



THE COST DRIVERS OF CANCER CARE

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Welcome & Introductions



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COST DRIVERS OF CANCER CARE

Presentation on a Study by Milliman

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Study on the Cost Drivers of Cancer Care

- Conducted by the actuarial firm Milliman
- Analyzed Medicare and commercial data from 2004 through 2014 to:
 - Identify trends in the overall costs of cancer care
 - Identify trends in the component costs of cancer care
 - Create comparisons between trends in costs for actively treated cancer patients and general population
 - Examine site of care cost differences
- Commissioned by COA
 - Sponsors: Bayer, Bristol-Myers Squibb, Eli Lilly and Company, Janssen Pharmaceuticals, Merck, Pfizer, PhRMA, and Takeda.



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Why Conduct the Study?

- Better understand the complete picture of what is driving cancer care costs
- Lots of media attention
 - Hype versus data?
 - What's real?
- Lots of DC/political attention
 - Current proposal from CMS entirely focused on the drug component
- Indications from previous studies and analyses that the “real picture” is different from all the hype
- We can't really address cancer costs until we understand what are the drivers of cost



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Study Design

- Data sources – 2004 through 2014
 - Medicare 5% sample
 - Truven Health Analytics MarketScan commercial claims database
- Key methodological steps performed for each calendar year
 - Identify all cancer patients based on diagnosis coding
 - Identify subset of cancer patients being actively treated based on chemotherapy, radiation therapy, and cancer surgery coding
 - Identify characteristics of the cancer population and the actively treated cancer population
 - Characterize costs by major service categories
- All tables and figures based on Milliman analysis of the 2004 – 2014 Medicare 5% sample data and Truven MarketScan data



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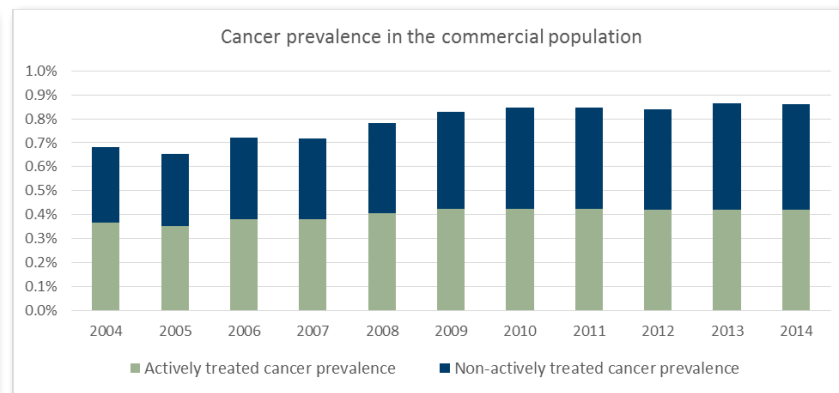
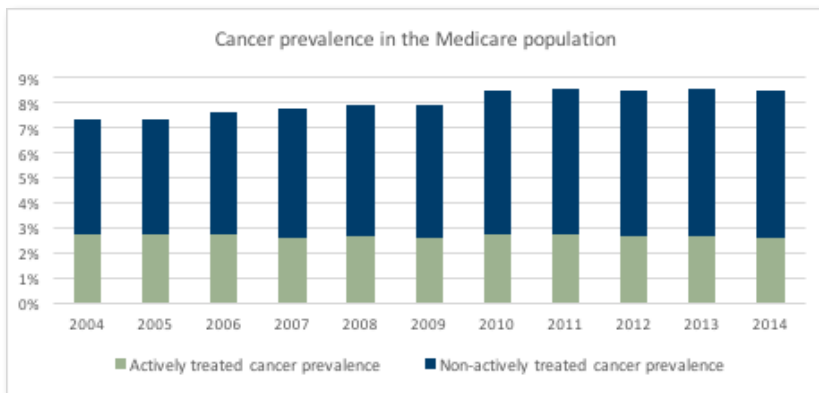
Key Findings

