Effects of Early Dual-Eligible Special Needs Plans on Health Expenditure

Yongkang Zhang and Mark L. Diana

Objective. To examine the effects of the penetration of dual-eligible special needs plans (D-SNPs) on health care spending.

Data Sources/Study Setting. Secondary state-level panel data from Medicare-Medicaid Linked Enrollee Analytic Data Source (MMLEADS) public use file and Special Needs Plan Comprehensive Reports, Area Health Resource Files, and Medicaid Managed Care Enrollment Report between 2007 and 2011.

Study Design. A difference-in-difference strategy that adjusts for dual-eligibles' demographic and socioeconomic characteristics, state health resources, beneficiaries' health risk factors, Medicare/Medicaid enrollment, and state- and year-fixed effects.

Data Collection/Extraction Methods. Data from MMLEADS were summarized from Centers for Medicare and Medicaid Services (CMS)'s Chronic Conditions Data Warehouse, which contains 100 percent of Medicare enrollment data, claims for beneficiaries who are enrolled in the fee-for-service (FFS) program, and Medicaid Analytic Extract files. The MMLEADS public use file also includes payment information for managed care. Data in Special Needs Plan Comprehensive Reports were from CMS's Health Plan Management System.

Principal Findings. Results indicate that D-SNPs penetration was associated with reduced Medicare spending per dual-eligible beneficiary. Specifically, a 1 percent increase in D-SNPs penetration was associated with 0.2 percent reduction in Medicare spending per beneficiary. We found no association between D-SNPs penetration and Medicaid or total spending.

Conclusion. Involving Medicaid services in D-SNPs may be crucial to improve coordination between Medicare and Medicaid programs and control Medicaid spending among dual-eligible beneficiaries. Starting from 2013, D-SNPs were mandated to have contracts with state Medicaid agencies. This change may introduce new effects of D-SNPs on health care spending. More research is needed to examine the impact of D-SNPs on dual-eligible spending.

Key Words. Dual-eligible, special needs plan, health care spending, care coordination

Dual-eligible beneficiaries are those who qualify for both Medicare and Medicaid benefits. These individuals have low incomes and are either elderly or have long-term disabilities. Due to their complex needs, dual-eligible individuals require a mix of acute care, long-term care, behavioral health, and social services (Gold, Jacobson, and Garfield 2012; Medicare Payment Advisory Commission 2012). Studies have found that dual-eligibles are among the highest-cost enrollees in both programs. While accounting for about 18 percent of Medicare fee-for-service (FFS) enrollment, they represented about 31 percent of total Medicare FFS spending in 2010 (Medicare Payment Advisory Commission 2012). In addition, they accounted for about 15 percent of Medicaid enrollment but about 40 percent of Medicaid spending (Kaiser Family Foundation 2011). Studies have indicated that the lack of coordination between Medicare and Medicaid programs is a significant cause for the disproportionate costs among this population (Grabowski 2007; Ng, Harrington, and Kitchener 2010; Gold, Jacobson, and Garfield 2012; Medicare Payment Advisory Commission 2012).

Medicare and Medicaid typically pay for different services dual-eligible individuals need. Specifically, most primary and acute care services, such as physician, hospital, prescription drug, and other related services, are covered through Medicare. Most long-term services and supports, including community-based services, nursing facility services, and personal care assistance, are paid by Medicaid (Komisar, Feder, and Kasper 2005; Verdier et al. 2015). This fragmented payment structure creates conflicting incentives as both programs have intentions to limit their own payment and shift costs to another program (Grabowski 2007, 2009). For example, health services delivered by nursing homes are less expensive than those by hospitals, and appropriate interventions implemented in nursing homes could reduce avoidable hospitalizations (Kane et al. 2004; Loeb et al. 2006; Graverholt, Forsetlund, and Jamtvedt 2014). Therefore, coordinating health care delivery between nursing homes and hospitals could generate cost savings. However, utilizing more nursing home services and less hospital services means more payment by Medicaid and costs savings for Medicare. Thus, Medicaid programs have little incentive to encourage nursing home utilization and

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discourage hospitalizations. Such conflicts also exist in home health services and other settings (Grabowski 2007).

