Filgrastim (Neupogen) and Pegfilgrastim (Neulasta): Cost Analysis and Utilization Management Opportunity Assessment

Background
- The estimated average of a febrile neutropenia (FN) hospitalization in the United States is $13,400.1
- Clinical practice guidelines recommend primary prophylactic use of granulocyte colony-stimulating factor (G-CSF) when the risk of FN, on the basis of chemotherapy and patient risk factors, is approximately 20 percent and recommend consideration of G-CSF prophylaxis when the risk is 10 percent to 20 percent.2
- Filgrastim (Neupogen) and pegfilgrastim (Neulasta) are human G-CSF used to prevent chemotherapy-induced neutropenia (CN) and FN.
- In clinical trials, equivalent CN and FN treatment efficacy and success were seen with a single pegfilgrastim compared to a Filgrastim median duration therapy of 10 or 12 days.3

Objective & Purpose
To compare Filgrastim and pegfilgrastim utilization and daily costs among patients with a medical claim for neutropenia, and medical claims data for a utilization management opportunity assessment.

Methods
- Filgrastim and pegfilgrastim pharmaceutical and medical claims data were queried using generic product identifier (GPI) from Medispan = 82401520002010 and 82401520002020. Note that GPI = 82401520002010 during 2010 (Table 2)
- Among filgrastim utilizers, 116 (44.8%) had less than seven days therapy (Table 4).
- Pegfilgrastim only was utilized by 612 (63.6%) of 963 members with a total paid of $7,855,812 (82.1%) of total paid and a median 82 DS per member. (Table 3)
- Filgrastim and pegfilgrastim cumulative days supply during six month average member follow-up (Table 4 and 5)
- Filgrastim and pegfilgrastim cumulative medical and pharmacy claims utilization and spend among six month average member follow-up (Table 6)
- Filgrastim and pegfilgrastim cumulative medical and pharmacy claims utilization and spend among six month average member follow-up (Table 6)

Results
- During 2010, 963 (80 per 100,000) members were found to have used Filgrastim or pegfilgrastim with a cumulative 4,671 pharmacy days and 1,177 medical days with a total paid of $5,563,639 or $6.66 per member, per month (PennPI). (Table 1)
- Filgrastim accounted for $3,856,926 (69.2%) of total paid and 90.7 percent of pharmaceutical expenditures were processed on the medical benefit. (Table 2)
- Filgrastim accounted for $1,761,872 of total paid and 42.2 percent of pharmaceutical expenditures were processed on the medical benefit. (Table 2)
- Pegfilgrastim only was utilized by 612 (63.6%) of 963 members with a total paid of $7,855,812, cumulative total DS was 40,297 days with a total paid of $1,440,810, cumulative total DS was 3,885 averaging 9.2 days per member. (Table 3)

Limitations
- This analysis was not limited to individuals with cancer. Members utilizing Filgrastim were significantly less likely to have a cancer diagnosis compared to pegfilgrastim utilizers. Non-cancer Filgrastim utilizers had an unknown recommended treatment duration and may have been over represented in the population with less than seven days of Filgrastim therapy resulting in an inaccurate conclusion that Filgrastim therapy may place individuals at risk for inadequate therapy and inducing higher costs.

Conclusions
- Analysis of medical claims for both Filgrastim and pegfilgrastim utilizers found more than four of five members with a medical claim a treatment diagnosis.
- Using real world claims data, we found members utilizing pegfilgrastim had a median total days of therapy six times longer at twice the average cost per member than filgrastim utilizers, however pegfilgrastim cost per day was significantly less.
- Almost half of filgrastim utilizers received six or seven days, indicating potentially inadequate therapy for chemotherapy-induced neutropenia. Utilization management encouraging filgrastim prior to pegfilgrastim may place individuals at risk for inadequate therapy and induce higher costs per member.
- Further research analyzing medical outcomes and costs are required to better understand Filgrastim and pegfilgrastim utilization management opportunities.

References