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Dual Eligible Beneficiaries and Potentially Avoidable Hospitalizations

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SUMMARY: About 25% of the hospitalizations for dual eligible beneficiaries in 2005 were potentially avoidable. Medicare and Medicaid spending for those potentially avoidable hospitalizations (PAHs) was almost $6 billion, or about 20% of total spending on inpatient care for the dual eligibles. We estimate that those costs increased to $7–$8 billion in 2011.

The frequency of PAHs varied significantly by setting; they were much more likely to happen to dual eligibles in skilled nursing facilities. At the state level, the frequency of PAHs among dual eligibles varied by a factor of four from the lowest state (Alaska) to the highest (Louisiana). Nationally, five conditions were responsible for more than 80% of PAHs. Congestive heart failure was the most common reason overall, while pneumonia was the leading reason in SNFs.

The Centers for Medicare and Medicaid Services (CMS) is committed to achieving significant reductions in PAHs as part of its efforts to improve the quality of health care services while reducing per-capita health care costs. This report demonstrates that reducing the number of PAHs among dual eligible beneficiaries would likely lead to both a meaningful decrease in health care spending and improvement in the quality of care for a vulnerable and frail population.

"We estimate that $7 billion to $8 billion of Medicare spending on hospital services were from PAHs in 2011."

Dual eligible beneficiaries are those that qualify for both Medicare and Medicaid benefits and represent approximately 20% of Medicare fee-for-service beneficiaries. Dually eligible beneficiaries tend to be seniors and non-elderly people with disabilities, and are generally poorer and have worse health status than other Medicare beneficiaries. Dual eligible beneficiaries also tend to use more health care services, and account for a disproportionate share of Medicare spending.[1, 2] A major driver for higher spending among dual eligible beneficiaries is their higher use of services, particularly inpatient hospitalizations. For example, dual eligible beneficiaries are 1.6 times more likely to be hospitalized than non dual eligible beneficiaries and the average Medicare spending for hospitalizations among dual eligibles is higher than other Medicare beneficiaries.[1, 3] Hospitalizations often can be avoided with access to good primary and outpatient care, and quality care within a facility.

Hospitalizations that could have been avoided, either because the condition could have been prevented or treated outside a hospital setting, are termed "potentially avoidable hospitalizations" or PAHs and reducing PAHs presents an opportunity to improve both the quality of care and reduce overall Medicare expenditures. This Policy Insight Brief focuses on the prevalence and cost of PAHs across health care settings, variations in PAH rates by state, and health conditions associated with PAHs.

"In 2005, there were almost 2.7 million hospitalizations among dual eligible beneficiaries, of which 26% may have been avoidable."

Inpatient Hospitalizations and PAH for Dual Eligible Population

In 2005, among 5.6 million dual eligible beneficiaries, 27% had at least one hospitalization; with an average hospitalization cost of $10,226 of which 96% (or $9,815) was borne by the Medicare program, the primary payer for inpatient hospital services.

Among the almost 2.7 million hospitalizations for dual eligible beneficiaries, almost 700,000 (or 26%) may have been avoidable. The overall costs for these PAHs were $5.6 billion, with the Medicare program bearing 96% of these costs.

To put the expenditure figure of $5.6 billion for PAHs into perspective, it is helpful to view in terms of overall Medicare spending on hospital services. In 2005, Medicare spent $180 billion on hospital services and hospitalizations that were potentially avoidable constituted 3% of all Medicare hospital expenditures. Based upon estimated Medicare costs for hospital service for 2011 of about $250 billion; we estimate that $7 billion to $8 billion of these costs may be for PAHs.[4]

Table 1: Inpatient Hospitalizations for Dual Eligible Population

Population	5,569,903
Percentage with a least one hospitalization	27%
Total hospitalizations	2,691,276
• Total costs (in billions)	$27.5
• Hospitalization rate (per 1,000 person years)	574
• Average length of stay (days)	7.1
• Average Medicare cost	$9,815
• Average Medicaid cost	$411

