

Fact sheet

Chronic Obstructive Pulmonary Disease (COPD)

September 2024

Lumos data reveal the impact of GP visit frequency, lifestyle and patient factors on hospital use by patients with COPD

Chronic Obstructive Pulmonary Disease (COPD) is a chronic inflammatory lung disease, which affects 2.2% of the NSW adult population¹. Management of COPD is spread across the primary and acute care systems.

This fact sheet outlines factors that affect the use of acute health care services by people aged 45+ living with COPD in NSW.

The analysis used patient data from the Lumos data asset, which links data from general practices (GPs) with data from other NSW Health services. The analysis focuses on the 2019 calendar year to illustrate delivery and access behaviours seen prior to COVID-19 disruptions. The key findings are controlled for demographics, health status, and previous health service utilisation. More information on the program and methods can be found on page 4.

The aim of this work is to gain a better understanding about healthcare needs among people living with COPD to inform health services management and planning.

On average, a patient with COPD attended the ED 1.16 times in 2019 and had 0.62 unplanned admissions

Key background statistics on people aged 45+ diagnosed with COPD in NSW

(from Lumos data >500 GP practices, ~5 million population)

- 58% are aged 70 years and over.
- 50% are women, meaning men and women are equally affected by COPD.
- 36% live in regional or remote areas compared to 24% for the general NSW population². 64% live in major cities.
- 57% of patients with COPD fall into the most and second most disadvantaged socioeconomic categories³ compared to 37% for the NSW population as a whole⁴.
- 70% have at least two comorbidities in addition to COPD. Most commonly: cardiovascular disease (58%) or a mental health diagnosis (50%).
- 18% are daily smokers, 1% are irregular smokers, 42% are ex-smokers, 18% never smoked while 21% did not have their smoking status reported in their GP records.

In the 12 months prior to this analysis:

- 23% did not have a GP visit recorded
- 15% had 1-4 GP visits recorded,
- 16% had 5-9 GP visits recorded,
- 45% had 10 or more GP visits recorded.



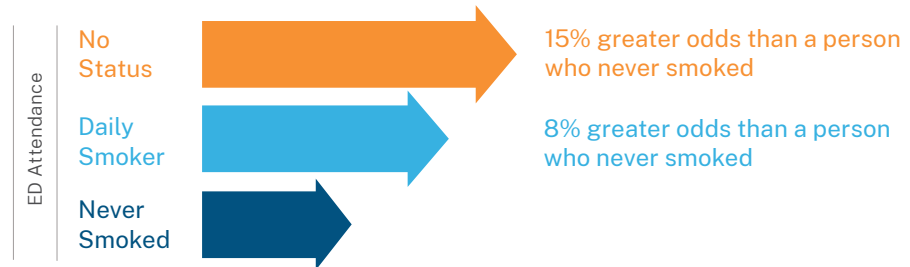
KEY FINDINGS

Four factors that affect demand for acute care services amongst people with COPD

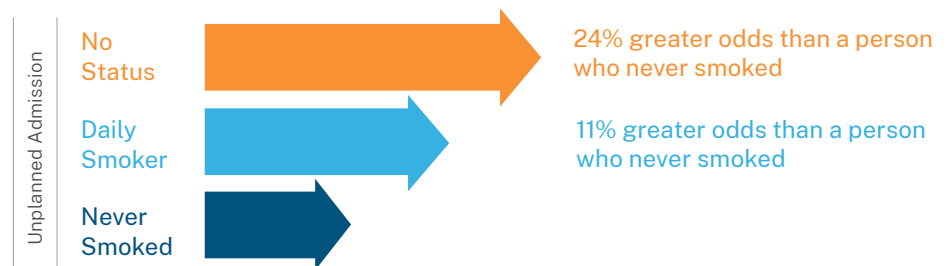
1 Smoking Status

People with COPD with no smoking status recorded in their GP records, and daily smokers with COPD, were more likely to end up in ED or hospital compared to people with COPD who have never smoked. Ex-smokers were no more likely to attend ED or have an unplanned admission than a person with COPD who never smoked. There were no notable results found for irregular smokers.

The odds of **attending ED** compared to a person who has **never** smoked.



