

Background

Air pollution is the largest environmental risk in the UK. There are no safe levels of exposure to the main pollutants of concern (nitrogen oxides and particulate matter). Air pollution has a negative impact on health across the life course, with effects on respiratory, cardiovascular, and maternal health. It tends to be disproportionately experienced (see Figure 1).

The mortality burden of long-term exposure to outdoor air pollution in England in 2019 was estimated to be equivalent to 26,000 to 38,000 deaths a year (UKHSA). In Leeds, it is estimated that 54 of every 1,000 deaths can be attributed to air pollution (Fingertips, 2021).

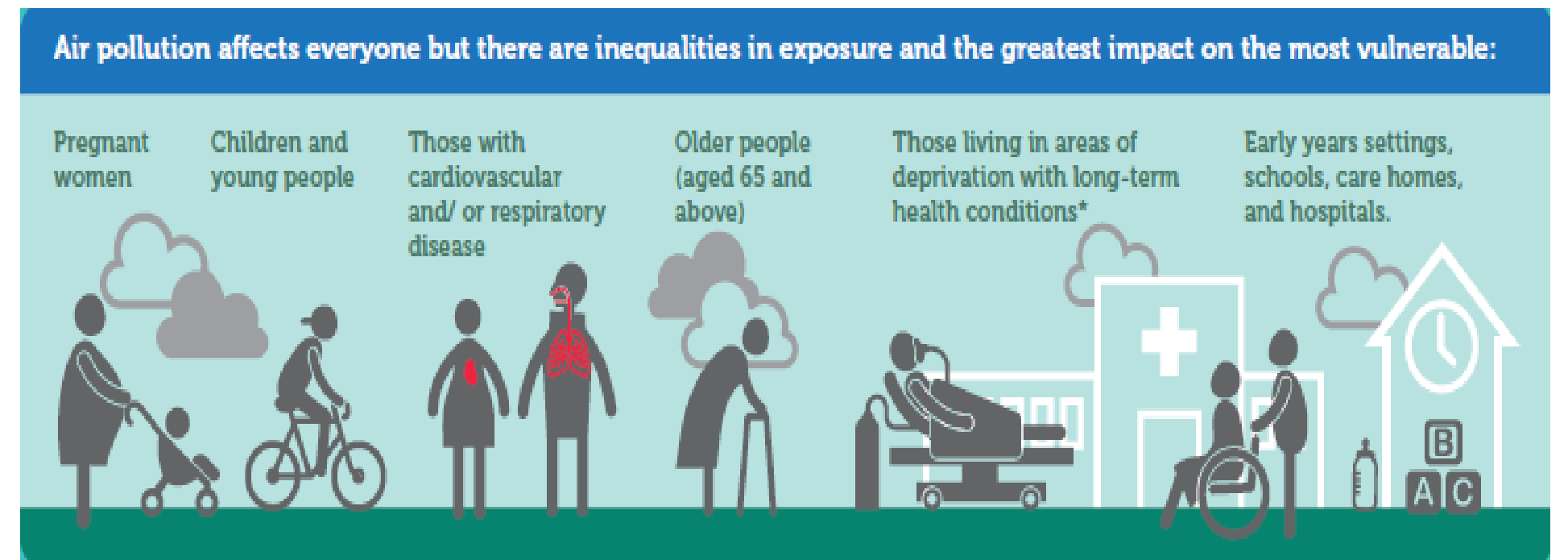


Figure 1: Populations at higher risk of the impact of air pollution

Local response

The Health Protection team in Leeds City Council have worked with partners on a number of work programmes to mitigate the health impact of air pollution on the local population. The four initiatives below highlight our current priorities:

1. Leeds Air Pollution and Health Group

This citywide multi-agency partnership (involving Environmental Health; NHS; Housing; Highways and Transport; University of Leeds; Climate, Energy and Green Spaces) is accountable to the Leeds Health Protection Board and Leeds Health and Wellbeing Board. The partnership ensures a collaborative approach for action, planning and prevention to address the impact of air pollution on health in Leeds.

2. Air quality alerts system

Subscribers are alerted by email when the Met Office forecasts a 'High' or 'Very High' pollution episode. These alerts are issued by Leeds City Council. They provide health messages for the public and for those most at risk of the impacts of poor air quality.

Nearly 2,000 individuals and local organisations in Leeds are subscribed to receive these alerts. These include all education establishments, care homes, third sector organisations, home care providers and GP practice managers.

