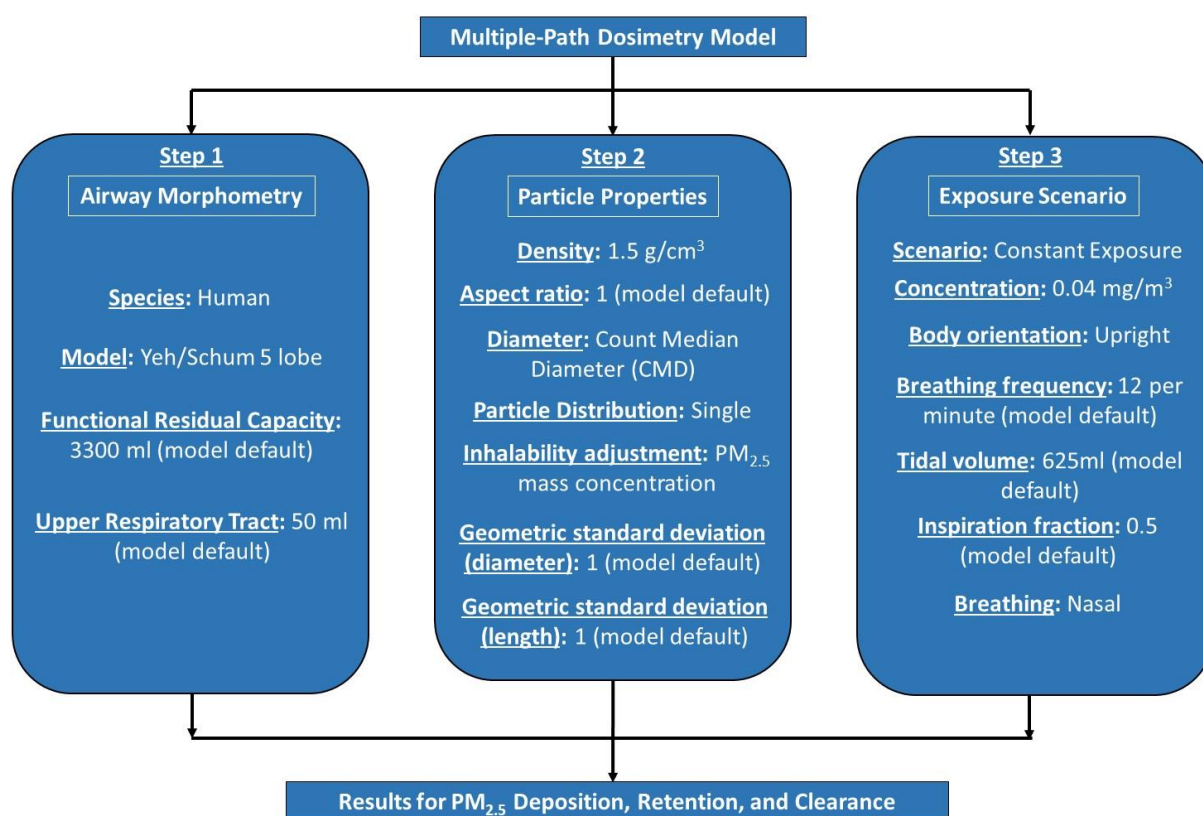# Assessing PM$_{2.5}$ Exposure and Health Risks in a Mining and Thermal Powerplant Township in Southern India: Impacts on Air Quality and Public Health

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Fig. S1: Procedure to estimate the particle deposition, retention, and clearance inside human lungs using the MPPD Yeh/Schum 5 lobe model.
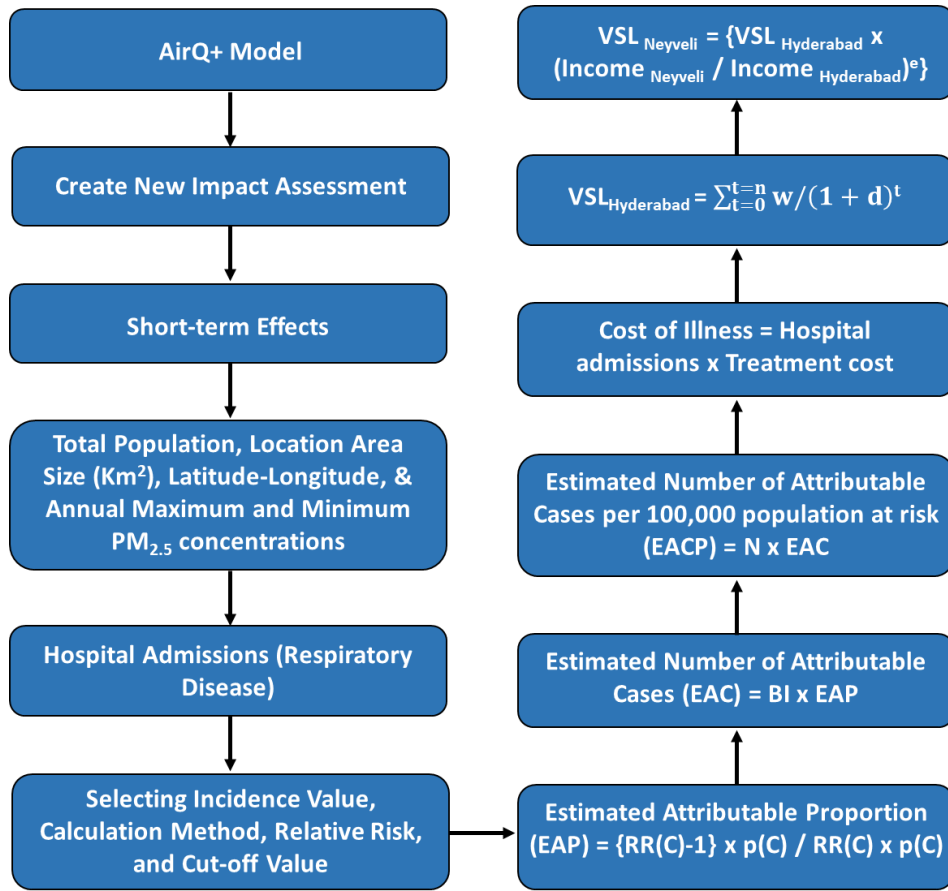
Fig. S2: Procedure to estimate hospital admissions for COPD and the associated financial impact.

