



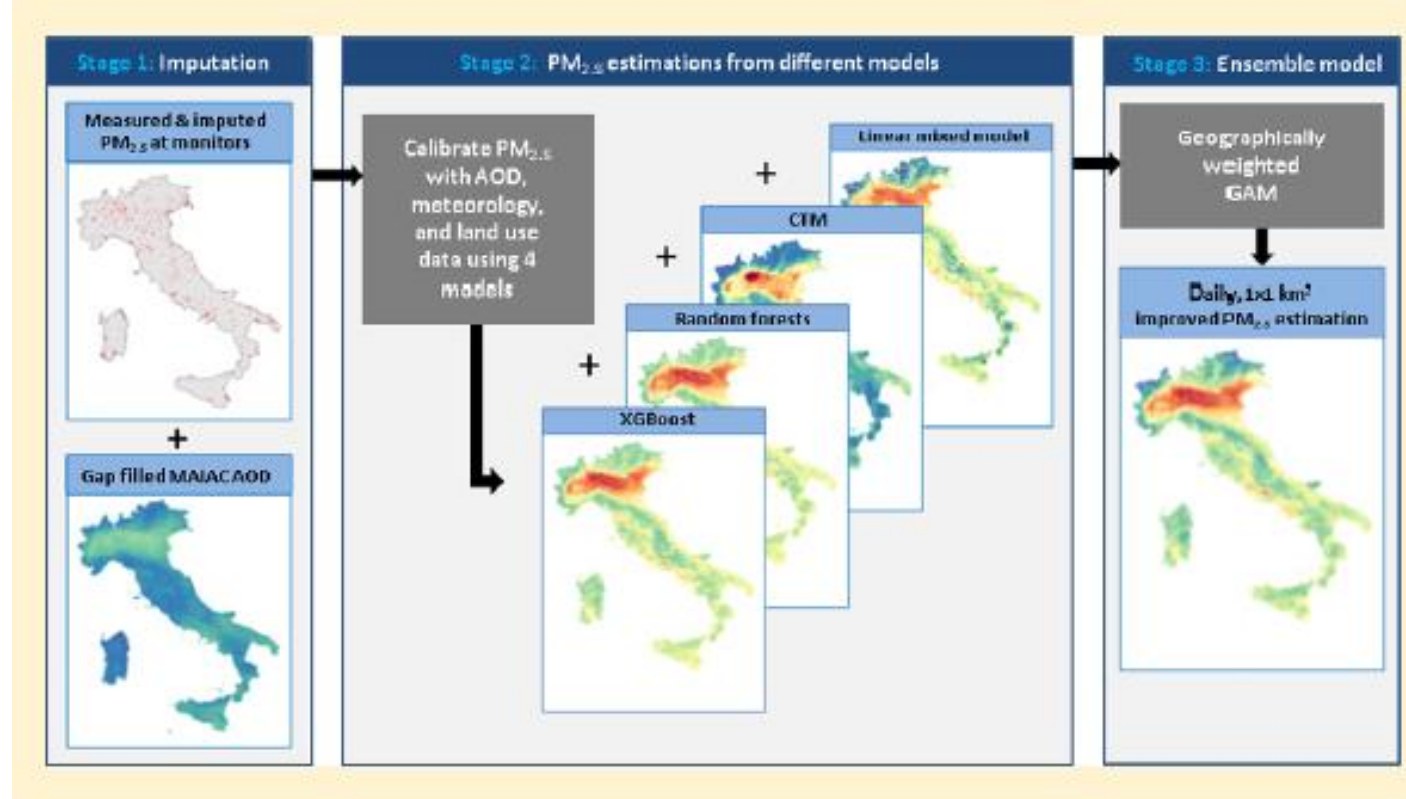
Inquinamento atmosferico e salute: nuove evidenze

