

Table 2.8 Ranges and central estimates for dose-response coefficients

(change in risk of health effect per exposed person for one unit change in ambient pollutant concentration in a year)

<i>Pollutants and associated health effects</i>	<i>Ranges of estimates</i>	<i>Central estimates</i>
PM-10		
Premature mortality	$4.47 \times 10^{-6} - 9.10 \times 10^{-6}$	6.72×10^{-6}
Hospital admissions for respiratory illnesses	$6.57 \times 10^{-6} - 15.60 \times 10^{-6}$	12.00×10^{-6}
Emergency room visits	$12.83 \times 10^{-5} - 34.25 \times 10^{-5}$	23.54×10^{-5}
Restricted activity days	$4.04 \times 10^{-2} - 9.03 \times 10^{-2}$	5.75×10^{-2}
Lower respiratory illnesses in children (per child)	$8.00 \times 10^{-4} - 23.80 \times 10^{-4}$	16.90×10^{-4}
Asthma attacks (per asthmatic)	$1.63 \times 10^{-2} - 27.30 \times 10^{-2}$	3.26×10^{-2}
Respiratory symptoms	$9.10 \times 10^{-2} - 27.40 \times 10^{-2}$	18.30×10^{-2}
Chronic bronchitis (above age 25)	$3.06 \times 10^{-5} - 9.18 \times 10^{-5}$	6.12×10^{-5}
SO₂		
Respiratory symptoms (per child)	$1.00 \times 10^{-5} - 2.62 \times 10^{-5}$	1.81×10^{-5}
Chest discomforts (per adults)	$5.00 \times 10^{-3} - 15.00 \times 10^{-3}$	10.00×10^{-3}
Ozone (1-hour max.)		
Hospital admissions for respiratory illnesses	$3.80 \times 10^{-3} - 12.10 \times 10^{-3}$	7.70×10^{-3}
Minor restrictions in activity	17.00 - 51.00	34.00
Days with respiratory malaise symptoms	28.11 - 96.60	54.75
Eye irritations	23.40 - 29.90	26.60
Asthma exacerbations (per asthmatic)	38.69 - 189.80	68.44
Lead		
IQ decrement (per child)		0.975
Hypertension (per male aged 20-70)	$4.48 \times 10^{-2} - 9.78 \times 10^{-2}$	7.26×10^{-2}
Premature mortality (per male aged 40-59)	$2.00 \times 10^{-4} - 6.50 \times 10^{-4}$	3.50×10^{-4}
Nonfatal heart attacks (per male aged 40-59)	$1.80 \times 10^{-4} - 5.00 \times 10^{-4}$	3.40×10^{-4}
NO₂		
Respiratory symptoms	6.02 - 14.42	10.22

Note: The unit is $\mu\text{g}/\text{m}^3$ for PM-10, SO₂, and lead and ppm for ozone and NO₂.

Source: Ostro 1994.