Source: CMS analysis of 2005 Medicare and Medicaid linked file

Table 2: Summary Statistics on Dual Eligible Population and PAHs

Population	5,569,903
Percentage of hospitalizations that were potentially avoidable	26%
Percentage of Dual Eligibles with at least one PAH	9%
Percentage of all Medicare hospital costs from Dual Eligible PAHs	3%
Potentially avoidable hospitalizations	699,818
• Total costs (in billions)	$5.6
• Rate (per 1,000 person-years)	151
• Average length of stay (days)	6.1
• Average Medicare cost for PAHs	$7,665
• Average Medicaid cost for PAHs	$333
2011 projected costs attributable to Dual Eligible PAHs	$7-8 Billion

Source: CMS analysis of 2005 Medicare and Medicaid linked file

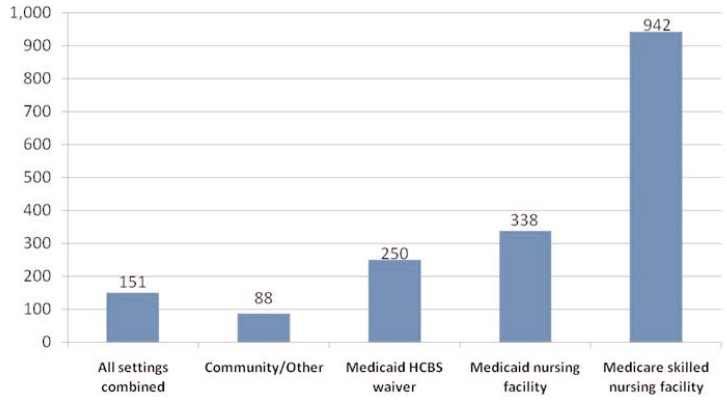
Potentially Avoidable Hospitalizations across Health Care Settings

Overall, the PAH rate among dual eligible beneficiaries was 151 per 1,000 person years, but there was considerable variation across health care settings. The rate was highest in skilled nursing facilities (942 per 1,000 person years) followed by nursing facilities. PAH rates were lowest for dual eligible beneficiaries living in the community, but varied by whether the beneficiary received a waiver for home and community based services (HCBS). Those with the HCBS waiver had a PAH rate of 250 per 1,000 person years compared to 88 per 1,000 person years for those without the waiver.

While differences in PAH rates across settings are important for identifying strategies to reduce potentially avoidable hospitalizations, a few notes on the interpretation of these differences is warranted. First, beneficiaries spend far fewer days in skilled nursing facilities (SNF) than any other setting due to Medicare coverage limitations and the key role SNFs play in stabilizing and rehabilitating complex patients. Further, these rates do not adjust for the generally higher acuity levels of SNF beneficiaries or the fact that most SNF care immediately follows a hospital stay – so many of the SNF PAHs may also be readmissions.

Figure 1: Differences across Settings

(Expressed per 1,000 person-years to adjust for differences in length of stay)



Source: CMS analysis of 2005 Medicare and Medicaid linked file

"PAH rates vary across health care settings. PAH rates are highest for dual eligible beneficiaries in skilled nursing facilities and lowest for those in community settings."

