



Optimal Aging Through Research

Utilization and Vulnerabilities in the Medicare Hospice Benefit

New Orleans • Louisiana

GSA Annual
Scientific Meeting

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Background



- Medicare has covered hospice services since early 1980's
- Beneficiaries who elect hospice forgo curative treatment for their terminal condition.
 - Medicare continues to cover items for conditions unrelated to terminal illness
- Offers terminally ill patients (< 6 month life expectancy) important access to palliative care services meant to maximize patient comfort and quality of life in the days before death

Background



- Core benefit features largely unchanged over the last 30 years, but last decade has shown notable changes:
- Number of beneficiaries using hospice more than doubled
 - 534,000 in 2000 to 1.3 million in 2012
- Total number of providers has also increased
 - 2,255 in 2000 to 3,727 in 2012, mostly among for-profits
- Medicare payment for hospice services grown substantially
 - \$2.9 billion in 2000 to \$15 billion in 2012

Source: MedPAC Report to the Congress, March 2013 & 2012 Hospice claims

Motivation



- CMS, industry stakeholders recognize that some changes may be driven by vulnerabilities in the current payment system.
- As a result, researchers and policymakers examining changes in hospice utilization over time and identifying the sources and motivations for these changes, particularly as they relate to the behaviors and practices of hospice providers.

Focus of this panel



- Better understanding vulnerabilities related to the Medicare Hospice benefit:
 1. Descriptive summary of provider cost reports identifying the distribution of key components of the cost report.
 2. Analysis of live discharges in the hospice system.
 3. Current utilization patterns of general inpatient care while in hospice.
 4. Descriptive examination of utilization of the Part D drug benefit while a beneficiary is enrolled in hospice.

Objectives



1. To provide the research community an understanding of the current Medicare hospice payment system's vulnerabilities.
2. To provide an understanding of the sources of variation in costs, practice patterns, and utilization of the Medicare hospice benefit.

Research Funders



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Hospice Cost Reports: Benchmarks and Trends, 2004-2011

Brant Morefield, Ph.D.
November 24, 2013



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Background



- Cost reports reflecting fiscal year costs and payment information
- Required annually from Medicare-certified providers
- Publically available source for costs of services from hospice providers
- Other sources of descriptive information on costs to hospices, not easily found

Objectives



- Examine, descriptively, cost reports for freestanding hospice providers from 2004-2012 to:
 1. Present an easy-to-apply, uniform trimming methodology that eliminate extreme-value cost reports from multiple years of data;
 2. Examine three measures of central tendency to determine whether an “average” experience exists within the data;
 3. Highlight trends over the 2004-2012 time period and cost centers where data are bounded by zero or potential misreporting of information is more common.

Preview Results



- A simple methodology provides consistent measures over the varying cost report years.
- Reports of \$0 costs may influence results.
- Average per person drug costs have decreased.
- Visiting services are the largest and increasing proportion of total costs.
- Total costs per patient have not significantly increased from 2004-2012

Data



- Cost Reports for Freestanding Hospice Providers
- FY 2004-2012
- Data cleaned to eliminate extreme values
 - Short or long cost report periods: Cost reports with period less than 10 months or greater than 14 months.
 - Missing or negative value costs or payments: Cost reports with missing information or negative reported values for total costs or payments.
 - Top and bottom 1% of cost per day: providers in the highest and lowest percentile in costs per days across all levels of care.
 - Top and bottom 5% of provider margins.
 - Aggregate of cost centers does not equal total costs as reported.

Sample Restrictions



Table 2: Descriptive Statistics before and after the Sample Trim from 2009 Cost Reports

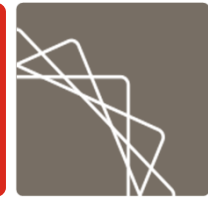
	<u>Obs.</u>	<u>Mean</u>	<u>(SD)</u>	<u>Min</u>	<u>5th %-ile</u>	<u>Median</u>	<u>95th %-ile</u>	<u>Max</u>
Untrimmed Sample								
Total costs (1,000's)	2275	4170	(8681)	1	253	2022	14400	260000
Total Pay (1,000's)	2227	6625	(17600)	-177	224	2518	20400	393000
Cost/Day	2275	172	(630)	3	79	134	268	28359
Margin	2227	-6095%	(203446%)	-7434300%	-48%	13%	56%	1402%
Trimmed Sample								
Total costs (1,000's)	1887	4642	(9277)	12	462	2335	15200	260000
Total Pay (1,000's)	1887	5591	(12600)	10	505	2770	17700	393000
Cost/Day	1887	140	(50)	49	84	132	224	618
Margin	1887	12%	(18%)	-48%	-21%	13%	40%	56%

Methods



- Cost centers grouped into four broad categories
 - Inpatient Care; Visiting Services; Other Hospice Services; and Non-reimbursable Services
- Include shared service costs allocated to each cost center
- Identify measures that describe the “average” in two ways
 1. Representative of overall industry costs
 - Weighted Mean: (sum of variable over all providers / # of providers)
 2. Representative of average for provider experience
 - Average of provider-level means
 - Median of provider-level means

Inpatient Care Costs



Inpatient Care Costs per “Patient” by Year, Nominal Dollars

	2004	2005	2006	2007	2008	2009	2010	2011	2012
	n = 1,047	n = 1,218	n = 1,490	n = 1,694	n = 1,834	n = 1,882	n = 1,929	n = 2,015	n = 1,575
Weighted Inpatient Costs per Patient									
Mean	\$874	\$945	\$987	\$1,018	\$1,010	\$1,065	\$1,074	\$1,140	\$1,146
Provider-Level Costs per Patient									
Mean	\$638	\$689	\$627	\$646	\$636	\$660	\$605	\$679	\$659
Median	\$178	\$83	\$80	\$87	\$96	\$111	\$109	\$107	\$104
Proportion of Providers reporting Inpatient Costs = 0									
	0.26	0.36	0.36	0.36	0.33	0.33	0.34	0.33	0.31

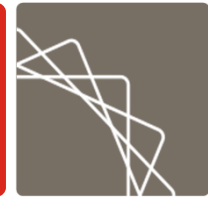
**Data are from the Abt Trim sample of freestanding hospice cost reports. The total inpatient care service costs include inpatient general care and inpatient respite care. Costs are in nominal dollars. Costs of direct patient care provided by hospice staff are not included.

Inpatient Care Costs



- Difficult to describe “average” inpatient costs
 - Measures of central tendency disagree, even among providers reporting inpatient costs
- 1/3 of providers report \$0 in inpatient costs. However, significant numbers of cost reports (~22%) list a non-zero number of days but zero costs for inpatient care, i.e., conflicting information.
- Inpatient costs constitute ~12% of all costs across all freestanding providers and ~14% of all costs for providers who report some inpatient costs

Visiting Services



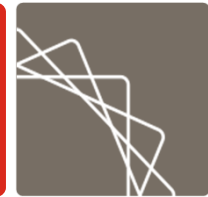
Visiting Services Costs per Patient by Year, Nominal Dollars

	2004	2005	2006	2007	2008	2009	2010	2011	2012
	n = 1,047	n = 1,218	n = 1,490	n = 1,694	n = 1,834	n = 1,882	n = 1,929	n = 2,015	n = 1,575
Costs Averaged over All Providers									
Mean	\$4,433	\$4,695	\$5,311	\$5,811	\$5,804	\$6,139	\$6,068	\$6,239	\$6,515
Costs Averaged at Provider Level									
Mean	\$5,167	\$5,939	\$7,756	\$6,877	\$6,950	\$7,137	\$7,080	\$7,652	\$8,100
SD	(2,437)	(6,045)	(60,445)	(5,155)	(3,260)	(3,096)	(3,313)	(10,377)	(22,246)
Median	\$4,737	\$5,292	\$5,690	\$6,208	\$6,385	\$6,640	\$6,623	\$6,827	\$7,048

**Data are from the Abt Trim sample of freestanding hospice cost reports.

- Mean over all providers is slightly lower than the mean at the provider level
 - Suggests that smaller hospice providers have slightly higher visiting service costs per patient.
- Provider-level mean may be swayed by outliers

Other Hospice Services



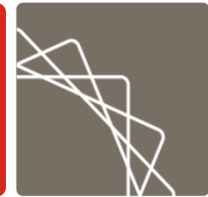
- 90+% of “other hospice service” costs come from three costs
 1. Drugs and biologicals (45-50%);
 2. DME/Oxygen (26-30%);
 3. medical supplies (15-16%).
- Three measures of central tendency agree

Proportion of Total Costs Attributed to "Other Hospice Service Costs" Lines

	2004	2005	2006	2007	2008	2009	2010	2011	2012
	n= 1,047	n= 1,218	n = 1,490	n = 1,694	n = 1,834	n = 1,882	n = 1,929	n = 2,015	n = 1,575
Weighted Mean									
Mean	0.228	0.216	0.212	0.204	0.200	0.196	0.198	0.191	0.188
Provider-level									
Mean	0.243	0.231	0.228	0.215	0.210	0.206	0.211	0.204	0.205
Median	0.239	0.220	0.213	0.203	0.203	0.201	0.205	0.200	0.200

**Data are from the Abt Trim sample of freestanding hospice cost reports.

Other Hospice Services



- Drugs and biologicals, in real dollars, trend downward over time.

