International Society for Environmental Epidemiology (ISEE)

Subject: Proposal by the European chapter of ISEE for a revised text that includes Environmental Health as a priority in Horizon 2020

Proposed new section 1.2 on environmental health

1.2. Environmental health

A better understanding of the environmental determinants of health and wellbeing and the mediating mechanisms is required in order to provide evidence for effective health protection strategies and inform the EU programs and policies. Environmental health indicators should be provided that can complement other health indicators being developed. Environmental factors including climate change and occupation will be studied. Approaches will include short term studies in humans and the long term study of cohorts and their linkage with data derived from environmental databases and biobanks, "-omics" research, and other methods.

In particular, a better understanding of the environment as a determinant of health during the life course from pregnancy and childhood to the elderly will require integrated molecular biological, exposure assessment, epidemiological and toxicological approaches to investigate health-environment relationships. Environmental health studies should examine chemicals and modes of action of chemicals, combined exposures to pollution and other environmental and climate-related stressors (including air pollution, water and soil contamination, noise, temperature, light pollution, radiation, food contamination and man-made nanoparticles) and benefits (including green spaces, alternative transport and urban planning), as well as alternatives to animal testing. Innovative approaches to exposure assessment are needed using new-generation biomarkers based on 'omics' and epigenetics, human biomonitoring, personal exposure assessments and modelling which integrates socio-economic and behavioural factors to understand combined, cumulative and emerging exposures and their health effects. Improved links between health problems and environmental data using advanced information systems will be supported.

In this way, existing and planned policies and programmes can be assessed and policy support provided on environmental aspects of health. Improved environmental interventions can be developed and assessed to evaluate their impact on health and wellbeing.