

# Empowering Citizens to Adopt Healthy Lifestyle Habits: A Data-Enabled Community-Based Citizen Science Approach

Amy Jeschke<sup>1</sup>, Berry van Holland<sup>1</sup>, Andréia Abud da Silva Costa<sup>2</sup>, Andrea Werkman<sup>1</sup>, Eva Corpeleijn<sup>2</sup>, Claudine Lamoth<sup>2</sup> & Johan de Jong<sup>1</sup>. Consortium coordinator: Erja Portegijs<sup>2</sup>

<sup>1</sup>Centre of Expertise Healthy Ageing, Hanze, Groningen, The Netherlands

<sup>2</sup>University Medical Center Groningen, University of Groningen, Groningen, The Netherlands



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## BACKGROUND

Adopting healthier habits sustainably is challenging due to complex person-environment interactions and health inequalities. This project (Enrich-HABITS) uses a holistic social-ecological approach to identify, target and empower communities to improve their eating and physical activity habits.

## PROJECT STRUCTURE

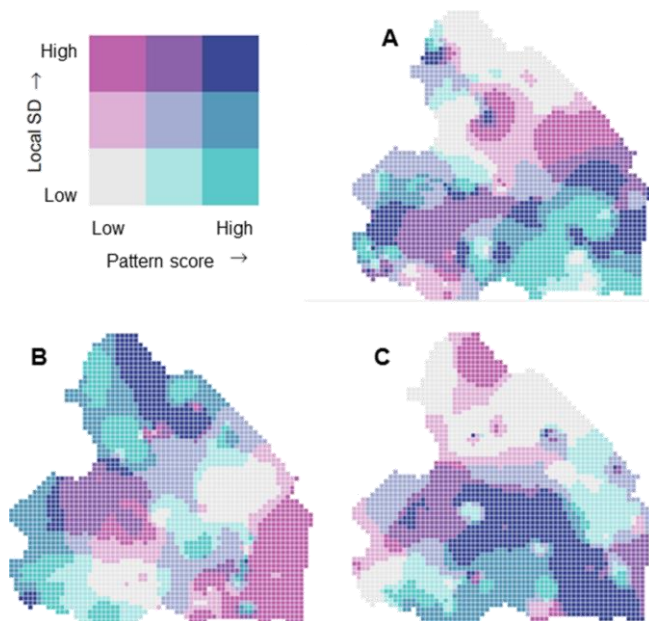
1. **Identify risk profiles and communities** linked to poor diet and physical inactivity using existing cohorts.
2. **Build capacity in communities** with clustering of high-risk profiles.
3. **Gain better understanding of influence pathways & innovative co-created solutions** to empower citizens.
4. **Integrate findings** to prototype a co-created local approach to improve diet and physical activity habits.

### 1. IDENTIFY RISK PROFILES

Using big data science methods, regions with high-risk profiles will be identified.

Sub-objectives:

1. Alignment of available population-based data e.g., *LifeLines (NL)*, *WIPP (DK)*, *Health-related habits datasets CDC (LV)*, *SHARE (EU)*, etc.
2. Enrich data with geospatial indicators.
3. Identify common risk profiles.



**Fig 1.** Example of spatial clustering of children's lifestyle (3-6 years old) in Drenthe (NL). **A** 'high activity'; **B** 'low screentime, high sleep & healthy diet'; **C** 'outdoor play' [1]. In the present project, participants of all ages will be included.

### IN COLLABORATION WITH

University of Southern Denmark, Odense, Denmark

PI: Paolo Caserotti

Riga Stradins University, Riga, Latvia

PI: Signe Tomsone

### 2. CITIZEN SCIENCE

"Citizen scientists are ordinary people who gather and use their own data to activate change." [2]

Discover



Discover aspects of your community that impact healthy living

Discuss



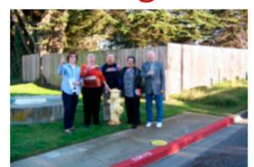
Discuss your findings with other citizen scientists

Advocate



Advocate for local improvements

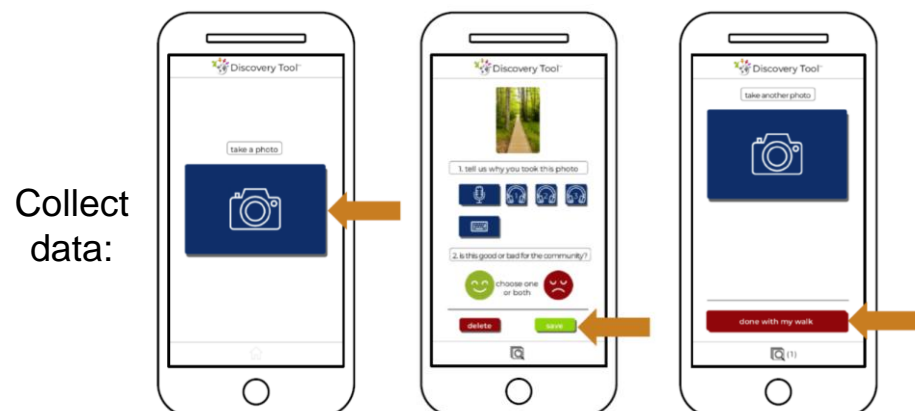
Change



Change your community for the better

**Fig 2.** Our Voice citizen science model [3]. © Stanford University.

### Our Voice Discovery Tool © Stanford University



Output:



### REFERENCES

- [1] Wiersma, R, et al. *Int J Health Geogr.* 2022, 21, 7. doi: 10.1186/s12942-022-00302-7
- [2] Stanford Medicine (2024, June 4) <https://med.stanford.edu/ourvoice.html>
- [3] King AC, et al. *Int. J. Environ. Res. Public Health* 2020, 17(5), 1541. doi:10.3390/ijerph17051541

CONTACT:

e.portegijs@umcg.nl; jo.de.jong@pl.hanze.nl

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