Effect of the Personal Care Services State Plan Option on Medicaid Expenditures

Abstract

Medicaid’s Personal Care Services (PCS) State Plan benefit is a key mechanism through which states provide personal assistance services to eligible beneficiaries. But, it is widely claimed that states are reluctant to adopt the program over fears of runaway spending. Surprisingly, there has been little empirical work on examining the effect of the PCS State Plan benefit on Medicaid expenditures. Using aggregate state-level data from 1975 through 2009, this study finds that PCS State Plan adoption had no overall effect on Medicaid expenditures, except briefly during the early-growth years in 1980s. Further, findings suggest that states make decisions to adopt the program based on financial experiences of other adopting states. This study provides evidence consistent with the interpretation that when faced with the dilemma of balancing increased access with uncontrolled expenditures, state officials adapt the design of an entitlement benefit in an effort to make it less expensive.
1. Introduction

The health care of elderly Americans is universally insured as an entitlement under Medicare. However, when it comes to helping the very same people with long-term care (LTC), Medicare lends very little protection. A majority of LTC is provided informally by family members and friends. In the public sphere, Medicaid – the joint federal/state health program for low-income Americans – is the nation’s primary safety net for financing LTC. In 2011, a total of $357 billion was spent on long-term services and supports (LTSS), of which 40%\(^1\) was accounted for by Medicaid (Kaiser Family Foundation, 2013).

When Medicaid was enacted in 1965, coverage for LTC was available almost exclusively for services in skilled nursing facilities, leading to a heavy use of nursing homes (or “institutional bias”). However, this has changed considerably over time due to high costs of facility care, declining quality and consumer preferences to receive LTC in less restrictive settings. In recent decades, developing and expanding home and community-based alternatives has become a priority for most states. This commitment to “rebalance” publically funded LTC away from nursing homes has also been heavily motivated by the 1999 U.S. Supreme Court’s Olmstead decision. In its decision, the Court ruled that states must provide services in the most integrated settings appropriate to the needs and wishes of people with disabilities. Further, it also stated that a failure to do could constitute discrimination under the Americans with Disabilities Act (Smith et al., 2000).

In 2009, home and community-based services (HCBS) accounted for 45% of total Medicaid LTC spending (Eiken et al., 2010). While states have considerable flexibility in

\(^1\) Medicare (which provides limited post-acute care) accounted for 21% of the spending. Direct out-of-pocket expenses accounted for 15% of total LTSS spending, with private insurance and other public and private funding sources covering 7% and 18%, respectively.
designing their LTC benefit package under Medicaid, three program features account for the majority of Medicaid HCBS spending: a mandatory home health benefit; a personal care service (PCS) State Plan option and section 1915(c) waivers. While all states are required to provide home health to those who qualify for institutional care, the other two program features are utilized at states’ option. A home health benefit provides a nurse or a specialized aide who can assist with tasks such as those that involved in post-surgery rehabilitation at home, including simple dressing changes, monitoring complex diet regimens, taking basic vital signs, patient/caregiver education etc. It may also include medical supplies and equipment suitable for home. A personal care benefit, on the other hand, provides help with daily life tasks such as bathing, grooming, light house work, and so on. 1915(c) waivers can include a wide range of HCBS services such as case management, home maker services, adult day health, respite, personal care, transportation.

If a state elects to adopt a PCS State Plan option, then similar to the home health benefit, it has to adhere to Federal requirements of “statewidensness” and “comparability.” That is, personal care services must be available on a comparable basis to all Medicaid eligible beneficiaries who meet a pre-established need criteria. In addition, states cannot restrict the availability of these services to particular geographic regions.

In conjunction with, or in the absence of, the PCS benefit, states may also apply for one or more 1915(c) waivers that allow them to circumvent the “comparability” and “statewidensness” requirements of the Medicaid law. With Federal approval, states can use 1915(c) waivers to precisely target a wide range of HCBS services to particular categories of beneficiaries (e.g., the elderly or the developmentally disabled), as well as limit these initiatives to particular geographic areas. The waivers also permit states to cap the number of participants and establish waiting lists.
The motivation for the development of instruments like 1915(c) waivers stems from the constant dilemma state officials face in promoting access to services on the one hand, and controlling costs on the other. Since 1975, all states have had the option of offering PCS as a Medicaid State Plan benefit (Le Blanc, Tonner, and Harrington, 2001). However, unlike the tremendous growth experienced by 1915(c) waivers\(^2\), the PCS benefit is yet to be adopted by all states. By 1979, 10 states had adopted the program and this number grew to 25 by the end of 1990 (Litval and Kennedy, 1991). Currently, 32 states (including DC) have adopted the PCS State Plan option. Scholars have argued that the entitlement nature of the program has led to concerns over runaway expenditures, which has hindered nation-wide adoption of the PCS State Plan option (Ruttner and Irvin, 2013; O’Keeffe et al., 2010; American Public Human Services Association/Center for Workers with Disabilities, 2006; Doty, 2000; Weiner and Stevenson, 1998). Surprisingly, despite these concerns, there has been little empirical work that examines whether the PCS State Plan option does in fact lead to an increase in Medicaid expenditures.

