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HIGHLIGHTS

- A measure of Medicaid program generosity, applied in this paper, explains more variation in states' long-term care spending than individual policy measures analyzed in previous research. This "Long-Term Care Policy Generosity Index" combines measures of client eligibility, nursing home bed capacity, waiver scale, and nursing home reimbursement rates.
- The index ranks New York's long-term care policies as more generous than any other state, with Connecticut, Minnesota, Massachusetts, and Louisiana following.
- Variations in this measure may have important implications for understanding the differences in states' use of home- and community-based waiver programs. States such as Wisconsin and Minnesota have both large waiver programs and generous policies overall, while others such as Washington, Oregon, and Kansas have large waiver programs but less generous policies overall.
- Future investigations of the effects of state long-term care policy on spending should include both more qualitative examinations of individual states or groups of states, and consolidated or interactive measures that combine policy variables and thus capture interactions among them.

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Medicaid Policy and Long-Term Care Spending

An Interactive View

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Background: Medicaid, States, and Long-Term Care

Medicaid plays a particularly important role in financing long-term care for the elderly. It pays for approximately one half of all long-term care costs in the U.S., and finances care for about two-thirds of all nursing home residents.[1] About 35 percent of Medicaid spending in 2004 was for long-term care. The average Medicaid payment per elderly beneficiary was approximately five times as large as the average payment per nondisabled adult or child.[2]

Yet despite the fact that Medicaid is one program, states show tremendous variation in their coverage and spending. In Connecticut, for example, 86 out of 1,000 elderly people have Medicaid-financed nursing home care, while only 48 out of 1,000 elderly New Jersey residents receive such care.[3] By way of further example, Washington spends 65 percent more on nursing home care per elderly person than does Oregon.[4]

Some of these differences in spending and coverage can be attributed to differences in state policies and administrative processes. Although states must cover nursing facility services for individuals over age 21 and home health care services for

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individuals entitled to nursing facility care, they also have many options. Optional institutional services include Intermediate Care Facilities for the Mentally Retarded and inpatient nursing facility services for individuals age 65 and over in an institution for mental diseases. Optional home and community-based long-term care services (HCBS) include home health, case management, respiratory care, personal care, private duty nursing, hospice care, Programs of All Inclusive Care for Elderly (PACE), and home and community- based waivers.

Areas of State Flexibility

Flexibility in Medicaid program structures and rules has permitted states to produce widely varied long-term care systems. For example, in terms of *covered populations*, some states cover disabled, Medicaid eligible, working adults, while other states do not. For those states that do cover this population, the point at which a person's income allows them to be eligible differs from state to state. States also differ in the populations that are eligible for services under Medicaid waivers. For instance, all states have waivers for persons with developmental disabilities and mental retardation, but not all states have waivers to provide services for persons with AIDS or traumatic brain injuries.

States also determine the *amount, duration, and scope* of services, and the *processes* for obtaining eligibility or receiving services. A comparison of state flexibility in *covered services* shows great variety. Thirty-one of 50 states provide personal care services. Similarly, 23 states cover private duty nursing, 20 have PACE programs, and 10 states cover what are known as "religious non-medical institution and practitioner services."[5]

Even if a state chooses to cover a service, they have discretion over the *amount of care* that is covered. For instance, Maine covers 2-4 hours per week of personal care, while Montana and Nebraska cover 40 hours per week. Even though all states cover home health, variation is also evident: Alabama covers 104 home health visits per year while Louisiana, Arkansas, and Georgia cover only 50 visits per year.

States may also vary in their *administrative processes*, and these differences may affect spending. States, for example, vary with respect to whether they require prior approval of services, development of a plan of care, or significant cost-sharing requirements that typically affect care utilization.

Relevance of Research for State Policymaking

As states seek to control or alter Medicaid long-term care spending, compiling and organizing all of this information on policies will help policymakers better understand how their policy choices may impact Medicaid spending. Relevant research questions include: Where are the biggest variations in spending? Are these differences, in part, attributable to differences in policies? Are there notable differences in covered populations that correlate

with spending differences? If a state is generous in the populations it covers, is it also generous in the services it provides — and how do these choices relate to expenditures? Are there some states that cover more people but provide fewer services — and how does spending differ from those states that cover fewer people but more services?

As a first step in understanding how to interpret spending differences and assess how spending may be controlled, policy makers need to know how they relate to differences in policy choices. Many states have made sustained efforts, for example, to expand home and community-based services with the expectation that making these services available will reduce spending on nursing homes, but the evidence for such a relationship has been mixed and controversial. Not all community services are potential "substitutes" for nursing home care, and at least some states have expanded community services without seeing a decline in long-term care spending.

While there has been no shortage of studies of state long-term care spending, this paper presents a distinctive approach to defining and measuring state long-term care policy and its influence on state spending. Rather than looking to particular individual long-term care policies such as service coverage, individual eligibility, and rates as sources of variation in state long-term care spending — this approach classifies **states** according to the particular **combinations** of long-term care policies they have adopted. State long-term care policies do not operate in isolation, but interact with each other to produce long-term care spending — states with equally generous coverage of individuals and services, for example, may spend very different amounts on long-term care if they pay widely different rates for services. Differences in spending may be further amplified by differences in numbers of providers affected by state licensing requirements or certificate of need procedures. Capturing these interactions between policies in particular states is likely to produce a better explanation of long-term care spending than examining the effects of these policies in isolation.

Summary of Findings

An initial finding of interest from the analysis is that states tend to be more or less generous in all service areas rather than being less generous in some. This is not surprising given that the fiscal capacity of states may allow them different levels of resources. But just because a state spends generously does not necessarily mean that they pay the long-term care providers in their state more generously.

