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# STATE-LEVEL IMPACTS OF MEDICARE PART D

In recent research, we explored the impact of the Medicare Part D program on hospitalization rates for ambulatory care-sensitive conditions (ACSCs) among elderly Americans.<sup>1</sup> Our results indicate that Part D reduced a summary measure of ACSC hospitalization by 20.5 per 10,000, a percentage change of 4.1 percent. This change represents approximately 42,000 admissions, roughly half of the overall reduction in admissions in our 23-state sample during our study period (2005-2007).

In this brief, we explore the state-level implications of the findings from our paper, by estimating the number of avoided hospitalizations in each state.

## A Review of the National Estimates

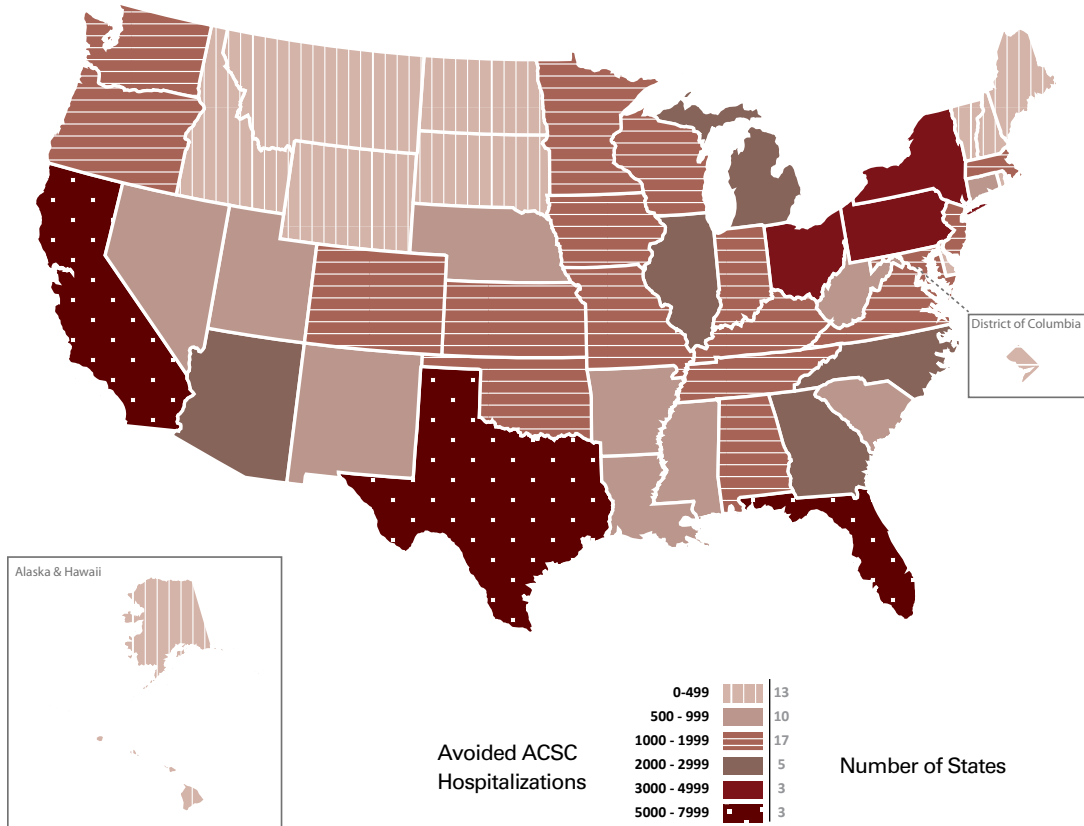
Before we present our state-level estimates, we first review the regression-based estimates from our paper and describe how those estimates can be used to generate a prediction of the number of avoided ACSC hospitalizations due to Part D. (Please note that for the purposes of the current discussion, we restrict attention to our results on the overall rate of ACSC hospitalization. One could generate a similar set of results for each of the condition-specific hospitalization models in our paper, but we do not do that here.) Our regression model estimates the probability of ACSC hospitalization for both individuals 65 years or older and those aged 60 to 64 years, in the years 2005 through 2007, in 23 states. (The states we analyzed were Arizona, Arkansas, California, Colorado, Florida, Hawaii, Iowa, Kentucky, Maryland, Michigan, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Rhode Island, South Carolina, Utah, Vermont, Washington, West Virginia, and Wisconsin.)

