Medicaid vs Medicare: Evidence from Medicaid to Medicare Transitions at 65 *

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Abstract

The US has two predominant government health insurance programs-Medicaid and Medicare-which collectively cover over 100 million Americans. Given differences between Medicaid and Medicare in program design and costliness, there has been ongoing policy debate on how much of the population should be covered through one program versus the other, as well as whether the design of one program should more closely mimic the other. Unfortunately, little is known about how these programs actually compare on important outcomes, such as government spending and beneficiary well-being. We investigate these questions by leveraging involuntary age-based transitions into Medicare at 65, among those previously in Medicaid. We find that the government spends 13% more to cover the same beneficiary under Medicare compared to Medicaid, with most of this difference coming from higher payment rates to providers rather than through increased healthcare utilization. We find significantly higher rates of outpatient care usage under Medicare, alongside lower levels of acute care usage. These results may reflect improved primary care access under Medicare, which could arise through the program's more generous physician reimbursement rates.

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1 Introduction

Medicare is a federal program that provides health insurance coverage to millions of elderly and disabled Americans. Its design is geographically uniform and its administration is centralized, leaving little role for states. Medicaid, on the other hand, provides health insurance to millions of low-income and disabled Americans and is explicitly structured as a partnership between states and the federal government. The federal government imposes certain mandates around the services that Medicaid needs to cover, but states have significant flexibility around how to administer coverage and whether to cover supplemental services as dental, vision, and home and community-based services. In contrast to the uniform nature of Medicare, this flexibility has resulted in Medicaid programs that vary greatly from one state to another, and that also deviate from the Medicare program. For example, while Medicare has a single physician fee schedule that does not vary much by geography, state Medicaid programs each formulate their own distinct fees schedules, with some states (Montana, North Dakota, Wyoming) paying close to Medicare fees while other states (California, New Jersey, Rhode Island) paying at around 50% of Medicare's rates (Kaiser Family Foundation, 2019).

Despite the sheer scale of both programs in terms of both spending and covered lives, and despite the considerable overlap between them, little is known about how Medicaid compares to Medicare. Specifically, while many believe that the government spends less to cover an equivalent beneficiary through Medicaid than through Medicare, there is surprisingly little empirical evidence to support this claim. Similarly, while many believe that health outcomes are worse under Medicaid than Medicare for an equivalent beneficiary, there again is little empirical basis for it. This gap in the evidence base is particularly unfortunate, given that Medicaid and Medicare are effectively the two sole options-and two very different options-available to the government for provision of health care coverage. However, there is little evidence to guide the government on the tradeoffs of employing one program versus the other, as well as the kinds of populations that might be better suited for each program.

In this study, we provide rigorous evidence on how Medicaid and Medicare differ in terms of health care quality, health outcomes, and spending for the same individual. We do this by leveraging linked Medicare-Medicaid administrative data to support a novel research design. To overcome data quality issues in the Medicaid data, which have been extensively documented previously, we validate each state's Medicaid data against an external source of ground truth, and limit to states and years

for which the data aligns sufficiently with the external benchmarks. We follow a "treatment" group of near-elderly individuals who are enrolled in Medicaid at age 63, who enter the Medicare program at 65, and subsequently are dually-enrolled in both Medicaid and Medicare. To limit the potential for confounding from age-trends, we employ a difference-in-differences design to compare this group to a control group consisting of the set of individuals continuously enrolled in Medicare and Medicaid as dual eligibles, pre and post-age 65. We estimate the differential change in health outcomes, such as avoidable hospitalizations, at age 65 among the treatment group relative to the control group. We attribute any differential change in outcomes to the abrupt shift in primary insurance coverage from Medicaid to Medicare.

We find that transitioning from Medicaid to Medicare leads to a 13% increase in the government's fiscal cost of providing coverage, with the increase in costs more pronounced (27%) among those shifting to Medicare from Medicaid Managed Care as opposed to Medicaid Fee-for-Service (12%). Looking next at utilization, we limit the treatment group to include only those enrolled in Medicaid fee-for-service pre-65 and exclude the Medicaid Managed Care population, given that we can only validate utilization outcomes for the former population and not for the latter. We examine how much of the bump in fiscal spending under Medicare arises from higher provider reimbursement rates, as opposed to an increase in total quantity of services delivered. We find that the bump in fiscal spending is primarily attributable to higher reimbursement rates under Medicare, as there is a much less pronounced increase in price-normalized spending, for which rates are kept constant across Medicaid and Medicare. To unpack this result further, we look at how the underlying composition of utilization changes as individuals transition from Medicaid to Medicare. We find higher usage of primary and professional care under Medicare, specifically in the form of physician office visits. We also find lower levels of acute care usage such as ED visits, which could be indicative of improved quality and health outcomes.

