

*Clinically Appropriate and Cost-Effective Placement (CACEP) Project*  
***Working Paper Series: Use of Home  
Health Care and Other Care Services  
Among Medicare Beneficiaries***

**PREPARED FOR:**

The Alliance for Home Health Quality & Innovation (AHHQI)

**PRESENTED BY:**

Al Dobson, Ph.D., Joan DaVanzo, Ph.D., M.S.W. & Audrey El-Gamil

**April 5, 2012**

**Dobson | DaVanzo**

Dobson DaVanzo & Associates, LLC Vienna, VA 703.260.1760 [www.dobsondavanzo.com](http://www.dobsondavanzo.com)

# *Presentation Overview*

---

- **Purpose of Clinically Appropriate and Cost-Effective Placement (CACEP) Project**
- **CACEP Episodes of Care**
- **CACEP Working Paper Series**
- **Data Methodology in Brief**
- **Medicare Fee-for-Service (FFS) Payments Captured in CACEP Episodes**
- **Findings by Episode Type**
- **Discussion**

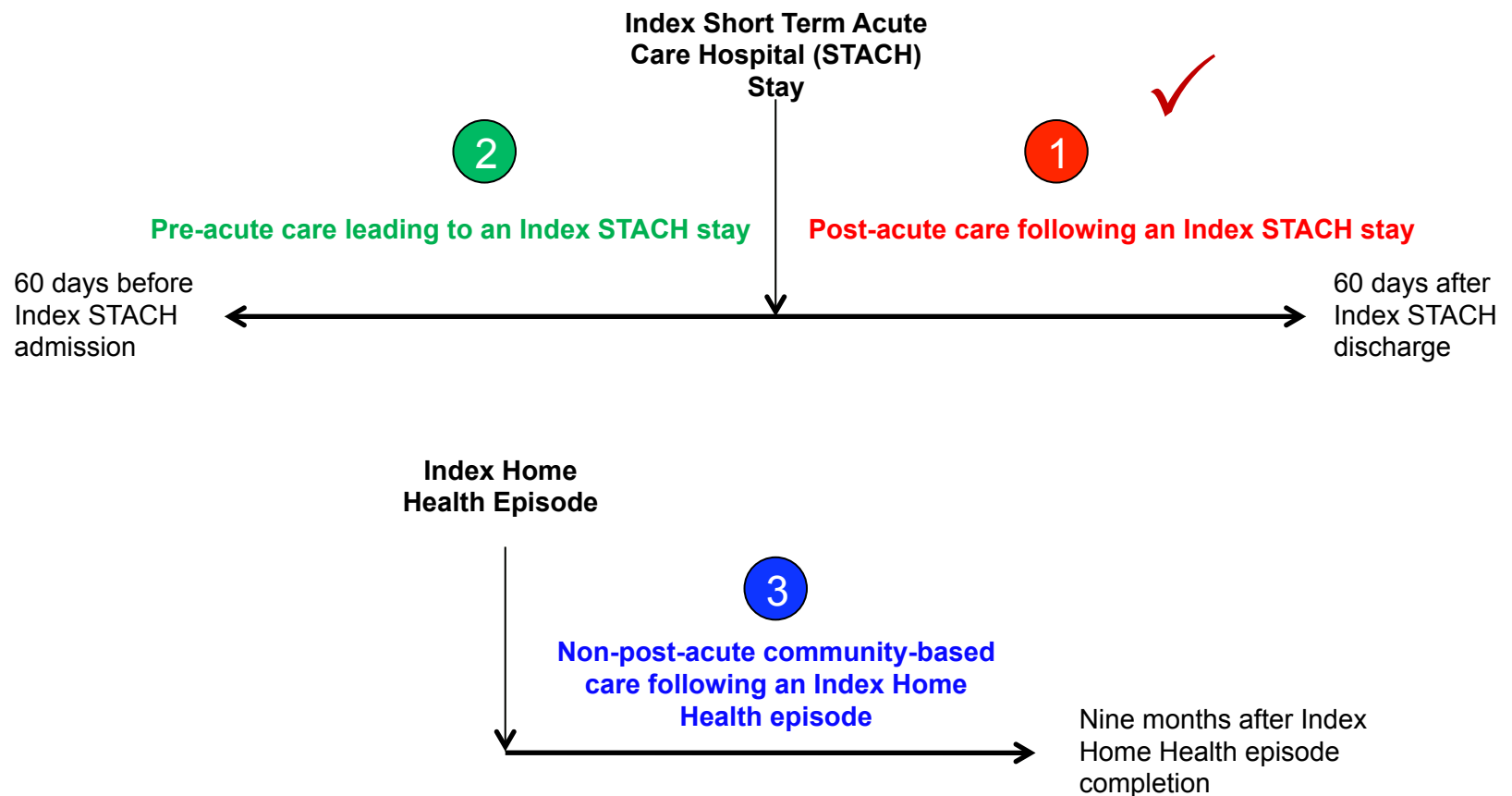
# *Purpose of Clinically Appropriate and Cost-Effective Placement (CACEP) Project*

