

**Publication****Association of ambient air pollution with the prevalence and incidence of COPD****Journal Article (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 2713860**Author(s)** Schikowski, Tamara; Adam, Martin; Marcon, Alessandro; Cai, Yutong; Vierkötter, Andrea; Carsin, Anne Elie; Jacquemin, Benedicte; Al Kanani, Zaina; Beelen, Rob; Birk, Matthias; Bridevaux, Pierre-Olivier; Brunekeef, Bert; Burney, Peter; Cirach, Marta; Cyrus, Josef; De Hoogh, Kees; De Marco, Roberto; De Nazelle, Audrey; Declercq, Christophe; Forsberg, Bertil; Hardy, Rebecca; Heinrich, Joachim; Hoek, Gerard; Jarvis, Debbie; Keidel, Dirk; Kuh, Diane; Kuhlbusch, Thomas; Migliore, Enrica; Mosler, Gioia; Nieuwenhuijsen, Mark J.; Phuleria, Harish; Rochat, Thierry; Schindler, Christian; Villani, Simona; Tsai, Ming-Yi; Zemp, Elisabeth; Hansell, Anna; Kauffmann, Francine; Sunyer, Jordi; Probst-Hensch, Nicole; Krämer, Ursula; Künzli, Nino**Author(s) at UniBasel** [Schikowski, Tamara](#) ; [Adam, Martin](#) ; [Schindler, Christian](#) ; [Tsai, Ming-Yi](#) ; [Zemp Stutz, Elisabeth](#) ; [Künzli, Nino](#) ;**Year** 2014**Title** Association of ambient air pollution with the prevalence and incidence of COPD**Journal** The European respiratory journal**Volume** 44**Number** 3**Pages / Article-Number** 614-26

The role of air pollution in chronic obstructive pulmonary disease (COPD) remains uncertain. The aim was to assess the impact of chronic exposure to air pollution on COPD in four cohorts using the standardised ESCAPE exposure estimates. Annual average particulate matter (PM), nitrogen oxides (NO<sub>x</sub>) and road traffic exposure were assigned to home addresses using land-use regression models. COPD was defined by NHANES reference equation (forced expiratory volume in 1 s (FEV<sub>1</sub>)/forced vital capacity (FVC) less than the lower limit of normal) and the Global Initiative for Chronic Obstructive Lung Disease criterion (FEV<sub>1</sub>/FVC >0.70) and categorised by severity in non-asthmatics. We included 6550 subjects with assigned NO<sub>x</sub> and 3692 with PM measures. COPD was not associated with NO<sub>2</sub> or PM<sub>10</sub> in any individual cohort. In meta-analyses only NO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub> and the traffic indicators were positively, although not significantly, associated with COPD. The only statistically significant associations were seen in females (COPD prevalence using GOLD: OR 1.57, 95% CI 1.11-2.23; and incidence: OR 1.79, 95% CI 1.21-2.68). None of the principal results were statistically significant, the weak positive associations of exposure with COPD and the significant subgroup findings need to be evaluated in further well standardised cohorts followed up for longer time, and with time-matched exposure assignments.

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