2	1,012

^a Medicare records only.

Medicaid claims file 1993-1997.

Death data 1994-1996.

Table 5
Health and Long-Term Care Trajectory
Second 12 Months

Referral Setting and Expected Outcome	Cumulativ e Rate of Death	Percent Died	Percent Hospitalized ^a	Percent Admitted to NF ^b	Total Sample
Nursing Facility to Nursing Facility or Change of Pay	42.4	21.3	36.6	79.6	221
Community to Hospital to Nursing Facility	40.5	18.2	41.2	75.9	170
Community to Nursing Facility	52.7	33.7	35.0	82.0	294
Community, Nursing Facility, Hospital to PASSPORT	35.3	18.8	52.1	28.4	854

^a Medicare records only.

Source: Medicare beneficiary inpatient claims file 1994-1996.

Medicaid claims file 1993-1997.

^b Medicaid records only.

^b Medicaid records only.

(56.5% year 1; 52.1% year 2). The PASSPORT clients hospitalization rates are considerably higher than the nursing home groups. As noted earlier, the PASSPORT clients were more likely to suffer from chronic medical conditions and had higher longevity rates when compared to the nursing facility groups, where dementia was the prevalent condition. Dementia patients living in a nursing facility could more likely be managed successfully without the need for recurrent hospitalization. Hospitalization rates for those transferring from the community to nursing homes were the next highest (45.7%) category during the first year. Interestingly, those entering the nursing facility via the hospital had the lowest admission rate for the year following entry into the sample.

Nursing facility use also varied for those applying for community-based care via the PASSPORT program and those seeking admission to nursing homes. Nine of ten of those in the nursing home pre-admission group were admitted in the 12 months following the referral with Medicaid reimbursement. During the second year four out of five of these individuals spent at least some time in a nursing home and Medicaid paid for the care. In comparison, about one in five of the PASSPORT clients during the first year and about one in four during the second year spent some time in a nursing home with Medicaid reimbursed care.

Total Cost of Care

Reflecting the high utilization rates presented earlier, the sample reports high health and long-term care expenditures. The first year annual overall expenditures for the sample (\$31,954) were higher than the second year (\$29,996). As presented in Tables 6 through 9, average annual expenditures for each of the four groups were over \$29,000 in the two years studied. During the first year the group entering the nursing home via the hospital recorded the highest average

Table 6
Average Annual Health and Long-Term Care Cost
NF to NF Change of Pay

		First 12	Months		Second 12	Months
Outcome Variables (Annual Cost)	Medicare	Medicaid	Total	Medicare	Medicaid	Total
Average Cost of Inpatient Hospital Care	5,883.5	274.3	6,157.8	6,511.0	302.3	6,813.3
Average Cost of Outpatient Hospital Care	1,098.0	72.2	1,170.2	826.0	79.0	905.0
Average Cost of Nursing Home Care	1,241.2	17,910.8	19,152.0	1,091.0	15,843.6	16,934.6
Average Cost of Home Health Care	147.1	0.0	147.1	139.0	0.0	139.0
Average Cost of Physician Care	2,272.7	174.0	2,446.7	1,908.7	147.8	2,056.5
Average Cost of Medical Equipment	643.0	227.3	870.3	616.3	245.3	861.6
Average Cost of Hospice	97.0	93.4	190.4	213.0	97.9	310.9
Average Cost of Medicaid Waiver Services	0.0	74.1	74.1	0.0	119.0	119.0
Medication	0.0	1,629.6	1,629.6	0.0	1,694.2	1,694.2
Other	0.0	210.3	210.3	0.0	201.9	201.9
Average Overall Cost of Health and Long-Term Care	11,382.5	20,666.0	32,048.5	11,305.0	18,731.0	30,036.0

Medicaid claims file 1993-1997.

Table 7
Average Annual Health and Long-Term Care Cost
Community to Hospital to Nursing Facility

		First 1	2 Months		Second 12	2 Months
Outcome Variables (Annual Cost)	Medicare	Medicaid	Total	Medicare	Medicaid	Total
Average Cost of Inpatient Hospital Care	8,466.4	1,462.2	9,928.6	6,884.4	487.4	7,371.8
Average Cost of Outpatient Hospital Care	1,583.5	143.0	1,726.5	1,139.0	120.0	1,259.0
Average Cost of Nursing Home Care	2,771.5	15,078.0	17,849.5	919.2	15,734.5	16,653.7
Average Cost of Home Health Care	370.0	11.1	381.1	429.0	0	429.0
Average Cost of Physician Care	3,715.2	350.6	4,065.8	2,250.6	224.9	2,475.5
Average Cost of Medical Equipment	390.0	281.1	671.1	290.0	252.8	542.8
Average Cost of Hospice	314.5	121.3	435.8	567.0	277.8	844.8
Average Cost of Medicaid Waiver Services	0.0	342.2	342.2	0.0	462.5	462.5
Medication	0.0	1,961.0	1,961.0	0.0	1,846.3	1,846.3
Other	0.0	300.4	300.4	0.0	243.4	243.4
Average Overall Cost of Health and Long-Term Care	17,611.1	20,050.9	37,662.0	12,479.2	19,649.6	32,128.8

Medicaid claims file 1993-1997.