Special needs plans (SNPs) are a type of Medicare Advantage (MA) plan authorized under the Medicare Modernization Act of 2003 with the goal to better serve vulnerable populations. Three types of SNPs were created and have been available since 2006: chronic (C-SNP), dual-eligible (D-SNP), and institutional (I-SNP; Centers for Medicare and Medicaid Services 2011). D-SNPs were intended to allow MA plans to specialize in serving dual-eligible beneficiaries. Strategies among D-SNPs for quality improvement and cost savings include capitated payments from both Medicare and Medicaid, information sharing when the benefit coverage switches from Medicare to Medicaid, and use of interdisciplinary team composition (Verdier et al. 2015). The statistics show that while the number of plans fluctuated, there is a steady growth of D-SNP enrollment. The number of D-SNPs was 226 in 2006 and peaked to around 440 in 2008. This number dropped to 336 as of December 2015. The enrollment increased from 439,412 in July 2006 to 1,755,163 as of December 2015 (Medicare and Medicaid Coordination Office 2015; Verdier et al. 2015).

Despite the increasing popularity of D-SNPs among dual-eligibles, few studies have examined their role in health care delivery and their effects on health care quality and costs, largely because of data limitations (Gold, Jacobson, and Garfield 2012). Most related studies solely focus on updating the development of this program with descriptive analyses (Grabowski 2009; Gold, Jacobson, and Garfield 2012; Verdier et al. 2015). One study we identified about the quality and cost effects of D-SNPs found mixed results (Medicare Payment Advisory Commission 2012). Specifically, this study found D-SNPs performed better than non-SNP MA plans on risk factors for falls, advising patients on physical activity, managing urinary incontinence, and bronchodilator pharmacotherapy management of exacerbation of chronic obstructive pulmonary disease. But D-SNPs performed worse than non-SNP MA plans on 29 other measures. Such measures include intermediate outcomes of blood pressure control among enrollees with hypertension and blood glucose control among diabetics (Medicare Payment Advisory Commission 2012). Further, this study found that Medicare spending on D-SNPs beneficiaries exceeded spending on comparable beneficiaries in FFS (Medicare Payment Advisory Commission 2012). Although this study provides meaningful insights about the effects of D-SNPs, more research is needed to answer important questions. First, comparing D-SNPs with non-SNP MA plans did not indicate whether D-SNPs have improved the quality of health

care received by dual-eligible enrollees, as compared with nonenrolled dual-eligible beneficiaries. Second, the higher costs of D-SNPs may be attributable to a selection problem, such as the different personal or utilization characteristics between D-SNPs enrollees and the fee-for-service population (Grabowski 2012). Therefore, more research is necessary to explore the effects of D-SNPs.

In this study, we implement a longitudinal quasi-experimental study on the effect of D-SNPs on health costs. Specifically, we investigate the effects of the penetration of D-SNPs on Medicare, Medicaid, and total spending between 2007 and 2011. Our findings may be of interest to federal and state policy makers as they work to develop more D-SNPs or other new programs to improve health care for dual-eligible beneficiaries.

BACKGROUND

Due to their complex health needs, dual-eligible beneficiaries usually receive health care across various settings (e.g., acute and long-term settings) covered by either Medicare or Medicaid, or both. Given the traditional payment structure, conflicting incentives exist between different settings or even within the same setting (Grabowski 2007). Medicare and Medicaid may reimburse providers for specific services without considering other services, and neither program has an incentive to take responsibility for overall care management or quality of care (Dean and Grabowski 2014). For example, Medicaid has incentives to transfer nursing home residents to hospitals regardless of the real medical needs and costs, as the treatment happening in nursing homes is paid by Medicaid while Medicare covers acute inpatient hospital services. Similar situations could happen between home health facilities and hospitals, or community-based programs and hospitals (Grabowski 2007). For services covered by both Medicare and Medicaid, one has the incentive to maximize the payment from the other and limiting the payment from their own. For example, both Medicare and Medicaid cover home health for dual-eligibles. Therefore, states have an incentive to maximize the Medicare payments while limiting the Medicaid payments (Grabowski 2007). All these issues could lead to unnecessary utilization and costs.