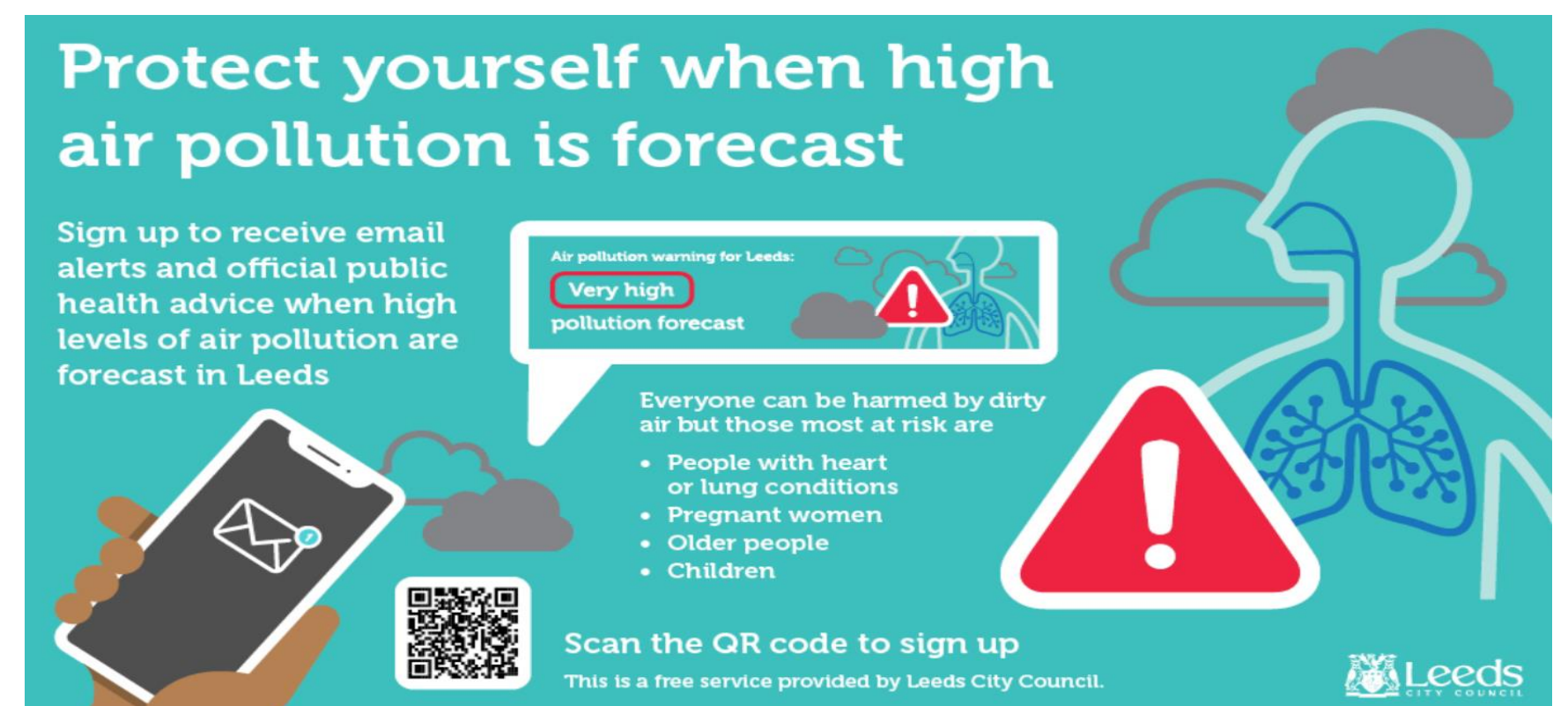


Figure 2: Leeds Air Quality Alerts System poster and QR code

3. Developing a strong workforce development offer

Leeds hosted the Every Breath You Treat virtual conference in 2022. This was the first of its kind to bring together national experts in air quality and health to specifically focus on the development needs of clinicians.

The Clean Air Leeds website promotes guidance and advice to the public and the wider health workforce on reducing emissions and protecting health from air pollution.

Training for third sector and wider public health workforce colleagues is regularly delivered. This focuses on the health impact of outdoor and indoor air pollution and uses Making Every Contact Count (MECC) principles.