---

**Purpose: To determine how the Medicare home health benefit can better meet beneficiary needs and improve the quality and efficiency of care provided within the U.S. health care system**

- **CACEP is a data driven study that aims to answer a wide variety of research questions**
- **In order to do so, CACEP focuses on three episode definitions to capture the following uses of home health care:**
  - Episode Type 1: Use of home health as a post-acute care provider
  - Episode Type 2: Use of home health as a pre-acute care provider
  - Episode Type 3: Use of home health as a non-post-acute care community-based provider

# CACEP Episodes of Care



# CACEP Working Paper Series

---

- **The working paper series investigates the relationships between the various post-acute care providers and payment systems within patient episodes of care**
  - ✓ • Working Paper #1: **Frequencies** of episode types for select MS-DRGs and chronic conditions
  - ✓ • Working Paper #2: Medicare **payments** by episode type and select MS-DRGs and chronic conditions
    - Working Paper #3: **Patient pathways** by episode type and select MS-DRGs and chronic conditions
    - Working Paper #4: **Acute care hospital readmissions** by episode type and select MS-DRGs and chronic conditions
- **We expect that our working paper statistics will be useful to policymakers as they consider various Medicare reform strategies**
- **Descriptive statistics comprise a point of departure for subsequent quantitative analyses that will be presented in the final report**

Dobson | DaVanzo

# Data Methodology in Brief

---

- **Dobson | DaVanzo received patient-identifiable claims data from CMS (Part A & B claims for a 5% sample of Medicare beneficiaries, 2007-2009) (DUA #21007)**
- **Claims were linked across all sites of service by unique patient identifier according to each person-level episode definition**
  - ✓ • Unit of observation is patient episode over a finite period of time, not stay or encounter
- **Data were linked to other approved data sources:**
  - ✓ • **Chronic Conditions Warehouse (CCW):** Provided by CMS, flags each Medicare beneficiary for the presence of 21 common chronic conditions based on claims data
    - Assessment data for home health (OASIS), skilled nursing facilities (MDS), and inpatient rehabilitation facilities (IRF-PAI)
    - Area Resource File (ARF): Provided by HRSA, contains information on health facilities and professions, measures of resource scarcity, health status, and economic activity
    - Provider of Service (POS) file

# Medicare FFS Payments Captured in CACEP Episodes

## Number of Episodes and Percent of Total Medicare Fee-for-Service Expenditures Represented by Episode Type

Episode Type	Year	Number of Episodes	Percent of Total Medicare Fee-for-Service Expenditures
<b>Episode Type 1: Post-Acute Care Episodes (60-Day Including Index STACH)</b>	2008	9,173,580	58.0%
<b>Episode Type 2: Pre-Acute Care Episodes (60-Day Excluding Index STACH)</b>	2008	9,173,580	12.6%
<b>Episode Type 3: Non-Post-Acute Care Community-Based Episodes (Nine-Month)</b>	2008	1,506,320	12.1%

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. All episodes have been extrapolated to reflect the universe of Medicare beneficiaries.



---

# ***EPIISODE TYPE 1: POST-ACUTE CARE EPIISODES***



Post-Acute Care Episodes:

# Differences Between CACEP and BPCI Post-Acute Care Episodes

- CACEP episodes are somewhat different from the Bundled Payment for Care Improvement (BPCI) definition framework, as CACEP is designed for policy analyses while BPCI is designed for pricing

Episode Metric		CACEP	BPCI
Episode Payment	Medicare episode payments include IME, DSH, and capital	Yes	No
	Medicare episode payments include beneficiary cost-sharing (co-payments and deductibles) and third party payments	No	<del>No</del> Yes
	Payments are standardized for wage index	Yes	No
Episode Composition	Includes ESRD Patients	Yes	No
	Includes Hospice Care	Yes	No
	Includes DME	No	Yes
	Episodes contain look-back period for risk-adjustment	Yes (60 days)	No
	Episodes contain "clean period"	Yes (15 days)	No

*Post-Acute Care Episodes:*

## *Nearly 40% of Post-Acute Care Discharges Go To Home Health Care, But Represent Less than 30% of Payment*

**Number of Episodes and Medicare Episode Paid by Select First Setting for Post-Acute Episode (2007-2009)**

<b>First Setting following Index STACH Discharge</b>	<b>Percent of Episodes</b>	<b>Percent of Total Medicare Episode Paid</b>	<b>Average Medicare Episode Paid</b>
HHA	38.7%	27.8%	\$20,345
SNF	50.7%	52.3%	\$29,218
IRF	8.7%	13.6%	\$44,193
LTCH	2.0%	6.3%	\$89,869
<b>Average</b>	<b>100.0%</b>	<b>100.0%</b>	<b>\$28,294</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region and standardized to 2009 dollars. All episodes have been extrapolated to reflect the universe of Medicare beneficiaries.