This finding led us to examine more closely the interaction of generosity of policies and generosity of payment. Interestingly, the analysis showed that state payment policies are *more* influential in explaining state long-term care spending than state coverage policies, but that, not surprisingly, the interaction of the two

together is likely to be more effective at explaining state spending differences.

A further examination of one area of Medicaid long-term care spending — waivers for persons with disabilities or the elderly — showed that there is little relationship between generosity in the use of Medicaid waivers and generosity in both coverage and nursing homes fees.

Because differences in coverage of people and services do not explain the variations in Medicaid spending, we hypothesize that other things could be affecting these differences. Such factors might include, for example, the ease of the application process, incentives for residents to apply for Medicaid-funded nursing care, and differences in the ability of residents to "spend-down" to qualify for Medicaid. Teasing out such administrative differences would require more careful analysis of the data as well as qualitative research.

Previous Research

Despite the importance of such information, little is known about the reasons for differences in spending between states on long-term care. In fact, there is very little literature on state differences in long-term care spending and limited and dated research on state policies. One analysis of long-term care spending noted that states' 2001 spending of their own funds ranged from $61 per elderly person in Louisiana to $1,323 in New York, and argued that "state coverage and reimbursement policies are the most important factor" behind this variation. But the assertion was not backed up by analyses involving these policies.[6]

A more substantial, though still not large, literature exists on total Medicaid or Medicare spending, and some of this research is relevant to the proposed study. This literature may be grouped into three categories:

1. Descriptive analyses of spending differences.
2. Statistical and other analyses of underlying reasons for Medicare spending differences as they relate to geography.
3. Analysis of variation in price, utilization, quality, and provision of individual services.

A good example of descriptive analysis is a 1997 Urban Institute report by John Holahan and David Liska.[7] Using 1994 data, they "decomposed" Medicaid spending variation into differences in coverage, differences in spending per covered person, and differences in disproportionate share hospital (DSH) spending (payments by states to hospitals that serve a disproportionate share of low-income patients).[8] Among other things, they found that Northeastern states generally covered larger shares of their low-income populations than other states, but that relatively poor states in the South with large low-income populations often

covered larger shares of their populations. Donald Boyd's chapter in the Brookings Institution book, *Medicaid and Devolution: A View from the States*, is another example. He presented a typology of states based on breadth and intensity of coverage.[9] However, neither of these projects isolated the role of long-term care and its influence on spending variation.

Other research has focused more attention on long-term care policy and spending. The Urban Institute conducted studies of individual states in the mid to late 1990s, which classified state long-term care cost containment policies into three broad categories.[10] Research by Kitchener, Ng, Miller, Harrington, and others has helped document state participation and spending on long-term services — in particular, personal care services, home health (since 1999 for those states that offer this service), and state home and community-based waivers (since 2001). These researchers note that there are dramatic state-to-state variations in participation and spending for each service.

Political scientists and economists have also conducted many econometric analyses of variation in state welfare or Medicaid spending. Typically these studies examined how spending varied with political factors such as interparty competition and political culture, and with economic variables such as income and poverty and the federal reimbursement rate, often controlling for measures of health status and health care prices.[11]

These econometric studies provide insights into underlying reasons for state policy choices — they help to explain the extent to which richer states, or states with a liberal political culture, may be willing to support Medicaid long-term care spending. However, most provide little understanding of the implications of specific policies and are of little use to policymakers. One important exception that focused on policies and specifically on long-term care (without providing information on specific states) examined state variation in expenditures on Medicaid community-based programs.[12] Also, these studies rarely provide information on why specific states vary, information that state policymakers need to put their own spending into context.[13]

While frequently sophisticated, these studies neglect many aspects of state long-term care policy that most would agree are potentially important influences on spending, but which have proven difficult to measure. Administrative policies and processes are not as well documented as policies on eligibility and services, but could greatly influence utilization and expenditures. Such policies include, for example, how many "available slots" a state has for waiver participants, the financial and medical eligibility criteria for waivers, and caps on spending. It can also include administrative procedures such as the use of prior authorization, extent of documentation for eligibility, developing plans of care, or requiring cost-sharing.

Perhaps more importantly, the existing literature on long-term care policy spending is frequently focused on particular categories

of service rather than on the whole complex of state long-term care policies. Students of long-term care policy tend to specialize in particular means of service delivery, so much scholarly literature on long-term care spending has been "stovepiped" or focused on nursing homes or various forms of home and community-based care, with little attention to how disparate policies interact to drive long-term care spending. Reducing growth in nursing home spending has been a perennial issue for policy makers and scholars alike, so much long-term care literature takes the form of experimental comparisons of the effects of various forms of home- or community-based programs on nursing home or total long-term care spending. As in other areas of human service policy, there has been little direct attention to the question of whether states that have devoted considerable resources to developing home- and community-based services have in fact reduced spending on institutional care.[14]

Analytical Approach

This paper advances this argument in three steps. First, we examine previous research on long-term care spending and note the focus on particular policies, rather than their interaction, in previous attempts to explain long-term care spending. Second, we look at three frequently studied major classes of state long-term care policy — service and coverage generosity in non-long-term care Medicaid programs, reliance on waivers to expand home and community- based services in a variety of ways, and rates for nursing home services — and examine their individual impact on long-term care spending. Finally, we examine one means of measuring policy interaction — a consolidated index of program generosity that combines a variety of long-term care policies — and find that this consolidated measure explains more of the difference in state long-term care spending than separate policies considered in isolation. While hardly definitive, these findings suggest that an integrated approach to understanding and measuring state long-term care policies is likely to prove effective in explaining state long-term care spending. Our findings are significant — even at this simple level, the interactive generosity index explains more of the variation in long-term care spending than the "additive" effects of separate state policy variables.