A key takeaway from our study is that higher spending on coverage does appear to translate into improved access to care and potentially also quality, at least in the particular case of Medicare compared to Medicaid. We find that the mechanism driving this isn't greater intensity of utilization overall, but rather a shift away from acute care to primary care. This shift of utilization towards primary care, meanwhile, may come as a result of higher physician payment rates under Medicare.

Our findings contribute to multiple literatures. Our paper contributes most directly to a limited

existing literature comparing the Medicaid and Medicare programs, with previous studies limited in terms of breadth of outcomes examined and ability to account for enrollment differences between the programs (Burns et al., 2016; Gaglia et al., 2011). Our study is able to more effectively account for program enrollment differences by comparing the same person under one program versus the other. Our findings also add to an existing literature on the disability insurance program, building on a literature that has previously focused primarily on the direct cash transfer component of the insurance, to consider other benefits that come bundled with it like health coverage Autor and Duggan (2003). This is a notable contribution, given the government actually spends more on health coverage for the disabled than it does on cash transfers Autor et al. (2011). Finally, our paper contributes to the broader literature on the relationship of physician reimbursement and health care access (Shen and Zuckerman (2005), Alexander and Schnell (2019)), as well as the relationship between healthcare spending and quality of care (Fisher et al. (2003), Doyle et al. (2015)).

2 Background

Medicaid is the largest social health insurance program in the United States in terms of enrollment, with more than 1 in 5 (90 million) Americans enrolled in 2023. Populations commonly served by Medicaid include individuals with disabilities, low-income children and seniors, as well as working-age adults. Children and working-age adults make up the majority of enrollment, at the same time that elderly and disabled populations account for the majority of program costs. The Medicaid program is jointly funded by states and the federal government, and states have significant flexibility to design and run their own programs within federally set boundaries (Kaiser Family Foundation, 2023a).

The Medicare program, meanwhile, is the largest social health insurance program in the United States in terms of cost, with Medicare expenditures in 2021 adding up to around $830 billion and accounting for over 10% of all federal spending altogether (Kaiser Family Foundation, 2023b). Medicare coverage is geared primarily towards the elderly and disabled populations, with coverage extended to all elderly over the age of 65 with sufficient work history, as well as to younger disabled populations receiving SSDI. Of the 65 million beneficiaries currently covered by Medicare, about 57 million are eligible for it on the basis of age, and the remaining 8 million the basis of disability (Clerveau et al., 2023). Once individuals age into Medicare, they generally remain enrolled in the program for

the rest of their lives, meaning that enrollment spells in Medicare are longer and more persistent than those in Medicaid. The Medicare program is federally administered and funded, with a design and structure that doesn't really vary from state to state and is instead uniform nationwide. Finally, given the political economy surrounding Medicare, the program receives relatively more generous government funding than a typical state Medicaid program, and consequently is able to offer higher payment rates to providers. Unlike Medicaid, which covers a broad range of services including institutional long term care and home care, Medicare provides very limited long term care and home care coverage and effectively no coverage of personal or custodial care.

As alluded to above, Medicaid and Medicare differ substantially in terms of design flexibility, funding structure, and funding generosity. In turn, these upstream differences in design and funding have translated into downstream differences in core program characteristics and features.

While Medicaid and Medicare are of clear interest in their own right, given the broad slice of the US population that they collectively cover, how the two programs compare to one another is also of significant consequence. To start, a better understand of how Medicaid and Medicare stack up against one another can inform ongoing policy debates around whether these programs should be extended to additional populations, and specifically whether certain populations that are currently in one program should be transitioned to the other. For example, an often cited proposal to expand Medicare to populations below 65 (and potentially to everyone) would-in the process-end up shifting some beneficiaries to Medicare who otherwise would have been on Medicaid. There have also been proposals around doing the reverse, and covering populations through Medicaid that traditionally have been covered by Medicare or other insurance sources. Comparisons between Medicaid and Medicare are also applicable given other policy circumstances, for example given overlapping coverage for some beneficiaries (dual-eligibles) who are enrolled in Medicaid and Medicare simultaneously. For these populations, Medicare functions as the primary payer for most services, while Medicaid serves as a primary payer for a subset of others. Better understanding how Medicaid and Medicare stack up to one another can help identify the implications of adjusting dual-eligible coverage design, for example to give Medicaid versus Medicare a greater role in covering certain services. Finally, any comparison of Medicaid and Medicare ties into broader questions around program and insurance design, as the comparison can be a springboard to understanding the impact of differences in underlying program design, rather than just in the programs themselves.

