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Summary of Key Publications, Conference Presentations, and Testimonials

Publications

JMIR (2023) Published; Reid et al

- **Title and link:** Impact of Remote Patient Monitoring Platform on Patients With Moderate to Severe Persistent Asthma: Observational Study
- **Key Results:** A total of 25 patients participated in this pilot, with a mean age of 57 years (SD 10.7); the majority (92%, n=23) were female. The baseline questionnaire highlighted the app's ease of check-in and asthma plan modification as its top-rated features. Over three months, 2066 check-ins (1550 green, 506 yellow, and 10 red) and 1155 spirometry sessions were recorded. Notably, 64% (14/22) and 91% (20/22) of patients experienced peak flows in their red and yellow zones at least once. The study documented 484 alerts, with 37.2% (n=180) requiring escalation to a physician, leading to interventions such as medication adjustments, medical facility transfers, or additional education.

Annals of Medicine (2024 under review)

- **Title:** Qualitative Thematic Analysis to Evaluate and Refine a Digital Intervention among Asthmatic Patients in a US Medical Center
- **Key Results:** Thematic analysis revealed key insights into patients' experiences with the app, including program engagement, provider relationships, and asthma management. Participants reported high satisfaction, praising the app's usability, efficiency, and positive impact on care. Feedback directly informed real-time enhancements, improving the app's usability and navigation.

Conference Presentations

CHEST 2025 Poster Accepted; Anis et al

- **Title:** Remote Patient Monitoring Program Predicts Early Signs of Exacerbations in Chronic Respiratory Patients
- **Key Results:** Logistic regression analysis identified peak flow (5.43, $p < 0.05$), FEV1 (3.47, $p < 0.05$), and SpO2 (20.9, $p < 0.05$) from baseline as significant predictors of exacerbation risk. The model assessed how deviations from each patient's baseline values influenced alert generation. A decline in peak flow and FEV1 was associated with a higher likelihood of alerts, and a drop in SpO_2 significantly increased exacerbation risk. An alert was associated with a median decrease of 59.42% in FEV1 from baseline. The model demonstrated strong predictive performance, achieving a sensitivity of 91.3% and

an F1 recall of 89.36%, ensuring effective early detection of exacerbations. Overall accuracy was 88.89%, with an AUC of 0.91.

ATS 2025 Poster presentation; Arora et al

- **Title and link:** Remote Patient Monitoring Program Predicts Exacerbations in Chronic Respiratory Illness Patients (Asthma, COPD, & ILD)
- **Key Results:** Logistic regression analysis identified peak flow (OR: 0.01, $p < 0.013$), FEV1 (OR: 0.19, $p < 0.013$), SpO2 (OR: 0.73, $p < 0.013$) and female (OR: 12.6, $p < 0.21$) as significant predictors of exacerbation risk, with higher values in peak flow, FEV1, and SpO2 associated with a reduced risk of exacerbations and females have a higher risk of getting an exacerbation. In the model targeting high-risk cases, 90.6% of alerts were accurately predicted (sensitivity=96.3%), missing 1 out of 53 alerts (AUC=0.98). The second model, focused on low-risk cases, 88.7% of alerts were accurately predicted (sensitivity=96.2%), missing 1 out of 53 alerts (AUC of 0.90).

AAAAI 2025 Poster presentation; Anwar et al

- **Title and link:** Predictive Analysis Model for Exacerbations in Asthmatics Patients on a Remote Patient Monitoring Program
- **Key Results:** Logistic regression revealed that age (OR: 18.9, $p < 0.04$) and FEV1 (OR: 0.007, $p < 0.04$) were significant predictors of asthma exacerbation risk, with older age linked to higher risk and elevated FEV1 values associated with reduced risk. One model, which targeted high risk cases, 88.7%(sensitivity=95.8%) of alerts were accurately predicted, missing 1 of 53 alerts (AUC = 0.90). The second model, focused on low risk cases, achieved an accuracy of 92.5%(sensitivity=95.3%), also missing 1 of 53 alerts (AUC = 0.77).

