SPECIALTY PHARMACY INTERVENTION MITIGATES REFILL GAPS IN CYSTIC FIBROSIS

Authors: Mager D[1], Fairbrother E[2], Pitts S[2], Bridges G[2], Dorholt M[2]
1 Express Scripts, a Cigna subsidiary.
2 Accredo, an Express Scripts specialty pharmacy.

BACKGROUND/PURPOSE

Refill barriers are associated with poor outcomes in patients with cystic fibrosis (CF). Hospitalizations, exacerbation risk, and lung function are directly impacted by drug adherence. Our research assessed the impact of proactive clinical outreach to improve CF medication utilization and reduce the number of gaps in care.

METHODS

Retrospective pre-post analysis of continuously eligible patients receiving one or more daily CF treatments. Refill gaps were calculated as difference between anticipated refill and earlier of next fill/discontinuation/study end date. Utilization was assessed by calculating average days supply on hand in each study period. Patient-reported missed doses and reason were assessed. Primary outcomes of interest were the average number and length, in days, of treatment gaps in the pre and post periods. The secondary outcome assessed was the average days supply of CF medications in the pre and post periods.

RESULTS

A total of 829 patients receiving treatment for CF and participating in the clinical gap in care program were evaluated. The average age (standard deviation) of the sample was 23.3 (13.1) years of age and was 52.5% male. The average number of treatment gaps remained consistent between the pre and post periods, 3.73 (2.12) and 3.79 (2.75) respectively. However, the average number of days that the treatment gap lasted decreased from 23.96 (31.40) to 13.82 (17.43) pre to post periods. The analysis was then stratified by three age group: <19, 19-26, and over 26 years of age. Similar to overall findings, the average number of treatment gaps was similar pre to post periods for all three age groups. The <19 age group had the lowest pre period average number of gap days at 22.97 (32.20), while the 19-26 age group had the highest at 26.48 (31.13). Both of these groups showed large decreases in the post period, dropping to 13.31 (15.89) and 18.18 (23.34) respectively. The patients in the oldest group, over 26 years of age, realized the largest gain in average days supply of medication (43.85), going from 194.40 (101.29) to 238.25 (146.63). Patients in the 19-26 age group showed the lowest increase of 11.33, going from 196.90 in the pre period to 208.23 in the post period.

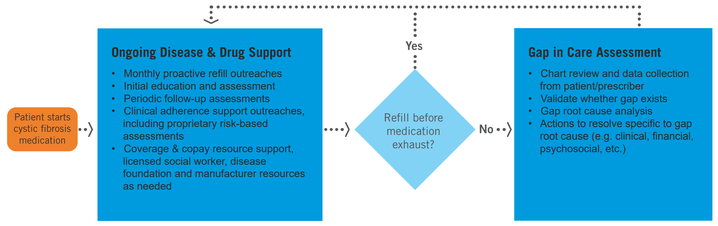
CONCLUSION

CF regimen intensity, patient-burden, and complex appeals all contribute to potential therapy gaps. Data from this study shows that a high-touch, proactive authorization and clinical appeals support programs in our CF disease model appears to have reduced barriers and delays in refilling medications to treat CF in our sample. This program identifies the reason for the treatment gap, notifies the prescribing physician and determines the patient-specific actions to resolve the gap. The analysis results demonstrate that this model reduces the amount of time needed to resolve a treatment gap, driving improved utilization of critical CF medications.Non-adherence in CF is associated not only with increased risk of hospitalization but overall healthcare costs as well (Quittner AL., et al. Chest, 2014; 146 (1):142–51). Our analysis adds to the body of available data on clinical management of medication refill barriers in a CF population with limited patient-reported data.

METHODS

Retrospective pre-post analysis of continuously eligible patients receiving one or more daily CF treatments. Study pre period consisted of 180 days prior to the start of the program and post period consisted of 180 after start. Refill gaps were calculated as difference between anticipated refill and earlier of next fill/discontinuation/study end date. Utilization was assessed by calculating average days supply on hand in each study period. Patient-reported missed doses and reason were assessed. Primary outcomes of interest were the average number and length, in days, of treatment gaps in the pre and post periods. The secondary outcome assessed was the average days supply of CF medications in the pre and post periods. Results were observed for the entire CF population and then segmented by age groups: pediatric (age <19), adolescent (age 19-26), and adult (over 26 years of age).

Figure 1. Gap In Care Program



RESULTS

A total of 829 patients receiving treatment for CF and participating in the clinical gap in care program were evaluated. The average age (standard deviation) of the sample was 23.3 (13.1) years of age and was 52.5% male (Table 1). The average number of treatment gaps remained consistent between the pre and post periods, 3.73 (2.12) and 3.79 (2.75) respectively (p – NS, Figure 2). However, the average number of days that the treatment gap lasted decreased from 23.96 (31.40) to 13.82 (17.43) pre to post periods (p < 0.0001, Figure 3). This drop in the average length in treatment gap contributed to a rise in average days supply of medication for the CF patients, going from 203.81 to 234.94 between the pre and post periods (p < 0.0001, Figure 4).