- Total cancer care costs not increasing any faster than overall medical costs
 - Both for Medicare and commercial populations
- Drugs are the fastest growing component of cancer care costs but increases offset by decreases in inpatient hospitalizations and cancer surgeries
 - Drug cost increases fueled by biologics
- Site of care – where cancer care is delivered – shifts dramatic and fueling increased costs of cancer care
 - \$2 billion more in chemotherapy alone to Medicare alone in 2014



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Cancer Prevalence Increasing

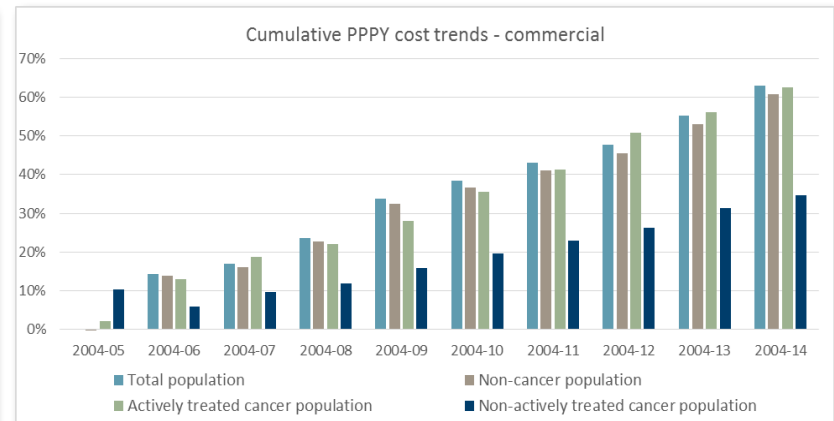
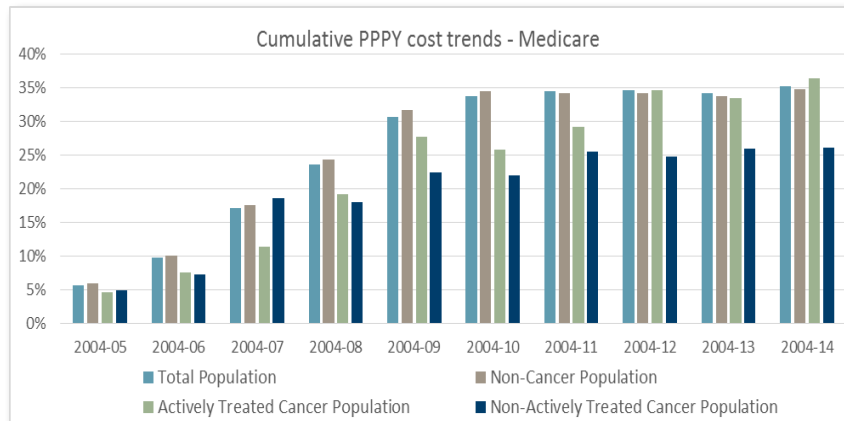


- In the Medicare population, prevalence increased from 7.3% to 8.5% between 2004 and 2014, a 16% increase.
- In the commercial population, prevalence increased from 0.7% to 0.9% between 2004 and 2014, a 26% increase.



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Cancer & Overall Costs Increasing at Similar Rates



- Per-patient costs increasing at similar rates throughout the study period for 3 populations:
 - Total population
 - Actively treated cancer population
 - Non-cancer population
- For Medicare, these 3 populations trended at 35.2% versus 36.4% and 34.8% respectively
- For commercial, these 3 populations trended at 62.9% versus 62.5% and 60.8%
- The 95% confidence intervals for each cohort's trend line overlap and by this measure the 10-year cost trends between these 3 populations are not statistically different.