Massimo Stafoggia

Modelli satellitari per la stima dell'esposizione

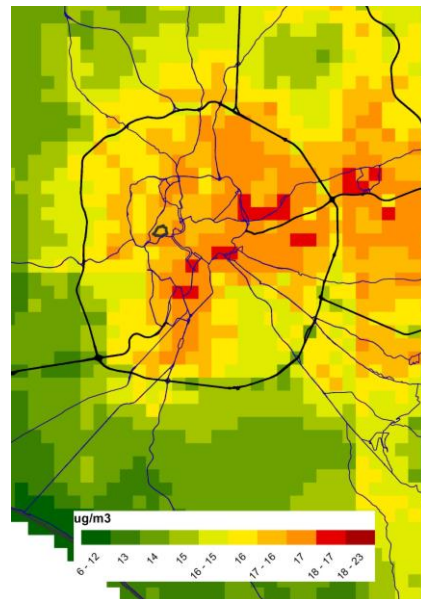
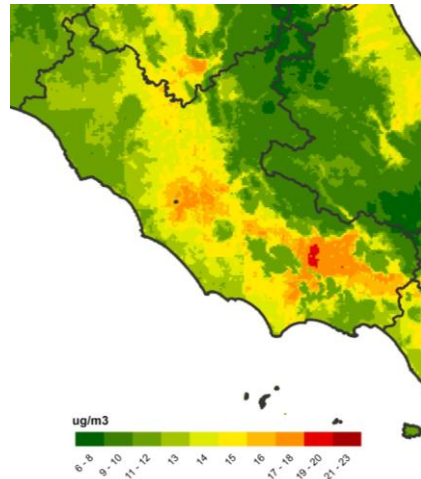
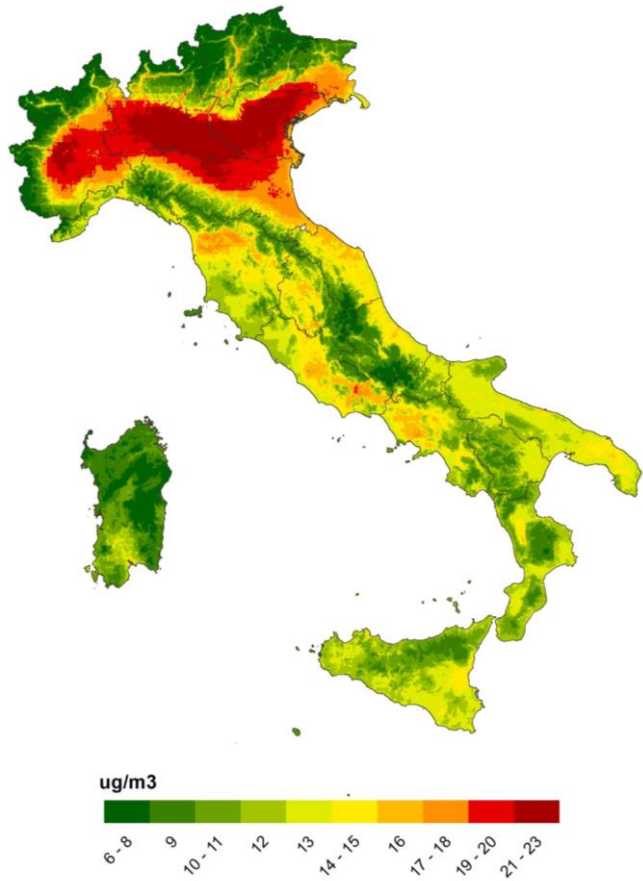
Workshop Finale **RICERCA FINALIZZATA GIOVANI RICERCATORI**

