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States With Medically Needy Pathways: Differences in Long-Term and Temporary Medicaid Entry for Low-Income Medicare Beneficiaries

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Abstract

Medically needy pathways may provide temporary catastrophic coverage for low-income Medicare beneficiaries who do not otherwise qualify for full Medicaid benefits. Between January 2009 and June 2010, states with medically needy pathways had a higher percentage of low-income beneficiaries join Medicaid than states without such programs (7.5% vs. 4.1%, $p < .01$). However, among new full Medicaid participants, living in a state with a medically needy pathway was associated with a 3.8 percentage point (adjusted 95% confidence interval [1.8, 5.8]) increase in the probability of switching to partial Medicaid and a 4.5 percentage point (adjusted 95% confidence interval [2.9, 6.2]) increase in the probability of exiting Medicaid within 12 months. The predicted risk of leaving Medicaid was greatest when new Medicaid participants used only hospital services, rather than nursing home services, in their first month of Medicaid benefits. Alternative strategies for protecting low-income Medicare beneficiaries' access to care could provide more stable coverage.

Keywords

Medicare; Medicaid; dual-eligible beneficiaries; state policy; low-income populations

Despite almost universal Medicare coverage for older Americans, Medicare beneficiaries still face significant health care costs. Compared with older adults in other industrialized nations, American seniors are the most likely to report cost-related health care access barriers (Osborn, Moulds, Squires, Doty, & Anderson, 2014). In 2010, traditional Medicare beneficiaries paid an average of \$4,734 in out-of-pocket health care spending for Medicare

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cost-sharing, premiums, and services that are not covered by Medicare, such as long-term care (Cubanski, Swoope, Damico, & Neuman, 2014).

Low-income Medicare beneficiaries face a fragmented set of financial assistance programs that have been created piecemeal over the years to cover specific out-of-pocket expenses (Carpenter, 1998; Medicaid and CHIP Payment and Access Commission, 2013; Moon, Brennan, & Segal, 1998; Nemore, Bender, & Kwok, 2006). One such narrowly defined program is the Part D Low Income Subsidy (LIS) program, which reduces prescription drug coverage costs for beneficiaries who have income levels below 150% of the federal poverty level (FPL) and few assets. In 2014, 12.8 million beneficiaries participated in this program. Most of this population also has Medicaid coverage, but 1.5 million receive no additional financial assistance from Medicaid, which has more restrictive eligibility requirements than Part D LIS (CMS Chronic Condition Data Warehouse, 2016). Survey data suggest that Part D LIS participants without Medicaid coverage face high out-of-pocket costs for other medical expenses besides drugs (Briesacher et al., 2010).

If Part D LIS beneficiaries live in a state with a medically needy pathway for Medicaid eligibility, they may be able to access Medicaid benefits when they have high medical expenses. Although all states are required to meet minimum federal requirements for providing Medicaid benefits to the lowest-income Medicare beneficiaries, states have the option of providing Medicaid benefits to Medicare beneficiaries with high medical out-of-pocket costs. As of 2009, 36 states and the District of Columbia offered medically needy programs or comparable eligibility pathways where beneficiaries can deduct medical expenses from their income and qualify for full Medicaid on the basis of their net income (Kaiser Commission on Medicaid and the Uninsured, 2010; Walker & Accius, 2010; Watts & Young, 2012). About 9% of the nation's 10 million dual-eligible beneficiaries qualify for Medicaid through a medically needy program (Medicare Payment Advisory Commission and Medicaid and CHIP Payment Access Commission, 2016).

Because eligibility through a medically needy pathway is directly tied to medical expenses, Medicare beneficiaries may only qualify for this type of Medicaid coverage when their medical out-of-pocket costs are high. Although there is a high degree of correlation in a Medicare beneficiary's medical spending over time, there are still significant changes from year to year in whether a beneficiary has persistently high costs (Nardi, French, Jones, & McCauley, 2015; Riley, 2007). Such patterns could influence whether beneficiaries remain eligible for Medicaid through medically needy pathways.

Understanding these Medicaid entry dynamics has important implications for whether low-income Medicare beneficiaries experience financial barriers to care. Even though Medicaid coverage through a medically needy program may provide an important safety net during high-cost episodes, low-income Medicare beneficiaries may benefit from more stable sources of financial assistance. As many as 16% of dual-eligible beneficiaries lose their Medicaid coverage for at least 1 month in a 3-year time period (Riley, Zhao, & Tilahun, 2014), and there is little data on the impact of these Medicaid coverage lapses. Studies of adult Medicaid beneficiaries under the age of 65 suggest that gaps in Medicaid coverage are associated with greater medical spending and potentially avoidable hospitalizations

(Bindman, Chattopadhyay, & Auerback, 2008; Hall, Harman, & Zhang, 2008). However, it is not clear whether these results generalize to dual-eligible beneficiaries who retain Medicare coverage but lose Medicaid's additional financial protections.

Furthermore, these differences in Medicaid eligibility criteria could complicate interstate comparisons of dual-eligible populations. Within a state's Medicaid population, a beneficiary who might temporarily enter Medicaid during an expensive episode of medical care could have different health care needs and costs than a beneficiary who is a long-term Medicaid participant. If variation in Medicaid eligibility rules leads to significant differences in the composition of each state's dual-eligible population, then it will be difficult to compare quality and costs across state Medicaid programs. For example, it is not clear why the rate of avoidable hospitalizations among dual-eligible beneficiaries who use home-and-community based services is lower in states with medically needy programs compared to states without such programs (Konetzka, Karon, & Potter, 2012). If these differences are linked to systematic differences in the health and characteristics of dual-eligible beneficiaries based on variation in eligibility rules, then program design and payment policy may need to take such factors into consideration.

This article investigates whether state differences in the availability of medically needy programs are associated with differences in the likelihood that Part D LIS participants will enter Medicaid either permanently or temporarily. We perform a time-to-event analysis to predict Part D LIS beneficiaries' likelihood of any new Medicaid participation. In addition, we investigate the potential link between medically needy programs and duration of Medicaid enrollment, focusing on how beneficiaries' use of health care services may influence ongoing Medicaid participation. We examine a question that, to our knowledge, has not been previously researched: are new Medicaid participants in states with medically needy programs more likely to only have temporary participation in Medicaid benefits? Do these patterns vary depending upon what type of health care services beneficiaries use at Medicaid entry?

Background: Medicaid Eligibility for Medicare Beneficiaries

A Medicare beneficiary's pathway into Medicaid can vary depending on whether they qualify for Medicaid benefits on the basis of being categorically eligible or medically needy (De Nardi, French, Jones, & Gooptu, 2011). The first population includes beneficiaries whose income and assets are low enough to qualify for Medicaid coverage, regardless of their health care needs or expenses. For beneficiaries with few assets and income below 75% of the federal poverty line, federal law requires almost all states to offer full Medicaid benefits that cover Medicare out-of-pocket costs and additional services not covered by Medicare (Kaiser Commission on Medicaid and the Uninsured, 2010). Individuals with income between 75% and 100% FPL qualify for partial Medicaid benefits that cover Medicare premiums and cost-sharing. Some states elect to extend full Medicaid coverage to this population. In all states, individuals with income up to 135% FPL can qualify for partial Medicaid benefits that cover Medicare premiums. Asset limits are modestly higher, or waived in some states, for partial Medicaid benefits.

