Case Management Approach to Reduce Asthma Exacerbations and tackling health inequalities

(UHL, Primary Care, Public Health & UoL)

Contents

Authors

Jayashree Pathak-Public Health Registrar, Leicestershire County Council

Hollie Hutchinson- Strategic Lead for Health Improvement, Leicestershire County Council

Kajal Lad- Strategic Lead for Healthcare Public Health, Leicestershire County Council

Leslie Borrill- Project Lead/ Medical Director-Charnwood General Practice (GP) Network

Onyeka Umerah- Project Lead/Consultant Respiratory Medicine, University Hospitals of Leicester (UHL) NHS Trust

Annette Durant- GP Partner, Bridge Street Medical Practice

Kristy Mackinson- Head of Primary Care Network (PCN) Development, Charnwood GP Network

Bharathy Kumaravel- Project Lead/Consultant Public Health, Leicestershire County Council/Associate Professor Public Health

Introduction

The district of Charnwood in Leicestershire is home to a population of 184,000 as per the 2021 census, having increased by 10.8% from 2011, which is greater than the rise in both East Midlands (7.7%) and England (6.6%). The average (median) age is 39 years, with the number of residents 65 to 74 years of age having increased by 30.1% from 2011. While 84.8% of the local population was born in England, the next most represented country was India at 2.5%. The 2021 Census Data also showed that ethnic group-wise, the majority (82.3%) of people belonged to the ‘White’ category, followed by 12.4% of the ‘Asian, Asian British or Asian Welsh’ group, 2.5% within the ‘Mixed or Multiple’ category and 1.5% within the ‘Black, Black British, Black

Welsh, Caribbean or African' group. With respect to people's opinions on their health status in 2021, ranked from very good to very bad on a five-point scale, 45.8% were 'very good', 35.1% 'good', 3.4% were 'bad' and 1% 'very bad', although this may have been affected by the COVID pandemic at the time[i]. Charnwood has the highest proportion of its population living in areas in the most deprived decile in the county (14.9%). It has between 1 and 4 Lower Layer Super Output Areas (LSOAs) that fall into the 10% most deprived (nationally) for income, employment, education, health, crime, living environment and IMD (Index of Multiple Deprivation). According to Aristotle data (2023), asthma (3005 patients) and hypertension (2840 patients) form the two most common long-term conditions for people living in the most deprived 20% Lower Layer Super Output Areas (LSOAs) and registered with a General Practice (GP) surgery in Leicestershire[ii].

Among Charnwood residents, 13.6% (24,384) are registered as having asthma, and 7.0% of them (1,714) live in the 20% most deprived areas (LSOAs). The highest number of patients with asthma belong to the age group of 35-64 years (11,094) followed by the 18-34 age group (6,731). In addition, 58.6% (14,298) patients also have comorbidities[iii].

In order to reduce system pressures ahead of winter and increase asthma care plans, the Charnwood GP Network reviewed patient records [Carillon and Beacon Primary Care Network (PCN)] who had been using 3+ inhalers in the past 12 months but had not received an asthma review, and invited them to attend an asthma review at their GP surgery between November 2022 and January 2023. As a follow on from the above, Public Health and Charnwood GP Network explored collaboration with the UHL respiratory team to enhance the community based respiratory clinic. The Leicestershire Academic Health Partnership (LAHP) launched an asthma management project in April 2023, as a collaborative approach between Leicestershire County Council Public Health, the University Hospitals of Leicester (UHL) NHS Trust, Charnwood GP federation and the University of Leicester (UoL). Inspired by community-based success, it introduced a virtual asthma ward Multi-Disciplinary Team (MDT) led by a respiratory physician. The project involved upskilling primary care staff to engage in personalised patient care and empower eligible patients to practice proactive routine self-care to reduce asthma exacerbations and consequent hospital admissions[iv].

Aims and Objectives

1. Review case notes of patients with persistent asthma who were on 2 courses of oral corticosteroids or more than 5 short-acting beta agonists in the past 12 months
2. Identify opportunities for improvement in patient care
3. Enhance Primary Care by upskilling primary care staff ultimately reducing asthma exacerbations and avoiding unnecessary Emergency Department admissions.
4. Reduce inequalities in care between the most and least deprived areas.
5. Adopt a "Making Every Contact Count" approach, seeking to raise awareness about asthma among the working-age population and promote a healthier community[v].