Average Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.

*Post-Acute Care Episodes:*

# *Top 20% of MS-DRGs Represent 80% of Medicare Payments Across First Settings*

**Percent of Episodes and Medicare Episode Paid by First Setting Represented by Top 20 Percent of MS-DRGs (n=148) by Medicare Episode Paid for Post-Acute Episode (2007-2009)**

<b>First Setting</b>	<b>Episodes in Top 20 Percent of MS-DRGs</b>	<b>Percent of Episodes</b>	<b>Medicare Episode Paid</b>	<b>Percent Medicare Episode Paid</b>
HHA	2,486,480	78.3%	\$48,380,133,920	76.5%
SNF	3,372,480	81.1%	\$94,427,071,300	79.9%
IRF	582,880	81.7%	\$24,013,207,200	78.8%
LTCH	126,760	77.7%	\$11,639,615,680	82.6%
STACH	538,660	77.7%	\$15,275,902,500	76.6%
Community	10,578,880	76.6%	\$146,737,214,720	75.5%
ER	569,520	74.3%	\$9,019,097,880	74.8%
Hospice	384,960	76.0%	\$6,488,756,860	75.1%
Other IP	87,340	83.5%	\$1,939,706,320	81.3%
No Care	1,086,180	73.6%	\$16,403,205,280	77.1%
<b>Total</b>	<b>19,814,140</b>	<b>77.5%</b>	<b>\$374,323,911,800</b>	<b>77.2%</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009. All episodes have been extrapolated to reflect the universe of Medicare beneficiaries. Average Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.

*Post-Acute Care Episodes:*

# *Regional Variation in Episode Frequency and Medicare Payments*

**Indexed Episode Frequency and Average Medicare Episode Paid by Region for Post-Acute Care Episode (2007-2009)**

<b>Region</b>	<b>Indexed Number of Episodes per 1,000 FFS Beneficiaries</b>	<b>Average Medicare Episode Paid</b>
Region I - Boston	0.93	\$19,554
Region II - New York	1.09	\$20,707
Region III - Philadelphia	1.08	\$19,872
Region IV - Atlanta	1.01	\$19,019
Region V - Chicago	1.06	\$19,176
Region VI - Dallas	0.91	\$19,981
Region VII - Kansas City	1.08	\$18,230
Region VIII - Denver	0.91	\$18,096
Region IX - San Francisco	0.89	\$20,862
Region X - Seattle	0.82	\$18,395
<b>Overall Average</b>	<b>1.00</b>	<b>\$19,492</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. All episodes have been extrapolated to reflect the universe of Medicare beneficiaries. Average Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.

Post-Acute Care Episodes:

# Rank of Medicare Episode Payments by MS-DRG

Overall Top 20 MS-DRGs Ranked by Medicare Episode Paid, by First Setting

MS-DRG	Med/Surg	Overall	HHA	SNF	IRF	LTCH
<b>470: Major joint replacement or reattachment of lower extremity w/o MCC</b>	<b>Surgical</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>34</b>
<b>871: Septicemia or severe sepsis w/o MV 96+ hours w MCC</b>	<b>Medical</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>20</b>	<b>3</b>
<b>291: Heart failure &amp; shock w MCC</b>	<b>Medical</b>	<b>3</b>	<b>2</b>	<b>7</b>	<b>29</b>	<b>9</b>
003: ECMO or trach w MV 96+ hrs or PDX exc face, mouth & neck w maj O.R.	Surgical	4	91	31	10	1
<b>194: Simple pneumonia &amp; pleurisy w CC</b>	<b>Medical</b>	<b>5</b>	<b>9</b>	<b>5</b>	<b>65</b>	<b>22</b>
481: Hip & femur procedures except major joint w CC	Surgical	6	73	2	3	53
292: Heart failure & shock w CC	Medical	7	3	14	63	37
065: Intracranial hemorrhage or cerebral infarction w CC	Medical	8	29	6	2	30
392: Esophagitis, gastroent & misc digest disorders w/o MCC	Medical	9	20	35	125	80
690: Kidney & urinary tract infections w/o MCC	Medical	10	11	4	64	43
<b>247: Perc cardiovasc proc w drug-eluting stent w/o MCC</b>	<b>Surgical</b>	<b>11</b>	<b>66</b>	<b>195</b>	<b>239</b>	<b>268</b>
641: Nutritional & misc metabolic disorders w/o MCC	Medical	12	16	9	58	84
<b>329: Major small &amp; large bowel procedures w MCC</b>	<b>Surgical</b>	<b>13</b>	<b>5</b>	<b>11</b>	<b>17</b>	<b>4</b>
<b>460: Spinal fusion except cervical w/o MCC</b>	<b>Surgical</b>	<b>14</b>	<b>7</b>	<b>29</b>	<b>7</b>	<b>194</b>
287: Circulatory disorders except AMI, w card cath w/o MCC	Medical	15	31	98	103	42
293: Heart failure & shock w/o CC/MCC	Medical	16	10	40	123	233
683: Renal failure w CC	Medical	17	23	16	74	44
193: Simple pneumonia & pleurisy w MCC	Medical	18	22	18	60	17
312: Syncope & collapse	Medical	19	24	24	55	138
<b>280: Acute myocardial infarction, discharged alive w MCC</b>	<b>Medical</b>	<b>20</b>	<b>13</b>	<b>15</b>	<b>26</b>	<b>18</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. All episodes have been extrapolated to reflect the universe of Medicare beneficiaries. Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.