In states with medically needy programs, use of health care services directly influences whether someone is eligible for Medicaid. Across the 37 state Medicaid programs (including D.C.) that offered medically needy programs in 2009 or other options for deducting medical expenses from income to meet eligibility requirements, the net income thresholds ranged between \$100 and \$991 and most programs had assets limits of \$2,000 (Kaiser Commission on Medicaid and the Uninsured, 2010; Walker & Accius, 2010; Watts & Young, 2012). Appendix Table A1 provides information on the presence of a medically needy pathway in each state.

Medically needy coverage is often associated with long-term nursing home care, which is not covered by Medicare and is well-established as a risk factor for Medicaid entry (Adams, Meiners, & Burwell, 1993; Lim, Irvin, & Borck, 2014; Liu & Manton, 1989). In fact, many states elect to set higher income limits for individuals who require institutional long-term care services, an option that bypasses the need to assess whether beneficiaries meet medically needy net income limits after long-term care expenses. These income limits are set at 300% of supplemental security income limits in most states that offered this eligibility pathway in 2009 (Kaiser Commission on Medicaid and the Uninsured, 2010).

However, beneficiaries may also qualify for medically needy Medicaid coverage through other health care expenses that are not related to long-term care. For example, some evidence from studies that are not limited to Medicare beneficiaries suggests that medically needy programs may be associated with greater Medicaid participation in populations with large out-of-pocket costs for pharmaceuticals (Bhattacharya, Goldman, & Sood, 2003; Lakdawalla, Sood, & Goldman, 2006; Zerzan, Edlund, Krois, & Smith, 2007).

New Contribution

There is little evidence on how Medicaid entry among Medicare beneficiaries varies according to a state's Medicaid policies. Two survey-based studies suggest that Medicaid participation is greater for beneficiaries over age 65 in states with more generous coverage of home-and-community-based long-term care (Pezzin & Kasper, 2002) and in states with less restrictive income and asset definitions (Ungaro & Federman, 2009). These cross-sectional studies measure whether Medicare beneficiaries have any Medicaid participation (new or ongoing). In contrast, our study analyzes whether states' policies regarding medically needy pathways are specifically associated with new Medicaid entry. This approach is feasible because we use Medicare administrative data to identify a large sample of low-income Medicare beneficiaries and follow them over time. Because we can follow beneficiaries' Medicare participation over time, we can also examine whether new Medicaid enrollees have only temporary or longer term participation in Medicaid. Furthermore, our study updates the existing evidence on how state policies influence Medicaid participation by using more recent data than previous studies.

Conceptual Framework

To understand how medically needy pathways may be associated with patterns of Medicaid entry and exit among Medicare beneficiaries, two sources of influencing factors must be

considered. First, a Medicare beneficiary may gain or lose Medicaid coverage if he or she acquires or loses eligibility for Medicaid benefits. Second, even if a Medicare beneficiary is consistently eligible for Medicaid, his or her participation in Medicaid may change depending on awareness of the program, navigation of the application process, and perceived need for Medicaid benefits.

Transitions in eligibility for Medicaid may be due to changes in a beneficiary's financial resources, use of long-term services and supports, and, in states with medically needy pathways, a beneficiary's medical expenses. Among beneficiaries who qualify for Medicaid through categorical eligibility pathways, a change in income or assets can be a significant factor in Medicaid transitions. For example, if a Part D LIS participant experiences a decrease in income or assets due to the loss of a spouse or dwindling retirement savings, then he or she may gain eligibility for Medicaid and become dual-eligible. Conversely, if a dual-eligible beneficiary gains income or assets, then she may no longer be eligible for Medicaid. Because all states must offer categorical Medicaid eligibility, these factors affect all Medicare beneficiaries.

A change in beneficiaries' need for long-term care services might also change their eligibility for Medicaid, especially if they live in a state with higher Medicaid income limits for beneficiaries who require institutional long-term care. For example, a Part D LIS beneficiary who initiates a residential nursing home stay may gain eligibility for Medicaid under these special income limits and maintain eligibility for as long as long-term services are required.

Relative to states without medically needy pathways, one unique factor that affects eligibility in states with medically needy pathways is out-of-pocket costs for various medical needs. Among beneficiaries who qualify for Medicaid through medically needy pathways, a change in their medical expenses can change their eligibility for Medicaid. For example, a Part D LIS beneficiary could qualify for Medicaid benefits while she was experiencing an event with high out-of-pocket costs, but no longer be eligible for Medicaid once her medical expenses abated. In effect, medically needy programs expand Medicaid access to Part D LIS participants who, despite having incomes above Medicaid categorical eligibility limits, would still have difficulty paying for an expensive medical event. In this case, Part D LIS participants who live in a state with a medically needy program could be more likely to enroll in Medicaid than Part D LIS participants without access to such programs.

If Part D LIS participants qualify for Medicaid through a medically needy program during an acute, expensive medical event, then these beneficiaries may no longer qualify once the event resolves. In that situation, we would expect to see higher rates of these beneficiaries having only temporary Medicaid enrollment in states with medically needy programs compared to states without medically needy programs. On the other hand, medically needy programs could also act as a safety net for Medicaid enrollees who lose Medicaid eligibility in other pathways, such as income-based criteria. A medically needy program could improve retention by providing more options for maintaining Medicaid benefits.

One potential marker of whether Part D LIS participants are entering Medicaid through a medically needy pathway during an acute medical event or during an extended period of illness is the type of services that beneficiaries use as they enter Medicaid. For example, beneficiaries who enter Medicaid as consumers of long-term nursing home services will probably require continued financial assistance for an extended period of time. Such expenses could maintain beneficiaries' eligibility for Medicaid. Furthermore, beneficiaries may receive assistance from the nursing home in documenting their continued high medical expenses. In contrast, beneficiaries who enter Medicaid with use of only hospital services might be experiencing an acute medical event that resolves and no longer involves high medical costs, thereby ending their eligibility for Medicaid.

The other main set of factors related to Medicaid entry and exit reflects take-up of Medicaid benefits among eligible beneficiaries. Not all Medicare beneficiaries who qualify for Medicaid on the basis of their income and assets join Medicaid (Dorn & Shang, 2012; Ettner, 1997; Federman, Vladeck, & Siu, 2005; Haber et al., 2003; Medicare Payment Advisory Commission, 2008; Zuckerman, Shang, & Waidmann, 2009). For example, Medicare Payment Advisory Commission estimates that only half of all beneficiaries who are eligible for Medicaid assistance with Medicare out-of-pocket costs are enrolled (Medicare Payment Advisory Commission, 2016). Beneficiaries who are eligible for Medicaid may not enroll until they have a major medical event, such as a hospitalization, and learn that they are eligible for Medicaid coverage or need assistance paying for medical costs (Borck, Irvin, & Lim, 2014; Haber et al., 2003; Lim et al., 2014; Perry, Kannel, & Dulio, 2002). There is some evidence that the complexity of the Medicaid application process could be a barrier for low-income Medicare beneficiaries (Haber et al., 2003; Perry et al., 2002). Such concerns might be intensified in the case of eligibility based on medically needy pathways, where beneficiaries must document that their medical expenses are high enough in order to qualify for medically needy coverage. The need to provide documentation of expenses on an ongoing basis could put dual-eligible beneficiaries who qualify for Medicaid under medically needy criteria at higher risk of losing benefits due to not fulfilling reverification requirements.

