An Analysis of a Polypharmacy Deprescribing Program for Anticholinergics and Concurrent Opioid and Benzodiazepine Usage for Medicare Beneficiaries

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BACKGROUND

- Polypharmacy of anticholinergic and high-risk drug classes, such as opioids and benzodiazepines, are contributing factors for medication-related complications in older adults. Thus, appropriate deprescribing of these medications is warranted to reduce a variety of health risks in senior populations such as falls and worsening cognition.[1]
- The Centers for Medicare and Medicaid Services (CMS) has added two new Star Ratings measures: Concurrent Use of Opioids and Benzodiazepines (COB) and Polypharmacy Use of Multiple Anticholinergic Medications in Older Adults (POLY-ACH).[2] Performance on these new measures highlights the importance of early detection and safety for Medicare populations.
- It is unclear how current deprescribing campaigns will impact CMS Star Ratings.

OBJECTIVE

- To design and implement a proactive, data-informed strategy for identifying and removing members at risk of inclusion in COB and POLY-ACH cohorts with the intention that removal from COB and POLY-ACH cohorts will improve Star Ratings.

METHODS

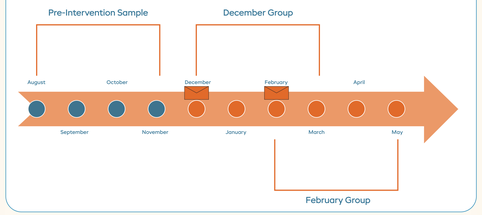
DATA SOURCE

- Navitus prescription claims database

DESIGN

- Paired pharmacy claims data were analyzed from a 4-month pre and post period following a pilot deprescribing intervention in December 2024 and February 2025. The intervention consisted of a deprescribing-focused letter mailed to prescribers with identified patient medication profiles.

FIGURE 1. STUDY DESIGN AND MEASUREMENT OF POLY-ACH AND COB COHORTS



STUDY POPULATION

- Members were included in the sample if age ≥ 65; use of ≥ 2 measure included medications, and overlapping claims ≥ 50% in the pre and post period which means a total of ≥ 60 cumulative days of overlap.

OUTCOMES

- The primary outcome was the number of members who were below the 50% overlap threshold.
- The secondary exploratory outcomes were improvement in average drug burden index (DBI)[3,4] anticholinergic burden index (ACB)[5,6], and average number of claims per member. ACB will not be applicable to COB based upon pharmacologic action of COB medications.

STATISTICAL ANALYSIS

- Primary and secondary outcomes were analyzed with descriptive statistics and Wilcoxon Signed Rank post-hoc testing with Bonferroni corrected p-values.
- Successful beneficiaries in the December group were removed from the statistical analysis of the February group.

RESULTS

After the first mailing, the improvement in overlap percentage < 50% was as follows:

POLY-ACH, 49.5% of members improved • COB, 30.3% of members improved

TABLE 1. BASELINE CHARACTERISTICS OF THE POLY-ACH AND COB COHORTS

Baseline Characteristics		
	POLY-ACH (n=100)	COB (n=99)
Age, mean [SD]	73.3 [6.1]	72.3 [7.7]
Male, %	24%	32%
Female, %	76%	68%
Baseline Primary Outcome		
Overlap %, mean [SD]	67.7 [12.4]	70.7 [12.7]
Baseline Secondary Outcomes		
DBI, mean [SD]	0.70 [0.1]	0.80 [0.08]
# Claims, mean [SD]	5.3 [3.3]	8.7 [2.4]
ACB, mean [SD]	15.3 [9.1]	N/A

*DBI=drug burden index, ACB=anticholinergic burden index

FIGURE 4. POLY-ACH, ACB

The average total sum of ACB per member in the Pre-Intervention group was 15.3 [9.1] for the December group and 25.9 [12.7] for the February group. A reduction in the average total sum of ACB per member was observed in the December group (12.5 [8.5]; P < 0.001) but this trend was not observed in the February group (22.5 [13.5]; P = 0.21).