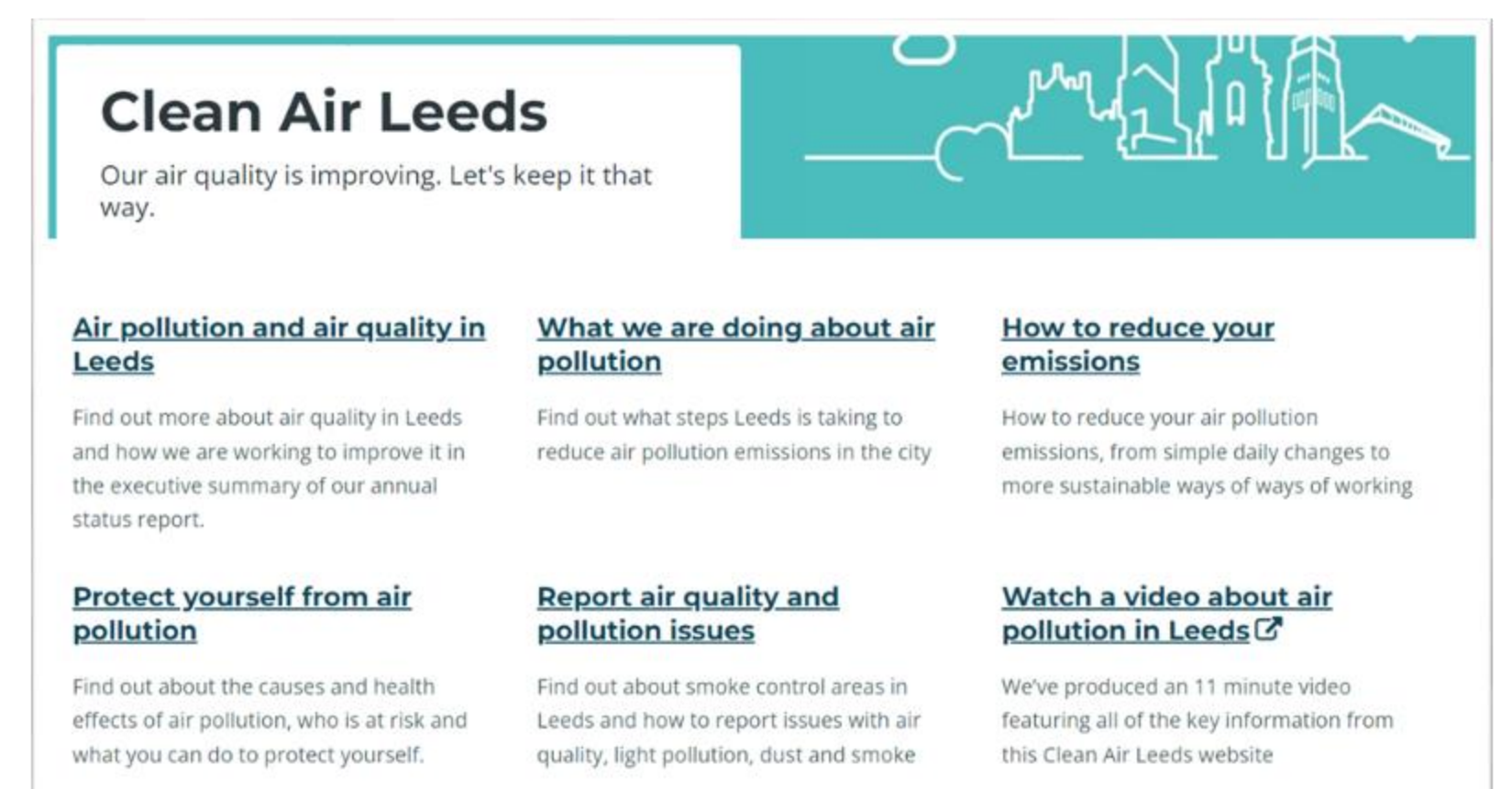


Figure 3: Clean Air Leeds website

4. Air Quality Health Needs Assessment (HNA)

Undertaking the HNA helped us to understand the impact of air pollution on different health conditions across the life course. It also presented data on health prevalence in the city and captured the views of local residents. The HNA allowed us to start targeting activity and support where the need is greatest.

The HNA found:

- Asthma prevalence in Leeds increased in 2020 and 2021, with just over 96,000 people with asthma listed on their GP records.
- The proportion of people living with asthma and chronic obstructive pulmonary disease (COPD) is higher in the most deprived areas in the city (see Figure 4).
- 60% of people living in deprived Leeds are exposed to the highest levels of nitrogen dioxide.
- Nearly 90% of those surveyed with a lung or heart condition in Leeds have not had a conversation about air pollution with a healthcare professional.

