The European research cluster to understand the impacts of urban environment on health and wellbeing of people

November 2023

Joint Policy Brief

Second Issue

The Urban Health Cluster (UHC) is the first European cluster that aims to **"improve and safeguard health and well-being of citizens, leaving none behind"**. The UHC builds on robust evidence for policymaking that stems from research through experiments, urban and city labs as well as studies across Europe and overseas. The UHC specific objectives are to **improve population health, physical and/or mental**, in urban areas of the EU; and **reduce health inequalities** in urban areas. If you want to read more about the UHC working groups and actions, please visit the UHC website.

This policy brief is **twofold**. First, it focuses on the **link** between **the policy questions pointed out by the UHC** consortium and **the UHC policy topics highlighted in the first joint policy brief**. Second, showcase the **health determinants that are most and least analysed by the UHC** and which are the **main Sustainable Development Goals (SDGs)** covered within UHC efforts.
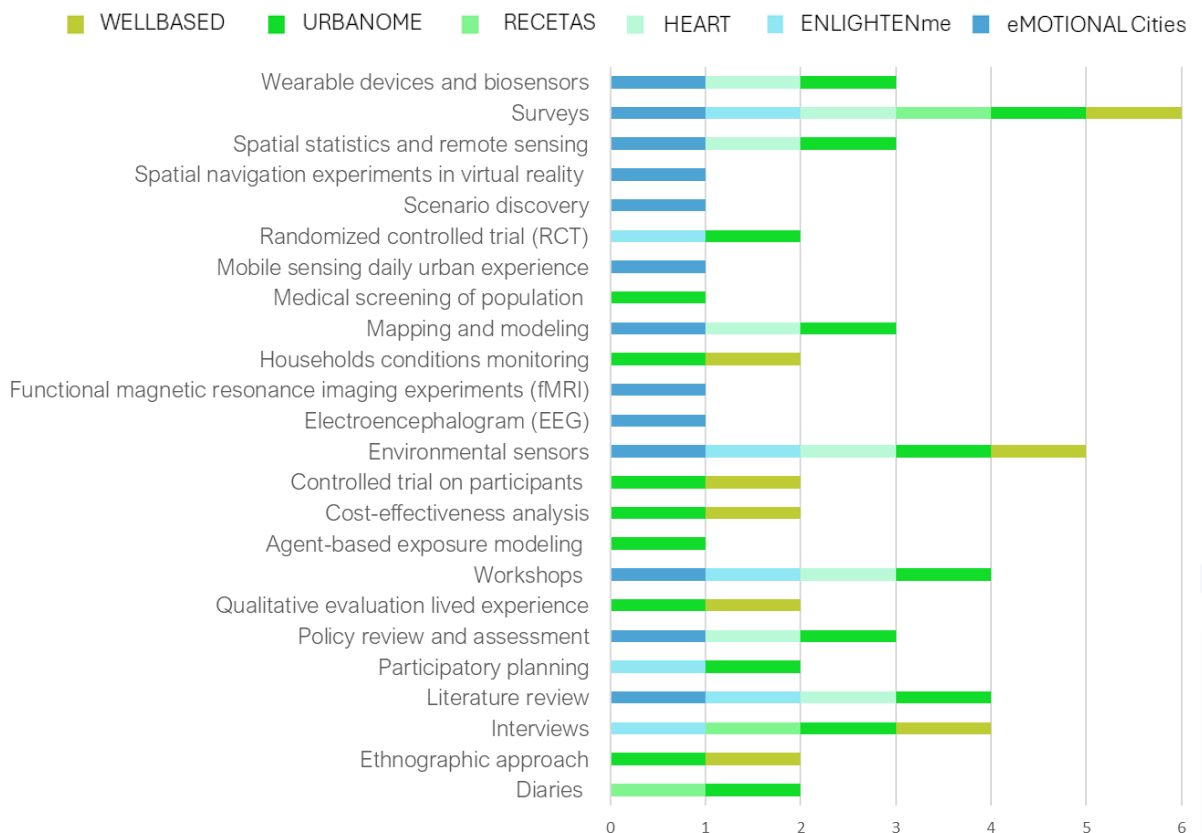
The urban health problems that cities are currently facing require the use of a set of advanced methods & and tools, in order to build evidence-based knowledge that helps policy and decision-makers to implement efficient actions

This is fundamental for a more efficient translation of science into policy and health, and, in this sense, UHC projects adopt a mixed-methods approach in general.