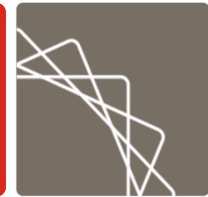
Table 10: Costs per Patient-day by Year, 2010 Dollars

	2004	2005	2006	2007	2008	2009	2010	2011	2012
	n = 1,047	n = 1,218	n = 1,490	n = 1,694	n = 1,834	n = 1,882	n = 1,929	n = 2,015	n = 1,575
Provider-Level Drug Costs per Patient-day									
Mean	\$20	\$18	\$17	\$15	\$14	\$13	\$12	\$11	\$11
SD	(10)	(11)	(11)	(9)	(9)	(9)	(7)	(6)	(6)
Median	\$20	\$18	\$16	\$15	\$14	\$13	\$12	\$11	\$10
Trimmed Means									
1%-99%	\$21	\$19	\$17	\$16	\$15	\$14	\$13	\$12	\$11
5%-95%	\$20	\$18	\$16	\$15	\$14	\$13	\$12	\$11	\$11

**Data are from the Abt Trim sample of freestanding hospice cost reports. The costs are averaged at the provider-level and adjusted to constant 2010 dollars using the Producer Price Index for prescription pharmaceuticals.

- In contrast, deflated medical supply costs are steady over time.

Total Costs



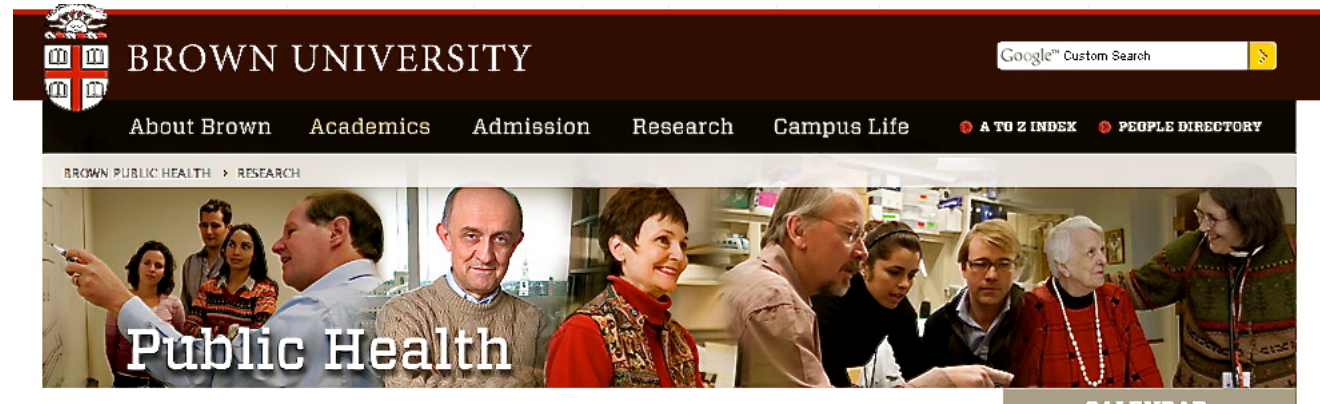
Proportion of Total Costs by Cost Center Grouping									
	2004	2005	2006	2007	2008	2009	2010	2011	2012
Weighted Total Costs by Cost Center Group									
Visiting Services	61%	62%	63%	65%	65%	65%	66%	66%	67%
Other Services	23%	22%	21%	20%	20%	20%	20%	19%	19%
Inpatient Services	12%	12%	12%	11%	11%	11%	12%	12%	12%
Non-reimbursable	4%	4%	4%	4%	4%	4%	3%	3%	3%
Weighted Costs per Patient (2010 Dollars)									
Mean	\$8,784	\$8,871	\$9,464	\$9,798	\$9,455	\$9,578	\$9,237	\$9,165	\$9,281
Total Costs by Cost Center Group at Provider Level									
Visiting Services	65%	67%	67%	69%	70%	70%	70%	71%	71%
Other Services	24%	23%	23%	21%	21%	21%	21%	21%	21%
Inpatient Services	7%	7%	7%	7%	6%	6%	6%	6%	6%
Non-reimbursable	4%	3%	3%	3%	3%	3%	2%	2%	2%
Median Costs per Patient (2010 Dollars)									
	\$9,758	\$9,507	\$9,515	\$9,976	\$9,801	\$9,780	\$9,524	\$9,373	\$9,430

*Costs per Patient are in 2010 dollars, normalized using the hospital market basket update.

Conclusions



- A simple methodology provides consistent measures over the varying cost report years.
- Roughly one-third of providers report zero inpatient costs, causing skewed average costs. The high number of providers reporting zero is unexpected as these costs should include contractual costs for inpatient care. However, we find evidence of misreporting—providers report zero inpatient costs with non-zero inpatient days.
- Per person drug costs have decreased, on average, over the 2004-2011 time period.
- Up to 25% of providers report \$0 in non-reimbursable costs, including required bereavement costs.
- Visiting services are the largest and increasing proportion of total costs.
- Total costs per patient have not significantly increased from 2004-2011



Facility Problematic Live Hospice Discharges

Pedro Gozalo, Ph.D.
November 24, 2013



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This research was funded by a CMS contract to
Abt Associates and Brown University School
of Public Health

Introduction



- Live discharges can occur for variety of reasons: 1) patient choice; 2) medical condition improves; 3) hospice may be avoiding costly medical care related to terminal illness
- Kutner, 2004 - reasons discharge 1) 79% improve or stabilized; 2) 7% pursue aggressive treatment; 3) 12% patient/family decision. Transfers from one hospice to another is a rare reason

Introduction



- MedPAC 2009 - 48% live discharges rate in above CAP hospice compared to 16% rate of live discharges in below CAP hospice.
- Above cap hospices substantially higher live discharges combined with longer length of stay raise questions about whether above cap hospices are admitting patients before they meet hospice eligibility

Method



- These analyses examined hospice patients discharged between January 1, 2010 and December 31, 2010 with all discharges having six month follow up in 2011.
- Analysis at the facility level is among those facilities with at least 30 discharges.

Method



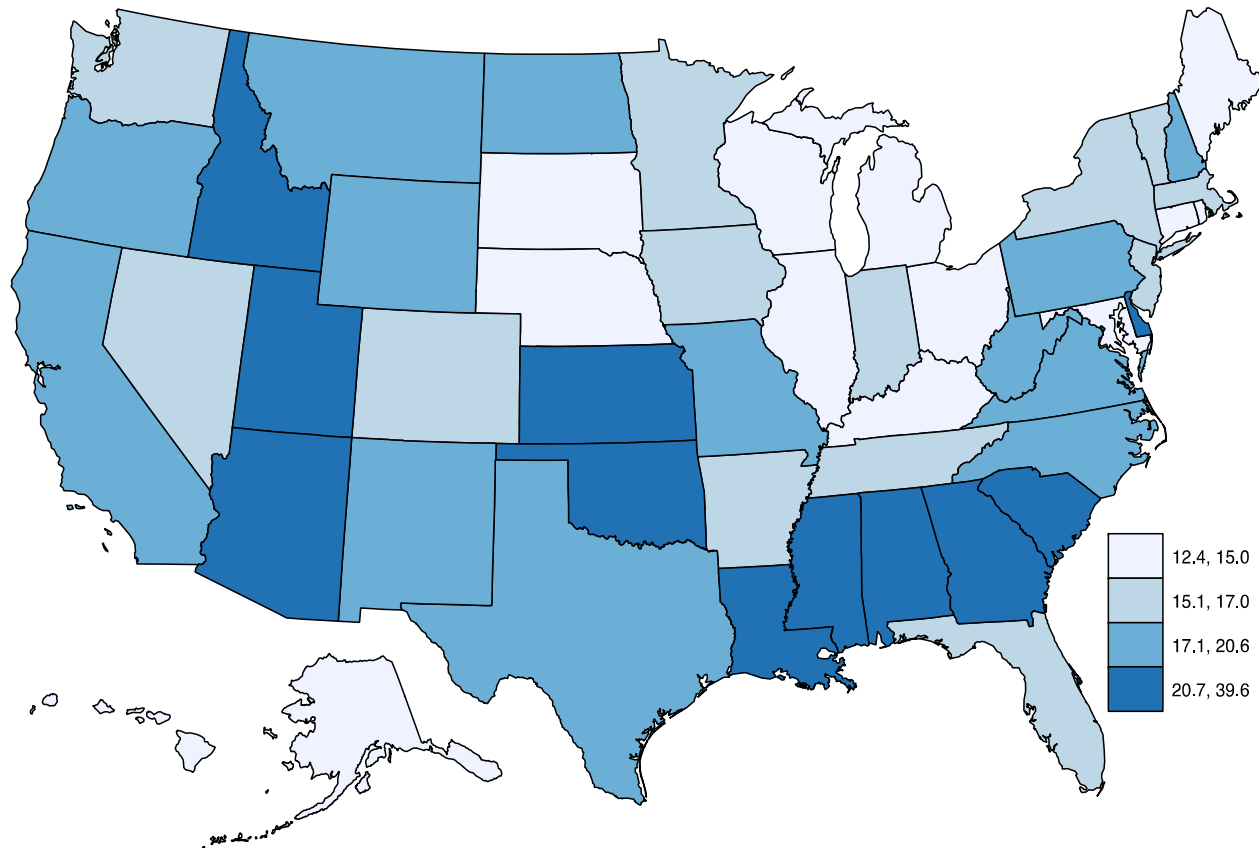
- Document the rates of live discharges and six months outcomes after hospice discharge.
- Examine patterns of 4 problematic live discharges
 - High provider rate of complicated transitions (hospice → hospital → hospice readmission)
 - High provider rate of long stay patients and low rate of long stay patients and low rate of live discharges
 - High provider rate of discharges of long stay patients (>210 days)
 - High provider rate of live discharges in the first 7 days of hospice stay

