

Assessing the Trend in Prescribing and Expenditures of Oral Oncolytics for Medicare Part D from 2013-2017

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Background

- Oral oncolytics are becoming a mainstay in oncology representing first-line therapies for numerous different malignancies (1-4)
- During the last 5 years (2015-2019), there have been 36 new oral oncolytics approved by the United States Food and Drug Administration, representing 16.4% of all new approvals (5).
- In 2018, 9 of the top 100 highest revenue medications in the United States were oral oncolytics totaling greater than \$14.5 billion in total revenue between them (6).
- In addition, the cost of oncology drugs has increased dramatically in recent years (6-7).
- Medicare patients using oral oncolytics may face steep out-of-pocket costs for these agents exceeding \$10,000 annually due to Medicare Part D cost-sharing structure (8).
- Given the increasing number of oral oncolytics available, as well as the increase in medication costs in recent years, it is important to assess the trend in prescriptions and expenditures of these agents.

Objective

- To assess the trend in number of prescriptions and total expenditures for oral oncolytics for Medicare Part D from 2013 through 2017

Methods

- An analysis of the Medicare Part D Provider Utilization and Payment Data Public Use File (PUF) for the years 2013 through 2017 (9-13).
- Outcomes of interest include total annual, total annual expenditures, mean expenditure per prescription, and mean expenditure per standardized 30-day prescription.
- All expenditures were adjusted to 2017 U.S. dollars using the Personal Health Care Index (14-15).
- Chi square tests were conducted using OpenEpi to assess statistical difference in proportions of prescriptions, as well as expenditures between 2013 and 2017 (16).

Medicare Part D PUF Data

- The Medicare Part D PUF contains all beneficiaries enrolled in Medicare Part D prescription drug plans which includes both stand alone Prescription Drug Plans and Medicare Advantage Prescription Drugs. This represents 100% of Medicare Part D beneficiaries but only 70% of all Medicare beneficiaries (17).
- Prescription expenditures reflect the prescription costs incurred by Medicare, the beneficiary, and third-party payers (17).
- Prescription expenditures however, do not include and manufacturer rebates (17).
- Standardized 30-day prescriptions are calculated as the day supply of each prescription fill divided by 30. Standardized 30-day fills less than 1.0 are bottom coded with a value of 1.0 (17).

Results

Table 1: Medicare Part D Prescriptions and Expenditures from 2013 Through 2017

		2013	2014	2015	2016	2017	% Increase 2013-2017
Total Prescriptions	All Medications	1,368,963,817	1,415,059,797	1,448,156,479	1,482,050,210	1,495,393,915	9.24%
	Oncolytic	7,017,902	7,304,212	7,610,276	8,030,228	8,164,883	16.34%
	Generic Oncolytic	6,247,432	6,395,006	6,545,671	6,839,347	6,930,614	10.94%
	Brand Oncolytic	770,470	909,206	1,064,605	1,190,881	1,234,269	60.20%
Total Standardized 30-day Prescriptions	All Medications	1,906,417,744	2,021,825,678	2,116,606,771	2,226,851,870	2,324,373,957	21.92%
	Oncolytic	9,826,778	10,498,529	11,083,355	11,943,666	12,500,124	27.20%
	Generic Oncolytic	9,011,715	9,544,564	10,045,719	10,720,054	11,235,881	24.68%
	Brand Oncolytic	815,063	953,965	1,037,636	1,223,612	1,264,243	55.11%
Total Expenditures	All Medications	\$ 108,469,932,688	\$ 125,331,940,489	\$ 140,657,321,371	\$ 147,940,161,905	\$ 154,794,697,579	42.71%
	Oncolytic	\$ 5,631,224,307	\$ 7,570,429,867	\$ 10,051,515,115	\$ 12,540,628,072	\$ 14,422,681,331	156.12%
	Generic Oncolytic	\$ 386,861,991	\$ 412,287,794	\$ 439,689,269	\$ 871,211,696	\$ 1,056,050,231	172.98%
	Brand Oncolytic	\$ 5,244,362,316	\$ 7,158,142,073	\$ 9,611,825,846	\$ 11,669,416,376	\$ 13,366,631,100	154.88%
Mean Expenditure per Prescription	All Medications	\$ 79.24	\$ 88.57	\$ 97.13	\$ 99.82	\$ 103.51	30.64%
	Oncolytic	\$ 802.41	\$ 1,036.45	\$ 1,320.78	\$ 1,561.68	\$ 1,766.43	120.14%
	Generic Oncolytic	\$ 61.92	\$ 64.47	\$ 67.17	\$ 127.38	\$ 152.37	146.07%
	Brand Oncolytic	\$ 6,806.71	\$ 7,872.96	\$ 9,028.54	\$ 9,798.98	\$ 10,829.59	59.10%
Mean Expenditure per Standardized Prescription	All Medications	\$ 56.90	\$ 61.99	\$ 66.45	\$ 66.43	\$ 66.60	17.05%
	Oncolytic	\$ 573.05	\$ 721.09	\$ 476.75	\$ 1,049.98	\$ 1,153.80	101.34%
	Generic Oncolytic	\$ 42.93	\$ 43.20	\$ 43.77	\$ 81.27	\$ 93.99	118.94%
	Brand Oncolytic	\$ 6,434.30	\$ 7,503.57	\$ 870.82	\$ 9,536.86	\$ 10,572.83	64.32%
	Non-Oncolytic	\$ 54.22	\$ 58.55	\$ 62.33	\$ 61.13	\$ 60.72	11.98%

