

21.4 Self-reported mental health and wellbeing

Project Name: proGfreg (Grant Agreement no. 776528)

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Self-reported mental health and wellbeing	Health and Wellbeing
Description and justification	This indicator of mental health status is based on a validated and widely used questionnaire. An accumulating body of evidence has demonstrated a positive association between green space exposure and self-perceived general mental health and wellbeing. However, evidence from natural experiments is lacking, while such studies could strengthen the evidence for causality of the association.
Definition	Self-reported mental health and wellbeing status
Strengths and weaknesses	A strength of this indicator is that it is obtained by applying a validated and widely used questionnaire to assess mental health status. This questionnaire has been translated into many languages and re-validated. A limitation is that the indicator is self-reported, although validation studies have demonstrated that the questionnaire has acceptable predictive value .
Measurement procedure and tool	The indicator is obtained using a survey which is taken by a sample of the general population. The survey includes a section of the SF-36 health survey questionnaire on mental health, in which several items ask about the amount of time during the past 4 weeks a participant experienced a certain feeling. The answers are given on a scale from 1 (all of the time) to 6 (none of the time). This survey is repeated before and after the implementations of NBS in order to observe a potential change in mental health status.
Scale of measurement	General population in residential neighbourhoods
Data source	
Required data	Questionnaire data
Data input type	Continuous variables
Data collection frequency	Twice; once before the implementation of the nature-based solutions and once after.
Level of expertise required	Low
Synergies with other indicators	This indicator is related to other indicators on mental health.

Connection with SDGs	Good health and wellbeing: if the implementation of NBS provide mental health benefits, NBS contribute to improved health and wellbeing.
Opportunities for participatory data collection	The questionnaires are self-reported and as such are reported by the citizens themselves.
Additional information	
References	Brazier et al. (1992). Validating the SF-36 health survey questionnaire: a new outcome measure for primary care. <i>BMJ</i> ; 305,160.

21.5 Cardiovascular diseases (prevalence, incidence, morbidity and mortality)

Project Name: CONNECTING Nature (Grant Agreement no. 730222)

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Prevalence, incidence, morbidity and mortality of cardiovascular diseases (CVD)	Health and Wellbeing
Description and justification	Accumulating evidence supports the notion that ecological features such as the diurnal cycles of light and day, sunlight exposure, seasons, and geographic characteristics of the natural environment such as altitude, latitude, and green spaces are important determinants of cardiovascular health and CVD risk (Bhatnagar, 2017). Some of the beneficial cardiovascular effects of greenery might relate to a decrease in the levels of local air pollution, increased proximity to walking spaces, or lower levels of mental stress (Bhatnagar, 2017). Recent studies and systematic reviews of empirical evidence have found support for the association between access and use of green spaces, and the prevalence and mortality of cardiovascular disease and risk, as well as for improved rates of recovery from cardiovascular disease (Gascon, Triguero-Mas, Martínez, Dadvand, Rojas-Rueda, Plasencia, & Nieuwenhuijsen, 2016 ; Grazuleviciene, Vencloviene, Kubilius, Grizas, Dedele, Grazulevicius, Ceponiene, Tamuleviciute-Prasciene, Nieuwenhuijsen, Jones, & Gidlow, 2015a ; Kuo, 2015 ; Pereira, Foster, Martin, Christian, Boruff, Knuiman, & Giles-Corti, 2012 ; Tamosiunas, Grazuleviciene, Luksiene, Dedele, Reklaitiene, Baceviciene, Vencloviene, Bernotiene, Radisauskas, Malinauskiene, Milinaviciene, Bobak, Peasey,