Method



- Facility based analysis examined a weighted index of the 4 problematic discharge patterns.
- Organizational characteristics examined include: 1) For profit vs not for profit ; 2) Chain status operationalized as national, regional, state, or a hospice provider without affiliation with other providers
- With the facility as unit of analysis, a multivariate poisson model examined whether type of hospice providers classified by ownership and chain affiliation differed in the the rate of problematic live discharges

State Average Live Discharge



Mean rate of live discharges was 18.1

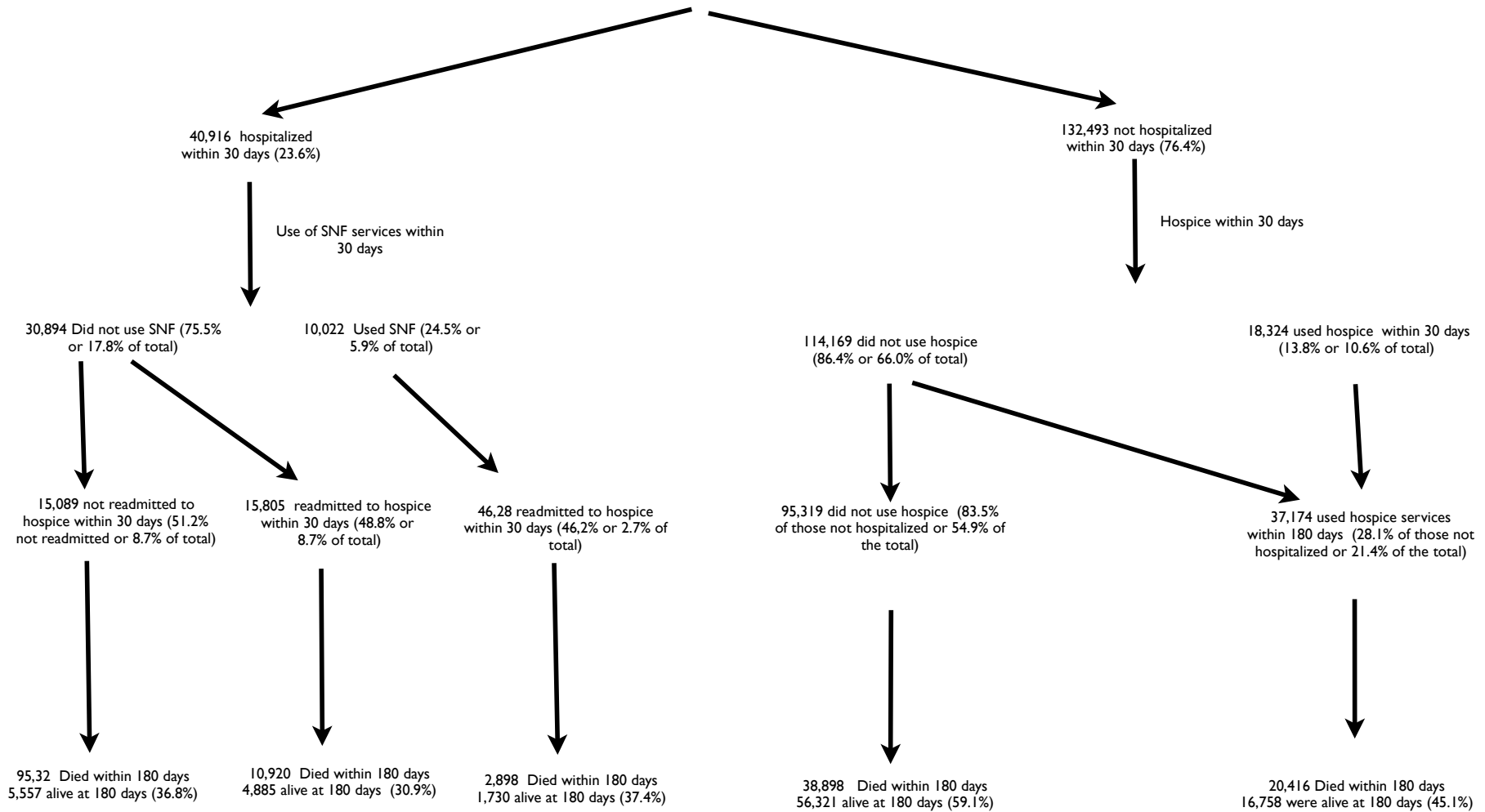
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Results



- 956,497 discharges (88.1% white, 8.0% black, average age 82.0) among 3,489 hospice providers.
- 173,409 (18.1%) live discharges in 2010
- 49.2% persons died six months after discharge

173,409 Live Discharges 2010



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Variation in the Rate of Live Discharge by Hospice Programs

	25th %	Median	75th %	90th %
Complicated Transition	0	1.0	2.5	5.2
Live discharge >210 days among those with 8 day stay	3.2	5.7	9.8	15.0
Live discharge within first 7 days	2.7	4.0	5.9	8.6

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Table 2 Multivariable Results (Provider)

Problematic Live discharge Pattern	Not-for-Profit Single N=1013	Not-for-Profit State N=74	For-Profit National Chain N=445	For-Profit Regional Chain N=123	For-Profit State Chain N=80	For-Profit Single N=937
Complicated Transition	2.4	1.4	13.7	12.1	13.8	18.1
Hospice provider with low rate of live discharge, and high rate LOS >210	2.2	1.3	8.9	4.4	7.6	4.3
Late hospice discharge	2.3	5.4	10.8	10.6	16.3	19.7
Early Hospice Discharge	6.1	4.1	6.7	11.4	10.	17.6
Index	.27	.24	1.1	.96	1.2	1.4
Adjusted Results (IRR)	Ref	.83	2.1	1.7	2.2	2.3

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Conclusions



- Substantial variation in the rate of live discharge by state and hospice facility raises concerns that needs further research.
- Problematic Live Discharges are higher among for-profit providers with slightly higher rates among those hospice not in national or regional chains

Implications for Policy



- The rate of live discharge is a potential vulnerability that should be monitored as part of hospice payment reform.



Understanding Variation in Utilization of Hospice Inpatient Care

Alyssa Pozniak, Ph.D.
November 24, 2013



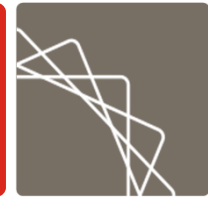
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Background



- General inpatient care (GIP) is short-term inpatient care provided in a hospice facility, hospital or SNF for pain control for acute or chronic symptom management which cannot be managed in other settings.
- Extant research suggests differences in Medicare spending and length of stays across different sites of service, providers, and geographic location for GIP.

Background



- Medicare reimbursement rates differ across the four hospice levels of care

Hospice level of care	FY 2014 Daily payment rate
Routine Home Care (RHC)	\$156.06
General Inpatient Care (GIP)	\$694.19
Continuous Home Care (CHC)	\$910.78
Inpatient Respite Care (IRC)	\$161.42

Objectives



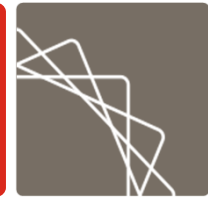
- To examine utilization of GIP services
- To better understand characteristics of hospice providers who provide GIP services as well as those who do not provide any GIP services

Data



- All 2012 CMS hospice claims
- “GIP stay” defined as consecutive GIP days in hospice claims file

