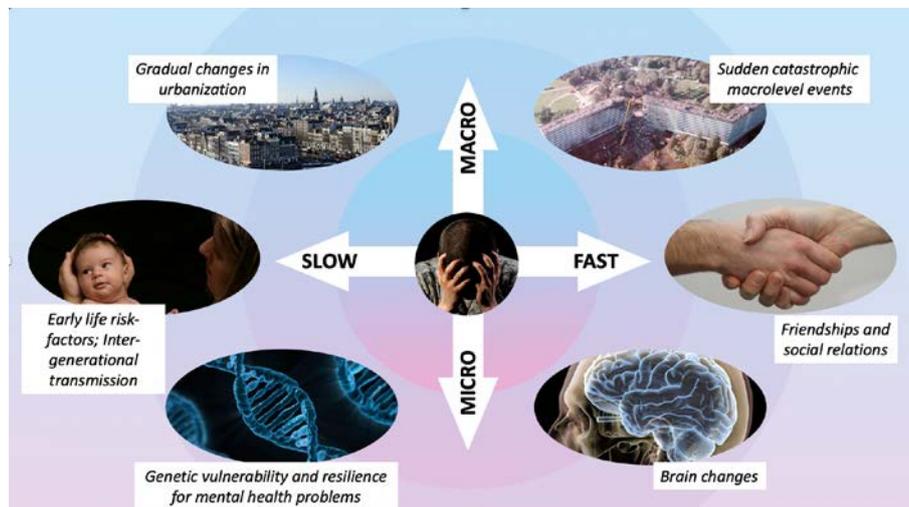


Research Priority Area Urban Mental Health

Finding new pathways to promote urban mental health: from complexity to action



Short version September 2019

Summary of the Research Priority Area (RPA) Urban Mental Health (UMH).

More than 50 percent of the world's population currently lives in urban areas, a proportion that is expected to rise to 66 percent by 2050. Urban environments, like Amsterdam, are characterized by features that make city life not only economically attractive and exciting, but also more challenging and stressful than rural environments ("urban stress"), which may affect mental health. Indeed, several international studies have shown a disproportional incidence of mental health problems in big cities,¹ despite good infrastructure and health services.

The elements of urban life that affect mental health are multifactorial, and include individual factors (e.g., genetic background and personality traits), family factors (like parental care, socioeconomic status, education), broader environmental factors (e.g. noise levels, availability of nature, pollution), and related psychosocial factors (e.g., perceived safety, job security and experienced inequalities). It is so far poorly understood why one individual is vulnerable and why another is resilient to develop mental health problems under comparable circumstances.

Unfortunately, most of the factors contributing to these so-called 'micro'- and 'meso'- and 'macro'-levels have so far been studied mainly in isolation, with limited attention to their interactions. Importantly, in real life, these determinants interact in a time-dependent, and intra- and inter-individual manner, and with their local environment(s). This includes feedback loops, resulting in heterogeneous and sometimes unpredictable effects of interventions across different contexts and at different ages, which often operate at different time-scales (see Figure above).

In this interdisciplinary research priority area (RPA), state-of-the art complexity science is used as backbone to understand and intervene upon the complexities and dynamics of mental health problems in an urban environment, with special attention to common mental health problems and disorders in socio-economically deprived areas. Research will be aimed at understanding why and when some groups or individuals thrive in an urban setting, whereas other individuals are vulnerable and develop

mental problems. This approach will integrate previously unconnected theories and sources to identify new leverage points for interventions at different levels of description, which will be tested in collaboration with societal partners and have direct relevance for mental health in general and for Amsterdam in particular. **As such the aim of this RPA is to find new pathways to promote urban mental health, using a complexity science approach.**

As a general approach, we aim to understand common mental health problems in an urban context using a complexity approach. Importantly, the insights into mechanisms underlying mental health problems should lead to new targets for interventions, which will be explored and tested. Note that this is important both regarding theory testing and for practical applications.