BEEP
BIGDATA in Epidemiologia
ambiEntale ed occuPazionale

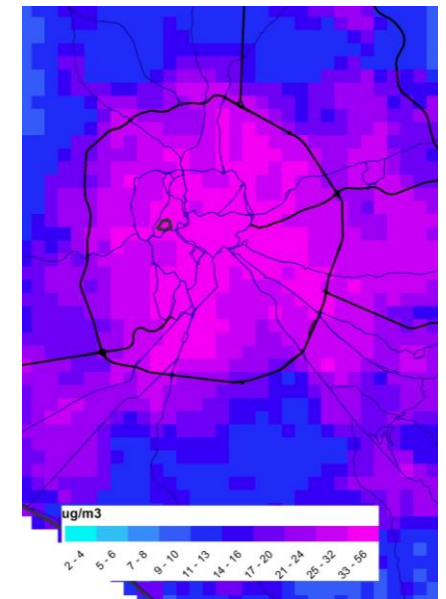
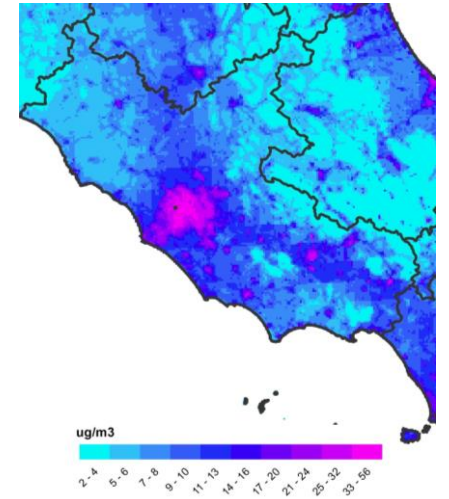
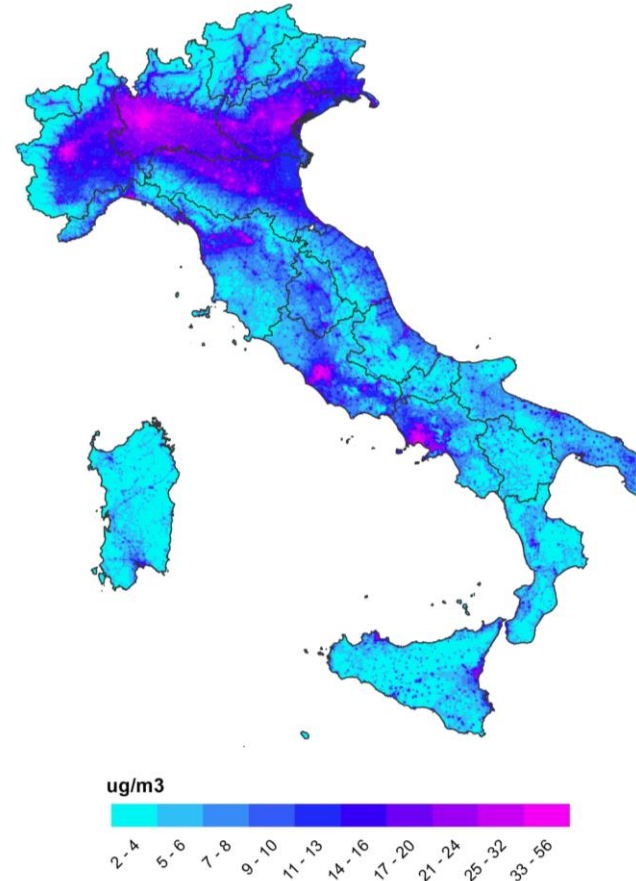


Mappe giornaliere ad alta risoluzione

PM_{2.5}



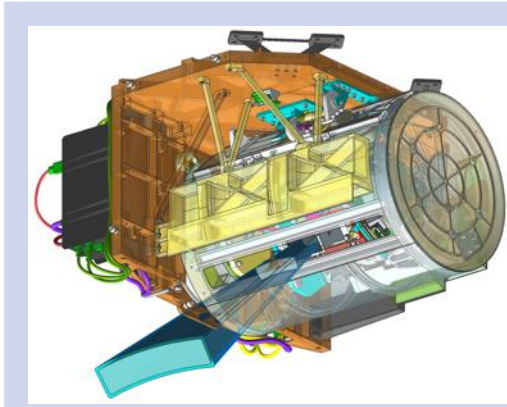
NO₂



Sviluppi futuri: progetto MAIA



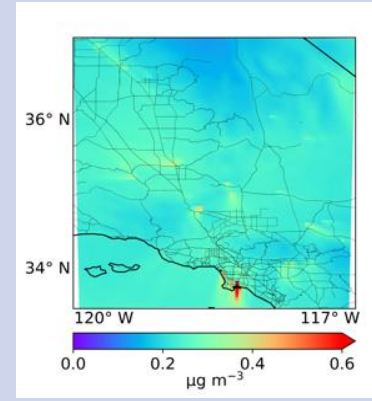
Jet Propulsion Laboratory
California Institute of Technology