*Post-Acute Care Episodes:*

# *Difference in Average Medicare Episode Paid Across vs. Within First Setting (MS-DRG 470)*

**Medicare Episode Paid for MS-DRG 470 (Major Joint Replacement) for Post-Acute Episode by Select First Setting (2007-2009)**

<b>First Setting</b>	<b>Number of Episodes</b>	<b>Medicare Episode Paid (in millions)</b>	<b>Average Medicare Episode Paid</b>	<b>Average Overall Paid</b>	<b>Difference</b>
HHA	366,140	\$6,616	\$18,068	\$23,479	\$5,411
SNF	430,240	\$11,557	\$26,861	\$23,479	(\$3,382)
IRF	128,680	\$4,316	\$33,538	\$23,479	(\$10,059)
LTCH	1,080	\$63	\$57,896	\$23,479	(\$34,417)
STACH	2,580	\$78	\$30,302	\$23,479	(\$6,823)
Community	134,240	\$2,328	\$17,340	\$23,479	\$6,140
<b>Total</b>	<b>1,062,960</b>	<b>\$24,958</b>	<b>\$23,479</b>	<b>\$23,479</b>	<b>\$0</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. All episodes have been extrapolated to reflect the universe of Medicare beneficiaries. Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.

Note: ER, OP, OP Therapy, Hospice and Other IP episodes not included.

Post-Acute Care Episodes:

# Frequency of Primary Chronic Conditions by First Setting (MS-DRG 470)

**Primary Chronic Condition for MS-DRG 470 for Post-Acute Episode (Ranked by Medicare Episode Paid) by Select First Setting (2007-2009)**

Primary Chronic Condition	HHA	Overall	SNF	IRF	LTCH	STACH	Community
Rheumatoid Arthritis/Osteoarthritis	1	1	1	2	3	1	1
Osteoporosis	2	2	2	1	1	3	2
Chronic Obstructive Pulmonary Disease	3	5	5	5	7	4	4
CHF*COPD	4	3	3	3	2	2	3
DIABETES*CHF	5	4	4	4	4	5	5
CHF*RENAL	6	6	7	6	5	6	6
None	7	8	9	9	*	10	7
Lung Cancer	8	9	8	8	*	8	9
Hip/Pelvic Fracture	9	7	6	7	6	7	8
Ischemic Heart Disease	10	10	10	10	*	9	10
Depression	11	11	11	12	*	*	12
Cataract	12	12	17	*	*	11	11
Diabetes	13	13	13	13	*	*	15
Chronic Kidney Disease	14	15	16	14	*	*	14
Heart Failure	15	14	12	11	*	*	13

Primary Chronic Condition not present in this setting

Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.

*Post-Acute Care Episodes:*

# *Frequency of Primary Chronic Conditions by First Setting (MS-DRG 291)*

**Primary Chronic Condition for MS-DRG 291 (Heart Failure & Shock) for Post-Acute Episode (Ranked by Medicare Episode Paid) by Select First Setting (2007-2009)**

Primary Chronic Condition	HHA	Overall	SNF	IRF	LTCH	STACH	Community
CHF* COPD	1	1	1	1	1	1	1
DIABETES* CHF	2	2	2	2	2	2	2
CHF* RENAL	3	3	3	3	3	3	3
Heart Failure	4	4	4	5	5	5	4
Osteoporosis	5	5	6	7	*	6	6
Rheumatoid Arthritis/Osteoarthritis	6	6	5	6	*	7	7
None	7	7	9	4	4	4	5
Lung Cancer	8	8	7	8	*	8	9
Hip/Pelvic Fracture	9	9	8	*	*	*	8
Alzheimer's Disease and Related Disorders or Senile	*	10	*	*	*	*	11
Chronic Obstructive Pulmonary Disease	*	11	*	*	*	*	10

Primary Chronic Condition not present in this setting

Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.



