

## 1 LEADING ORGANIZATIONS

PXL University of Applied Sciences and Arts	Hasselt University	Fontys University of Applied Sciences	Molde University College	ISEP, Higher Institute of digital engineering	Emile Palade University
PXL	UHASSELT	Fontys UNIVERSITY OF APPLIED SCIENCES	Molde University College Specialized University in Logistics	ISEP Instituto Superior de Engenharia do Porto	UNIVERSITATEA DE MEDICIN FARMACIE, STIINTE SI TEHNO GEORGE EMIL PALADE" DIN TÂRGU MURES
Kim Daniels	Bruno Bonnechère	Steven Vos	Berit Helgheim	Ana Madureira	Valentin Nădășan
kim.daniels@pxl.be	Bruno.bonnechere@uh asselt.be	steven.vos@fontys.nl	berit.i.helgheim@himo lde.no	amd@isep.ipp.pt	valentin.nadasan@umf st.ro
			#=	(9)	

## 2 SCOPE

In recognition of the urgent need to address the escalating pandemic of unhealthy lifestyles 1 and physical inactivity across the lifespan, from early childhood to the older adults, we, the undersigned partners come together under the auspices of the European Commission's Thematic Network initiative. Our collective effort aims to propose a comprehensive multidisciplinary and multisectoral approach, integrating prevention, personalization, inclusion, and digital interventions within the ecosystem, to foster healthy lifestyle and counteract the rising incidences of chronic disorders mostly related to unhealthy lifestyle<sup>2</sup>. This inclusion of ecosystems emphasizes the holistic and interconnected environments in which these interventions operate, encompassing healthcare systems, community networks, digital platforms, and the physical environment, all of which play crucial roles in shaping health outcomes. By emphasizing personalized preventative strategies, our approach acknowledges each individual's unique health needs and contexts, tailoring interventions for effectiveness and respect for diversity. Inclusion ensures that our approach is equitable, considering the varied socio-economic, cultural, and environmental factors that influence health outcomes. The emphasis on digital interventions aims to enhance efficiency and support, helping to lift the burden on healthcare professionals (HCP) by providing accessible, scalable, and versatile solutions<sup>3</sup>. Together, these elements are pivotal in creating a supportive framework that addresses the root causes of physical inactivity and promotes a healthier future for all. We commit to a cooperative, evidence-based approach, embracing education, healthcare, policy, and community engagement, including citizen participation, to ensure that our interventions addressing unhealthy lifestyles and physical inactivity are integrated, sustainable, and accessible to all individuals, regardless of their socio-economic status, social network, or geographical location.

<sup>&</sup>lt;sup>1</sup> Andersen, L. B., Mota, J., & Di Pietro, L. (2016). Update on the global pandemic of physical inactivity. *The Lancet, 388*(10051), 1255-1256.

<sup>&</sup>lt;sup>2</sup> Nyberg, S. T., Singh-Manoux, A., Pentti, J., Madsen, I. E., Sabia, S., Alfredsson, L., Bjorner, J. B., Borritz, M., Burr, H., & Goldberg, M. (2020). Association of healthy lifestyle with years lived without major chronic diseases. *JAMA internal medicine*, 180(5), 760-768.

<sup>&</sup>lt;sup>3</sup> Spanakis, E. G., Santana, S., Tsiknakis, M., Marias, K., Sakkalis, V., Teixeira, A., Janssen, J. H., De Jong, H., & Tziraki, C. (2016). Technology-based innovations to foster personalized healthy lifestyles and well-being: a targeted review. *Journal of medical Internet research*, 18(6), e128.

## 3 OBJECTIVES

In response to the urgent challenge posed by the increasing prevalence of unhealthy lifestyles, our consortium is committing to a holistic approach aligned with the World Health Organization's Global Action Plan on Physical Activity (PA) 2018-2030<sup>4</sup>. Recognizing the critical need for immediate action, we aim to implement four strategic objectives that target the micro, meso, and macro levels. Our goal is to significantly elevate global physical activity levels through a coordinated effort that emphasizes personalized prevention, inclusivity, and innovative digital solutions. This commitment underscores our dedication to promoting healthy longevity for all.

#### 1 | CREATE MORE ACTIVE SOCIETIES: Raise policy and public awareness

- Targeted Campaigns: Utilizing a digital platform to reach the diverse targeted populations (early life, midlife and late life) with personalized content that resonate with their specific life stages and circumstances.
- Specific training programs for healthcare and welfare professionals: development of comprehensive training programs for HCP concerning health promotion skills, including online lectures, e-learnings. Through this program, HCP are equipped with the tools and techniques necessary to motivate and support patients/clients in adopting a healthier lifestyle. This also includes partnerships with local health organizations focusing on how to incorporate PA into daily routines to manage or prevent chronic diseases.