Methodology

The following actions were undertaken as part of the LAHP initiative:

1. Respiratory physician-led MDT discussions of management plans for patients with persistent asthma, defined as having required 2 courses of oral corticosteroids or more than 5 short-acting beta agonists in the past 12 months, and sharing learning with frontline staff through training sessions.

2. Community outreach events where patients were invited for a one-stop shop covering advice on health, inhaler technique, finances, warm homes, social prescribing, and physical activity. Focus group discussions were organised by public health on these events where patient experiences with asthma management were captured.

Results

Patient Demographics at MDT Discussions

Till date, case notes of 111 patients have been reviewed in 10 MDT meetings, with majority belonging to the White ethnic group (46.85%), followed by the Mixed or multiple ethnic groups (23.42%) and the Asian and Asian British group (12.61%). The 51-60 age group saw the

greatest proportion of patients (22.52%). Females (52.2%) were slightly greater than males (47.7%).

Figure 1: Total MDT discussions, by gender

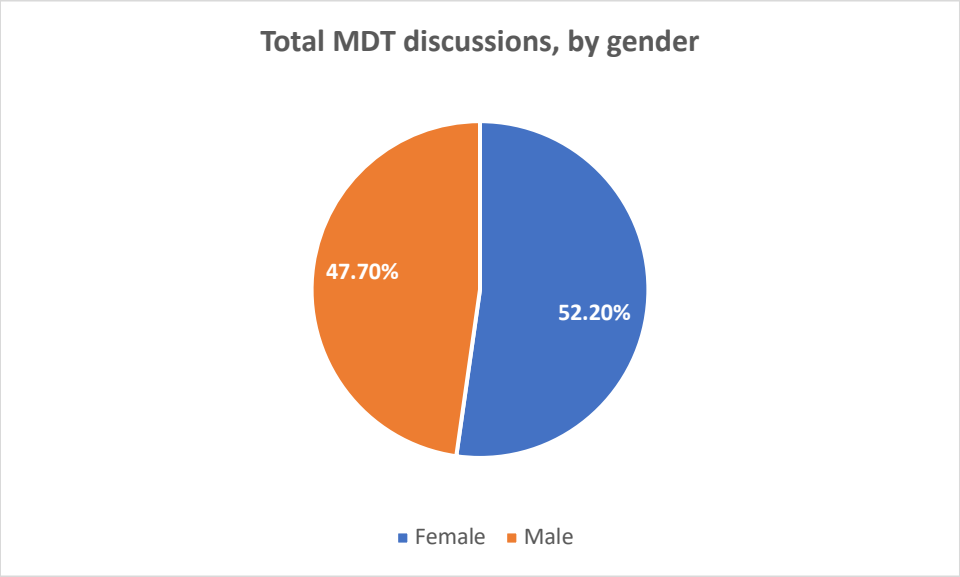


Figure 2: Total MDT discussions, by broad ethnic group

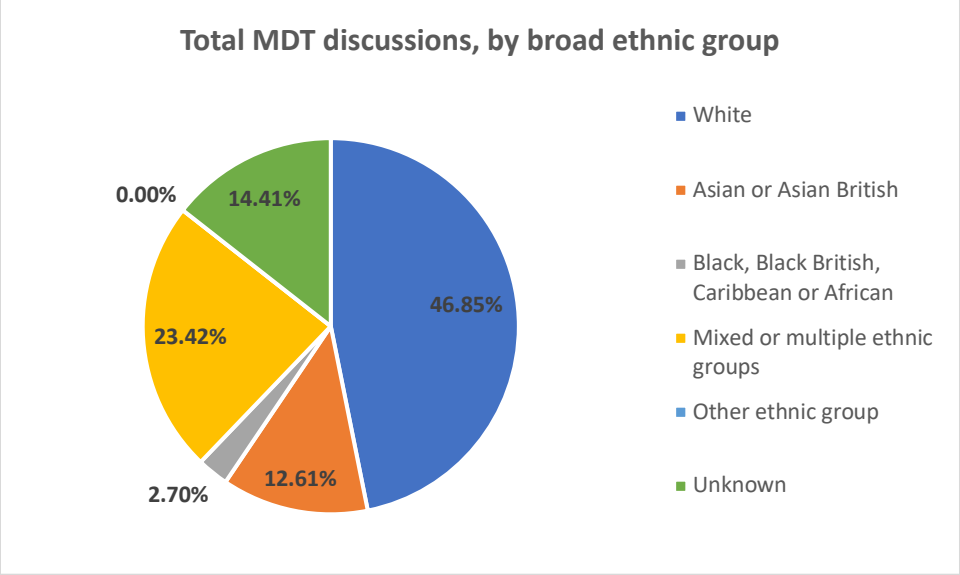
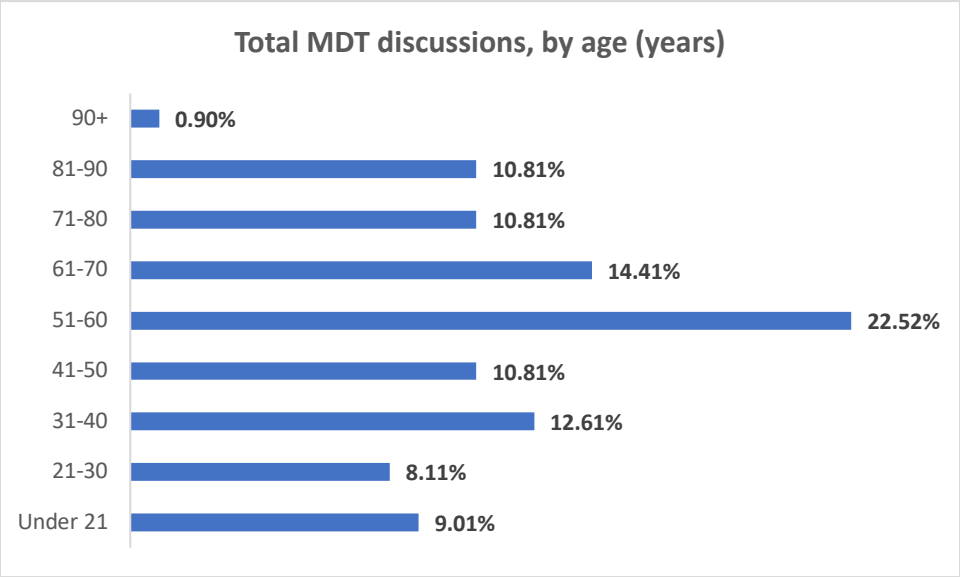


Figure 3: Total MDT discussions, by age (years)



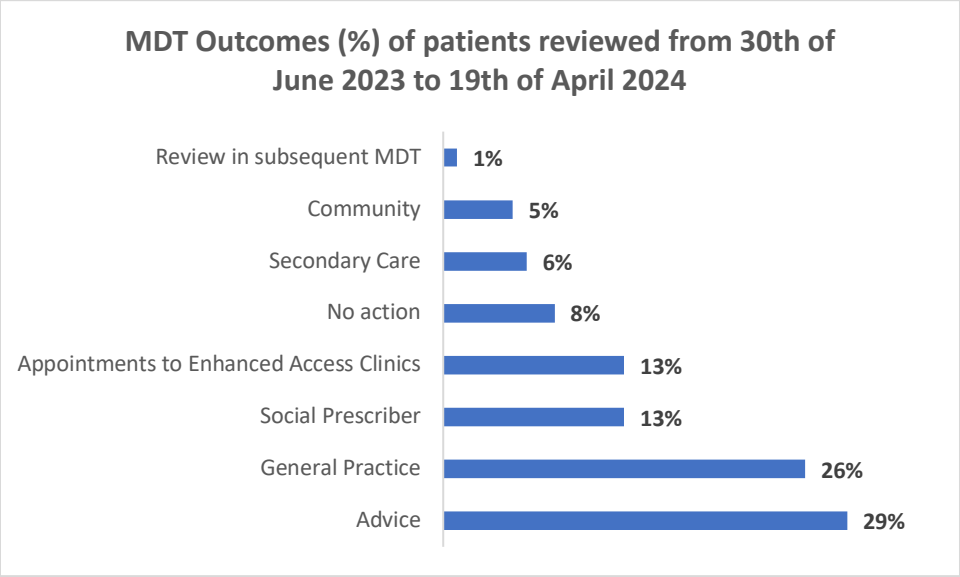
MDT Outcomes (30th of June 2023 to 19th of April 2024)