Method

Study Data and Population

Using the Medicare Master Beneficiary Summary File, we identified beneficiaries who were enrolled in traditional Medicare as of January 2009 and had continuous participation in the Part D LIS program for the previous 12 months (January to December 2008). We excluded beneficiaries with any Medicaid or Medicare Advantage participation in 2008.

Part A claims and Minimum Data Set records provided information on beneficiaries' use of hospital, skilled nursing facility (SNF), and nursing home services between January 2008 and June 2010. We excluded beneficiaries who used inpatient, SNF, or nursing home use services in 2008. Other exclusion criteria included invalid Medicaid or Part D LIS participation data during the follow-up period, missing or invalid covariate data, and qualifying for Medicare due to end-stage renal disease or disability. Details of how many beneficiaries were excluded are presented in Appendix Figure A1.

Research Question 1: Is the presence of a medically needy pathway associated with higher rates of Medicaid entry?

Study Outcome and Approach

To investigate whether the presence of a medically needy pathway was associated with greater likelihood of Medicaid entry, we performed a time-to-event analysis for the time period January 2009 to June 2010. The unit of analysis was a person-month. Beneficiaries were observed until they joined full Medicaid, died, or were censored due to Medicare Advantage enrollment. The main advantages of a time-to-event approach are the ability to control for the competing risk of death and to analyze health care use on a time-varying basis, which is particularly important in assessing whether beneficiaries are more likely to enter Medicaid following a costly medical episode.

Key Independent Variables

The main explanatory variable was the availability of medically needy programs in beneficiaries' state of residence. Information on medically needy and other Medicaid eligibility criteria as of the year 2009 was abstracted from a Kaiser Family Foundation publication and an AARP report (Kaiser Commission on Medicaid and the Uninsured, 2010; Walker & Accius, 2010). Any state with an eligibility pathway that was based on a beneficiary's net income after medical expenses was categorized as having a medically needy program. Appendix Table A1 provides information on the presence of a medically needy pathway in each state.

To assess whether health care service use influenced a beneficiary's likelihood of entering Medicaid, we measured whether beneficiaries had recent hospital or skilled nursing facility use based on claims. If Minimum Data Set records showed that a beneficiary spent the majority of a month in a nursing home without skilled nursing facility coverage, we assumed the person had been receiving long-term nursing home services. Three lagged, time-varying variables tracked beneficiaries' total number of inpatient days, skilled nursing facility days and months with nursing home use over the entire study period. Besides cumulative utilization, we also categorized what type of services beneficiaries had received most recently, following an approach used in Keohane, Trivedi, and Mor (2017). These three services are often delivered in sequence, so we applied a hierarchy to distinguish whether beneficiaries had used only hospital services, skilled nursing facility services without nursing home care, or any nursing home care in the prior 3 months. This variable was lagged by 1 month to ensure that any use of health services occurred prior to Medicaid entry.

Other Variables

In addition to the medically needy pathway variable, other aspects of states' Medicaid eligibility criteria were identified by a categorical variable for poverty-related income limits (75% FPL or lower, 76% to 99% FPL, 100% FPL) and an indicator variable for whether a state had higher income limits for beneficiaries who require long-term nursing home care (Kaiser Commission on Medicaid and the Uninsured, 2010; Walker & Accius, 2010).

Individual-level study covariates included beneficiaries' age, sex, and race. We applied a socioeconomic index based on census data for beneficiaries' residential zip codes to divide the study population into five socioeconomic quintiles and identify whether beneficiaries lived in areas with fewer economic resources (Bonito, Bann, Eicheldinger, & Carpenter, 2008).

Because the amount of the Part D LIS subsidy varies by income level and assets, we included indicators in our model to capture the extent of the Part D LIS subsidy beneficiaries received for the year 2008: full subsidy, partial subsidy (income <135% FPL), and partial subsidy (income <150% FPL; Social Security Administration, 2016). Although all beneficiaries belonged to the Part D LIS program in 2008, they may have added on partial Medicaid benefits or switched to nonsubsidized drug coverage during the follow-up period. Partial Medicaid coverage cannot be obtained through medically needy pathways, so we continue to track these beneficiaries to observe whether they eventually enrolled in full Medicaid. To capture these changes, we created a time-varying categorical variable that measured on a monthly basis what type of prescription drug coverage or financial assistance beneficiaries had for the majority of the past three months. The categories were: Part D prescription drug plan without LIS, alternate prescription drug coverage, no prescription drug coverage, partial Medicaid coverage of the Part B premium, and partial Medicaid coverage of Medicare cost-sharing.

A continuous variable indicating the month of observation controlled for changes over time in likelihood of Medicaid participation. An indicator variable identified January time points, since this is the most common month for beneficiaries to leave traditional Medicare for Medicare Advantage. Because there were some changes to how Medicaid applications were processed beginning in the year 2010, we also controlled for whether time points fell in that year (Government Accountability Office, 2012).

Analyses

We present descriptive statistics about what percentage of Part D LIS participants joined Medicaid in each state according to each state's medically needy income limit (representing states without a program as having a \$0 limit). We calculated the Pearson's correlation coefficient between these two measures, weighted by the number of Part D LIS participants in each state.

For adjusted results, we estimated a discrete time-to-event model that examined how beneficiaries' likelihood of enrolling in Medicaid varied across states with different medically needy eligibility criteria. The level of observation for this analysis is a person-month. To account for competing risks, we employed a multinomial logistic model that included death as a potential outcome in addition to Medicaid entry (Allison, 2010; Singer & Willett, 2003).

To account for how the association between Medicaid entry and a medically needy program might vary based on beneficiaries' recent health care use, our models include an interaction term between the indicator variable for the availability of a medically needy pathway and the categorical variable for recent health care use.

In reporting our results, we present the predicted difference in Medicaid entry for states with and without medically needy pathways, as well as the predicted difference associated with other Medicaid eligibility rules. To account for interactions between health care use and the presence of a medically needy program, we report the predicted difference in Medicaid entry associated with health care use separately for states with medically needy programs and states without medically needy programs.

Because we are not aware of any variation in medically needy program eligibility over the course of the study, we did not include state fixed effects in our models. Standard errors were clustered at the state level.

Sensitivity Analyses

We also tested whether the generosity of the medically needy program mattered by replacing our binary indicator for presence of a medically needy pathway with a continuous variable that measured each state's medically needy income limit threshold, an approach that has been used in previous studies (Bhattacharya et al., 2003; Lakdawalla et al., 2006). In the latter approach, states without a program have been represented with a zero dollar threshold.

Because Medicare Advantage entry is a potential competing risk to Medicaid entry, we also tested a multinomial model that included Medicare Advantage entry as another possible outcome in addition to no Medicaid entry, death, or Medicaid entry. Because that approach did not change the results for predicted Medicaid entry, we present the results of the model that only included death as a competing risk.

To assess whether the inclusion of the interaction term between recent health care use and the presence of a medically needy pathway influenced our estimates for the main effects of these variables, we also ran three separate versions of our model that omitted the interaction variable: one version that included all states, a second version that included only states with medically needy pathways, and a third version that only included states without medically needy pathways. The latter two versions omitted the variables that indicated each state's Medicaid eligibility criteria. The estimated differences in likelihood of Medicaid entry were similar based on these models, so we do not present these analyses.

Research Question 2: Is the presence of a medically needy pathway associated with greater likelihood of temporary Medicaid participation among new Medicaid enrollees?

