A POPULATION HEALTH INDEX AS AN INSTRUMENT FOR PLANNING AND DESIGN OF PUBLIC POLICIES

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Governo da República Portuguesa

FCT Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA

COMPETE
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QREN QUADRO DE REFERÊNCIA ESTRATÉGICO NACIONAL

CEGOT Centro de Estudos de Geografia e Ordenamento do Território

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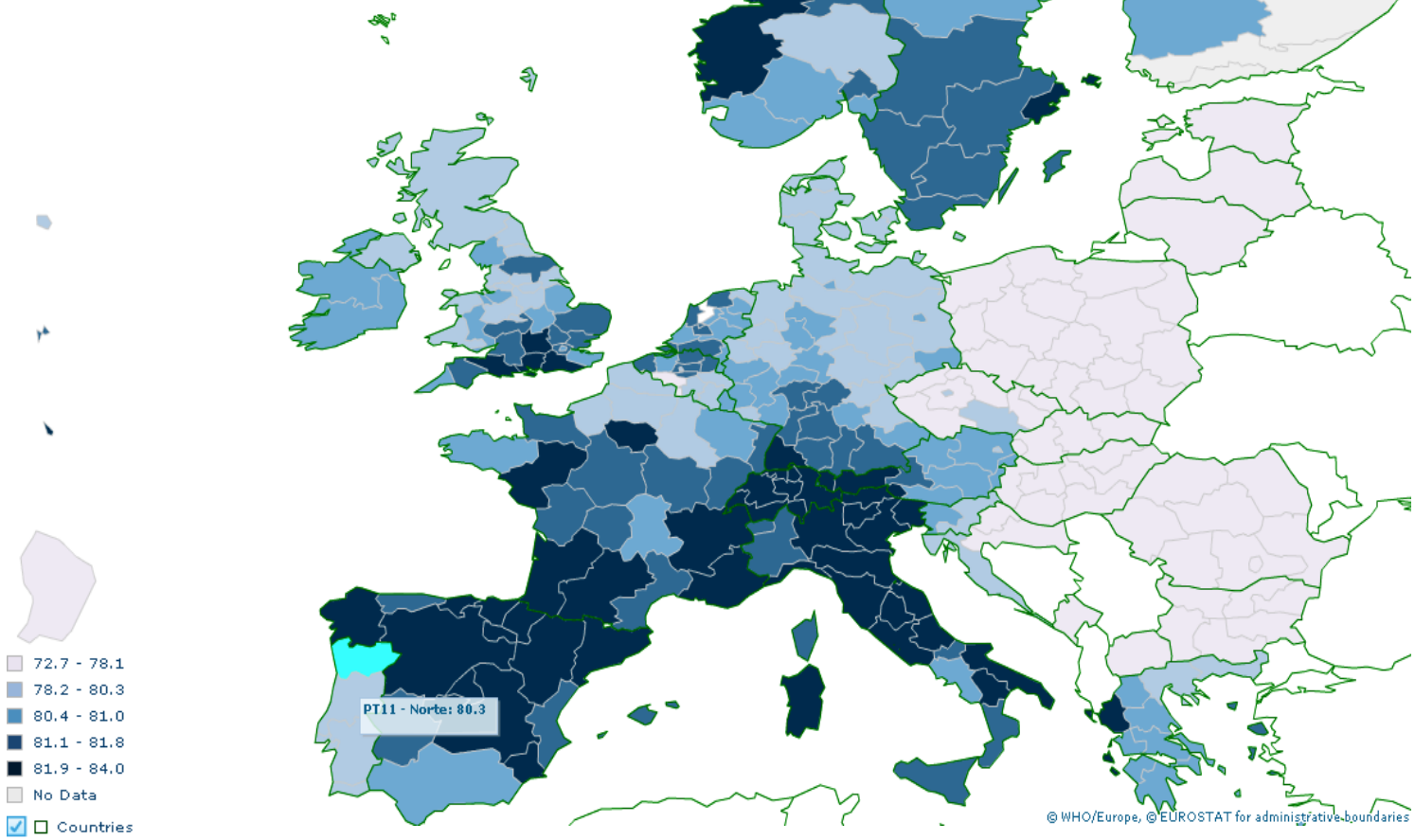
Background | GeoHealthS | Population health index | Policy making