Most discussions involved pharmacist input around optimisation of asthma medications. The common themes for clinical advice were:

1. Optimising asthma preventer medication as per the Leicestershire Medicines Strategy Group (LMSG) guidelines for asthma, particularly switching to MART (single Maintenance And Reliever Therapy) for patients with suboptimal pick-up rates of their preventer medication but high pick-up rates of salbutamol.
2. Advising change of inhaler device from MDI (Metered Dose Inhaler) to Dry Powdered Inhaler (DPI) where possible, in view of inhaler environmental impact.
3. Reducing unnecessary routine monthly salbutamol issues on prescriptions, in view of environmental impact.
4. Reviewing additional comorbidities that can worsen asthma control or affect patients' behaviour with medication use (e.g., smoking, high BMI, anxiety, depression, breathing pattern disorder, vocal cord dysfunction), and referring to social prescribers where psychosocial issues seemed to be a contributory factor.

5. Referring for primary care review in enhanced access to review asthma management plans/inhaler technique due to prior history of non-engagement with asthma reviews during "normal" clinical hours.
6. Requesting objective lung function with exhaled nitric oxide/spirometry either to objectively measure asthma control or to check the diagnosis (a few cases).
7. Considering referral to community respiratory teams for patients with both asthma and COPD (a few cases).

Figure 4: MDT outcomes (%) of patients reviewed from 30th of June 2023 to 19th of April 2024



Community Outreach Events and Focus Group Discussions

Figure 5: Flyer for the first community outreach event

Two community outreach events were organised at Fearon Hall (Rectory Road, Loughborough, LE11 1PL) where patients with asthma were invited to attend a one-stop shop covering multiple aspects of their asthma management such as health, inhaler technique, finances, warm homes, social prescribing, and physical activity. 33 patients attended the first event on the 29th of November 2023, of whom 14 participated in focus group discussions. The second event on the 30th of April 2024 was held between 4 and 6 pm to make it easier for the working-age population to attend. The event in April had 12 new patients attend, with 7 participating in focus group discussions. Of the 7 participants, all belonged to the White ethnic group, and were equally distributed in the 35-40, 50-69 and 70+ age groups.

The following themes were elicited from the focus group discussions:

Theme	Examples
Asthma management	• Unable to look after asthma • Had confidence in using inhaler • Cigarettes were used to help breathing • Light exercise helps • Desire for more information • Uncertainty about worsening symptom threshold • Conflicting sources of information on the internet • Symptoms of asthma masked by comorbidities • Issues with using equipment • Medication side-effects • Motivated towards self-care owing to belongingness towards their family members, particularly children • Desire to be physically active
Healthcare access	• Difficulty in meeting the same GP and securing an appointment • Limited time with GP to discuss everything (some patients felt compelled to prioritise certain health concerns over asthma due to appointment constraints) • No regular check-ups/asthma updates • Access to transport • Concerns about 'wasting' the GPs' time
Triggers	• Animal fur

	• Dust • Moisture in air (damp weather) • Mould • Household sprays/body sprays • Anxiety • Smells • Weather • Cooking • Comorbidities
Service Improvements	• Face to face appointments • Priority to asthma patients • More available GP appointments • Home visits for asthma patients • Regular asthma check-ups

Feedback from patients who attended the outreach events was largely positive, with patients appreciative of the location accessibility, availability of information at the one-stop shop, ability to express themselves openly, and helpful interactions with others. However, there were concerns expressed around not getting enough time to visit all stalls and clarity around event information.

