

Mapping the scale of chronic obstructive pulmonary disease (COPD) in the United Kingdom with a bespoke visual storyboard

Deep insights into health inequalities and clinical variations are revealed by presenting the geographical distribution of COPD data correlated to deprivation and ethnicity.

Background

According to Asthma + Lung U.K., 1.7 million people in the U.K. live with COPD, a group of lung conditions including emphysema and chronic bronchitis, with an estimated 600,000 more remaining undiagnosed[i].

Without timely diagnosis and intervention, COPD can lead to severe complications and premature death. Outcomes are also strongly influenced by socioeconomic factors—people living in the most deprived areas of the U.K. are five times more likely to die from COPD than those in the least deprived communities[ii].

The **PPD™ Evidera™ Real-World Data & Scientific Solutions** team at Thermo Fisher Scientific partnered with a leading global biopharma company to develop a new bespoke storyboard within the **PPD™ Vantage™ Real-World Data Analyzer**. The data visualizations mapped COPD data based on geographic, socioeconomic and ethnicity-related factors, therefore providing opportunities for targeted interventions.

Challenges

- **Fragmented data:** Hospital data for COPD patients and data on health inequalities existed across multiple systems, requiring separate extraction and analysis.
- **Slow insights:** National Health Service (NHS) teams often waited weeks to obtain and combine the data needed for analysis, often encountering long waits for data sharing agreements to be put in place.
- **Limited analytical capacity:** Frontline clinicians and nurses lack the time and specialist skills required for complex data manipulation.
- **Demonstrating need:** Respiratory disease competes with higher-profile conditions for NHS attention, making evidence of health inequalities critical for securing stakeholder support.

Strategy

The PPD Evidera Real-World Data and Scientific Solutions team collaborated with the client to develop a COPD storyboard built around three core principles:

1. **Integrated data architecture:** Combined national and regional COPD data with Index of Multiple Deprivation (IMD) scores and ethnicity data into a single platform, eliminating data silos.
2. **Automated visualization:** Created an intuitive storyboard that automatically correlates datasets, enabling users to easily and visually identify patterns without specialist analytical skills.
3. **Scalable insights:** Designed the interface to move seamlessly from national trends to regional networks, local services and patient demographics—ensuring the right person sees the right data at the right time.

Results

The COPD storyboard enabled the client to help NHS organizations better understand regional variation in COPD outcomes and the impact of deprivation on mortality and hospital utilization.

- **Faster decision-making:** Reduced data extraction and analysis from weeks to seconds by eliminating individual data requests.
- **Actionable insights:** Enabled NHS teams to quickly identify health inequalities and opportunities to improve local COPD care pathways.
- **Evidence for resource allocation:** Provided clear visual evidence to support targeted investment aimed at reducing health inequalities and premature COPD mortality.
- **Significant economic potential:** Supports care optimisation that Asthma + Lung U.K. estimates could deliver **£729 million in savings** and free up **272,000 hospital bed-days annually**[iii].
- **Future-ready platform:** Established a scalable model that can be adapted to support other respiratory diseases in the future.

References

i. https://www.asthmaandlung.org.uk/conditions/copd-chronic-obstructive-pulmonary-disease/what-chronic-obstructive-pulmonary-disease - accessed June 2026

ii. https://www.openaccessgovernment.org/only-1-in-10-gets-the-right-care-for-copd/202261/ accessed June 2026

iii. https://www.asthmaandlung.org.uk/healthcare-professionals/ics-respiratory-review/key-outcomes - accessed June 2026

Learn more at **ppd.com**

© 2026 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. 10.2026