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Total Spending for Cancer Patients Has Increased Less Than Prevalence

Medicare FFS Population	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Non-cancer	80.5%	80.7%	80.5%	80.5%	80.4%	80.6%	80.0%	79.4%	79.2%	79.3%	79.2%
Cancer	19.5%	19.3%	19.5%	19.5%	19.6%	19.4%	20.0%	20.6%	20.8%	20.7%	20.8%
<i>Actively treated</i>	11.6%	11.3%	11.3%	10.4%	10.9%	10.7%	11.0%	11.3%	11.4%	11.1%	11.2%
<i>Non-actively treated</i>	7.9%	7.9%	8.2%	9.1%	8.7%	8.7%	9.1%	9.4%	9.3%	9.6%	9.5%

Source: Based on Milliman analysis of the 2004-2014 Medicare 5% sample data

Commercially Insured Population	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Non-cancer	90.6%	90.5%	90.3%	90.0%	89.7%	89.7%	89.4%	89.3%	89.2%	89.1%	89.3%
Cancer	9.4%	9.5%	9.7%	10.0%	10.3%	10.3%	10.6%	10.7%	10.8%	10.9%	10.7%
<i>Actively treated</i>	7.4%	7.3%	7.7%	7.9%	8.1%	8.1%	8.3%	8.4%	8.5%	8.5%	8.4%
<i>Non-actively treated</i>	2.0%	2.1%	2.0%	2.0%	2.2%	2.2%	2.3%	2.3%	2.3%	2.4%	2.3%

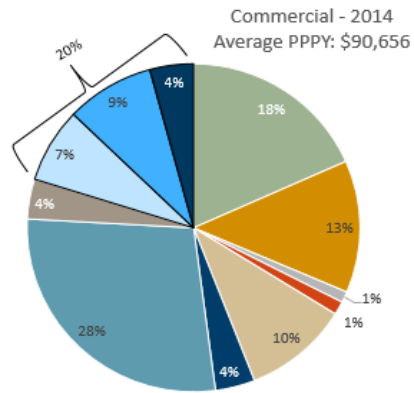
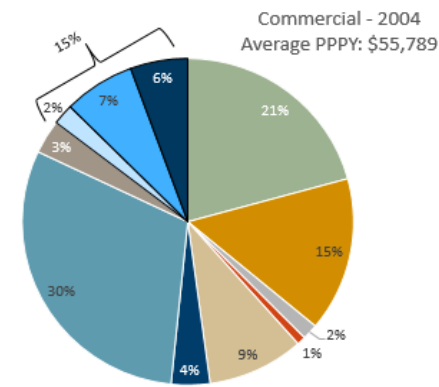
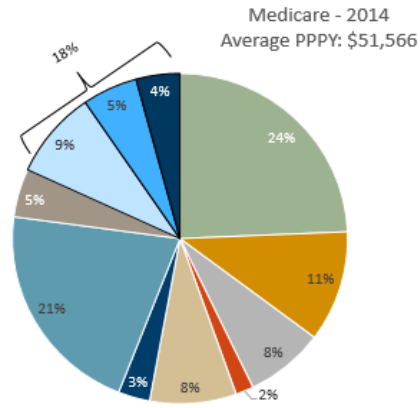
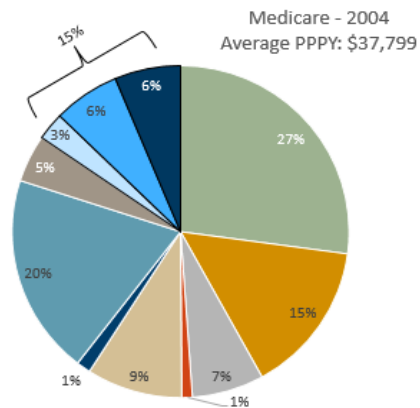
Source: Based on Milliman analysis of the 2004-2014 Truven MarketScan data