This paper fills the void by examining the effect of adopting the PCS State Plan option on Medicaid expenditures over the 1975-2009 period. Because the Medicaid program has evolved substantially over the four decades since the PCS State Plan option was made available to states, I also investigate whether the effect of PCS on aggregate expenditures varies over time. Finally, I provide suggestive evidence on whether states take predicted spending changes into consideration when deciding to adopt the PCS State Plan option.

The paper is organized as follows: Section 2 provides a background on the Medicaid PCS State Plan option. Section 3 reviews literature on the adoption of PCS benefit across states and its

\(^2\) Nearly all states and DC offer services through HCBS waivers – currently more than 300 HCBS waiver programs are active nationwide (Medicaid.gov, 2015)
relationship to Medicaid expenditures. Section 4 lays out the methodology. Section 5 describes the data. Section 6 discusses the findings, and Section 7 concludes.

2. Background

Within the range of LTC services is a set of services, generically called “personal care,” that refers to “hands-on” or individualized assistance with activities of daily living (ADLs) such as eating, bathing, dressing, toileting, and may also include instrumental activities of daily living (IADLs) such as grocery shopping, meal preparation, money management, laundry and light housework.

The PCS option was first established administratively in 1975 under the authority of the Secretary of Health and Human Services (Smith, 2000). At that time, it had a medical orientation where services had to be prescribed by a physician, supervised by a registered nurse, and could be delivered only at a person’s residence in accordance with a service plan. Generally, the services included assistance with ADL activities. Personal care workers could help with IADL activities on a limited basis and only if they were incidental to the delivery of ADL assistance (O’Keeffe et al., 2010).

In 1993, Congress formally added “personal care” as an optional category in the Medicaid statute. In doing so, it also broadened the coverage of the PCS benefit. Specifically, it made explicit the non-medical nature of personal care by providing that the PCS benefit did not need to be physician prescribed or nurse supervised. The new regulations also gave states the authorization to provide personal care outside an individual’s home. In subsequent years, Medicaid guidelines allowed payment to relatives, except “legally responsible relatives” (i.e., spouses and parents of minor children) for the provision personal care. In addition, they also made supervision or cuing an allowable service (Health Care Financing Administration, 1999). While states were not required
to change the scope of their pre-1993 coverage, they could take advantage of the new regulations by amending their existing Medicaid State Plan (O’Keeffe, 2010).

The financial eligibility for the PCS optional benefit is determined using each state’s standard Medicaid eligibility criteria for the categorically needy. These criteria are usually more restrictive than those used to qualify persons for institutional placement or for a 1915 (c) waiver. The PCS option can be used to provide services to individuals who have functional limitations but do not necessarily meet the institutional level of care criteria. Thus, unlike income eligibility, the PCS is less restrictive on need criteria as compared to 1915(c) waivers which require individuals to have needs that qualify them for institutional level of care. That said, according to Le Blanc, Toner and Harrington (2001), states vary quite a bit in terms of the functional need criteria they set for PCS eligibility. Additionally, the authors also note that most states with PCS program impose formal limits on service use (hourly limits and/or cost caps) and engage in low provider reimbursement to restrict the growth of these programs.

3. Literature Review

The earliest studies on the PCS State Plan option were done by Litval and Kennedy (1991). These studies were based on two national surveys of PCS programs conducted in 1985 and 1990, as well as site visits to six states which utilized the PCS option. According to the authors, initial adopters of the program saw the PCS benefit as one of the few vehicles for leveraging federal dollars to expand personal assistance services in an era of shrinking state revenues. Prior to that, many states had been using the limited Title XX Social Service Block Grants and other state funds to cover personal care. However, due to new fiscal constraints and budget deficits (for instance, in Michigan in 1978), states began to examine the possibility of accessing uncapped matching federal funds through Medicaid for this purpose.
Because PCS State Plan is an optional program, scholars have attempted to examine which factors are associated with a state’s decision to adopt the benefit. Using state-level data spanning 1992-2002, Kitchener et al. (2007) found four factors to be positively associated with the adoption decision: population age 85 and over, percentage nonwhite population, liberal state politics and Medicaid nursing home reimbursement rates. The two factors negatively associated with this decision were personal income per capita and hospital beds per 1,000 population.

The growth in the PCS program appears to be uneven over time. According to Litval and Kennedy (1991), the PCS option experienced a high rate of growth between 1984 and 1988 when the number of recipients rose by 65% and expenditures by 144%. In contrast, Kitchener, Ng and Harrington (2007) found that between 1999 and 2002, program participants adjusted for population increased by 27%. However, inflation adjusted program expenditures per participant did not keep pace and, in fact, declined by 3%. According to the authors, one explanation for a decline in expenditure relates to a marked decline in the range of services provided under the State Plan benefit, especially transportation.