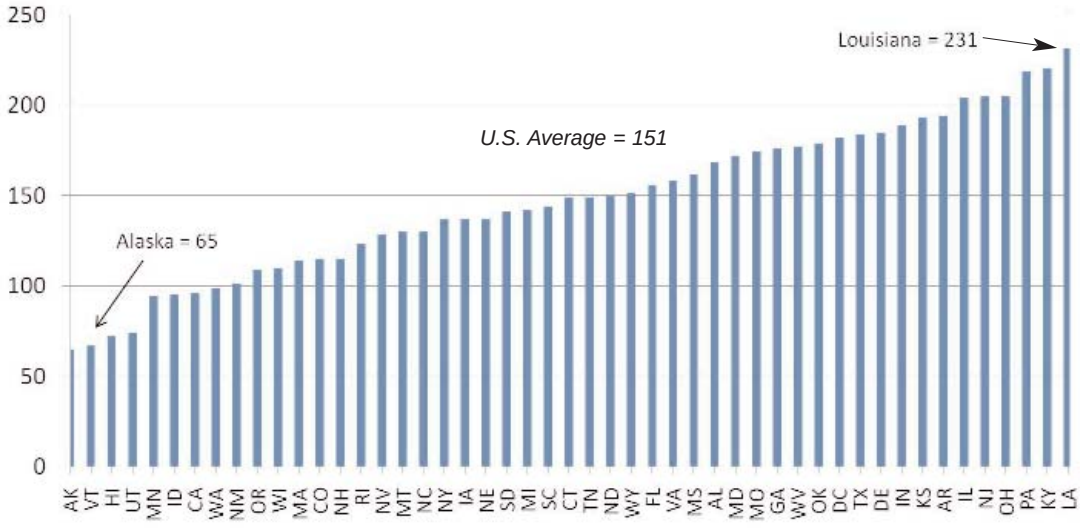
In addition to knowing the PAH rate across health care settings, it also is important to know which settings have the highest percentage of beneficiaries with at least one PAH event. Overall, the percentage of dual eligible beneficiaries who experienced at least one potentially avoidable hospitalization was 9.1%. The percentage was highest for those in nursing home settings at 16.4%, followed by beneficiaries with the HCBS waiver at 12.5%, skilled nursing facility at 9.4%, and those in the community but not in HCBS at 5.2%.

Differences across settings in PAH rates and percentages reflect the fact that while the SNF setting has the highest PAH rate, beneficiaries often do not spend much time in this setting. In contrast, those in nursing facilities have more opportunities (more days in the setting) for a PAH; as a result, nursing facilities have a higher percentage of beneficiaries with at least one of these events.

Potentially Avoidable Hospitalizations across States

There is almost a fourfold difference in PAH rates across states, from the lowest in Alaska (65 per 1,000 person years) to the highest in Louisiana (231 per 1,000 person years). While the data show significant variation across states, this study does not control for differences in patient health across states. The underlying data for all 50 states can be seen in Table 3.

The states with the highest and lowest overall PAH rates showed little variation across all health care settings. Table 3 also identifies the top five and lowest five performing states for each health care setting.



Source: CMS analysis of 2005 Medicare and Medicaid linked file

Table 3: Potentially Avoidable Hospitalizations by Source and State—Dually Eligible Beneficiaries from Aged or Disabled, by Hospitalization Rate, 2005

Hospitalization rate (per 1,000 person-years)^^ -- Lowest 5 States ‡, Highest 5 States †

State	All Duals	NF	SNF	HCBS	Other/Community
U.S.	151	338	942	250	88
Louisiana	231†	551†	1,253†	301	115†
Kentucky	220†	463†	1,126	377†	116†
Pennsylvania	219†	318	1,025	317†	90
New Jersey	205†	446†	1,464†	2,423†	104
Ohio	205†	309	1,011	315	102
Illinois	204	395	1,196	248	94
Arkansas	194	447†	1,075	281	90
Kansas	193	344	928	212	78
Indiana	189	306	828	270	120†
Delaware	185	350	1,298†	211	83
Texas	184	414	997	266	89
District of Columbia	182	443	1,215†	379†	117†
Oklahoma	179	444	1,202†	272	86
West Virginia	177	393	895	348†	112†
Georgia	176	378	970	265	97
Missouri	174	365	1,048	245	99
Maryland	172	352	1,154	271	97
Alabama	168	337	869	226	103
Mississippi	162	487†	1,102	271	105
Virginia	158	308	754	307	90
Florida	156	345	973	252	97
Wyoming	151	247	634	231	63
North Dakota	150	242	615	197	80
Connecticut	149	202	704	204	67
Tennessee	149	409	1,018	253	110
South Carolina	144	325	908	279	97
Michigan	142	280	984	236	99
South Dakota	141	255	687	121‡	67
Iowa	137	268	684	201	56
Nebraska	137	287	646	177	71
New York	137	293	814	*	92
Montana	130	206	556‡	126‡	90
North Carolina	130	312	758	279	95
Nevada	128	264	793	241	77
Rhode Island	123	320	1,063	264	61
Colorado	115	215	668	172	50‡
New Hampshire	115	162‡	624	228	58
Massachusetts	114	290	782	271	72
Wisconsin	110	197	725	*	74
Oregon	109	180	826	137‡	49‡
New Mexico	101	236	883	177	64
Washington	99	228	756	*	73
California	96	336	1,008	209	68
Idaho	95	185	530‡	139‡	42‡
Minnesota	94‡	262	815	142	58
Utah	74‡	156‡	574	145	52
Hawaii	72‡	133‡	478‡	166	58
Vermont	67‡	147‡	553‡	133‡	45‡
Alaska	65‡	143‡	195‡	173	46‡