Research will primarily focus on the three most common, and most costly, mental disorders (addiction, anxiety, and depression) and related problems. Vulnerability factors (that co-determine the risk or resilience to psychopathology) of these outcomes, include factors like loneliness, sleep problems, poor physical health, experienced discrimination and social exclusion. For practical purposes, we focus on two broad clusters; internalizing problems (depression, anxiety, and related problems like burn-out) and externalizing problems (addiction, conduct disorder and related problems like crime)^{9,10}. Note that above-mentioned vulnerability factors are relevant for both domains.

Consortium.

This RPA brings together internationally leading UvA scientists from the faculties of medicine, life sciences and social and behavioral sciences. Together they will study important aspects of urban mental health at different levels. In collaboration with scientist-practitioners, stakeholders and patient cohorts, they will collaborate in interdisciplinary projects on urban mental health, underlying mechanisms at different levels, united by the fundamental complexity science approach, and experimentally test emerging new interventions. The presence of large patient cohorts will fuel future collaborative research possibilities (ABCD, HELIUS, Sarphati Amsterdam). This RPA has the ambition to eventually result in an independent, self-supporting Institute for Urban Mental Health. We will further develop a truly interdisciplinary talent plan, teaching associated researchers and students state-of-the art methods used by the different disciplines involved, as well as their complex interactions, as modeled and tested with complexity science.

Administrative data/ institutional embedding

Supervisory board: Three responsible deans and rector

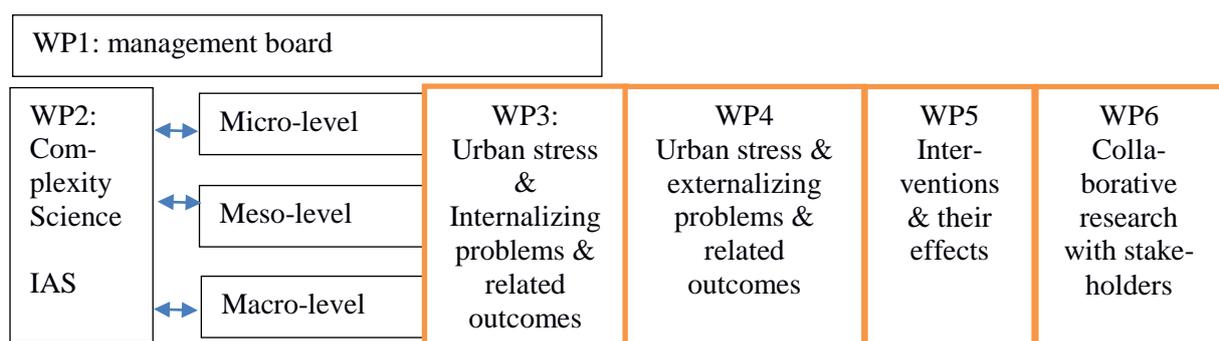
Directors: Claudi Bockting (FG, 0.2 fte) and Reinout Wiers (FMG, 0.2 fte).

Management board: 6 senior researchers from the three faculties, each from different research institutes. Board: Claudi Bockting (FG-Psychiatry), Karien Stronks (FG-Public Health), Peter Sloot (FNWI-IAS), Paul Lucassen (FNWI-SILS), Julia van Weert (FMG-ASCoR), Reinout Wiers (FMG-Psychology), each 0.1 fte.

Advisory boards: Both an international advisory board including international experts and key opinion leaders, and a national advisory board will be installed, including important stakeholders.

Funding 10 million for five years (2019-2023), with a possible extension of another five years.

Figure 1. Outlines the structure of the RP, which consists of a management board.



WP2. Complex Systems Approach to Urban Mental Health. Computational modeling; social media use (big data); network models of psychopathology & intervention-effects. At the Institute for Advanced Studies (IAS), cross-level modeling and interdisciplinary meetings are organized.

WP3. Urban stress & Internalizing Disorders. Depression, anxiety, burn-out and other stress-related affective disorders are very common and often come with an increased risk of suicide, comorbidities like obesity and severe suffering for the patient and his/her families and huge costs for society. Early life adversity (including prenatal and adolescent stress) in combination with genetic predisposition, constitute major risk-factors for these disorders, as do factors in everyday life (such as emotional dysregulation and sleep), ranging from living in a deprived area, to loneliness and to working under chronic stress, to experiencing inequalities.