Beneficiaries with a GIP stay

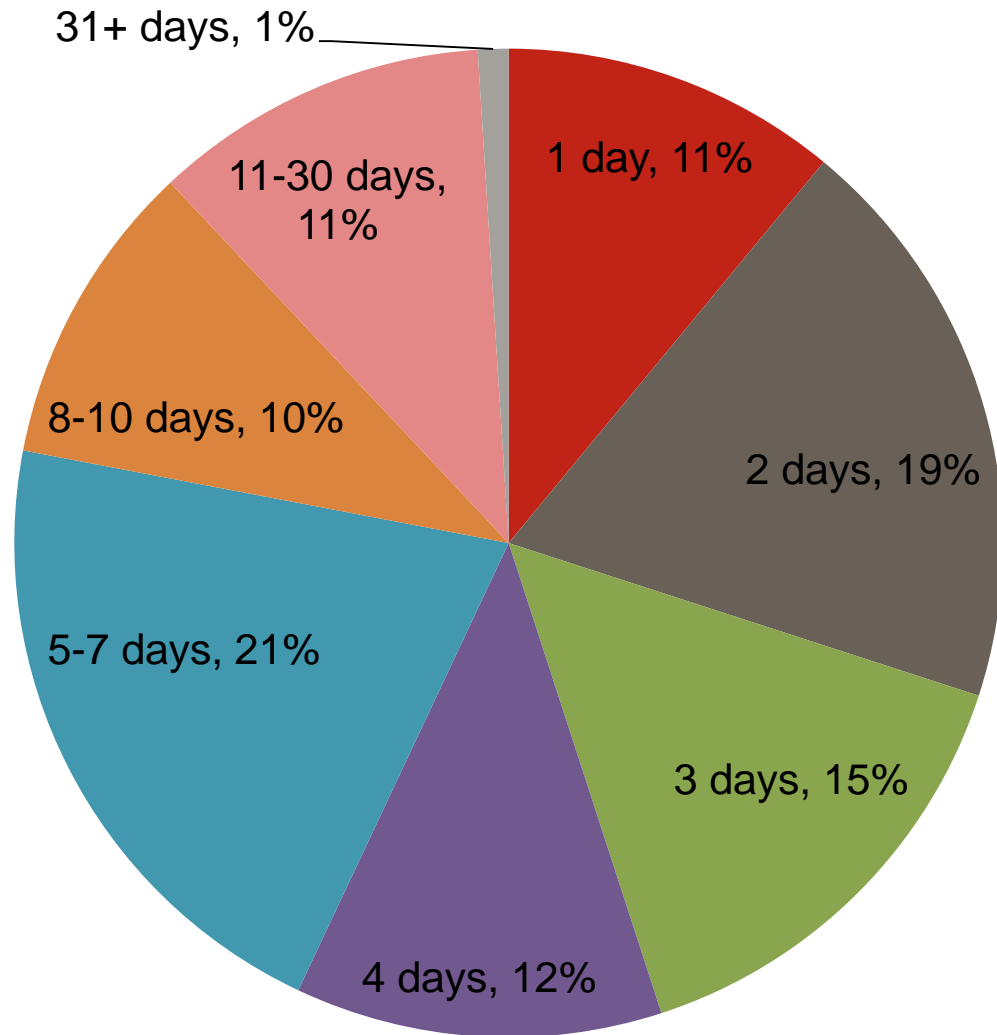


- 23% (N=289,003) of all hospice beneficiaries had at least 1 GIP day in 2012
 - Vast majority had just one GIP stay (average number of GIP stays per beneficiary: 1.1)

Number of GIP stays/ beneficiary	Number of beneficiaries	%
1	269,135	93.1%
2	16,115	5.6%
3	2,700	0.9%
4+	1,053	0.4%
Total	289,003	100%

- Total of 314,449 GIP stays in 2012

Overall GIP length of stay



Mean: 5.5 days

Median: 4 days

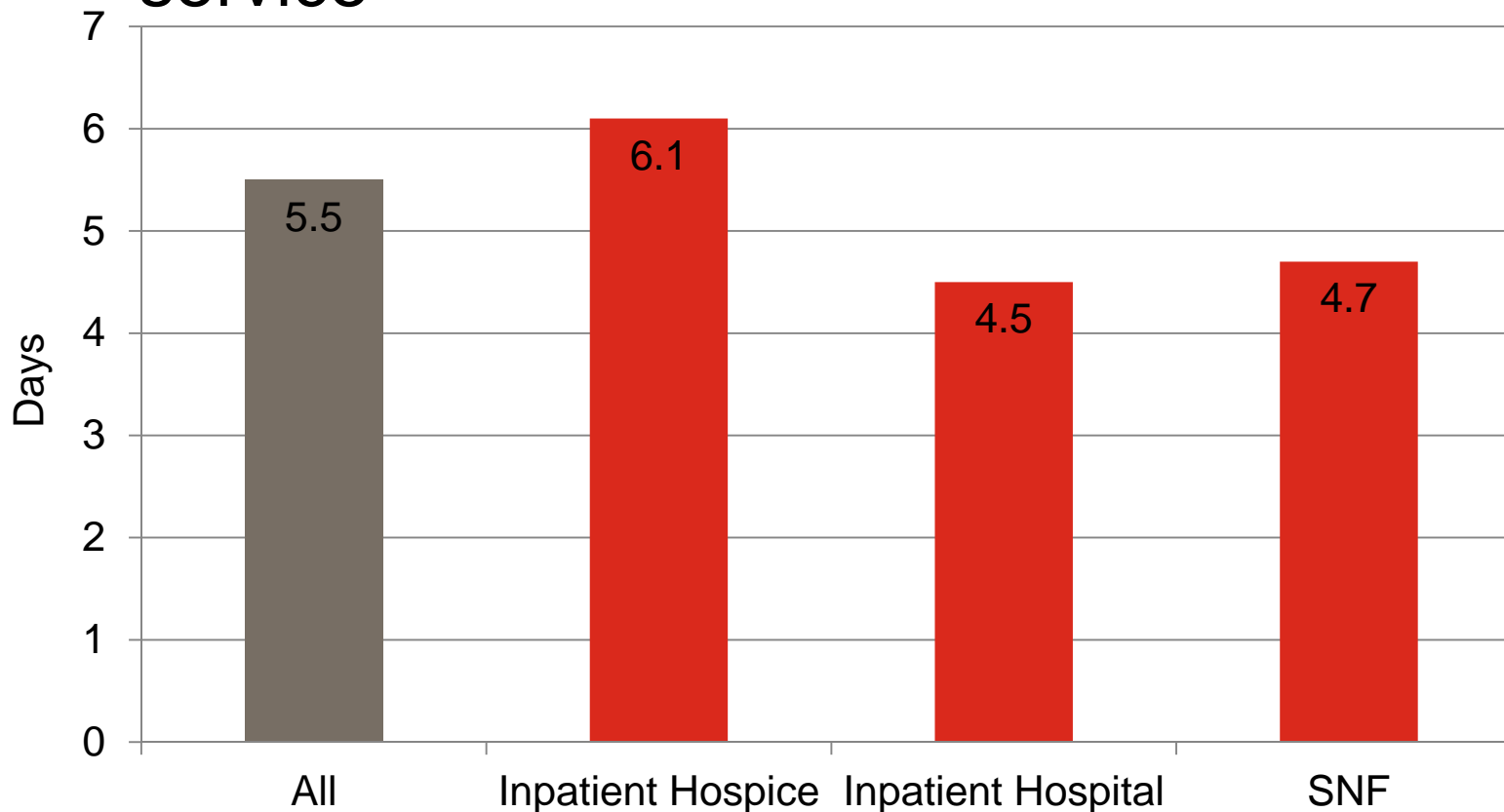
Mode: 2 days

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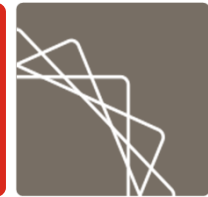
GIP length of stay by site of service



