Putting People First

A Multidimensional Approach to Health Socioeconomic Determinants

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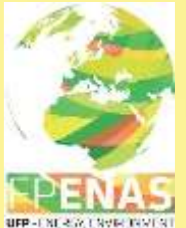[2] Lung Clinic – Portuguese Oncology Institute Francisco Gentil, EPE (IPO-Porto)

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APASD.ASSOCIAÇÃO
PARA A SEGURANÇA
DOS DOENTES

EUROPEAN INSTITUTE FOR
PERSON-CENTRED HEALTH
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ESPCH

Framework

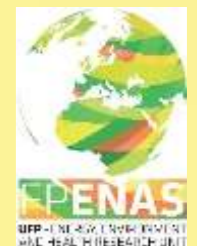|					
1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS	SUSTAINABLE DEVELOPMENT GOALS

Health & Wellbeing

UN 2030 SUSTAINABLE DEVELOPMENT GOALS

Framework

Individual Health Condition Is No Longer Considered Only as A Consequence Of Biological Causes

⬇

Social, Environmental, Cultural, Political and Economical Factors
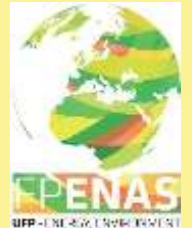
⬇

Individual health condition

- Housing quality
- Work conditions
- Access to healthcare and education
- Safety level
- Environmental quality
- Sanitation availability

Framework

Portuguese National Health Service– Founded In 1979

↓

Assures Universal Access To Healthcare

↓

Recent Studies indicate: Offered Services ≠ Populations Needs

↓

**Gap Worse In Rural and Isolated Areas
(aged, poor educated, unemployed Groups dominate)**

↓

Portugal Health's Inequalities Are Dispersed Across The Country

↓

Local Scale approach needed

SEHVI
Socio-Economic Health Vulnerability Index

GOAL

- ❑ **Evaluate how**
  - ➢ **socioeconomic determinants**
  - ➢ **environmental determinants**
- ❑ **constrain**
  - ➢ **health and wellbeing outcomes**

VARIABLES

- ❑ **comprehensive reading of populations living conditions;**
- ❑ **available in time periods**
  - ➢ **Allow evolution evaluation**

APPROACH

- ❑ **Local level (municipal scale)**
  - ➢ **Conditions differ across the country** (demographic, education, income, housing, work conditions, culture investment and environmental conditions)

DATA

- ❑ **35 variables;**
  - ➢ **INE (Statistics National Institute);**
  - ➢ **PORDATA (Contemporary Portuguese database);**
  - ➢ **APA (Environment Portuguese Agency).**

Material and Methods

Standardization

$$I_{i,j} = \frac{v_{i,j}}{P_i} \quad ; \quad i \in [1, 278] \; ; \; j \in [1, 35] \quad \text{(by resident population)}$$

$$I_{i,j} = \frac{v_{i,j}}{A_i} \quad ; \; i \in [1, 278] \; ; \; j \in [1, 35] \quad \text{(by geographical area)}$$
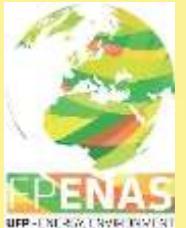
Normalization by "Distance to a reference"