In 1981, the introduction of 1915(c) waivers also led to changes in mechanisms for providing personal care services: personal care could now be offered through the PCS State Plan benefit and/or the HCBS 1915(c) waivers. In 1998-1999, 45 states offered at least some personal care in at least one HCBS waiver. The five states that did not offer personal care in their HCBS waiver maintained an optional PCS State Plan benefit. 25 states used only the HCBS waiver mechanism and 20 states used both programs (Le Blanc, Toner and Harrington, 2001).

Ruttner and Irvin (2013) compared service utilization and expenditures for personal assistance services in states that offer these services through a PCS State Plan (alternatively referred to as “State Plan” from here on) versus through 1915 (c) waivers alone. In order to ensure
comparability and accuracy, the dataset only included 25 states. They found that when compared with states that offer PCS through waivers alone, State Plan states provide more access to personal assistance services as measured by the median proportions of Medicaid enrollees and HCBS users who use them. State Plan states also tend to spend less per-person, per-month on these services when compared with states that offer personal assistance through waivers alone. Finally, states that offer these services through their State Plans spend a higher median share of their LTC expenditures on HCBS than states that offer these services through waivers alone.

In practice, the two program features are often used as complements. Some states use the State Plan option to provide greater access to basic personal care services and then provide additional coverage through waiver programs to specific target populations. Alternatively, some states use the PCS benefit to provide services to those who do not have extensive functional impairments and therefore do not qualify for HCBS waiver programs. In addition, states use the PCS benefit to help individuals who are eligible for HCBS waiver programs but are waiting for an available slot in the program (Summer and Ihara, 2005; Weiner, Tilly, Alecxih, 2002).

Despite the prevailing claim that offering personal assistance services through the State Plan option leads to large increases in costs, recent studies on the “woodwork effect”³ of HCBS provide contrary evidence. In an analysis of state-by-state Medicaid LTC spending for 1995–2005, Kaye, La Plante and Harrington (2009) find that states offering extensive non-institutional services experienced growth in overall spending comparable to that in states offering lower levels of such services. Similarly, Eiken, Burwell and Sredl (2013) also concluded that there is no strong

³ Woodwork effect is a colorful term for induced demand. It has two components: 1) More people will use publicly funded services if access to HCBS is expanded and 2) The additional beneficiaries will increase the growth rate of Medicaid expenditures.
evidence that increased funding for HCBS has led to an increase or decrease in total Medicaid LTC expenditure.

These results, however, are not based on multivariate regression methods and thus, do not provide a \textit{ceteris paribus} effect of HCBS on Medicaid expenditures. Further, they examine the effect of HCBS spending in general and not the PCS State Plan option in particular. It is important to specifically investigate the effect of using the State Plan option because unlike 1915(c) waivers, that are also a part of a state’s HCBS package, the State Plan instrument requires services to be provided state-wide to all eligibles who meet the functional need criteria. In other words, a state’s HCBS offering is a patchwork of various instruments that can have differing effects on overall expenditure and these mechanisms should therefore be analyzed separately.

4. Methods

This paper examines the effect of adopting a PCS State Plan option on aggregate Medicaid expenditures. Towards this, I estimate the following fixed effect model:

\[ M_{it} = \beta \text{StatePlan}_{it} + \lambda \text{Waiver}_{it} + \gamma Z_{it} + \alpha_t + S_i + \mu_{it} \]  

where \( M_{it} \) is the level of Medicaid expenditures for state \( i \) at time \( t \); \( \text{State Plan}_{it} \) is an indicator for the presence of PCS State Plan optional benefit in state \( i \) at time \( t \). \( \text{Waiver}_{it} \) is an indicator variable for the presence of a personal care waiver in state \( i \) at time \( t \). \( Z_{it} \) is a vector of economic, demographic and political variables; \( \alpha_t \) is a time-specific intercept (a vector of year dummy variables); \( S_i \) is a state-specific intercept (a vector of state dummy variables); and \( \mu_{it} \) is a mean zero random error.

The results reported here are based on a semi-log model in which \( M_{it} \) is the natural log of expenditures in a given state and year. The state fixed effects capture all factors that are specific to a particular state and remain largely invariant over time. Such variables may include
basic political and religious sentiments, and geographic characteristics. The year fixed effects capture factors that are common across all states in a particular year, such as federal policies (for example, the Omnibus Budget Reconciliation Act (OBRA), 1981 that authorized the waiver program) and major US Supreme Court decisions (for example the Olmstead ruling in 1999 that gave HCBS services a big push). Thus, the basic identification strategy implicit in this fixed effects approach purges the unobserved and potentially confounded cross-sectional heterogeneity by relying on within-state variations in PCS State Plan adoption over time, and by using those states that did not face changes in PCS State Plan adoption as a control for unrelated time-series variation. Robust standard errors are clustered by state.

5. Data

The data used in this paper were collected from a variety of secondary sources. I describe these sources in detail below. Table 1 provides descriptive statistics for all variables.

