Cystic Fibrosis Transmembrane Conductance Regulator Modulator Adherence Across Age Groups in Pharmacy Data

Presented at North American Cystic Fibrosis Conference (NACFC) annual meeting, November 2-5, 2021

Adherence to CFTRm therapies decreases with age but is particularly low among young adults

Background

- For patients with cystic fibrosis (CF), historically complex treatment regimens have made medication adherence challenging. And although, twice-daily, orally administered CFTR modulator (CFTRm) therapies have shown a favorable adherence profile [1], barriers to CFTRm adherence still exist.
- Additionally, CF patients undergo numerous life changes as they approach adolescence and enter young adulthood, which may present a unique set of adherence barriers. This study is aimed at understanding adherence behaviors by age group in order to tailor and personalize solutions to best support patients.

OBJECTIVES

- The objective of this study was to understand how CFTRm adherence varies across different age groups in pharmacy-only data.

METHODS

- Retail pharmacy claims for ivacaftor, lumacaftor/ivacaftor, tezacaftor/ivacaftor and ivacaftor, and elexacaftor/tezacaftor/ivacaftor and ivacaftor from a large, national pharmacy chain for the calendar year of 2020 (1/1/2020 - 12/31/2020) were examined for this analysis.
- PDC was calculated among patients who had at least two fills and examined both overall and by age category in years (< 12, 12-17, 18-24, 25-34, > 35). Patients who switched therapies throughout the year were excluded from PDC estimation but were included in analyses of switching behavior. We used $p < .05$ as our criteria for judging statistical significance.

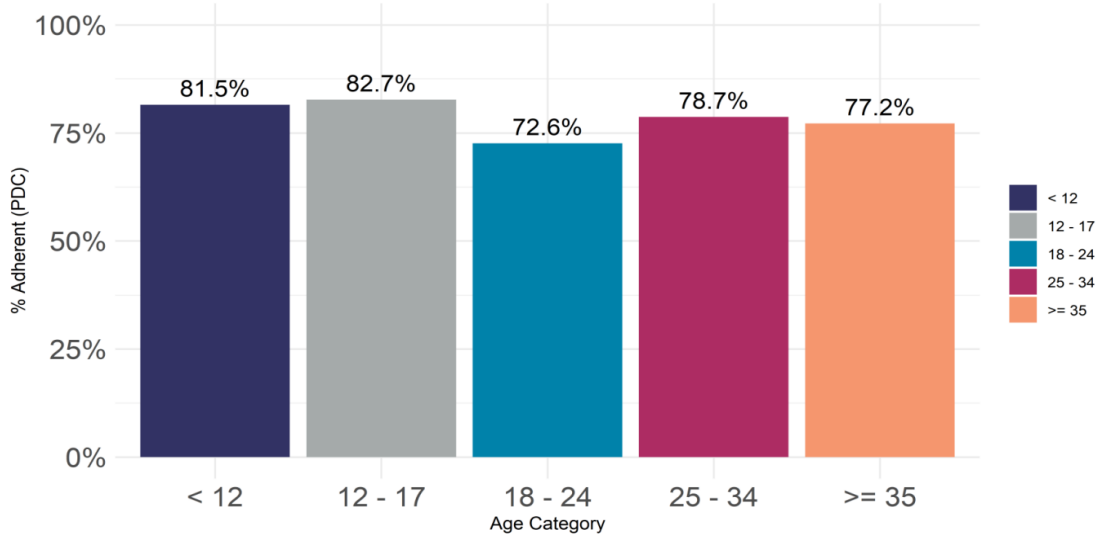
RESULTS

- A total of 1,102 patients had fills for the calendar year. A total of 980 (88.9%) patients were on a single CFTRm therapy for the duration of the calendar year and met PDC criteria. Of these, the majority (n = 688; 70.2%) were elexacaftor/tezacaftor/ivacaftor and ivacaftor patients.

