

The impact of a physiologist-led remote monitoring programme for people with severe asthma

Megan Robshaw¹; Emma Raywood¹; Helen Parrott¹; Helen James²
NuvoAir Clinical Team¹; Liverpool University Hospital NHS Foundation Trust, UK²

Introduction

Remote monitoring in people with asthma can aid clinical decision making, track response to treatment and support severe asthma services to monitor home administered biologic therapy. However, the quality of and engagement with home spirometry in an adult asthma population is unclear (Kupczyk et al., 2021). This interim analysis investigated the quality, engagement and experience of a remote monitoring programme for people with severe asthma, supported virtually by respiratory physiologists.

Methods

A group of 48 patients receiving biologic therapy (20 male, 28 female) mean(\pm SD) age 52.9(\pm 13.9) years, were referred to NuvoAir's asthma programme by Liverpool University Hospital's severe asthma service for a period of home monitoring. Participants performed home spirometry, using NuvoAir's Air Next spirometer and mobile app, once weekly and when symptomatic. NuvoAir physiologists onboarded participants virtually and provided coaching to ensure independent quality assured spirometry. A questionnaire was distributed to patients in the programme to evaluate their experience.

Results

A total of 1138 spirometry sessions were analysed. The median (IQR) **engagement to a once weekly spirometry session was 95% (58-116%) with 76% of tests performed achieving acceptable grade A-C spirometry** (ATS/ERS 2005 guidelines) (Figure 1). 57% of patients responded to the questionnaire, results of which are displayed in figures 2 & 3.