Defining and Measuring Long-Term Care Policy

There is no standard definition of state long-term care policy, any clear way to measure important dimensions of long-term care policy, nor any clear theoretical statement of how policy differences are expected to influence differences in spending. Most students of long-term care policy rely on measures of program generosity — states that cover more people for more services and pay higher rates for individual services are, not unreasonably, expected to spend more on long-term care than those that cover fewer people and services and pay lower fees. Data on Medicaid

service coverage, numbers of long-term care recipients, service spending and rates for at least some services are readily available and have attracted considerable attention as explanatory variables in studies of long-term care spending.

Medicaid Waivers

Other policy variables are more difficult to interpret unambiguously. One such variable is the size of state participation in various home- and community-based waiver programs (HCBS). HCBS waivers have been major elements in state Medicaid policy across a number of long-term care service categories, including services to the mentally retarded and mentally ill as well as the elderly. In general, these waivers allow states to claim Medicaid reimbursement for services outside institutional settings, some of which may be covered under a state's conventional Medicaid program and some of which are not. Unlike conventional Medicaid, where coverage of a service makes it available to all Medicaid clients, waivers allow services to be limited to a specified population and limited in duration.

The services and clients covered by a particular waiver are negotiated between state agencies and the Centers for Medicare & Medicaid Services (CMS) and can vary widely both between states and between individual waivers within a given states. Waivers can be granted, for example, to provide services in the community to the small number of relatively disabled individuals who might otherwise reside in a nursing home or other institution, which might be expected to reduce nursing home spending. Such waivers will generate high levels of spending for each enrollee, though hopefully less than the cost of keeping enrollees in nursing homes. Alternatively, waivers can be used to expand community services to a larger number of less disabled individuals. Services for each individual are relatively inexpensive, so large numbers of clients can be provided services at far less than the cost of nursing home care.

While information is readily available for enrollment and expenditures for different varieties of waivers, it's far from clear that larger waivers should be unambiguously associated with increased long-term care spending. More detailed examination of waiver provisions in individual states would be required to define a state's waiver policy goals and how programs funded through waivers are expected to affect state long-term care spending.

Supply of Long-Term Care Providers

A second set of long-term care policies that have been difficult to measure precisely or connect to spending in a convincing way relates to state management of the supply of long-term care providers through the certificate of need process, provider licensing, or Medicaid coverage of new varieties of providers. The certificate of need process for licensing new nursing home beds was historically used by many states as a means of limiting spending by

restricting the supply of nursing home beds, but evidence suggests that certificate of need or other attempts to limit the supply of beds had no effect on long-term care expenditures.[15] There also have been anecdotal reports that the increased availability of assisted living and other residential care arrangements have reduced nursing home occupancy, but there has been little systematic attention as yet to the effects of these alternative arrangements on nursing home spending. Medicaid has frequently covered various residential services arrangement as an alternative to institutional care for the mentally ill or mentally retarded, but few states as yet cover residential services for the elderly or other potential nursing home clients. It is unclear whether increasing residential spending could be expected to reduce Medicaid spending on nursing homes or long-term care in total. The effects of other forms of home- and community-based spending on nursing home spending has been controversial, with some observers arguing that the increased availability of community services brings community clients "out of the woodwork" without drawing many clients out of nursing homes.[16]

Long-Term Care Administrative Policies

Finally, there has been little systematic attention to differences between states in the way long-term care policy has been managed. Administrative policies and processes are not as well documented as policies on eligibility and services, but could greatly influence utilization and expenditures. Such policies include, for example, how many available slots a state has for waiver participants, the financial and medical eligibility criteria for waivers, and caps on spending. It can also include administrative procedures such as the use of prior authorization, extent of documentation for eligibility, developing plans of care, or requiring cost-sharing.

The measures of long-term care policy examined in this paper rely on readily available measures of population and service coverage, waiver populations and spending, and service payment rates, both individually and in combination to test for the presence of interactions among sets of state policies.

Analysis

Population and Service Generosity

Perhaps the most straightforward measure of state long-term care policy is the generosity of its coverage of both populations and services. Other things being equal, states that cover a large proportion of the population for particular long-term care services with few or no limitations on service availability should spend more on long-term care than states which limit enrollment or services.

To classify states according to differences in populations covered and service generosity, eligibility and service policies for each state in 2004 were coded for the major categories of long-term care services listed in Table 1. Codes for each state were

Table 1. Long-Term Care Services Used to Classify State Population and Service Generosity
Home Health
Hospice
Personal Care
Private Duty Nurse
Intermediate Care Facility, Mental Health
Inpatient Psychiatric Care
Intermediate Care, Mental Retardation
Nursing Home

assigned based on data contained in the Medicaid Benefits database maintained by the Kaiser Family Foundation.[15] Codes were assigned so that generosity of coverage and services were equally weighted.[16]

Once generosity scores were coded for each state, factor analysis was used to test for underlying dimensions of "coverage and service generosity,"[17] or whether states with generous population and service standards in one service area tended to have generous standards in all service areas. The results of this analysis, presented in Table 2, indicate that coverage and service generosity is correlated across all these service areas.[18] The figures in the table are factor "loadings" or measures of the extent to which individual variables are related to the underlying dimension, or "factor" identified by the analysis. All eight variables are highly correlated with the underlying factor, suggesting that states tend to be more or less generous in all service areas rather than being generous in some services and less so in others.

Table 2. Factor Loadings for Individual Services on Coverage and Service Generosity Factor	
Home Health	0.78
Hospice	0.64
Personal Care	0.64
Private Duty Nurse	0.57
Intermediate Care Facility, Mental Health	0.66
Inpatient Psychiatric Care	0.83
Intermediate Care, Mental Retardation	0.90
Nursing Home	0.85
Source: Rockefeller Institute analysis.	