A critical component of our analytic strategy was to measure the percentage of the elderly population in each state and year with comprehensive prescription drug coverage. The magnitude of the change in coverage due to Part D varied significantly across states. For example, the coverage rate in Iowa changed from 45 percent to 88 percent in 2005 and 2006, respectively, while the coverage rate in South Carolina changed from 68 percent to 87 percent. Because states experienced differential changes in coverage rates, our analysis explored whether individuals 65 years or older in states with relatively larger increases in drug coverage rates enjoyed more significant reductions in ACSC hospitalization rates than did states with relatively smaller drug coverage increases, relative to individuals 60 to 64 years of age.

The results from our model indicate that absent the improvement in drug coverage rates brought about by Part D, the overall ACSC hospitalization rate in the post-Part D period would have been 20.5 per 10,000 higher than the observed level. Using the 2006 population of those 65 years and older from our sample, 20.3M, this implies that Part D reduced the number of ACSC hospitalizations by approximately 42,000. If one makes the assumption that the same relationship



**Figure.** Number of Avoided ACSC Hospitalizations by State



ACSC indicates ambulatory care-sensitive condition.

between drug coverage rate changes and the trend in the ACSC hospitalization rate that existed in our 23-state sample also prevailed in the 50 states and the District of Columbia, then our estimate of avoided hospitalizations increases to approximately 76,000 per year. (The number of elderly Medicare beneficiaries nationwide in 2006 was 37.2M.)

### Calculating State-Level Estimates

We allocate avoided hospitalizations across states on the basis of both population size and the change in drug coverage rates. Some states (eg, Iowa) experienced a large increase in the drug coverage rates, while others (eg, South Carolina) experienced a relatively smaller increase. Holding population size constant, it makes sense to allocate a relatively larger percentage of the avoided hospitalizations to states with larger coverage increases, and a relatively smaller percentage to states with smaller coverage increases.

First, we estimate the number of newly covered individuals in each state by multiplying the 65-year-and-older population in 2006 by the change in the drug

coverage rate. Second, we calculate the impact of drug coverage on the probability of ACSC hospitalization. This is done by dividing the figure from above, 20.5 per 10,000, by the national change in the drug coverage rate (29.4 percent); the calculated value is 69.8 per 10,000. Third, we multiply the number of newly covered individuals in each state by this rate. We also illustrate the differences across states by calculating each state's share of avoided ACSC hospitalizations, which is equivalent to each state's share of newly covered individuals.

The results are presented in the **Figure** and **Table**. The results indicate that one-third of all newly covered individuals reside in Florida, California, Texas, Pennsylvania, or Ohio. This can be explained in part by the relatively large populations in these states. But some states account for a relatively large share of the avoided hospitalizations. For example, Florida's share of the Medicare population was 8.1% in 2006, but its share of newly covered individuals was 10.0%. Conversely, California's Medicare population share was 10.5%, but its share of newly covered individuals was 7.9%.