Life expectancy at birth (WHO/Europe, 2007)

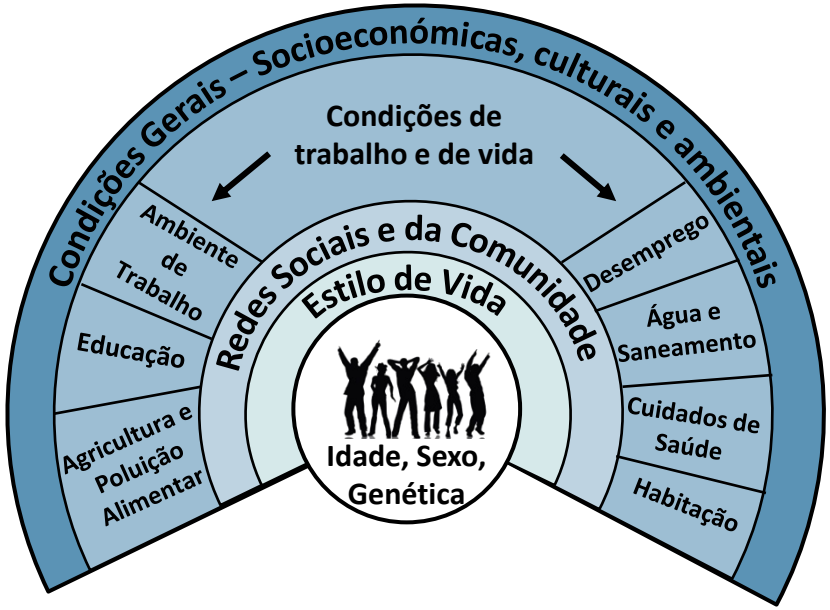
In spite of the gains in health observed in the last years in Europe, there are persisting health disparities between countries and within countries

In order to be able to reduce health disparities, actions targeted to their causes are required

Which are the factors influencing the health status of the population?

Social Determinants of Health

The influence of the “place” in individual and colective health…



Fonte: Adaptado de Dahlgren & Whitehead, 1991

Social Determinants of health

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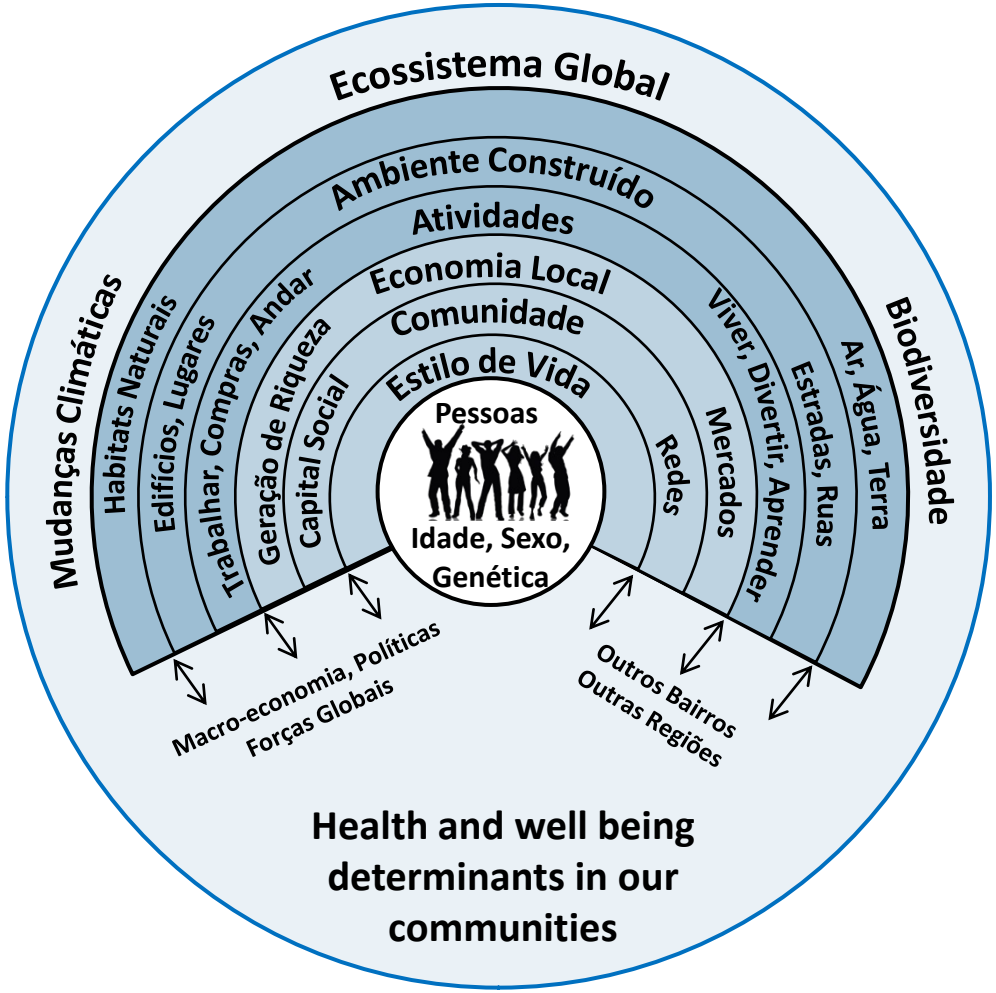