Study Outcomes and Approach

To analyze whether the presence of a medically needy pathway was associated with greater likelihood of temporary Medicaid participation among new Medicaid enrollees, we created a person-level model that predicted each new Medicaid enrollee's likelihood of still being enrolled in Medicaid a year after their initial month of full Medicaid benefits. For example, beneficiaries who joined Medicaid in June 2010 had their Medicaid status observed as of May 2011. Beneficiaries' Medicaid participation at that time point was categorized as still enrolled in full Medicaid, switched to partial Medicaid, no longer enrolled in any Medicaid benefits, or deceased.

Key Independent Variables

Like our first study question, the main predictor of interest was the presence of a medically needy pathway. For this study question, the other key variable was beneficiaries' use of health care services at the time they joined Medicaid, as this might indicate whether they entered in the midst of a short-term medical event (such as one that at least initially only required hospital services) or a long-term period of health services use (such as one that required nursing home services). We used the same hierarchy employed in our first study question to create a variable that captured whether beneficiaries had used hospital, SNF, or nursing home services in the month they enrolled in Medicaid. To assess whether the association between temporary Medicaid participation and the presence of a medically needy program varied depending on beneficiaries' health care use at Medicaid entry, we included an interaction term between these two variables.

We also controlled for beneficiaries' cumulative use of health care services (total number of inpatient or SNF days, total number of months with nursing home care) between when the follow-up period started (January 2009) and the month prior to their Medicaid entry.

Other Variables

Most of the control variables from the first research question were also included in the model for the second research question: indicators for other state Medicaid eligibility rules, individuals' demographic characteristics, beneficiaries' level of Part D subsidy benefits at baseline, and indicators for whether beneficiaries joined Medicaid in January or the year 2010. We also included a categorical variable to measure what type of prescription drug coverage or financial assistance beneficiaries had for the majority of the 3 months prior to Medicaid entry.

Analyses

In unadjusted analyses, we examined the correlation between a state's medically needy income threshold and the percentage of new Medicaid entrants that left the Medicaid program within 12 months of their initial Medicaid entry. To more formally test whether there was an association between the presence of a medically needy pathway and the likelihood of new Medicaid enrollees exiting Medicaid, we estimated a person-level multinomial logistic model predicting the outcomes detailed above: still enrolled in Medicaid, switched to partial Medicaid, no longer enrolled in any Medicaid benefits, or deceased.

Sensitivity Analyses

Additional analyses included modeling medically needy pathways based on a continuous variable for medically needy income thresholds instead of a binary indicator for any presence of a medically needy pathway. Much like we did for the first study question, we also confirmed that our results for the medically needy indicator and recent health care use variable were similar when we estimated separate models for all states, states with medically needy pathways, and states without such pathways.

This study was approved by the institutional review boards of Brown University and Vanderbilt University.

Results

Study Population Characteristics

About three quarters of the Part D LIS beneficiaries in our study lived in states that offered a medically needy program (Table 1). The most notable difference between beneficiaries in states with and without medically needy programs is the difference in area-level socioeconomic indicators. A third of study members who lived in states without medically needy programs, in contrast to 16% of study members in states with such programs, belonged to the lowest socioeconomic quintile of the study population. Part D LIS beneficiaries who lived in states with medically needy programs were also more likely to be white and over the age of 85.

Results: Medicaid Entry

Across our entire study population, 6.7% of Part D LIS beneficiaries joined full Medicaid for at least 1 month. When we compared the percentage of a state's LIS population who joined Medicaid to a state's medically needy income limit, the Pearson's correlation coefficient was positive ($\rho = .749$, $p < .01$), indicating that states with higher income limits tend to have a higher percentage of beneficiaries joining Medicaid (Figure 1). Fifteen states without medically needy programs (represented with a zero dollar threshold) had 4.1% of Part D LIS beneficiaries enter full Medicaid (range across states: 2.6% to 9.4%). In contrast, about 7.5% of Part D LIS beneficiaries in states with medically needy programs joined full Medicaid (p value $< .01$ for comparison). The proportion of beneficiaries joining Medicaid exceeded 10% in eight states with medically needy programs, most of which had medically needy income limits more than \$500.

Even after adjusting for other variables in our time-to-event model, Part D LIS participants were still more likely to enroll in Medicaid if their state offered a medically needy program. This finding holds regardless of whether we modelled medically needy programs as a binary variable (none or any medically needy program; Table 2) or as a continuous variable (medically needy income limit; Appendix Table A2). The presence of a medically needy program was associated with 1.3 more beneficiaries ($p < .001$, adjusted 95% confidence interval [CI: 0.5, 2.0]) per 1,000 joining Medicaid in a given month. Another interpretation is that a \$100 increase in a medically needy income limit was associated with 0.2 more beneficiaries ($p < .001$, adjusted 95% CI [0.1, 0.4]) per 1,000 entering Medicaid in a given month.

Other aspects of Medicaid eligibility rules also had a significant relationship with likelihood of Medicaid entry. If a state had a poverty-related income limit above the federal minimum of 75% FPL, then beneficiaries were more likely to join full Medicaid. Offering higher income limits for beneficiaries who need nursing home services, a measure that would be expected to expand Medicaid enrollment, was actually associated with lower likelihood of

Medicaid entry (−1.3 new Medicaid participants per 1,000 beneficiaries per month, $p < .01$, adjusted 95% CI [−2.2, −0.5]).

Beneficiaries who had used hospital, SNF, and especially nursing home services in the past three months were more likely to enter Medicaid. For example, the estimates from our model suggest that a recent hospital stay was associated with 5.9 or 7.7 additional new Medicaid participants per 1,000 beneficiaries in a given month for states without and with medically needy programs, respectively.

Results: Medicaid Retention Among New Medicaid Participants

Fourteen percent of new full Medicaid entrants ($n = 24,687$) no longer had full Medicaid benefits one year after their initial Medicaid entry. Six percent of new full Medicaid participants switched to partial Medicaid benefits and another 8% had no Medicaid benefits whatsoever a year after their original Medicaid entry. This proportion varied depending on whether new Medicaid participants lived in a state with a medically needy program: 8.5% of new participants were no longer enrolled in Medicaid twelve months later in states with medically needy programs compared with 3.4% in states without such programs (p value $< .01$ for comparison). Figure 2 demonstrates how Medicaid exit was positively correlated with having higher medically needy income limits (Pearson's correlation coefficient = .610, $p < .01$). (Exit rates pictured only for states with at least 350 new Medicaid participants; Pearson's correlation coefficient when those states are included is 0.591, $p < .01$.)

When we predicted whether new Medicaid entrants were still enrolled in full Medicaid a year after their initial entry, there was a strong relationship between living in a state with a medically needy program and Medicaid exit (Table 3, Appendix Table A3). Living in a state with a medically needy program was associated with a 4.5 percentage point increase in the probability of leaving Medicaid altogether ($p < .001$, adjusted 95% CI [2.9, 6.2]) and a 3.8 percentage point increase in the likelihood of switching from full to partial Medicaid benefits ($p < .001$, adjusted 95% CI [1.8, 5.8]).

In states with medically needy programs, predictions of ongoing Medicaid participation varied depending on the type of health care services new Medicaid participants used in their first month of Medicaid benefits (Figure 3). Under the assumption that new Medicaid participants in states with medically needy pathways used only hospital care in the month of Medicaid entry, the percentage predicted to have no Medicaid benefits 1 year later was 15.2% (adjusted 95% CI 12.5%, 18.0%). In contrast, under the assumption that new Medicaid participants in states with medically needy pathways used nursing home services in the month of Medicaid entry, the percentage predicted to have no Medicaid benefits 1 year later was 3.9% (adjusted 95% CI: 2.8, 4.9%).