Based on this analysis, individual states can also be assigned factor scores, or measures of their ranking on the coverage and service generosity factor. States with high scores have more generous policies, those with lower are less generous. These scores are listed in Table 3. While there are notable exceptions, these scores suggest that larger, wealthier states in the Northeast and Midwest tend to have more generous coverage and eligibility policies than smaller, poorer states in the South and the West. There are exceptions to both these patterns — some Northeastern and Midwestern states such as New Jersey and Ohio are among the least generous states as measured by this standard. Conversely, a number of smaller, poorer states — North Dakota, Nebraska, West Virginia, and Louisiana, for example — have more generous coverage and service policies than some larger, wealthier states. Poorer states have higher Medicaid "match rates" than wealthier ones — the federal government pays a larger share of Medicaid spending — and this difference may have made it possible for these poorer states to be more expansive in the population and services they cover.

Differences in coverage of people and long-term care services, however, do not completely explain differences in spending on long-term care. As measured in this fashion, service and coverage generosity are only moderately correlated (.44) with overall per capita long-term care spending, suggesting that states with more generous coverage do spend more than those with less generous

Table 3. State Factor Scores on Coverage and Service Generosity

State	Factor Scores, Coverage, and Service Generosity
North Dakota	1.60
New York	1.43
Minnesota	1.41
Nebraska	1.41
Arizona	1.37
Massachusetts	1.36
Wisconsin	1.31
Maine	1.24
Maryland	0.99
Oregon	0.90
West Virginia	0.88
California	0.84
Michigan	0.83
Pennsylvania	0.77
Rhode Island	0.68
New Hampshire	0.68
Montana	0.62
Washington	0.57
Louisiana	0.52
North Carolina	0.51
Connecticut	0.48
Kansas	0.46
Illinois	0.39
Utah	0.34
Vermont	0.27
Kentucky	0.22
Hawaii	0.14
Tennessee	0.00
Florida	-0.15
Arkansas	-0.21
New Jersey	-0.55
Virginia	-0.57
Texas	-0.63
Iowa	-0.65
Missouri	-0.75
Delaware	-0.99
South Dakota	-1.02
Alaska	-1.12
Nevada	-1.12
New Mexico	-1.12
Colorado	-1.13
Indiana	-1.13
Ohio	-1.13
South Carolina	-1.23
Idaho	-1.27
Georgia	-1.39
Alabama	-1.40
Oklahoma	-1.53
Mississippi	-1.54
Wyoming	-1.59

Source: Rockefeller Institute analysis.

coverage, but not dramatically so. A variety of other state policies alter the relationship between generosity of coverage and generosity of spending.

One set of such state policies has to do with participation rates, or the proportion of eligible residents who are actually enrolled in Medicaid. While states may have very generous income and other limits on who can enroll in Medicaid, it may be more or less difficult for eligible residents in different states to actually enroll in Medicaid.[19] State application processes and practices, for example, may be more or less "user friendly" for recipients and applicants and result in differing enrollment rates between states with similar eligibility levels. States that have liberal coverage policies may offset some of the potential effects of these policies on spending by making coverage more difficult to secure. Concern with false positive error rates or "runaway" spending on such expensive services as nursing home care or residential care for the mentally or psychiatrically disabled may lead states to adopt administrative practices that make it more difficult for eligibles to enroll.[20]

Other state policies may offset some of these disincentives to enroll in Medicaid. In states where Medicaid payment levels for nursing homes and other long-term care services are relatively generous and are seen to support a high quality of care, elderly residents may have more incentive to apply for Medicaid than residents of states where Medicaid payments are lower and the quality of care in facilities that accept Medicaid is seen as less desirable. Debates over long-term care policy making are replete with anecdotes of "spend - down" by wealthy individuals in New York and other generous states who are able to make use of various trusts and other legal maneuvers to safeguard their assets and become Medicaid eligible. While a variety of studies suggest that such tactics are utilized far less than

Table 4. Average Nursing Home Payments Per Day by State, 2002

State	*Average Nursing Home Payments Per Day, 2002*
New York	$172
Connecticut	$165
Delaware	$160
Maryland	$151
Ohio	$144
New Jersey	$142
Massachusetts	$141
Pennsylvania	$138
Florida	$134
Rhode Island	$134
Idaho	$132
Maine	$132
Minnesota	$130
West Virginia	$130
Washington	$129
Vermont	$128
Alabama	$127
New Hampshire	$127
North Dakota	$127
North Carolina	$126
Colorado	$123
Nevada	$122
Michigan	$119
Wyoming	$117
Arizona	$114
California	$114
Virginia	$113
Oregon	$111
Wisconsin	$110
Kentucky	$108
Mississippi	$106
Indiana	$103
New Mexico	$103
South Carolina	$103
Utah	$103
Montana	$102
Nebraska	$100
Missouri	$97
Texas	$96
Iowa	$95
Kansas	$95
Arkansas	$94
Oklahoma	$94
Tennessee	$92
Georgia	$91
Illinois	$90
South Dakota	$87
Louisiana	$82

Source: Kaiser Commission on Medicaid and the Uninsured, 2002.

anecdotes would suggest,[21] there may well be significant differences between states in spend-down.

While there is little doubt that state coverage of people and services has a significant influence on state spending on long-term care, there are other state policies that may mitigate this impact. Systematic evidence on these policies and their effects is, unfortunately, difficult to obtain. State participation rates and administrative practices governing eligibility can only be determined by on-site investigation in individual states, and calculating spend-down rates in different states would require detailed analyses of Medicaid eligibility records in those states.