Coordinating Medicare and the Medicaid services aims to deliver all services for dual-eligibles through a single plan. A health plan offering bundled Medicare and Medicaid services will have incentives to control the overall costs for a defined population of patients, as they could not shift financial risks,

but are able to fully internalize the potential savings. Solutions to address the conflicting incentives and generate savings include capitated managed care, pay for performance, and federalizing Medicaid for dual-eligible beneficiaries (Grabowski 2007). Some of these methods have been adopted by federal and state demonstrations to improve health care for dual-eligible beneficiaries. The Centers for Medicare & Medicaid Services (CMS) launched the Financial Alignment Initiative. Through collaboration between CMS and the states, this initiative tests models to better align the financing of Medicare and Medicaid and integrate primary, acute, behavioral health, and long-term services and supports for dual-eligibles (Ptaszek et al. 2017). Additional care coordination and monitoring services are also included in the program (Wiener et al. 2017). As of December 2015, CMS has finalized memoranda of understanding with 13 states to implement 14 demonstrations (Musumeci 2015). Early evaluations indicated some positive effects on patient experience, cost, quality, and utilization of health care (Gattine et al. 2016; Justice et al. 2016). In terms of the states' demonstrations, Massachusetts Medicaid and CMS jointly contract with qualified managed care plans to provide a full range of Medicaid and Medicare services for enrollees. These plans—called Senior Care Options (SCOs)—receive capitated payment from the Massachusetts Medicaid program. They are motivated to avoid unnecessary long-term entry into nursing facilities, which is the costliest event to Medicaid (JEN Associates Inc 2008). The program evaluation indicated that SCOs were associated with a 42 percent reduction in nursing home utilization risk in the first performance year (JEN Associates Inc 2008). Similar models have also been adopted by Minnesota's Senior Health Options (Kane et al. 2001) and Wisconsin's Partnership Program (Kane, Homyak, and Bershadsky 2002).

As a single entity offering both Medicare and Medicaid benefits for dual-eligible beneficiaries, an SNP will have incentives to ensure beneficiaries receive the most clinically appropriate and cost-effective services (Thorpe 2011). A review of D-SNPs in 13 states identified various strategies with potential for cost reduction, including (1) integration of care covered by both Medicare and Medicaid for enrollees; (2) improved care coordination and care management services to ensure access to appropriate care from any provider; (3) development of effective linkages across all providers to ensure continuity of care when enrollees transfer from one setting to another; and (4) implementation of protocols to deliver care in line with standards for D-SNPs and evidence-based care (Verdier et al. 2015). With the wide adoption of such measures among D-SNPs, we would expect improved quality and cost savings among dual-eligible beneficiaries.

METHODS

Overall Design

We implement a longitudinal quasi-experimental study to test the association between D-SNPs penetration and health care costs using state-level panel data between 2007 and 2011.

Data

Data used for this study are from four major sources. First, data about the D-SNPs enrollment come from Special Needs Plan Comprehensive Reports (Medicare and Medicaid Coordination Office, 2015). Reports from May 2007 to the current month are publicly available from CMS's website. These reports provided the number of enrollment, operating state(s)¹, and plan type for each special needs plan. Enrollment numbers from reports released on December of each year between 2007 and 2011 are used in this study. We collapsed enrollment numbers of plans to each state. Thirty-two plans during the study period served beneficiaries in multiple states. We mapped the enrollment number to each state they served using the plan contract information. Second, the Medicare-Medicaid Linked Enrollee Analytic Data Source (MMLEADS) public use file provided beneficiary numbers, demographic characteristics, beneficiary health conditions, and health costs of dual-eligibles in each state and Washington, DC, from 2007 to 2011. This file includes total Medicare FFS payments (Part A and Part B), total Medicare managed care payments of Part A and Part B, Medicare Part D payments for FFS and MA enrollees, total Medicaid FFS payments, and total Medicaid managed care payments. State-level market variables are from the Area Health Resource File (AHRF). Finally, the Medicaid Managed Care Enrollment Report available from CMS provided percent of Medicaid beneficiaries who enrolled in Medicaid managed care for each state and Washington, DC, between 2007 and 2011.

Study Population

This study includes dual-eligible beneficiaries from 2007 to 2011 in the 50 U.S. states plus Washington, DC. Dual-eligible beneficiaries in Guam, Puerto Rico, and the Virgin Islands were excluded as their demographic, utilization, and cost information was not available.

Variables

The dependent variables of interest are *Medicare spending per enrollee*, *Medicaid spending per enrollee*, and *total spending per enrollee* (Medicare plus Medicaid, FFS plus managed costs) of dual-eligible beneficiaries. These variables have been adjusted to constant 2007 dollars using the Consumer Price Index. The independent variable of interest is the *penetration of D-SNPs*. This continuous variable is measured by the percent of dual-eligible beneficiaries enrolled in D-SNPs among the total number of dual-eligibles.