In contrast, there was no significant difference in predicted likelihood of staying enrolled in Medicaid based on health care use among beneficiaries who lived in states without medically needy programs. About 4% of new Medicaid participants in states without medically needy programs were predicted to have no Medicaid benefits 1 year later regardless of what type of health care use at entry was the basis for the prediction.

Discussion

When we tracked Medicaid entry for low-income Part D LIS beneficiaries over an 18-month period, we found that 6.7% of beneficiaries joined full Medicaid for at least a month. Beneficiaries that lived in states that offered medically needy programs had higher Medicaid entry rates, even after adjusting for multiple factors. However, within a year 14% of new full Medicaid participants either discontinued their participation in any Medicaid program or switched to partial Medicaid benefits. Living in a state with a medically needy program was associated with significantly greater likelihood of having only temporary Medicaid participation.

In states with medically needy programs, the predicted likelihood that a beneficiary would still be enrolled in full Medicaid 1 year later varied depending on the type of health care services used during the first month of Medicaid benefits. Our analysis found that using only hospital services in the first month of Medicaid benefits was associated with a higher predicted risk of Medicaid exit, whereas using nursing home services was associated with lower risk of Medicaid exit relative to beneficiaries with no use of health care services. Although the observational nature of our analysis prevents any claims that this relationship is causal, these findings are consistent with the possibility that beneficiaries with only inpatient use may have short-term medical expenses that provide temporary eligibility for full Medicaid under medically needy eligibility criteria.

Our findings on Medicaid entry for a specific, low-income population can be placed in the context of findings from other studies that examine Medicaid participation across broader populations. Among beneficiaries over the age of 65, 1% joined full Medicaid or partial Medicaid with cost-sharing coverage in a year (Borck et al., 2014). The Part D LIS beneficiaries in our study joined Medicaid at a much higher rate, almost certainly because they have low income. Our estimate of how many new full Medicaid beneficiaries are no longer enrolled in Medicaid 1 year later (7.8%) is comparable to a previous report describing how many dual-eligible participants have at least one gap in Medicaid coverage over a 3-year period (16%) (Riley et al., 2014). Changes in Medicaid participation may be more frequent among our study population, where beneficiaries are enrolling in Medicaid for the first time or after at least a year-long gap in Medicaid coverage.

Based on our study approach, we cannot claim a causal effect of medically needy pathways on Medicaid entry and departure. The differences that we observed in Medicaid participation among states with varying medically needy eligibility rules could be correlated with other unobserved state factors that also could influence Medicaid entry. For example, beneficiaries who lived in areas with the fewest socioeconomic resources were more likely to live in states without medically needy programs. This association raises the possibility that states that do not offer medically needy programs may also be more likely to have budgetary limitations that could dampen Medicaid participation. Among states with medically needy programs, we do not account for the other ways that eligibility criteria for these programs can vary (Watts & Young, 2012). These factors include the time period over which medical expenses and income will be compared (e.g., 1 month vs. 6 months), differences in whether medically needy programs cover Medicare cost-sharing (Medicaid and CHIP Payment and Access

Commission, 2013), and whether states offer retroactive Medicaid benefits. Unfortunately, we have no data on how the beneficiaries in our study met the eligibility criteria for Medicaid and cannot confirm whether they qualified through a medically needy pathway as opposed to other eligibility mechanisms.

Even with these limitations, one plausible interpretation of our findings is that medically needy programs serve as a temporary form of catastrophic coverage for low-income Medicare beneficiaries. If so, these results raise questions about whether current financial assistance programs efficiently protect beneficiaries' access to medical care. It is not clear whether beneficiaries in states without medically needy programs have adequate protection against high out-of-pocket costs. Even in states with medically needy programs, beneficiaries may have difficulty affording health care until their costs are high enough for their net income to fall below the medically needy income limit. Cycling in and out of Medicaid may create extra burdens for beneficiaries as well as administrative costs for states, as they process applications and recertify whether beneficiaries are still eligible for assistance.

Instead of the current array of financial assistance programs that cover costs only in specific areas, a more seamless approach could address beneficiaries' total out-of-pocket spending (Blumenthal, Davis, & Guterman, 2015; Feder, Moon, & Scanlon, 1987). Multiple states are currently partnering with the Centers for Medicare and Medicaid to integrate Medicare and Medicaid coverage for dual-eligible beneficiaries (Musumeci, 2014). Addressing the fragmentation that also exists across financial assistance programs for low-income beneficiaries could support efforts to manage costs for the dual-eligible population. For example, several states in these demonstration projects are excluding beneficiaries who qualify through medically needy pathways from care coordination projects with CMS. If these beneficiaries are likely to only have temporary Medicaid coverage, this exclusion appears logistically practical (Musumeci, 2014). However, if these beneficiaries are qualifying for Medicaid on the basis of high medical expenses, they might also be the population who would benefit the most from better care management, especially if they will be eligible for Medicaid whenever their medical costs spike.

Medically needy programs may serve as an important safety net for low-income Medicare beneficiaries with high medical costs. However, the association between medically needy programs and high rates of exit from Medicaid coverage suggest that alternative strategies for protecting Medicare beneficiaries' access to care could be more efficient and stable.

