

Population risk stratification in Portugal

15th november 2023

NPI-2023

AGENDA

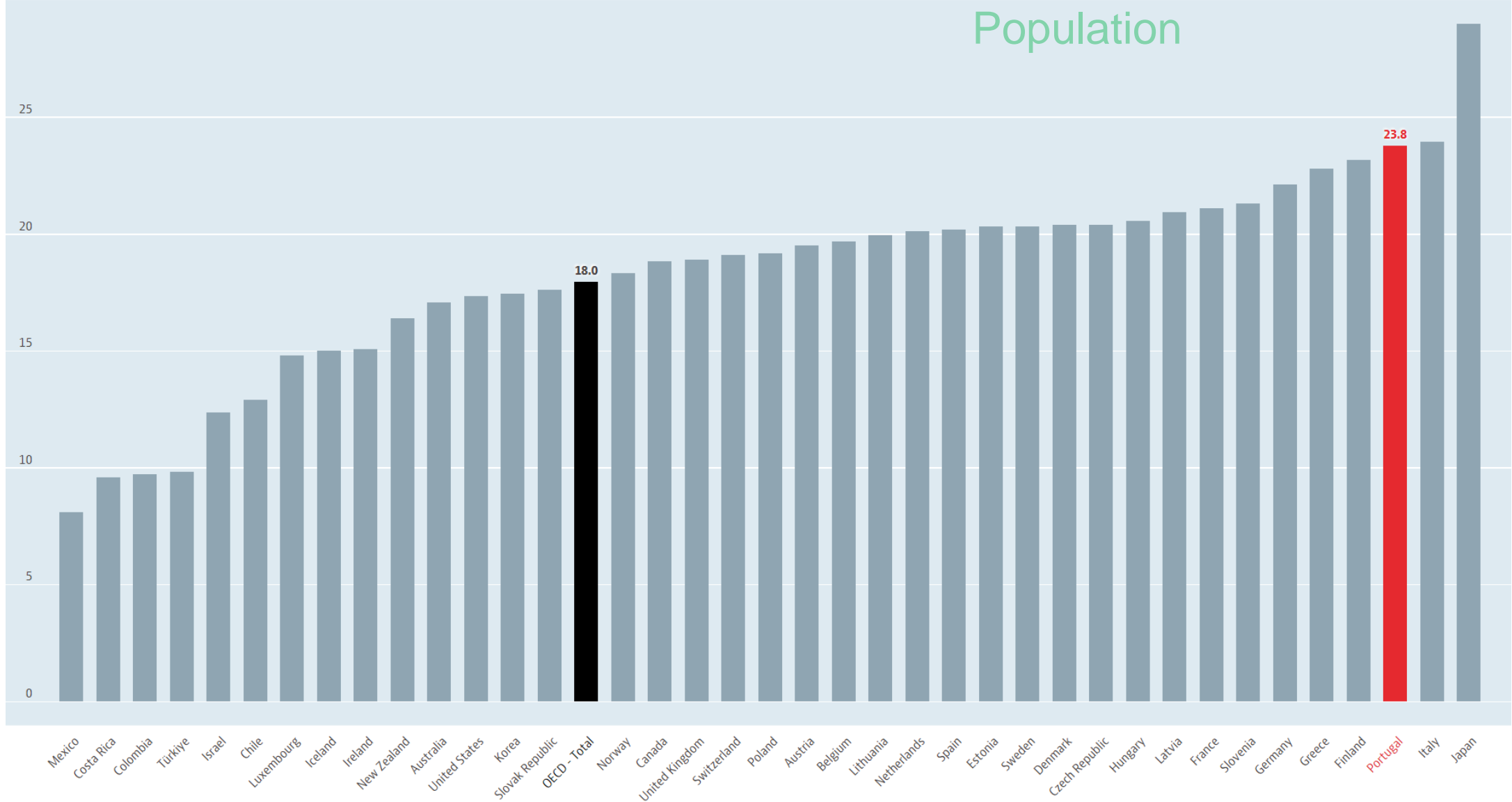
- 1. PT Health System - Overview**
- 2. National Risk Stratification Strategy**
 - 2.1. Main Goals**
 - 2.2. Using ACG**
 - 2.3. Next steps**