Satellite instrument



Surface monitors



Chemical transport model



Health records

Multi-Angle Imager for Aerosols (MAIA) investigation and technical overview

Public products



Privacy protected

24-hr averaged concentrations of PM_{10} , $\text{PM}_{2.5}$, speciated $\text{PM}_{2.5}$

Epidemiological studies

Birth, death, and hospitalization data

Sulfate

Nitrate

OC

EC

Dust

Effetti acuti dell'I.A.: il progetto

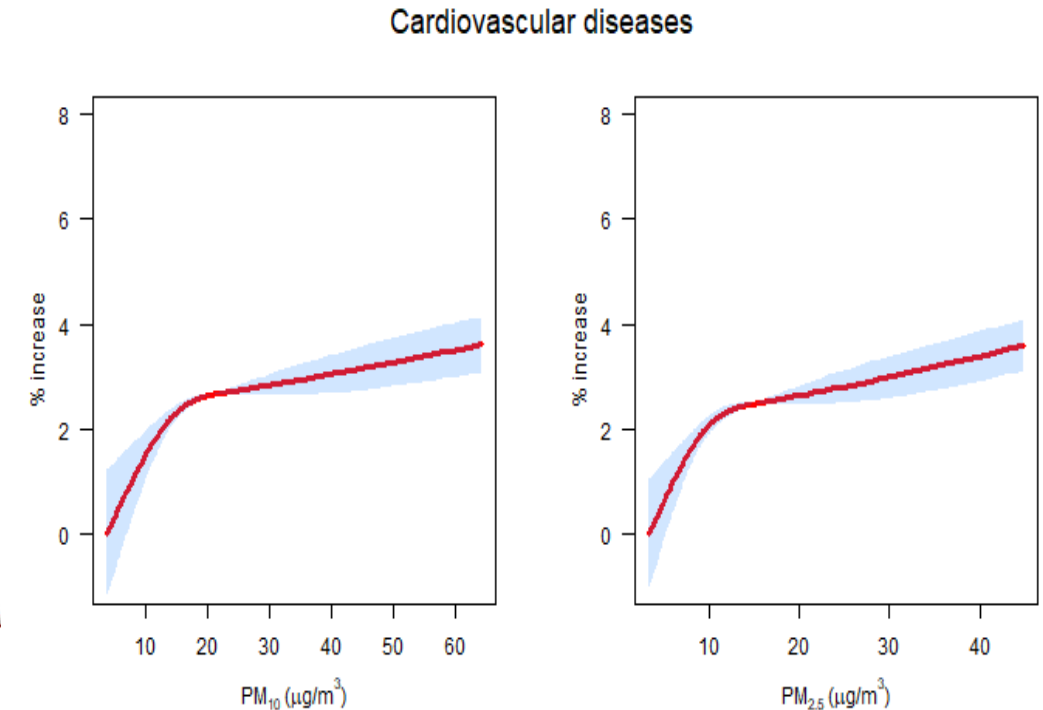
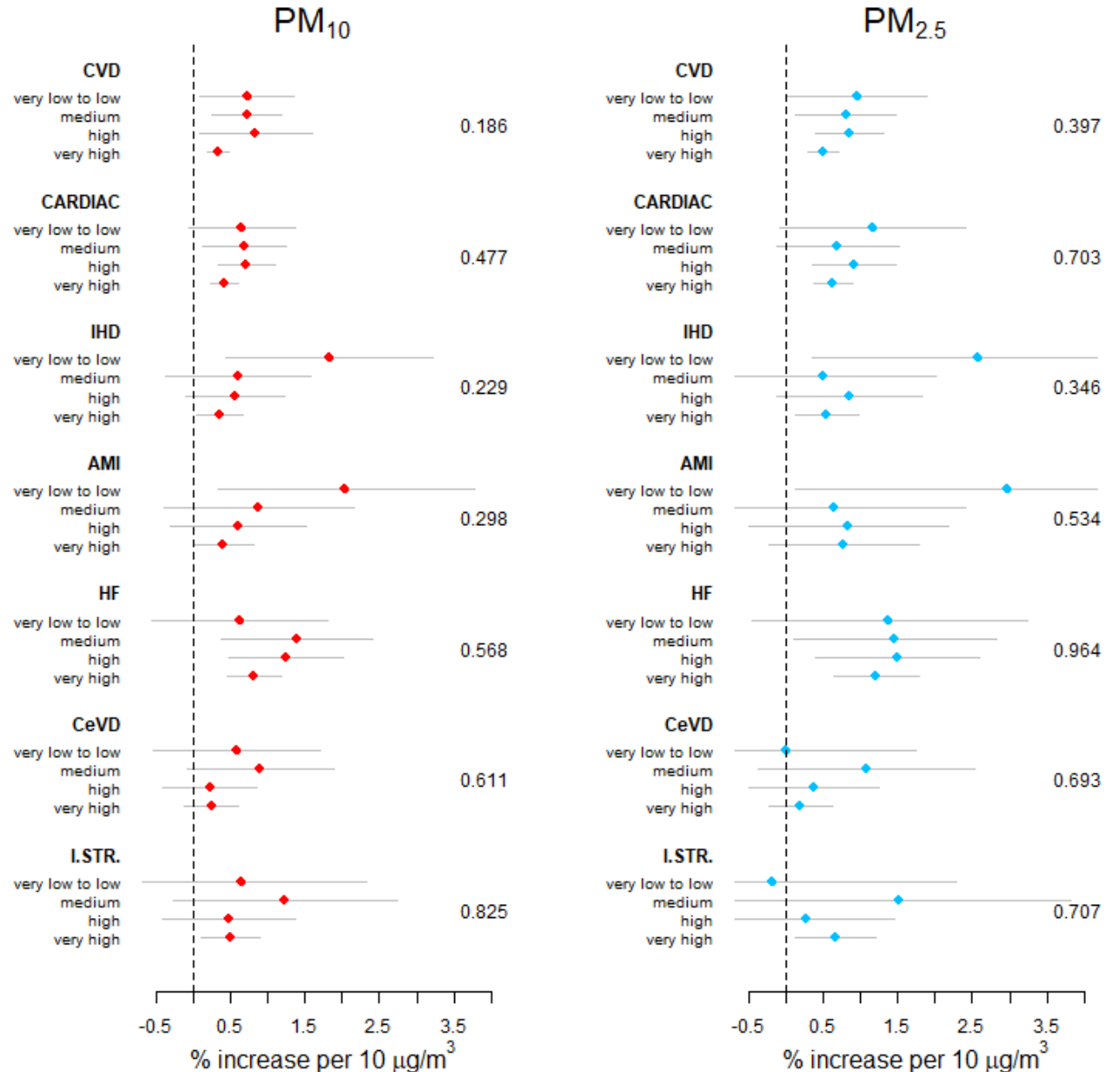


European Journal of Preventive Cardiology (2022) 29, 1202–1211
doi:10.1093/eurjpc/zwaa084

FULL RESEARCH PAPER
Air Pollution & Environmental Science

Short-term effects of particulate matter on cardiovascular morbidity in Italy: a national analysis

Massimo Stafoggia ^{1,2*}, Matteo Renzi¹, Francesco Forastiere^{3,4}, Petter Ljungman ^{2,5}, Marina Davoli¹, Francesca de' Donato¹, Claudio Gariazzo⁶, Paola Michelozzi¹, Matteo Scortichini¹, Angelo Solimini⁷, Giovanni Viegi ^{3,8}, and Tom Bellander ^{2,9} on behalf of the BEEP Collaborative Group

