

# A 32-country comparison of tobacco smoke derived particle levels in indoor public places

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## **Abstract**

**OBJECTIVE:** To compare tobacco smoke derived particulate levels in transportation and hospitality venues with and without smoking in 32 countries using a standardised measurement protocol.

**METHODS:** The TSI SidePak AM510 Personal Aerosol Monitor was used to measure the concentration of particulate matter less than 2.5 microns in diameter (PM(2.5)) in 1822 bars, restaurants, retail outlets, airports and other workplaces in 32 geographically dispersed countries between 2003 and 2007.

**RESULTS:** Geometric mean PM(2.5) levels were highest in Syria (372 microg/m<sup>3</sup>), Romania (366 microg/m<sup>3</sup>) and Lebanon (346 microg/m<sup>3</sup>), while they were lowest in the three countries that have nationwide laws prohibiting smoking in indoor public places (Ireland at 22 microg/m<sup>3</sup>, Uruguay at 18 microg/m<sup>3</sup> and New Zealand at 8 microg/m<sup>3</sup>). On average, the PM(2.5) levels in places where smoking was observed was 8.9 times greater (95% CI 8.0 to 10) than levels in places where smoking was not observed.

**CONCLUSIONS:** Levels of indoor fine particle air pollution in places where smoking is observed are typically greater than levels that the World Health Organization and US Environmental Protection Agency have concluded are harmful to human health.

## **Recommended Citation**

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