In line with previous studies, we control for a comprehensive set of variables reflecting demographic, market environment, health conditions, and policy that may account for the variation in health care spending of dual-eligibles across states. Demographic characteristics include *percent of age under 65*, *percent of age 85 or above*, *percent of female*, *percent of non-Hispanic white*, *percent of African American*, and *percent of Hispanic* among the dual-eligible population. For the market characteristics, we control for *income per capita*, *unemployment rate*, *poverty rate*, *physicians per 1,000 people*, *hospital beds per 1,000 people*, and *nursing home beds per 1,000 people*. These variables reflect the financial resources and health resources that influence beneficiaries' health care demand, access, and utilization (Zuckerman et al. 2010; Paik, Black, and Hyman 2014; Young et al. 2015). Beneficiaries in areas with more resources may have higher utilization and associated higher costs. High prevalence of chronic conditions among the dual-eligible population is associated with more health care utilization, such as hospital inpatient care and home health services, which in turn inflates medical expenditure (Komisar, Feder, and Kasper 2005; Moon and Shin 2006). Based on previous studies, we control for the prevalence of chronic conditions that are common and costly among dual-eligible beneficiaries (Thorpe, Ogden, and Galactionova 2010; Congressional Budget Office 2013). These conditions include *hypertension*, *heart failure*, *diabetes*, *hip fracture*, *stroke*, *chronic obstructive pulmonary disease (COPD)*, *Alzheimer's and related disorders*, *tobacco use disorder*, and *alcohol use disorders*. Since these health condition variables are only available for FFS beneficiaries, we additionally controlled for the average risk score CMS uses to adjust MA payment. This score captures the variation of health conditions among MA enrollees as no other data are available.

We also included several variables about Medicare and Medicaid enrollment, including *percent of beneficiaries with full benefits*, *percent with all 12 months in FFS Medicaid*, *percent with all 12 months in FFS Medicare*, *percent with all*

12 months with Medicare Part D coverage, and percent with disability. Constant enrollment would cost more money for both programs. Finally, we also included the *proportion of full-risk Medicaid managed care* (i.e., managed care organizations and health insurance organizations). Medicaid managed care is intended to control Medicaid costs; therefore, states with higher Medicaid managed care enrollment may have a lower Medicaid payment for dual-eligible beneficiaries (Sparer 2012).

Econometric Model

We employ a differences-in-differences model, where the unit of observation is the state year, to identify the effects of D-SNPs penetration on health care spending. Specifically, the outcome is the health care costs in state i of time t ; the variable of interest is the D-SNP penetration in state i of time t . We controlled for a collection of state-specific time-varying covariates at time t . State- and year-fixed effects were also added.

Regressions are weighted using the number of dual-eligibles of each state. All outcome variables are log-transformed. Standard errors were clustered at the state level to account for geographically common unexplained relationships between D-SNPs enrollment and health care costs. All analyses were conducted in *STATA* version 13 (StataCorp, College Station, Texas, USA) and statistical significance was considered at alpha level of $<.1$, $<.05$, and $<.01$.

RESULTS

Descriptive Findings

Figure 1 presents the trends in D-SNPs enrollment and the number of plans in the United States between 2007 and 2011. Enrollment increased from 572,735 in 2007 to 927,267 in 2011. The number of D-SNPs fluctuated, increasing from 265 in 2007 to 368 in 2008, but dropping to 365 in 2009, 314 in 2010, and 283 in 2011. This may be due to the drop of insurance companies from the market. The number of parent organizations increased from 84 in 2007 to 110 in 2008, but decreased to 105 in 2009, 96 in 2010, and 93 in 2011. The D-SNPs penetration was 6.5 percent in 2007, 7.9 percent in 2008, 8.2 percent in 2009, 8.6 percent in 2010, and 9.2 percent in 2011. Figure 2 presents the D-SNPs penetrations across the states. D-SNPs penetration varied by regions. First, six states, including Alaska, Montana, North Dakota, New

Figure 1: Trends of Dual-Eligible Special Needs Plan Enrollees and Plan Numbers, 2007–2011

Hampshire, Vermont, and Wyoming, did not have any D-SNPs during the study period. Second, the west, southwest, and northeast regions had higher penetration, as compared to other regions. Third, some states had significantly higher penetration than the national average. D-SNPs penetrations were around 10 percent in Alabama, California, Colorado, Florida, New York, Tennessee, and Utah. Minnesota, Oregon, and Pennsylvania had more than 20 percent penetration in these 4 years. Arizona's penetration was more than 30 percent in this period.