Figure 1: Annual Percentage Increase in Number of Prescriptions

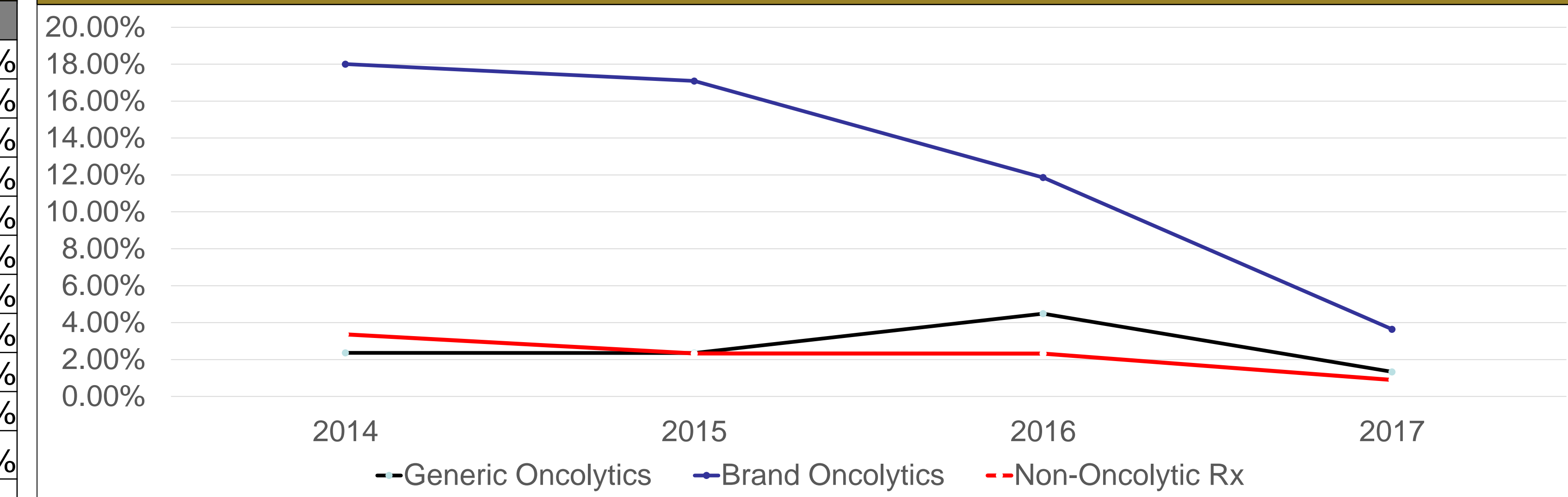