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References

- Adams EK, Meiners MR, Burwell BO. 1993; Asset spend-down in nursing homes: Methods and insights. *Medical Care*. 31:1–23. [PubMed: 8417267]
- Allison, PD. *Survival analysis using SAS: a practical guide*. 2. Cary, NC: SAS Institute; 2010.
- Bhattacharya J, Goldman D, Sood N. 2003; The link between public and private insurance and HIV-related mortality. *Journal of Health Economics*. 22:1105–1122. [PubMed: 14604563]
- Bindman AB, Chattopadhyay A, Auerback GM. 2008; Interruptions in Medicaid coverage and risk for hospitalization for ambulatory care-sensitive conditions. *Annals of Internal Medicine*. 149:854–860. [PubMed: 19075204]
- Blumenthal D, Davis K, Guterman S. 2015; Medicare at 50: Moving forward. *New England Journal of Medicine*. 372:671–677. [PubMed: 25629661]
- Bonito, AJ; Bann, C; Eicheldinger, C; Carpenter, L. Chapter 3: Creating and validating an index of socioeconomic status; creation of new race-ethnicity codes and socioeconomic status (SES) indicators for Medicare beneficiaries. 2008. Retrieved from <http://archive.ahrq.gov/research/findings/final-reports/medicareindicators/medicareindicators3.html>
- Borck, R; Irvin, CV; Lim, W. Transitions from Medicare-only to Medicare-Medicaid enrollment. 2014. Retrieved from <http://aspe.hhs.gov/daltcp/reports/2014/MMTransVI.pdf>
- Briesacher BA, Ross-Degnan D, Wagner AK, Fouayzi H, Zhang F, Gurwitz JH, Soumerai SB. 2010; Out-of-pocket burden of health care spending and the adequacy of the Medicare Part D low-income subsidy. *Medical Care*. 48:503–509. [PubMed: 20473197]
- Carpenter L. 1998; Evolution of Medicaid coverage of Medicare cost sharing. *Health Care Financing Review*. 20(2):11–18. [PubMed: 25372244]
- CMS Chronic Condition Data Warehouse. Table F.1: Medicare Part D Beneficiary Counts for 2006 Through 2014. 2016. Retrieved from <https://www.ccwdata.org/documents/10280/19096644/ccw-website-table-f1.pdf>
- Cubanski, J; Swoope, C; Damico, A; Neuman, T. How much is enough? Out-of-pocket spending among Medicare beneficiaries: A chartbook. 2014. Retrieved from <http://files.kff.org/attachment/how-much-is-enough-out-of-pocket-spending-among-medicare-beneficiaries-a-chartbook-report>
- De Nardi, M; French, E; Jones, JB; Gooptu, A. Medicaid and the elderly. 2011. (NBER Working Paper No. 17689). Retrieved from <http://www.nber.org/papers/w17689>
- Dorn S, Shang B. 2012; Spurring enrollment in Medicare Savings Programs through a substitute for the asset test focused on investment income. *Health Affairs*. 31:367–375. [PubMed: 22323167]
- Ettner SL. 1997; Medicaid participation among the eligible elderly. *Journal of Policy Analysis and Management*. 16:237–255. [PubMed: 10169692]
- Feder J, Moon M, Scanlon W. 1987; Medicare reform: Nibbling at catastrophic costs. *Health Affairs*. 6(4):5–19.
- Federman AD, Vladeck BC, Siu AL. 2005; Avoidance of health care services because of cost: Impact of the Medicare Savings Program. *Health Affairs*. 24:263–270. [PubMed: 15647239]
- Government Accountability Office. Medicare savings programs: Implementation of requirements aimed at increasing enrollment. 2012. Retrieved from <http://www.gao.gov/assets/650/648370.pdf>
- Haber, SG; Adamache, W; Walsh, EG; Hoover, S; Bir, A; Caswell, C; ... Smith, K. Evaluation of Qualified Medicare Beneficiary (QMB) and Specified Low-Income Medicare Beneficiary (SLMB) programs. 2003. Retrieved from <https://www.cms.gov/reports/downloads/HaberVol1.pdf>
- Hall AG, Harman JS, Zhang J. 2008; Lapses in Medicaid coverage: Impact on cost and utilization among individuals with diabetes enrolled in Medicaid. *Medical Care*. 46:1219–1225. [PubMed: 19300311]
- Kaiser Commission on Medicaid and the Uninsured. Medicaid financial eligibility: Primary pathways for the elderly and people with disabilities. 2010. Retrieved from <http://www.kff.org/medicaid/upload/8048.pdf>
- Keohane LM, Trivedi AN, Mor V. 2017; Recent health care use and Medicaid entry of Medicare beneficiaries. *Gerontologist*. 57:977–986. DOI: 10.1093/geront/gnw189 [PubMed: 28073998]

- Konetzka RT, Karon SL, Potter DEB. 2012; Users of Medicaid home and community-based services are especially vulnerable to costly avoidable hospital admissions. *Health Affairs*. 31:1167–1175. [PubMed: 22665828]
- Lakdawalla D, Sood N, Goldman D. 2006; HIV breakthroughs and risky sexual behavior. *Quarterly Journal of Economics*. 121:1063–1102.
- Lim, W; Irvin, CV; Borck, R. Factors predicting transitions from Medicare-only to Medicare-Medicaid enrollee status. 2014. Retrieved from <http://aspe.hhs.gov/daltcp/reports/2014/MMTransV2.pdf>
- Liu, K; Manton, KG. The effect of nursing home use on Medicaid eligibility. 1989. Retrieved from <http://aspe.hhs.gov/daltcp/reports/1989/nhumedes.htm>
- Medicaid and CHIP Payment and Access Commission. Chapter 4: Medicaid coverage of premiums and cost sharing for low-income Medicare beneficiaries. 2013. Retrieved from https://www.macpac.gov/wp-content/uploads/2015/01/Medicaid_Coverage_of_Premiums_and_Cost_Sharing_for_Low-Income_Medicare_Beneficiaries.pdf
- Medicare Payment Advisory Commission. Chapter 5: Increasing participation in the Medicare Savings Programs and the low-income drug subsidy. 2008. Retrieved from http://med-pac.gov/docs/default-source/reports/Mar08_Ch05.pdf
- Medicare Payment Advisory Commission. Chapter 9: Issues affecting dual-eligible beneficiaries: CMS's financial alignment demonstration and the Medicare Savings Programs. 2016. Retrieved from <http://www.medpac.gov/docs/default-source/reports/chapter-9-issues-affecting-dual-eligible-beneficiaries-cms-s-financial-alignment-demonstration-and-t.pdf>
- Medicare Payment Advisory Commission and Medicaid and CHIP Payment Access Commission. Data book: Beneficiaries dually eligible for Medicare and Medicaid. 2016. Retrieved from <https://www.macpac.gov/wp-content/uploads/2015/01/Dually-Eligible-Beneficiaries-DataBook.pdf>
- Moon M, Brennan N, Segal M. 1998; Options for aiding low-income Medicare beneficiaries. *Inquiry*. 35:346–356. [PubMed: 9809061]
- Musumeci, M. Financial and administrative alignment demonstrations for dual eligible beneficiaries compared: States with memoranda of understanding approved by CMS. 2014. Retrieved from <http://kaiserfamilyfoundation.files.wordpress.com/2014/07/8426-06-financial-alignment-demonstrations-for-dual-eligible-beneficiaries-compared.pdf>
- Nardi, MD; French, E; Jones, JB; McCauley, J. Medical spending of the US elderly. 2015. (NBER Working Paper No. 21270). Retrieved from <http://www.nber.org/papers/w21270>
- Nemore, PB; Bender, JA; Kwok, W-W. Toward making Medicare work for low-income beneficiaries: A baseline comparison of the Part D Low-Income Subsidy and Medicare Savings Programs eligibility and enrollment rules. 2006. Retrieved from <https://kaiser-familyfoundation.files.wordpress.com/2013/01/7519.pdf>
- Osborn R, Moulds D, Squires D, Doty MM, Anderson C. 2014; International survey of older adults finds shortcomings in access, coordination, and patient-centered care. *Health Affairs*. 33:2247–2255. [PubMed: 25410260]
- Perry, M; Kannel, S; Dulio, A. Barriers to Medicaid enrollment for low-income seniors: Focus group findings. 2002. Retrieved from <http://www.kff.org/medicaid/4029-index.cfm>
- Pezzini LE, Kasper JD. 2002; Medicaid enrollment among elderly Medicare beneficiaries: individual determinants, effects of state policy, and impact on service use. *Health Services Research*. 37:827–847. [PubMed: 12236387]
- Riley GF. 2007; Long-term trends in the concentration of Medicare spending. *Health Affairs*. 26:808–816. [PubMed: 17485760]
- Riley GF, Zhao L, Tilahun N. 2014; Understanding factors associated with loss of Medicaid coverage among dual eligibles can help identify vulnerable enrollees. *Health Affairs*. 33:147–152. [PubMed: 24395947]
- Singer, JD, Willett, JB. *Applied longitudinal data analysis: Modeling change and event occurrence*. New York, NY: Oxford University Press; 2003.
- Social Security Administration. Program operations manual system HI 03030.025: Resource limits for subsidy eligibility. 2016. Retrieved from <https://secure.ssa.gov/poms.nsf/lnx/0603030025>

