Cost Impact Associated With Formulary Changes Across Commercial Prescription Plans

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Background

- The United States spends nearly 18% of its gross domestic product on healthcare every year, more than any other country; an estimated 30% of this spending is considered to be waste.[1]
- Prescription medications have become a cornerstone of US healthcare over the past 40 years, with prescription drug spending increasing more than tenfold from $30 billion in 1980 to $335 billion in 2018.[2] The spending increase is even more substantial in recent years, reaching $576.9 billion in 2021.[2,3]
- Pharmacy benefit managers can help minimize costs across their plans through a variety of targeted measures, including value-based benefit design, value-based pricing, and formulary changes. This could result in annual savings of $81.4 to $91.2 billion.[1]
- A key consideration in implementing a formulary change is its effect on medication persistence, which can be defined as the continuation of treatment for the prescribed duration, with non-persistence being defined as the discontinuation of treatment before the prescribed duration has elapsed.[4]
- An analysis examining data from eight major Minnesota health plans estimated that a formulary change which switched 85% of members to preferred products resulted in nearly 41% in savings, along with nearly 52% in savings if 100% of members were switched.[5]
- Preferring a generic product to a branded product on the formulary can provide large savings to health plan members; a single generic product can reduce prices by 30%, with greater savings as the number of generic products increases.[6]

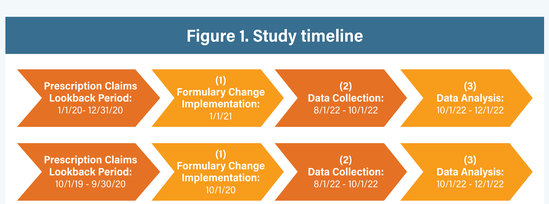
Objective

To determine how formulary changes affect the cost of providing medications and the rate of medication persistence among members across large commercial health plans.

Methods

- Study Population
  - Members from four commercial health plans with paid claims for secukinumab, ixekizumab, brand dimethyl fumarate (DF), and generic DF during the pre-intervention and post-intervention periods.
    - A total of 385 members were identified, with 194 in the secukinumab/ixekizumab group and 191 in the brand/generic DF group.
    - A total of 7,988 total claims were identified, with 4,815 in the secukinumab/ixekizumab group and 3,173 in the brand/generic DF group.
- Design
  - A retrospective observational analysis of prescription claims was performed for members of four commercial prescription plans.
  - Two formulary changes were implemented, each consisting of one drug receiving a positive formulary move with a corresponding drug receiving a negative move.
    - Taking effect on January 1, 2021, secukinumab received a negative formulary change with ixekizumab receiving the corresponding positive formulary change.
    - Taking effect on October 1, 2020, brand DF received a negative formulary change with generic DF receiving the corresponding positive formulary change.
  - Members with paid claims for secukinumab or brand DF during the pre-intervention periods (January 1, 2020 – December 31, 2020 and October 1, 2019 – September 30, 2020 respectively) were compared to paid claims for the same members for ixekizumab or generic DF in the post-intervention period (January 1, 2021 – December 31, 2021 and October 1, 2020 – September 30, 2021 respectively) (Figure 1).
    - Total net cost was determined for each member and the sum of the member costs was calculated to determine the total net cost per client across each period.
    - Total net savings was calculated by determining the difference in net cost between the pre-intervention period and post-intervention period.
  - Medication persistence for those in the secukinumab/ixekizumab group was measured by comparing the medication name on claims in the first quarter (Q1) of 2021 to those in the second quarter (Q2) of 2021.

Figure 1. Study timeline



Results

- The mean total net cost savings for the secukinumab/ixekizumab group ranged from 39% to 56% depending on plan and were statistically significant (p≤0.001) (Figure 2).
  - Of the 192 members with paid claims in Q1 and Q2 of 2021, 167 (87%) were persistent with the medication change and remained on the same drug across quarters (Figure 4).
- The mean total net cost savings for brand/generic DF ranged from 88% to 97% depending on plan and were statistically significant (p<0.001) (Figure 3).