** Data unreliable; Note, Arizona and Maine also not included*

^^ per 1,000 person year metric can be explained as follows. The national rate for NF is 338. On average, if three persons were to stay in a nursing facility for 365 days in the year, roughly one would have a PAH.

Leading PAH Conditions

"Five conditions are responsible for over 80% of the potentially avoidable hospitalizations. Congestive heart failure was the leading condition associated with a PAH."

Congestive heart failure, chronic obstructive pulmonary disease/asthma, pneumonia, dehydration, and urinary tract infections were responsible for over 80% of potentially avoidable hospitalizations. For all dually eligible beneficiaries, the two leading conditions were congestive heart failure (22.9%) and chronic obstructive pulmonary disease/asthma (17.0%).

Table 4: PAHs Primarily Attributable to Select Conditions

Condition	Potentially avoidable hospitalizations	Percentage distribution
All	699,818	100.0%
Congestive heart failure	160,397	22.9%
COPD, Asthma	118,936	17.0%
Dehydration	103,024	14.7%
Pneumonia	101,357	14.5%
Urinary tract infection	87,296	12.5%
Sum of subgroup	571,010	81.6%

Source: CMS analysis of 2005 Medicare and Medicaid linked file

There were differences by setting in the conditions that were responsible for potentially avoidable hospitalizations. In general, the leading causes were similar for beneficiaries in nursing facilities and SNFs, while those in HCBS and otherwise in the community had fairly similar breakdowns by condition.

For those in nursing facilities and in SNFs, pneumonia was the leading cause for a PAH, accounting for nearly one-third of all cases. The percentages were also similar for urinary tract infections and dehydration. However, some differences were seen between the two settings. Congestive heart failure accounted for 11.6% of potentially avoidable hospitalizations from nursing facility stays, but 16.8% from skilled nursing facility stays. On the other hand, falls/trauma accounted for 9.4% of potentially avoidable hospitalizations from Medicaid nursing facility stays, but 5.2% from Medicare skilled nursing facility stays. This underscores that the populations are somewhat distinct.

For those in HCBS and otherwise in the community, three conditions accounted for nearly 75% of all PAHs-congestive heart failure, COPD/asthma, and dehydration. The biggest difference was observed with urinary tract infection, where those in HCBS had a significantly higher percentage than those otherwise in the community.

"For those in a nursing facility or SNF, pneumonia was the leading condition associated with a PAH."

Table 5: Percentage of Potentially Avoidable Hospitalizations by Condition and Setting

	All Duals	NF	SNF	HCBS	Other/Community
Altered mental status, acute confusion, delirium	0.3	0.6	0.6	*	*
Anemia	1.0	2.2	2.3	*	*
COPD, asthma	17.0†	6.0	5.5	23.6†	26.6†
Congestive heart failure	22.9†	11.6†	16.8†	33.0†	30.8†
Constipation, impaction	1.4	1.1	0.8	2.0	1.6
Dehydration	14.7†	10.3†	12.9†	18.4†	17.7†
Diarrhea, gastroenteritis, C. Difficile	0.9	1.6	3.0	*	*
Falls/trauma	3.8	9.4†	5.2	*	*
Hypertension	1.0	0.2	0.2	1.0	1.8
Pneumonia	14.5†	32.8†	30.5†	*	*
Poor glycemic control	2.4	0.7	0.7	2.0	4.1
Psychosis, agitation, organic brain syndrome	0.6	1.4	1.1	*	*
Seizures	4.2	2.6	2.1	3.6†	6.1†
Skin ulcers, cellulitis	2.3	4.9	5.9†	*	*
Urinary tract infection	12.5†	14.2†	11.7†	15.7†	10.6†
Weigh loss and malnutrition	0.6	0.4	0.8	0.7	0.7

* These conditions were not included for beneficiaries in HCBS or otherwise in the community.