*State Medicaid Expenditures*

Aggregate Medicaid expenditures for each state were collected for the period 1975 through 2009. The time series begins in 1975 because the option to provide PCS through a State Plan was first made available that year.

In particular, I obtained Medicaid expenditures for each state for the period 1980-2009 from the National Health Expenditure data provided by Centers for Medicare and Medicaid Services (CMS, 2015a). Medicaid expenditures for 1975 were extracted from a report prepared for the Committee on Interstate and Foreign Commerce (U.S. Congress, 1977). Medicaid expenditures for 1976-1977 were extracted from reports prepared by Institute of Medicaid Management (Institute of Medicaid Management/U.S. Department of Health, Education and Welfare, 1978, 1979). Finally, for 1979, state-by-state aggregate Medicaid expenditures were
taken from an evaluation of the program conducted by the Urban Institute (Holahan, 1986). Because expenditure data for 1978 was unavailable from online sources, I averaged the 1977 and 1979 numbers for each state to obtain approximate 1978 values.

With 51 states spanning 35 years, there should ideally be 1785 observations. However, as Arizona did not have a Medicaid program for LTC for the first seven years of the study, there are a total of 1778 observations. All monetary values are in constant 2009 dollars and measure aggregate expenditure regardless of the share paid from state funds.

**PCS State Plan option**

Information on the presence of PCS State Plan Option across states was obtained from three sources: Simi and Litval (1991); Le Blanc, Tonner, and Harrington (2001) and Data updates on the Medicaid Home and Community Based Service Programs from the Kaiser Family Foundation (2011).

Figure 1 shows a map of all adopting and non-adopting states by decade of adoption. Most states that eventually adopted the program did so by 1990. There appears to be a slight geographic clustering among non-adopters in the mid-west and southern parts of the country. Figure 2 presents the cumulative number of states with a PCS State Plan option in each year for the 1974-2009 period. The number of states with a PCS State Plan increased steadily from 1975 until the late eighties.4

As indicated in Figure 1 and Figure 2, in the 1990s, very few states adopted the State Plan option. This number began to grow again after 1999, before starting to flatten in 2007. Kansas became the latest state to adopt the PCS State Plan benefit in 2007. No new state has

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4 Delaware and Rhode Island were approved by CMS to offer personal care through their State Plan in 1999. However, it appears that they haven’t yet utilized the instrument because neither of the two states have ever reported any participants or expenditures for their PCS State Plans. For the purposes of this study, I code them as non-adopters.
adopted the program since then. In addition, no state has dropped the PCS benefit from their Medicaid State Plan after having adopted it in a previous year. In 2009, a total of 32 states had adopted the PCS State Plan option. For the analyses in this paper, the PCS State Plan benefit is captured by an indicator variable which equals 1 if PCS State Plan benefit is present in a particular state during a certain year, and 0 otherwise.

1915(c) waivers offering personal care

Beginning in 1981, states could provide personal care services through 1915(c) waivers. Because waivers are more flexible and allow easier targeting of benefits, some scholars have argued that states are increasingly relying on waiver programs to offer personal care services instead of adding the benefit to their State Plan (O’Keeffe, 2010). Further, it is likely that the correlation between waivers and Medicaid expenditures is not equal to zero. Thus, in order to avoid an omitted variable bias, it is important to control for the presence of a personal care waiver in a given state.

Data on personal care waivers was obtained from the CMS website (2015b), which lists all waivers offered by every state. It also provides a description of each waiver, including the program’s approval date. States with waivers that included “personal care” or “personal support” services in the description were coded to have a personal care waiver. The approval date of the waiver was used as the start date of the program in the dataset. To ensure comparability of services between waivers and the State Plan option, those waivers that only included “homemaker” or “chore services” were not coded as personal care waivers.

Figure 3 overlays the evolution of personal care waivers on PCS State Plan adoption. The graph indicates that by the late 1980s, the number of states offering personal care in at least one HCBS waiver grew rapidly. After 1987, the number of states offering personal care
through waivers was more than the number of states that had adopted PCS State Plan option. At present, almost all states offer personal care through at least one active HCBS waiver.

It is important to acknowledge that accurate data on HCBS waivers is notoriously difficult to collect because states often submit numerous amendments to their waiver programs. As a result, a state’s waiver portfolio can change considerably over time. The CMS website does not record these year-to-year changes in the description of waivers. To ensure accuracy of personal care waiver start dates, I corroborate the CMS data with that provided in Le Blanc, Tonner and Harrington (2001). This study details the presence of personal care waivers across all states during an earlier time period (1997-199). While some errors may still remain, it would be prohibitively expensive to gather all the information required to assess the complexity of every state’s program, especially over time. Further research will be necessary to determine how variation in the design, implementation and oversight of 1915(c) waivers relates to these current findings.