Payment Rates

A second state policy that might be expected to influence long-term care spending is the rates states pay for particular services. Other things being equal, states that pay more for services will have higher long-term care expenditures than those that pay less. It is difficult, however, to collect reliable data on the rates states pay for a wide range of long-term care services. States pay for services using different methodologies and service units and may change their methodologies over time. We rely here on average nursing home per diem payments collected by the Kaiser Commission for 2002, listed in Table 4. While we only have data on one long-term care service, nursing homes account for the bulk of long-term care spending in most states, making it unlikely that rate data for more services would appreciably alter this ranking.

These data indicate an enormous disparity in payment rates across states. New York, which paid the highest rates in this survey, had daily rates better than twice that of Louisiana, which was the lowest paying state. The difference in the financial burden of these different rates was exacerbated by the fact that the

federal government paid almost 75 percent of Louisiana's rate, but only slightly more than half that for New York. Taking this difference in federal matching rate into account, a nursing home day costs Louisiana about $22 but costs New York $81, or almost four times as much. Most of the states that pay high daily nursing home rates are relatively wealthy states in the Northeast and the Midwest that have federal matching rates similar to New York, while the bulk of the states that pay lower fees are poorer states in the Southeast and the West that have matching rates closer to Louisiana's.

A comparison between these data and those in Table 3 suggest there isn't much relationship between generosity of coverage and generosity of payment. Of the states with the most generous coverage as listed in Table 3, only three — New York, Massachusetts, and Maryland — are also among the most generous payers. Several states with generous coverage policies, such as North Dakota and Nebraska, do not pay particularly generous rates; while other states with less generous coverall policies, such as Ohio and New Jersey, pay higher nursing home fees. Overall, nursing home rates are only slightly correlated with coverage generosity (.27), indicating that states which pay high rates don't necessarily have more generous coverage policies. This result is in line with earlier findings of a trade-off between coverage and payment policy in other areas of Medicaid — states with more generous coverage policies tend to pay lower rates than states with less generous coverage. Higher nursing home rates are more closely correlated with total long-term care spending than is coverage generosity (.59 as compared to .47). In a regression equation with total long-term care spending as the dependent variable, rates and coverage generosity together explain just over 40 percent of the variation in total spending, which is roughly comparable with earlier results.

These findings suggest that state payment policies are more influential in explaining state long-term care spending than state coverage policies, but that the interaction of the two policies together is likely to be more effective in explaining state spending than the two policies individually. States that are generous in both coverage and payment are likely to be the highest spending states, particularly since many states seem to be trading off eligibility generosity and high nursing home payments.

Home- and Community-Based Waivers

A third set of state long-term care policies with the potential to affect long-term care spending are home- and community-based waivers. When first established, Medicaid only covered services provided in institutions — nursing homes and state mental retardation facilities.[22] The waiver program[23] was established in 1981 in response to pressures for "deinstitutionalization" in a variety of service areas, and has been the major means by which states have developed community programs in mental health, mental retardation, and programs for the elderly. The terms of individual

waivers are negotiated between states and the federal CMS and can differ widely between states and between the terms of individual waivers in a particular state. States can develop waivers aimed at particular geographic areas; particular populations, such as the elderly, mentally retarded, or children; particular conditions, such as traumatic brain injury; or particular services, some of which may be covered under a state's standard Medicaid program and others that may not. Unlike the standard Medicaid program, states can limit covered services to waiver participants and set a limit on the number of program participants. Waiver programs have expanded dramatically since their inception in the early 1980s — in 2003, total spending under these waivers amounted to almost $19 billion and enrollment was almost 1 million individuals.[24]

As a result of flexibility in coverage and program content, states vary widely in the extent to which they have made use of these waivers and the policy goals which they have chosen to pursue via these waivers.[25] Some states have attempted to use waivers as a means of reducing institutional spending by focusing services on the small numbers of relatively expensive clients who would otherwise be required to be cared for in an institutional setting. Others have expanded a range of less expensive services to a larger number of less disabled clients either to allow independent functioning for clients or to provide a supplement for unpaid care by family members. Several have pursued these differing goals simultaneously or at different points in time.

This diversity of program goals, size, and scale make it extremely difficult to connect waiver activity and overall long-term care spending in any simple way. Much waiver activity has been undertaken with the expectation that increased community spending will produce larger reductions in institutional spending, but evidence in support of this expectation has been controversial. Community spending advocates have argued that many individuals can clearly be provided services in the community at lower cost than in institutions; detractors have argued that the availability of community services has led to increased demand from less disabled individuals already resident in the community, with relatively little movement of clients out of nursing homes. Institutional care providers are frequently major employers and purchasers in local communities, making it politically difficult to realize whatever savings are available from closing or downsizing these providers.

The data in Table 5 suggest some of the difficulties in interpreting the aggregate relationship between waiver activity and long-term care spending. The data represent the percent of the state population enrolled in some form of home- and community-based waiver, presented for the major types of waivers and ranked by total enrollment

These data suggest several complications. There is no relationship between participation in one type of waiver and another, so

Table 5. Medicaid 1915(c) Home- and Community-Based Service Waiver Participants, by Type of Waiver, 2003 Waiver Population Per 1,000 People

