Trends in Medicare ACO Cost and Use of Biologic Therapies to Treat Age-Related Macular Degeneration

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KEY TAKEAWAYS

- MSSP ACOs spent $1.4 billion on injectable medications for wet macular degeneration (AMD) in 2022. Wet AMD drugs accounted for over 1% of total ACO expenditures for most MSSP ACOs. **Ten percent of ACOs spent 2-4% of their budget on these therapies.**
- In 2022, average wet AMD drug costs for Avastin ($62 per treatment) were considerably less than for Lucentis ($1,228) and Eylea ($1,641). These costs exclude beneficiary coinsurance.
- From 2018-2022, utilization of Part B drugs for wet AMD treatment increased by 17% despite a decline in the number of traditional Medicare FFS beneficiaries overall. **Total payments increased by 29% due to growth in Eylea utilization.**
- Variation in drug utilization exists by state, market, and organization, presenting ACOs with opportunities to manage spending by working with practices that use lower-cost drugs or engaging retina specialists in value-based contracts.

BACKGROUND

Rising costs for Medicare Part B drugs—which are administered by clinicians in outpatient settings—present a potential savings opportunity for ACOs because there are large price differences between similarly efficacious treatments. In 2021, the majority of MSSP ACOs spent over 1% of their total annual expenditures on drugs to treat wet age-related macular degeneration (AMD)[a]– a progressive eye disease that primarily affects older adults and causes vision loss. While no cure for wet AMD currently exists, there are pharmacological therapies in the form of regular intravitreal injections that slow the progression of the disease.[1] The three most common drugs—Avastin (bevacizumab), Eylea (aflibercept), and Lucentis (ranibizumab)—are considered highly effective at improving vision, with no significant difference in adverse clinical events.[2]

Four major differences exist between the three drugs:

- **Off-Label Use:** Avastin is only FDA-approved for treating colorectal cancer (since 2004) and is used off-label for wet AMD. Lucentis and Eylea are FDA-approved for wet AMD treatment, in 2006 and 2011 respectively.[1]
- **Compounding:** Avastin must be compounded while Eylea and Lucentis are available in dosages appropriate for ocular use.[3]
- **Treatment Frequency:** While this can vary, Lucentis, Avastin, and Eylea[b] are commonly given at four-, six-, and eight-week intervals respectively.[5]
- **Cost:** Avastin is substantially less expensive than Eylea or Lucentis for treating wet AMD, with its retail cost (before insurance) between $50-100 per treatment compared to approximately $1800- $2000 for Lucentis and Eylea.[5] Traditional Medicare patients typically pay 20% co-insurance after meeting their Part B deductible, unless they have supplemental coverage.

Historically, ophthalmologists report a preference for Eylea as a first-line treatment option if payer access isn't a concern (particularly for diabetic macular edema).[3,6] In recent years, the use of Eylea for wet AMD has increased considerably; Avastin utilization has decreased.

[a]Internal analysis, 2021 Medicare FFS claims. n=475 MSSP ACOs. Mean and median at 1.3%.

[b]Note that a higher-dose Eylea was FDA-approved in August 2023, extending treatment frequency to up to sixteen-week intervals.[4]