Figure 2: Annual Percentage Increase in Expenditures per Prescription

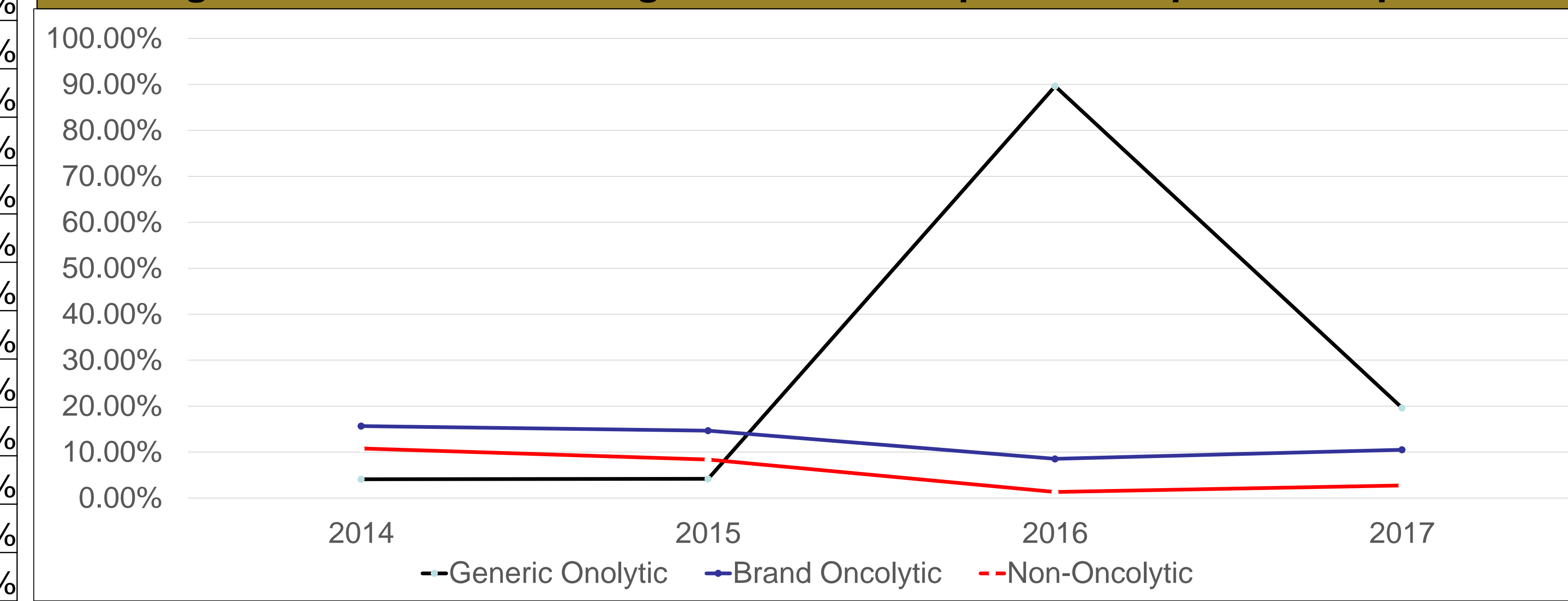


