Environmental Lead Risk in the 21st Century

Editor's note: I hope that I inspire LEAD Action News readers to read the full amazing article, by reprinting the following figures and extracts from Environmental lead risk in the 21st century *and its* Supplementary Information *by Mengli Chen, Edward A. Boyle, Ludovica Gazze, Francis J. DiTraglia, Reshmi Das, Jerome Nriagu, Yigal Erel, Caroline M. Taylor & Dominik Weiss,* Communications Earth & Environment Review Article - A Nature Portfolio journal - https://doi.org/10.1038/s43247-025-02735-x - 30th September 2025.

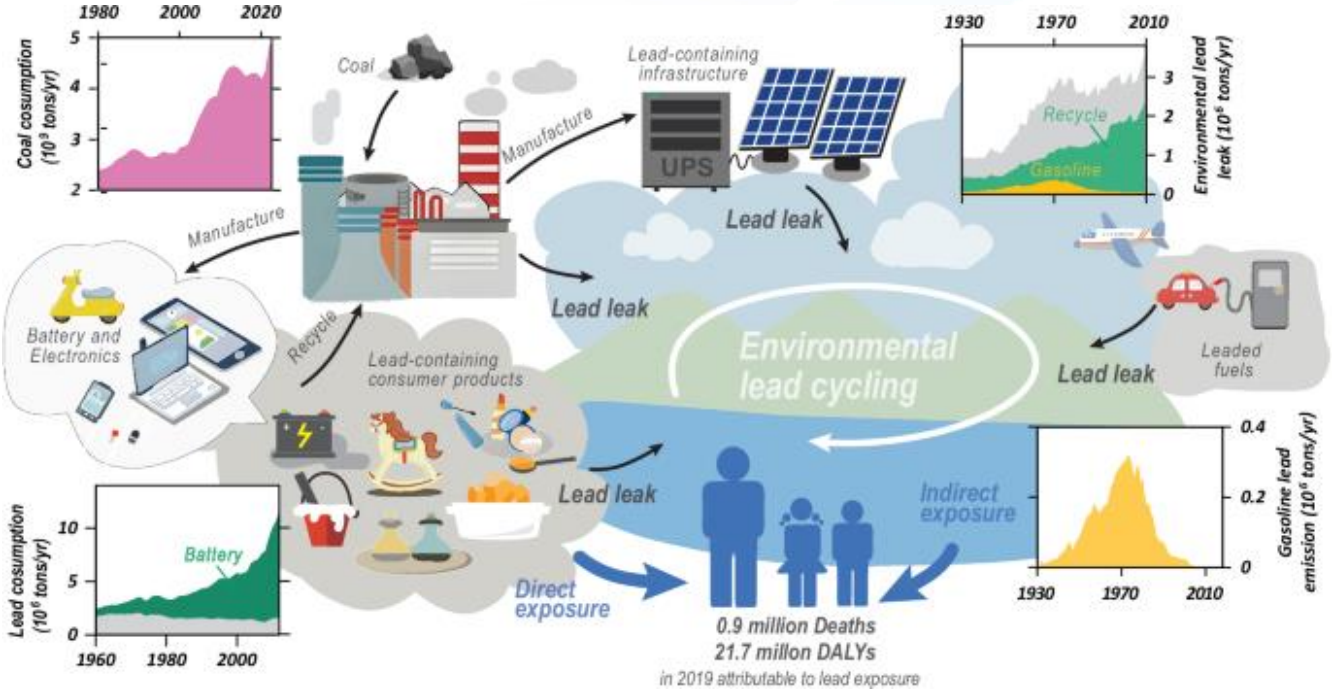

Fig. 1: Schematic of the environmental lead cycle

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Following the phasing out of leaded gasoline, coal combustion, aviation fuel (avgas), along with the production, use, and recycling of lead-containing products became the new dominant atmospheric emission sources [of lead].

Coal combustion contributed ~50% of the atmospheric lead emissions in China in 2009, 12% to 42% in India in the 2010s, and about 30% globally in 2005-2012...flue gas desulfurization systems decrease this.