Source: Adapted from Barton & Grant, 2006

How to support policy makers in the selection of interventions that generate gains in the health of the population?

What is the relevance of the evaluation of health status?

With which instruments?

Background | GeoHealthS | Population health index | Policy making

Objectives

Evaluation of the health status of the Portuguese population over the last 20 years and building of scenarios through the development of a Population Health Index - PIH

- To ascertain spatial disparities in the health status of the population
- To identify the explaining factors of health disparities in Portugal
- To assess the trend of the evolution of the health status of the population over the last 20 years
- To identify policies promoting change and improvements in the current health status of the population

GeoHealthS: Research plan

1. To identify factors influencing the health status of the Portuguese population
2. To weight each factor according to its power to reflect and explain the health status of the population
3. Geostatistical analysis
4. To build value functions
5. To apply the PHI to Portuguese municipalities in 1991, 2001 and 2011
6. To design strategies to support decision making and policy
7. GeoHealthS WebSIG
8. Dissemination of results

GeoHealthS: Methods

- Delphi panel
- Nominal group technique

Qualitative methods

- Multicriteria decision analysis
- Spatial statistics (geostatistcs)

Quantitative methods

Background | GeoHealthS | Population health index | Policy making

Population Health Index - PIH

• It is an instrument to assess in an integrated and holistic manner the colective health status of the population and can be applied to different spatio-temporal scales

• Consistent and comprehensive measure of the health of the populations

• It is composed by indicators or proxies expressing health results (mortality or morbidity) and indicators of social determinants of health

- •Demographic
- •Lifestyles
- •Built and physical environment as well as economic and social
- •Supply, access and use of health care services

Population Health Index

$$V(i) = \Sigma [s(ji) .w(j)]$$

PHI

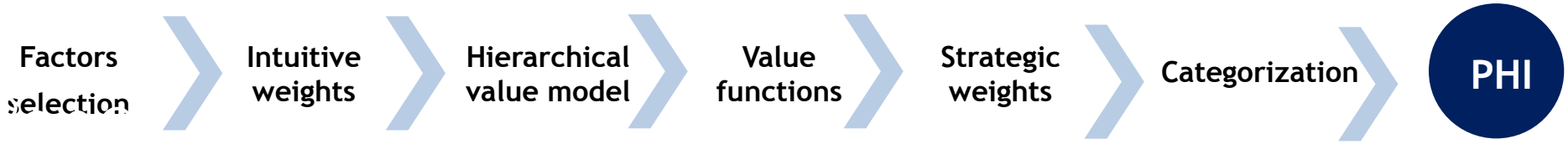
Where:

