

Asthma deaths 50% more likely in poorest areas compared to richest

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People with asthma in the most deprived areas are 50% more likely to be admitted to hospital and to die from asthma compared with those in the least deprived areas, a new five-year study of over 100,000 people in Wales has revealed.

Those from more deprived backgrounds were also found to have a poor balance of essential [asthma](#) medications that help prevent asthma attacks.

The new research, published in the journal *PLOS Medicine*, was conducted by Swansea University's Wales Asthma Observatory in collaboration with Asthma UK Centre for Applied Research and Liverpool University, and found that people with asthma in deprived areas of Wales have worse outcomes.

Jointly funded by Health and Care Research Wales and Swansea Bay University Health Board, the study discovered that people with asthma from socially and economically deprived areas of Wales have less control of their asthma, suffer from more asthma attacks and are at a higher risk of death.

Dr. Mohammad Al Sallakh of Swansea University, the first author of the study, said, "This study demonstrates that asthma burden is not evenly distributed within the society, but it is affected by where people were born and live. We found that lower income and education levels are important drivers of socioeconomic inequalities in asthma.

Lack of educational opportunities likely affects how well people manage their asthma and puts them at higher risk of asthma attacks and death. It is important to target the most deprived communities with better health education strategies to ensure patients regularly and correctly use their preventive inhalers."

This study forms part of an important and increasing body of work into asthma-related health research led by the Asthma UK Centre for Applied Research. The Wales Asthma Observatory (WAO) is the latest Centre of Excellence to join the Population Data Science group. WAO is a platform for asthma research and surveillance with a cumulative cohort of asthma patients covering most of Wales and is based on electronic health records dating back to 1990.

WAO lead and Professor of Respiratory Medicine at Swansea University Medical School, Gwyneth Davies, said:

"We found that poorer people are three times more likely to use excessive reliever inhalers and had a worse balance of preventer to reliever medications, which means they are at higher risk of preventable asthma attacks and deaths. This study highlights an urgent need to identify ways to improve asthma outcomes for those from deprived communities."

This study looked at over 100,000 people with treated asthma across Wales over five years.

The authors probed routinely collected primary and secondary care data from within SAIL Databank based at Swansea University Medical School, which contains 100% secondary care and 80% primary care data for the population of Wales. SAIL Databank also hosts the UK data facilitated by BREATHE—The Health Data Research Hub for Respiratory Health.

Professor Ronan Lyons, lead for Public Health Research at Health Data Research said, "This study shows the benefits that Trusted Research Environments, such as the SAIL Databank, play in enabling research that changes lives to be undertaken whilst protecting the privacy of patients' data."

The authors used SAIL Databank to link data for the period of 2013 to 2017 to investigate the link between GP care data, emergency hospital admissions, prescriptions and asthma deaths together with geographical and socioeconomic measures for ranked areas of deprivation.

Professor Sarah Rodgers, lead of the Care and Health Informatics theme in the ARC NWC said, "This study shows the importance of empowering patients to actively manage their [health](#) conditions. We need to work with people in deprived communities to understand what would best help them access preventive asthma treatments."

More information: Mohammad A. Alsallakh et al, Association of socioeconomic deprivation with asthma care, outcomes, and deaths in Wales: A 5-year national linked primary and secondary care cohort study, *PLOS Medicine* (2021). [DOI: 10.1371/journal.pmed.1003497](https://doi.org/10.1371/journal.pmed.1003497)

Provided by Swansea University

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