# **Respiratory Diseases Clinical Trial Solutions in Europe**

### Pharmnet expertise

Pharmnet has completed over 40 projects in the field of respiratory diseases. We have most experience in phase II and III clinical trials on pulmonary fibrosis, chronic obstructive pulmonary disease (COPD), and bronchial asthma. In addition, we completed clinical studies in a variety of other indications and formed collaborations with experts in the field.



Other: Bronchiectasis, Interstitial lung disease, Respiratory tract infection, Influenza

### Why conduct a clinical trial with us?

We offer the benefit of long-term cooperation with clinical centres and local authorities, as well as experience in effective patient recruitment for clinical trials in the respiratory field.

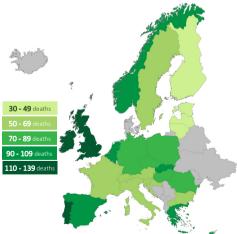
We have in-depth knowledge of local regulatory requirements, treatment strategies in European countries and site contract requirements, allowing us to propose effective centre allocation among countries and clinical departments, ensuring fast and high-quality recruitment.

We take the diagnosis-oriented approach when doing top-line feasibility for selected countries of interest. The executive summary results for a specific pathology/protocol and proposed scenarios assist our clients in selecting the best study solution in terms of speed and cost. We support the pharmaceutical, biotechnology, and medical device industries on a contract basis.

## Key figures in respiratory diseases in Europe

Respiratory diseases are one of the main causes of death in the EU. Lung cancer is the leading cause of respiratory death, followed by COPD, lower respiratory infections and tuberculosis. Smoking is responsible for more than half of all respiratory disease deaths (and at least a quarter of all respiratory hospital admissions). It is predicted that lung cancer and COPD as causes of death will continue to rise until 2030.

#### Deaths from respiratory diseases per 100,000 people:



Map of age-standardized mortality rates for all respiratory conditions in 2019.



# **Respiratory Diseases Clinical Trial Solutions in Europe**

In 2019, 369 000 people died in the EU as a result of respiratory diseases (excluding lung cancer), accounting for 7.9% of all deaths. This translates into a standardized mortality rate of 79.7 deaths per 100 000 people, with males dying at 1.9 times the rate of females. Lower respiratory diseases (chronic or other) and pneumonia were the leading causes of death among respiratory diseases (excluding lung cancer), with the highest standardized mortality rates for chronic lower respiratory diseases recorded in Hungary, Denmark, and Ireland, and the highest rates for pneumonia recorded in Poland, Slovakia, and Romania.

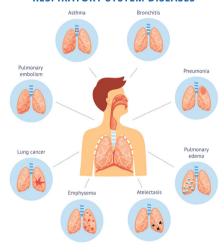
Chronic lower respiratory diseases (excluding asthma) include chronic bronchitis, emphysema and other chronic obstructive pulmonary diseases, with smoking being the leading cause of these diseases. The walls of the airways to the lungs are damaged, scarred, and narrowed, causing breathing difficulty. About 4.3 % of the EU population aged 15 years and over reported having been diagnosed with a chronic lower respiratory condition other than asthma, with Lithuania, France, Germany, Croatia, Portugal, Luxembourg and the Netherlands recording the largest share with 5.0 % or higher.

Asthma is a chronic inflammatory disease of the airways that causes reversible airflow obstruction and bronchospasm, resulting in coughing, wheezing, chest tightness, or shortness of breath. It can be caused by a variety of factors, including pollution, tobacco smoke, solvents, pollens, cold air, or hard activity. Approximately 5.7 % of the EU population aged 15 years and over reported that they suffered from asthma, with Finland having the highest share at 9.4 %, followed by Germany (8.0 %), France (7.8 %) and Sweden (7.5 %).

**Pneumonia** is an infection caused by bacteria, viruses, or fungi that causes the air sacs, or alveoli, of the lungs to fill up with fluid or pus. In 2016, pneumonia claimed the lives of 131 450 people in the EU, accounting for almost 3% of all deaths that year. The standardized mortality rate (three-year average) was 26 deaths per 100,000 EU citizens.

The standardized mortality rate in the EU from the most recent observation in 2019 was  $33.4 / 100\,000$  for males and  $18.9 / 100\,000$  for females. Mortality was higher in males across all EU countries.

### **RESPIRATORY SYSTEM DISEASES**



In the EU, the estimated yearly sum of conventional direct (healthcare) and indirect (loss of productivity) costs of asthma, COPD, lung cancer, tuberculosis, acute respiratory infections, cystic fibrosis, and obstructive sleep apnea syndrome is at least €96 billion. In 2019, inpatients with respiratory disorders spent a total of 43 million days in hospitals across the EU, with Germany accounting for 24.5% of the total, followed by Italy (13.5%), France (11.3%), and Spain (10.1%). The average hospital stay ranged in length from 5.1 days in Sweden up to 10.5 days in the Czech Republic.

During the years 2020 and 2021, healthcare resources, particularly in the respiratory field, were put under intense strain as a result of the COVID-19 pandemic, resulting in a variety of knock-on effects such as some services being curtailed due to the number of COVID-19 patients, staff shortages, and patients having difficulty accessing medical services.