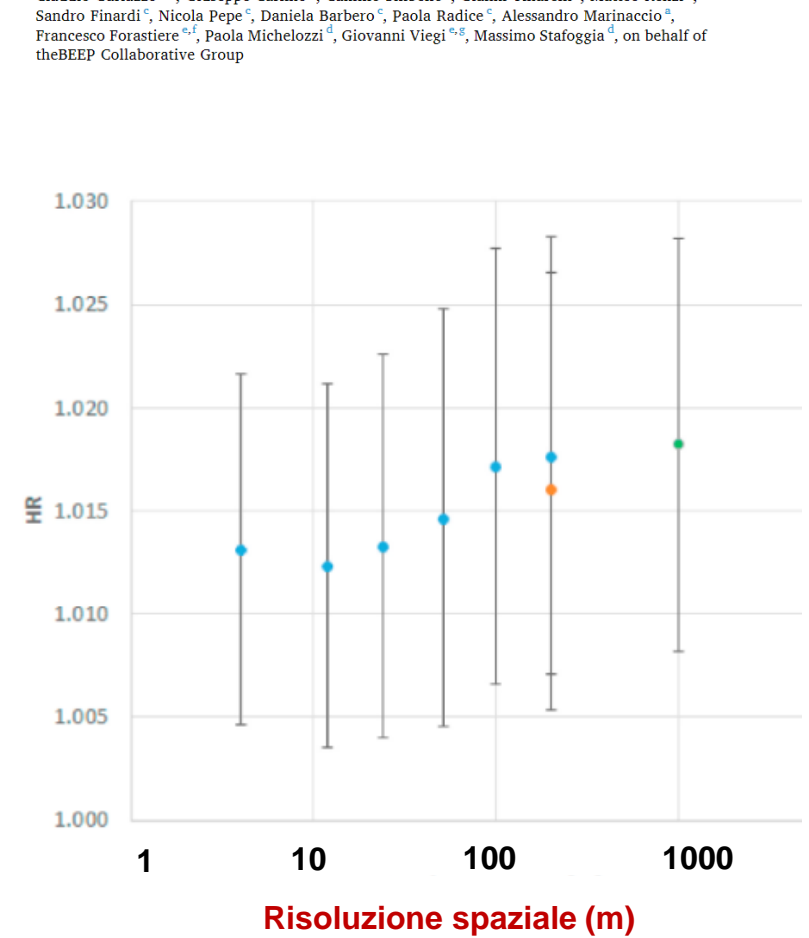


Effetti dell'I.A. a Roma a diverse risoluzioni spaziali: il progetto



Impact of different exposure models and spatial resolution on the long-term effects of air pollution

Claudio Gariazzo^{a,*}, Giuseppe Carlino^b, Camillo Silibello^c, Gianni Tinarelli^c, Matteo Renzi^d, Sandro Finardi^c, Nicola Pepe^c, Daniela Barbero^c, Paola Radice^c, Alessandro Marinaccio^a, Francesco Forastiere^{e,f}, Paola Michelozzi^d, Giovanni Viegi^{g,h}, Massimo Stafoggia^d, on behalf of the BEEP Collaborative Group