Table 1 presents the health costs, demographic, market, health, and program enrollment characteristics in 2007. Medicare cost per dual-eligible enrollee was \$15,610.50, and Medicaid cost per dual-eligible enrollee was \$11,093.78. The Medicare and Medicaid combined cost per enrollee was \$26,704.27. In 2007, 14.06 percent of dual-eligible beneficiaries were aged 85 or above, 62.30 percent were female, and 58.39 percent were non-Hispanic white. Most dual-eligible beneficiaries enrolled in FFS Medicaid, FFS Medicare, and Medicare Part D for 12 months. In addition, some chronic and mental conditions had high prevalence among dual-eligible people. About half of beneficiaries had hypertension. The prevalence of heart failure and diabetes was above 20 percent. Other highly prevalent conditions included COPD, Alzheimer's and related disorders, and tobacco use

Figure 2: Dual-Eligible Special Needs Plan Penetration by State, 2007–2011
[Color figure can be viewed at wileyonlinelibrary.com]

disorder. Finally, the average Medicaid managed care share across the country was around 9 percent.

Multivariate Results

Table 2 presents the multivariate results. Column 1 shows D-SNPs penetration was negatively associated with Medicare cost per beneficiary ($\beta = -0.002, p < .05$), indicating a 1 percent increase in D-SNPs penetration was associated with 0.2 percent reduction in Medicare cost per beneficiary. Percent of age 85 or above, percent of female, and unemployment rate were positively associated with Medicare cost per beneficiary. Having more physicians in the market was related to reduced Medicare cost per beneficiary. In addition, the prevalence of hypertension, diabetes, hip fracture, stroke, COPD, and alcohol use disorder all have positive associations with Medicare cost per beneficiary.

Columns 2 and 3 of Table 2 show the effects of D-SNPs penetration on Medicaid spending and total spending. In both cases, we did not find a significant association of dual-eligible special needs plans enrollment with Medicaid or total spending per beneficiary.

Table 1: Sample Characteristics in 2007

<i>Variables</i>	<i>Overall</i>
Health spending	
Medicare spending per enrollee	\$ 15,610.50
Medicaid spending per enrollee	\$ 11,093.78
Total health spending per enrollee	\$ 26,704.27
Demographic characteristics	
Percent of age under 65	38.56%
Percent of age 85 or above	14.06%
Percent of female	62.30%
Percent of Non-Hispanic white	58.39%
Percent of African American	19.84%
Percent of Hispanic	5.47%
Market characteristics	
Income capita	\$ 38,615
Unemployment rate	4.62%
Poverty rate	12.35%
Physicians per 1,000 people	2.633
Hospital beds per 1,000 people	3.075
Nursing home beds per 1,000 people	0.244
Program enrollment	
Percent with full benefits	77.4%
Percent with all 12 months in FFS Medicaid	81.14%
Percent with all 12 months in FFS Medicare	86.83%
Percent with all 12 months with Medicare Part D coverage	98.65%
Percent with disability in Medicare	37.88%
Percent with blind/disability in Medicaid	41.39
Health conditions	
Hypertension	49.27%
Heart failure	20.77%
Diabetes	29.89%
Hip fracture	1.34%
Stroke	5.19%
COPD	15.22%
Alzheimer's and related disorders	17.94%
Tobacco use disorder	10.72%
Alcohol use disorders	4.02%
Medicaid managed care enrollment	8.70%
Average MA payment risk factor	1.24

Notes: Data are from the Medicare-Medicaid Linked Enrollee Analytic Data Source (MMLEADS) public use file.

COPD, chronic obstructive pulmonary disease; MA, Medicare Advantage.