Table 1: Demographics

	Mean	StdDev
Age	23.29	13.11
Percent Male	52.5%	50.0%

Figure 2. Average number of treatment gaps pre and post period

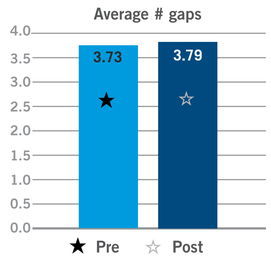


Figure 3. Average number of days per gap pre and post period

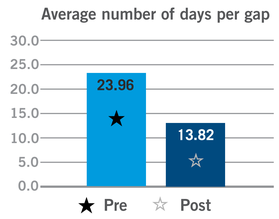


Figure 4. Average number of days supply CF medication pre and post

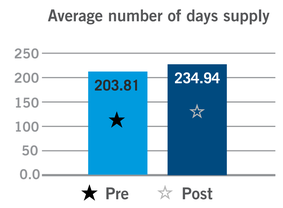
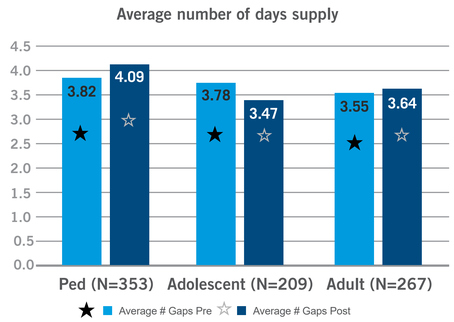
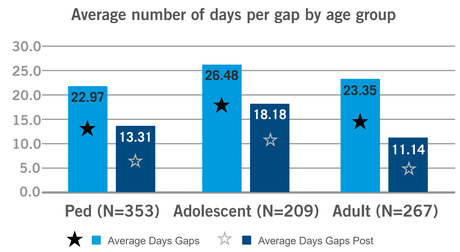


Figure 5. Average number of treatment gaps by age group



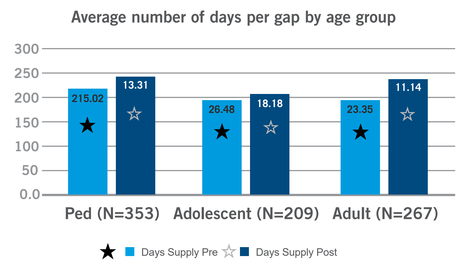
Similar to overall findings, the average number of treatment gaps was similar pre to post periods for the pediatric and adult age groups (Figure 5). The average number of treatment gaps showed slight increases in the pediatric and adult groups (3.82 to 4.09, p NS and 3.55 to 3.64, p = NS respectively) while there was a statistically significant decrease from 3.78 to 3.47 (p = 0.0488) in the adolescent group.

Figure 6: Average number of days per gap by age group



The pediatric age group had the lowest pre period average number of gap days at 22.97 (32.20), while the adolescent age group had the highest at 26.48 (31.13) (Figure 6). Both of these groups showed large decreases in the post period, dropping to 13.31 (15.89) (p = 0.0176) and 18.18 (23.34) (p NS) respectively. The average number of days per gap for patients in the adult age group dropped by over half, going from 23.35 to 11.14 (p < 0.0001).

Figure 6: Average number of days per gap by age group



The patients in the adult age group, realized the largest gain in average days supply of medication (43.85), going from 194.40 (101.29) to 238.25 (146.63) (p < 0.0001) (Figure 7). Patients in the adolescent group showed the lowest increase of 11.33, going from 196.90 in the pre period to 208.23 in the post period (p NS) and patients in the pediatric group increased from 215.02 (104.69)) to 248.26 (141.07) (p < 0.0001).

CONCLUSION

This analysis provides a broad view of treatment gap characteristics across three age groups in the CF population. Interestingly data observing average numbers of days per gap and average number of days supply suggest the CF adolescent population in this study struggle the most with treatment gaps and are perhaps the least amenable to intervention to correct this issue. Data from this study shows that a high-touch, proactive authorization and clinical appeals support programs in our CF disease model appears to have reduced barriers and delays in refilling medications to treat CF in our sample.
This program identifies the reason for the treatment gap, notifies the prescribing physician and determines the patient-specific actions to resolve the gap. The analysis results demonstrate that this model reduces the amount of time needed to resolve a treatment gap, driving improved utilization of critical CF medications. Lower utilization in CF is associated not only with increased risk of hospitalization but overall healthcare costs as well (Quittner AL., et al. Chest, 2014; 146 (1):142–51). Our analysis adds to the body of available data on clinical management of medication refill barriers in a CF population with limited patient-reported data, and confirms the value and effectiveness of a strategic gap in therapy intervention in addition to comprehensive specialty pharmacy services.

1 Quittner AL., et al. Chest, 2014; 146 (1):142–51