State	Mental Retardation and Developmentally Disabled	Aged and Aged and Disabled	Physically Disabled	All Other Waivers	Total, All Waivers
Oregon	2.22	8.94	0.00	0.03	11.18
Minnesota	3.03	2.86	1.86	0.18	7.93
Kansas	2.32	2.23	1.60	0.66	6.81
Washington	1.42	4.92	0.00	0.00	6.34
Wisconsin	2.24	3.69	0.00	0.06	5.98
Wyoming	3.06	2.70	0.00	0.14	5.90
Vermont	3.07	2.55	0.00	0.28	5.90
Nebraska	3.02	2.83	0.00	0.01	5.85
Colorado	1.64	3.44	0.00	0.71	5.78
Idaho	1.03	4.70	0.00	0.01	5.74
Iowa	2.94	2.40	0.10	0.19	5.62
Missouri	1.36	4.08	0.09	0.01	5.55
Oklahoma	1.22	4.11	0.00	0.00	5.33
Alaska	1.44	2.07	1.33	0.31	5.15
Connecticut	1.70	2.98	0.14	0.06	4.88
South Carolina	1.12	3.28	0.01	0.39	4.81
Illinois	0.77	2.16	1.54	0.29	4.76
West Virginia	1.64	3.11	0.00	0.00	4.75
Rhode Island	2.26	2.36	0.08	0.00	4.69
Mississippi	0.71	3.57	0.22	0.11	4.61
North Dakota	3.65	0.85	0.00	0.05	4.54
New Hampshire	2.35	2.02	0.00	0.06	4.43
Kentucky	0.51	3.80	0.01	0.02	4.35
South Dakota	2.68	1.53	0.10	0.00	4.31
Arkansas	0.95	2.74	0.43	0.00	4.12
New York	2.73	1.11	0.00	0.16	4.00
Ohio	1.06	2.22	0.57	0.00	3.84
Montana	1.94	1.56	0.00	0.00	3.49
Pennsylvania	1.99	1.04	0.21	0.01	3.25
Maine	1.83	1.13	0.25	0.00	3.21
Florida	1.47	1.27	0.00	0.41	3.15
Delaware	0.81	1.58	0.00	0.69	3.08
New Mexico	1.66	1.20	0.00	0.10	2.96
Alabama	1.09	1.74	0.10	0.00	2.93
Hawaii	1.37	1.40	0.00	0.10	2.86
Georgia	0.97	1.76	0.00	0.09	2.82
Massachusetts	1.82	0.93	0.00	0.00	2.76
Texas	0.57	1.84	0.00	0.05	2.46
Virginia	0.78	1.37	0.05	0.04	2.23
Maryland	1.40	0.50	0.07	0.15	2.12
Utah	1.61	0.36	0.05	0.09	2.10
North Carolina	0.68	1.26	0.00	0.08	2.02
California	1.44	0.40	0.02	0.08	1.95
Indiana	1.19	0.60	0.00	0.05	1.84
New Jersey	0.57	1.00	0.03	0.13	1.72
Michigan	0.77	0.91	0.00	0.04	1.72
Louisiana	0.89	0.49	0.05	0.06	1.49
Nevada	0.48	0.78	0.22	0.00	1.48
District of Columbia	0.55	0.49	0.00	0.01	1.05
Tennessee	0.76	0.09	0.00	0.00	0.85

Source: Rockefeller Institute analysis of Kaiser Family Foundation data (latest data available at http://www.statehealthfacts.org/comparetable.jsp?ind=241&cat=4).

that there is no underlying dimension or factor that could be used to simplify the analysis. Second, there is no simple relationship between participation in different types of waivers and overall long-term care spending. The only significant statistical relationship between waiver participation and long-term care spending is for waiver activity for the mentally retarded and developmentally disabled, which is strongly and positively related to overall spending. At least in some states, the large institutions that once were the sole source of services for this population have been largely replaced by a wide range of residential and nonresidential community programs,[26] so the relationship between waiver activity and spending may be stronger in this area than in other program areas, such as care for the disabled elderly, where institutional care in nursing homes is still a major source of services. Third, it should be remembered that services covered under many waivers may also be covered under other service categories in a state's Medicaid program. Personal care services that provide the disabled elderly with help with shopping, cooking, and other activities of daily living, for example, may be covered by waivers in one state and by the standard Medicaid program in another. Finally, because of these complex ties between standard programs and waiver programs, there is little relationship between "generosity" in the use of waivers and generosity in both coverage and nursing home fees. States such as Oregon, Kansas, and Nebraska, for example, which are among the heaviest users of waivers, pay relatively low nursing home rates, while others, such as Minnesota and Connecticut, are both substantial users of waivers and relatively generous payers.

Discussion

The analysis presented in this paper has suggested some of the difficulties with simplistic approaches to understanding the relationship between state Medicaid long-term care policy and Medicaid long-term care spending. Simple measurements of important state management and administrative practices are not available. Medicaid service categories overlap, so that services covered by waivers in some states are covered by standard Medicaid programs in others. Finally, Medicaid policies interact in ways that are difficult to identify with conventional methods. At least some waivers, for example, are intended to reduce spending on expensive institutional care, but there has been little attempt to test for these interactions in most models of Medicaid spending.

The difficulties suggest the need for two different directions in further studies of Medicaid long-term care policy. One is for closer, more qualitative, attention to individual states or comparative studies of groups of states. Because the policy substance of home- and community-based waivers is so diverse, for example, it is likely to prove difficult to identify the effects of these programs on Medicaid spending without attention to the particular policies pursued in individual states or groups of states. A second

improvement would be to develop measures that recognize the potential interactions between Medicaid policies. The first of these directions is beyond the scope of this paper, but we can propose a direction for the second.

A Way Forward: Interactive Approaches to Measuring Medicaid Policy

One of the major complications in measuring the effects of Medicaid long-term care policies on Medicaid long-term care spending is that individual state policies governing eligibility, rates, or services do not exist in a policy vacuum, but interact with each other in ways that are frequently not obvious, but exert a considerable influence on spending nonetheless. A given change in a nursing home rate, for example, can vary widely in its impact on total spending, depending on the number of clients covered by the change and the number of nursing home beds for which it can be paid. Expanding a home- and community-based waiver program might be expected either to reduce nursing home and total long-term care spending or to increase total spending depending on the clientele and the services covered by the waiver. Traditional approaches to measuring the effects of state policies on spending typically do not test for these interactions.