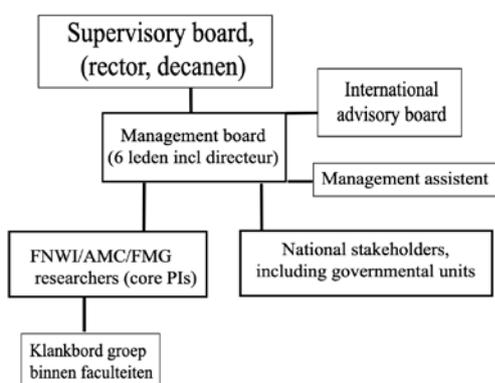
WP4 Urban stress & Externalizing Disorders. Addictions are the most costly of all mental problems and their occurrence is strongly influenced by cultural and socioeconomic factors. Externalizing problems in childhood (conduct disorder and related factors such as aggression, and impulsivity/hyperactivity, poor self-control) are a strong predictor of addictions and a major cause of problems in urban life in itself (safety issues, vandalism). Psychotic disorders can be triggered by addictive behaviors (cannabis) and urban stressors.

WP5. Interventions and their effects. Urban mental health problems are often of a dynamic complex nature, therefore intervention effects should be considered from a systems perspective: what are effects on different subsystems, and in different contexts? UMH from a system perspective approach will generate new interventions at micro-level (individual interventions), at meso-level (such as interventions in families, schools and in mental health care centers), and at a macro-level (city planning, county level, municipal policies).

WP6. Collaborative research projects with stakeholders

From the current complex systems approach, relevant stakeholders in urban mental health will be contacted, including the county/city (Gemeente Amsterdam) and OIS (Onderzoek, Informatie en Statistiek), GGD, mental health organizations, primary care in Amsterdam, schools, patient organizations, postdoctoral training organizations and companies. Stakeholders will be actively invited to help address UMH challenges from the stakeholder perspective (co-funding opportunities) and will facilitate valorization.

Figure 2. Broader organization scheme of the RPA Urban Mental Health.



Opportunities for research

The central funds will be distributed in three ways: budget for central organization; core-PIs and related research teams per faculty, and open interdisciplinary research projects for which calls will be sent out in the faculties involved, in which at least two of the participating faculties are engaged.

Valorisation

Potential knowledge users and stakeholders will be involved in the design of this project, and to facilitate this, a dedicated WP is proposed (WP6). To further secure a science-practice link, knowledge users will be asked to create a knowledge user platform (KUP). This platform features input from urban knowledge institutes. UMH will further organize expert meetings and dissemination conferences. Intermittent news, project updates, and results will be featured on our UMH website.

Expected output

UMH will foster a new, strongly interdisciplinary Urban Mental Health research institute on a very timely and important topic for society in general and the city of Amsterdam in particular. It will leverage a complex science approach and explicitly include diverse stakeholders, such as the city council (Gemeente Amsterdam), GGD, mental health care organizations, primary care in Amsterdam, schools, patient organisations, postdoctoral training organizations and companies which will enable new leverage points for intervention strategies. The UMH institute will thereby actively facilitate valorization and help foster and promote successful future grant applications. Further collaborations will be sought with other research initiatives on (mental) health, such as Amsterdam Public Health (APH) research institute (Amsterdam UMC), Ambition and Amsterdam Neuroscience, and with the Amsterdam Economic board. The interdisciplinary nature and the many top-researchers involved will make UMH also an attractive partner for European projects. In addition, this RPA will generate interventions (e.g., related to wearables) that have commercial potential. This will then be further developed in spin-off firms. All together, our goal is to develop a top-notch, interdisciplinary, eventually independent research institute on urban mental health, with a long-term impact on science in this area in general and on the severe mental health problems in Amsterdam in particular.

Further information can be found on the website uva.nl/urban-mental-health