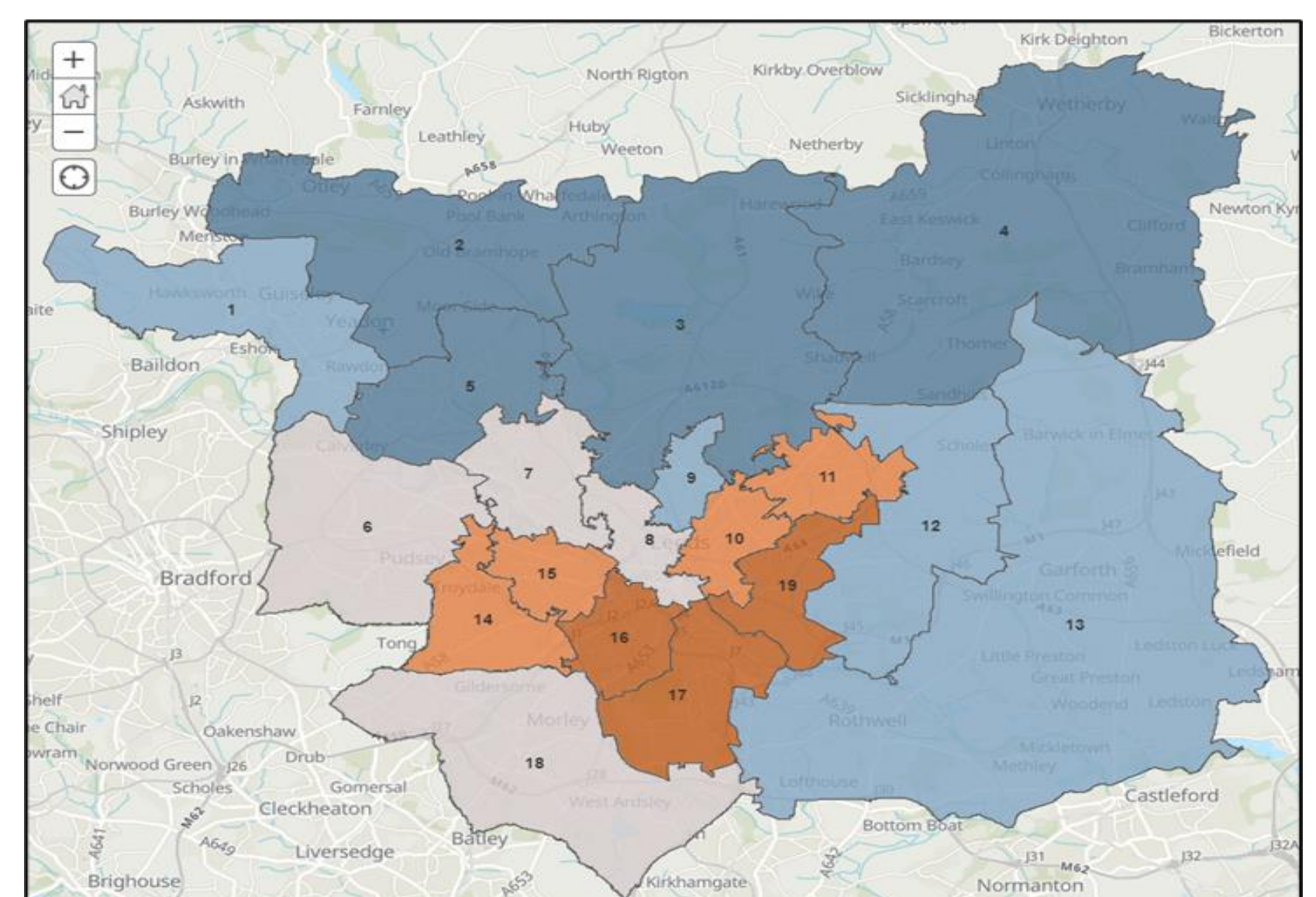


Figure 4: COPD prevalence in Leeds (per 100,000) by PCN boundary

Conclusions and next steps

Our approach so far has focused on partnership and system working; understanding the local data; developing a strong workforce development offer; and considering the health impact of air pollution across the life course and on health inequalities.

The Chief Medical Officer annual report for 2022 highlighted the importance of indoor air quality. A better understanding of how we can prevent and reduce indoor air pollution is now a priority for Leeds. We are working with housing, schools, universities and third sector organisations to monitor and understand indoor air quality and promote the health impacts.

References

- Fingertips (2021) *Public Health Profiles*. <https://fingertips.phe.org.uk/search/air%20quality>
- Public Health England/ UKHSA (2018) *Health Matters: Air Pollution*.
- Leeds City Council (2022) *Health Needs Assessment: Air Quality* www.observatory.leeds.gov.uk/wp-content/uploads/2023/08/2023-Leeds-Air-Quality-Health-Needs-Assessment.pdf

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