



SUSTAINABLE FUTURES COLLABORATIVE

BoD as a conversation starter:

Moving policy forwards in India

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Bhargav Krishna, DrPH

Convenor, Sustainable Futures Collaborative
Adjunct Faculty, Public Health Foundation of India



State of play in 2013

- A generation of air pollution policy from 1997-2009
 - Primarily focused on Delhi/NCR
 - Vehicular, industrial and power sector interventions
 - Culminated with the new NAAQS in 2009
 - Civil society engagement waning with success seemingly achieved
- GBD raised new questions
 - Exposures nationwide substantially higher than anticipated
 - High BoD; second only to China at the time
 - What about household sources? Higher contribution to BoD than ambient
 - Structured policy response needed nationwide



Robust relationship between ambient air pollution and infant mortality in India

Priyanka N. deSouza^a, Sagnik Dey^{b,c}, Kevin M. Mwenda^{d,e}, Rockli Kim^{f,g,h}, S.V. Subramanian^{h,i}, Patrick L. Kinney^j

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Exposure to Particulate Matter Is Associated With Elevated Blood Pressure and Incident Hypertension in Urban India

Dorairaj Prabhakaran, Siddhartha Mandal, Bhargav Krishna, Melina Magsumbol, Kalpana Singh, Nikhil Tandon, K.M. Venkat Narayan, Roopa Shivashankar, Dimple Kondal, Mohammed K. Ali, Kolli Srinath Reddy, Joel D. Schwartz, and GeoHealth Hub Study investigators, COE-CARRS Study investigators

Originally published 17 Aug 2020 | <https://doi.org/10.1161/HYPERTENSIONAHA.120.15373> | Hypertension. 2020;76:1289–1298

Ambient air pollution and daily mortality in ten cities of India: a causal modelling study

Jeroen de Bont*, Bhargav Krishna*, Massimo Stafoggia, Tirthankar Banerjee, Hem Dholakia, Amit Garg, Vijendra Ingole, Suganthi Jaganathan, Itai Kloog, Kevin Lane, Rajesh Kumar Mall, Siddhartha Mandal, Amruta Nori-Sarma, Dorairaj Prabhakaran, Ajit Rajiva, Abhiyant Suresh Tiwari, Yaguang Wei, Gregory A Wellenius, Joel Schwartz†, Poornima Prabhakaran†, Petter Ljungman†



Exposures to fine particulate matter (PM_{2.5}) and birthweight in a rural-urban, mother-child cohort in Tamil Nadu, India

Kalpna Balakrishnan, Santu Ghosh¹, Gurusamy Thangavel, Sankar Sambandam, Krishnendu Mukhopadhyay, Naveen Puttaswamy, Arulselvan Sadasivam,



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SPECIAL REPORT 21

Burden of Disease Attributable to Major Air Pollution Sources in India

GBD MAPS Working Group

Estimating the effect of annual PM_{2.5} exposure on mortality in India: a difference-in-differences approach

Suganthi Jaganathan, MPH^{a,b,c}, Massimo Stafoggia, PhD^{a,d}, Ajit Rajiva, MSc^{b,c,e}, Siddhartha Mandal, PhD^{b,c}, Shweta Dixit, PhD^{b,c}, Jeroen de Bont, PhD^a, Prof Gregory A Wellenius, ScD^f, Kevin J Lane, PhD^f, Amruta Nori-Sarma, PhD^f, Prof Itai Kloog, PhD^{e,g}, Prof Dorairaj Prabhakaran, DM^{c,h}, Poornima Prabhakaran, PhD^{b,c,i}, Prof Joel Schwartz, PhD^{i,j}, Petter Ljungman, PhD^{a,j,k} Show less

Stifled Progress

Public posturing doesn't reflect scientific understanding nor policy imperatives.

Why?

POLITICAL ECONOMY

Air pollution is an inconvenient problem to have for a country that is still "developing" rapidly, relying heavily on polluting power sources (e.g., coal), and industrial expansion. Still considered a largely urban problem.

WILFUL MISUNDERSTANDING OF EPIDEMIOLOGY

Ministry of Environment staffed by engineers and atmospheric scientists who have no understanding of the epidemiological approach. Consider Indians to be "different" from western populations and somehow "immune" to air pollution.

MISTRUST OF SCIENCE

Assumptions that studies being published by "foreign" institutions are done to malign India's reputation. Consider global standards "unsuited" to Indian conditions ("Indians have become immune to air pollution").

Sources:

Bahuguna & Krishna (2020), *Centre for Chronic Disease Control*;

Krishna, B., Krishnan, A., Ganesan, K., Prabhakaran, P., & Dey, S. (2022, February 10). The Bad Science Choking India. *The India Forum*, March 4, 2022.

<https://www.theindiaforum.in/article/bad-science-choking-india>

Ghertner, D. A. (2019). The Colonial Roots of India's Air Pollution Crisis. *Economic and Political Weekly*, 54(47), 7–8.

What's missing?

- We need to communicate better
 - Moral case for action has been made
 - Clearer idea of what it means for health to be fundamental in AQ policy is WIP
- We may need a different approach to the rest of the world
 - Plurality of sources means we may need to think hard about the traditional model of AQM
- We still need more capacity and collaborative work
 - More collaborative platforms can facilitate greater multiplicative efforts
- Where do we still need work?
 - Accountability research/asking more intuitive questions
 - Leverage extensive exposure data to drive more localized research



Thank you for your indulgence

Contact: Bhargav@sustainablefutures.org