Despite the importance of this question, there is limited rigorous empirical evidence around how the Medicaid and Medicare programs actually differ. While the conventional wisdom is that Medicaid provides less access to healthcare and lower quality care overall, there is little quasi-experimental evidence to back this up. Furthermore, even if assuming that the argument is true, little is known about why quality and access are worse in Medicaid and the specific mechanisms driving any potential differences.

The only previous quasi-experimental work on this question uses a strategy similar to ours (though without a control group) to look at differences in ED visits, among individuals with Severe Mental Illness (SMI) (Burns et al., 2016). Another quasi-experimental paper focuses on prescription drug outcomes and finds no meaningful difference between Medicaid and Medicare (Basu et al., 2010). Some observational studies have also been done on this subject, for example finding that Medicaid beneficiaries have higher rates of major adverse cardiac events (Gaglia et al., 2011).

Some work has also been done on adjacent questions, comparing Medicare to additional forms of coverage. Relative to no insurance, studies have found Medicare produces large positive effects on utilization of medical services and doctor visits, as well as improved health and lower mortality (McWilliams et al., 2007). Relative to private commercial insurance, studies have found that Medicare produces lower overall spending (driven by lower prices) and some increases in utilization of expensive services, but no real effects on health outcomes (Wallace and Song, 2016).

2.1 Eligibility Pathways for Medicaid and Medicare

As part of this project, we focus specifically on the disabled Medicaid and Medicare populations. This is due to their policy importance, given that this population accounts for a disproportionate 30-40% of spending across both programs, even though it accounts for a much smaller (15%) fraction of enrollees Autor et al. (2011). This is also due to methodological expediency, as members of the population sometimes switch between the health programs on an involuntary basis, enabling us to compare the program outcomes for the same person as part of a quasi-experimental design. This population enables quasi-experimental comparisons between the programs, as whether a disabled individual is initially eligible for one versus the other largely comes down to non-health rather than health factors. Furthermore, disabled individuals can get switched from one to the other for exogenous reasons, specifically

In terms of health characteristics, the basic eligibility requirements for different disability programs-and the health coverage bundled with them-is effectively uniform. Specifically, individuals must all meet the same disability qualifications laid out by the Social Security Administration (SSA) and go through the same process of certification, which is also administered by SSA

Those who meet certain thresholds of financial disadvantage, whose income and asset levels fall below a certain threshold, qualify for the Social Security Income program (SSI), which in most states is automatically bundled with SSI .

Meanwhile, those who have sufficient work history can qualify for the the Social Security Disability Insurance (SSDI) program, which comes bundled with Medicare coverage (following an initial 2-year waiting period.)

It is possible fore a disabled individual to be eligible and enrolled in both Medicaid and Medicare simultaneously, by virtue of being simultaneously enrolled in both SSI and SSDI; these would be individuals with sufficient work history, but otherwise modest income and assets. Given that SSDI is counted towards the income test for SSI, having sufficiently high SSDI benefits can on its own disqualify individuals. Nonetheless, in practice, about one third of SSI beneficiaries are also enrolled in SSDI and about one third of SSDI beneficiaries are also enrolled in SSI.

Critically, disabled individuals can be simultaneously enrolled in Medicaid and Medicare, even if they only qualify for one of SSI or SSDI, so long as they meet program eligibility requirements through an alternative pathway such as being over 65.

Of practical benefit for our study design, disabled individuals tend to have long Medicaid enrollment spells. This allows us to observe them in Medicaid for an extended amount of time, prior to their transition to Medicare. Additionally, Medicaid managed care has only recently become prevalent among the disabled population, allowing us to extend the study to states and time periods where managed care was otherwise highly prevalent among non-disabled populations.

3 Data & Sample

We construct measures of quality, access, and health outcomes using CMS administrative from the Medicare and Medicaid programs, covering the 2008-2015 time period. One key characteristic of these files is that they are individually linkable to one another, through a standardized beneficiary identifier, which allows us to follow the same person as they transition from one program to another.

Enrollment Data: The CMS administrative data includes separate enrollment files that are each specific to the Medicaid and Medicare programs. The observation level in all of the enrollment files is at a beneficiary-year level. The Medicaid as well as Medicare enrollment data track demographic information such as age, gender, and birth date. They also track each beneficiary's basis for eligibility at a given point in time, based on standardized eligibility codes. The eligibility information can be used to determine which Medicaid and Medicare enrollees are eligible due to disability vs. some other eligibility pathway. Birth date information, meanwhile, allow us to observe when individuals in the treatment group should transition primary coverage from Medicaid to Medicare, given age-based Medicare eligibility at 65. Finally, the enrollment files track actual enrollment status in both Medicaid and Medicare on a month-by-month basis, as well as whether an individual is simultaneously enrolled in both Medicaid and Medicare. These fields allow us to track whether individuals eligible for the two programs ultimately end up enrolled in them, as expected.