'R.R. (C)' indicates the relative risk, 'p(C)' indicates the categorical population exposure, 'B.I.' stands for baseline incidence, 'w' represents mean annual income, 't' equals (life expectancy - mean population age) value, 'd' symbolizes nominal rate of discount, 'e' stands for the elasticity coefficient, and 'N' denotes the population size
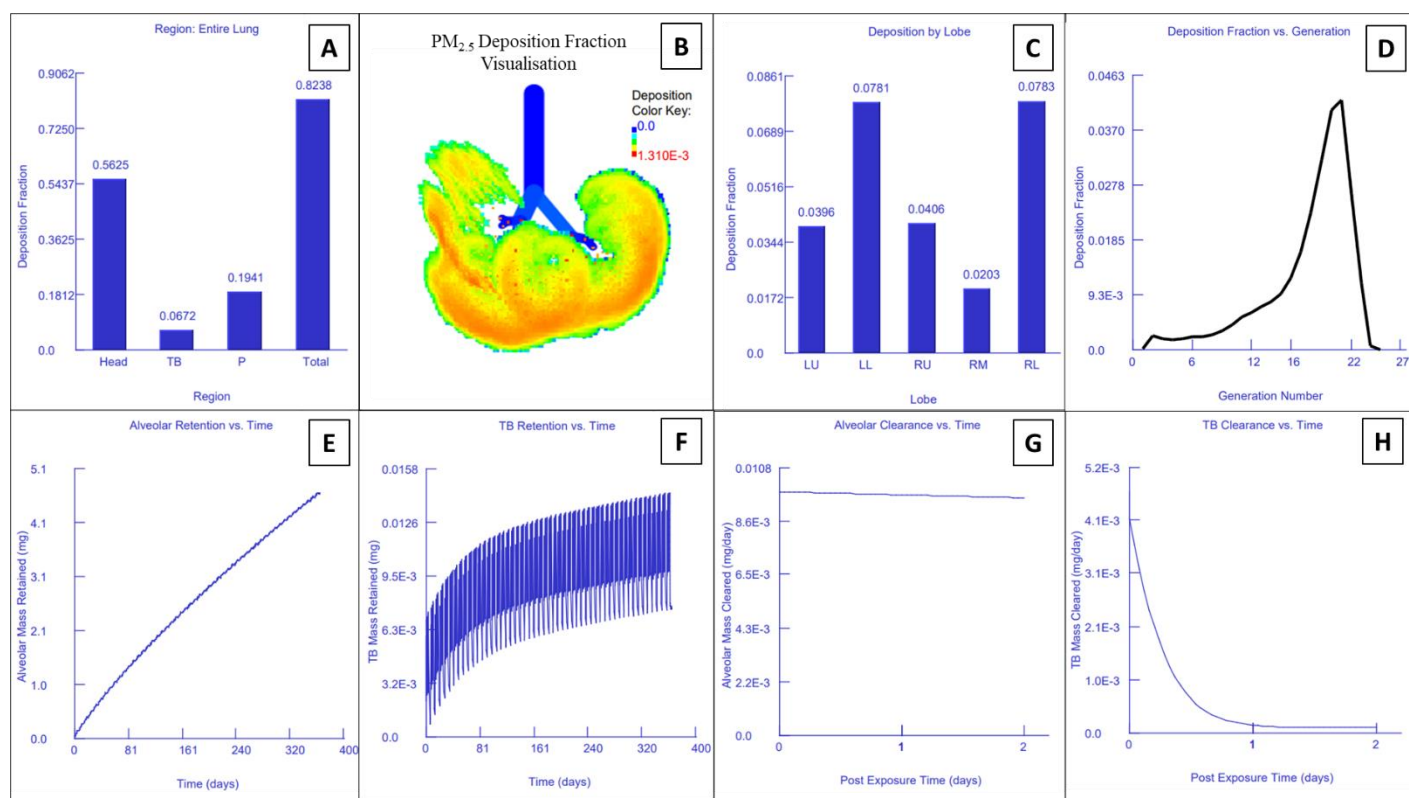
Fig. S3: Predicted deposition, retention, and clearance of PM$_{2.5}$ annually; (A) Deposition of particles in different regions of the lungs, (B) Deposition of particles in different lobes, (C) Deposition fraction vs lung generation number, (D) Visualisation of PM$_{2.5}$ deposition fraction, (E) Alveolar PM$_{2.5}$ retention, (F) Tracheobronchial PM$_{2.5}$ retention, (G) Alveolar PM$_{2.5}$ clearance and (H) Tracheobronchial PM$_{2.5}$ clearance