SUPPLEMENTARY TABLE S1. COMPOSITE OUTCOME AND COMPETING RISKS ANALYSIS.

For this analysis, lung cancer and death were both coded as a composite outcome in the multivariable Cox regression model.

Composite Outcome Analysis	HR	95% LL	95% UL
ICS use (reference case)	0.469	0.446	0.494
Cumulative Years of Use	0.843	0.82	0.867
Cumulative Dose	0.847	0.798	0.899
Recency-Weighted Cumulative Dose	0.647	0.618	0.678
Recency-Weighted Cumulative Years of Use	0.590	0.531	0.656

In this analysis, lung cancer and death were modelled as competing risks in the multivariable Cox regression model.

Competing Risks Analysis	HR	95% LL	95% UL
ICS use (reference case)	0.671	0.559	0.804
Cumulative Years of Use	0.874	0.806	0.948
Cumulative Dose	0.850	0.705	1.025
Recency-Weighted Cumulative Dose	0.589	0.422	0.822
Recency-Weighted Cumulative Years of Use	0.730	0.641	0.831

SUPPLEMENTARY TABLE S2. ALTERNATIVE COHORT SPECIFICATIONS.

In this analysis, different specifications of the cohort of COPD patients were used in the analysis to examine whether the primary results found in the manuscript would be robust across these different cohort specifications. All analyses use the reference case exposure definition: time-dependent ICS exposure. In the table below, the 'Primary COPD cohort' is the cohort use in the main multivariable analysis (presented in Table 4), reported here for the purposes of comparison.

In 'Cohort A', we only included those from the original cohort that had received a prescription, during the follow-up period, for an anticholinergic medication.

For 'Cohort B', any patient that had a physician encounter or a hospital discharge with ICD-9 code 493 was removed from the analysis.

Cohort Specification	HR	95% LL	95% UL
Primary COPD cohort[1]	0.698	0.606	0.803
Cohort A[2]	0.680	0.583	0.792
Cohort B[3]	0.693	0.595	0.808

[1] Cohort of COPD patients used in the primary analysis contained in the manuscript. [2] Cohort restricted to those that received a prescription for an anticholinergic medication. [3] Cohort restricted to those never having a physician encounter or hospital discharge associated with ICD-9 code 493 (asthma).