One method for addressing this problem is to develop measures of long-term care policy that allow state policy choices to interact with each other. Rather than examining the effects of individual policies in isolation, students of state long-term care policy may find it more fruitful to develop measures of combinations of state long-term care policies that allow for the possibility that generosity in one policy area can be offset by more conservative policies in other areas or to recognize the interactive effect of multiple liberal policies on state long-term care spending. Such methods as factor analysis, which test for underlying dimensions of policy generosity across a variety of policy areas and allow states to be characterized by their standing on these underlying dimensions, may be more productive than the laborious process of testing for interactions between sets of individual variables in a conventional regression approach.

An index of Medicaid program generosity developed by Park illustrates this approach.[27] Park's index uses factor analysis based on the variables in Table 6, to identify a single generosity dimension that combines measures of client eligibility, nursing home bed capacity, waiver scale, and nursing home rates.[28] States with generous eligibility policies, lots of nursing home beds and waiver slots, and generous per diem payments will rank high on this index compared to states whose programs are less generous in particular areas.

Policy generosity indices for individual states are displayed in Table 7. Scores have been

Table 6. Variables Used in Factor Analysis
Nursing Home Payment Per Diem
Nursing Home Bed Ratio per 1,000 Elderly Aged 65 and Over
Medicaid Payments to Elderly Nursing Home Residents Aged 65 Years and Over
Ratio of Medicaid Payments to Nursing Homes to Private Payments
1915 ©) HCBS Medicaid Waiver Expenditure Per Elderly Medicaid Enrollee
Medicaid Payments for Home Health Per Elderly Medicaid Enrollee
Percentage of Nursing Home Residents to the Elderly Population Aged 65 Years and Older
Percentage of the Aged Medicaid Enrollees to the Elderly Population Aged 65 Years and Older

Table 7. Long-Term Care Policy Generosity Index by State, 2004

State	Generosity Index
New York	99.55%
Connecticut	82.61%
Minnesota	75.87%
Massachusetts	67.77%
Louisiana	63.94%
District of Columbia	62.88%
Rhode Island	58.99%
Wisconsin	58.26%
North Dakota	53.87%
New Hampshire	53.46%
Maine	51.19%
Wyoming	48.91%
Alaska	48.64%
Vermont	46.69%
Kansas	46.52%
Iowa	45.62%
Indiana	45.17%
Ohio	44.60%
Arkansas	44.56%
Texas	44.49%
Nebraska	44.46%
Delaware	44.01%
New Jersey	43.52%
Illinois	42.89%
South Dakota	42.36%
Missouri	41.22%
Oklahoma	40.36%
Mississippi	39.98%
Montana	39.45%
North Carolina	39.01%
Georgia	38.37%
Tennessee	37.26%
Colorado	35.18%
Pennsylvania	35.14%
Maryland	34.97%
Michigan	34.66%
Washington	34.03%
Kentucky	33.26%
New Mexico	30.60%
South Carolina	30.56%
Idaho	28.09%
West Virginia	28.01%
Utah	27.00%
Alabama	26.11%
Oregon	26.03%
California	24.94%
Virginia	19.56%
Hawaii	9.55%
Florida	4.28%
Nevada	0.00%

Source: Rockefeller Institute analysis.

standardized to a range of 0 to 100. These results suggest a pattern noted by other students of long-term care policy — one extremely generous state (New York), a relatively small number of relatively generous states — only 11 states have scores above 50 — and a larger number of less generous states. It should be noted that the states identified in the last section as having particularly large home- and community-based waiver programs show significant disparities in their overall generosity scores. Wisconsin and Minnesota have both large waiver programs and generous policies overall, while states such as Washington, Oregon, and Kansas have large waiver programs, but less generous policies overall. This pattern suggests that Washington, Oregon, and Kansas may have managed their waiver programs with the express intent of using community- based programs as a means of holding down nursing home spending, while Wisconsin and Minnesota may have been more interested in expanding services for elderly residents who are at less risk for institutionalization.

This index performs considerably better in explaining state long-term care spending than our earlier efforts. By itself, this index "explains" almost two-thirds of variation in total long-term care spending across states, which is a considerable improvement over our earlier results. This result suggests there may be substantial interactions between long-term care policies, but these interactions may not be obvious or the same in all states.

Conclusions

This analysis suggests that investigations of the effects of state long-term care policy on long-term care spending should proceed along two separate tracks. One is the use of consolidated or interactive measures of state policies, rather than adding individual policy variables to regression equations predicting spending one variable at a time. Policies may interact with each other with unexpected effects on spending, and research designs need to allow for this possibility.

The second direction for analysis of long-term care policy would be to focus on more qualitative examinations of individual states or groups of states. Home- and community-based waivers, for example, can be used to pursue a variety of policy goals that can't be easily identified from aggregate enrollment and expenditure statistics, and detailed on-site investigation of state priorities and practices may be required for satisfactory definition of state policies. In similar fashion, state administrative policies and practices such as outreach and referral may influence state spending, but can't be readily determined from aggregate data. Such practices can be meaningfully compared using qualitative data in a comparative case study framework and combined with other data in a variety of other analyses.[29]

Endnotes

1 Ellen O'Brien, Georgetown University Health Policy Institute, *Long-Term Care: Understanding Medicaid's Role for the Elderly and Disabled.* The Kaiser Commission on Medicaid and the Uninsured, November 2005. Available at: http://www.kff.org/medicaid/upload/Long-Term-Care-Understanding-Medicaid-s-Role-for-the-Elderly-and-Disabled-Report.pdf.

2 http://medicaidbenefits.kff.org/.