*Post-Acute Care Episodes:*

*Distribution of Payments across Care Settings Varies by First Setting within MS-DRGs (MS-DRG 470)*

**Distribution of Average Medicare Paid per Episode and Percent of Medicare Episode Paid for MS-DRG 470 Post-Acute Episode by Select First Settings (2007-2009)**

First Setting	Percent of Episodes	Average Medicare Episode Paid	Index Hospital-ization	HHA	SNF	IRF	LTCH	STACH	Out-patient	Physician
HHA	32.4%	\$18,068	\$11,432 63.3%	\$3,267 18.1%	\$63 0.4%	\$27 0.1%	\$15 0.1%	\$674 3.7%	\$105 0.6%	\$2,250 12.5%
SNF	38.0%	\$26,861	\$11,711 43.6%	\$1,627 6.1%	\$8,981 33.4%	\$91 0.3%	\$34 0.1%	\$1,311 4.9%	\$125 0.5%	\$2,685 10.0%
IRF	11.4%	\$33,538	\$11,745 35.0%	\$2,098 6.3%	\$1,330 4.0%	\$13,073 39.0%	\$74 0.2%	\$1,414 4.2%	\$113 0.3%	\$3,379 10.1%
LTCH	0.1%	\$57,896	\$13,567 23.4%	\$1,153 2.0%	\$3,986 6.9%	\$1,565 2.7%	\$27,399 47.3%	\$4,180 7.2%	\$125 0.2%	\$5,655 9.8%
STACH	0.2%	\$30,302	\$11,553 38.1%	\$965 3.2%	\$1,446 4.8%	\$707 2.3%	\$709 2.3%	\$10,386 34.3%	\$466 1.5%	\$3,573 11.8%
<b>Overall Average</b>	<b>100.0%</b>	<b>\$22,986</b>	<b>\$11,561</b> <b>50.3%</b>	<b>\$1,979</b> <b>8.6%</b>	<b>\$3,672</b> <b>16.0%</b>	<b>\$1,651</b> <b>7.2%</b>	<b>\$58</b> <b>0.3%</b>	<b>\$1,060</b> <b>4.6%</b>	<b>\$119</b> <b>1.0%</b>	<b>\$2,575</b> <b>11.0%</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. All episodes have been extrapolated to reflect the universe of Medicare beneficiaries. Average Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.

*Post-Acute Care Episodes:*

## *Beneficiary Demographic and Clinical Characteristics Vary across First Setting (MS-DRG 470)*

**Distribution of Episodes by Beneficiary Demographic Characteristics for MS-DRG 470 for 60-Day Fixed-Length Post-Acute by Select First Setting (2007-2009)**

<b>Beneficiary Demographic</b>	<b>HHA</b>	<b>SNF</b>	<b>IRF</b>	<b>LTCH</b>	<b>STACH</b>	<b>Community</b>
Live Alone	20.6%	44.0%	40.2%	27.8%	20.2%	9.4%
Over 85 Years Old	3.1%	18.0%	19.5%	24.1%	3.1%	5.3%
Female	63.8%	78.2%	77.2%	66.7%	56.6%	60.6%
Resides in Rural Area	27.0%	26.5%	23.5%	16.7%	41.9%	34.8%
Race Non-White	8.9%	8.3%	9.7%	14.8%	7.0%	7.2%
Died During Episode	1.9%	8.0%	7.4%	25.9%	5.4%	3.3%
Dual Eligible	10.0%	14.2%	12.8%	20.4%	14.0%	8.8%
Episode Contains Readmission	6.2%	12.2%	12.4%	27.8%	100.0%	7.3%
<b>First Setting</b>	<b>32.4%</b>	<b>38.0%</b>	<b>11.4%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>11.9%</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009.

*Post-Acute Care Episodes:*

# *Beneficiary Demographic and Clinical Characteristics Vary across First Setting (MS-DRG 291)*

**Distribution of Episodes by Beneficiary Demographic Characteristics for MS-DRG 291 (Heart Failure & Shock) for 60-Day Fixed-Length Post-Acute by Select First Setting (2007-2009)**