Effetti cronici dell'I.A.: il progetto ELAPSE

ELAPSE

Effects of Low-Level Air Pollution: A Study in Europe

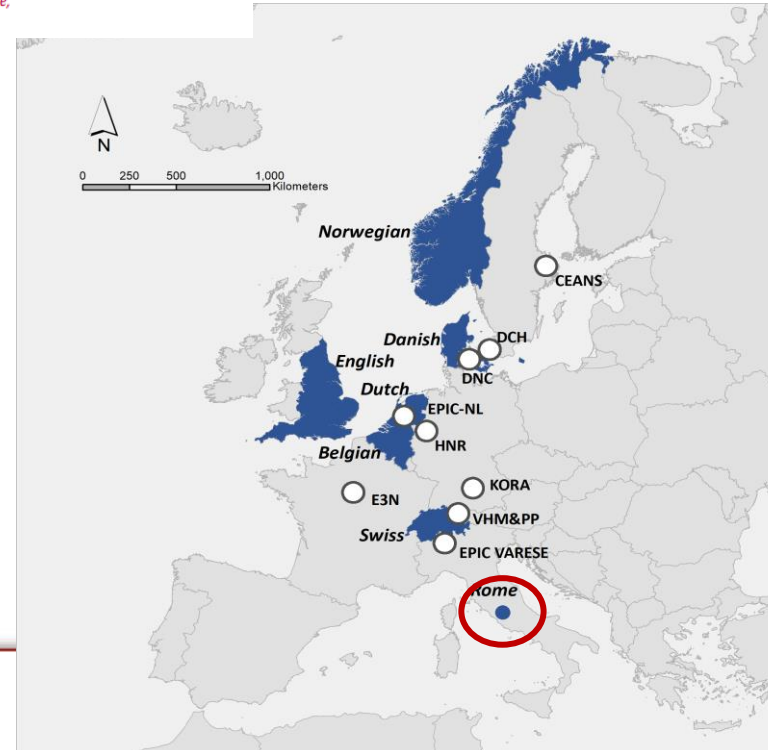
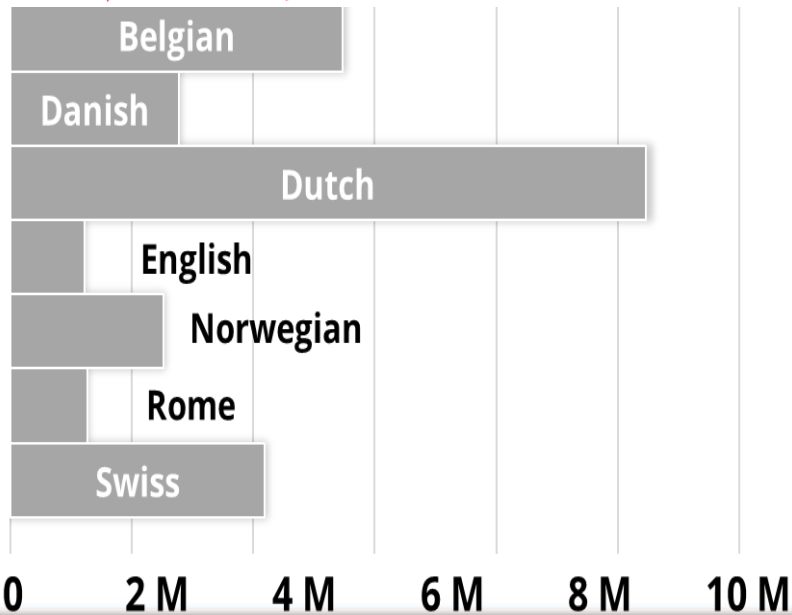


Long-term exposure to low ambient air pollution concentrations and mortality among 28 million people: results from seven large European cohorts within the ELAPSE project