Other Control Variables

The empirical model controls for a series of political, economic and demographic variables likely to influence Medicaid expenditures. The political variables include an indicator for whether the state’s governor belonged to the Democratic Party. This was information was taken from the National Governors Association (2015). Additionally, to capture state generosity, I control for two other policy variables: 1) whether the state had a Medically Needy option\(^5\) and, 2) the amount of state supplement to the federal SSI benefit (in 2009 dollars).\(^6\)

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\(^5\) In some states, those individuals who do not meet a state’s income and asset eligibility limits may still qualify for Medicaid if they have significant medical expenses that reduce their income below a certain level, through what are called “medically needy” programs. All states have the option of covering so-called medically needy individuals, but not all do.

\(^6\) SSI or Supplemental Security Income is a federal program that provides monthly cash payments to people in need. Some states add money to the federal benefit and this is known as state supplementation of SSI benefit.
The data on the medically needy option across states is provided by David Grabowski from Harvard University (2013). State supplementation of SSI payments for 1975-1995 are gathered from Ponce (1996). Thereafter, information on this variable is taken from Urban Institute’s TRIM3 database (2012). Because these three political variables capture the construct of state generosity, it is expected that all three will lead to an increase in aggregate Medicaid expenditures.

The economic variables include average state income (in 2009 dollars) and state unemployment rate. The state income is obtained from the Department of Commerce, U.S. Bureau of the Census (2015), and the state unemployment rate is obtained from the Bureau of Labor Statistics (2015). Higher incomes and lower unemployment rates may reduce the number of people eligible for Medicaid and thus, decrease Medicaid expenditures. On the other hand, some studies have also demonstrated that states with higher personal income tend to be more generous in their funding of Medicaid HCBS programs (Kane et al., 1998). Therefore, the direction of the effect is difficult to predict.

The demographic variables cover a state’s total population and the proportion of elderly population (above age 65). Both these variables are obtained from the U.S. Bureau of the Census (2015). A large population suggests a greater number of eligible residents and therefore a higher level of Medicaid expenditures. Because LTC expenditures are a substantial part of overall Medicaid expenditures, a large elderly population is also expected to increase overall Medicaid expenditures.
6. Results

Estimates from the fixed-effects regression are provided in Table 2. Overall, the results indicate that, at most, the adoption of PCS State Plan had a weak effect on aggregate Medicaid expenditures. While coefficient on PCS State Plan variable was positive, there was no statistically significant effect of PCS State Plan adoption on aggregate Medicaid expenditures. Further, even the statistically insignificant effect suggested a less than 5% increase in expenditures as a result of PCS State Plan adoption over the entire 35-year period.

Turning briefly to other variables in the regression, I find that the presence of a personal care waiver leads to a decrease in Medicaid spending, though the effect is not statistically significant. It is possible that HCBS waivers reduce the number of individuals in nursing homes, thereby leading to a decrease in nursing home expenditures which still account for the largest share in overall Medicaid LTC expenditures. However, because the coefficient is not statistically significant, it is difficult to interpret the results substantively.

A larger proportion of population age 65 and older was associated with higher Medicaid expenditures. Specifically, a 1% increase in this proportion was associated with a 0.79% increase in Medicaid expenditures. A larger population and a higher unemployment rate was also associated with an increase in Medicaid expenditures. The remaining variables in the model were not statistically significant.

These findings were robust to a number of alternate model specifications (all robustness checks are available on request). First, it could be argued that there is some lag between PCS State Plan adoption and Medicaid expenditures. To test this argument, I ran versions of the model with one-period and two-period lags of the PCS State Plan variable included. Adding these lags had little effect on the PCS coefficient.
Second, unobservable characteristics in a state might change over time in ways that differ across states. Such characteristics could include changing demand for HCBS in a state. To test for this, I ran the model including state-specific linear time trends. This allows one to control for a slowly evolving change in tastes for HCBS across states. Including this control had no effect on the coefficient on the PCS variable.

Effect of PCS State Plan over time

The period 1975-2009 represents more than four decades of Medicaid HCBS evolution. To investigate how the effect of adopting PCS State Plan benefit on Medicaid expenditures changed over time, I interact the PCS State Plan variable with year dummies. I include the interactions as well as the main effects in the regression model. As in the previous case, robust standard errors are clustered by state.

In this specification, the coefficient on the State Plan indicator (main effect) represents the effect of PCS State Plan in the baseline year (1975). To get the effect of PCS State Plan on Medicaid expenditures for subsequent years, I add the coefficient on the main effect and the coefficient on each State Plan–year interaction. Because this time series spans 35 years, I present the year-by-year effect of having a PCS State Plan on Medicaid expenditures in a graphical format (see Figure 4).

The figure illustrates that for a brief period in the early years, the adoption of a PCS State Plan led to a statistically significant increase in aggregate Medicaid expenditures. Specifically, electing to cover personal care through a State Plan led to an as much as 20% increase in Medicaid expenditures in 1975 and 1982. Towards the end of 1980s, the effect of PCS State Plan began to decrease. After 1993, there was appears to be no effect of PCS State
Plan on Medicaid expenditures. This suggests that the overall positive effect of PCS on Medicaid expenditures mainly represents the effect of the program in the early growth years.