V(i) = general "value" (model total *score*) of the municipality

s(ji) = Value function of criterium j in municipality i

w(j) = Strategic weight of criterium j

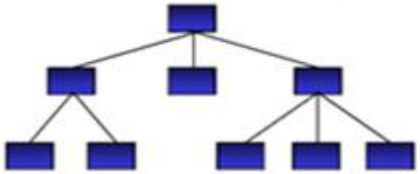
Population Health Index



Population Health Index – model structure

Multicriteria model

Problem structure and model
(value tree and performance indicators for each criteria)



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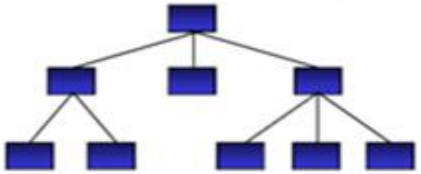

Construction of a value function for each criteria

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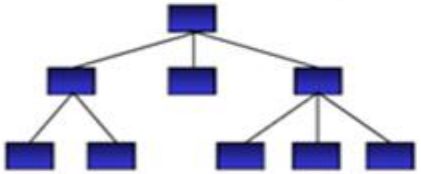
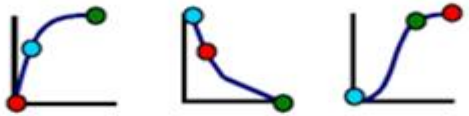


Construction of a value function for each criteria

Assessment of the performance in each municipality in each criterium => criterium score



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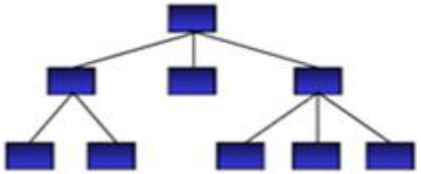

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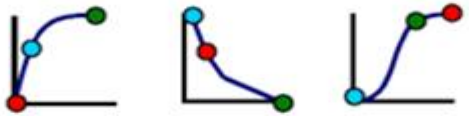

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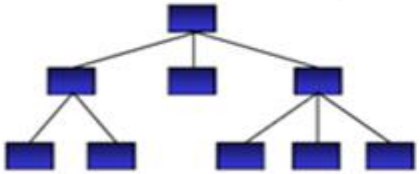

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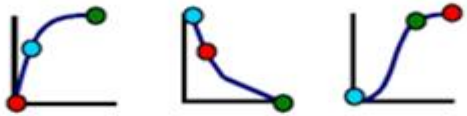
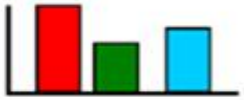


Definition of criteria weigths

Summative aggregation of the scores in the criteria



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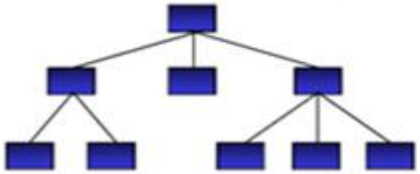

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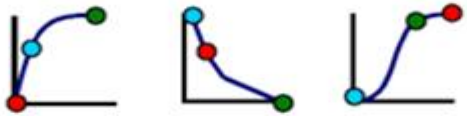

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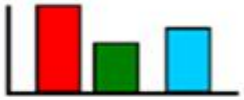
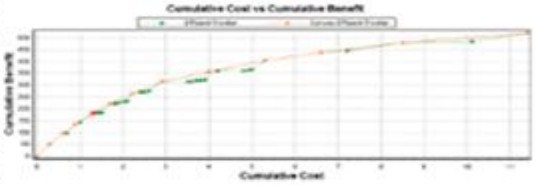


