



Abbreviated name	Air pollution level in cities
Indicator name	Air pollution level in cities (particulate matter [PM])
Domain	Risk factors
Subdomain	Environment
Associated terms	Environmental risk factors
Definition	Annual mean concentration of particulate matter of less than 2.5 microns of diameter (PM2.5) [ug/m3] (or of less than 10 microns [PM10] if PM2.5 is not available) in cities
Numerator	
Denominator	
Disaggregation/ additional dimension	
Method of measurement	The mean annual concentration of fine suspended particles of less than 10 or 2.5 microns in diameters is a common measure of air pollution. The mean city concentration is based on daily measurements, or data which could be aggregated into annual means. In the absence of annual means, measurements covering a more limited period of the year can exceptionally be used (provided that data are largely representative for the annual mean exposure).
Method of estimation	<p>Annual means represent an average of the cities' monitoring stations. The average can be population-weighted if stations are representative for certain parts of the city. In order to present air quality that is largely representative for human exposure, urban measurement characterized as urban background, residential areas, commercial and mixed areas should be used. Stations characterized as particular "hot spots" or exclusively industrial areas are generally not included, unless their levels are representative for people's exposures. This selection should be in line with the aim of capturing representative values for human exposure. The location of hot spots, often measured for the purpose of capturing the cities' maximum values and industrial areas, are often deemed less likely to be representative for the mean exposure of a significant part of a city's population. "Hot spots" are either designated as such by the original reports, or are qualified as such due to their exceptional nature (e.g. exceptionally busy roads etc.). Omitting them may also lead to an underestimation of the mean air pollution levels of a city.</p> <p>Annual mean PM2.5 data can be estimated, when not available, on the basis of PM10. Conversion factors PM2.5/PM10 may vary according to location, and should, if possible, be taken from other stations which measure both PM2.5 and PM10 in the city or country, or by default from the region. They should be considered as approximate only. The converted value for individual cities may deviate from the actual value (generally between 0.3 and 0.8).</p>
Measurement frequency	
Monitoring and evaluation framework	Outcome
Preferred data sources	National/subnational/monitoring reports and web sites containing measurements of PM10 or PM2.5 and relevant national agencies
Other possible data sources	Data from research projects/articles from peer reviewed journals, Development agencies, UN Agencies
Further information and related links	WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide: Global update 2005. Geneva: World Health Organization; 2014 (http://www.who.int/phe/health_topics/outdoorair/outdoorair_aqq/en/ , accessed 06 May 2015).