DISCUSSION

Dual-eligible beneficiaries constitute one of the nation's most vulnerable and costliest populations. Poor coordination between Medicare and Medicaid can

Table 2: Effects of D-SNPs Penetration on Health Care Costs

<i>Variables</i>	<i>Medicare Cost per Beneficiary</i>	<i>Medicaid Cost per Beneficiary</i>	<i>Total Cost per Beneficiary</i>
D-SNPs penetration (%)	−0.0023 (0.001)**	−0.006 (0.031)	−0.0024 (0.004)
Demographic characteristics			
Percent of age under 65	0.004 (0.003)	−0.007 (0.081)	0.008 (0.014)
Percent of age 85 or above	0.012 (0.006)*	0.364 (0.170)**	0.072 (0.032)**
Percent of female	0.016 (0.007)**	−0.068 (0.189)	0.012 (0.035)
Percent of Non-Hispanic white	−0.003 (0.006)	0.108 (0.197)	0.005 (0.031)
Percent of African American	0.0001 (0.009)	0.334 (0.280)	0.068 (0.049)
Percent of Hispanic	−0.026 (0.017)	0.026 (0.404)	−0.036 (0.077)
Market characteristics			
Income capita (log transferred)	0.080 (0.083)	1.272 (1.385)	0.263 (0.268)
Unemployment rate	0.594 (0.347)*	3.991 (8.227)	0.202 (1.402)
Poverty rate	−0.040 (0.196)	−0.442 (0.591)	−0.280 (1.189)
Physicians per 1,000 people	−0.063 (0.029)**	−0.695 (0.928)	−0.089 (0.180)
Hospital beds per 1,000 people	−0.005 (0.005)	0.136 (0.108)	0.0170 (0.023)
Nursing homes bed per 1,000 people	−0.002 (0.020)	−0.347 (0.485)	−0.064 (0.068)
Program enrollment			
Percent with full benefits	−0.004 (0.006)	−0.009 (0.029)	0.006 (0.003)
Percent with all 12 months in FFS Medicaid	−0.0001 (0.002)	0.01 (0.007)	0.002 (0.001)
Percent with all 12 months in FFS Medicare	−0.0001 (0.001)	0.005 (0.027)	0.002 (0.005)
Percent with all 12 months with Medicare Part D coverage	0.003 (0.004)	0.057 (0.100)	0.008 (0.016)
Percent with disability	0.0007 (0.0001)	0.07 (0.04)*	0.008 (0.005)**
Diseases prevalence			
Hypertension	−0.011 (0.003)***	−0.056 (0.071)	−0.018 (0.012)
Heart failure	0.004 (0.004)	0.003 (0.010)	0.0008 (0.021)
Diabetes	0.009 (0.005)*	−0.057 (0.082)	−0.010 (0.013)
Hip fracture	0.034 (0.016)**	1.364 (0.955)	0.158 (0.125)
Stroke	0.041 (0.008)***	−0.081 (1.870)	−0.002 (0.038)
COPD	0.014 (0.005)**	0.334 (0.212)	0.053 (0.028)*
Alzheimer's and related disorders	−0.001 (0.003)	−0.080 (0.084)	0.001 (0.013)
Tobacco use disorder	−0.0006 (0.003)	−0.094 (0.126)	−0.003 (0.017)
Alcohol use disorders	0.015 (0.009)*	0.303 (0.500)	0.051 (0.064)
Medicaid managed care enrollment	0.001 (0.014)	0.067 (0.037)	−0.002 (0.002)
Average MA payment risk factor	0.009 (0.012)	0.160 (0.355)	0.035 (0.058)
Year (compared to 2007)			
2008	0.034 (0.012)***	0.195 (0.329)	0.048 (0.043)
2009	0.063 (0.020)***	0.414 (0.574)	0.108 (0.082)
2010	0.057 (0.023)***	0.634 (0.786)	0.124 (0.116)

continued

Table 2: *Continued*

<i>Variables</i>	<i>Medicare Cost per Beneficiary</i>	<i>Medicaid Cost per Beneficiary</i>	<i>Total Cost per Beneficiary</i>
2011	0.050 (0.028)*	0.725 (1.035)	0.105 (0.144)
Observations	255	255	255

Notes: Coefficients and robust standard errors are reported in the table; all cost variables are log-transformed.

* $p < .1$, ** $p < .05$, *** $p < .01$.

COPD, chronic obstructive pulmonary disease; D-SNPs, dual-eligible special needs plans; MA, Medicare Advantage.

lead to poor quality of care, inefficient care delivery, and increased spending. Dual-eligible special needs plans (D-SNPs) aim to improve coordination for dual-eligibles by delivering Medicare and Medicaid services through a single entity. This entity has incentives to coordinate Medicare and Medicaid services to improve quality and control health spending. D-SNPs have been implemented rapidly in the United States. However, little is known about the effects of D-SNPs on health care delivery for dual-eligibles. In this study, we examine the effects of D-SNPs on health care spending in the period 2007–2011.