- Over the same period, the prevalence of cancer (actively treated and non-actively treated) increased at a higher rate than the increase in the spending contribution
 - Prevalence from 7.3% to 8.5% (**16.4% increase**) and spending **6.5% increase** in the Medicare population
 - Prevalence from 0.7% to 0.9% (**28.6% increase**) and spending **13.8% increase** in the commercially insured population



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Component Cost Drivers Present a More Complex Picture Than Just Drugs



- Hospital Inpatient Admissions
- Cancer Surgeries (IP and OP)
- Sub-Acute Services
- Emergency Room
- Radiology - Other
- Radiation Oncology
- Other Outpatient Services
- Professional Services
- Biologic Chemotherapy
- Cytotoxic Chemotherapy
- Other Chemo and Cancer Drugs

- **Increases in spending:**
 - **Chemotherapy**
 - ▶ 15% to 18% in Medicare and 15% to 20% in commercial
 - **Biologics**
 - ▶ 3% to 9% in Medicare and 2% to 7% in commercial

- **Decreases in spending:**
 - **Hospital inpatient admissions**
 - ▶ 27% to 24% in Medicare and 21% to 18% in commercial
 - **Cancer surgeries**
 - ▶ 15% to 11% in Medicare and 15% to 13% in commercial



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Cost Drivers Vary Over Study Period

Service Category	2004-2014 PPPY Cost Trends	
	Medicare	Commercial
Hospital Inpatient Admissions	22%	44%
Cancer Surgeries (inpatient and outpatient)	0%*	39%
Sub-Acute Services	51%	15%
Emergency Room	132%	147%
Radiology – Other	24%	77%
Radiation Oncology	204%	66%
Other Outpatient Services	48%	49%
Professional Services	40%	90%
Biologic Chemotherapy	335%	485%
Cytotoxic Chemotherapy	14%	101%
Other Chemo and Cancer Drugs	-9%	24%
Total PPPY Cost Trend	36%	62%



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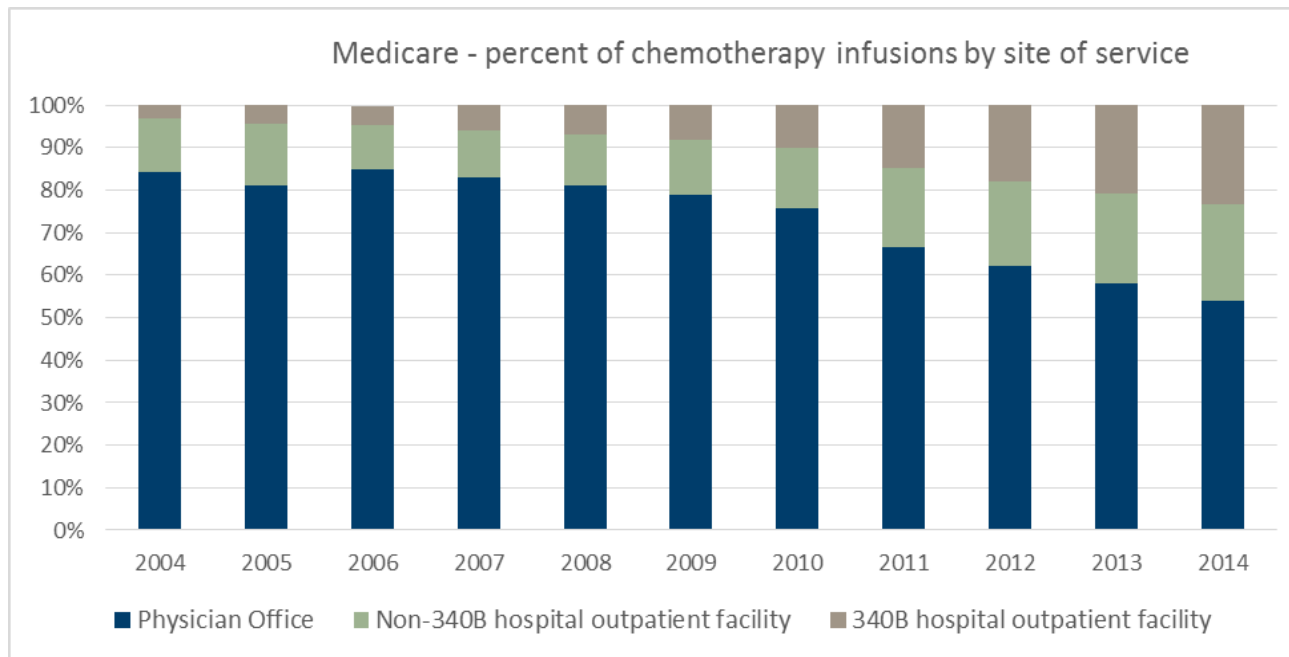
Cost Varies by Cancer Type