Utilization Data: The claims data track health care utilization across the full continuum of care types, including inpatient, outpatient, long term care, and prescription drugs. However, these data only track this utilization for a subset of all Medicare and Medicaid beneficiaries. For Medicare, the data tracks all utilization for those in Fee-for-Service (FFS), but does not track medical utilization for those in Medicare Advantage. For Medicaid, the data tracks utilization most reliably for those in fee-for-service Medicaid, and less reliably for those in Medicaid Managed Care.

The Medicaid and Medicare files contain standard claims data elements, including dates of service, unmasked NPI's of prescribing and rendering providers, as well as diagnosis and procedure codes. These fields can be used to characterize and categorize the type of utilization provided.

For Medicare and Medicaid FFS, these data also track actual healthcare expenditures, in terms of actual amounts that are paid out to healthcare providers. The Medicaid Managed Care claims data, meanwhile, does not track actual amounts paid to providers.

Fiscal spending data: The Medicaid and Medicare claims files both track fiscal spending, in terms of the amount that the government spends on coverage for beneficiaries. The Medicare and Medicaid FFS claims data tracks fiscal spending directly, given that under the FFS programs, fiscal spending is equivalent to the amount that gets paid out to providers. Meanwhile, for Medicaid Managed Care, fiscal spending comes in a different form: capitation payments made by the government, to private insurers. Fortunately, we can track these payment amounts in Managed Care encounter data that

are included as part of the broader Medicaid claims dataset. Specifically, the data tracks capitation payment totals paid out to Medicaid Managed Care plans, at a beneficiary-month level.

3.1 Data Quality Validation

For some states and some variables, the Medicaid (MAX) data suffers from quality issues, particularly issues of missing claims. This is especially true for encounter data from private Medicaid managed care plans. We address this by benchmarking the MAX data against available external sources of 'ground truth'. This allows us to identify the state-years with relatively higher quality Medicaid data for our outcomes, which we can then restrict to for all of our subsequent analyses. Specifically, we look to CMS-64 reports, which track the fiscal spending amounts that state Medicaid agencies reported. This data is aggregated at a state-year level and also broken out into specific categories such as fiscal spending on fee-for-service and separately on Medicaid Managed Care. These reports can be treated as 'ground truth', as they are the basis for determining the amount of matching funds that states are owed by the federal government. States thereby have strong incentive to provide accurate and complete statistics in these reports, given that they determine how much the states ultimately get paid.

For the Medicaid fee-for-service population, these CMS-64 reports allow us to validate the MAX files, in terms how accurately these data track fiscal spend at a state-year level. Given that for fee-for-service, fiscal spend and claims spend are equivalent, the CMS-64 data also allow us to indirectly validate how accurately these data track utilization. Meanwhile, for the Medicaid Managed Care population, the reports allow us to validate the MAX data in terms of fiscal spend outcomes but unfortunately not in terms of utilization outcomes. Consequently, we can reliably track fiscal spending outcomes for all Medicaid populations and credibly compare them to fiscal spending under Medicare. At the same time, we can only reliably track utilization for the Medicaid fee-for-service population, meaning that any utilization comparison we undertake between Medicaid and Medicare will be limited to the Medicaid fee-for-service population and only compare that group to Medicare.

3.2 Sample Definition

Our sample is restricted to disabled beneficiaries, specifically to those who were classified as disabled in the month they turned 63. We then further restrict to those who were also enrolled in Medicaid

upon turning 63. This restriction is inclusive of those who were enrolled in Medicaid only at that age, as well as those who were dually enrolled in Medicaid and Medicare simultaneously. We also limit to state-year pairs for which the Medicaid MAX data is of sufficiently high quality, based on the validation approach outlined above, and purge state-years that appear anomalous. To do so, for each state, we plot the time series of spending in the MAX data and in the CMS-64 reports. We construct a sample where the two measures trend similarly and also are not too far apart from each other in any given year, typically within 5%. Given that the magnitude of the impact we find on the focal outcome-fiscal spending-far exceeds this threshold, this suggests that our findings reflect actual program effects rather than being artefacts of data quality issues

We also implement some additional restrictions in terms of individuals' Medicare enrollment status. First, we restrict to beneficiaries who were enrolled in Medicare as of age 65. Given that we previously restricted to those who were either in Medicaid-only or dually-enrolled as of age 63, this means our sample will effectively consist of those who either remained dually enrolled pre to post 65 or who went from being Medicaid-only to Medicare-enrolled (and typically dually enrolled) at 65. Most disabled (and all disabled on SSI) will automatically qualify for Medicare at 65, even if they don't meet the work requirements for Medicare (or the requirements for premium-free Part A), as Medicaid will cover the cost of Part A and B premiums on the beneficiary's behalf. Second, we exclude those who were enrolled in Medicare Advantage in any month after they turned 65 and before they turned 67. This restriction is necessary given that we lack claims data for Medicare Advantage and thereby don't have any visibility on utilization or fiscal cost outcomes for that population.