- Ungaro R, Federman AD. 2009; Restrictiveness of eligibility determination and Medicaid enrollment by low-income seniors. *Journal of Aging & Social Policy*. 21:338–351. [PubMed: 20092126]
- Walker, L; Accius, J. Access to long-term services and supports: A 50-state survey of Medicaid financial eligibility standards. 2010. Retrieved from http://assets.aarp.org/rgcenter/ppi/ltc/i44-access-ltss_revised.pdf
- Watts, MOM; Young, K. The Medicaid medically needy program: Spending and enrollment update. 2012. Retrieved from <https://kaiserfamilyfoundation.files.wordpress.com/2013/01/4096.pdf>
- Zerzan J, Edlund T, Krois L, Smith J. 2007; The demise of Oregon's medically needy program: Effects of losing prescription drug coverage. *Journal of General Internal Medicine*. 22:847–851. [PubMed: 17380369]
- Zuckerman S, Shang B, Waidmann T. 2009; Medicare savings programs: Analyzing options for expanding eligibility. *Inquiry*. 46:391–404. [PubMed: 20184166]

Appendix A

Figure A1.
Selection of study cohort.

Table A1

States With Medically Needy Pathways.

States with medically needy pathway	States without medically needy pathway
Arizona	Alabama
Arkansas	Alaska
California	Colorado
Connecticut	Delaware
Washington, D.C.	Idaho
Florida	Mississippi
Georgia	Nevada
Hawaii	New Mexico
Illinois	Oregon
Indiana	South Carolina
Iowa	South Dakota
Kansas	Tennessee

States with medically needy pathway	States without medically needy pathway
Kentucky	Texas
Louisiana	Wyoming
Maine	
Maryland	
Massachusetts	
Michigan	
Minnesota	
Missouri	
Montana	
Nebraska	
New Hampshire	
New Jersey	
New York	
North Carolina	
North Dakota	
Ohio	
Oklahoma	
Pennsylvania	
Pennsylvania	
Rhode Island	
Utah	
Vermont	
Virginia	
Washington	
West Virginia	
Wisconsin	

Note. Information on medically needy and other Medicaid eligibility criteria as of the year 2009 was abstracted from a Kaiser Family Foundation publication and an AARP report (Kaiser Commission on Medicaid and the Uninsured, 2010; Walker & Accius, 2010). Any state with an eligibility pathway for older adults that was based on a beneficiary's net income after medical expenses was categorized as having a medically needy program, including 209(b) states.

Table A2

Variables Associated With Enrolling in Full Medicaid Among Part D Low-Income Subsidy Beneficiaries (Medically Needy Income Threshold).

	<u>Predicted change in monthly number of beneficiaries per 1,000</u>
	Joined Medicaid
\$100 increase in Medically needy income limit	0.2 *** (0.1, 0.4)
Poverty-related Medicaid income limit	
75% FPL	Ref.
76% to 99% FPL	0.5 (−0.2, 1.2)
100% FPL	1.2 ** (0.4, 1.9)
Special income limit—Nursing home	−1.0 ** (−1.8, −0.3)

Predicted change in monthly number of beneficiaries per 1,000	
Joined Medicaid	
<i>Assuming state had no medically needy program</i>	
Health care use—Past 3 months	
None	Ref.
Hospital use	6.8 *** (5.2, 8.5)
Skilled nursing facility use	43.6 *** (31.4, 55.8)
Nursing home use	181.1 *** (135.7, 226.4)
<i>Assuming state had medically needy limit of \$400</i>	
Health care use—Past 3 months	
None	Ref.
Hospital use	7.3 *** (6.2, 8.4)
Skilled nursing facility use	38.6 *** (33.0, 44.3)
Nursing home use	149.6 *** (126.0, 173.2)
<i>Assuming state had medically needy limit of \$800</i>	
Health care use—Past 3 months	
None	Ref.
Hospital use	7.6 *** (6.0, 9.2)
Skilled nursing facility use	33.7 *** (25.5, 41.8)
Nursing home use	122.0 *** (97.8, 146.2)

Note. FPL = federal poverty level; LIS = Low-Income Subsidy. Results also adjusted for beneficiaries' age, race, gender, time trend, changes in Part D LIS participation, socioeconomic quintile, January observations, and observations after 2010.

Differences between beneficiaries in states with and without medically needy programs significantly different at:

* $p < .05$ level,
 ** $p < .01$ level,
 *** $p < .001$ level.

Table A3

Variables Associated With New Full Medicaid Participants' Medicaid Participation 12 Months After Initial Medicaid Entry (Medically Needy Income Threshold).

	Predicted change in percentage of new Medicaid participants		
	No Medicaid	Partial Medicaid	Died
\$100 increase in Medically needy income threshold	0.8 *** (0.5, 1.1)	0.8 *** (0.3, 1.2)	−0.1 (−0.3, 0.2)
Poverty-related Medicaid income threshold			
75% FPL	Ref.	Ref.	Ref.
76% to 99% FPL	−2.7 (−6.5, 1.2)	−6.6 *** (−10.0, −3.2)	−0.4 (−3.3, 2.4)
100% FPL	−4.2 ** (−7.4, −1.1)	−5.2 *** (−8.0, −2.5)	−1.6 (−3.4, 0.3)
Special income limit—Nursing home	−3.1 ** (−5.3, −0.9)	−0.1 (−2.3, 2.0)	0.9 (−1.3, 3.1)
<i>Assuming state had no medically needy program</i>			
Health care use—Past 3 months			
None	Ref.	Ref.	Ref.
Hospital use	5.5 * (0.6, 10.4)	3.0 (−0.7, 6.6)	16.9 *** (11.9, 21.9)

	Predicted change in percentage of new Medicaid participants		
	No Medicaid	Partial Medicaid	Died
Skilled nursing facility use	0.2 (−1.2, 1.6)	0.5 (−1.0, 2.0)	14.7 *** (12.2, 17.1)
Nursing home use	−1.1 (−2.9, 0.6)	−2.3 ** (−3.8, −0.7)	11.8 *** (8.6, 15.0)
<i>Assuming state had medically needy limit of \$400</i>			
Health care use—Past 3 months			
None	Ref.	Ref.	Ref.
Hospital use	6.1 *** (3.4, 8.7)	3.8 ** (1.4, 6.2)	15.6 *** (13.1, 18.2)
Skilled nursing facility use	−0.9 (−2.2, 0.3)	−1.3 * (−2.6, −0.1)	15.4 *** (13.7, 17.1)
Nursing home use	−3.2 *** (−4.8, −1.6)	−4.4 *** (−6.0, −2.7)	13.0 *** (10.9, 15.1)
<i>Assuming state had medically needy limit of \$800</i>			
Health care use—Past 3 months			
None	Ref.	Ref.	Ref.
Hospital use	5.8 *** (3.6, 8.0)	4.1 ** (1.3, 7.0)	14.1 *** (11.3, 16.8)
Skilled nursing facility use	−2.8 ** (−4.6, −1.0)	−4.9 ** (−8.1, −1.7)	16.2 *** (14.0, 18.3)
Nursing home use	−6.5 *** (−9.8, −3.1)	−7.8 *** (−11.7, −3.9)	14.5 *** (11.6, 17.3)

Note. FPL = federal poverty level; LIS = Low-Income Subsidy. Results also adjusted for beneficiaries' age, race, gender, time trend, changes in Part D LIS participation, socioeconomic quintile, January observations, and observations after 2010. Differences between beneficiaries in states with and without medically needy programs significantly different at:

* $p < .05$ level,
 ** $p < .01$ level,
 *** $p < .001$ level.