Cancer Type	2004-2014 PPPY Cost Trends	
	Medicare	Commercial
Blood	53%	73%
Breast	36%	71%
Colon	28%	65%
Lung	21%	59%
Non-Hodgkin's Lymphoma	34%	69%
Pancreatic	25%	54%
Prostate	39%	79%
Other	22%	58%
Total: All Cancers	36%	62%



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Substantial Shift in the Site of Care

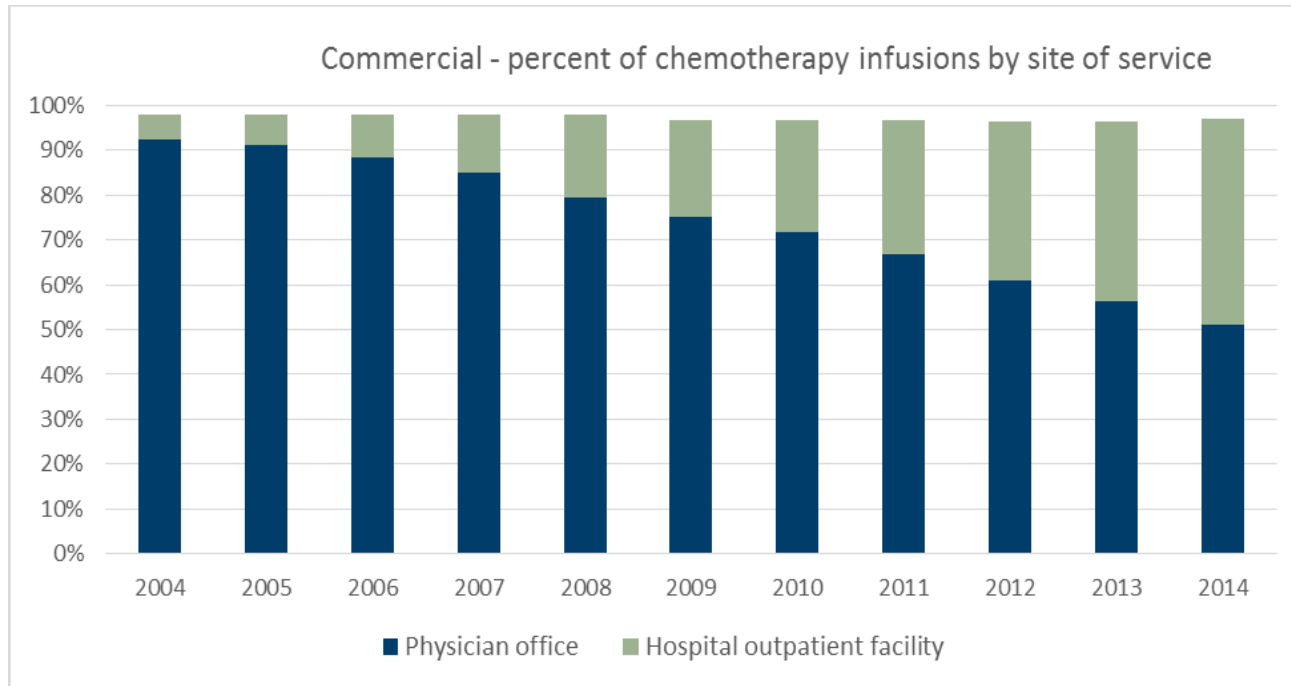


- Percent of chemotherapy administered in community oncology practices decreased from 84.2% to 54.1%
- Percent of chemotherapy administered in 340B hospitals increased from 3.0% to 23.1% (670% increase)
- 340B hospitals account for 50.3% of all hospital outpatient chemotherapy administrations



