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INPLASY

Climate Change and Child Health: An Evidence Gap Map Exercise

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Formal screening of search results against eligibility criteria.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 July 2023 and was last updated on 21 July 2023.

INTRODUCTION

Review question / Objective 1. What are the documented impacts of climate change on newborn and child health outcomes among children aged 0-5 years?
2. How does climate change affect the prevalence of preterm births and low birth weight among newborns?
3. What are the socioeconomic implications of climate change on child health?
4. What interventions or strategies have been identified to mitigate the effects of climate change on child health for children aged 0-5 years?

Background Climate change is one of the most pressing challenges facing our planet today, and its impact on various aspects of human life is becoming increasingly apparent. Among the vulnerable populations affected by climate change, children, particularly those aged 0-5 years, are at a higher risk of adverse health outcomes. Understanding the relationship between climate change and child health is crucial for informing policies and interventions to mitigate the negative effects.
To address this issue, an evidence gap map exercise has been initiated to examine the impact of climate change on child health, specifically within the age group of 0-5 years. This exercise aims to systematically map the existing evidence base, identifying research gaps and informing future research directions in this field.
The protocol for this evidence gap map outlines the key components of the study, including research questions, population, search strategy, study designs, outcome measures, quality assessment, data synthesis, subgroup analysis, sensitivity analysis, and dissemination plans. These components are essential for ensuring a comprehensive and rigorous evaluation of the available evidence.

Rationale This evidence gap map aims to fill the knowledge gaps regarding how climate change affects the health of children aged 0–5 years. By examining the existing evidence, we aim to understand the specific impacts, such as preterm

births, malnutrition, respiratory diseases, infectious diseases, and mental health issues. This information will guide the development of interventions and policies to safeguard the health of young children in the face of climate change.

METHODS

Strategy of data synthesis The search strategy for this evidence gap map will involve conducting a comprehensive literature search using electronic databases, such as PubMed, Scopus, and Web of Science. The search will include active use of keywords and search terms related to climate change, global warming, child health, children, newborns, infants, preterm birth, low birth weight, malnutrition, respiratory diseases, infectious diseases, mental health, and relevant concepts. The search strategy will be tailored to each database, utilizing Boolean operators (AND, OR) and truncation to enhance search efficacy and capture a wide range of relevant studies.

Eligibility criteria To ensure the inclusion of relevant studies, this evidence gap map exercise will consider studies that meet specific criteria. The included studies will focus on children aged 0–5 years and specifically investigate the impact of climate change on newborn and child health. The study design will include published studies, research papers, and reports. Health outcomes of interest will encompass a range of areas, such as preterm births, low birth weight, malnutrition, respiratory diseases, infectious diseases, and mental health problems. Furthermore, studies should explore the causal relationship between climate change and newborn/child health outcomes. Geographical diversity will be sought by including studies from different locations to capture various contexts and climate variations. Methodological rigour will be emphasized, with preference given to studies demonstrating clear research design, appropriate data collection methods, and sound analysis techniques. Finally, studies published in peer-reviewed journals or reputable sources will be considered. Studies that do not meet these criteria, including those with an unrelated focus, animal studies, unrelated health outcomes, or lacking peer review, will be excluded from the evidence gap map.

Source of evidence screening and selection The study will primarily rely on peer-reviewed journals as the primary source of information. Peer-reviewed journals provide a rigorous evaluation process and ensure the quality and reliability of the research findings. These journals will be the foundation for gathering relevant and up-to-date scientific literature.

However, the research will also consider other sources of information beyond peer-reviewed journals. Grey literature, including reports and policy documents, will be deemed to capture additional valuable insights and data. Grey literature often contains useful information that may not be available in peer-reviewed journals, such as government reports, white papers, and technical reports. These sources can provide valuable context and perspectives on climate change and its impact on maternal health.

In addition to electronic databases such as PubMed, Scopus, and Web of Science, other potential sources of information will be explored. Corporate websites of relevant organizations and institutions may provide valuable reports, studies, and publications that contribute to understanding the topic. Conference proceedings and abstracts will also be examined to identify emerging research and recent findings.

Data management Effective data management ensures that the research team organizes, maintains, and secures the collected information throughout the research process. The team will structure and standardize data collection to ensure consistency and accuracy. They will organize the data using databases or spreadsheets and categorize it based on predefined criteria and themes. The team will implement rigorous quality control measures during data entry to ensure accuracy and completeness. They will then analyze the data using appropriate techniques to address the research questions. Data will be securely stored and backed up, following established protocols to protect against loss or unauthorized access. The team will report the findings clearly and concisely through scientific publications or presentations. By employing robust data management practices, the research team ensures that the collected data is reliable and accessible and contributes to valid and impactful research outcomes.

Reporting results / Analysis of the evidence We will systematically and comprehensively report the results of our evidence gap map exercise. Our analysis will involve identifying and analyzing the available literature to map out the existing evidence gaps related to the impact of climate change on children under five. This exercise aims to synthesize the literature and identify areas where research is lacking or insufficient.

We will actively analyze the collected data from various sources using appropriate techniques, such as statistical or qualitative analysis,

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depending on the nature of the data. We aim to extract meaningful insights and patterns from the literature, specifically focusing on the relationship between climate change and maternal health outcomes.
Quantitative data, such as trends or statistical measurements, will be analyzed using statistical software to identify patterns and associations between climate change and maternal health outcomes. Qualitative data, including textual information from the literature, will undergo systematic thematic analysis to identify key themes and findings related to the impact of climate change on maternal health.
Our analysis will be guided by the objectives of the evidence gap map exercise, aiming to identify gaps in the existing research and highlight areas where further investigation is needed. We will synthesize and present the findings clearly and coherently, ensuring that the data analysis supports our conclusions.

Presentation of the results The results of our evidence gap map exercise will be reported in a suitable format for dissemination, such as research reports, policy briefs, or presentations. We aim to contribute to the body of knowledge by identifying the gaps in research and informing future research directions and interventions to address the impact of climate change on maternal health.

Language restriction Only articles published in the English language will be included Only Articles published in English will be included.

Country(ies) involved Canada (University of Alberta).

Keywords Climate Change, Child Health.

Dissemination plans The evidence gap map exercise findings will be disseminated to key stakeholders, including researchers, policymakers, healthcare providers, and community organizations. Dissemination activities may include workshops, webinars, conferences, reports, and peer-reviewed publications. The findings will be presented in a clear and accessible format to maximize their impact and reach a broader audience.

Contributions of each author
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