# 2 | CREATE ACTIVE ENVIRONMENTS: Implement and enhance initiatives that strengthen community bonds and networks

Facilitate events that bring the community together, such as "walk to school" days, family sports festivals, and fitness classes tailored for seniors, encouraging engagement across various age groups. These activities are designed not only to promote a culture of PA and healthy living but also to reinforce social cohesion and the intergenerational support network, ensuring that individuals of all ages, from early childhood to senior years, feel integrated and supported within their community.

#### **3 | CREATE ACTIVE PEOPLE**

- Technology and digital health interventions: Technology and digital health interventions necessitate a synergistic approach where academia, healthcare providers, and technology companies collaborate to create health applications that motivate PA and endorse a healthy lifestyle. Furthermore, there's a pressing need for these sectors to intensify their collaborative efforts, ensuring that cutting-edge scientific insights are melded with the practical affordances of technology and the hands-on knowledge of professionals, alongside incorporating the perspectives of end-users. Such a unified approach aims to set the stage for maximizing the effectiveness, acceptance, and scalability of health interventions. This collaborative ethos not only aims to foster a culture of PA and healthy living but also strengthens social cohesion and establishes a network of intergenerational support within communities, ensuring a comprehensive, life-spanning approach to health and well-being.
- Implement and promote digital interventions: Digital technologies can be particularly effective in reaching all demographics and those who may face barriers to traditional healthcare services, ensuring that interventions are inclusive and accessible to all, for example, the More in Action (MIA)-app<sup>5</sup>.

#### 4 | CREATE ACTIVE SYSTEMS: strengthen partnerships, monitor and evaluate

Joint Research Initiatives following this joint statement should be undertaken: Academia across Europe can collaborate and learn from each other in order to conduct interdisciplinary research on the most effective interventions for promoting PA and healthy lifestyle. These studies can and will inform policymakers and community based organizations about best practices and evidence-based strategies to implement at the local level.

<sup>&</sup>lt;sup>4</sup> Organization, W. H. (2019). Global action plan on physical activity 2018-2030: more active people for a healthier world. World Health Organization.

<sup>&</sup>lt;sup>5</sup> Daniels, K., Lemmens, R., Knippenberg, E., Marinus, N., Vonck, S., Baerts, J., Bergs, J., Spooren, A., Hansen, D., & Bonnechère, B. (2023). Promoting physical activity and a healthy active lifestyle in community-dwelling older adults: a design thinking approach for the development of a mobile health application. *Frontiers in public health*, 11.

Monitor, Evaluate, and Digital Phenotyping: Develop a monitoring and evaluation system using digital phenotyping, combining sensor and self-reported data for a comprehensive view of lifestyle behaviors. This approach ensures interventions are effective, equitable, and adaptable, enabling continuous improvement and informed decision-making for health initiatives tailored to societal needs and promoting health and longevity.

## 4 CALL TO ACTION

We invite a broad consortium of stakeholders to engage in this 'beyond boundaries' initiative. This initiative leans on the concept of the "quadruple helix" model, which emphasizes collaboration among science, policy, industry, and society. By doing so, we invite a broad spectrum of stakeholders, including governmental bodies, non-governmental organizations, the private sector, academia, and the general populace, to engage in this 'beyond boundaries' initiative. Our collaborative effort aims to encourage both physical and social environments conducive to healthful decisions, enact policies that promote physical activity, and launch programs dedicated to sustaining health throughout the lifespan. This initiative represents a critical response to the widespread epidemic of physical inactivity and sedentary lifestyles. Through the strategic utilization of digital technologies and interventions, we aim to democratize access to active lifestyles, rendering them appealing and attainable for individuals across all demographics. We advocate for the integration of tailored prevention, inclusivity, and digital innovation as keystones in advancing health longevity. When we work together, we believe we are capable to profoundly change the health paradigm for future generations, establishing active and healthy living as a global standard.

#### 5 CONCLUSION

The challenge of unhealthy lifestyles and physical inactivity requires a concerted effort that spans across sectors, policy domains and disciplines. By adopting a life-time approach, supported by digital technologies, to more personalized and inclusive prevention, we aim to ensure a healthier future for all, reducing the burden of chronic diseases and enhancing the quality of life for individuals and communities across Europe.

## **6 DISSEMINATION OF THE JOINT STATEMENT**

We will use a multi-format dissemination strategy to effectively disseminate the Joint Statement and catalyze action across sectors for promoting PA and combating unhealthy lifestyles. Our strategy will include creating a visually engaging factsheet, social media and web content with infographics and video summaries, publishing in-depth analyses through policy briefs, hosting a virtual launch with key stakeholders, issuing press releases.

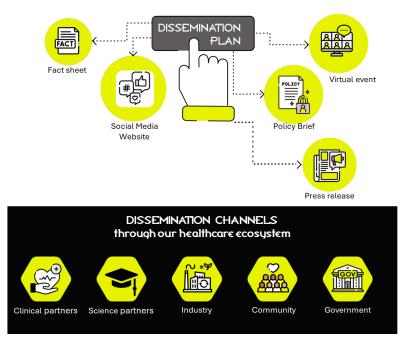


Figure 1 Communication and dissemination strategy