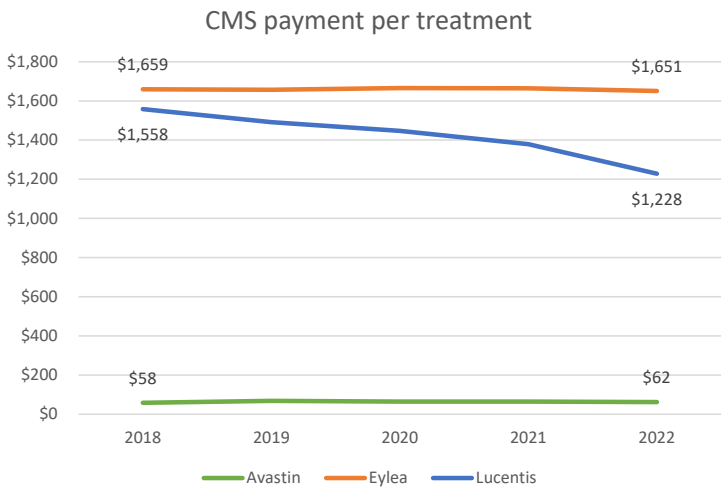
While Avastin may not be optimal for all wet AMD cases, it is clinically appropriate and cost-effective for many. Health plans have become more aggressive in requiring step therapy—e.g., starting with the insurer's preferred, cost-effective medication before another drug will be covered. Traditional Medicare does not have the same restrictions. In 2021, 10% of MSSP ACOs spent 2-4% of their budget on these wet AMD therapies. Potential savings from switching to Avastin without affecting clinical outcomes are well-documented.[7–9]

We analyzed 2018-2022 Medicare claims for wet AMD treatment in traditional Medicare FFS and in MSSP ACOs to understand the cost and utilization trends for Avastin, Eylea, and Lucentis, and the extent of variation in utilization and spending by state, market, and ACO (see Methodology and Limitations in Appendix I).

RESULTS

In 2022, the average CMS payment per treatment (excluding beneficiary coinsurance)[c] was $62 for Avastin, $1,228 for Lucentis, and $1,651 for Eylea (Figure 1). These rates have remained stable for Avastin and Eylea over the past five years, with Lucentis declining by 21%. Average annual 2022 cost per beneficiary treated for wet AMD by type of therapy was $241 for Avastin, $8,219 for Eylea, and $6,143 for Lucentis.

Figure 1. CMS payment per treatment (excl. beneficiary coinsurance) by drug

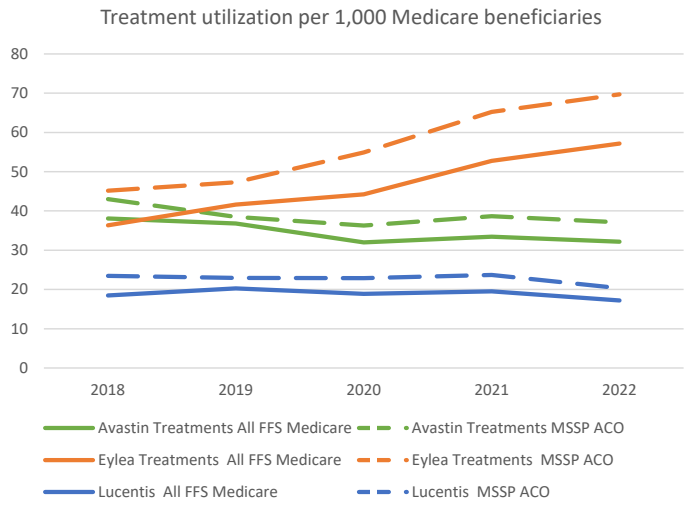


From 2018-2022, Medicare spending for wet AMD treatment increased substantially despite little change in relative drug prices. Eylea utilization increased while Avastin and Lucentis decreased.

From 2018-2022, there was a 2% rise in the use of injectable Part B drugs to treat wet AMD despite a 9% decline[10] in the traditional Medicare FFS population during this time. Total payments for these drugs rose by 14% ($435 million) over this period. Eylea utilization increased 40%, while Avastin and Lucentis dropped 25% and 17% respectively (Figure 2). Two percent of Medicare beneficiaries received wet AMD treatment in 2022.

Spending patterns for MSSP ACO beneficiaries follow a similar trend, starting at a higher utilization rate (Figure 2). From 2018-2022, the use of Part B injectables for wet AMD increased by 17%, while the MSSP aligned population grew only 3%. Total payments grew by 29%, primarily due to the 59% increase in Eylea injections. Of the 2022 MSSP population, 2.4% received wet AMD treatment.