• RESULTS CONTINUED

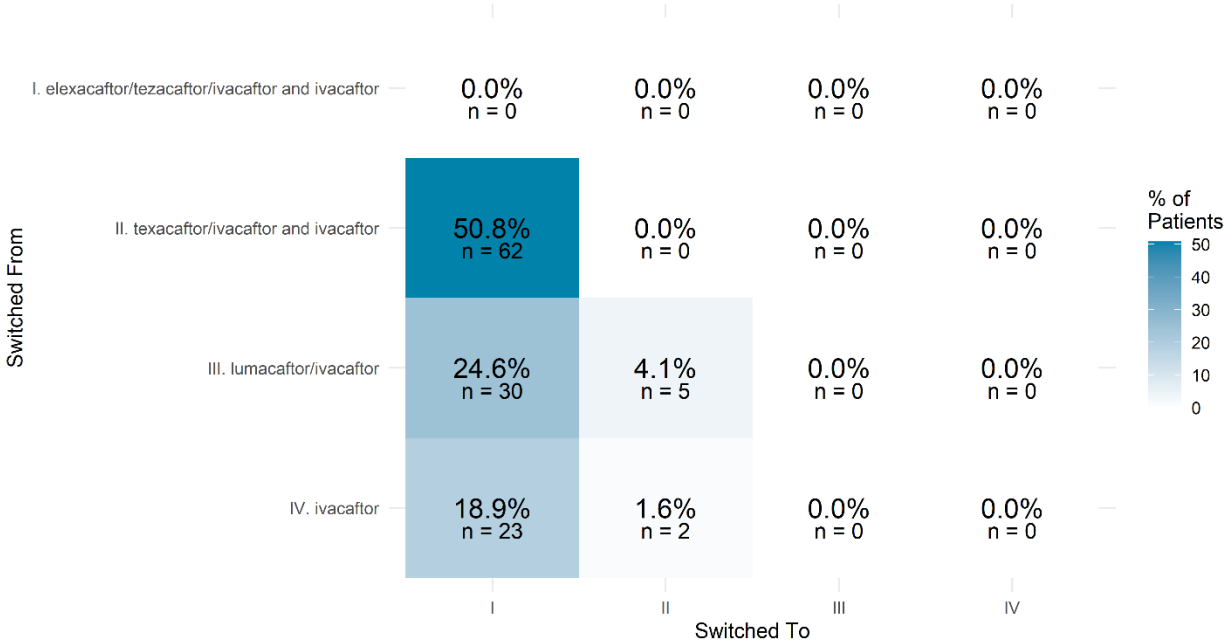
- Overall mean PDC for the sample was 78.5% (SD = 27.0%). Mean PDC estimates were similar for ivacaftor, lumacaftor/ivacaftor, and elexacaftor/tezacaftor/ivacaftor and ivacaftor (78.2%-79.1%) but lower for tezacaftor/ivacaftor and ivacaftor (73.0%).

Figure 1: Mean PDC by Age Category



- There was a significant trend across age categories such that older patients had lower PDC estimates (b = -0.01, p < .05). However, young adults (18-24) had the lowest estimated PDC (M = 72.6%, SD = 2.9%) relative to other age groups (77.2% - 82.7%) **(Fig. 1).**

- Of a total of 122 patients who switched therapies during the study period, 94.3% switched from their index therapy to elexacaftor/tezacaftor/ivacaftor and ivacaftor **(Fig. 2).**



- The largest group of switchers was those who switched from tezacaftor/ivacaftor - and ivacaftor to elexacaftor/tezacaftor/ivacaftor and ivacaftor (50.8%) **(Fig. 2).**

DISCUSSION / CONCLUSIONS

- This study found a trend for a decrease in adherence to CFTRm therapies across age groups. However, young adults had the lowest Mean PDC of any age group. Based on these results, continued adherence support is needed for patients even after they reach adulthood. For example, digital solutions above and beyond traditional refill reminders and adherence programs are likely needed to properly support this patient population. Finally, it may be necessary to provide resources to caregivers of adolescent patients who are nearing adulthood to help prepare them for the transition in responsibility of the patient's care from the caregiver to the patient.

References

References:
[1.]Mehta Z, Kamal KM, Miller R, Covvey J, Giannetti V, Hira N. Economic burden of cystic fibrosis transmembrane conductance regulator (cftr) modulator therapies: analysis of national specialty pharmacy database. Val in Heal. 2019; 22(Supp. 3):S596. https://doi.org/10.1016/j.jval.2019.09.1012

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