Figure 3: Mean Medicare Part D Expenditure per Prescription

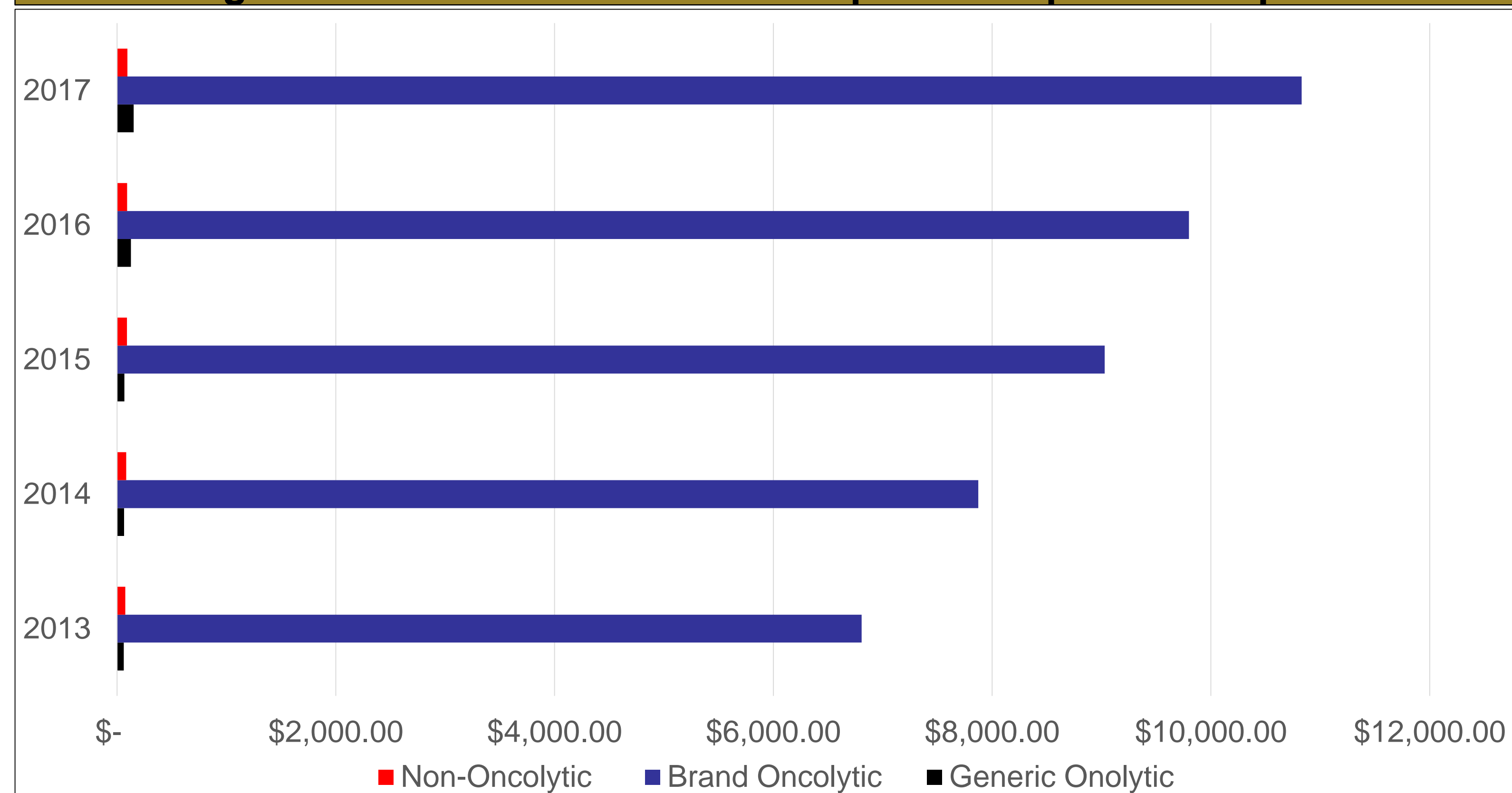


Figure 4: Breakdown of