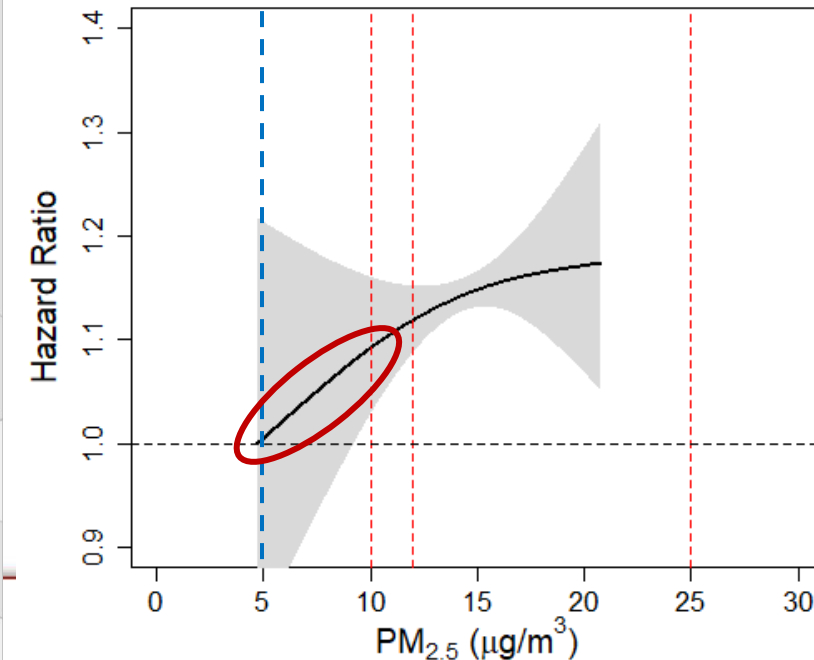


Lancet Planet Health 2022; 6: e9-18

Massimo Stafoggia, Bente Oftedal, Jie Chen, Sophia Rodopoulou, Matteo Renzi, Richard W Atkinson, Mariska Bauwelinck, Jochem O Klompmaker, Amar Mehta, Danielle Vienneau, Zorana J Andersen, Tom Bellander, Jørgen Brandt, Giulia Cesaroni, Kees de Hoogh, Daniela Fecht, John Gulliver, Ole Hertel, Barbara Hoffmann, Ulla A Hvidtfeldt, Karl-Heinz Jöckel, Jeanette T Jørgensen, Klea Katsouyanni, Matthias Ketzel, Doris Tove Kristoffersen, Anton Lager, Karin Leander, Shuo Liu, Petter L S Ljungman, Gabriele Nagel, Göran Pershagen, Annette Peters, Ole Raaschou-Nielsen, Debora Rizzuto, Sara Schramm, Per E Schwarze, Gianluca Severi, Torben Sigsgaard, Maciek Strak, Yvonne T van der Schouw, Monique Verschuren, Gudrun Weinmayr, Kathrin Wolf, Emanuel Zitt, Evangelia Samoli, Francesco Forastiere, Bert Brunekreef*, Gerard Hoek*, Nicole A H Janssen*



Evidenza di effetto degli inquinanti atmosferici a basse dosi



Effetti cronici dell'I.A. nello Studio Longitudinale Romano



- Inquinamento atmosferico e mortalità causa-specifica (**progetto BIGEPI**)
- Inquinamento atmosferico e patologie psichiatriche/cardiovascolari
- Esposoma urbano e mortalità (**progetto EXPANSE**)
- Relazione tra verde urbano, inquinanti atmosferici e patologie nervose/psichiatriche/CVD
- Componenti del PM e mortalità (**progetto MAIA**)
- Inquinamento atmosferico e COVID-19 (**progetto RF-DETECOVID**)

Stime di impatto dell'inquinamento atmosferico

PM _{2.5} 2016-2019	Area	Pop. 30+ anni	PWE	Soglia 5 µg/m ³			
				Casi attribuibili	IC 95%	Frazione attribuibile %	
Cause naturali	Italia	42,952,673	16.5	36,452	27,936	40,574	8.3%
	Nord	19,354,371	20.5	22,157	17,027	24,630	10.9%
	Centro	8,664,082	14.5	6,195	4,732	6,907	6.7%
	Sud	14,934,220	12.6	8,100	6,178	9,037	5.6%
Cause cardiovascolari	Italia	42,952,673	16.5	17,379	14,517	21,457	3.9%
	Nord	19,354,371	20.5	10,154	8,505	12,486	5.0%
	Centro	8,664,082	14.5	3,018	2,514	3,743	3.3%
	Sud	14,934,220	12.6	4,207	3,498	5,227	2.9%
Cause respiratorie	Italia	42,952,673	16.5	3,362	1,089	5,582	0.8%
	Nord	19,354,371	20.5	2,094	684	3,444	1.0%
	Centro	8,664,082	14.5	584	187	892	0.6%
	Sud	14,934,220	12.6	684	218	1,156	0.5%



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