Figure 6: Summary of feedback (strengths) on community outreach event received from attending patients

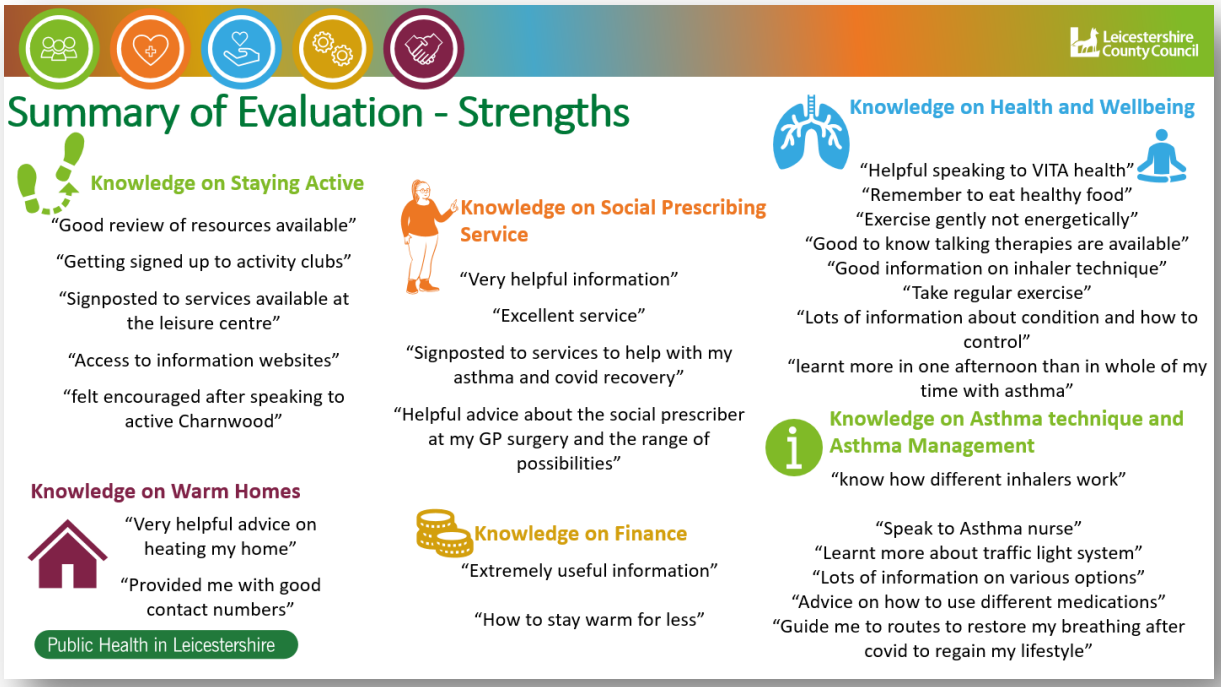
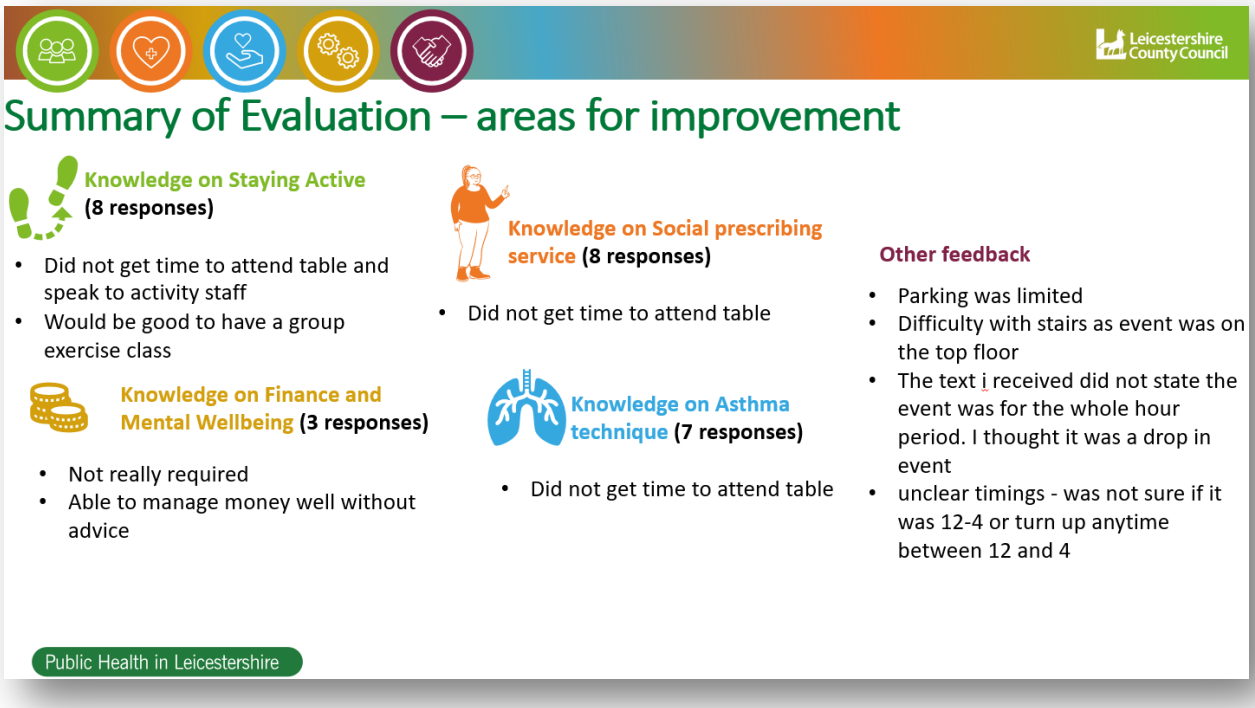