Finally, we implement some additional sample restrictions to mitigate potential confounding factors. First, we limit to individuals who remain in the same state from ages 63 and 67. We additionally limit to individuals who remained in our sample all two years pre and post-65, from age 63 through 67. Second, we limit to those who turned 65 in either 2010 or 2011, given that we would face data run-out issues for cohorts aging in either earlier or later. Finally, we limit to states that had relatively lower Medicaid Managed Care penetration rates. This restriction is meant to give us a fee-for-service sample that is more representative of Medicaid as a whole, which is desirable given that we'll only be able to do utilization-related analyses on that sample, and we'd want those analyses to generalize to Medicaid as a whole to the extent possible. In Table 7.1, we present summary statistics for our sample, where the left column reflects the sample without the additional data quality restrictions, while

the right column reflects the restriction to states and years with high data quality (and corresponds to the sample that will ultimately be used).

3.3 Selection Due to Data Restrictions

One set of key sample restrictions is our exclusion of the Medicaid Managed Care population from utilization-related analyses, and our exclusion of the Medicare Advantage population from all analyses. As discussed above, this could potentially limit the generalizability of our findings, particularly given the large share of Medicaid and Medicare enrollment that these managed care populations make up. While we are partly able to address this issue by limiting to states where Medicaid Managed Care has relatively lower penetration, we are not able to address issues of generalizability on the Medicare side.

Specifically, the lack of MA beneficiaries in our sample will matter if there is treatment effect heterogeneity in the Medicaid vs. Medicare difference and that treatment effect heterogeneity is correlated with selection into MA. Given that this type of selection on treatment effect heterogeneity seems plausible, our estimates should be interpreted as the Medicaid vs. Medicare difference for individuals *who opt not to enroll in MA*.

4 Research Design

4.1 Treatment and Control Groups

Our treatment group is defined as those automatically switching from Medicaid to Medicare, at 65. Specifically, this group is comprised of disabled beneficiaries who are only enrolled in Medicaid at 63, but who gain Medicare coverage upon turning 65. While almost all of those in the treatment group retain Medicaid coverage at 65, and thereby become dually eligible for both programs at 65, their primary source of insurance will switch from Medicaid to Medicare. For many of our analyses, we focus our treatment group even more narrowly, excluding those who were in Medicaid Managed Care at any point in the sample period; this exclusion comes from the fact that we can only reliably track utilization for the Medicaid FFS and not the Medicaid Managed Care population. Meanwhile, the control group is defined as disabled individuals who were enrolled in both Medicaid and Medicare at age 63 (by virtue of enrollment in both SSI and SSDI), and who remained in Medicare upon

turning 65. Hence, the control group consists of individuals whose enrollment status in Medicaid and Medicare remained largely unchanged pre vs post 65.

Our primary approach will be to compare changes in outcomes at age 65 for the treatment group to changes in outcomes at age 65 for the control group in a difference-in-differences design. In Figures 8.1 and 8.2, we present the identifying variation for our sample, showing changes in Medicaid and Medicare enrollment status-respectively-around the age of 65. Figure 8.1 makes it clear that the treatment and control group-which both had Medicaid coverage at age 63-retained that coverage at extremely high rates over the subsequent 4 year sample window. Figure 8.2 meanwhile indicates that the control group-which had Medicare coverage at 63-retains Medicare coverage (and hence dual coverage, given findings in Figure 1) at extremely high rates over the 4 years. The treatment group experiences a very sharp jump to 100% enrollment in Medicare at 65, from effectively 0%. Our analytic approach leverages this sharp change in Medicare enrollment status that arises for the treatment group but not the control group.

To leverage this differential change in enrollment to estimate differences between Medicaid and Medicare in outcomes, we estimate models of the following form:

$$\begin{aligned} Y_{it} &= \beta_1 1[\text{Age} > 65]_{it} * 1[\text{Treated}]_i \\ &+ \delta_i + \theta_a + \eta_{ac} + \epsilon_{it} \end{aligned} \tag{1}$$

where $1[Age > 65]_{it}$ and $1[Treated]_i$ are equal to 1 when the argument inside the brackets is true and 0 otherwise, Y_{it} is the outcome of interest, δ_i is a full set of individual fixed effects, θ_a is a full set of age fixed effects, η_{ac} is a full set of age-by-birth cohort fixed effects, and ϵ_{it} is a random error term. The regression coefficient β_1 is thus the difference-in-differences coefficient, capturing the differential change in the outcome pre- vs. post-age 65 among individuals in the treatment vs. the control group. The inclusion of cohort fixed effects addresses any potential confounding that could come from treatment and control group individuals differing in the timing by which they turn 65. Individual fixed effects address any potential issues around differential attrition in the treatment and control groups that affects the composition of each group. They also ensure that our pre vs post comparison is within-individual, and that the impact of Medicare vs Medicaid is identified based on

within-individual variation among the treatment group in comparison to the control