3 Rockefeller Institute analysis of Kaiser Family Foundation and US Census Bureau data.

4 Rockefeller Institute analysis of CMS-64 and US Census Bureau data.

5 http://medicaidbenefits.kff.org/.

6 Medicaid and an aging population, Fact Sheet, Georgetown University Long-Term Care Financing Project, July 2004.

7 John Holahan and David Liska, Variations in Medicaid Spending among States, New Federalism:Issues and Options for States,Assessing the New Federalism, The Urban Institute, Series A, No. A-3, January 1997.

8 DSH payments are not tied to specific services. The payments help states to cover costs for uncompensated care, but also have been used by states as a gimmick to draw down federal reimbursement that is not tied to the cost of specific services.

9 Donald J. Boyd, "Medicaid Devolution: A Fiscal Perspective," in *Medicaid and Devolution: A View From the States*, ed. Frank J. Thompson and John J. DiIulio, eds. (Washington, DC: The Brookings Institution Press, 1998), 56-105.

10 Those categories, as outlined by Joshua Weiner and David Stevenson, are focused on cost control: bringing in more outside resources to offset expenditures; reforming the delivery system; and reducing Medicaid eligibility, reimbursement, and services coverage. We would add a forth category: shifting care from institutions to community-based settings — although costs savings are debated.

11 For recent examples see Thad Kousser, "The Politics of Discretionary Medicaid Spending, 1980-1993," *Journal of Health Politics, Policy and Law* 27, 4 (August 2002): 639-71; Robert L. Kane, Rosalie A. Kane, Wendy Nielsen Veazle, and Richard C. Ladd, "Variation in State Spending for Long-Term Care: Factors Associated with More Balanced Systems," *Journal of Health Politics, Policy and Law* 23, 2 (April 1998): 363-90; and Monica E. Friar, Discovering Leadership that Matters: Understanding Variations in State Medicaid Spending, Manuscript, A. Alfred Taubman Center for State and Local Government, John F. Kennedy School of Government, Harvard University, Cambridge, MA, March 1999.

12 Martin Kitchener, Helen Carrilo, and Charlene Harrington, "Medicaid Community-Based Programs: A Longitudinal Analysis of State Variation in Expenditures and Utilization," *Inquiry* 40, 4 (Winter 2003): 375-89.

13 See Michael S. Sparer, *Medicaid and the Limits of State Health Reform* (Philadelphia, PA: Temple University Press, 1996) for an excellent noneconometric analysis of spending differences between New York and California.

14 For a partial exception, see Rosalie A. Kane, Robert L. Kane, and Richard C. Ladd, *The Heart of Long Term Care* (New York: Oxford University Press, 1998).

15 David C. Grabowski, Robert L. Ohsfeldt, and Michael A. Morrisey,"The effects of CON repeal on Medicaid nursing home and long-term care expenditures," *Inquiry 40, 2* (Summer 2003): 146-57.

16 For opposing views, compare William G. Weissert, Cynthia Matthews Cready, and James E. Pawelak, "The Past and Future of Home- and Community-based Long-term Care" *Milbank Quarterly* 66, 2 (1988): 309-88, and Kane, Kane and Ladd, *The Heart of Long Term Care*, 70-71.

15 http://medicaidbenefits.kff.org/.

16 A complete list of coding rules and codes for individual states is available from the authors on request.

17 Factor analysis is a data reduction technique that tests for the presense of underlying factors, or mathematically constructed dimensions in a set of variables with which the variables are correlated. For a relatively nonmathematical explanation, see Jae-on Kim and Charles Mueller, *Factor Analysis: Statistical Methods and Practical Issues* (Thousand Oaks, CA: Sage Publications, 1978)

18 The eigenvalue for a single factor solution was 4.39, well in excess of the value of 1 typically used as a cut-off to determine significance of individual factors. The single factor solution "explained" approximately 55 percent of the total variance among all the variable used in the analysis.

19 See Frank Thompson and James W. Fossett, "Administrative Responsiveness to the Disadvantaged: The Case of Children's Health Insurance," *Journal of Public Administration Research and Theory* 16, 3 (June 2006): 369-92 for a detailed description of participation rates.

20 See Fossett and Thompson, "Administrative Responsiveness to the Disadvantaged," 372-74, for a detailed discussion of state incentives.

21 Among the most frequently cited studies are Denise A. Spence and Joshua M. Weiner, "Estimating the Extent of Medicaid Spend-Down in Nursing Homes," *Journal of Health Politics, Policy and Law* 15, 3 (1990): 607-26; and Brian O. Burwell, E. Kathleen Adams, and Mark R. Meiners, "Spend-Down of Assets Before Medicaid Eligibility Among Elderly Nursing-Home Recipients in Michigan," *Medical Care* 28, 4 (April 1990): 349-62.

22 For a useful overview of the waiver program's history and major features, Kitchener, Carrillo, and Harrington, op. cit.

23 This waiver program is also known as 1915(c) waivers after the section of the Social Security Act that provides the authority to extend these waivers.

24 Kaiser Commission on Medicaid and the Uninsured, "Medicaid 1915(c) Home and Community-Based Service Programs: Data Update," December 2006.

25 For data on the enormous variation in the size and scope of these waivers, see Kitchener, Camillo, and Harrington, op. cit., Table 3.

26 For a detailed examination of this process in one state, see Paul J. Castellani, *From Snake Pit to Cash Cow: Politics and Public Institutions in New York* (Albany, NY: SUNY Press, 2005).

27 Kyoungdon Park, "The Crowding Out Effects of State Medicaid Policy on the Purchase of Private Long Term Care Insurance," PhD Dissertation, Department of Public Administration and Policy, State University of New York at Albany, 2007.

28 For a complete description of the derivation of the index, see Ibid., Appendix A.

29 See Fossett and Thompson, op. cit., for an example of this technique.

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