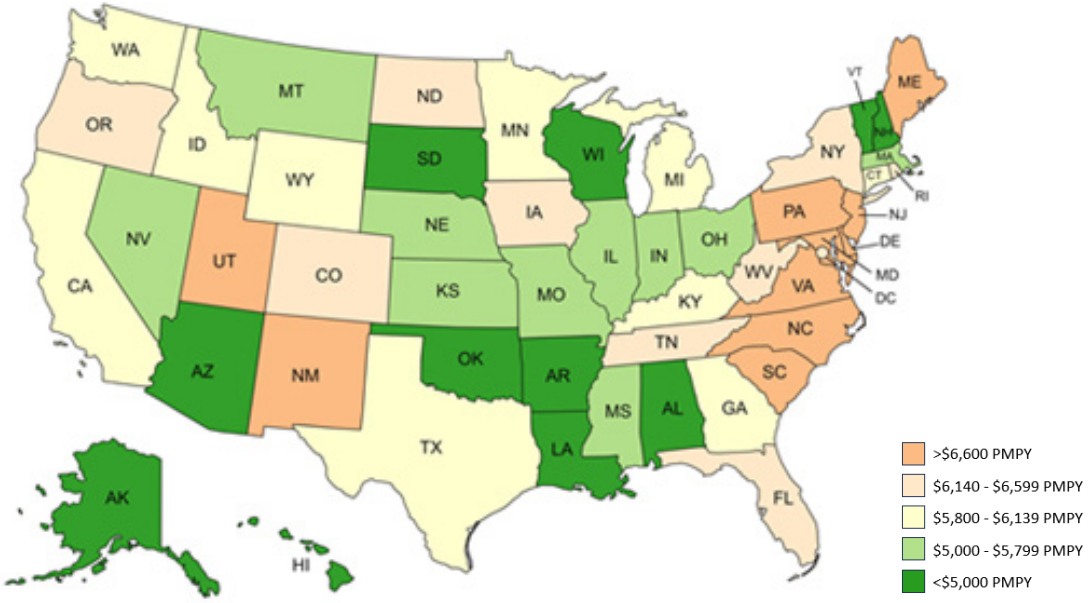
Figure 2. Treatment utilization by drug, All FFS Medicare vs MSSP ACO beneficiaries



[c]For our analyses, only CMS payments for the drug were included. Beneficiary co-payments were not included. See Appendix I for more on our methodology.

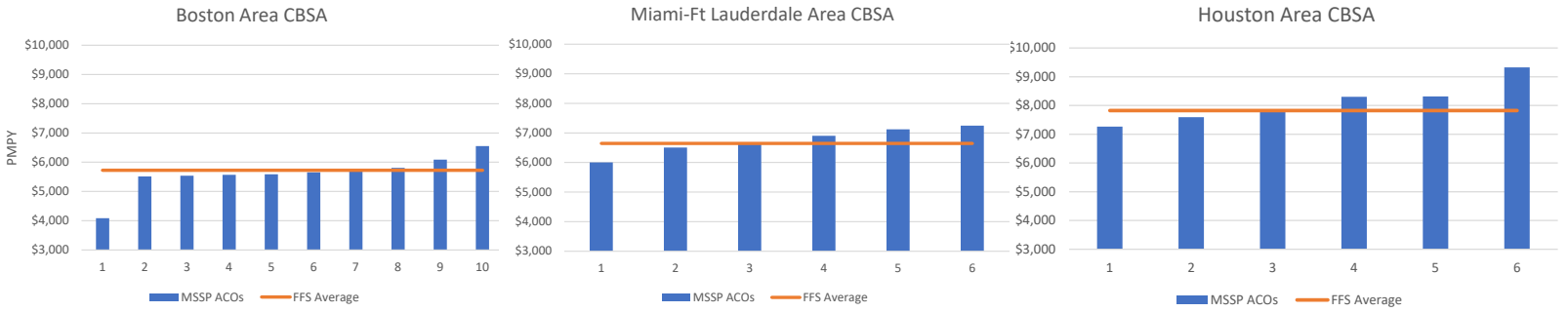
There is substantial regional variation in prescribing patterns for wet AMD. In 2022, Avastin use as a percent of Medicare FFS claims for wet AMD was lowest (below 25%) across the East coast and relatively higher in the Midwest and Mountain West. For many states, average annual per-beneficiary per year (PBPY) drug costs follow Avastin utilization, with most East coast states having higher patient costs and Midwestern and Southern states having relatively lower costs (Figure 3). In 2022, the highest cost states (over $7000 PBPY) were NM, SC, ME, DE, and UT, while the lowest costs states (under $4700 PBPY) were VT, AL, LA, OK, and AR (See Appendix II for more details by state).