Two key assumptions must be satisfied in order for our regression estimate of β_1 to be unbiased and accurately capture the impact of Medicaid to Medicare transitions. First, there can be no "differential shocks" between the treatment and control groups. In other words, there should be no concurrent changes taking place at 65 in factors that could impact utilization or spend, apart from changes in Medicare enrollment status. Among a more general population, one concern could be a spike in retirements right around 65, given that this (at least historically) represented a common retirement age and given that becoming retired can have ramifications for health outcomes. This concern does not apply to our study population, however, because the disabled population is by definition almost entirely out of the labor force to begin with.

An additional assumption on which our research design is predicated is that outcomes across the treatment and control groups are on similar trend lines prior to the intervention (in this case, prior to age 65 and Medicare enrollment), and would have remained on similar trend lines absent the treatment. Specifically, the assumption is that underlying health of individuals in the treatment and control groups would evolve similarly with age between age 63 and age 67, in the absence of any coverage transitions. We can at least partially validate this assumption, by examining how actual trends compare across the treatment and control group for key outcomes, for the prior prior to the intervention. As will be discussed in further detail below, this assumption appears to be valid for fiscal spend and other key outcomes, based on absence of apparent differential pre-trends in dynamic difference-in-differences regressions (Figure 8.3).

5 Results

We proceed to compare outcomes under Medicare vs Medicaid coverage based on within-person changes as individuals transition from Medicaid to Medicare coverage at 65, as laid out in Equation 1. Our primary coefficient of interest in that equation is β_1, which captures the impact of reaching age 65 for the treatment group (those in Medicaid only at 63) but not the control group (those already enrolled in both Medicaid and Medicare at 63). As we previously documented, as part of this transition, there is an effectively 100% jump in Medicare enrollment share among the treatment group with little change in enrollment among the control. The coefficient β_1 can be seen as equivalent to the effect of the actual treatment-of transitioning from Medicaid to Medicare-and does not need to be

adjusted beforehand for incomplete compliance with treatment.

We first examine government spending on providing health coverage, an outcome that we can look at for those initially in Medicaid Managed Care and not just those in Medicaid Fee-for-Service. For beneficiaries in Medicaid Managed Care, this outcome is equivalent to the amount that the Medicaid program paid plans-in the form of capitation payments-to provide coverage to beneficiaries. Included also is the cost of any services that were not covered by the Medicaid Managed Care plan itself, which continued to be paid for by the Medicaid program directly even for those in managed care. Meanwhile, for those enrolled in Medicaid fee-for-service, government spending is equivalent to the amount paid out to providers for medical services, given that the government pays for it directly.

We aggregate these outcomes at a person-year level and report our findings in Table 7.2. Our results indicate that Medicare coverage for a given beneficiary costs the government substantially more than Medicaid coverage, with spending increasing by $2100 annually per beneficiary (or 13%) among beneficiaries transitioning from any kind of Medicaid (fee-for-service or managed care) to Medicare coverage. Next, in columns (2) and (3), we break out these results separately for the Medicaid fee-for-service and managed care cohorts. We find a much more pronounced spending increase-both in real ($3550) and in percentage (27%) terms-among those transitioning from Medicaid Managed Care to Medicare, than among those transitioning from Medicaid fee-for-service (12%). This suggests that it might be less expensive for the government to provide Medicaid coverage through managed care rather than fee-for-service, at least across the subset of states making it into our sample.

Higher government spending on Medicare coverage, relative to Medicaid, could be a function of either higher payment rates to providers per service performed or greater quantity of services performed. We decompose these two potential mechanisms by generating a new measure of spending, under which prices are kept fixed across Medicaid and Medicare; specifically, Medicaid prices are applied throughout, and Medicare spending is recalculated based on these prices. Altogether, as this measure keeps prices uniform between Medicaid and Medicare, any differences that remain between the two programs will reflect differences in quantity and composition of services performed. We focus only on the Medicaid fee-for-service population for this measure, given that this is the only population for which we can validate underlying utilization outcomes. We report our results in Table 7.3 and find a spending increase under Medicare that is only a fraction of what we found using the

original spending measure. This suggests that spending differences between Medicaid and Medicare largely reflect higher payment rate per service under Medicare, rather than higher quantity of service. Specifically, the price-normalized results in Table 7.3 indicate about 3% greater utilization quantity under Medicare than Medicaid, which combined with our earlier results would imply about 10% higher average prices under Medicare.