Cost of the interventions

Synergies between interventions

Selection of interventions



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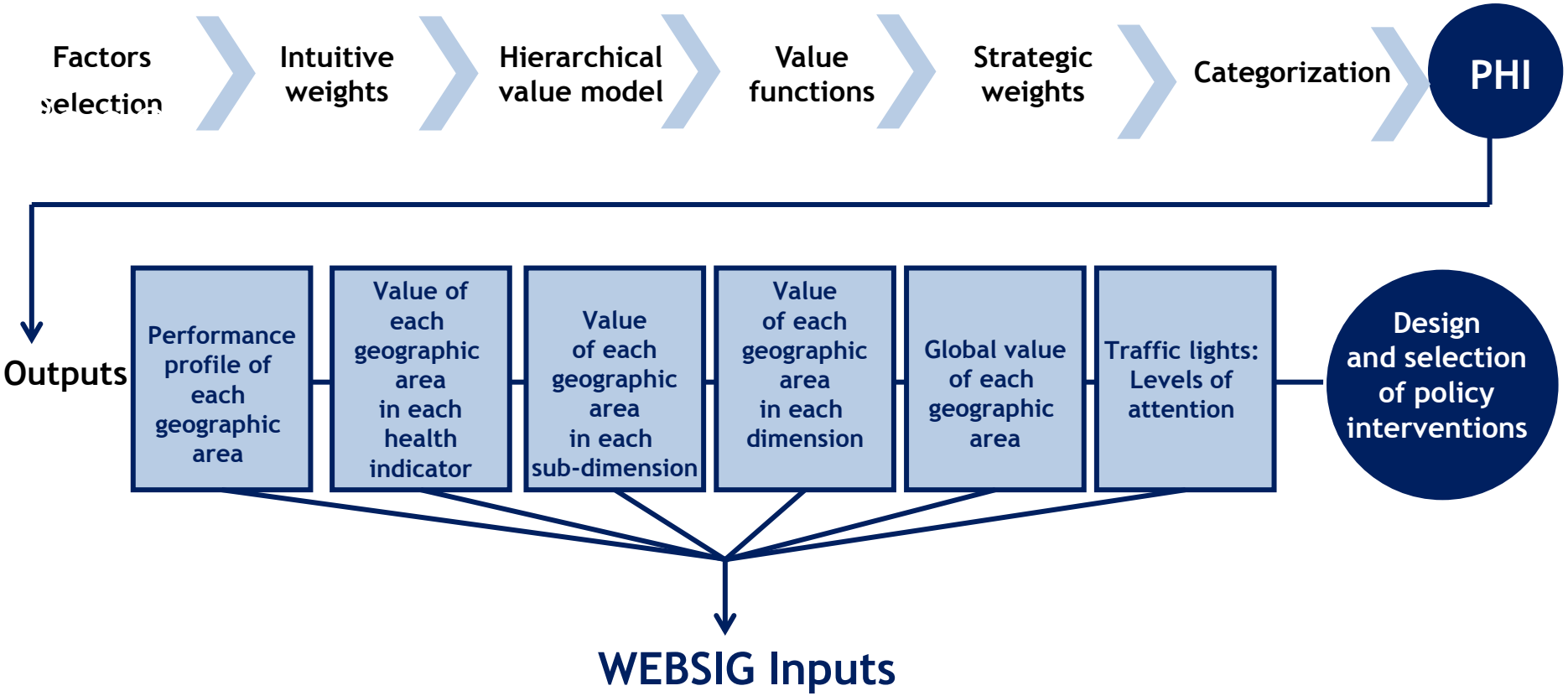
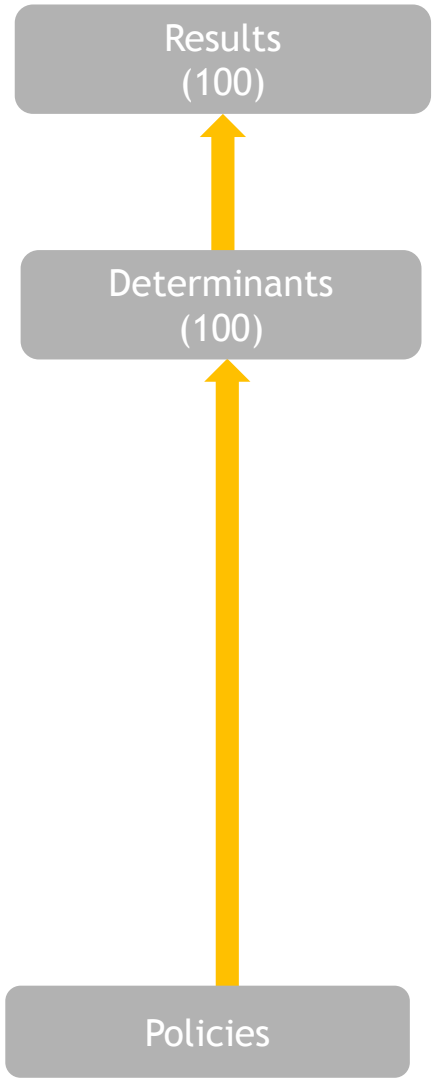


