

Reducing hospitalizations among COPD patients using the Propeller platform



The Challenge

Medication adherence for asthma and chronic obstructive pulmonary disease (COPD) is essential to preventing avoidable healthcare utilization, such as emergency department visits and hospitalizations. But patients often struggle to adhere to their prescribed regimen, and physicians don't have the objective data to assess how adherent their patients are.

Cleveland Clinic decided to study whether the use of a digital health platform, in combination with a disease management program, helped to reduce healthcare utilization in asthma and COPD patients.

The Outcomes

- The results showed a significant reduction in rescue inhaler use for asthma and COPD, as well as an increase in adherence and an increase in days without rescue use for both conditions.
- COPD-related healthcare utilization compared to the year prior dropped significantly, with patient visits to the hospital decreasing from an average of 3.4 per year to 2.2 per year.

The Program

Between October 2016 and May 2017, Cleveland Clinic enrolled 73 people with asthma and 39 people with COPD onto the program.

Patients were given the Propeller Health digital health platform, which works by connecting a small sensor to a patient's existing inhaled medication. Propeller then transmits data on medication adherence and usage trends to the patient's smartphone or data hub.

Patients were able to track their own medication use and receive reminders to take their prescribed medication, and alerts were emailed to the study team, giving researchers insights on patients' rescue and controller medication use.

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Inhaled medications are the cornerstone of COPD therapy, but the reality is we never know how adherent patients are objectively. Propeller's electronic inhaler monitoring allows us to assess inhaler adherence at the point of care.”

– Umur Hatipoğlu, MD,
Pulmonologist, Cleveland Clinic