Having established that overall utilization quantity is fairly comparable across Medicaid and Medicare, we next examine how the composition of utilization differs between the two programs. We start by categorizing service types into broad buckets, and measuring utilization intensity for each bucket in terms of the price-normalized spending measure previously constructed. The results can be found in columns (2) through (5) of Table 7.3, which suggest that the shift from Medicaid to Medicare is associated with a shift in care from acute to non-acute care settings, given a substantial 40% decrease in inpatient utilization that is accompanied by an over 30% increase in outpatient utilization (such as professional as well as non-institutional long term care). To unpack these results further, we break utilization down to even finer categories and service types. We present the results in Table 7.4. Consistent with the previous findings, we see an almost 40% decrease in ED visits, alongside a 10% increase in physician office visits. However, we do not see a meaningful change in inpatient visit counts, suggesting that the reduction in inpatient visit spend under Medicare is happening on the intensive rather than extensive margin; that is, through reduced care intensity conditional on hospitalization, as opposed to a reduction in number of hospitalizations. In Table 7.5, we look more closely at utilization of non-institutional long term care, given that the previous set of results bundled general outpatient and non-institutional LTC together. Looking at HCBS services overall, we actually find a decrease in the number of HCBS claims, suggesting that the increase in outpatient utilization that we observe is not driven by non-institutional LTC. Dividing HCBS services up into the two key underlying categories-home health and personal care-we find that the decrease in claims is entirely driven by home health.

6 Conclusion

We find that it costs the government substantially more to cover an equivalent beneficiary through the Medicare program than through Medicaid. We find suggestive evidence that higher spending under Medicare translates into better quality and outcomes, although not through greater quantity

of overall health care services consumed, but rather through shifts in care from acute to nonacute settings. Future research can more closely examine the specific mechanisms through which Medicare shifts the composition of services delivered and improves primary care access, particularly the role of more generous primary care reimbursement rates under Medicare.

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7 Tables

7.1 Summary Statistics

Baseline outcomes covering pre-period (ages 63-65)

	Full Sample mean	Analytic Sample mean
Female	0.62	0.65
Total Spending	26506.70	31457.31
Medicaid Spending	14429.80	17400.08
Medicare Spending	12076.90	14057.23
Drug Spending	4837.93	5530.02
Inpatient Spending	3725.01	3897.54
LTC Spending	3478.79	5308.93
Other Spending	14464.96	16720.81
No Spending	0.03	0.02
No Medicaid Spend	0.12	0.11
No Medicare Spend	0.32	0.19
Comorbidities	1.53	1.77
Turned 65 in 2010	49.51	48.94
Turned 65 in 2011	50.49	51.06
Observations	127831	12424

7.2 Total Government Spending

	(1) All	(2) Medicaid Fee-for-Service	(3) Medicaid Managed Care
Treatment X Post	2,116.297**	2,405.054**	3,550.752**
	(383.522)	(460.706)	(739.982)
Year-Cohort FE	X	X	X
Individual FE	X	X	X
Treatment Mean (pre-65)	15,902	18,875	12,956
Observations	127,831	12,424	1,501
Tr. Obs	37,844	2,284	991

Standard errors in parentheses
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

7.3 Utilization Intensity as Proxied by Price-Normalized Spending

	(1) Total	(2) Inpatient	(3) Drugs	(4) Long Term Care	(5) Outpatient & Other
Treatment X Post	571.921^{+}	-1275.993**	147.991	-416.989	2,116.912**
	(327.051)	(241.231)	(153.128)	(259.601)	(448.101)
Year-Cohort FE	X	X	X	X	X
Individual FE	X	X	X	X	X
Treatment Mean (pre-65)	18,141	3,166	4,360	4,080	6,534
Observations	2,557	2,557	2,557	2,557	2,557
Tr. Obs	491	491	491	491	491

Standard errors in parentheses
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

7.4 Utilization Subtypes

	(1) IP Visits	(2) ED	(3) Obs Stay	(4) Office Visits	(5) LT Episodes
Treatment X Post	0.016	-0.575**	-0.095**	0.610**	-0.003
	(0.016)	(0.060)	(0.024)	(0.209)	(0.013)
Treatment Mean (pre-65)	0.41	1.51	0.13	6.28	0.06
Observations	12,424	2,557	2,557	2,557	12,424
Treatment Obs	2,284	491	491	491	2,284