CHEST 2024 Poster presentation; Divgi et al

- **Title and link:** Prevention Of ER Visits In Chronic Asthma And COPD Patients Through Early Signaling Captured By A Remote Monitoring Digital Intervention
- **Key Results:** Over a year, the care monitoring team recorded 20 escalations based on patient-reported daily check-ins. Symptoms were color-coded as green (none), yellow (mild), or red (severe), with scores assigned to quantify data (red = 1, yellow = 2). Diagnostic measurements from spirometry and oximetry were compared to patient signals. Alerts were triggered for three consecutive yellow signals (70% of patients) or a single red signal (40% of patients), prompting physician follow-ups for medication adjustments or appointments. Significant correlations ($p < 0.05$) were observed between patient-reported signals and diagnostic data (spirometry $r = 0.52$, oximetry $r = 0.65$). Escalations effectively prevented ER visits by addressing worsening symptoms early.

AAAAI 2024 Poster presentation; Scott et al

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- **Title and link:** Effects of Remote Patient Monitoring on Patients Prescribed Biologic Medications
- **Results:** Mean age was 49 years. Data for FEV1, FEV6, PEF, FEV1/FVC as well as the best predicted & LLN values was reviewed daily. Patients completed 363 spirometery sessions and 361 oximetry sessions. 6 alerts were sent out by the care team to the physician's office. The patients on biologics made a total of 385 colored check-ins. From month 1 to month 7, on average, the patients on biologics saw a 9% decrease in mild symptom days, a 32.5% increase in no symptoms days, and no change in severe days they experienced.

AAAAI 2024 Poster presentation; Garrett et al

- **Title and link:** Patient Engagement on a Remote Therapeutic Monitoring Program for Chronic Disease Management of Asthma
- **Results:** The mean age was 42, and 11 alerts were sent out by the care team to the physician's office. Over 7 months, patients recorded 1008 spirometry and 949 oximetry readings, reported their medications, and entered their colored check-ins, NPS scores averaged 80 indicating patient satisfaction and engagement with the program.

DTX East 2023 Oral presentation; Rajput et al

- **Title:** Qualitative Thematic Analysis of Patient Reported Outcomes for a Digital Intervention among Asthmatic Patients in a US Medical Center
- **Results:** Prominent themes were patients' positive experience with the technology and devices (119 references), patient compliance and engagement (n=30), a positive impact on their relationship (n=25) with their provider and management of their asthma (n=25). 100% of patients stated that they had a positive experience with the program and would refer it to a friend.

CHEST 2022 Oral presentation; Reid et al

- **Title and link:** Clinically Meaningful Data from Remote Spirometry Monitoring in Asthma Management in a US Based Observational Study
- **Results:** The mean patient age was 57 years, and 1155 spirometry sessions were completed over 9 months. Key metrics (FEV1, FEV6, PEF, FEV1/FVC, Best Predicted, LLN) were reviewed daily, with flow volume loops assessed to ensure proper technique and provide retraining if needed. Over the program, 60.9% of patients had peak flows in the red zone at least once, and 87% in the yellow zone. Three consecutive yellow or red zone values, combined with worsening symptoms, triggered alerts to the physician's office for further action.

CHEST 2022 Oral presentation; Anis et al

- **Title and link:** Remote Patient Monitoring Study Among Patients with Asthma: A Single Center Experience

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- **Results:** The pilot included 25 patients (mean age 57, 23 female). A baseline questionnaire highlighted ease of check-in and asthma plan modification as top features. Over the study, 2066 check-ins (1550 green, 506 yellow, 10 red) and 1155 spirometry sessions were recorded. Of 484 alerts, 37% required physician escalation, leading to interventions such as medication changes, medical facility transfers, or additional education.

Voices of Customer and Patient

Speakers: Dr. Jackie Garrett, Allergist
Title: Using Keva program for patients for over 1.5 year
Link: https://www.youtube.com/watch?v=P5EasdQ9KmQ

Speakers: Mr. Joe Diver, Chief Information Officer
Title: Testimonial from CIO of a large healthcare system
Link: https://share.vidyard.com/watch/f4UEu7gC16k5iRttVq3wmd

Speakers: Ms. Maria, Keva Patient
Title: Testimonial from an Asthma patient
Link: https://share.vidyard.com/watch/GJ18oDT5UHcy77eYuh7pff

Speakers: Dr. Reid, Pulmonologist
Title: Completion of validation study at a large hospital
Link: https://share.vidyard.com/watch/NBuurv8dejLkZd3AteuLmu

Product Video

Link: https://youtu.be/U-Ayq1pGBao?feature=shared