Evaluating the Impact of a Comprehensive Hemophilia Management Program on Utilization and Clinical Outcomes

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BACKGROUND

- Hemophilia is a rare, inherited bleeding disorder caused by missing or defective clotting factors.[1]
- Treatment options for this rare disease include factor products, both standard half-life (SHL) and extended half-life (EHL), bypassing agents, emicizumab and, most recently, gene therapy.[2]
- Annualized bleed rate (ABR) is one way to assess clinical benefit of treatment. Decreased ABR can lead to long-term health benefits and reduction in total cost of care by preventing negative effects from uncontrolled bleeding.[3]
- Comprehensive hemophilia care and managed care strategies may play a key role in optimizing clinical outcomes and overall cost reduction.
- A hemophilia management program can provide comprehensive clinical review, assay management and case management referrals to promote therapeutic appropriateness and prevent unnecessary overutilization.

OBJECTIVE

- To assess ABR, utilization and drug costs pre- and post-implementation of a comprehensive hemophilia management program.

METHODS

- Reviewed prior authorization and medical claims data from 8/15/2018 to 8/15/2020 from a comprehensive hemophilia program implemented on 8/15/2019 for a single health plan with over 2.6 million commercial and Medicare lives.
- Included continuously enrolled members, in scope of the program, utilizing factor VIII, factor IX, bypassing agents or emicizumab.
- Excluded members were ≤ 12 years of age, termed during the study period, or were identified as outliers (defined as ≥ 200% difference in pre- and post-program cost(s).
- Analyzed ABR, hemophilia product utilization and cost trends associated with therapy from this data set.
- Collected bleed data for 59 members post-program versus 29 members pre-program based on availability of bleed history.
- ABR was calculated using the following formula:

$$\text{ABR} = \frac{\textit{reported bleeds}}{\textit{months of authorization}} \times 12$$

- Unit cost was standardized in both pre- and post-program groups to account for inflation and more accurately calculate cost avoidance associated with decreased utilization.
- Hemophilia drug utilization and costs were summed and compared for one-year time periods pre- and post-program implementation.
- Utilization was measured by Healthcare Common Procedure Coding System (HCPCS) units billed on the claim while drug costs reflected the allowed amount.

FIGURE 1. STUDY POPULATION

A comprehensive hemophilia management program resulted in decreased utilization of high-cost hemophilia products, prevented unnecessary spend, improved quarterly post-program bleed rates and enhanced quality of documentation for reporting.

RESULTS

FIGURE 2. PRE-PROGRAM VS. POST-PROGRAM UTILIZATION

	Pre-Program (n = 59)	Post-Program (n = 59)	Unit Difference	Percent Difference
Total HCPCS Units Utilized	4,770,288	4,173,943	-596,345	-12.5%

FIGURE 3. COST AVOIDANCE FROM PROGRAM IMPLEMENTATION

	Pre-Program (n = 59)	Post-Program (n = 59)	Cost Avoidance	Cost Avoidance (PMPM)
Total Hemophilia Drug Spend	$29,676,670	$25,966,719	$3,709,951	$0.12

FIGURE 4. ANNUALIZED BLEED RATE PRE-PROGRAM VS. POST-PROGRAM (N = 29)

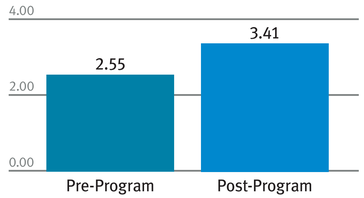
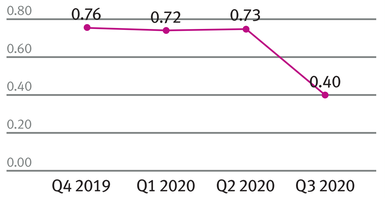


FIGURE 5. QUARTERLY AVERAGE BLEEDS PER MEMBER POST-PROGRAM IMPLEMENTATION (N = 59)



DISCUSSION

- 59 members met the inclusion criteria during the assessment period, and 29 (49%) members had bleed data for both pre- and post-program.
- For all products, utilization decreased by 596,345 total units after program implementation.
- After standardizing the cost of treatment based on unit cost, the program resulted in reduction in spend of $3,709,951 compared to anticipated costs from unmanaged utilization.
- ABR was 2.55 pre-program compared to 3.41 post-program.
- Despite the ABR increase, data from post-program implementation showed that bleed rates decreased from an average of 0.76 to 0.40 bleeds per member from Q4 2019 to Q3 2020.

LIMITATIONS

Study limitations include:

- Prior authorization and medical claims data are from a single health plan. Expanding the study population in future analyses may inform additional insight into the impact of a hemophilia management program on therapeutic outcomes and overall utilization.
- Bleeds were self-reported by members. Subjective reporting may have resulted in inconsistencies among clinical outcomes.
- Pre-program bleed history was limited due to lack of available bleed data. Post-program bleed data was more robust and likely more accurate due to routine bleed history collection as a component of the hemophilia management program.
- Product switching may have impacted pre- versus post-program total unit utilization.

CONCLUSION

- Overall, the hemophilia management program prevented unnecessary overutilization while maintaining positive clinical outcomes.
- Implementation of a hemophilia program resulted in a 12.5% decrease in utilization of hemophilia products, $0.12 PMPM cost avoidance, improved quarterly post-program bleed rates and enhanced documentation and outcomes reporting.
- Observing overall utilization and clinical outcome trends provides insight into the benefits and impact of a comprehensive management program in the hemophilia space.
- The apparent increase in ABR reflected in prior authorization data may not be a true increase, especially when taking into account the overall decrease in unit utilization and the quarterly post-program ABR decrease. Additional follow-up and outcomes data may help to elucidate the long-term benefits of comprehensive hemophilia management.

REFERENCES

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DISCLOSURES

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