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Cite this as: *BMJ* 2023;383:p2162  
<http://dx.doi.org/10.1136/bmj.p2162>

## Air pollution should be listed on death certificates

We need national guidance for clinicians on the inclusion of air pollution on death certificates, argue Laura-Jane Smith, Mike Tomson, and Kath Brown

Laura-Jane Smith,<sup>1</sup> Mike Tomson,<sup>2</sup> Kath Brown<sup>2,3</sup>

Air pollution is often framed as a modern problem, but as early as Roman times it was understood that polluted air affects human health. In AD 61, Seneca wrote of Rome “No sooner had I left behind the oppressive atmosphere of the city and that reek of smoking cookers ... than I noticed the change in my condition.”<sup>1</sup> In AD 535, emperor Justinian declared clean air a right of all humans: “By the law of nature these things are common to mankind—the air, running water, the sea.”<sup>2</sup> But it took until July 2022 for the United Nations to declare access to a clean and healthy environment a universal human right.<sup>3</sup> In the UK, the Clean Air (Human Rights) Bill, also known as Ella’s Law, is a private members’ bill which would enshrine in law a right to clean air. At the time of writing, the bill is awaiting its second reading in the House of Commons.<sup>4</sup>

A wealth of mechanistic and epidemiological data link air pollution to conditions throughout our lives: intrauterine growth retardation, pregnancy loss, developmental disorders, asthma, diabetes, ischaemic heart disease, dementia, strokes, and lung cancer.<sup>5</sup> The Lancet Commission on pollution and health<sup>6</sup> estimated that more than 6.5 million deaths a year globally are attributable to air pollution. This number is increasing because of the rising use of fossil fuels. There is no safe level of air pollution, and exposure is often lifelong.<sup>7</sup> As with so many health injustices, those most affected contribute least to the problem.<sup>8</sup>

Action on air pollution has failed to keep pace with evidence. The World Health Organization’s global air quality guidelines are evidence based and propose increasingly strict targets.<sup>9</sup> No country has a comprehensive plan to meet these targets. In September 2023 the European Parliament voted on a revised law to improve air quality across the European Union by aligning with WHO recommended limits on PM<sub>2.5</sub>, nitrogen dioxide, sulphur dioxide, and ozone. This is a positive step, but sadly the commitment was pushed back from 2030 to 2035.<sup>10</sup> The latest UK government targets represent too little ambition, too late.<sup>10</sup> It is 10 years since Ella Adoo-Kissi-Debrah was the first person to have air pollution listed on her death certificate: 1(a) acute respiratory failure, 1(b) asthma, 1(c) air pollution exposure.<sup>11</sup> This followed a second inquest and tireless campaigning by her mother, Rosamund. The contribution of air pollution was proved beyond doubt by painstaking research which showed Ella’s multiple admissions to hospital with severe asthma correlated with spikes in air pollution near her inner London home. Ella was exposed to levels “constantly exceeding” EU limits in the three years prior to her death. Children living in London, and other cities,

continue to be exposed to such high levels of air pollution, and some have died from asthma since 2020, yet no one else has had air pollution included as a contributing cause of death. This causes confusion for the public, and allows those opposed to public health interventions to misuse statistics on cause of death to minimise the problem of air pollution.<sup>12</sup>

Death certificates serve multiple purposes: they explain the cause of death to the family, allow them to register the death, and are a public record accessed by researchers, lawyers, and national bodies. It is important that a major source of preventable death should appear in our national statistics as this underpins decision making. Death certification is a key way in which data on cause of death are collected. A death is often the consequence of multiple short and long term causes, so writing a death certificate is dependent on the doctor’s clinical judgment. Government advice is provided on the inclusion of smoking, alcohol, and occupational exposures, but not on when to include air pollution.<sup>13</sup>

Given this gap, a group of medical professionals (Members of Greener Practice, including the authors and health professionals in the Respiratory Greener Practice Network) have written to coroners across the country to seek advice on when it would be appropriate to include air pollution on death certificates. A wide variety of responses was received. Worryingly, they revealed that coroners lack awareness of high levels of local air pollution and their health effects, and lack knowledge that most areas in the UK exceed the WHO limits. A common theme in the responses was that “a death caused by or contributed to by air pollution would not meet the requirement that it was due to natural causes” as it is not included on the list of natural causes of death prescribed by the Royal College of Pathologists (RCPATH).<sup>14</sup> Coroners would therefore be obliged to open an investigation and inquest. It is illogical that death from tobacco smoke exposure is considered a “natural cause,” whereas death from fossil fuel smoke exposure is not. Smoking and air pollution are both causes of unnatural death which should be treated in the same way on death certificates.<sup>15</sup>

We are calling for:

- National guidance on the inclusion of air pollution on death certificates for clinicians
- A review of when inquests should be triggered or whether the RCPATH list of “natural” causes of death should be amended

- Education for coroners, medical examiners, and healthcare professionals on the significant contribution of air pollution to deaths.

Only by counting the consequences can we expose the harms from air pollution and create the widespread awareness needed to bring about policy change and protect the right of every person to breathe clean air.

Competing interests: LJ Smith is a consultant respiratory physician in south London and the BTS Trustee for Sustainability. She campaigns on air quality with MedAct and is part of the Healthy Air Coalition UK. Mike Tomson is a clinically retired GP, director of Greener Practice, and a trustee of the Centre for Sustainable Healthcare. Kath Brown is a GP in Cornwall, director of Greener Practice, and a Global Action Plan Clean Air champion.

Provenance and peer review: commissioned, not externally peer reviewed.

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