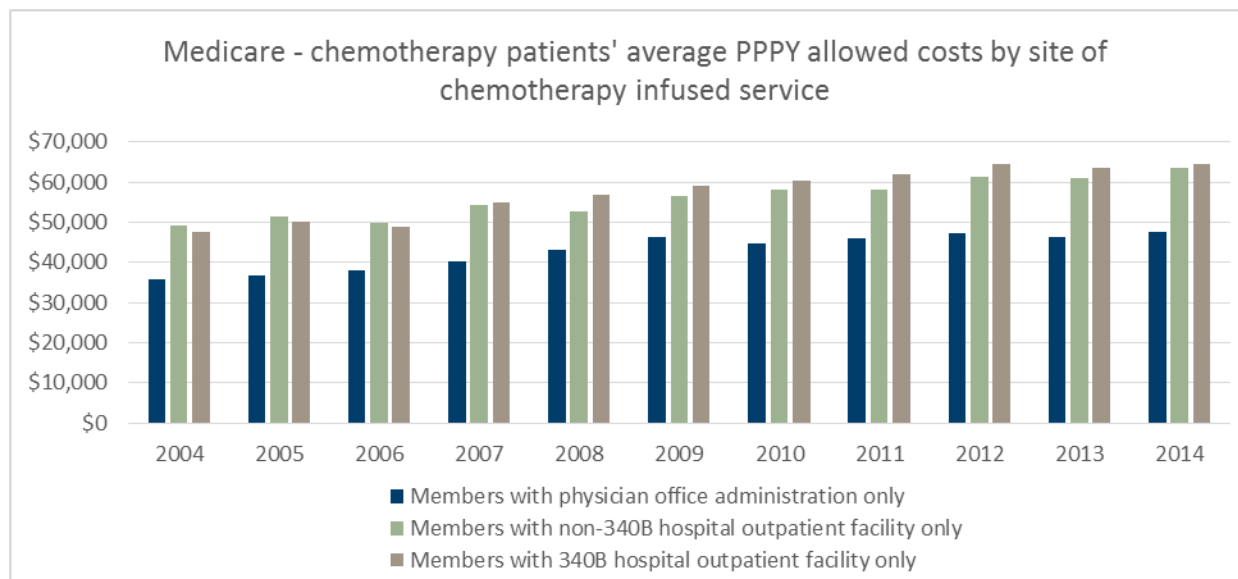
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Same Pattern in Commercial



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Medicare Costs Significantly Higher in Hospitals