Figure 3. Average annual Medicare beneficiary drug costs per patient treated for wet AMD



The 2022 average annual wet AMD drug cost per patient treated was $5,725 in Boston, $6,648 in Miami, and $7,825 in Houston. There is also in-market variation. While many MSSP ACOs within the same geographic market have per-patient costs similar to their overall FFS average, the lowest and highest cost ACOs in the same market can have differences of over $2,000 per patient annually (Figure 4).

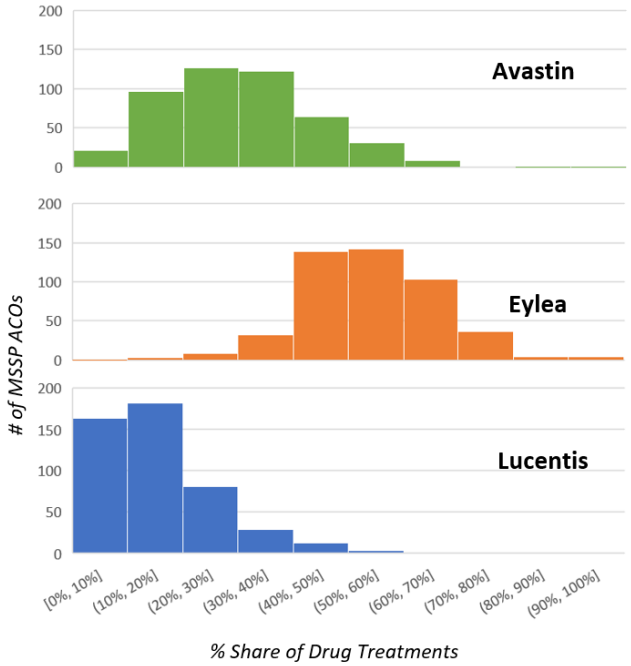
Figure 4. Wet AMD drug expenditures by MSSP ACO in three regions, 2022



Drug utilization varies across ACOs, as well. Looking at the share of these three drug treatments, the average MSSP ACO uses Avastin 30% of the time, Eylea 55% of the time, and Lucentis for the remaining 15% (Figure 5).

Finally, there is substantial variation among individual providers. For high-volume providers who administer 500 or more injections per year, the top 5% employ Avastin for over 83% of cases, while the median provider prescribes Avastin one-third of the time.

Figure 5. MSSP ACO Distribution of Part B drug utilization for wet AMD, by drug - 2022



IMPLICATIONS FOR ACOS

Ophthalmologists frequently have financial incentives to use more expensive treatments, making it more difficult to change prescribing patterns:

- **6% add-on fee:** Part B drugs are reimbursed at the average sales price (ASP) plus 6%.[11] Studies have shown that more expensive drugs see increased utilization due to this add-on.[12]
- **Manufacturer rebates & payments:** Recent research shows that the economic incentive associated with more expensive wet AMD drugs is large[13] and that manufacturer payments to ophthalmologists are associated with use of higher-cost therapies.[14]

