PMCardImpact: the health and economic impact of $PM_{2.5}$-related cardiovascular diseases in Portugal

Martins C[1,2], Assunção R[3,4], Perelman J[1,2], Serranheira F[1,2], Plass D[5], Timóteo A[2,6], Viegas S[1,2]

[1] Occupational and Environmental Health Department, National School of Public Health, Universidade NOVA de Lisboa, Lisbon, Portugal; [2] Comprehensive Health Research Center, Lisbon, Portugal; [3] IUEM, Instituto Universitário Egas Moniz, Egas Moniz-Cooperativa de Ensino Superior, CRL, Caparica, Portugal; [4] Centre for Environmental and Marine Studies (CESAM), University of Aveiro, Aveiro, Portugal; [5] Department II 1 Environmental Hygiene, German Environment Agency, Berlin, Germany; [6] NOVA Medical School, Universidade NOVA de Lisboa, Lisbon, Portugal

carla.martins@ensp.unl.pt

Air pollution is the largest **environmental cause** of disease and premature death, accounting for **7% of annual mortality** in the European Union.

Emissions were reduced in the last decade but there are still **exceedances** of EU air quality standards and of the more restrictive WHO Air Quality Guidelines (WHO-AQG).

There is evidence of **a causal relationship** between exposure to **particulate matter** and **cardiovascular morbidity and mortality**.

Positive associations were found between human exposure to $PM_{2.5}$ and increased incidence of coronary heart disease, and increased risk of coronary events related with stroke.

Aims

- To assess the exposure of Portuguese population to $PM_{2.5}$;
- To estimate the burden of disease and economic impact of $PM_{2.5}$-related CVD in Portugal;
- To identify the areas for cost-effective public health interventions.

Burden of $PM_{2.5}$-related CVD in Portugal

- Exposure → Risk
  - $PM_{2.5}$ levels - national and European air monitoring platforms
  - Software AirQ+ - WHO Europe
- Burden of disease
  - Outline of disease models
  - Disease burden attributable to exposure to $PM_{2.5}$
  - Metric - Disability-Adjusted Life Years (**DALYs**).
- Economic evaluation
  - Group of experts (general practitioners and cardiologists)
  - Elicitation - fixed interval method
  - **CVD individual direct and indirect costs** for Portugal

DATA

Data from **epidemiologic** and **economic** domains will be analyzed and **integrated**.

KNOWLEDGE

PMCardImpact will provide to policy makers the supporting information to act, including knowledge on **air pollution trends**, **related health effects** and **estimated costs**, **to implement reducing air pollution policies**.

ACTION

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