However, quantitative methods are favoured over qualitative ones, with 65% and only 35% respectively. The environmental sensors (11%) and surveys (13%) are specifically the tools and methods more commonly chosen.

The table below shows the main research methods and tools adopted by each project within the UHC.

Legend: WELLBASED · URBANOME · RECETAS · HEART · ENLIGHTENme · eMOTIONAL Cities

Categories (top to bottom):
- Wearable devices and biosensors
- Surveys
- Spatial statistics and remote sensing
- Spatial navigation experiments in virtual reality
- Scenario discovery
- Randomized controlled trial (RCT)
- Mobile sensing daily urban experience
- Medical screening of population
- Mapping and modeling
- Households conditions monitoring
- Functional magnetic resonance imaging experiments (fMRI)
- Electroencephalogram (EEG)
- Environmental sensors
- Controlled trial on participants
- Cost-effectiveness analysis
- Agent-based exposure modeling
- Workshops
- Qualitative evaluation lived experience
- Policy review and assessment
- Participatory planning
- Literature review
- Interviews
- Ethnographic approach
- Diaries

Policy instruments are roadmaps for stated key policy objectives, and to guide the **translation of policy into science.**

According to the six research projects of the UHC projects, the United Nations, mainly the WHO, and the European Union are the main source of key policy instruments. The policy instrument common to the largest number of projects is the European Union's Green Deal (11 %), while the EU Urban Agenda (EU, 2019), the EU Biodiversity Strategy for 2030 (EU, 2021) and the European Health Union: a new comprehensive approach to mental health (EU, 2023) also stands out.

The **systematic production of data in time and space and with the granularity** required at the scale of the city is critical for more accurate and realistic diagnoses, as well as for scenario-building.

There's evidence of the relationship between urban built environment and people's health (mental and physical) and well-being:

"The physical and social environments of urban life can contribute both positively and negatively to mental health and wellbeing. Cities are associated with higher rates of most mental health problems compared to rural areas: an almost 40% higher risk of depression, over 20% more anxiety, and double the risk of schizophrenia, in addition to more loneliness, isolation and stress." (Centre for Urban Design and Mental Health, 2023)

There's an URGENT need to invest in the systematic production of data at the city scale that contributes to the construction of urban health and well-being indicators for all the determinants and for monitoring.

UHC POLICY TOPICS

The UHC policy topics were identified in the first Join Policy Brief. Here we highlight **how often the projects** contribute to these policy topics in terms of their objectives.

GENERAL CITY ENVIRONMENT	▶ Mobility and transport: sustainable and smart mobility ▶ Clean air: quality of air ▶ Gender equality ▶ Urban environment: biodiversity strategy, green infrastructure
BUILT AND LIVING ENVIRONMENT	▶ Urban environment: urban planning and design, green spaces planning, technological tools for urban studies, lighting policies, nature-based green and blue solutions, environmental regeneration ▶ Cities and urban development: housing in cities, urban poverty ▶ Energy efficiency ▶ Food safety and nutrition: safe, nutritious, high quality and affordable food
SOCIAL AND COMMUNITY NETWORKS	▶ Empowerment of individuals and communities: on right to energy, mental and physical health promotion. ▶ Public health: Improving health systems: social prescription and assets recommendation at primary health services. ▶ Energy poverty and right to energy ▶ Social protection and social inclusion
LIFESTYLE FACTORS (PUBLIC HEALTH)	▶ Healthier Together initiative: health and well-being promotion, disease prevention, and management of non-communicable diseases ▶ Promoting good health: nutrition and physical activity, tobacco, alcohol ▶ Mental health

Urban planning and design, green infrastructure and green spaces, and the empowerment of people, communities and local stakeholders seem to be a general standard concern across the six projects of the UHC towards a healthier, physical, and mental urban environment.