The diminishing effect of PCS on Medicaid expenditures may be a result of a number of key changes that took place during the 1990s. These events are known to have markedly altered the Medicaid HCBS landscape in general. First, though initially introduced in 1981 under OBRA, it was the presidential administrations of Bill Clinton and George W. Bush that saw an outpouring of 1915(c) waivers (Thompson and Burke, 2007). After waivers were introduced in 1980s, officials were worried that states might use the 1915(c) instrument to open floodgates to greater Medicaid expenditures. To avoid that, the Office of Management and Budget imposed the “cold-bed” rule in the mid-1980s. This rule required states to demonstrate that for each HCBS waiver participant, it had emptied an institutional bed. As a result, states found it difficult to submit ambitious waiver proposals (Shirk, 2006).7 The Clinton administration ushered in a more hospitable climate for Medicaid waivers by eliminating the cold-bed rule (Thompson and Burke, 2007) in 1994, which consequently led to a rapid expansion of the program.8

Second, as described above, starting in 1993 Congress made several revisions to the PCS State Plan benefit itself. As a result of these changes made in federal policy, Keeffe et al. (2010) note that there remained little difference in the scope of personal care services that could be offered under the Medicaid State Plan and those that may be offered under an HCBS waiver.

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7 According to Thompson and Burke (2007), during the 1980s, states often found negotiations with the federal bureaucracy over waiver approval to be arduous and protracted. For instance, it took Minnesota officials four years to obtain a federal sign-off on an HCBS waiver proposal, and Texas administrators three years. Delay frequently stemmed from differences between national and state officials over how to estimate the costs of the waiver.

8 The growth in HCBS waivers during the 1990s does not contradict the graph presented in Figure 3. It is important to keep in mind that Figure 3 presents information on states having at least one HCBS waiver that offered personal care, and not the total number of waivers over time.
Thus, it is possible that with a rapid expansion of HCBS waivers in general, and the increasing degree of substitutability between waivers and the State Plan (in terms of the nature of services that could be offered through the two instruments), officials were able to combine the two options in such a way that the delivery of personal care through the State Plan vehicle became less expensive.

This shift away from the PCS State Plan is evidenced in the literature as well. Between 1992 and 2002, 1915(c) waiver program spending increased from 37% to 67% of the total Medicaid HCBS spending. On the other hand, spending for the PCS State Plan benefit dropped from 22% of total HCBS spending to 11% of total HCBS spending (Reester, Missmar and Tumlinson, 2004). Previous studies also suggest some decline in the services provided by states in their PCS State Plans. For example, from 1984 to 1988, there was a reduction in the number of states that provided respite and emergency services (Litval and Kennedy, 1991). In 1991, Michigan was known to have dropped from the program people who received purely chore services because they were solely state funded (Litval and Kennedy, 1991). Similarly, from 1999 to 2002, the number of states that provided transportation services in their PCS State Plans also reduced (Kitchener, Ng and Harrington, 2007). There is also evidence that by 1988, fewer states had round-the-clock availability of personal care attendants (Litval and Kennedy, 1991). In addition, in 1984, about 70% of the PCS State Plans had specified service limits (cost or hourly caps) – by 1999, this number had changed to over 90% (Litval and Kennedy, 1991; Kitchener, Ng and Harrington, 2007). While a dummy variable approach to represent different PCS programs is useful in a study like this, further research needs to be carried out on how the content and design of these programs has changed over time.
Heterogeneous behavior in PCS State Plan adoption

An important area of research in political science focuses on understanding the diffusion of policies across states. While most studies of this nature attempt to model whether the timing of policy adoption in a state is influenced by the policy adoption behavior of its neighbors, the theoretical mechanisms behind such adoption processes remain largely understudied (Hays and Glick, 1997; Mintrom, 1997).

Diffusion theory is assumed to be based on a social learning process (Mooney, 2001). Social learning theory posits that state officials tend to draw on experience of other states (not necessarily neighboring states) when considering the adoption of a new policy. Information learned from another state can either enhance or diminish the chances of a polity adopting a law (Mooney, 2001). In other words, depending upon the policy, information learned from another state could have positive or negative effects on own adoption behavior.

In this context, officials may find it relevant to learn from adopting states’ experiences on the effectiveness and efficiency of using the State Plan instrument to provide personal care services. That said, it is challenging to learn about effectiveness as state aggregate data on HCBS programs, participants, policies and outcomes are generally unavailable. One reason for this is that CMS does not have uniform reporting requirements across different HCBS programs (Harrington et al., 2009). On the other hand, states may find it relatively easier to learn from others on cost implications of adopting a PCS State Plan as expenditure data are widely available.

