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Hunter, R., Garcia, L., Dagless, S., Whiting, S., Racioppi, F., & Wickramasinghe, K. (2023). Understanding the complex systems of climate change and NCDs: A Causal Loop Diagram. *European Journal of Public Health*, 33(Supplement_2), ii466-ii467. <https://doi.org/10.1093/eurpub/ckad160.1170>

Published in:

European Journal of Public Health

Document Version:

Publisher's PDF, also known as Version of record

Queen's University Belfast - Research Portal:

[Link to publication record in Queen's University Belfast Research Portal](#)

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Abstract citation ID: ckad160.1170
Understanding the complex systems of climate change and NCDs: A Causal Loop Diagram

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Background:

WHO has identified climate change as one of the greatest health threats of the 21st century. At the same time, noncommunicable diseases (NCDs), including cardiovascular diseases, diabetes, chronic respiratory disease and cancer, are the leading cause of death globally and in the WHO European

Region, are responsible for around 90% of deaths and 84% of years lived with disability each year. However, the complex relationships between climate change and NCDs are not well understood.

Methods:

The aim of this research was to identify, discuss and map the linkages between factors and policy actions designed to prevent NCDs and address climate change. Objectives included to: discuss and clarify the pathways of how NCDs and climate change relate to each other and the co-benefits to addressing both using Group Model Building methods; to identify key multi-sectoral actors and priority actions for international collaboration and national responses to NCDs and climate change. We co-designed and created a Causal Loop Diagram (CLD) with local stakeholders, following the principles of Group Model Building.

Results:

29 participants were involved in the workshop included WHO staff and experts in NCD prevention and/or climate change and health and health emergencies. The CLD was meaningful to the stakeholders as a consensual and co-produced understanding of the problem, as well as forming the basis of a tool to explore the future impact on how sectoral and multi-sectoral public policies to address these complex challenges are shaped and implemented. Participants identified a range of priority actions that, in their view, could impact and help reshape the system and influence NCDs and climate change in Europe.

Conclusions:

The CLD was reflective of the various stakeholders' experience, knowledge, perceptions, and views about the factors, and the inter-relationships between these factors, by which climate change influences NCDs and NCD risk factors in Europe.

Key messages:

- Climate change is one of the greatest threats of the 21st century.
- Systems thinking approaches can help identify 'win-win' solutions to complex issues.