Increasing Avastin use when appropriate is an opportunity for ACOs to reduce spending and substantially lower patient out-of-pocket costs. Initial steps for ACOs include:

- **Understanding your cost and utilization** trends for wet AMD treatment and prescribing patterns in your geographic market.
- **Engaging local leadership, clinical champions and specialists** through presentations and conversations. In their 2022 publication on reducing clinical practice variation, CommonSpirit emphasized the importance of partnering with a respected retinal specialist to drive local change and increase Avastin utilization.[8]
- **Calculating potential revenue losses** ophthalmologists could face from expanding use of lower-cost therapies (via impact of the 6% add-on fee and any manufacturer rebates). One recent case study involves an ACO agreeing to guarantee an ophthalmology practice's current add-on fees to hold them harmless for losses due to using lower-cost therapies where appropriate.

If you have further questions about the utilization of Part B therapies for wet AMD in your market, please contact us at analytics@institute4ac.org

APPENDIX I

Methods

We used 100% of Medicare FFS claims and Medicare enrollment data from 2018 through 2022 to assess the use of various Part B drugs in treatment of wet AMD. Treatments were included in our analysis when the claim was billed with an administration code for an intravitreal injection with an ICD-10 diagnosis code indicating wet AMD in the past 365 days (defined as one or more E&M claims with an ICD-10 code for wet AMD on an office, outpatient facility or inpatient claim). In order to maximize the number of treatments included, no coverage requirements were applied.

Avastin billing occurs under two CPT codes specific to Avastin intravitreal injections (C9257, J9035) and 3 general CPT codes for 'unclassified' drugs/biologics/compounded drugs (J3590, J3490, J7999). Eylea (J0178) and Lucentis (J2778) are each billed under a single code. From January – October 2022, two of the 'unclassified' Avastin CPT codes (J3590, J3490) saw a rapid increase in the payment amounts. Since there is no indication this represented an actual price increase in Avastin, we assume these 'unclassified' codes reflect a higher-priced drug billed using the same code. Given this, our analyses exclude 2022 treatments that were above the 99th percentile of 2021 treatments ($144 for J3590 and $136 for J3490). Standard treatment costs for wet AMD include an office visit, eye scan, injection, and the drug. For this analysis, only the payments for the drug itself were included since all of the other costs are small, with little variation.

Individual markets were constructed for each ACO in 2022. Markets were defined as the counties that make up the first 90% of ACO beneficiary locations. ACO attribution for 2022 was based on the quarter 3 attribution lists provided by CMS, as this was the most recent file available at the time of this analysis. All other years used final attribution.

Limitations

This analysis only focuses on the three most common drugs to treat wet AMD. New drug treatment options have recently been introduced, e.g., Lucentis biosimilar, Vabysmo (faricimab) and Beovu (brolucizumab). This analysis also does not distinguish between beneficiaries whose use of higher cost treatments is clinically appropriate vs unnecessary.