Several policy topics are addressed by all the projects. However, topics such as *'Urban environment; urban planning and design, green spaces planning, technological tools for urban studies, lighting policies, nature-based green and blue solutions, and environmental regeneration*' are the ones that are transversal with the greatest intensity.
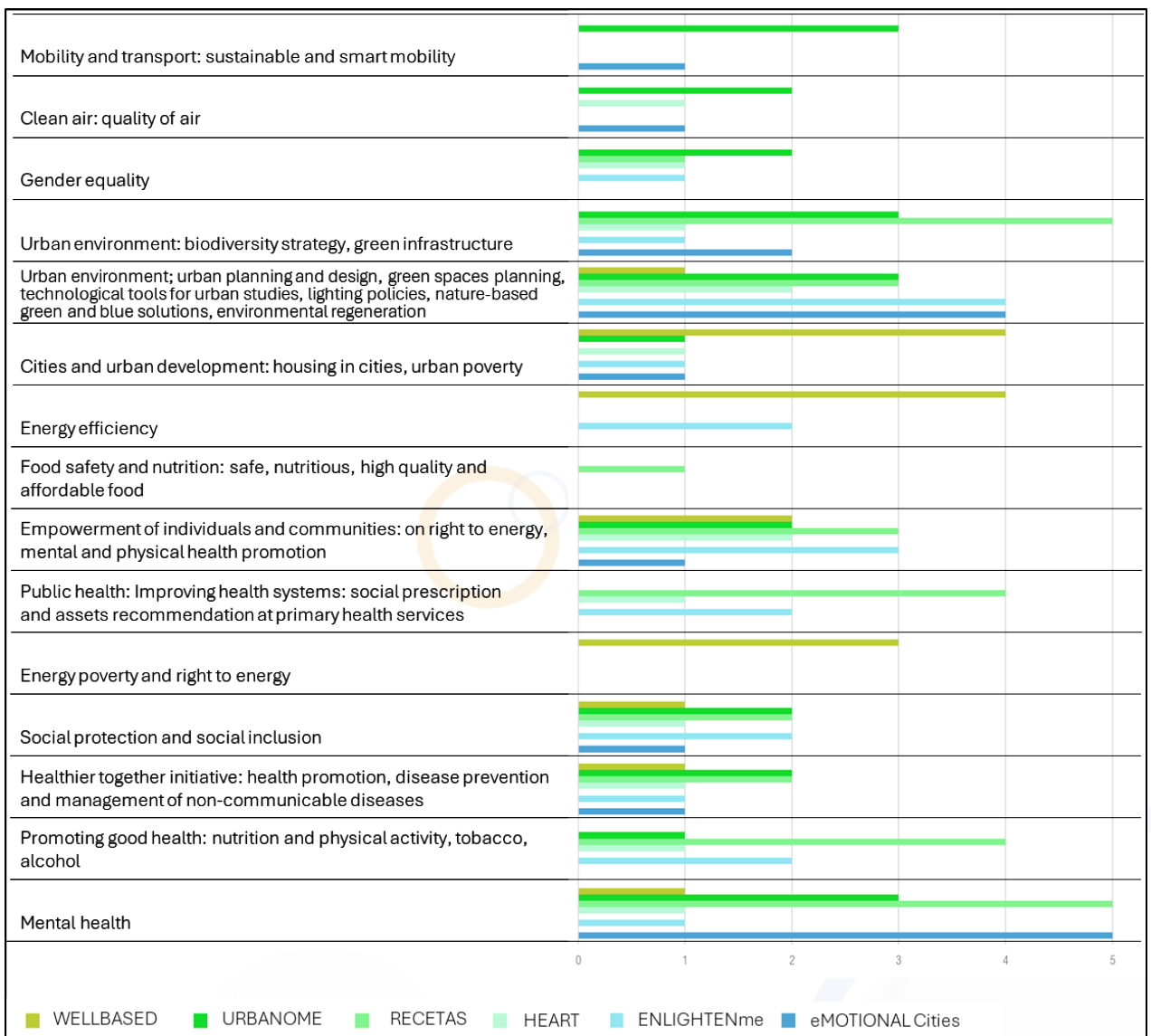
Legend: WELLBASED, URBANOME, RECETAS, HEART, ENLIGHTENme, eMOTIONAL Cities

The set of keywords were acquired from the objectives provided by each of the projects. Other keywords, which have not been mentioned, even though they don't appear in the cloud, they can still be associated with the projects.

well-being

emotions

urban light

participatory planning

lifestyle

mental health

gender

natural environment

physical health

pollution

climate

nature-based solutions

healthy communities

energy poverty

planning process

vulnerable groups

built environment

socioeconomic & cultural conditions

loneliness

mobility

prescriptions

brain

indoor conditions

Well-being (17%), planning process (11%), natural environment (9%), and built environment (8%) clearly stand out as the often-mentioned keywords across the different projects' main objectives.