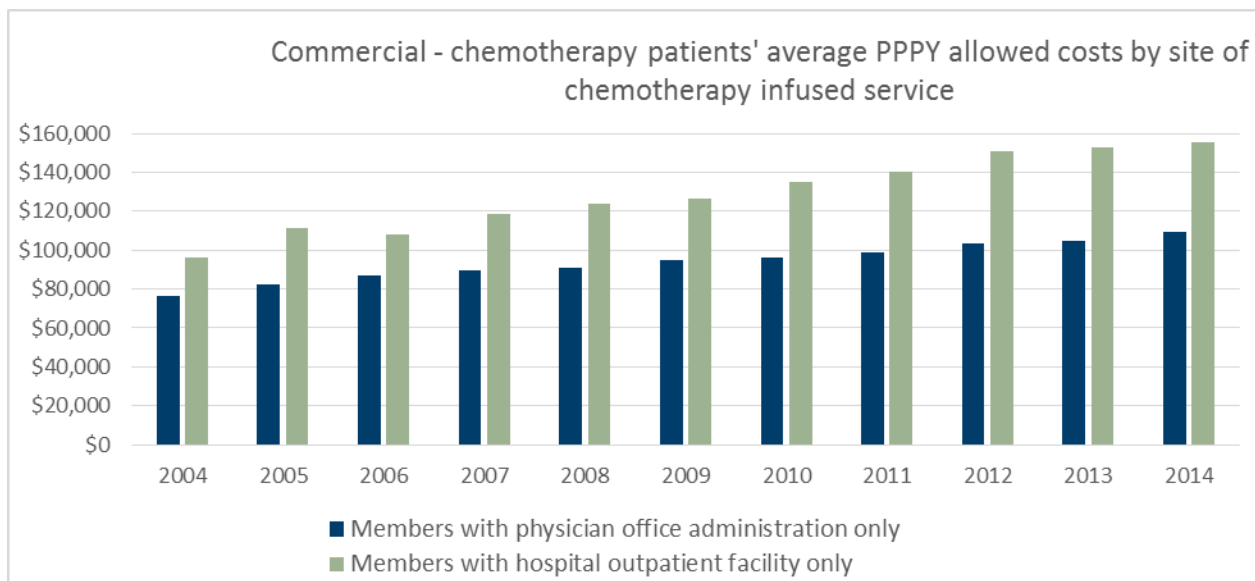


- Compared to patients receiving all chemotherapy in a physician office, those receiving all chemotherapy in a hospital outpatient facility had PPPY costs that were:
 - \$13,167 (37%) higher in 2004
 - \$16,208 (34%) higher in 2014



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Commercial Costs Significantly Higher in Hospitals



- Compared to patients receiving all chemotherapy in a physician office, those receiving all chemotherapy in a hospital outpatient facility had PPPY costs that were:
 - \$19,475 (25%) higher in 2004
 - \$46,272 (42%) higher in 2014



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Cost to Medicare of the Shift in Site of Care

- Medicare spending on chemotherapy alone would have been \$2 billion lower if all of the shift had not occurred
 - The total impact of the shift much greater than \$2 billion because of other services (e.g., radiation, imaging, E&M) shifting
 - ▶ Avalere Study – *“These findings suggest that when care is initiated in the typically higher-paying HOPD setting, the services that follow also result in higher spending relative to when care is initiated in the office setting. Thus, the payment differential that begins with the initial service may extend and amplify throughout the entire episode.”*
 - Hospital facility fees further drive up the costs
- Shift greater on the commercial side, and costs even higher in hospitals, so impact greater to private payers

Source: *Medicare Payment Differentials Across Outpatient Settings of Care*, Avalere Health, February 2016.



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Take Aways from the Cost Drivers Study

- Increasing prices of cancer drugs are a real problem but not focus of all cancer costs as per the media and the academics
 - Cut cancer drug spending in half (totally unrealistic) and spending is only cut by 9-10%
- Medicare is being subsidized by commercial payers
 - Commercial chemotherapy costs 129.2% higher in community oncology practices for commercial than Medicare
 - 145.3% higher in outpatient hospitals
- Site of care shift is a real driver of cancer care costs
 - In fact, is the most important driver



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Questions?

Select Q&A at the top and type them in the box!



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Thank you!

- Full Milliman study & methodology available for download
 - Online at <http://bit.ly/CostDrivers>
 - Citation: *Community Oncology Alliance and Milliman, “Cost Drivers of Cancer Care: A Retrospective Analysis of Medicare and Commercially Insured Population Claim Data 2004-2014.” April, 2016.*
- Webinar slides will be distributed later this week.
- Stay up to date & subscribe to newsletters:
 - COA updates & activities www.CommunityOncology.org
 - OBR news & perspective at www.obroncology.com