Medicare Part D Expenditures in 2017

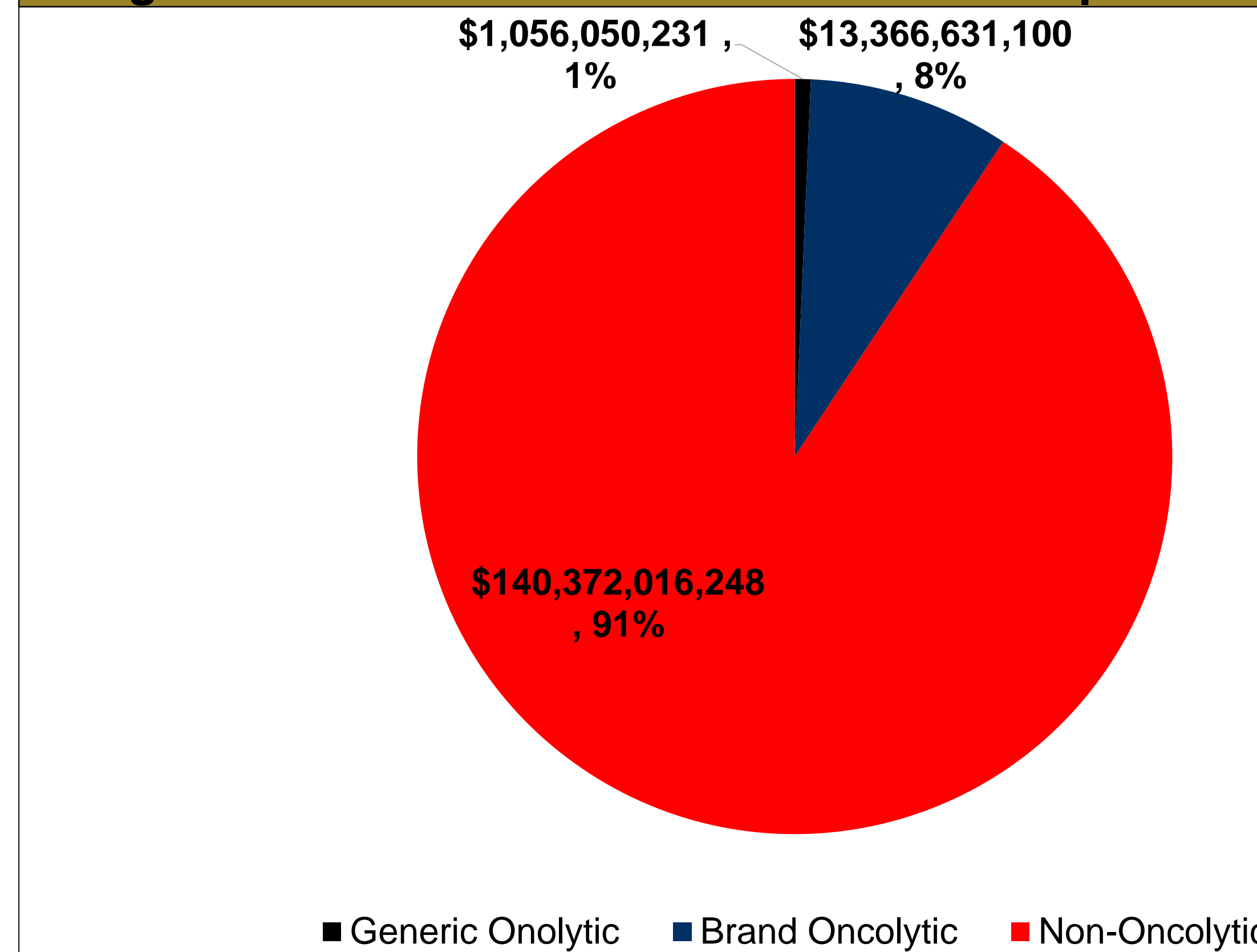
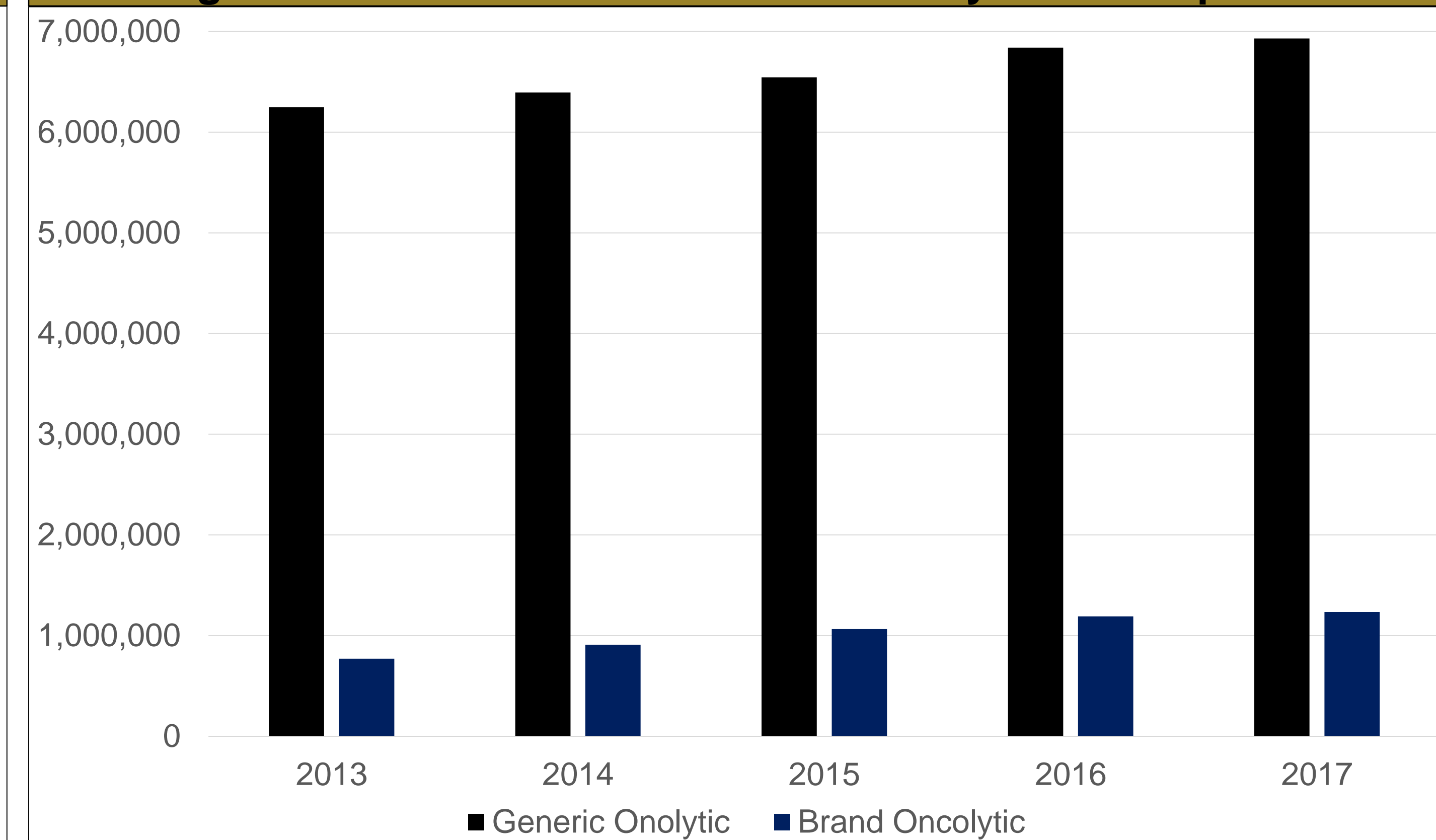