What is the relationship between the **research keywords and the UHC projects**?
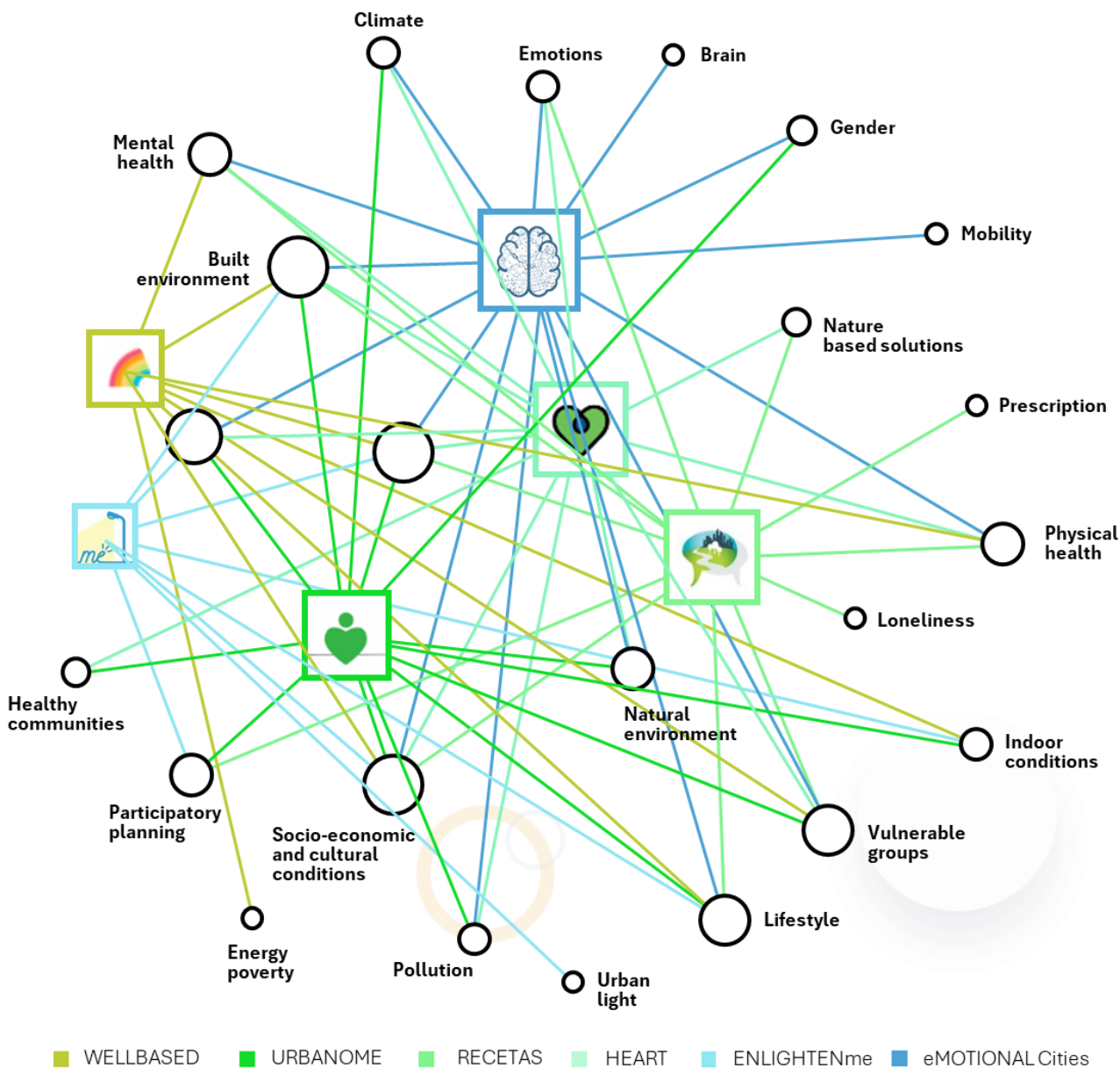
Graph based on network graph generated by UCINET 64

Node size tells us which projects address more keywords and are more focused on specific key terms and which keywords are addressed.

