Abstract Number	**P-1-12-28**
Presenter	Attila Trájer*, Ákos Bede-Fazekas, János Bobvos, Anna Páldy
Exposure	climate change (temperature)
Health domains	infectious diseases
Type of research	exposure modeling

THE EFFECT OF CLIMATE CHANGE ON THE POTENTIAL DISTRIBUTION OF THE EUROPEAN PHLEBOTOMUS SPECIES AND THE PARASITE LEISHMANIA INFANTUM IN 2011-2070. A CLIMATE ENVE

Background/Aims: In the Mediterranean areas of Europe, leishmanisasis is one of the most emerging vector-borne diseases. Members of genus Phlebotomus are the primary vectors of the genus Leishmania. To track the human health effect of climate change it is a very important interdisciplinary question to study whether the climatic requirements and geographical distribution of the vectors of human pathogen organisms correlate with each other. Our study intended to explore the potential effects of ongoing climate change, in particular through a potential upward altitudinal and latitudinal shift of the distribution of the parasite Leishmania infantum, its vectors Phlebotomus ariasi, P. neglectus, P. perfiliewi, P. perniciosus, and P. tobbi, and some other sandfly species: P. papatasi, P. sergenti, and P. similis. Methods: By using a climate envelope modelling (CEM) method we modelled the current and future (2011-2070) potential distribution of 8 European sandfly species and L. infantum based on the current distribution using the REMO regional climate model. Results: We found that by the end of the 2060's most parts of Western Europe can be colonized by sandfly species, mostly by P. ariasi and P. pernicosus. P. ariasi showed the greatest potential northward expansion. For all the studied vectors of L. infantum the entire Mediterranean Basin and South-Eastern Europe seemed to be suitable. L. infantum can affect the Eastern Mediterranean, without notable northward expansion. Our model resulted 1 to 2 months prolongation of the potentially active period of P. neglectus P. papatasi and P. perniciosus for the 2060's in Southern Hungary. Conclusion: Our findings confirm the concerns that leishmanisais can become a real hazard for the major part of the European population to the end of the 21th century and the Carpathian Basin is a particularly vulnerable area.

Abstract Number	**P-1-12-29**
Presenter	Noah Scovronick*, Paul Wilkinson
Exposure	food
Health domains	other
Type of research	health impact assessment

The impact of biofuel-induced food-price inflation on food demand and dietary greenhouse gas emissions

Background: Liquid biofuel production has increased dramatically in recent years and is expected to continue. This growth has led to concerns about the impact of biofuel production on food prices, which may show significant biofuel-related inflation. In consequence,biofuels may influence food intake and greenhouse gas (GHG) emissions through its effect on food prices and associated food demand. Aims: We estimated changes to energy (calorie) demand and embodied GHG emissions in average diets under different biofuel-related food-price scenarios for three countries: Brazil, China and the USA. Methods: We used published food-price projections, food-price elasticities and food demand data to predict dietary change under the different price scenarios. Estimates of embodied emissions in foods were taken from multiple studies in the literature. Uncertainty was explored with Monte Carlo simulations. Results: Average energy demand decreased in all countries, from about 40 kcal per person per day in Brazil under a moderate price inflation scenario – a reduction of 1% relative to the (2009) reference scenario - to over 300 per day in the USA with high price inflation – about 8% of reference levels. In terms of GHG emissions, the results are suggestive of reductions only in the USA, where average reductions ranged from 30-80 kg/CO2e/person/year. In China, the direction of impact is unclear, but the net change is likely to be minimal. Brazilian results were sensitive to parameter values and the direction and magnitude of impact is therefore uncertain. Conclusions: Our results demonstrate that biofuel-induced food-price inflation is likely to influence the quantity and composition of future diets. These changes will affect dietary GHG emissions and have important implications for public health. Reduced energy intake in food-insecure populations may result in higher levels of undernutrition, whereas it could benefit populations suffering from overnutrition.