Summary

In the coming years, health systems worldwide will face a continuous rise in infectious as well as non-communicable diseases due to the ever-increasing threat of global climate change and persistent unhealthy diets. Hospitals are a major driver of climate change and simultaneously one of the greatest victims of its consequences. As health institutions, hospitals should therefore serve as role models in health advocacy, meet the targets of the Paris Agreement and buffer climate change impacts on health. Through implementing climate mitigation strategies in the hospital food supply, greenhouse gas (GHG) emission reduction and health co-benefits can be achieved. Indeed, there is a rich body of evidence that climate-friendly diets confer health co-benefits. However, up until now, little is known about the short-term impacts of climate-friendly diets on mental and physical well-being. Although the catastrophic consequences of climate change have been known for decades, there are no comprehensive projects that have implemented and scientifically evaluated strategies for sustainable food systems in healthcare, including economic analysis. Therefore, this study aims to monitor the implementation of a previously identified intervention for sustainable food supply at Heidelberg University Hospital (UKHD), and to evaluate its effects on environmental and health outcomes.

Using a quasi-experimental study design, we will compare the changes in mental and physical wellbeing, GHG emission, dietary practices, and costs between 250 employees who were exposed to the sustainable food supply at UKHD and 250 individuals at UKHD who were not exposed over a period of 3 months. Participants will be recruited with the support of the staff council and the department for personnel development. We will employ web-based (LimeSurvey) and/or paper-based questionnaires to anonymously document demographic and socio-economic characteristics of the participants, a diet screener focusing on plant-based practices, validated tools for mental and physical wellbeing (WEMWBS, SF-36), and life-cycle analysis for GHG emission from food intake according to ISO norms. For data analysis, we will use a differences-in-differences (DID) approach to dissect the intervention effect from potential differences at baseline between the study groups and from any secular trend over time. Concerning robust impact evaluation and costing of the intervention (monetary and opportunity), we will rigorously monitor inputs, processes and outputs in close collaboration with stakeholders and decision makers from the food supply sector at UKHD.

This project will deliver the reduction potential for GHG emission, the short-term effects on mental and physical wellbeing, and the costs of a stakeholder-driven intervention for sustainable food supply at UKHD. These findings will support informed decision making at UKHD for potential scale-up of this mitigation strategy, and may serve as a blueprint for other university hospitals in Germany and Europe.