

Clinical Trial Environmental Impact Project

Reducing the carbon emissions of clinical trials

Sponsors / Partners



Project Core Team Members



Problem statement

It is estimated that 5% of the total global healthcare system costs are spent on clinical research (*Sustainable Markets Initiative, 09 May 2022*). On a spend basis, this translates to approximately 100 megatonnes of CO₂e emissions per year, which is equivalent to the annual carbon emissions of Belgium.

Clinical trials are a critical element of the development process to ensure medication is safe and effective for humans, but this currently comes at a high cost to the environment; this will exacerbate climate change which is already a significant risk to human health on a global scale.

Decarbonisation of clinical trials will ensure that the negative environmental impact of clinical research is reduced. For decarbonisation, data needs to be available to measure the carbon footprint of clinical trials. The Sustainable Healthcare Coalition (SHC) is leading an industry and academic collaboration to quantify the footprint of clinical trials. In partnership with the SHC, the Pistoia Alliance Clinical Trial Environmental Impact project is developing methodology to measure the carbon emissions from decentralised clinical trials (DCT).

This project will enable the comparison of carbon emissions from standard trials to those of decentralised trials, which will result in the data generation needed to drive decision making to reduce the environmental impact of clinical research.

Project objectives

- Establish a common understanding of the DCT components of clinical trials and hypothesise the potential impact of these components on clinical trial carbon emissions
- Standardize the method for measuring the carbon footprint of DCTs
- Collect data
- Increasing awareness regarding the potential to use carbon emission data during clinical trial design to increase the environmental and societal sustainability of clinical research

Project plan



Implementation of regular meetings:

- Steering committee
- Project core team
- Community of interest

Project Deliverables

- Determine the impact of DCT components on clinical trial care pathways
- Data collected to contribute to Ecotool design
- Publications to share findings

Increase awareness of the **pre-competitive collaboration partnerships** formed through this project, along with the **positive impact** that this will have on the **health of current and future patients**

Project impact

Publications suggest that the integration of DCT components into clinical trials should lower clinical trial-associated carbon emissions; for this to be proved we need data. For sufficient data to be produced to draw meaningful conclusions, we need data collection through pre-competitive collaboration across many companies. The impact of this project will be the availability of data and the methodology to quantify the carbon emissions of clinical trials to ensure this is factored into more sustainable clinical trial design, accelerating us towards **Net Zero Clinical Care**.

Pistoia Alliance: Lowering barriers to R&D innovation

The Pistoia Alliance is a global, not-for-profit alliance of life science companies, vendors, publishers, and academic groups that work together to lower barriers to innovation in R&D.

Our members collaborate as equals on open projects that generate significant value for the worldwide life sciences community.

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Project website: <https://www.pistoiaalliance.org/projects/current-projects/clinical-trial-environmental-impact-community/>