Table 8
Average Annual Health and Long-Term Care Cost
Community to Nursing Home

		First 1	2 Months		Second 12	2 Months
Outcome Variables (Annual Cost)	Medicare	Medicaid	Total	Medicare	Medicaid	Total
Average Cost of Inpatient Hospital Care	7,044.2	359.0	7,403.2	4,319.3	366.9	4,686.2
Average Cost of Outpatient Hospital Care	1,129.0	63.7	1,192.7	712.0	81.2	793.2
Average Cost of Nursing Home Care	1,128.8	17,768.4	18,897.2	1,261.6	17,696.0	18,957.6
Average Cost of Home Health Care	314.5	5.0	319.5	111.6	10.3	121.9
Average Cost of Physician Care	2,397.4	170.5	2,567.9	1,690.3	149.0	1,839.3
Average Cost of Medical Equipment	268.0	226.3	494.3	392.9	185.8	578.7
Average Cost of Hospice	192.5	160.7	353.2	70.3	35.6	105.9
Average Cost of Medicaid Waiver Services	0.0	362.8	362.8	0.0	311.6	311.6
Medication	0.0	1,508.4	1,508.4	0.0	1,449.2	1,449.2
Other	0.0	229.0	229.0	0.0	218.6	218.6
Average Overall Cost of Health and Long-Term Care	12,474.4	20,853.8	33,328.2	8,558.0	20,504.2	29,062.2

Medicaid claims file 1993-1997.

Table 9
Average Annual Health and Long-Term Care Cost
PASSPORT

		First 1	2 Months		Second 12	2 Months
Outcome Variables (Annual Cost)	Medicare	Medicaid	Total	Medicare	Medicaid	Total
Average Cost of Inpatient Hospital Care	8,537.0	529.0	9,066.0	8,391.6	600.0	8,991.6
Average Cost of Outpatient Hospital Care	1,107.0	227.7	1,334.7	1,051.0	166.6	1,217.6
Average Cost of Nursing Home Care	1,618.0	2,184.6	3,802.6	1,449.0	4,360.6	5,809.6
Average Cost of Home Health Care	4,638.0	128.2	4,766.2	3,455.4	118.2	3,573.6
Average Cost of Physician Care	2,243.3	205.1	2,448.4	2,326.1	213.4	2,539.5
Average Cost of Medical Equipment	965.0	380.6	1,345.6	716.1	405.3	1,121.4
Average Cost of Hospice	193.0	32.4	225.4	158.0	35.8	193.8
Average Cost of Medicaid Waiver Services	0.0	5,596.1	5,596.1	0.0	4,644.9	4,644.9
Medication	0.0	1,331.1	1,331.1	0.0	1,580.0	1,580.0
Other	0.0	183.5	183.5	0.0	210.6	210.6
Average Overall Cost of Health and Long-Term Care	19,301.3	10,798.3	30,099.6	17,547.2	12,335.4	29,882.6

Medicaid claims file 1993-1997.

expenditures (\$37,662), and the PASSPORT group recorded the lowest (\$30,099). During the second year expenditures for three of the four groups were close to the \$30,000 with the group coming from hospital with the highest average cost (\$32,128).

Major variation existed across the expenditure categories and funding sources. Because of the high rates of institutional use, the three nursing home groups recorded high Medicaid expenditures, typically averaging over \$20,000 per year. The PASSPORT sample, while receiving about \$5,600 in Medicaid waiver home care services, had total Medicaid expenditures of about \$11,000. The PASSPORT sample recorded much higher Medicare expenditures, averaging \$19,300 and \$17,547 in the two years time period. This was considerably higher than the nursing facility transfer and community to nursing home groups, recording about \$11,000 to \$12,000 annual Medicare expenditures. The nursing home group entering via the hospital recorded \$17,600 in annual expenditures during year one.

Thus, overall we find that while the PASSPORT group has considerably lower Medicaid expenditures, it has much higher Medicare costs. On average the PASSPORT sample has lower total costs during year one, and comparable costs during year two. Whether the higher use of hospitals and subsequent higher Medicare expenditures is a result of the different case mix characteristics of the PASSPORT sample or because of differences in practice is not clear. Our hypothesis is that both factors play a role in the differential utilization rates. On one hand the PASSPORT sample appears to have health conditions that led to more acute care needs. That could result in higher hospital use. On the other hand its conceivable that nursing homes may be able to handle certain treatments in the facility, without sending the individual to the hospital.

Implications for State and Federal Policy

Evidence from our study reinforces the importance in studying the dually eligible population. Although not a random sample of dual eligibles, our research study does include a representative sample of those seeking long-term care through Medicaid, who are also Medicare eligible. With high rates of mortality, hospital use, nursing home use, and high health and long-term care expenditures these individuals are key participants in the system. With annual expenditures of over \$30,000, understanding the utilization patterns for these individuals, with an eye toward more efficient allocation of resources has clear implications for state and federal policy makers.

For example, can the high use of Medicare by the PASSPORT sample be reduced with a more efficient linkage between Medicare and Medicaid? If so, how would such an integration occur at the state level and how would the state and federal government share program expenditures and cost savings in such an effort? Similarly, if Medicare is able to reduce expenditures for Medicaid clients who reside in a nursing home, might there be an incentive for states to work with the federal government surrounding this population?

Although this analysis raises many questions about the use of health and long-term care under the Medicare and Medicaid programs, what is clear is that this group represents substantial costs to both programs. Under the current system neither of these programs attempt to integrate care or funding with each other. In fact, often times program attempt to shift costs between programs. Because of the very high costs that both programs incur, these data suggest that efforts to integrate and complement funding sources could result in efficiencies to both programs.

However, such efforts at integration have proven to be difficult. Without such work it is clear that the costs to the two programs will continue to increase.

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