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The Kids' Environment and Health Cohort: a novel administrative data resource for research on the environmental determinants of child health in England

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Objectives

We aim to establish the Kids' Environment and Health Cohort, a research-ready, de-identified, longitudinal birth cohort of approximately 11 million children born in England (2006-2022), updated annually. The cohort will be used to investigate how environmental factors in and around children's homes and schools affect their health and educational outcomes.

Methods

The Kids' Environment and Health Cohort will link vital statistics, census, health, education, and environmental data, via unique property identifiers from longitudinal health service address records for children, and their mothers during pregnancy. Environmental exposure data in/around schools will be linked via education records. The Office for National Statistics (ONS) is developing Phase 1, which includes birth and death registrations (2006-2022), linked deterministically using a combination of NHS numbers and personal information. Cohort children born within two years of the 2011 or 2021 Census will be linked to their mother's Census record. Environmental data on air pollution, greenspace proximity, temperature, and building characteristics will be linked to all cohort children via birth addresses. The cohort will be held and accessed in a secure research environment at the ONS, with encrypted geographical identifiers stored separately to ensure privacy.

Results

We have received ethics approval and agreed the legal bases for establishing the Kids' Environment and Health Cohort. The linkage of death registrations to birth registrations is complete, and the ONS team were able to match >97% of registered deaths to birth records of cohort children with both precision

and recall estimated at >99%. Researchers will be able to request access to the Phase 1 data via ONS by March 2026.

Conclusion

The Kid's Environment and Health Cohort will support policy-relevant research in exploring associations between environmental factors and children's health and educational outcomes and assessing the effectiveness of policy interventions. It will also support interdisciplinary collaboration, guiding evidence-based decision-making for environmental, planning, and public health policies to promote children's health and well-being.

