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

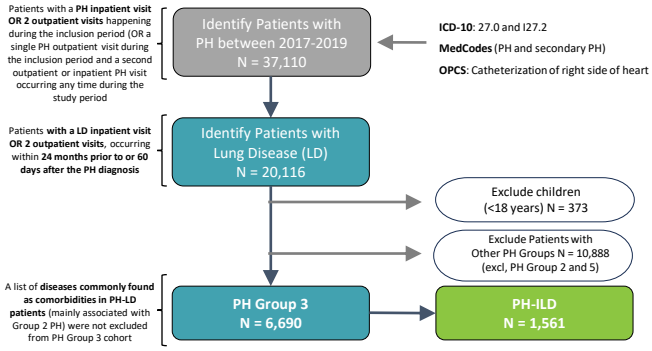
Data source: Retrospective observational study using the UK Clinical Practice Research Datalink (CPRD) linked to Hospital Episode Statistics (HES), including >18 million patients.

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.

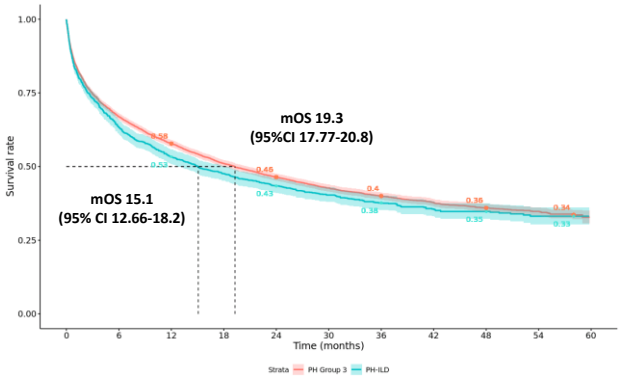
Yearly prevalence rates were estimated for 2017-2019. Patients with active diagnoses codes were identified each year. Prevalence rates were calculated as the number of annual cases per 10,000 people in the CPRD-contributing practices population, with 95% confidence intervals.

Results

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



Overall Survival

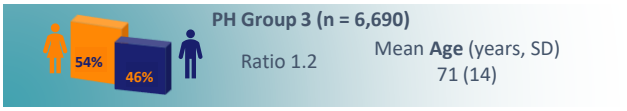


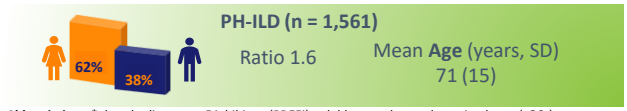
Epidemiology – Yearly Prevalence and Incidence Rate

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.