APPENDIX II

Medicare beneficiary wet AMD drug costs and utilization by state, 2022

State	CMS Payment per Beneficiary	Beneficiary Count (Years)	Treatment per Beneficiary	Of Total Treatments, % Avastin	Of Total Treatments, % Eylea	Of Total Treatments, % Lucentis	% Benes Receiving Multiple Drugs
National	*$6,135*	*581,794*	*5.49*	*31.4%*	*52.7%*	*15.9%*	*14%*
VT	$3,762	1,639	5.47	41.5%	53.8%	4.7%	8%
AL	$4,176	7,132	4.94	51.2%	42.6%	6.2%	13%
LA	$4,232	5,474	4.72	41.4%	47.5%	11.1%	12%
OK	$4,422	7,841	4.78	45.4%	49.2%	5.4%	16%
AR	$4,648	6,134	4.8	41.5%	48.9%	9.6%	16%
SD	$4,827	2,322	4.94	52.2%	44.7%	3.2%	14%
NH	$4,866	3,087	4.86	38.6%	53.3%	8.1%	13%
AZ	$4,874	12,784	5.67	51.0%	37.5%	11.4%	13%
AK	$4,929	1,262	4.88	44.5%	52.9%	2.6%	19%
HI	$4,970	1,261	5.61	40.6%	53.6%	5.8%	12%
WI	$5,006	9,785	5.4	46.7%	48.9%	4.4%	13%
IN	$5,144	13,076	5.59	44.2%	51.5%	4.3%	13%
OH	$5,285	18,501	5.01	38.2%	57.7%	4.1%	13%
MO	$5,430	10,509	5	35.4%	50.0%	14.5%	14%
NV	$5,451	3,951	5.07	36.2%	52.9%	10.9%	12%
MT	$5,643	3,386	5.9	43.8%	51.8%	4.4%	14%
MA	$5,655	15,483	5.44	37.9%	52.7%	9.5%	11%
IL	$5,690	25,495	5.36	34.4%	57.9%	7.7%	13%
MS	$5,767	6,889	4.91	31.0%	47.8%	21.2%	15%
MN	$5,961	10,734	5.98	41.3%	45.0%	13.7%	16%
GA	$5,968	13,583	5.29	25.7%	47.8%	26.5%	12%
KS	$5,983	7,072	4.69	26.4%	54.0%	19.6%	15%
ID	$6,043	3,648	5.59	38.6%	48.3%	13.1%	12%
CA	$6,089	52,277	5.71	32.3%	49.3%	18.5%	14%
MI	$6,129	15,901	5.61	32.5%	49.8%	17.7%	14%
KY	$6,138	7,386	5.09	30.4%	54.3%	15.4%	13%
DC	$6,175	746	5.3	24.9%	62.0%	13.1%	11%
NE	$6,228	4,876	5.3	35.9%	54.5%	9.6%	14%
WY	$6,250	2,178	5.52	35.8%	50.2%	14.0%	16%
WA	$6,264	14,996	5.48	35.4%	54.7%	9.8%	16%
TN	$6,274	12,746	5.53	29.9%	42.2%	27.9%	14%
TX	$6,286	37,132	5.34	26.9%	51.6%	21.5%	16%
CO	$6,354	8,785	6.38	43.5%	46.7%	9.9%	21%
CT	$6,364	6,572	5.08	23.9%	65.9%	10.2%	11%
RI	$6,392	1,546	5.78	28.3%	63.8%	7.9%	11%
NY	$6,394	32,659	5.23	23.1%	63.0%	13.9%	13%
OR	$6,547	7,571	6.17	39.4%	52.9%	7.8%	18%
FL	$6,630	44,613	5.77	29.0%	53.5%	17.6%	15%
WV	$6,648	3,648	5.31	21.1%	65.7%	13.2%	11%
IA	$6,717	9,797	5.49	30.0%	53.2%	16.9%	16%
ND	$6,738	2,270	5.34	25.3%	59.9%	14.8%	20%
NJ	$6,754	19,950	5.97	23.7%	49.5%	26.8%	13%
MD	$6,836	14,221	5.68	22.2%	55.2%	22.6%	11%
NC	$6,873	18,040	5.47	25.3%	59.0%	15.7%	12%
PA	$6,968	26,996	5.79	22.0%	50.5%	27.4%	11%
VA	$6,995	18,949	5.45	22.2%	64.0%	13.8%	12%
UT	$7,021	5,033	5.71	31.3%	54.0%	14.8%	15%
DE	$7,106	3,038	5.37	16.0%	59.7%	24.3%	10%
ME	$7,137	3,052	5.64	20.1%	66.9%	13.1%	13%
SC	$7,159	11,549	5.68	21.0%	51.7%	27.2%	17%
NM	$7,230	4,219	5.38	21.8%	55.3%	22.9%	17%

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