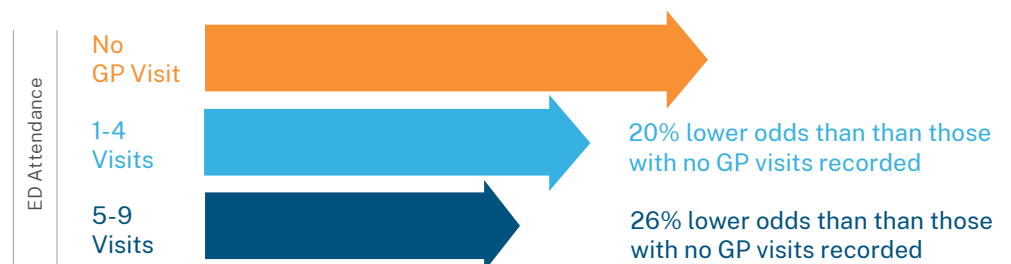
The odds of being **admitted to hospital** compared to a person who has **never** smoked.



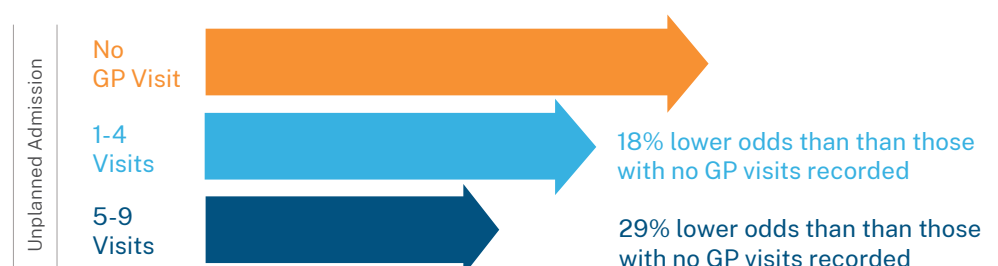
2 Regularity of GP Attendance

People with COPD who had regular GP visits were less likely to end up in hospital than people with COPD who had no GP visits recorded in the past year.

The odds of **attending ED** for a person with recorded GP visits compared to a person with no recorded GP visits



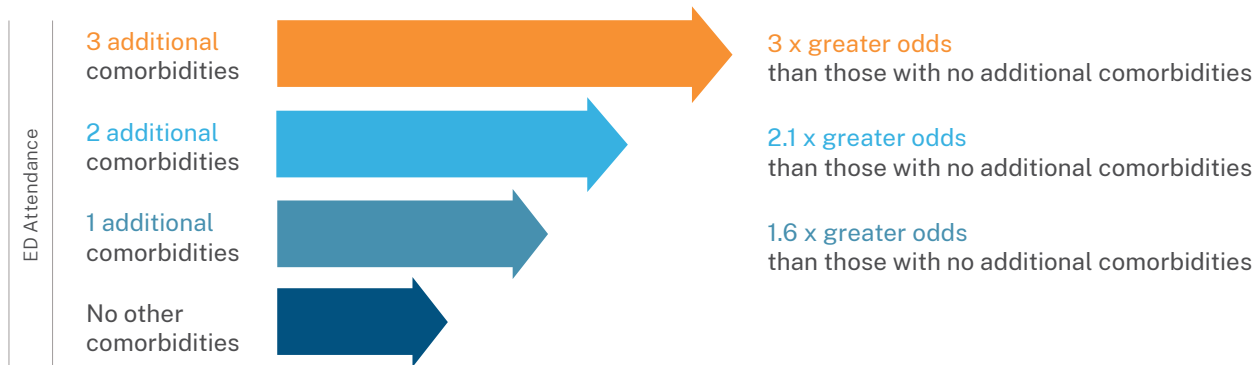
The odds of being **admitted to hospital** for a person with recorded GP visits compared to a person with no recorded GP visits



