# Epidemiology, Survival, and Healthcare Resource Use of Patients With Pulmonary Hypertension Associated With Lung Disease and/or Hypoxia in the UK

EPH38

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## Background

Pulmonary Hypertension associated with Lung Disease and/or Hypoxia (PH-LD), including PH with interstitial lung disease (PH-ILD), are severe conditions with a high mortality. However, data on epidemiology and healthcare management in the real-world setting are limited.

## Objective

To estimate the epidemiology and the healthcare resource use (HCRU) of patients with PH Group 3 and PH-ILD in the UK.

## Methods

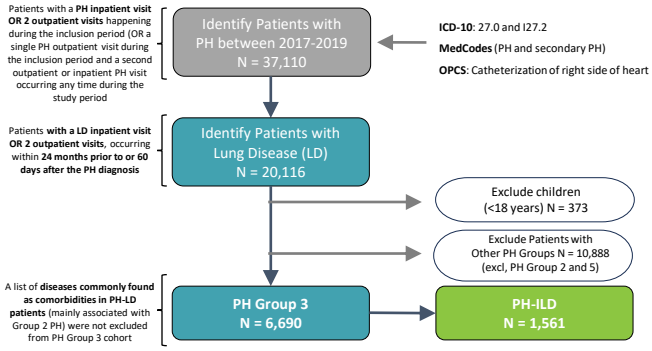
**Data source:** Retrospective observational study using the UK Clinical Practice Research Datalink (CPRD) linked to Hospital Episode Statistics (HES), including >18 million patients.

**Study design:** An algorithm, developed with six PH medical experts, identified PH Group 3 and PH-ILD patients from January 2017 to December 2019 based on a combination of PH and LD ICD-10 codes. The index date was the first PH diagnosis, with a 24-month minimum lookback period and up to 60 months follow-up until end of study, loss to follow-up or death. The study period spanned from 2015 to 2022.

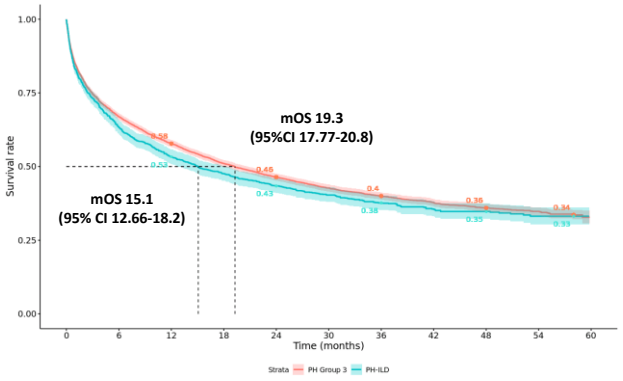
**Yearly prevalence rates** were estimated for 2017-2019. Patients with active diagnoses codes were identified each year. Prevalence rates were calculated as the number of annual cases per 10,000 people in the CPRD-contributing practices population, with 95% confidence intervals.

## Results

### Decision Tree to Identify PH Group 3 and PH-ILD Patients




### Overall Survival

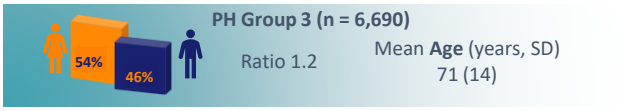


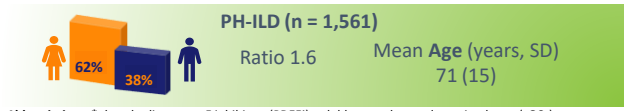

### Epidemiology – Yearly Prevalence and Incidence Rate

| PH Group 3 | 2017 | 2018 | 2019 |
|---|---|---|---|
| **Incidence rate per 10,000 person years (95% CI)** | 0,68 (0,65-0,71) | 0,69 (0,66-0,72) | 0,81 (0,78-0,84) |
| **Prevalent rate per 10,000 patients (95% CI)** | 0,96 (0.93 - 0.99) | 1,46 (1.42 - 1.5) | 1,41 (1.37 - 1,45) |
| **PH-ILD** | | | |
| **Incidence rate per 10,000 person years (95% CI)** | 0,16 (0,15-0,18) | 0,15 (0,14 - 0,17) | 0,19 (0,18-0,21) |
| **Prevalent rate per 10,000 patients (95% CI)** | 0,26 (0.24 - 0,27) | 0,37 (0,35-0,39) | 0,36 (0,33 - 0,38) |

Yearly incidence rates included only new cases without a prior diagnosis in the preceding 24 months

### Age and Sex Distribution




**Abbreviations:** *phosphodiesterase-5 inhibitors (PDE5i), soluble guanylate cyclase stimulators (sGCs), calcium channel blockers (CCBs)

### Mean Frequency of visits during the first-year of follow-up

Hospitalization rates decreased over time.

| Mean Per patient-year | PH Group 3, Rate (95% CI) | PH-ILD, Rate (95% CI) |
|---|---|---|
| All-cause Inpatient hospitalizations | **3.46 (3.4-3.51)** | **2.93 (2.82-3.03)** |
| *Length of stay, Mean(SD)* | *12 (16) days* | *11 (14) days* |
| PH-related Inpatient Hospitalizations | **1.87 (1.83-1.91)** | **1.78 (1.7-1.87)** |
| *Length of stay Mean(SD)* | *13 (16) days* | *12 (14) days* |
| LD-related Inpatient Hospitalizations | **3 (2.89-2.99)** | **2.51 (2.41-2.6)** |
| *Length of stay, Mean(SD)* | *12 (16) days* | *11 (14) days* |

**Note:** PH and LD related hospitalization are not mutually exclusive

### Drugs Prescriptions (PDE5i, sGCs, CCBs, and Anticoagulants*)

In the realm of PAH treatments, predominantly handled by specialists, analysis of GP prescriptions showed that fewer than 20% of patients had documented relevant drug prescriptions, regardless of cohort. Among these, PDE5i prescriptions were noted in 4% to 8% of patients with PH Group 3 and PH-ILD.

## Conclusion

This study demonstrates that although rare, pulmonary hypertension associated with lung disease and the subgroup of patients with interstitial lung disease, have poor survival outcomes and suffer a significant clinical burden.