- GIP length of stay (LOS) varied by site of service



GIP days by site of service

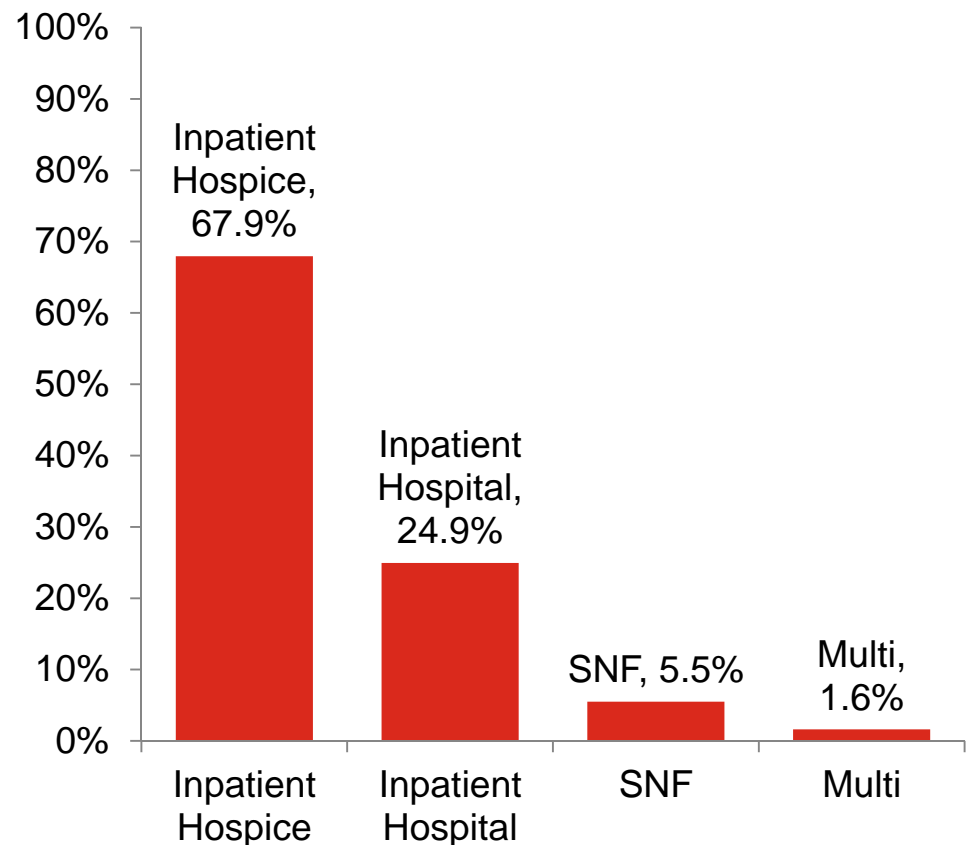


- 1.7 million GIP days in 2012

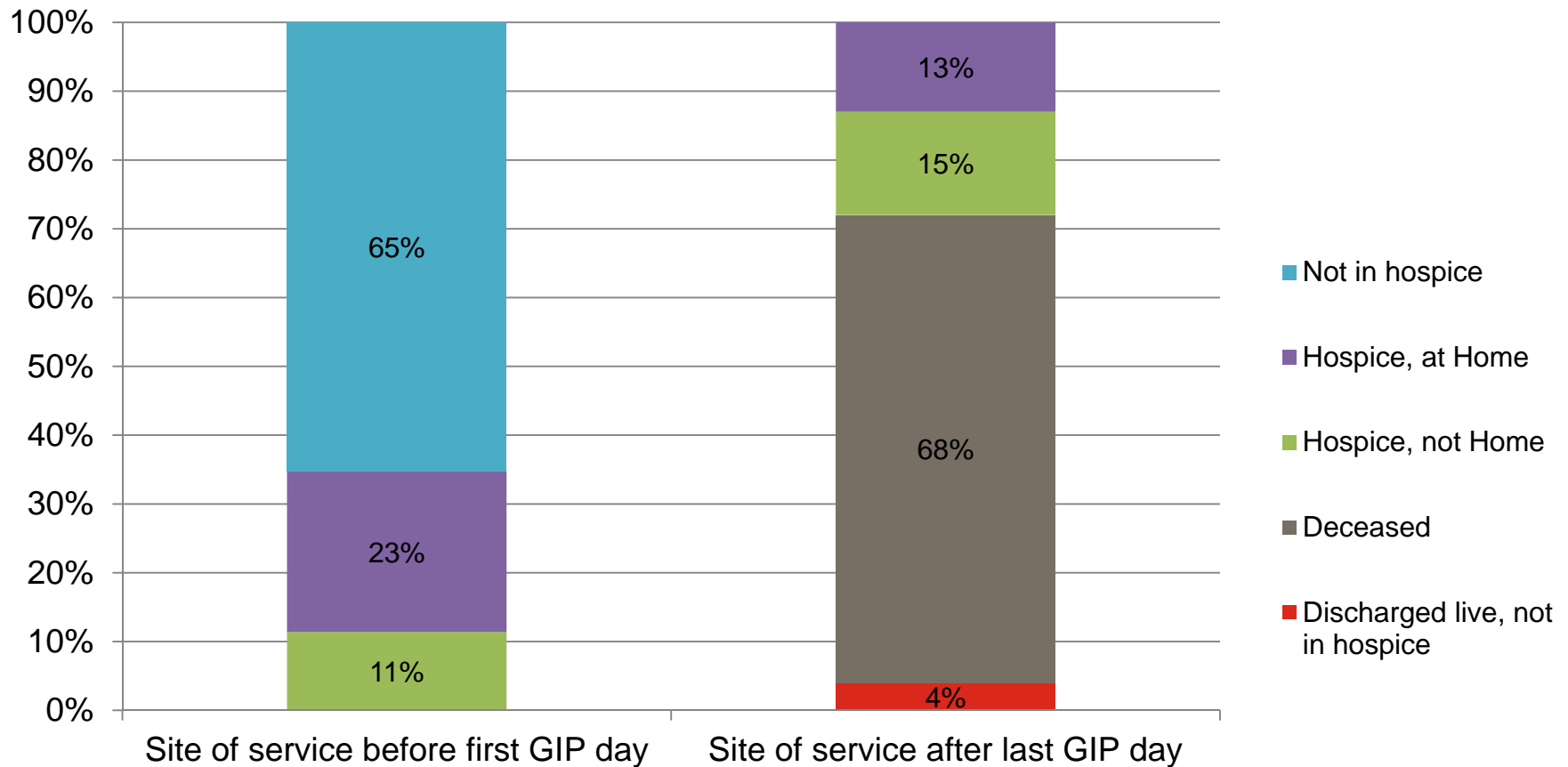
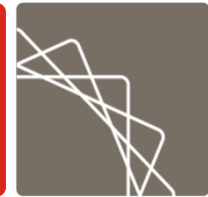
- Most GIP days provided in inpatient hospice (68%)

- About a quarter of GIP days provided in inpatient hospital

- Less than 6% of GIP days provided in SNF

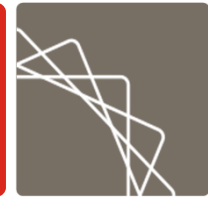


Transitions to and from GIP



For hospice beneficiaries with a GIP stay in 2010-11

GIP providers



- 74% (N=2,758) of all hospice providers provided at least one GIP day in 2012
- Variation in percent of GIP days among GIP providers

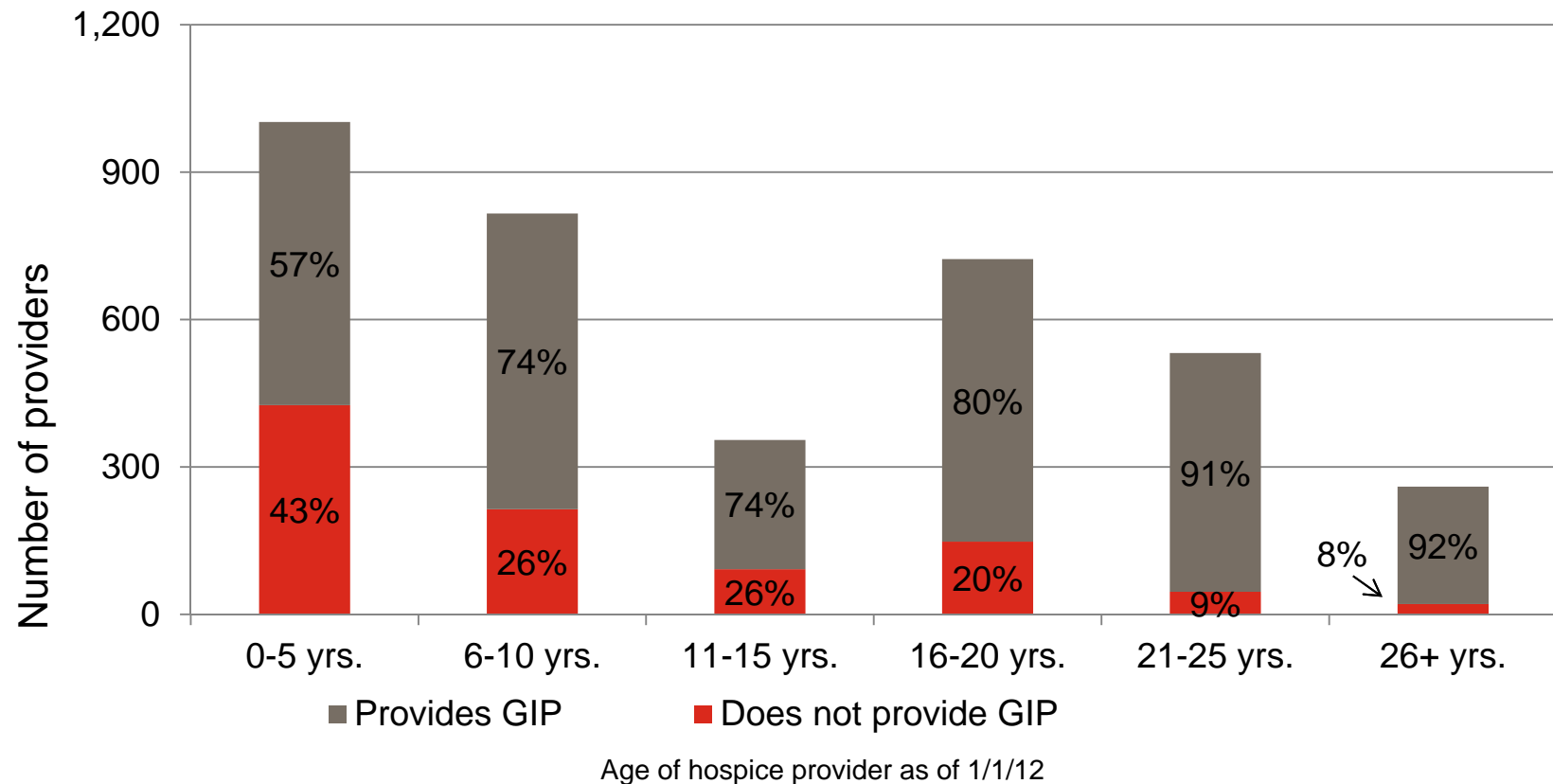
		Percentile of GIP providers						
	Average	25 th	50 th	75 th	90 th	95 th	99 th	Max
% GIP days (GIP days/ all days)	1.6%	0.1%	0.5%	1.8%	4.6%	6.8%	13.0%	73.1%

Among hospices who had at least 100 hospice days in 2012

Variation in GIP provision by provider age



- Higher proportion of older hospice providers provide GIP compared to younger hospices providers