Population Health Index(PHI)

PHI 91 – 11



		Intuitive weights
61	Mortality	
	Avoidable mortality	36
	Life years lost	25
39	Morbilidity	
	Demography	20
	Burden of diseases	19
31	Economic and Social	
	Economy	9
	Social equity	9
	Education	8
	Crime	4
	Tecnology	1
19	Physical Environment	
	Build environment	10
	Environment quality	9
19	Access to Health care	
	Geographic accessibility	7
	Preventive health care	7
	Hospital care	5
17	Lifestyles	17
14	Health care use	14

Background | GeoHealthS | Population health index | Policy making

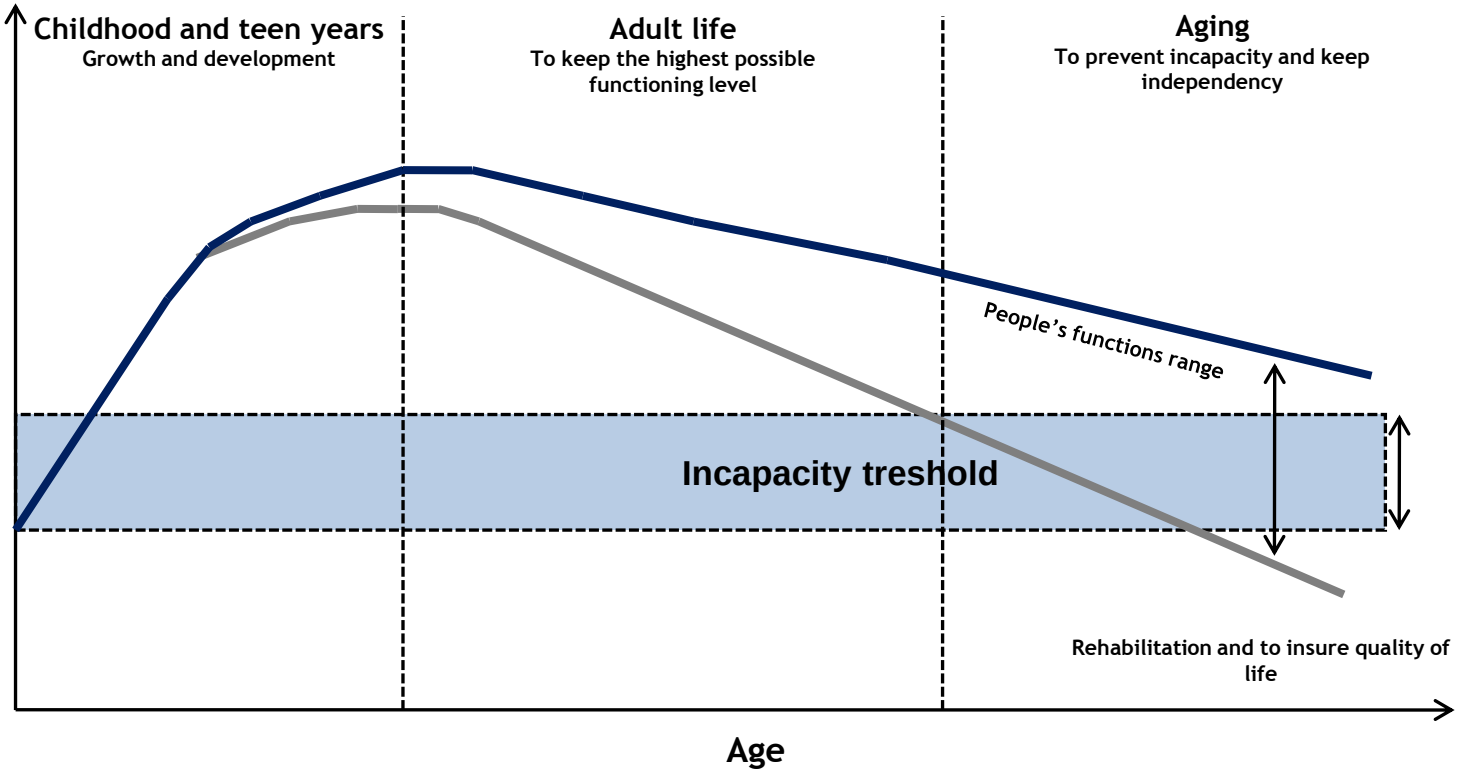
In which way can the PHI support the selection of measures and policies aiming at increasing the health gains of the population at local and national levels?