Figure 5: Annual Total Number of Oncolytic Prescriptions



Results

- There were 1,368,963,817 prescriptions for Medicare Part D patients in 2013, of which 7,017,902 prescriptions were for oral oncolytics. This increased to 1,495,393,915 total prescriptions in 2017, of which 8,164,883 were oral oncolytics.
- The percentage of Medicare Part D prescriptions that were oral oncolytics had a small, but significant increase from 2013-2017 (0.51% to 0.55% [p<0.001]) as did the percentage of standardized 30-day prescriptions (0.52% to 0.54% [p<0.001]).
- The percentage of oral oncolytic prescriptions that were brand name increased significantly from 10.98% in 2013 to 15.12% in 2017 [p<0.001] as did the percentage of standardized 30-day prescriptions (8.29% to 10.11% [p<0.001]).
- The percentage of Medicare Part D expenditures for oral oncolytics had a significant increase from 2013-2017 from 5.19% to 9.32% (p<0.001).
- However, the percentage of oral oncolytic expenditures that were brand name medications had a significant decrease from 93.13% in 2013 to 92.68% in 2017 (p<0.001).

Discussion

- This study showed that Medicare Part D prescriptions increased substantially in recent years, which in part is due to more prescriptions being issued due to more patients reaching Medicare eligibility.
- Medicare Part D expenditures increased drastically from 2013-2017 on an aggregate, as well as per prescription basis.
- The per prescription expenditure of generic oncolytics increased by more than double from 2013 through 2017, highlighting concerns that once some of these novel agents become generic, there might not be as much cost savings on the healthcare sector as initially anticipated.

Limitations

- While all the agents included in this calculation are indicated in the treatment of different forms of cancers, some agents have labeled and/or off-labeled indications outside of the oncology arena, and therefore the prescription and expenditure data may not represent the exact number related to oncology treatment.
- Due to the standardized 30-day prescription numbers with fills less than 30 days bottom-coded with a value of 1.0, this may overestimate the number of prescriptions for each agent.
- Prescription expenditures do not include and manufacturer rebates and may not fully represent the final expenditure for each prescription

Conclusions

- This study found oral oncolytic utilization has been increasing in recent years with a slight, but significant increase in proportion of all Medicare prescriptions being oncolytics from 2013 through 2017
- The percentage of Medicare Part D expenditures for oral oncolytics had a significant increase, almost doubling from 2013 through 2017 from 5.2% to 9.3%.
- Continued increase in utilization of oral oncolytics will allow access to these new novel therapies for patients to help treat their malignancies while providing an easier route of administration

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