Figure 1.

Percentage of Part D low-income subsidy beneficiaries who joined Medicaid, by state's medically needy income threshold.

Note. States without medically needy program represented as having a \$0 medically needy income limit. Pearson's correlation coefficient (ρ) is weighted by the number of Part D low-income subsidy beneficiaries in each state.

Figure 2.

Percentage of new Medicaid participants who exited Medicaid within 12 months, by state's medically needy income threshold.

Note. States without medically needy program represented as having a \$0 medically needy income limit. Due to data privacy restrictions, graph excludes states with fewer than 350 new Medicaid participants. Pearson's correlation coefficient (ρ) is weighted by the number of new Medicaid participants in each state.

Figure 3.

Predicted differences in Medicaid exit by type of health care use in month of Medicaid entry.

Note. Results adjusted for beneficiaries' age, race, gender, Part D LIS participation immediately prior to Medicaid entry, cumulative health care use prior to Medicaid entry, socioeconomic quintile, January observations, and observations after 2010.

Table 1

Characteristics of Part D Low-Income Subsidy Beneficiaries, by Access to Medicaid Medically Needy Eligibility Pathway.

	All beneficiaries	Resides in state with medically needy pathway	
		No	Yes
Number of beneficiaries	369,663	87,002	282,661
Percentage of beneficiaries	100	23.5	76.5
Race (%)			
White	71.5	62.6	74.2***
Black	14.8	16.5	14.2
Hispanic	9.8	17.9	7.3
Other	3.9	2.9	4.2
Female (%)	70.9	67.8	71.8***
Age (mean)	75.6	74.7	75.9***
Age at baseline (%)			
Under 75 (%)	49.2	54.6	47.6***
Age 75–84 (%)	36.6	34.0	37.4
Age 85 and over (%)	14.2	11.4	15.0
LIS level at baseline (%)			
Full subsidy	70.5	72.3	70.0***
Partial subsidy: <135% FPL	9.4	8.0	9.8
Partial subsidy: <150% FPL	20.1	19.7	20.2
Any health care use prior to Medicaid entry or end of follow-up (%):			
Hospital use	21.5	20.9	21.7***
Skilled nursing facility use	5.7	4.7	6.0***
Nursing home use	0.7	0.6	0.8***
No use of these services	78.3	79.0	78.1***
Total inpatient days (mean)	2.2	2.3	2.2*
Total SNF days (mean)	1.9	1.5	2.0***
Total months with NH use (mean)	0.0	0.0	0.0***
SES Quintile (%)			
1—Lowest	20	33.6	15.8***
2	20	23.1	19.1
3	20	17.4	20.8
4	20	15.2	21.5
5—Highest	20	10.9	22.8

Note. LIS = Low-Income Subsidy; FPL = federal poverty level; SES = socioeconomic status. Based on authors' analysis of Medicare enrollment and claims data.

Differences between beneficiaries in states with and without medically needy programs significantly different at:

* $p < .05$ level,

^{**}
 $p < .01$ level,

^{***}
 $p < .001$ level.

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Table 2

Differences in Predicted Likelihood of Enrolling in Full Medicaid among Part D Low-Income Subsidy Beneficiaries by State's Medicaid Eligibility Rules.

Predicted additional number of new Medicaid enrollees in a month per 1,000 Medicare Part D LIS participants	
Has medically needy program	1.3 *** (0.5, 2.0)
Poverty-related Medicaid income threshold	
75% FPL	Ref.
76% to 99% FPL	0.9 * (0.2, 1.6)
100% FPL	1.3 ** (0.5, 2.2)
Special Medicaid income limit—Nursing home	−1.3 ** (−2.2, −0.5)
<i>In states without medically needy programs</i>	
Health care use—Past 3 months	
None	Ref.
Hospital use	5.9 *** (4.6, 7.3)
Skilled nursing facility use	37.1 *** (25.9, 48.3)
Nursing home use	149.0 *** (130.7, 167.2)
<i>In states with medically needy programs</i>	
Health care use—Past 3 months	
None	Ref.
Hospital use	7.7 *** (6.4, 8.9)
Skilled nursing facility use	38.6 *** (33.2, 43.9)
Nursing home use	149.8 *** (122.4, 177.2)

Note. LIS = Low-Income Subsidy; FPL = federal poverty level. Table presents average marginal effects from a multinomial logistic discrete survival model that also adjusts for beneficiaries' age, race, gender, time trend, cumulative health care use, changes in Part D LIS participation, socioeconomic quintile, January observations, and observations after 2010.

Differences significantly different from zero at:

- * $p < .05$ level,
- ** $p < .01$ level,
- *** $p < .001$ level.

Table 3

Differences in Predicted Likelihood of Continuing Medicaid Participation 12 Months After Medicaid Entry by State's Medicaid Eligibility Rules.

	Predicted percentage point changes		
	Exited Medicaid (any coverage level)	Switched from full Medicaid to partial Medicaid coverage	Died
Has medically needy program	4.5 *** (2.9, 6.2)	3.8 *** (1.8, 5.8)	-0.1 (-1.7, 1.4)
Poverty-related Medicaid income limit			
75% FPL	Ref.	Ref.	Ref.
76% to 99% FPL	-1.4 (-5.4, 2.6)	-5.3 *** (-8.3, -2.2)	-0.5 (-3.3, 2.3)
100% FPL	-3.5 (-7.1, 0.1)	-4.0 ** (-7.0, -1.0)	-1.7 * (-3.4, -0.1)
Special Medicaid income limit for nursing home residents	-4.0 ** (-6.9, -1.1)	-1.0 (-4.2, 2.2)	1.0 (-0.9, 2.9)
<i>In states without medically needy programs</i>			
Health care use—Past 3 months			
None	Ref.	Ref.	Ref.
Hospital use	0.9 (-1.6, 3.4)	-1.3 (-3.8, 1.3)	21.4 *** (14.3, 28.5)
Skilled nursing facility use	0.4 (-1.4, 2.3)	-0.1 (-1.9, 1.8)	16.5 *** (14.5, 18.5)
Nursing home use	0.1 (-2.4, 2.6)	-2.4 * (-4.6, -0.2)	12.3 *** (8.1, 16.6)
<i>In states with medically needy programs</i>			
Health care use—Past 3 months			
None	Ref.	Ref.	Ref.
Hospital use	6.4 *** (4.5, 8.3)	4.2 *** (2.2, 6.3)	14.6 *** (12.6, 16.7)
Skilled nursing facility use	-1.9 * (-3.5, -0.4)	-2.2 * (-4.2, -0.2)	15.3 *** (13.5, 17.1)
Nursing home use	-4.9 *** (-7.2, -2.7)	-5.5 *** (-7.7, -3.3)	13.5 *** (11.4, 15.6)

Note. LIS = Low-Income Subsidy; FPL = federal poverty level. Results also adjusted for beneficiaries' age, race, gender, Part D LIS participation immediately prior to Medicaid entry, cumulative health care use prior to Medicaid entry, socioeconomic quintile, January observations, and observations after 2010.

Differences between beneficiaries in states with and without medically needy programs significantly different at:

- * $p < .05$ level,
- ** $p < .01$ level,
- *** $p < .001$ level.