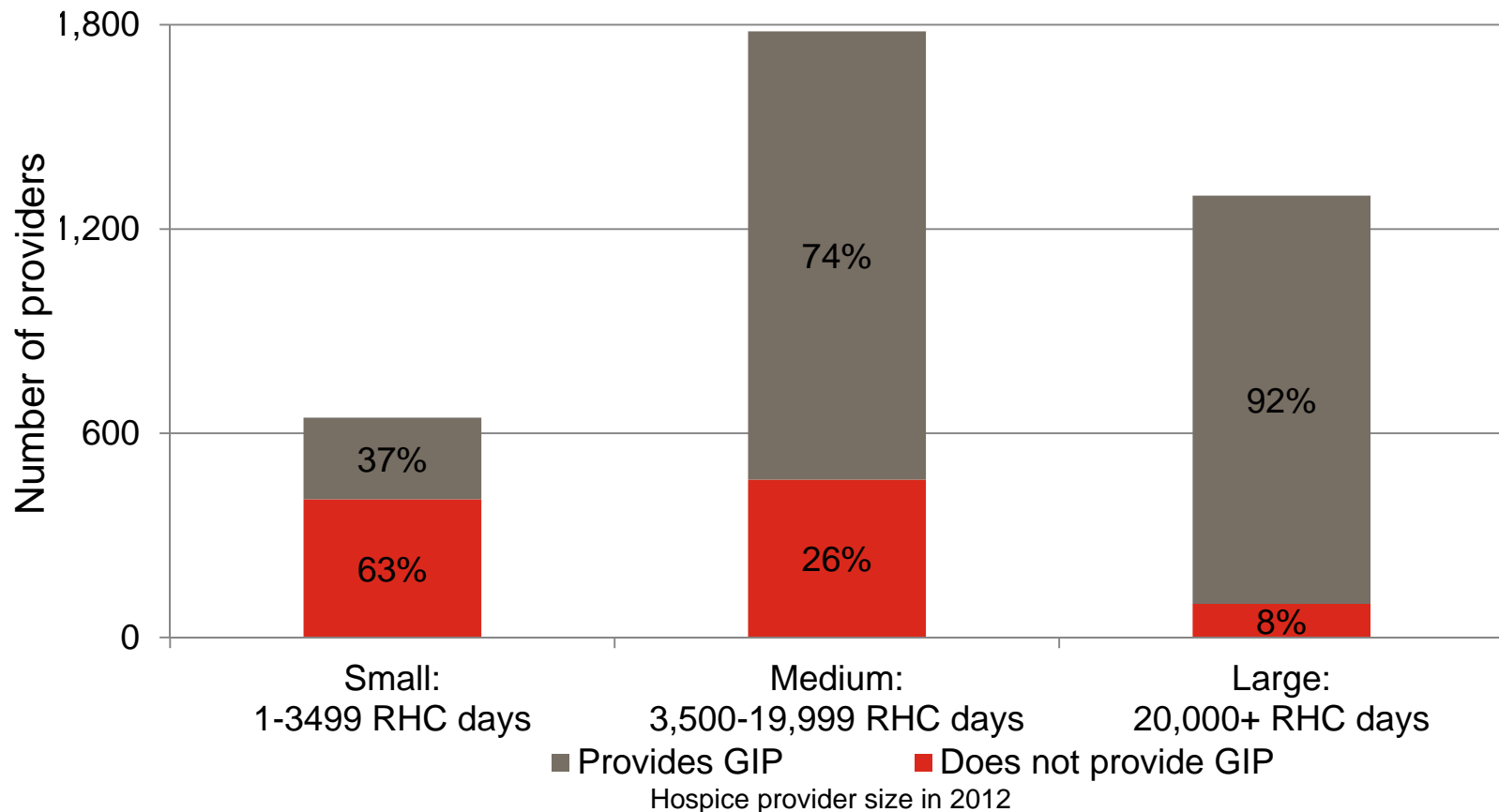


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Variation in GIP provision by provider size

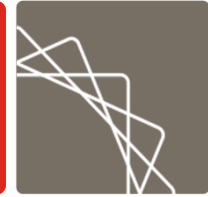


- Fewer than half of small providers provide GIP vs. nearly all large providers provide GIP

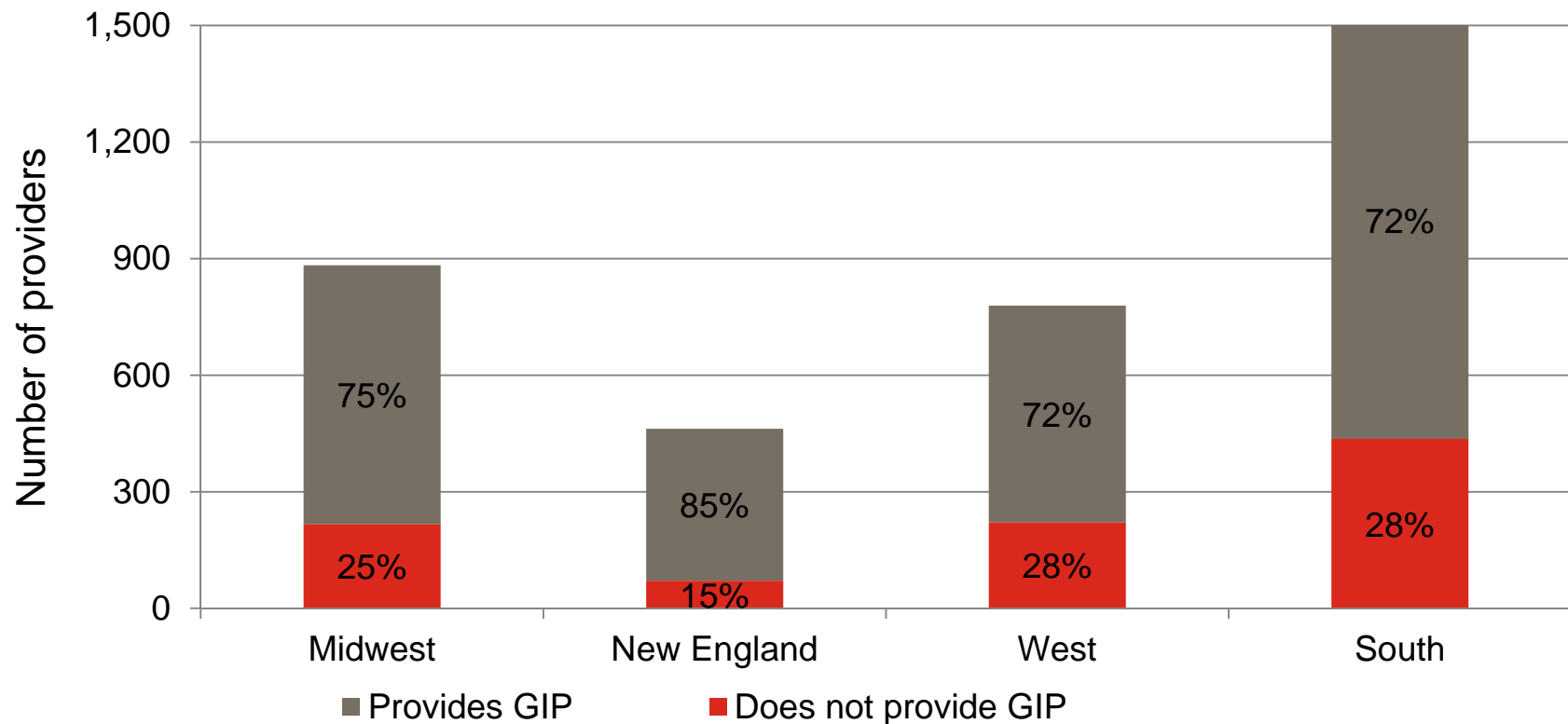


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Variation in GIP provision by provider geographic location



- South has the greatest number of hospice providers, but among the lowest percentage of hospices that provide GIP



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Conclusion



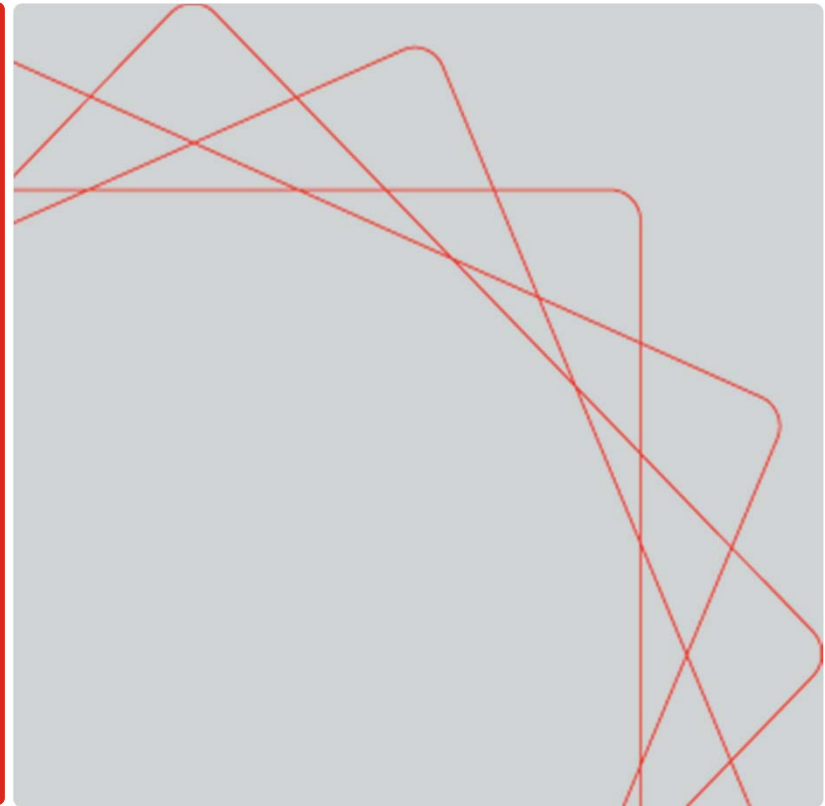
- Among the quarter of hospice beneficiaries who had a GIP day, most had just 1 GIP stay
- Most GIP stays are short (5.5 days), but LOS varied by site of service
- Over half of beneficiaries were not in hospice the day immediately before their GIP stay
- Considerable variation in provider characteristics and provision of GIP