If social learning plays a role in the diffusion of PCS State Plan adoption, then it is hypothesized that states attempt to predict changes in own expenditures based on the experience of other states, and decide to adopt the policy only if the predicted costs of doing
so are low. While there are many examples of states conducting feasibility studies before adopting a new policy, it is unclear if they use the experience of others states in this process.\footnote{Iowa is an example of a state that does not have a Personal Care Medicaid State Plan Option. They did an extensive study with recommendations to add the service but ultimately found the cost was too high (American Public Human Services Association/Center for Workers with Disabilities, 2006)}

In this section, I provide descriptive evidence on whether states display behavior that concurs with the theory of social learning. If, before making the decision to adopt a State Plan, states could predict cost changes associated with a hypothetical adoption (based on the experience of other states as well as their own characteristics), and if these predicted costs varied consistently with the eventual decision to adopt or not-adopt (that is, states with higher predicted costs were less likely to adopt in the future), then this represents suggestive evidence that states make policy decisions based on information that is gleaned from peers and adapted to their own situations.

To do this analysis, I interact all control variables in equation (1) with the indicator variable for PCS State Plan. This enables each state to have a PCS State Plan-associated cost component that varies with individual state characteristics. I include all interactions and main effects in the model and save predicted expenditures from the fitted regression (Table 3).

Next, I focus on all non-adopting states across different years. For these states, I save the predicted values from the above regression as “original predicted expenditure.” To impute the effect of a hypothetical State Plan adoption among these states, I change the value of the State Plan indicator variable from 0 to 1 and then re-calculate predicted expenditure using information from the same fitted regression. These new values of predicted expenditure are saved as “hypothetical predicted expenditure.” This represents predicted expenditures in a scenario where non-adopters hypothetically adopted a PCS State Plan.
For these non-adopting states, I then calculate the difference between “hypothetical predicted expenditure” and “original predicted expenditure.” This difference is the “price” of PCS State Plan adoption to a non-adopting state in a given year. Next, I create a variable to indicate whether a state eventually adopts the PCS State Plan.

Figure 5 illustrates the average “cost” of the PCS State Plan adoption among states that never adopt and those that are current non-adopters but eventually go on to adopt. The figure shows that during the 1980s, when having a PCS State Plan led to an increase in Medicaid expenditures, current non-adopters that never adopted the State Plan had a higher average cost of adoption in all years of the decade. In contrast, those non-adopters that eventually adopted the State Plan had lower average cost of adoption in all years of the decade.

In other words, it is likely that states that never adopt the Plan do so because they face a high price of PCS adoption. Similarly, current non-adopters that eventually adopt do so because they face a relatively lower price of PCS State Plan adoption. This behavior appears to be consistent with the theory of social learning.

7. Conclusion

Though previous literature has claimed that adopting a PCS State Plan is likely to lead to large increases in spending, no study has empirically examined this question using longitudinal data. This paper represents the first effort to investigate the effect of the program on Medicaid expenditures from 1975 through 2009. It is also the first study that analyzes the development of the PCS State Plan since its inception in 1975 until 2009.

I find that the adoption of a PCS State Plan led to an increase in Medicaid expenditures only during the early growth years of the program in the 1980s, and that this effect diminished over time. Specifically, averaging over the entire time period, as well as in individual recent
years, there is no statistically significant effect of PCS State Plan adoption on Medicaid expenditures. While high administrative costs may have contributed to an increase in expenditures during the early years of program implementation, the growth of 1915(c) waivers during the late 1980s and the 1990s likely played a role in enabling state officials to adapt by directing State Plan services and participants to waiver programs. A few scholars also note that there is less reason to be concerned about runway spending because Medicaid’s financial eligibility test – in particular the $2,000 asset limit in nearly all states – is particularly restrictive and has not been raised in nearly three decades. In other words, the restrictiveness of the asset test limits the number of people who can gain eligibility into the program (Borck et al., 2014).

In general, the main message of this study is that over time, state officials have been able to adjust design elements of an entitlement program (within the constraints of the Medicaid law) in such a way that it no longer influences overall expenditures. While this is positive news from a spending perspective, it does raise questions about the ability of the program to meet LTC needs of the population in its current form. Systematic evaluations of recipient outcomes need to be conducted to examine this question in greater detail.

I also find suggestive evidence that states potentially learn from the experience of other states in order to make their own adoption decisions. In particular, non-adopting states that were predicted to have high costs of a hypothetical PCS adoption were less likely to adopt the benefit in the future as compared to those non-adopters that were predicted to have relatively low costs of such an adoption.

A key limitation of this study is that a variety of secondary sources were used to collect information on Medicaid expenditures. This raises the possibility of measurement error which
can cause estimates to shrink towards zero. To the extent possible, future studies should attempt to collect data from unified sources.