$$NI_{i,j} = \frac{I_{i,j}}{AV_{j,P}} ; \; i \in [1, 278] \; ; \; j \in [1, 35] \quad \text{(relative to national average)}$$
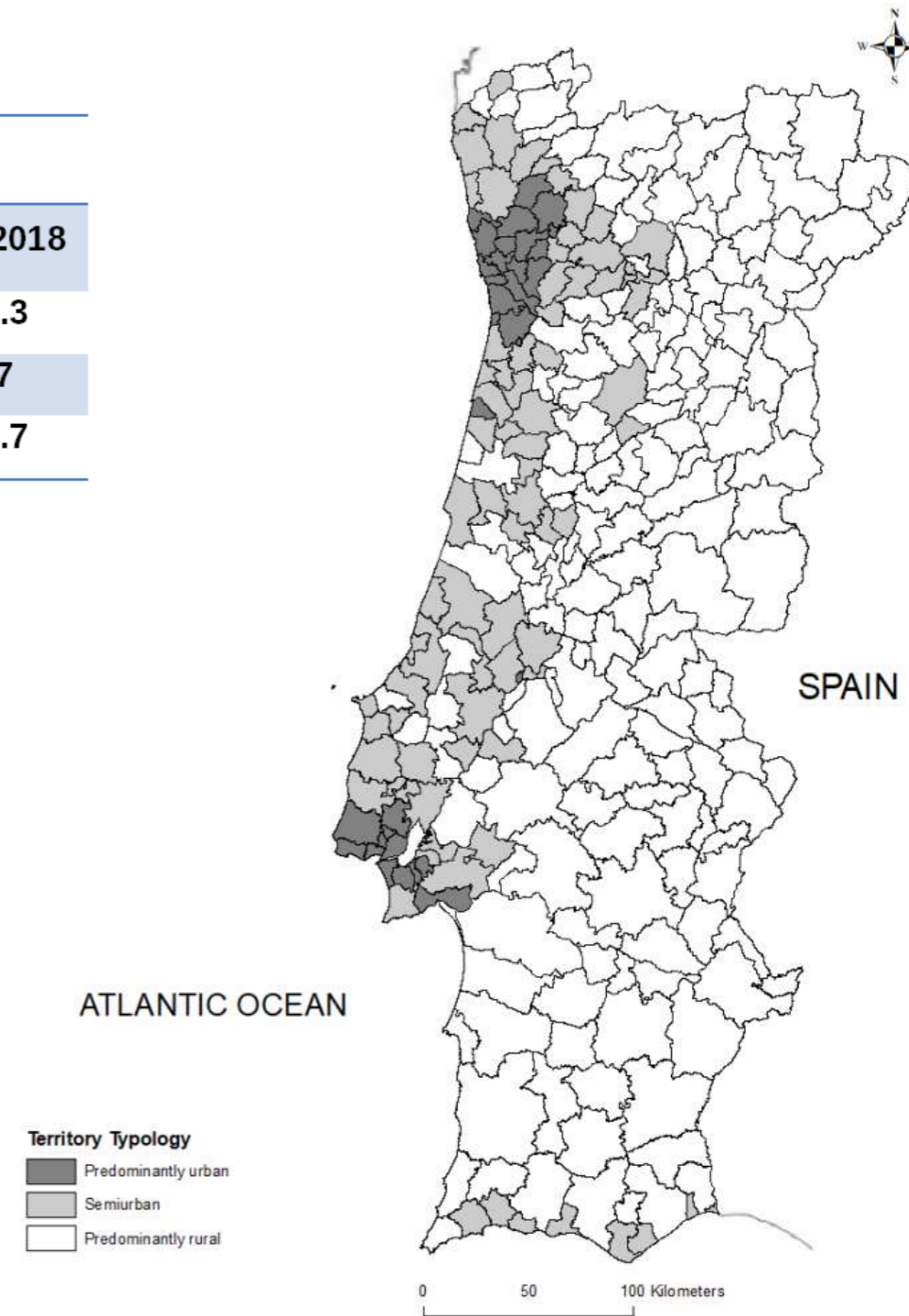
SEHVI Formula

$$SEHVI_{|i} = \frac{\sum_{p=1}^{13} NI_{p|i}^+}{13} - \frac{\sum_{n=1}^{22} NI_{n|i}^-}{22} \; ; \; i \in [1, 278] \quad \text{(national ref=0)}$$

Study Area

Municipality Typologies (N)	Population density (Inhabitants/km^2)			Ageing Index		
	2009	2015	2017/2018	2009	2015	2017/2018
PU (33)	1344.5	1330.4	1331.3	113.3	130.6	138.3
SU (76)	202.2	200.2	199.2	137.3	163.1	177
PR (169)	31.7	30.0	29.4	250	288	306.7

Municipality Typologies (N)	Area (km^2)	Population (inhabitants)		
		2009	2015	2017/2018
PU (33)	3478	4676005	4627128	4630237
	(3.9%)	(46.5 %)	(47.0 %)	(47.2 %)
SU (76)	15641	3162391	3130700	3115298
	(17.6 %)	(31.4 %)	(31.8 %)	(31.8 %)
PR (169)	69982	2217205	2096697	2055636
	(78.5 %)	(22.0 %)	(21.3 %)	(21.0 %)

PU – Predominantly urban; SU – Semiurban; PR – Predominantly rural

SPAIN

ATLANTIC OCEAN

Territory Typology
- Predominantly urban
- Semiurban
- Predominantly rural

0   50   100 Kilometers

Results

Health Outcomes ↑

Health Determinants →

Urban municipalities
- ❑ Specialized **healthcare** services and human resources
- ❑ Environmental **pollution**, urban waste production and energy consumption

Predominantly semiurban **municipalities**
- ❑ Are **not very distant** from the urban centres - have easy **access to health** services
- ❑ Are **not at the centre of pollution** and intensive traffic

Rural municipalities
- ❑ **Lack of healthcare** services in those areas and the distance to them
- ❑ **Aged** groups, **less educated** and with **lower income**