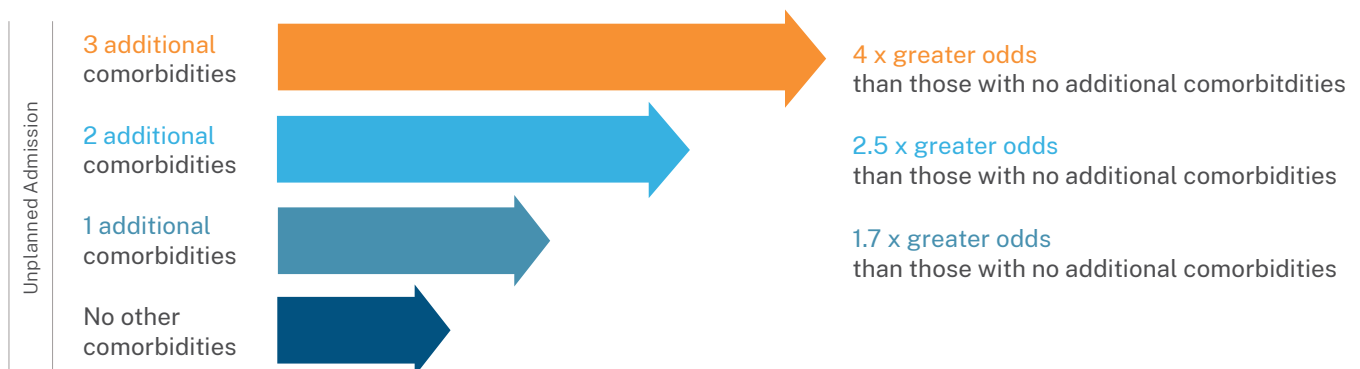
3 Other comorbidities

Having 1 or more other comorbidities previously diagnosed in hospital significantly increased the likelihood of people with COPD ending up in hospital compared to people with COPD who had no additional comorbidities.

The odds of **attending ED** compared to a person who has **no other additional comorbidities**



The odds of being **admitted to hospital** compared to a person who has **no other additional comorbidities**



4 Residential Location

People living with COPD in regional or remote areas were more likely to present to the emergency department than those living in a major city. However, people with COPD living in major cities were more likely to have an unplanned hospitalisation than people with COPD living in regional or remote areas.

The odds of **attending ED** compared to a person living in a major city



The odds of being **admitted to hospital** compared to a person living in a major city.



BACKGROUND

By bringing together data from participating GPs and state health data sets, Lumos makes it possible to understand the health care journeys of different cohorts of people living with COPD in NSW, and to optimise health service delivery accordingly.

The Lumos program links records from participating NSW general practices (GPs) to records held by NSW Health such as hospital admissions, emergency department and outpatient visits, and mortality.

This factsheet provides information about care received in acute and primary care by NSW people aged 45 years and over with a diagnosis of COPD that is available in the Lumos data asset.

ABOUT THE STUDY

528 general practices, representing approximately 21% of all NSW general practices, provided data to Lumos in October 2022

How many people were in Lumos?

4,801,341 people were included in the Lumos cohort extracted in October 2022, representing approximately 59% of the NSW population at the time.

Who was included?

51,598 people were included in the analysis. These comprised those aged 45 years and over attending a Lumos participating GP with a COPD diagnosis recorded in their GP or hospital records on or prior to 31 December 2018. These patients' hospital and emergency department activities were analysed over a 1 year follow up period (1 January 2019 – 31 December 2019).

Calculation methods

Multi-variable logistic regression modelling was used to determine potential protective and risk factors for propensity for emergency presentations and unplanned hospitalisations in a 1 year follow up period.

The analyses adjusted for; Demographics (IRSAD quintile, age, sex, CALD, marital status, remoteness), total number of chronic diseases previously diagnosed in hospital (0,1,2,3+ for the conditions arthritis, asthma, back pain, cancer, cardiovascular disease, chronic obstructive pulmonary disease, diabetes, chronic kidney disease, mental health conditions and osteoporosis) and previous health service utilisation (Number of GP visits in the prior year, prior history of COPD exacerbations, GP - type ED visit post discharge, Non GP- type ED visit post discharge).

Reference footnotes:

- 1 National Health Survey: First results. Table 2: Summary health characteristics, 2022 - states and territories.
[National Health Survey, 2022 | Australian Bureau of Statistics \(abs.gov.au\)](#)
- 2 2022: Regional Population, 2021-22 financial year, Australian Bureau of Statistics
- 3 Based on SEIFA IRSAD Quintiles (where 1 is the lowest socioeconomic area and 5 is the most relative advantaged area)
[2071.0 - Census of Population and Housing: Reflecting Australia - Stories from the Census, 2016 \(abs.gov.au\)](#)
- 4 Note that 37% of the NSW population falls into the bottom two quintiles (lowest 40%) of the Commonwealth measures of socio-economic disadvantage (SEIFA IRSAD Quintiles), which is based on the whole adult population of Australia.
[2021: for Areas \(SEIFA\), Australia, 2021 | Australian Bureau of Statistics \(abs.gov.au\)](#)