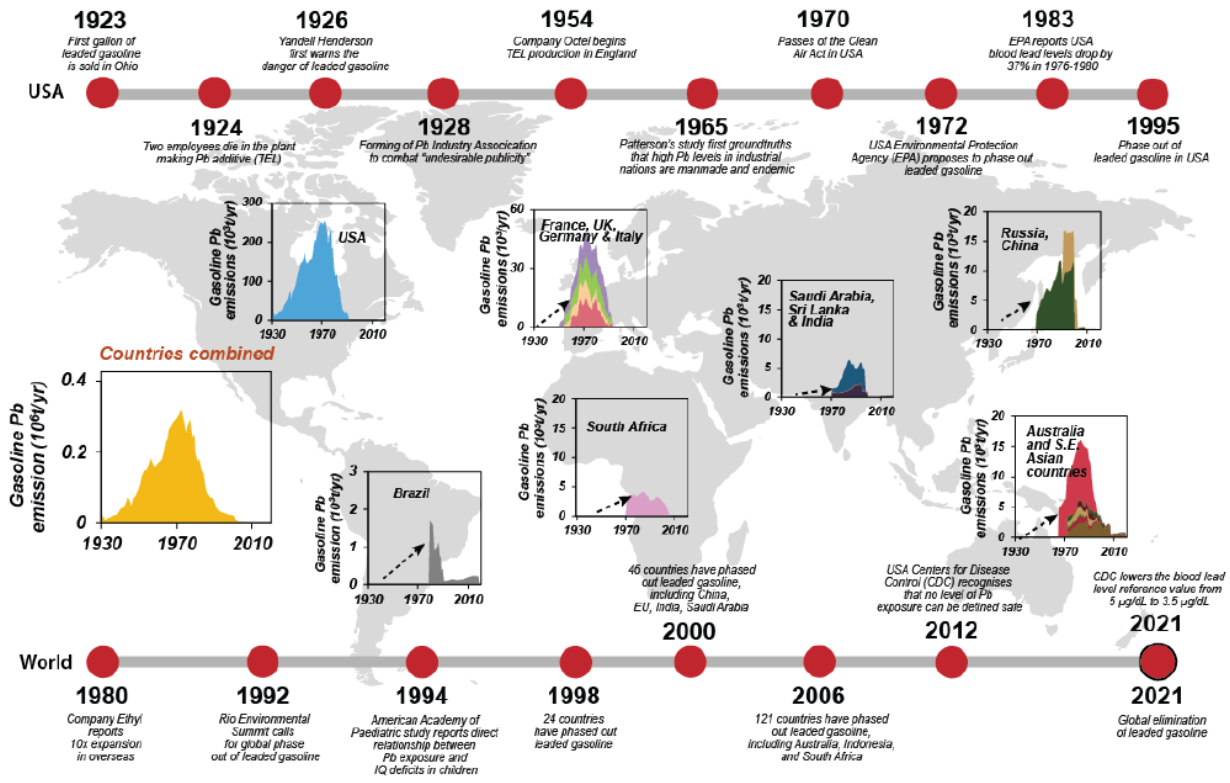

Fig. S2 Global timeline of gasoline lead emission

Estimated atmospheric lead emissions from gasoline from selected countries across the world with key events illustrated in the context of the 100 years' timeline of leaded gasoline in the USA (top) and the world (bottom)100. The countries presented in this figure comprise about 65 % of the global gasoline usage76. Arrows in the inset figures illustrate likely trends of gasoline lead emission where emission data are not available. For example, leaded gasoline was introduced in Japan in 1927, United Kingdom in 1928, Canada in 1926, Ireland and Australia in 1932, Italy in 1935, Germany in 1936, Mexico in 1937, France in 1939, and Russia in 1942101. Each of the inset figures is plotted as the integrated emission of the countries mentioned. Note the difference in scales among countries. The combined emission is illustrated in the leftmost inset figure in yellow. The total integrated emission is plotted in Fig. 1 and Fig S3 as yellow filled areas. Table S1 presents emission data compiled from the literature along with new estimates constructed for this study. Full methodological details appear in Text S3.