

1.10 Accessibility, Usability and Utility of an app-based Digital Asthma Diary

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Background: Peak Expiratory Flow (PEF) measurement is widely used in the home management of asthma, despite low compliance levels and high diary fabrication rates^{1,2}. Digital PEF measurement and recording has the potential for higher compliance and minimal data fabrication. **Methods:** 31 asthma patients managed by Mayo University Hospital were provided with an app and digital PEF meter to test the accessibility, usability and utility of an app-based digital asthma diary. The primary endpoint was the fill rates of asthma diaries. **Results:** Out of 31 patients sharing data with the clinic, 18 started taking regular readings - in line with the roughly 50% take-up rate at service evaluations elsewhere. During the typical 3-month period between secondary care visits, patients recorded weekly average (SD) 7.0 (1.2) PEF recordings, 4.8 (0.6) Symptom scores and similarly 4.8 (0.6) Reliever inhaler use recordings. Over 0% of patients found the digital diary more convenient than taking notes on paper and deemed the built-in Asthma Action Plans useful in self-management. **Conclusions:** Secondary care asthma patients broadly accept smartphone-based digital asthma diaries. The quantity and reliability of data recorded during 3 months are much superior to results documented with mechanical PEF meters. **Keywords** Digital asthma diary, PEF diary, **Disclosures:** **Conflict of Interest:** The Authors declare that they have no conflict of interest.