Characteristics of Hospices Serving Beneficiaries with Medicare Part D Claims

T.J. Christian

November 24, 2013



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Medicare Prescription Drug Benefit Background



- **Medicare Part D** is a federal program subsidizing prescription drug costs
 - From 2006-2010, Part D expenditures increased 30% from \$43 billion to \$56 billion

- All beneficiaries entitled to Medicare Part A benefits are also eligible for Part D coverage

Hospice Rule statements on Medication Coverage



- **The Medicare Hospice Benefit** fully covers medications related to patients' terminal condition
 - "...[D]rugs...used primarily for the relief of pain and symptom control related to the individual's terminal illness are covered [hospice services]" (§ 418.202f)

- Covered medications' costs are structured into the hospice benefit's *per diem* payment rate
 - When Part D pays for these medications, Medicare is "charged twice"

Office of Inspector General's Hospice/Part D Report



- OIG reports (2012) Part D billed \$33.6 million in 2009 for standard hospice medication



DEPARTMENT OF HEALTH AND HUMAN SERVICES

OFFICE OF INSPECTOR GENERAL

WASHINGTON, DC 20201



June 28, 2012

TO: Marilyn Tavenner
Acting Administrator
Centers for Medicare & Medicaid Services

FROM: /Daniel R. Levinson/
Inspector General

SUBJECT: Medicare Could Be Paying Twice for Prescription Drugs for Beneficiaries in Hospice (A-06-10-00059)

SUMMARY OF FINDING

During calendar year 2009, Medicare Part D paid for prescription analgesic, antinausea, laxative, and antianxiety drugs, as well as prescription drugs used to treat COPD and ALS, that likely should have been covered under the per diem payments made to hospice organizations. As a result, the Medicare program could be paying twice for prescription drugs for hospice beneficiaries: once under the Medicare Part A hospice per diem payments and again under

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Part D Utilization while Enrolled in Hospice: Primary Aims



1. We describe Part D utilization for palliative medicines or drugs related to the primary diagnosis
 - Analgesics, Antiemetics, Constipation medications
 - Drugs for COPD, CHF, or any other drug filled for a beneficiary admitted under Debility/Failure to Thrive
 2. We characterize hospices associated with high rates of these medications billed through Part D
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- Primary Data: Medicare Hospice and Part D Claims
 - Match beneficiaries' prescription fill dates to hospice admission/discharge timeframe

Total Analgesic Costs billed to Medicare Part D



- In 2010, we identified 750,590 Medicare hospice beneficiaries enrolled in Part D
- Among these individuals, 208,468 (**27.8%**) received **1,875,065** palliative and related medicines through Part D during hospice enrollment totaling **\$99,148,348**
- In total, hospice beneficiaries received 5,852,399 prescriptions of any type totaling \$350,250,118 during 2010

Drugs Received through Part D by Hospice Beneficiaries, 2010



Classification of Drug Received	# Drug Fills	# Patients Receiving	% Patients Receiving	Total Drug Cost (\$Millions)
Total Palliative or Related Drugs Billed to Part D	1,875,065	208,468	27.8%	\$99.15
Analgesics	331,988	111,471	14.9%	\$12.91
Antiemetics	81,344	39,791	5.3%	\$2.84
Constipation	43,509	17,302	2.3%	\$0.89
Medications related to CHF	105,421	18,088	2.4%	\$1.72
Medications related to COPD	46,566	10,770	1.4%	\$5.82
Any Other Drug to Debility Patients	831,660	55,328	7.4%	\$49.21
Any Other Drug to Failure to Thrive Patients	434,577	29,919	4.0%	\$25.75
All Other Drugs Billed to Part D	3,977,334	294,802	39.3%	\$251.10
Total Drugs Billed to Part D	5,852,399	384,798	51.3%	\$350.25

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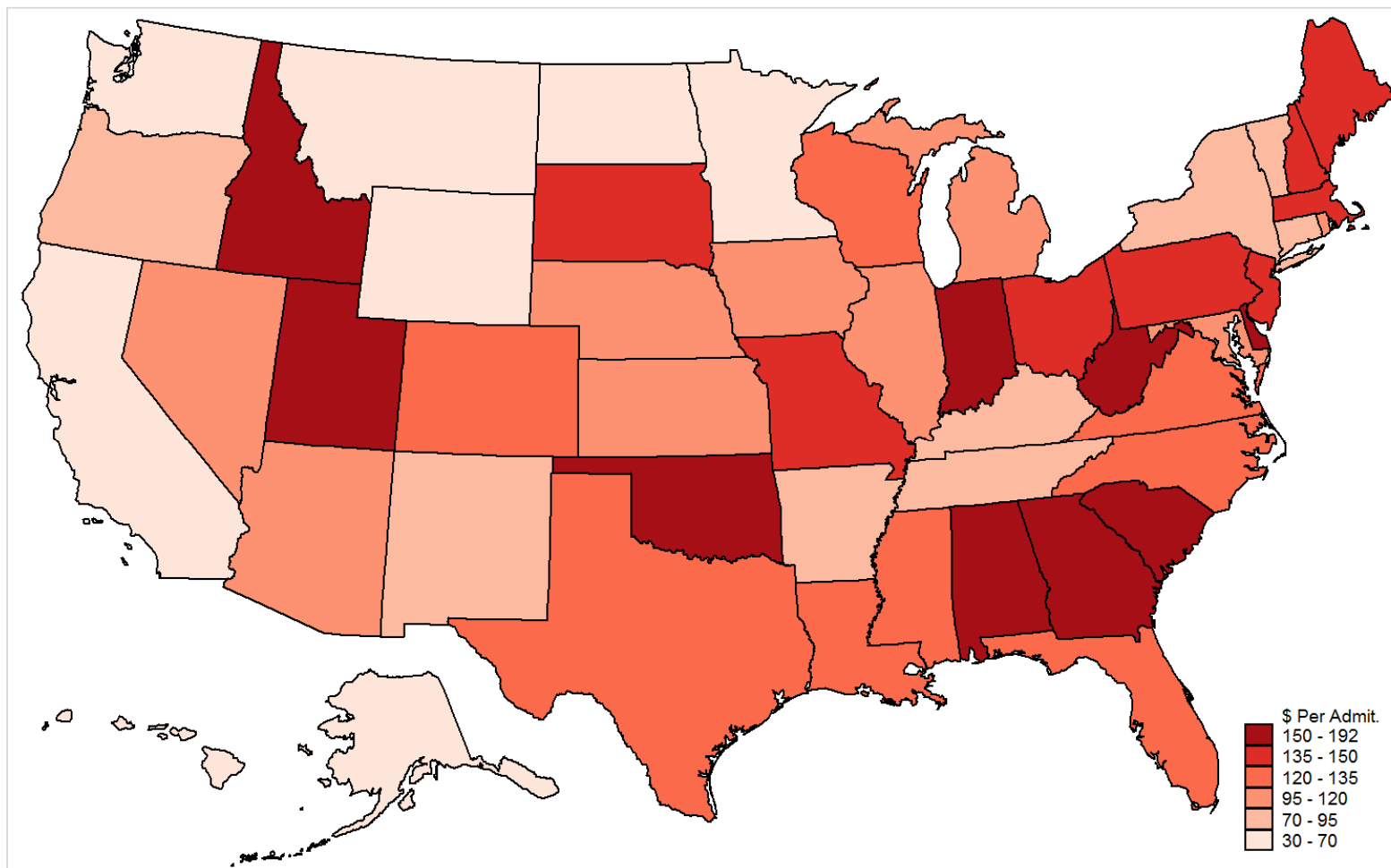
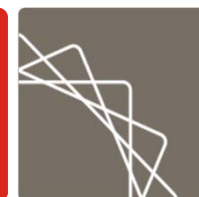
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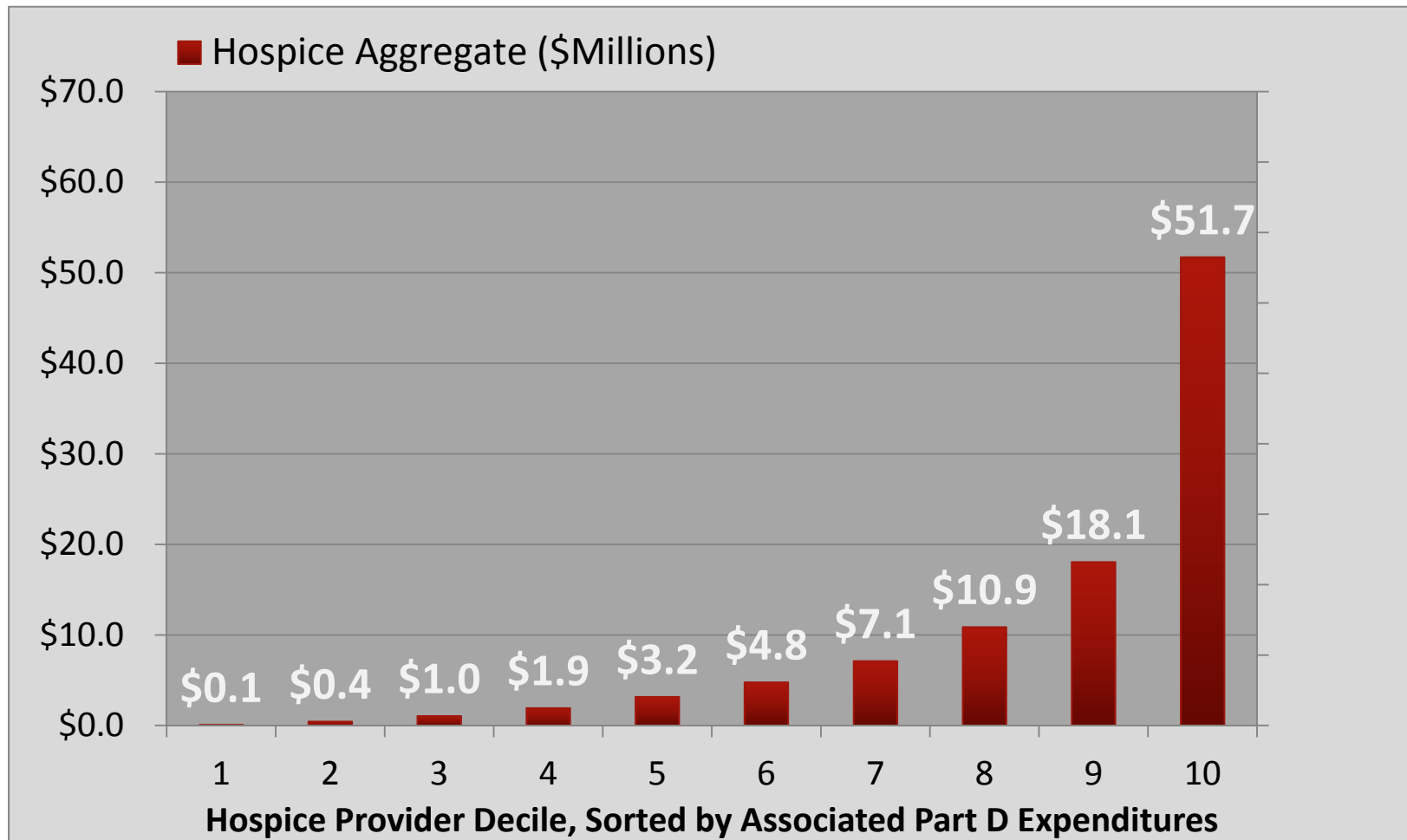
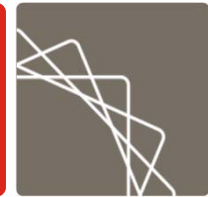


