Magellan Rx MANAGEMENT

An Analysis on Utilization Trends and Potential Savings from Dose Optimization of Antihemophilic Factor Products Based on Ideal Body Weight

Hemophilia

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Purpose

- To describe the utilization trend of antihemophilic factor products and analyze the potential savings of a dose optimization program based on Ideal Body Weight (IBW) dosing in obese patients with hemophilia in a regional health plan.

Background

- The World Foundation of Hemophilia estimates the global prevalence of hemophilia at around 400,000 persons. It is estimated that there are approximately 17,000 to 20,000 persons in the United States that are afflicted with hemophilia.
- Hemophilia is one of the most expensive chronic diseases in the United States. Annual cost of treatment per million lives has increased from $9 million in 2007 to $12 million in 2012. Cost per patient has increased from $155,239 in 2007 to $206,027 in 2012 in Hemophilia A and $129,002 to $179,747 in Hemophilia B.
  - This increase is likely attributed to high doses of factor products, presence of inhibitors, and hospitalizations due to bleeds.
- Dosing of factor products is often based on weight and population pharmacokinetics. In recent years, a growing number of literature has supported dose optimization in adult hemophilic patients who are obese.
- Due to the complexity of this disease state and the associated care required for these patients, hemophilia has continuously been a challenge for payers across the nation.

Methods

- This is a two part retrospective claims analysis that included a report on utilization trends of antihemophilic factor products and potential savings associated with using ideal body weight dosing in obese patients.
- Both medical and pharmacy claims for patients of one regional health plan (approximately 3.7 million total covered lives) were used.
  - Utilization trends were analyzed using claims with a service date between January 1, 2010 and December 31, 2014.
  - Dose optimization opportunity analysis was conducted using claims with a service date between January 1, 2014 and December 31, 2014.
- Inclusion criteria:
  - Commercial or Medicare patients
  - Age ≥ 18
  - At least 1 paid claim for an antihemophilic factor product
- For the dose optimization opportunity analysis, assumptions were made based on CDC recommendations and evidence-based literature:
  - Obesity is defined as a BMI ≥ 30
  - 36% of patients were assumed to be obese
- Results were analyzed using descriptive statistics.

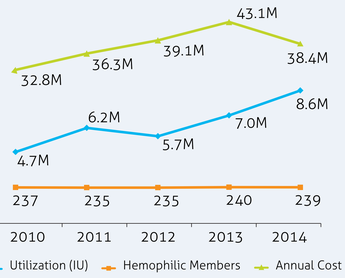
Disclosures

- This research was conducted by Magellan Rx Management, Newport, RI, without external funding.

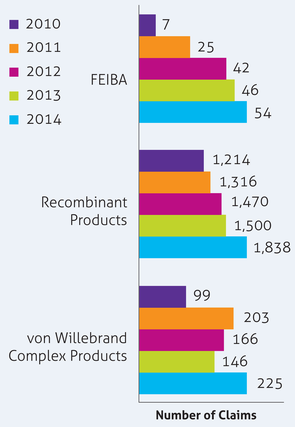
Results

Utilization Trend Analysis

Utilization and Cost of Antihemophilic Factor Products vs. Membership Over Time



Utilization of Antihemophilic Factor Products Over Time



Dose Optimization Opportunity Analysis

Dose Optimization Member Demographics

N	174
Number of Obese Patients	63
Normal Height (m)*	1.7
Normal Weight (kg)*	62.0
Obesity Weight (kg)*	86.7
Ideal Body Weight (kg)*	63.6

*Normal height, weight, BMI, and obesity BMI are based on data from the CDC. Obesity weight is calculated from obesity BMI and normal height. Ideal body weight is calculated using the average for both genders.

Utilization Based on Ideal Body Weight Dosing (IU)

Total Units	9,289,168
Units per Patient (Non-Obese)	46,656
Units per Patient (Obese)	65,243
Units per Patient (IBW)	47,875
Units Reduced per Patient	**17,368**
Total Units (IBW)	8,194,975
Total Units Reduced	**1,094,193**

Cost Savings Based on Ideal Body Weight Dosing

Total Cost	$33,649,541
Cost per Patient (Non-Obese)	$169,009
Cost per Patient (Obese)	$236,340
Cost per Patient (IBW)	$173,425
Savings per Patient	**$62,915**
Total Cost (IBW)	$29,685,884
Total Savings	**$3,963,657**
Estimated PMPM	**$0.09**

Discussion

- The number of claims increased by 25% from 2010 to 2014 while number of hemophilia patients remained stable.
- Annual cost for antihemophilic factor products increased from $8,865,065 in 2010 to $10,367,173 in 2014 per million lives, which is a 16.9% increase.
- Cost per patient increased from $138,400 in 2010 to $160,496 in 2014.
- Noticeable utilization increases between 2010 and 2014:
  - Recombinant factor products increased by 51%.
  - von Willebrand factor products increased by 127%.
  - FEIBA utilization increased by 671%.
- The implementation of a dose optimization program may result in approximately 11% in overall savings.
- Limitations to this study include:
  - Lack of actual member demographics; dose optimization analysis was completed using national average and obesity data based on literature.
  - Trend analysis did not restrict inclusion criteria to continuously enrolled members.

Conclusion

- The cost to treat hemophilia has continued to rise in recent years leading to increased payer interest in improving management strategies.
- Dose optimization offers one unique management opportunity that may lead to provision of more cost-effective care for specific patients.
- Magellan Rx Management has developed a comprehensive hemophilia management solution that includes utilization management to ensure appropriate use of factor products and inhibitor therapy along with a dose optimization program.
  - Such strategies provide an opportunity to produce significant savings for health plans while maintaining quality of care by ensuring appropriate use of factor products and inhibitor therapy.

References

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