Key findings indicate that D-SNPs penetration had a modest but statistically significant effect on Medicare cost per enrollee. Specifically, we found a 1 percent increase in D-SNPs penetration was associated with a 0.2 percent reduction in Medicare cost per enrollee. We propose several explanations for this effect. First, the cost reduction of Medicare spending could be due to the payment methods for MA plans. Starting in 2006, CMS introduced a competitive bidding system to pay MA plans. Plans bid their estimated cost to cover Part A and B benefits for a beneficiary of average health status. This bid will be compared to the county’s benchmark. The plan is paid the benchmark if the bid is above the benchmark and enrollees of the plan will be charged for a premium to make up the difference. If the bid is lower than the benchmark, 75 percent of the difference is returned to the plan in the form of increased benefits (e.g., cost-sharing reduction, dental and vision care), while 25 percent is returned to Medicare (Baicker, Chernew, and Robbins 2013; Glazer and McGuire 2013). To attract beneficiaries enrolled in traditional Medicare, D-SNPs have an incentive to bid low and get rebates to design extra benefits. These extra benefits, and especially the extra cost sharing, can make plans attractive relative to traditional Medicare, where enrollees can face large out-of-pocket costs (Curto et al. 2014).

Second, competition among D-SNPs may result in lower Medicare spending. Although some studies indicated imperfect competition or concentration in MA markets and that this concentration may increase rather than control price (Biles, Pozen, and Guterman 2009; Song, Landrum, and Chernew 2013), other studies suggested that this may not be the case. For example, vigorous competition may still occur in markets with a small number of companies, especially if profits are substantial and other companies stand ready to contest the market (Rivlin and Daniel 2015). Dual-eligibles account for a substantial share of health expenses but historically have been served by traditional Medicare rather than MA plans. D-SNPs could be an opportunity for insurers to expand their market share or enter the Medicare market (Verdier, Gold, and Davis 2008). The competition could give plans an incentive to bid low to attract consumers (e.g., lower bid than other MA plans). In addition, plans still need to secure the beneficiary volume, which is another determinant of profit. This can be achieved only by offering beneficiaries a more attractive deal than they are guaranteed under FFS or other MA plans (Cawley and Whitford 2007). Third, care coordination activities may help to reduce cost. Studies indicated that D-SNPs have adopted various care coordination and care management strategies to better serve duals, such as comprehensive assessment of health risk, health education, information sharing, and health status monitoring. This improved care might retard the progression of chronic illness, benefiting enrollees and lowering cost to Medicare by slowing the growth of capitation payments (Schmitz et al. 2008).

Another plausible explanation is the spillover effects of Medicare managed care. The expansion of managed care may influence FFS care. For example, managed care may change physicians' practice patterns and then those changes may affect the physician's treatment of his or her other patients. In addition, managed care could encourage health care investment or the adoption of technology that can in turn affect systemwide utilization (Baicker, Chernew, and Robbins 2013; Baker 2003). The growth of D-SNPs may lead to a decreased FFS payment through these effects. Dual-eligibles have historically faced challenges in receiving coordinated health care due to their lower levels of education and literacy, their use of languages other than English, and their limited family and community ties. If D-SNPs plans could help providers develop capacity and skill to tailor services for better care to this population, health care delivered to other patients (e.g., dual-eligibles covered by traditional Medicare) could also be affected.

We found no significant effects of D-SNPs on Medicaid and total health spending. We propose several explanations for these results. First, despite the

rapid growth during 2007 and 2011, the magnitude of the D-SNPs enrollment was still low. As the data indicated, only 9.2 percent dual-eligibles enrolled in D-SNPs by 2011. The low levels of enrollment would constrain the effects of D-SNPs on Medicaid costs. In addition, the types of dual-eligibles who enrolled in D-SNPs may also matter. It is indeed true that dual-eligibles make up a costly population in general, but this is also a diverse group. In 2007, nearly 40 percent of dual-eligibles had lower average per enrollee spending than non-dual-eligible Medicare beneficiaries, whereas 20 percent of dual-eligibles accounted for more than 60 percent of combined Medicaid and Medicare spending (Coughlin, Waidmann, and Phadera 2012). In this study, we cannot identify the characteristics of dual-eligible enrollees among D-SNPs due to data limitations, but the effects of D-SNPs would be limited if only low-cost dual-eligibles were included in these plans.