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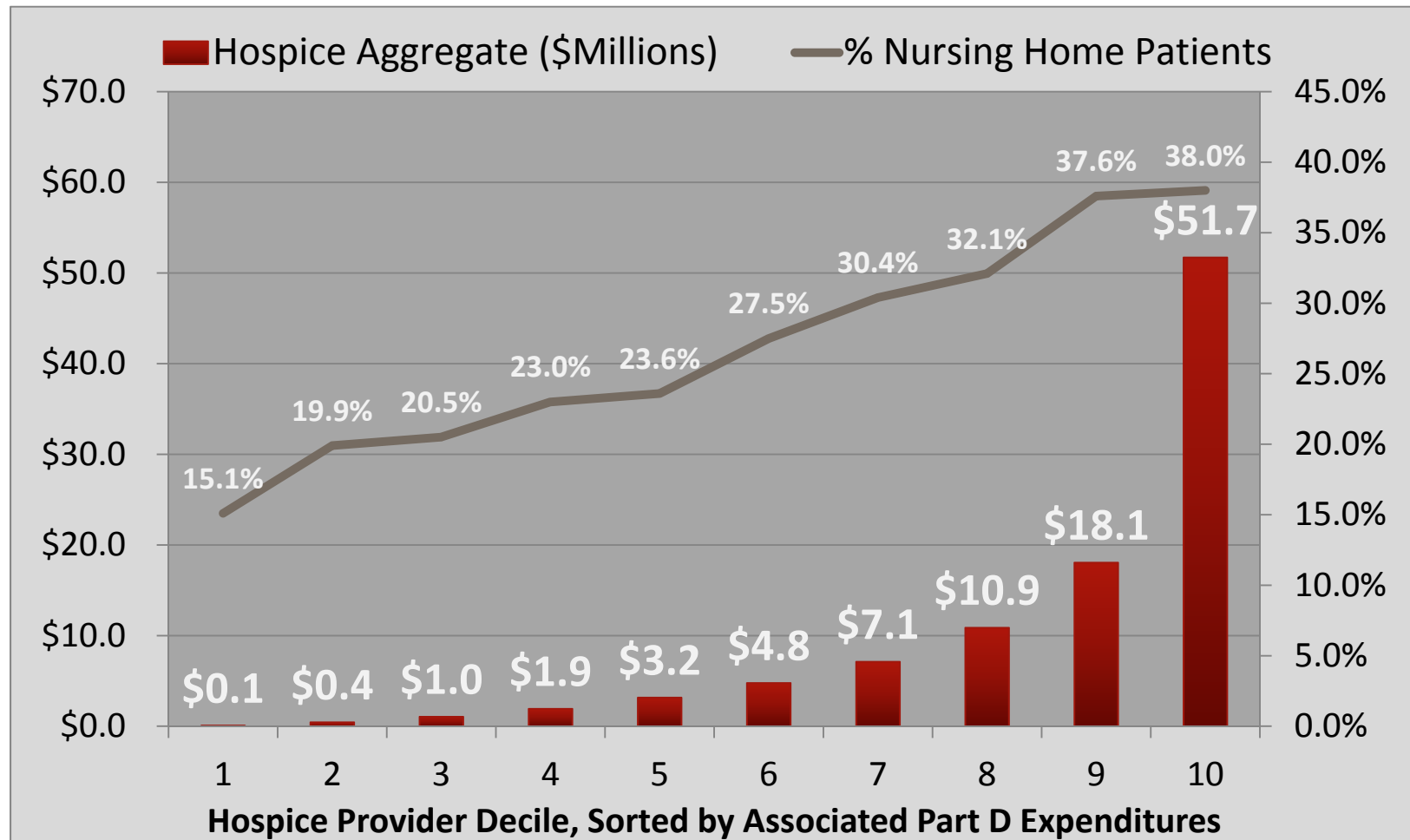
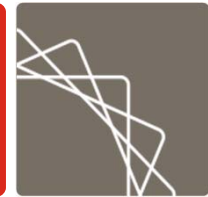
Part D Utilization per Hospice Admission for Palliative and Related Medicines, 2010



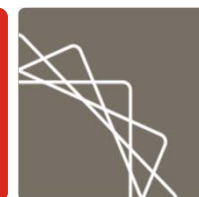
Part D Claims for Palliative/Related Medicines are Concentrated among Few Hospices...



...Palliative/Related Medicine Concentration is Related to Service in the Nursing Home



Hospice Characteristics Associated with High Rates of Billing for Palliative and Related Drugs

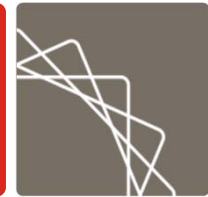


Selected Hospice Characteristics	Associated Hospice Billing in Top Quintile Per-Admission ($\geq \$191.57$)		
	Raw %	Adj. Odds Ratio	95% CI
Hospice Certification Decade			
1980s	9.1%	Ref.	
1990s	13.1%	1.53	2.08-2.17
2000s (and 2010)	29.0%	3.15	2.20-4.51
Hospice Ownership Type			
Non-Profit	10.8%	Ref.	
For-Profit	27.7%	1.88	1.45-2.45
Government Owned	11.6%	1.08	0.76-1.53
Hospice Facility Type			
Facility-Based	9.8%	Ref.	
Free-Standing	24.3%	1.77	1.33-2.30

Source: Medicare Hospice Claims and Part D Drug Events, 2010

Odds Ratios are additionally adjusted for number of hospice admissions, geographic regions, and urban/rural status

Limitations



- There are two limitations to acknowledge when interpreting these findings
 1. Our analysis uses data from a time period (2010) prior to the 2012 OIG report on Part D and hospice, and hospices may have since corrected their behavior
 2. We cannot identify patients' exact clinical condition and therefore cannot adequately determine the appropriateness of their drug usage

Final Remarks



- Part D was billed almost \$100 million in 2010 for medications hospices likely should have covered per Medicare rules
 - Over half of this amount is associated with just ten percent of hospices
 - Association between nursing home service and Part D billing
 - Newer, for-profit, and free-standing hospices had higher billing rates

- These findings highlight a payment vulnerability which should receive ongoing regulatory oversight