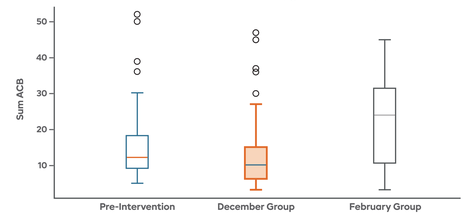


FIGURE 2. COB, DBI

The average DBI in the Pre-Intervention group was 0.80 [0.08] in December and February. There was no change between the Pre-Intervention and December groups, and a decrease for the February group (0.79 [0.08]; P < 0.001).

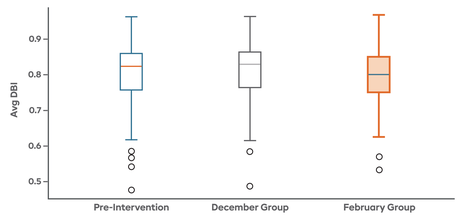


FIGURE 5. POLY-ACH, DBI

The average DBI in the Pre-Intervention group was 0.70 [0.1] in December and February. Both the December and February groups had an average DBI smaller than the Pre-Intervention group (0.66 [0.1]; P = 0.07 and 0.67 [0.1]; P = 0.12, respectively).

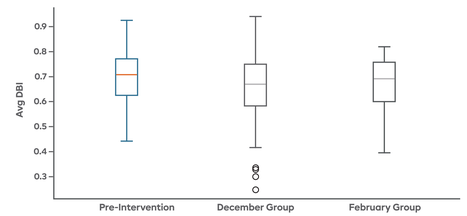


FIGURE 3. COB, CLAIMS

The average number of total claims per member in the Pre-Intervention group was 8.7 [2.4] for the December group, and 9.2 [2.4] for the February group. There was a reduction in the average number of total claims per member in the December group (8.2 [2.7]; P = 0.01) and in the February group (8.5 [2.5]; P = 0.015).

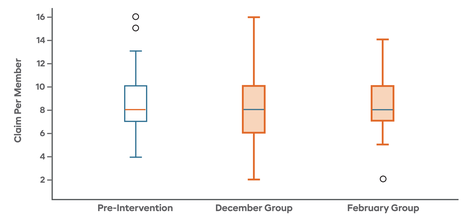
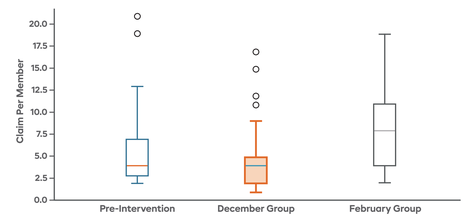


FIGURE 6. POLY-ACH, CLAIMS

The average number of total claims per member in the Pre-Intervention group was 5.3 [3.3] for the December group, and 9.0 [4.9] for the February group. A reduction in the average number of total claims was observed in the December group (4.3 [3]; P < 0.001) but this trend was not observed in the February group (8.1 [4.8]; P = 0.33).



SUMMARY OF RESULTS

Overall, the pilot program helped decrease the number of overlapping claims that would be included in POLY-ACH and COB Star Measures.

CONCLUSIONS

- This pilot program identified members at high risk for inclusion in CMS Star Ratings measures for POLY-ACH and COB, while effectively and significantly removing them from their respective cohorts.
- Integrating this approach into clinical workflows supports early intervention, enhances patient safety through a reduction in medication-related complications, and will improve performance on Star Ratings measures.
- Multiple interventions are needed for POLY-ACH and COB deprescribing due to the challenges faced by both patients and prescribers for tapering, discontinuing, and/or substituting safer and effective agents.

LIMITATIONS

- Interventions were focused on Medicare populations limiting generalizability.
- No causal relationship can be concluded from this study.
- The study was based upon pharmacy claims, not medical claims.

DISCLOSURE

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

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