As the American population ages, the demand for LTC services is expected to surge. However, potential cost implications have remained a key stumbling block in the development and expansion of publicly provided formal care services like personal care. Targeted future research on the efficiency and quality of such programs needs to be conducted in order to gain a better understanding of how states tailor LTC services under the constraints of budgets, federal rules and state-specific policy objectives.
References


TRIM3 project website. Retrieved (June 20, 2012): trim3.urban.org


Figure 1: PCS State Plan Adoption in the U.S.
Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>State Level Variables</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Medicaid Expenditure (millions of 2009 $)</td>
<td>3257</td>
<td>5440</td>
</tr>
<tr>
<td>PCS State Plan (Yes=1, No=0)</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>1915(c) waiver that offered personal care (Yes=1, No=0)</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>Democratic governor (Yes=1, No=0)</td>
<td>0.55</td>
<td></td>
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<tr>
<td>Medically needy (Yes=1, No=0)</td>
<td>0.69</td>
<td></td>
</tr>
<tr>
<td>State supplement to SSI (2009 $)</td>
<td>53.61</td>
<td>104.58</td>
</tr>
<tr>
<td>Personal per capita income (1,000s 2009 $)</td>
<td>29.06</td>
<td>9.3</td>
</tr>
<tr>
<td>Unemployment rate (percent)</td>
<td>5.97</td>
<td></td>
</tr>
<tr>
<td>Total Population (millions)</td>
<td>17.9</td>
<td>81</td>
</tr>
<tr>
<td>Percent 65 and above</td>
<td>11.20%</td>
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</table>
Figure 2: Cumulative Number of States with PCS State Plan

Figure 3: Cumulative Number of States with PCS State Plan & 1915(c) waivers that provide personal care
Table 2: Effect of PCS State Plan on Medicaid Expenditures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Ln Medicaid Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCS State Plan Adoption</td>
<td>0.04 (0.06)</td>
</tr>
<tr>
<td>1915(c) waiver with personal care</td>
<td>-0.07 (0.06)</td>
</tr>
<tr>
<td>Ln total population</td>
<td>0.76 ** (0.19)</td>
</tr>
<tr>
<td>Ln % population over 65</td>
<td>0.78 ** (0.18)</td>
</tr>
<tr>
<td>Ln per capita income</td>
<td>0.32 (0.25)</td>
</tr>
<tr>
<td>Ln unemployment rate</td>
<td>0.1 * (0.04)</td>
</tr>
<tr>
<td>Medically Needy</td>
<td>0.06 (0.07)</td>
</tr>
<tr>
<td>State supplement to SSI</td>
<td>0.0005 (0.00)</td>
</tr>
<tr>
<td>Democratic Governor</td>
<td>0.01 (0.01)</td>
</tr>
<tr>
<td>Constant</td>
<td>-9.17 (4.49)</td>
</tr>
</tbody>
</table>

State Fixed Effects: Yes
Year Fixed Effects: Yes
N: 1778

Notes: Robust standard error cluster by state in parentheses. * Statistically significant at 5%; ** Statistically significant at 1%

Figure 4: Effect of PCS State Plan on Expenditures Over Time
Table 3: Fixed Effects Regressions with Interactions

<table>
<thead>
<tr>
<th></th>
<th>Ln Medicaid Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCS State Plan Adoption</td>
<td>2.73 (1.33)</td>
</tr>
<tr>
<td>1915(c) waiver with personal care</td>
<td>0.01 (0.08)</td>
</tr>
<tr>
<td>Ln total population</td>
<td>0.77 (0.22)</td>
</tr>
<tr>
<td>Ln % population over 65</td>
<td>0.78 (0.22)</td>
</tr>
<tr>
<td>Ln per capita income</td>
<td>0.30 (0.27)</td>
</tr>
<tr>
<td>Ln unemployment rate</td>
<td>-0.07 (0.06)</td>
</tr>
<tr>
<td>Medically Needy</td>
<td>0.07 (0.08)</td>
</tr>
<tr>
<td>State supplement to SSI</td>
<td>0.00 (0.00)</td>
</tr>
<tr>
<td>Democratic Governor</td>
<td>-0.02 (0.03)</td>
</tr>
<tr>
<td>PCS*1915(c) waiver with personal care</td>
<td>0.06 (0.10)</td>
</tr>
<tr>
<td>PCS*Ln total population</td>
<td>0.28 (0.17)</td>
</tr>
<tr>
<td>PCS*Ln % population over 65</td>
<td>0.25 (0.17)</td>
</tr>
<tr>
<td>PCS*Ln per capita income</td>
<td>-0.32 (0.18)</td>
</tr>
<tr>
<td>PCS*Ln unemployment rate</td>
<td>0.12 (0.08)</td>
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<tr>
<td>PCS*Medically Needy</td>
<td>-0.22 (0.08)</td>
</tr>
<tr>
<td>PCS*State supplement to SSI</td>
<td>0.00 (0.00)</td>
</tr>
<tr>
<td>PCS*Democratic Governor</td>
<td>0.05 (0.04)</td>
</tr>
<tr>
<td>Constant</td>
<td>-9.13 (4.48)</td>
</tr>
</tbody>
</table>

State Fixed Effects: Yes
Year Fixed Effects: Yes
N: 1778.00

Notes: Robust standard error cluster by state in parentheses. Other control variables: PCS State Plan interactions with years dummies.

Figure 5: Cost of PCS Adoption for Non-Adopting states

- Eventually adopted
- Never adopted