Table 1: Demographics of secukinumab/ixekizumab group

Characteristic	Plan 1 Mean ± SD	Plan 2 Mean ± SD	Plan 3 Mean ± SD	Plan 4 Mean ± SD	Total Mean ± SD
Age (Years)	55.90 ± 12.39	47.40 ± 10.45	53.58 ± 13.93	50.47 ± 9.67	51.02 ± 11.23
Average Number of Prescriptions	8.54 ± 3.58	9.88 ± 3.12	10.09 ± 4.53	8.25 ± 3.99	8.92 ± 3.73
	n (%)	n (%)	n (%)	n (%)	n (%)
Female	19 (41.3)	26 (44.8)	9 (81.8)	36 (45.5)	90 (46.4)

Table 2: Demographics of brand/generic DF group

Characteristic	Plan 1 Mean ± SD	Plan 2 Mean ± SD	Plan 3 Mean ± SD	Plan 4 Mean ± SD	Total Mean ± SD
Age (Years)	50.70 ± 15.28	45.44 ± 9.41	55.02 ± 14.78	49.38 ± 10.39	48.43 ± 11.29
Average Number of Prescriptions	10.04 ± 3.67	8.67 ± 3.59	11.25 ± 1.67	9.51 ± 3.65	9.37 ± 3.60
	n (%)	n (%)	n (%)	n (%)	n (%)
Female	24 (85.7)	54 (80.6)	7 (87.5)	61 (69.3)	146 (76.4)

Primary Outcomes

Figure 2. Cost savings with secukinumab/ixekizumab change

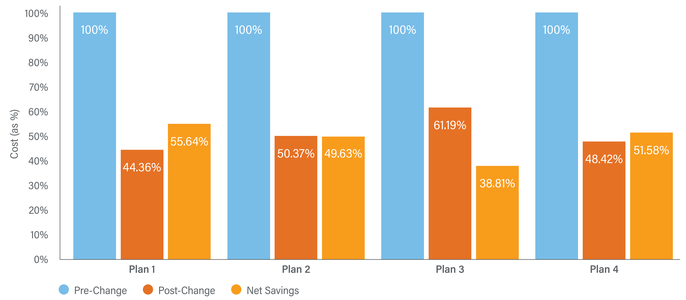
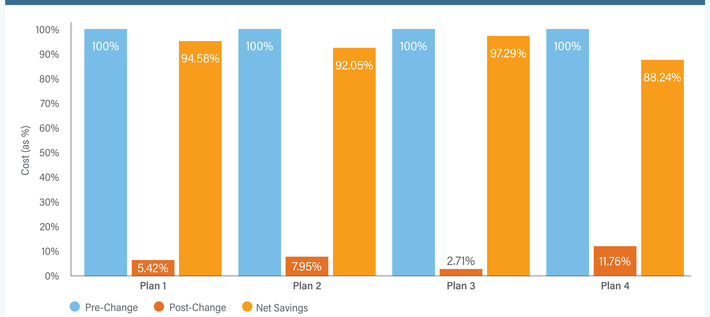
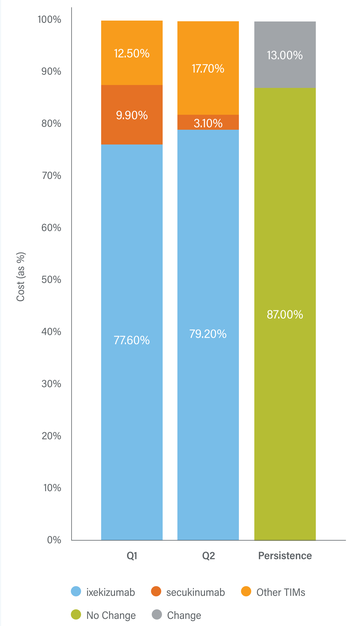


Figure 3. Cost savings with brand/generic dimethyl fumarate change



Secondary Outcomes

Figure 4. Medication persistence following secukinumab/ixekizumab change



Future Directions

- Expand analysis to include more plans.
- Propose and implement similar formulary changes across other drug classes.
- Examine outcomes for similar formulary changes.
- Use outcomes to demonstrate value of educated formulary changes and management.

Conclusions

- Two targeted formulary changes resulted in significant reductions in total net cost for the four commercial prescription plans in this study.
- The majority of members affected by one of the formulary changes were switched to the preferred medication, with smaller subsets of patients remaining on the previously preferred medication or switching to an alternative targeted immunomodulator (TIM) on formulary.
- The majority of members affected by one of the formulary changes were persistent with their new medication following the change.
- The majority of members who initially remained on the previously preferred medication in Q1 transitioned to a preferred formulary medication in Q2.

Disclosures

This research was conducted by Navitus Health Solutions, based in Madison, WI, without external funding.

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