<b>Beneficiary Demographic</b>	<b>HHA</b>	<b>SNF</b>	<b>IRF</b>	<b>LTCH</b>	<b>STACH</b>	<b>Community</b>
Live Alone	40.0%	40.8%	30.1%	21.0%	23.1%	20.5%
Over 85 Years Old	36.6%	51.5%	30.1%	25.8%	20.1%	19.7%
Female	62.3%	68.0%	65.9%	60.5%	47.5%	51.7%
Resides in Rural Area	18.0%	24.9%	23.1%	16.9%	25.5%	24.0%
Race Non-White	17.6%	12.8%	17.3%	29.8%	31.6%	28.6%
Died During Episode	42.8%	58.3%	45.7%	56.5%	48.3%	34.4%
Dual Eligible	22.6%	32.9%	19.7%	37.1%	31.8%	30.3%
Episode Contains Readmission	37.2%	37.7%	45.7%	29.8%	100.0%	34.8%
<b>First Setting</b>	<b>15.2%</b>	<b>17.8%</b>	<b>1.0%</b>	<b>0.7%</b>	<b>3.6%</b>	<b>48.0%</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009.



---

# ***EPIISODE TYPE 2: PRE-ACUTE CARE EPIISODES***

*Pre-Acute Care Episodes:*

## *Definition of Terms*

---

- **Pre-acute care episodes are clinically defined by a “primary chronic condition,” which is ranked by severity**
  - **Primary chronic condition was determined by mapping each chronic condition identified in the patients’ CCW claims to the corresponding HCC with the highest community-risk score**
  - **This hierarchical design allows for mutually exclusive categorization of episodes, allowing for analyses across chronic conditions**
- **The Medicare episode payments include both payments for the care provided during the fixed-length episode prior to the Index STACH as well as the Index STACH itself**
  - **Therefore, Medicare episode payments for the Index STACH are duplicated across the pre-acute and post-acute care episodes**

Pre-Acute Care Episodes:

## Distribution of Episodes and Medicare Payments by Care Setting

Medicare Episode Paid and Percent of Medicare Episode Paid by Setting for Pre-Acute Episode (2007-2009)

Setting	Medicare Episode Paid	Percent Medicare Episode Paid
HHA	\$1,470,810,140	0.4%
SNF	\$4,036,073,680	1.2%
IRF	\$1,578,105,820	0.5%
LTCH	\$517,111,460	0.2%
STACH	\$253,740,110,600	74.5%
Physician	\$58,795,045,920	17.3%
OP	\$15,278,782,260	4.5%
ER	\$3,345,145,100	1.0%
Hospice	\$1,414,853,540	0.4%
Other IP	\$563,773,540	0.2%
<b>Total</b>	<b>\$340,739,812,120</b>	<b>100.0%</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009.

Medicare Episode Paid includes care from all facility-based and ambulatory care settings, and excludes beneficiary co-payments

Pre-Acute Care Episodes:

# Distribution of Episodes by Primary Chronic Condition

Primary Chronic Condition	Number of Episodes	Average Number Chronic Conditions	Average Medicare Episode Paid
CHF* COPD	24.9%	7.1	\$14,717
DIABETES* CHF	13.3%	6.4	\$15,367
CHF* RENAL	5.6%	5.8	\$15,060
Lung Cancer	2.0%	4.7	\$16,649
Osteoporosis	15.0%	5.0	\$11,414
COPD	7.7%	4.2	\$12,322
Rheumatoid Arthritis/Osteoarthritis	11.0%	3.9	\$12,160
Hip/Pelvic Fracture	0.6%	4.2	\$13,488
Heart Failure	2.6%	3.7	\$13,279
Alzheimer's Disease	1.3%	4.6	\$9,672
Alzheimer's Disease or Senile	1.4%	3.7	\$11,274
Stroke/Transient Ischemic Attack	1.7%	3.3	\$12,419
Colorectal Cancer	0.5%	2.9	\$18,249
Depression	3.1%	2.3	\$11,571
Acute Myocardial Infarction	0.4%	3.3	\$16,264
Ischemic Heart Disease	3.4%	2.5	\$12,978
Atrial Fibrillation	0.3%	2.2	\$11,156
Chronic Kidney Disease	1.1%	1.9	\$15,070
Female Breast Cancer	0.1%	1.8	\$11,999
Prostate Cancer	0.2%	1.8	\$10,509
Endometrial Cancer	0.0%	1.8	\$12,734
Diabetes	0.7%	1.4	\$9,849
Glaucoma	0.2%	1.0	\$9,713
Cataract	0.5%	1.0	\$9,894
None	2.2%	0.0	\$11,698
<b>Total</b>	<b>100.0%</b>	<b>5.1</b>	<b>\$13,411</b>

## Distribution of Episodes and Medicare Episode Paid by Primary Chronic Condition for Pre-Acute Episode (2007-2009)

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars.

Average Medicare Episode Paid includes care from all facility-based and ambulatory care settings, and excludes beneficiary co-payments.