Standard errors in parentheses

$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

7.5 Additional Utilization Subtypes

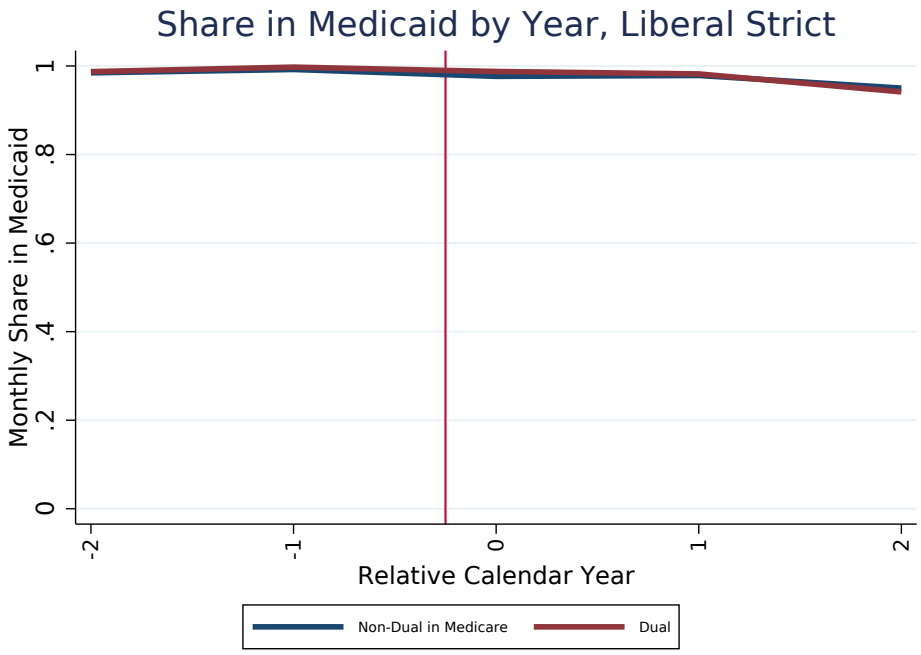
	(1) HCBS Overall Claim Count	(2) HCBS Subtype: HHA Claim Count	(3) HCBS Subtype: Personal Care Claim Count	(4) Unique Drugs	(5) Days Supply
Treatment X Post	-1.624*	-1.762**	-0.084	4.839**	440.910**
	(0.595)	(0.608)	(0.497)	(0.180)	(30.356)
Treatment Mean (pre-65)	7.43	4.91	2.57	4.77	1,615.54
Observations	2,557	2,557	2,557	2,557	2,557
Treatment Obs	491	491	491	491	491

Standard errors in parentheses

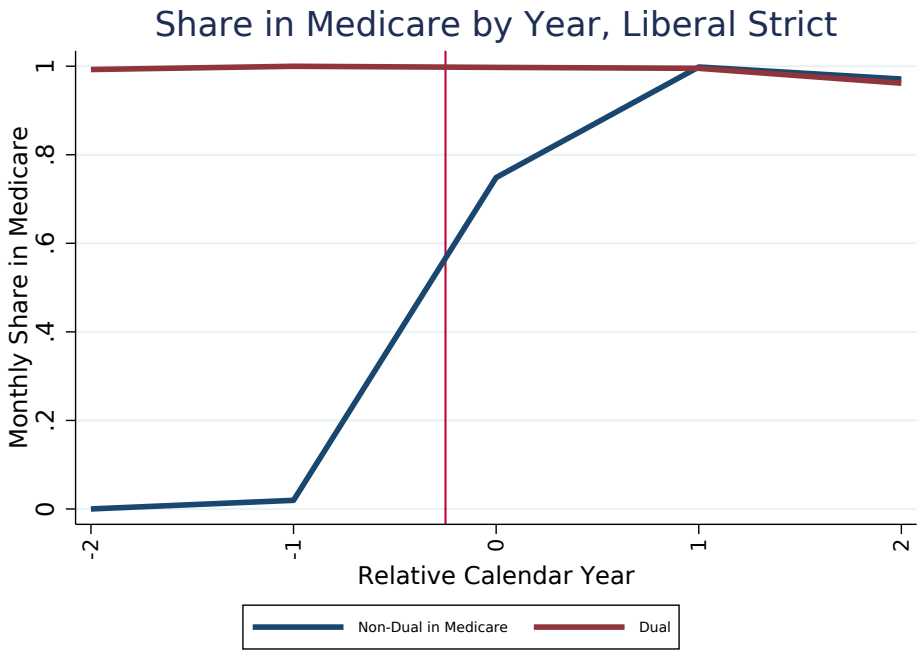
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$

8 Figures

8.1 Medicaid Enrollment



8.2 Medicare Enrollment



8.3 Event Study: Government Spending Over Time