Figure 7: Summary of feedback (areas for improvement) on community outreach event received from attending patients



Recommendations

A. Personalised and person-centred care

1. Provide training, possibly utilising protected learning time on how to adopt a more person-centred approach to asthma management, linked to MECC.
2. GP practices to investigate the feasibility of offering patients with asthma the choice of face to face or telephone appointments for their reviews.
3. Look at opportunities to book in follow up appointments for patients. This could reduce overall appointment numbers as patients know they have an appointment coming up.
4. Look at strategies to get patients and practitioners on the same team, so the patients have confidence that the practitioner is on their side and wants to support them with their asthma management.

B. Communications

1. Build a good digital resource bank, or signpost to existing resources which support proper asthma management
2. Create a proactive approach to asthma communications, raising awareness of symptoms, how to manage appropriately and reducing the stigma attached.

C. Data and outcome monitoring

Next Steps

1. An LLR-wide training hub teaching session is being planned for the 28th of June 2024 between 12-2 pm, for primary care frontline staff (about 150 delegates are expected to attend) to share lessons from this project. Training will be delivered jointly by primary and secondary care physicians.

2. Based on this feasibility study, a research proposal will be submitted to explore underserved communities' perceptions of barriers and enablers towards health-seeking behaviour for long term health conditions. Concurrent discussions with the ICB Research

Strategy Group generated feedback that the identified focus group themes were common to many other long-term conditions. Hence, the research proposal aims to expand this approach to cardiovascular disease and cancers along with asthma, among underserved communities, covering the county of Leicestershire as a whole, with early discussions already being held with UoL colleagues.

References

[i] How life has changed in Charnwood: Census 2021 [Internet]. [cited 2024 May 10]. Available from: https://www.ons.gov.uk/visualisations/censusareachanges/E07000130/

[ii] Leicestershire 2022-2025 JSNA [Internet]. www.lsr-online.org. 2024. Available from: https://www.lsr-online.org/leicestershire-2022-2025-jsna

[iii] Aristotle data. Accessed May 2024.

[iv] Kumaravel B. Leicestershire Academic Health Partnership (LAHP) Board Report. Leicestershire (United Kingdom). May 2024.

[v] HealthyWorkplaces [Internet]. www.healthyworkplacesleicestershire.co.uk. [cited 2024 May 10]. Available from: https://www.healthyworkplacesleicestershire.co.uk/