**Table.** Medicare Part D Coverage Rates and Avoided ACSC Hospitalizations by State

<b>State</b>	<b>65 and Older Population</b>	<b>2005 Coverage Rate</b>	<b>2006 Coverage Rate</b>	<b>Change in Coverage Rate</b>	<b>Newly Covered Individuals</b>	<b>Avoided ACSC Hospitalizations</b>	<b>Share of Avoided Hospitalizations</b>
Alabama	615,346	54.4%	90.8%	36.4%	224,057	1564	2.0%
Alaska	45,982	91.2%	93.3%	2.0%	935	7	0.0%
Arizona	789,414	46.9%	89.1%	42.2%	333,370	2326	3.0%
Arkansas	390,382	51.1%	86.2%	35.1%	136,943	956	1.3%
California	3,923,749	67.9%	89.9%	21.9%	860,240	6003	7.9%
Colorado	477,958	46.6%	89.3%	42.7%	204,264	1425	1.9%
Connecticut	469,817	62.5%	90.9%	28.4%	133,653	933	1.2%
Delaware	114,465	60.9%	92.4%	31.5%	36,062	252	0.3%
District of Columbia	69,554	66.3%	83.9%	17.6%	12,211	85	0.1%
Florida	3,034,136	52.8%	88.9%	36.1%	1,093,930	7634	10.0%
Georgia	911,694	49.7%	85.6%	35.9%	327,547	2286	3.0%
Hawaii	179,221	75.5%	94.6%	19.1%	34,184	239	0.3%
Idaho	169,176	47.8%	83.7%	35.9%	60,678	423	0.6%
Illinois	1,534,054	65.9%	93.1%	27.2%	416,551	2907	3.8%
Indiana	784,374	54.0%	85.5%	31.4%	246,433	1720	2.3%
Iowa	435,258	44.5%	88.0%	43.5%	189,238	1321	1.7%
Kansas	357,347	38.6%	79.0%	40.4%	144,211	1006	1.3%
Kentucky	537,654	55.1%	88.6%	33.5%	180,198	1258	1.6%
Louisiana	518,290	61.1%	87.6%	26.5%	137,429	959	1.3%
Maine	192,377	74.3%	94.8%	20.5%	39,519	276	0.4%
Maryland	650,711	68.6%	92.5%	23.9%	155,512	1085	1.4%
Massachusetts	855,545	66.0%	86.9%	20.9%	178,655	1247	1.6%
Michigan	1,266,186	67.2%	92.1%	24.9%	315,663	2203	2.9%
Minnesota	626,864	46.2%	89.7%	43.5%	272,925	1905	2.5%
Mississippi	360,860	61.2%	86.9%	25.6%	92,502	646	0.8%
Missouri	778,967	55.7%	88.5%	32.8%	255,236	1781	2.3%
Montana	130,941	58.1%	88.7%	30.7%	40,151	280	0.4%
Nebraska	234,465	45.6%	88.7%	43.2%	101,229	706	0.9%
Nevada	276,687	61.3%	90.5%	29.1%	80,601	562	0.7%
New Hampshire	162,747	54.4%	79.4%	24.9%	40,591	283	0.4%
New Jersey	1,127,910	69.0%	85.7%	16.8%	189,050	1319	1.7%
New Mexico	242,412	63.4%	93.6%	30.1%	73,045	510	0.7%
New York	2,527,989	66.7%	86.3%	19.6%	494,402	3450	4.5%
North Carolina	1,076,461	59.9%	91.0%	31.1%	334,845	2337	3.1%
North Dakota	92,808	40.8%	89.9%	49.1%	45,548	318	0.4%
Ohio	1,533,812	61.8%	93.0%	31.2%	478,428	3339	4.4%
Oklahoma	473,359	53.9%	86.1%	32.2%	152,539	1065	1.4%
Oregon	477,775	42.6%	81.5%	38.9%	185,849	1297	1.7%
Pennsylvania	1,883,621	51.4%	83.3%	32.0%	602,117	4202	5.5%

*(continued)*

**Table.** Medicare Part D Coverage Rates and Avoided ACSC Hospitalizations by State (continued)

State	65 and Older Population	2005 Coverage Rate	2006 Coverage Rate	Change in Coverage Rate	Newly Covered Individuals	Avoided ACSC Hospitalizations	Share of Avoided Hospitalizations
Rhode Island	147,197	61.7%	95.7%	34.0%	50,018	349	0.5%
South Carolina	554,531	67.9%	87.1%	19.2%	106,472	743	1.0%
South Dakota	112,107	51.8%	93.7%	41.9%	46,929	327	0.4%
Tennessee	773,476	56.6%	87.2%	30.7%	237,150	1655	2.2%
Texas	2,334,108	59.3%	91.7%	32.4%	757,111	5284	6.9%
Utah	226,298	51.6%	86.6%	35.1%	79,349	554	0.7%
Vermont	82,900	69.7%	93.1%	23.4%	19,409	135	0.2%
Virginia	885,889	54.2%	85.2%	31.1%	275,231	1921	2.5%
Washington	737,525	53.6%	83.4%	29.8%	219,680	1533	2.0%
West Virginia	278,529	64.9%	94.0%	29.1%	81,058	566	0.7%
Wisconsin	727,439	60.7%	81.0%	20.3%	147,612	1030	1.3%
Wyoming	62,698	61.0%	92.3%	31.3%	19,620	137	0.2%
<b>Total</b>	<b>37,253,065</b>	<b>59.1%</b>	<b>88.5%</b>	<b>29.4%</b>	<b>10,940,181</b>	<b>76,347</b>	<b>100.0%</b>

ACSC indicates ambulatory care-sensitive condition.

### Implications for Medicare Spending

Recent work by McWilliams and colleagues has estimated the impact of Medicare Part D on nondrug spending.<sup>2</sup> Using individual level data on prescription drug insurance coverage from the Health and Retirement Study linked together with Medicare enrollment and insurance claims information, the authors find that among individuals moving from limited or no drug coverage before Part D to drug coverage under the new program, non-prescription drug spending declined by \$1224 per year. Together with our estimates of the increase in drug coverage due to Part D, these results imply an overall savings of approximately \$13.4B in the first year of the program's operation (10,940,181 newly covered beneficiaries times \$1224 in annual savings from nondrug offsets per beneficiary). This represents more than one-fourth of the program's total cost in 2007 (\$49.5B), its first full calendar year of existence after the transition year of 2006.<sup>3</sup>

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