† The top five conditions by setting.

Policy Considerations and CMS Initiatives

The misalignment between the Medicare and Medicaid programs has been cited as one of the leading causes for the high PAH rate among dual eligible beneficiaries.[5] Medicare is the payer for inpatient hospital costs, so Medicaid programs have few financial incentives to limit hospitalizations. The perverse incentive is particularly true for Medicaid nursing facility residents, where complex patients can be sent to a hospital for treatment at virtually no additional costs to the Medicaid program.

In response, CMS has announced initiatives to help combat the problem. The Medicare-Medicaid Coordination Office in collaboration with the Center for Medicare and Medicaid Innovation will establish a new initiative to help States improve the quality of care for people in nursing facilities by reducing preventable inpatient hospitalizations. This initiative supports the Administration's Partnership for Patients goal of reducing hospital readmission rates by 20% by the end of 2013.[6]

CMS will competitively select and partner with independent organizations that will provide enhanced clinical services to people in approximately 150 nursing homes. The intervention will be targeted to nursing facilities with high hospitalization rates and a high concentration of residents who are eligible for both the Medicare and Medicaid programs.

Conclusion

Dual eligible individuals make up less than 20% of either Medicare or Medicaid beneficiaries, but they account for about one quarter of Medicare expenditures, with hospitalizations being a major driver of increased costs[3]. This report shows that 26% of all hospitalizations for this population may have been avoidable and that roughly one in ten dual eligible beneficiaries had at least one PAH over the course of a year. The overall costs for PAHs for dual eligible beneficiaries are striking, accounting for 3% of all Medicare spending on inpatient care in 2005. If this percentage has remained constant since then, the total costs in 2011 would be roughly $7-8 billion. Reducing the number of PAHs for dual eligible beneficiaries would improve care and likely lead to a meaningful decrease in Medicare spending.

Data Source and Methodological Notes

This research builds upon prior work conducted by the Policy and Data Analysis Group on the dual eligible population and examines the prevalence and cost of PAHs across health care settings, geographic areas, and type of condition. The data source for this analysis is the beneficiary level linked Medicare and Medicaid administrative claims for 2005. The study population includes fee-for-service (FFS) beneficiaries, who were eligible for both Medicare and full Medicaid benefits for at least one month during the calendar year 2005, representing nearly 85% of all dual eligible beneficiaries (5.6 million of the total 6.6 million). Dual eligible beneficiaries were excluded from this analysis if they were enrolled in managed care programs, lived in states that did not report Medicaid data, or were assigned more than one Medicaid identification number within the same state.

Following the methods used in the report "Cost Drivers for Dually Eligible Beneficiaries: Potentially Avoidable Hospitalizations from Nursing Facility, Skilled Nursing Facility, and Home and Community-Based Services Waiver Programs"[3], PAH rates are expressed per 1,000 person years to take into account variation in the length of stay across settings and to standardize events by time. A higher rate in a setting indicates that, on average, a person on any given day in that setting would be more likely to have a PAH than those in a lower rate setting. For example, for nursing home beneficiaries, the potentially avoidable hospitalization rate is 338 per 1,000 person years. At a nursing home, if three beds are full for the entire year, on average, the odds are that one person from those three beds will have a potentially avoidable hospitalization. Also, in comparing conditions across settings, we used a shorter list of conditions for dual eligible beneficiaries receiving the HCBS waiver or otherwise in the community. The subset of conditions identified reflects the lower levels of support available to HCBS waiver enrollees compared to dual eligible beneficiaries in nursing facilities or skilled nursing facilities. The major omission was pneumonia, which accounts for nearly one-third of PAHs for those in nursing facilities and skilled nursing facilities. Other omissions include altered mental state, anemia, diarrhea, falls and trauma, psychosis, and skin ulcers. Table 5 flags these conditions with an asterisk.

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