Predominantly rural municipalities
- ❑ **Poor access** to health care services and education and work opportunities
- ❑ **Less exposure** to harmful environmental conditions

Results

❑Health determinants **variance is more intense in 2009** (σ^2 = 4.030);

❑**Health outcomes** scores are **better in predominantly urban and semiurban areas** in 2009 (F = 18.7; *p* <0.01), 2015 (F = 20.3; *p* <0.01) and 2017/2018 (F = 17.5 *p* <0.01);

❑**Health determinants** scores are only **significantly different in 2009** (higher in rural areas; F = 12.7; *p* <0.01);

❑There were **no statistically significantly differences in SEHVI** scores across the territory typologies **in the three time periods** (*p* >0.05).

Results

2009   2015   Present (2017/2018)
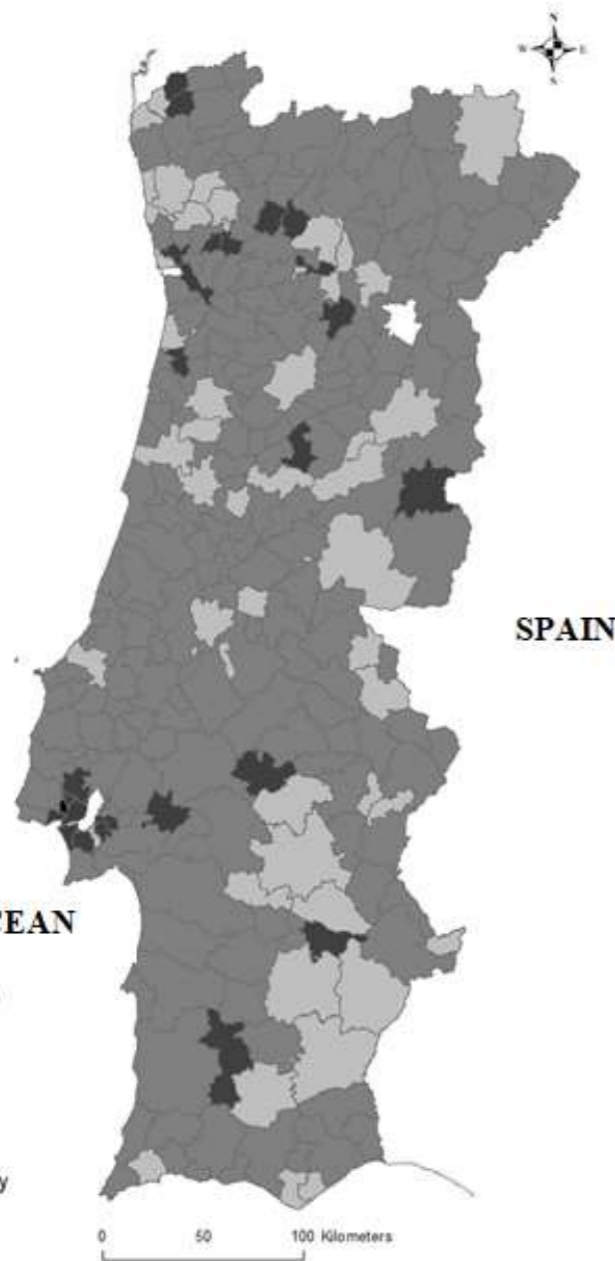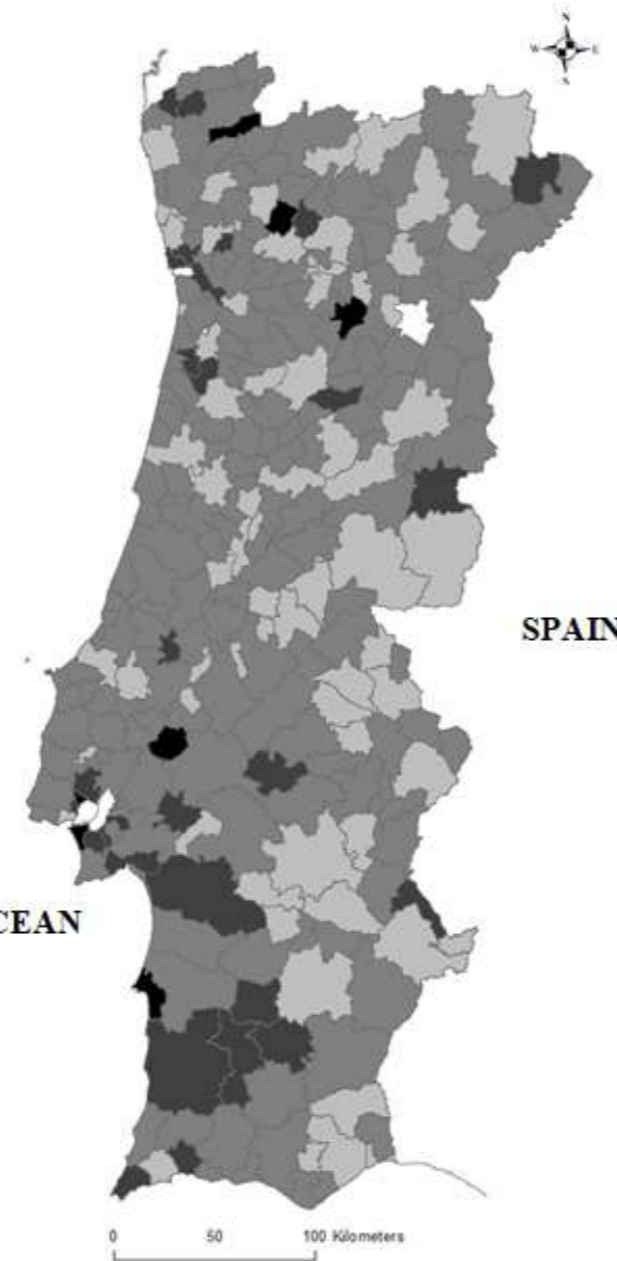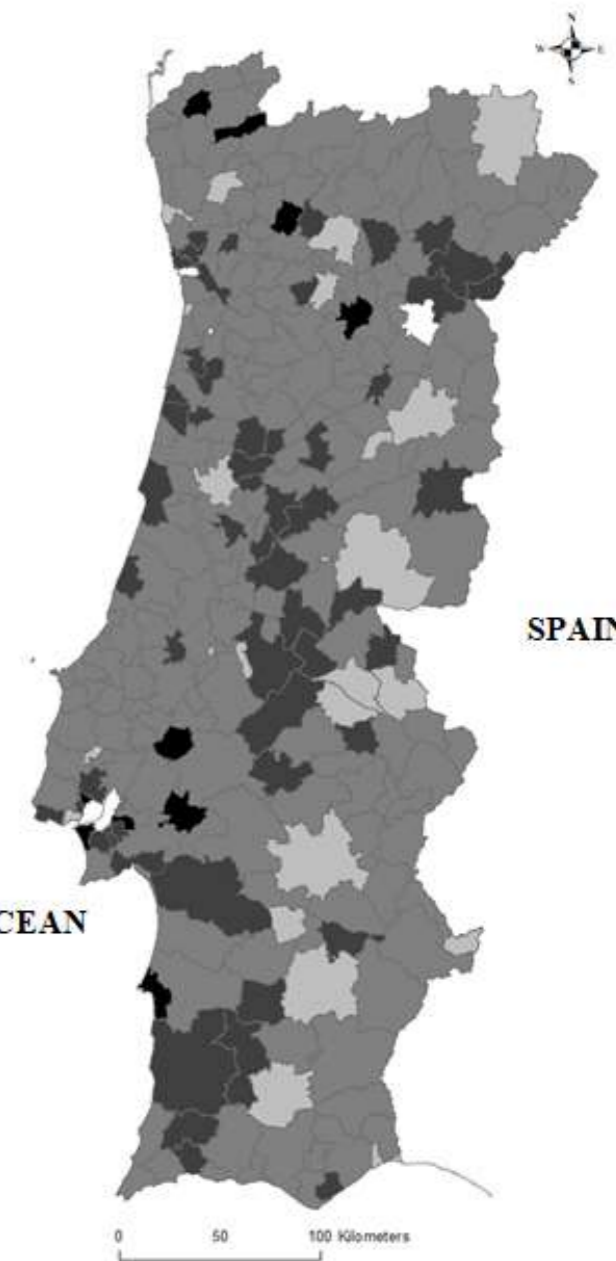
Very low vulnerability
Low
Moderate
High
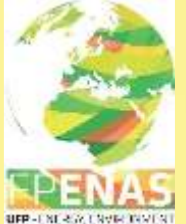Very high vulnerability

SPAIN

ATLANTIC OCEAN
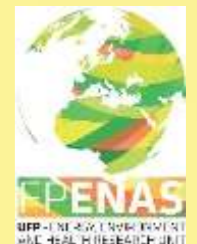
Conclusions

Development of a tool to evaluate health vulnerability at a local scale that should take into account communities' specificities;

SEHVI provides information that could be useful to authorities;

Differences were found between urban and rural municipalities, suggesting inequalities and higher vulnerability in some groups;

SEHVI can be used by local leaders to evaluate health policies results

Thank You!