Close contact with nature brings benefits to human health and wellbeing, but the mechanisms are not well understood, and European research evidence is limited. PHENOTYPE investigates the link between exposure to natural outdoor environments and positive effects on human health and wellbeing. The project looks at the underlying mechanisms in different cultural and geographical population groups. Effects of different characteristics of the natural outdoor environment are investigated to address the implications for land-use planning and green space management.

Workpackages

PHENOTYPE is a collaborative project to investigate the interconnections between exposure to natural outdoor environments, and improved human health & wellbeing. The project is broken down in topic-specific work packages led by respective experts.

WP1 Project Management
Led by Mark Nieuwenhuijsen (CREAL, Spain)

WP2 Mechanism Assessment
Led by Hanneke Kruize (RIVM, The Netherlands)

WP3 Epidemiological Studies
Led by Regina Gražulevičienė (VDU, Lithuania)

WP4 Therapeutic Studies
Led by Chris Gidlow (Staffordshire University, United Kingdom)

WP5 Implications, Health Impact Assessment and Planning
Led by Roderick Lawrence (UNIGE, Switzerland)

WP6 Policy Involvement and Dissemination
Led by Peter van den Hazel (VGGM, The Netherlands)

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**Beneficiaries**

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**Partner 2** RIVM - National Institute for Public Health and the Environment (NL)  
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**Partner 3** Staffordshire University (UK)  
Dr Christopher Gidlow  |  www.staffs.ac.uk

**Partner 4** VDU - Vytauto Didžiojo Universitetas (LT)  
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**Partner 5** UNIGE - University of Geneva (CH)  
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Dr Edmund Seto  |  www.berkeley.edu

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**Workpackages**

**WP1 Project Management**  
Led by Mark Nieuwenhuijsen (CREAL, Spain)  
Overall management to oversee planning and quality of the project delivery, including financial, logistical and ethical aspects.

**WP2 Mechanism Assessment**  
Led by Hanneke Kruize (RIVM, The Netherlands)  
Physical activity, social contacts, stress and environmental hazards are some of the mechanisms thought to explain the health effects of exposure to the natural outdoor environment. WP2 employs some novel methods to explore these mechanisms through the collection of primary data from adults in Lithuania, the Netherlands, Spain and United Kingdom. This will provide a wider European picture than the common focus on northwest Europe.

**WP3 Epidemiological Studies**  
Led by Regina Gražuleviciene (VDU, Lithuania)  
WP3 conducts epidemiological and longitudinal studies investigating the direct relation between the natural outdoor environment and health and well-being in Lithuania, the Netherlands, Spain and UK. It further examines the role of socio-economic status, which has been suggested as an effect modifier for the relationship between exposure to the natural environment and health benefits.

**WP4 Therapeutic Studies**  
Led by Chris Gidlow (Staffordshire University, United Kingdom)  
WP4 uses a field-based experimental approach to explore individuals’ psycho-physiological responses to urban and different types of natural environment. Involvement of patient and non-patient populations will help to understand the preventive and therapeutic applications of natural environments, using field-based data collection to maximise the ecological, as well as internal validity of any observed effects.

**WP5 Implications, Health Impact Assessment and Planning**  
Led by Roderick Lawrence (UNIGE, Switzerland)  
WP5 integrates the literature, PHENOTYPE results and negative effects of exposure to the natural environment. Active engagement with policy decision makers and professional practitioners will contribute to the translation of the PHENOTYPE research findings in recommendations and guidelines for land use planning and management.

**WP6 Policy Involvement and Dissemination**  
Led by Peter van den Hazel (VGGM, The Netherlands)  
PHENOTYPE has a broad range of stakeholders from local, regional and national government, green space managers, NGOs, health care providers, public health, city planners, policy makers and researchers. They will be involved in all stages of the work. WP6 is dedicated to engaging with stakeholders and disseminating information on the state-of-the-art in health and the natural environmental sciences.