Health throughout the life cycle

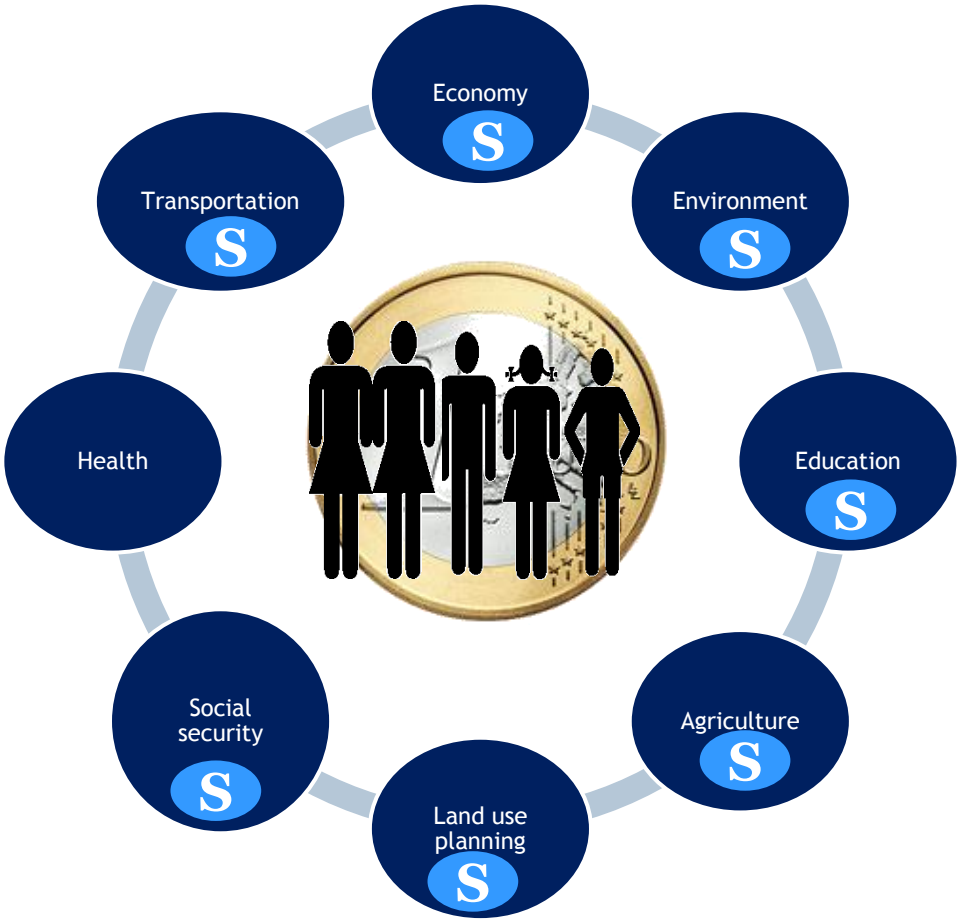
Determinants

Health throughout the life cycle

Determinants



Source: WHO (2002). Active ageing: a policy framework. WHO/NMH/NPH/02.8. Contribution of the WHO to the Second United Nations World Assembly on Ageing. Madrid, April 2002.

Policy interventions

Health in all policies