---

# ***EPIISODE TYPE 3: NON-POST-ACUTE CARE COMMUNITY-BASED EPISODES***



*Non-Post-Acute Care Community-Based Episodes:*

# *Distribution of Episodes and Medicare Payment by Care Setting*

**Medicare Episode Paid and Percent of Medicare Episode Paid for All Episodes by Setting for Non-Post-Acute Care Community-Based Episode (2007-2009)**

<b>Setting</b>	<b>Medicare Episode Paid</b>	<b>Percent Medicare Episode Paid</b>
HHA (Index & Other)	\$24,059,017,460	28.9%
SNF	\$8,786,872,660	10.6%
IRF	\$1,847,902,200	2.2%
LTCH	\$1,707,373,360	2.1%
STACH	\$23,239,389,180	28.0%
Physician	\$13,376,238,620	16.1%
OP	\$5,454,703,860	6.6%
ER	\$945,816,260	1.1%
Hospice	\$2,992,791,680	3.6%
Other IP	\$723,774,880	0.9%
<b>Total</b>	<b>\$83,133,880,180</b>	<b>100.0%</b>

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009.

Medicare Episode Paid includes care from all facility-based and ambulatory care settings, and excludes beneficiary co-payments.

Non-Post-Acute Care Community-Based Episodes:

# Distribution of Episodes by Primary Chronic Condition

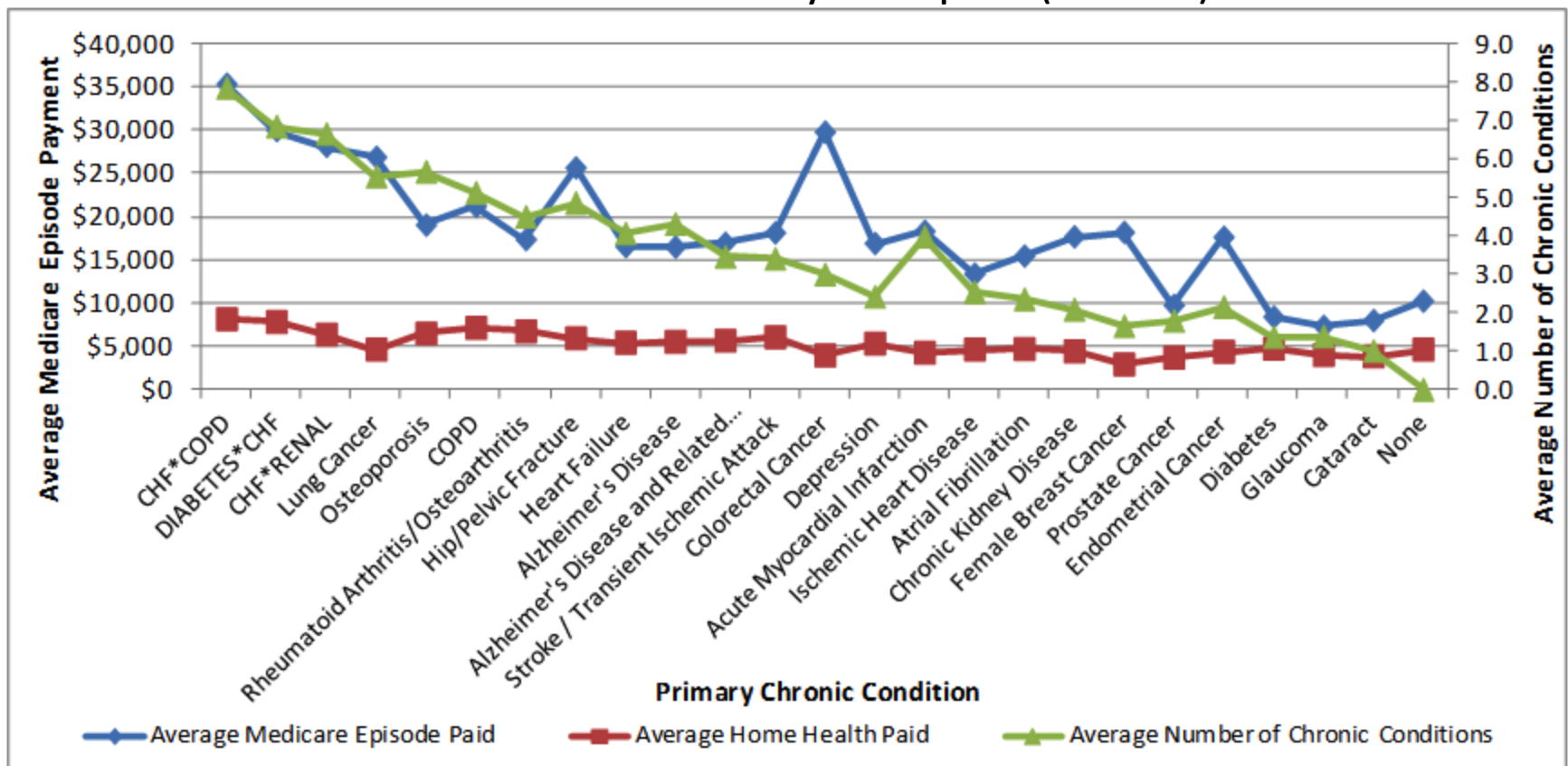
Primary Chronic Condition	Number of Episodes	Average Number Chronic Conditions	Average Medicare Episode Paid	Average Home Health Paid
CHF* COPD	23.4%	7.8	\$35,256	\$8,142
DIABETES* CHF	15.5%	6.8	\$29,913	\$7,795
CHF* RENAL	5.3%	6.6	\$28,088	\$6,355
Lung Cancer	1.3%	5.5	\$26,814	\$4,615
Osteoporosis	18.9%	5.7	\$18,988	\$6,475
COPD	6.2%	5.1	\$21,151	\$7,108
Rheumatoid Arthritis/Osteoarthritis	12.9%	4.5	\$17,316	\$6,735
Hip/Pelvic Fracture	0.5%	4.9	\$25,598	\$5,910
Heart Failure	2.4%	4.1	\$16,519	\$5,407
Alzheimer's Disease	3.0%	4.3	\$16,458	\$5,516
Alzheimer's Disease or Senile	2.1%	3.4	\$16,898	\$5,643
Stroke/Transient Ischemic Attack	0.9%	3.4	\$18,094	\$6,051
Colorectal Cancer	0.2%	3.0	\$29,712	\$3,928
Depression	2.1%	2.4	\$16,868	\$5,325
Acute Myocardial Infarction	0.0%	4.0	\$18,266	\$4,252
Ischemic Heart Disease	1.7%	2.5	\$13,337	\$4,628
Atrial Fibrillation	0.1%	2.3	\$15,415	\$4,682
Chronic Kidney Disease	0.5%	2.1	\$17,634	\$4,425
Female Breast Cancer	0.1%	1.6	\$18,144	\$2,888
Prostate Cancer	0.1%	1.8	\$9,718	\$3,703
Endometrial Cancer	0.0%	2.1	\$17,579	\$4,374
Diabetes	0.8%	1.4	\$8,389	\$4,710
Glaucoma	0.2%	1.4	\$7,293	\$3,994
Cataract	0.3%	1.0	\$7,969	\$3,845
None	1.4%	0.0	\$10,210	\$4,616
<b>Total</b>	<b>100.0%</b>	<b>5.5</b>	<b>\$24,444</b>	<b>\$6,899</b>