Second, it is possible that the Medicare-only D-SNPs did not substantially improve coordination between Medicare and Medicaid, which in turn resulted in no effect on Medicaid costs. The Medicare Improvements for Patients and Providers Act (MIPPA) of 2008, as amended by the Affordable Care Act of 2010, required D-SNPs to have a contract with the state Medicaid agency where they operate by calendar year 2013. Otherwise, D-SNPs cannot continue to operate in a state. Prior to 2013, D-SNPs were only encouraged to contract with states. Therefore, the majority of D-SNPs only offered Medicare benefits under capitated payment arrangements without a joint Medicare-Medicaid product (Grabowski 2009). Without contracts with state Medicaid programs, the values of D-SNPs may be limited to Medicare services. This may explain D-SNPs' significant effect on Medicare costs and null effect on Medicaid costs.

Third, we tried to ascertain the magnitude of the D-SNPs with Medicaid contracts. A report from Department of Health & Human Services indicated that 17 states in 2006–2007 and 18 states in 2008 had Medicaid contracts with D-SNPs (Kasten, Saucier, and Burwell 2009). However, as the authors suggested, these numbers did not represent coordination between Medicare and Medicaid. First, there were great variations among contracts between D-SNPs and state Medicaid agencies. The first type of these contracts represented Medicare-Medicaid Coordination/Integration, including state programs that were designed to coordinate a full range of primary, acute, and long-term care for dual-eligibles. The second type was Medicaid Managed Care for Duals. They were comprised of state programs in which dual-eligible beneficiaries were included in Medicaid managed care. The third type only targeted Medicaid cost sharing of Medicare benefits (Kasten, Saucier, and Burwell 2009).

The second and the third types of contracts may not have much power for care coordination (Kasten, Saucier, and Burwell 2009). For example, a plan in Minnesota included all Medicare and Medicaid services. This plan received comprehensive capitated payments for Medicare and Medicaid, including Medicaid long-term services. Comparatively, an Idaho plan only included a few Medicaid services, long-term services remained fee-for-service, and there was no payment to the plan for waiver services or other Medicaid-funded care coordination (Saucier, Kasten, and Burwell 2009).

In addition, some D-SNPs only had contracts with Medicaid managed care programs. Some of these Medicaid contracts excluded dual-eligibles (Kasten, Saucier, and Burwell 2009). The low number of states that had Medicaid contracts with D-SNPs (fewer than 20) and the wide variation in the terms of the contracts that are in place may explain why D-SNPs had no effect on Medicaid costs.

Although this study provided insights about the effects of D-SNPs on Medicare and Medicaid costs, there were some limitations. First, this study only examined the effects of D-SNPs between 2007 and 2011. The results may not be generalized to the effects of D-SNPs after 2011. Second, we used a difference-in-difference strategy to address time-invariant endogeneity. The results may not be robust if there was time-variant endogeneity. Last, the health costs from MMLEADS did not include deductible or coinsurance payments paid by beneficiaries. Therefore, we are not sure whether the out-of-pocket payments from dual-eligibles reduced due to D-SNPs enrollment.

CONCLUSION

Dual-eligibles are one of the major U.S. health policy targets in terms of quality improvement and cost control. As dual-eligibles receive various Medicare and Medicaid services, improved Medicare and Medicaid coordination could eliminate the conflicting incentives between the two programs. D-SNPs were designed to deliver integrated Medicare and Medicaid services through a single entity with the potential of greater care coordination. Understanding the effects of D-SNPs is important for federal and state policy makers, health plans, and health providers. This study examined the effects of D-SNPs in the early stage. There were more D-SNPs and enrollment after 2011, and some new policies about D-SNPs have been proposed (Verdier et al. 2015). Further research is needed to examine the effects of D-SNPs on health costs, quality, and utilization after the implementation of these policies.

ACKNOWLEDGMENTS

Joint Acknowledgment/Disclosure Statement: We thank the anonymous reviewers for their helpful comments and suggestions. We also thank the Weill Cornell Medical College and Tulane University for the support.

Disclosure: None.

Disclaimer: None.

NOTE

1. Information about a plan's operating state(s) is not available in 2007 Special Needs Plan Comprehensive Report. We use the 2008 report to identify a plan's operating state(s) in 2007. For 23 plans that did not have information in 2008's report, we identified their operating states based on their operating counties.

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Appendix SA1: Author Matrix.