Graph image illustrates the projects that are more focused on specific issues, such as the ones with fewer links to the nodes (key terms) and others that are more broadband, which means they have more direct links to key terms.

URBAN CLUSTER HEALTH DETERMINANTS

The projects address **a vast set of urban determinants** related to the individual, social and community networks, living and working conditions and other general determinants of the socioeconomic, cultural and environmental context.

PEOPLE	INDIVIDUAL LIFESTYLE FACTORS				SOCIAL AND COMMUNITY NETWORKS + LIVING AND WORKING CONDITIONS			GENERAL SOCIO-ECONOMIC, CULTURAL AND ENVIRONMENTAL CONDITIONS	
	LIFESTYLE & BEHAVIOURS	PHYSIOLOGY	HEALTH	HOUSING & BASIC AMENITIES (INDOOR)	NEIGHBOURHOOD ENVIRONMENT		SOCIO-ECONOMIC CONDITIONS	EMERGENT CHALLENGES

Column headers (left to right):
AGE · SEX/GENDER · GENETICS · HABITS (eating, sleeping, etc) · PERSONALITY TRAITS / WELL-BEING · DRUGS & ALCOHOL CONSUMPTION · BEHAVIOURAL SENSORS · PHYSICAL & MENTAL ASSESSMENTS · PATIENT GROUP & CLINICAL METRICS · ENERGY CONSUMPTION · TEMPERATURE · RELATIVE HUMIDITY (%) · AIR QUALITY · ILLUMINANCE INDOORS · ASSISTED LIVING CONDITIONS · GREENSPACES & BLUESPACES · WALKABILITY · NEIGHBOURHOOD ATTACHMENT SCALE / SENSE OF PLACE · SAFETY · MOBILITY & CONNECTIVITY · ACCESSIBILITY & TRANSPORT · AESTHETICS · URBAN FORM · LAND USE · VERTICALITY · AIR POLLUTION · NOISE POLLUTION · LIGHT POLLUTION · LACK OF NATURAL LIGHT · URBAN COMFORT · ACCESS TO PUBLIC HEALTH · ACCESS TO OTHER PUBLIC EQUIPMENTS · EDUCATION LEVEL · PURCHASE POWER · EMPLOYMENT · SOCIAL PROTECTION · CLIMATE CHANGE · DIGITAL TRANSITION · GLOBAL HEALTH ISSUES · POLITICAL CONFLICTS · MIGRATIONS

The chart below, indicates which determinants of urban health are most and least studied by UHC projects:

Legend: WELLBASED · URBANOME · RECETAS · HEART · ENLIGHTENme · eMOTIONAL Cities

Age, **sex or gender**, **personality traits or well-being**, **physical and mental assessments**, **education level**, and **employment**, are a set of common determinants studied by all UHC projects.

THE UHC PROJECTS IN THE CONTEXT OF UN's SUSTAINABLE DEVELOPMENT GOALS

4 out of 17 SDGs are **cross-cutting to all UHC projects** with an emphasis on SDG 3, SDG 9, SDG 10, and SDG 11, which underline the **relationship between determinants and results to achieve a more positive scenario.**

ABOUT JPB2 METHODOLOGY

This joint policy brief is the result of the information gathered from each of the projects that are part of the UHC.

Firstly, each project was asked to indicate up to five policy questions and how they related to the policy questions concerning the policy brief defined in Joint Policy Brief 1. This matrix made it possible to identify the main policy topics familiar to the projects and the terms each project used in the policy questions, making it possible to build the keywords cloud.

Secondly, the main methods and tools used by the projects to address the political issue were identified.

Next, we established a set of results, instruments and/or indicators that were most often addressed.

Finally, to assess the expected contribution (general or broader) each project identified the SDGs most related to urban health (according to the policy questions defined) and established the level of priority for responding to the SDGs.

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