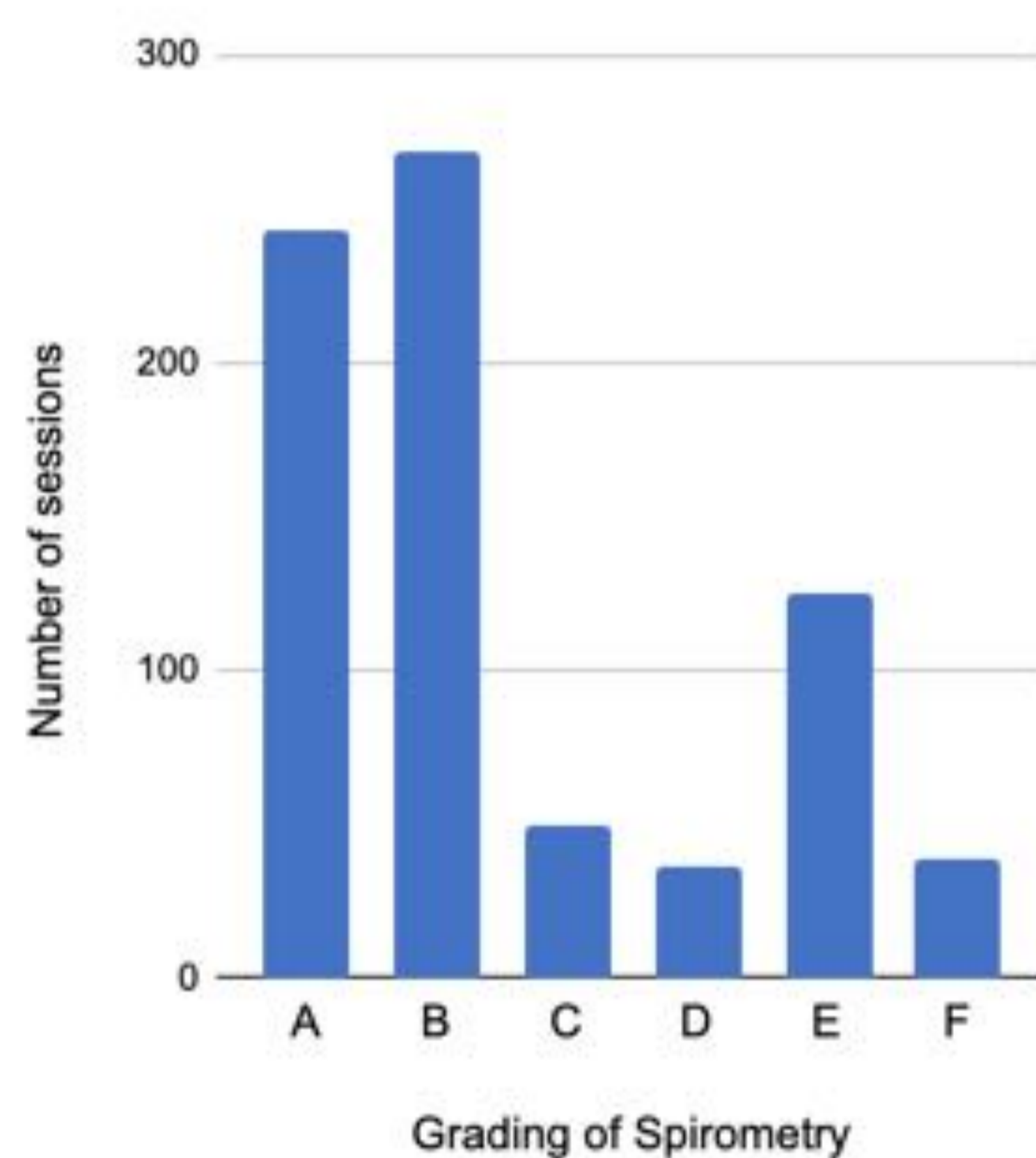


Figure 1: Quality of 1138 spirometry sessions

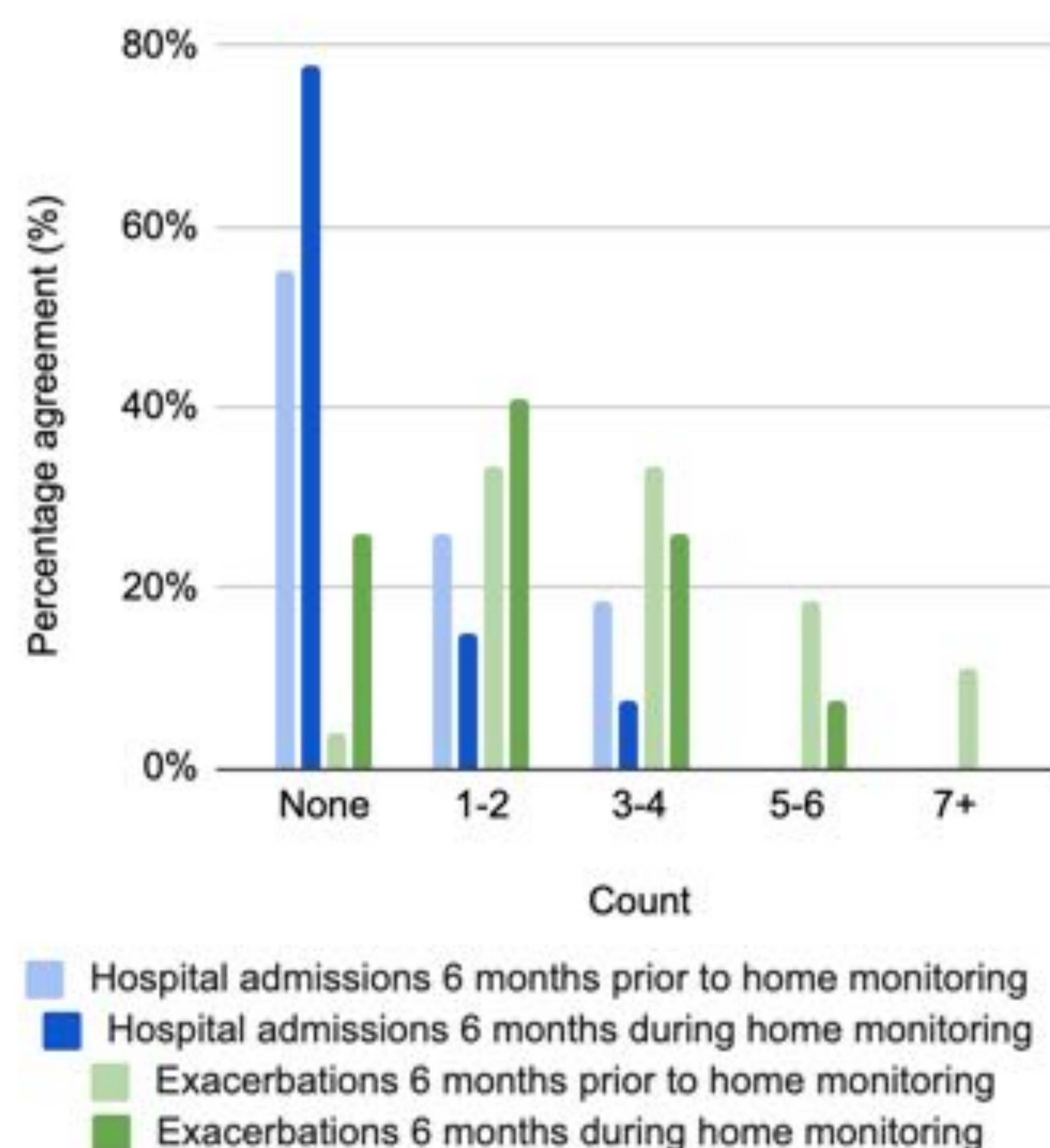


Figure 2: Self reported questionnaire measures

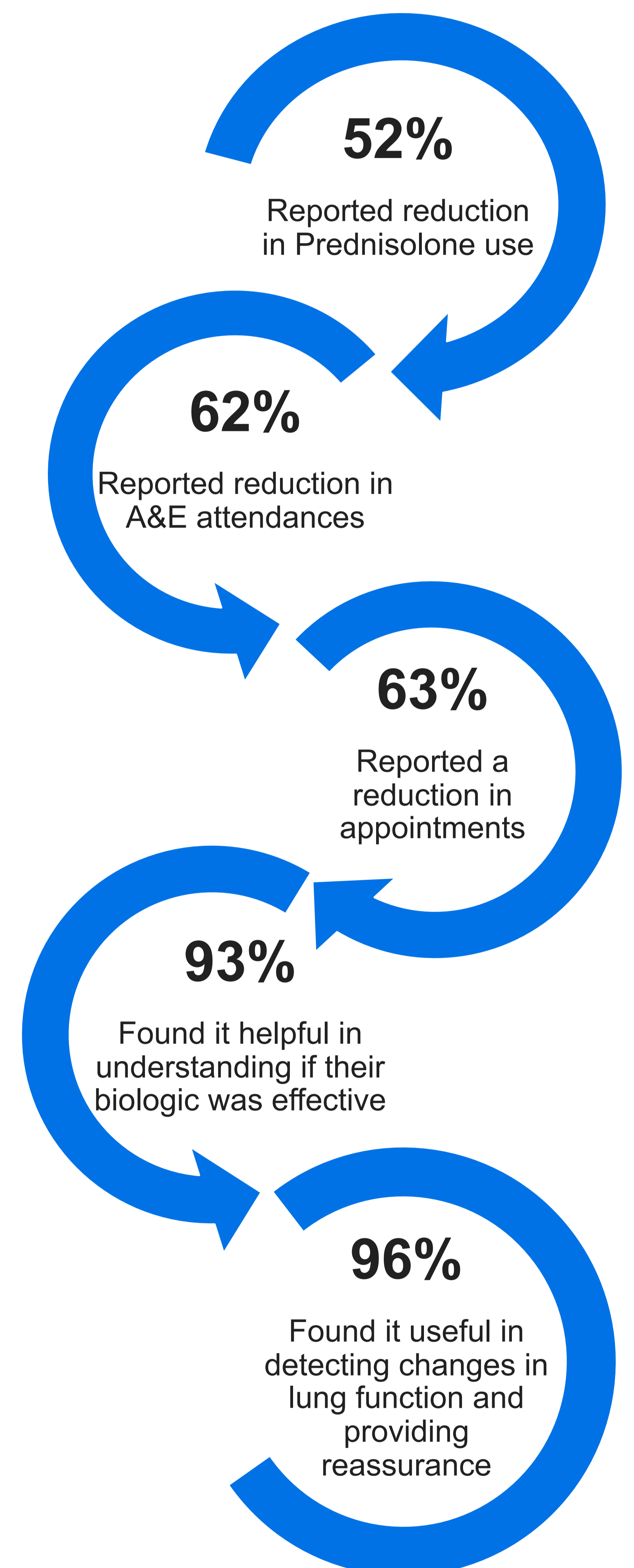


Figure 3: Patient reported results

Conclusions

This cohort of people with severe asthma utilising home monitoring received personalised physiologist coaching and support which resulted in both high engagement and high data quality. The majority of patients reported a reduction in hospitalisations and A&E attendances, better understood their lung health and treatment effectiveness and were reassured by the ability to monitor their lung function at home. The impact of this model could transform biologic homecare regimes, promote a better understanding of health and reduce the burden of care for people with severe asthma.



Reference:

Kupczyk, M., Hofman, A., Kołowski, Ł., Kuna, P., Łukaszyk, M., Buczyłko, K., Bodzenta-Łukaszyk, A., Nastalek, P., Soliński, M., Dąbrowiecki, P., 2021. Home self-monitoring in patients with asthma using a mobile spirometry system. *Journal of Asthma*, 58(4), pp.505-511.