**Distribution of Episodes and Medicare Episode Paid by Primary Chronic Condition for Non-Post-Acute Care Community-Based Episode (2007-2009)**

Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. Medicare Episode Paid includes care from all facility-based and ambulatory care settings, and excludes beneficiary co-payments.

# Non-Post-Acute Care Community-Based Episodes: Relationship Between Average Number of Chronic Conditions and Medicare Episode Payment

Average Number of Chronic Conditions and Medicare Episode Paid by Primary Chronic Condition for Non-Post-Acute Care Community-Based Episode (2007-2009)



Source: Dobson | DaVanzo analysis of research-identifiable 5% SAF for all sites of service, 2007-2009, wage index adjusted by setting and geographic region, and standardized to 2009 dollars. Average Medicare Episode Paid includes care from all facility-based and ambulatory care settings and excludes beneficiary co-payments.

# Discussion

---

- **These findings suggest that Index STACH payments do not drive variance in total episode payments. The variance in episode payments is primarily a function of:**
  - number of patient pathways within an episode
  - presence of acute care hospital readmissions
  - care settings included in the episode
- **Working Papers #1 and #2 focus on the frequency of episodes, the associated Medicare payments, and distribution across care settings**
- **Future working papers (Working Papers #3 and #4) will analyze the variance within the Medicare payments to quantify the impact of patient pathways and hospital readmissions on total episode payments**
- **The final CACEP report will then focus on streamlining patient pathways through transitional care and care coordination in order to reduce hospital readmissions and control Medicare episode payments**

# *Dobson | DaVanzo*

---

**Dobson DaVanzo & Associates, LLC (Dobson | DaVanzo) is a health care economics consulting firm based in the Washington, D.C. metropolitan area**

**Contact information:**

**(703) 260-1760**

**[al.dobson@dobsondavanzo.com](mailto:al.dobson@dobsondavanzo.com)**

**[www.dobsondavanzo.com](http://www.dobsondavanzo.com)**

**440 Maple Avenue East, Suite 203**

**Vienna, VA 22180**

**Dobson | DaVanzo**