PT Health System - Overview

Context



Elderly population Total, % of population, 2022

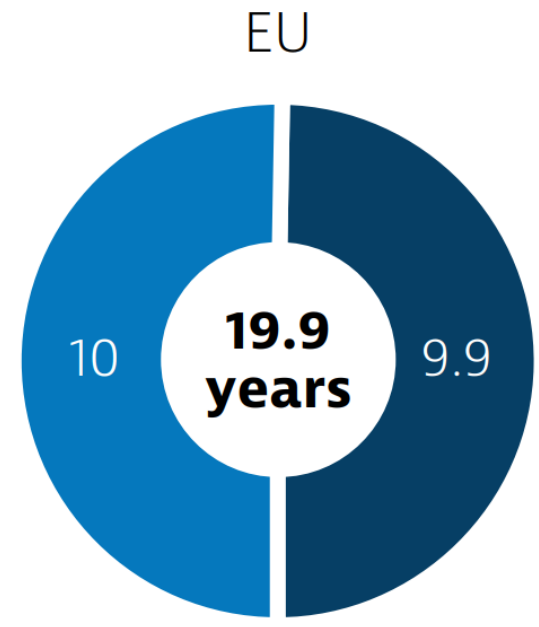
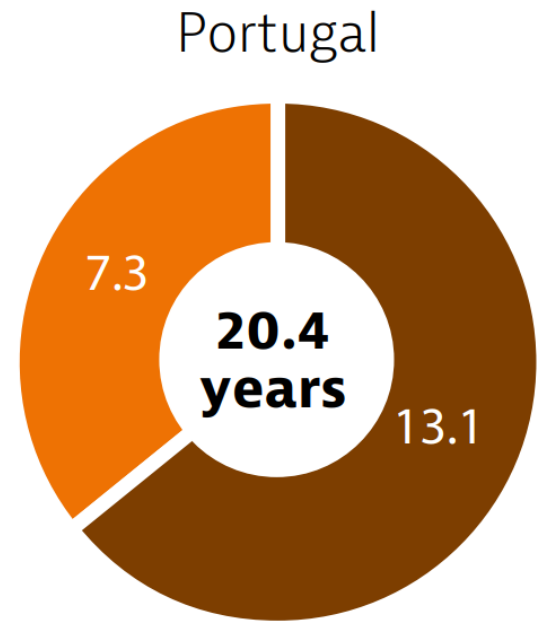


Source: OECD (2023), Elderly population indicator

Context

Population

Life expectancy at age 65



 Years without disability

 Years with disability

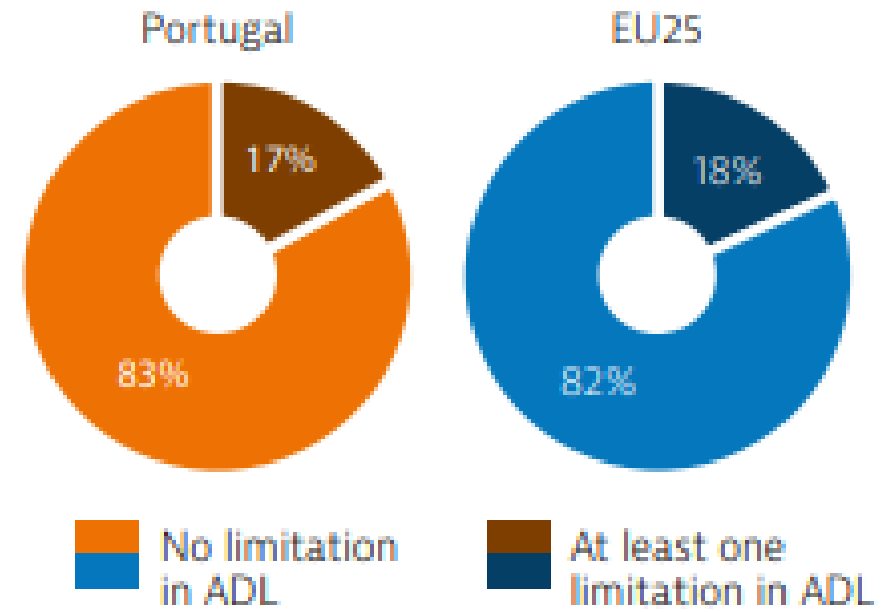
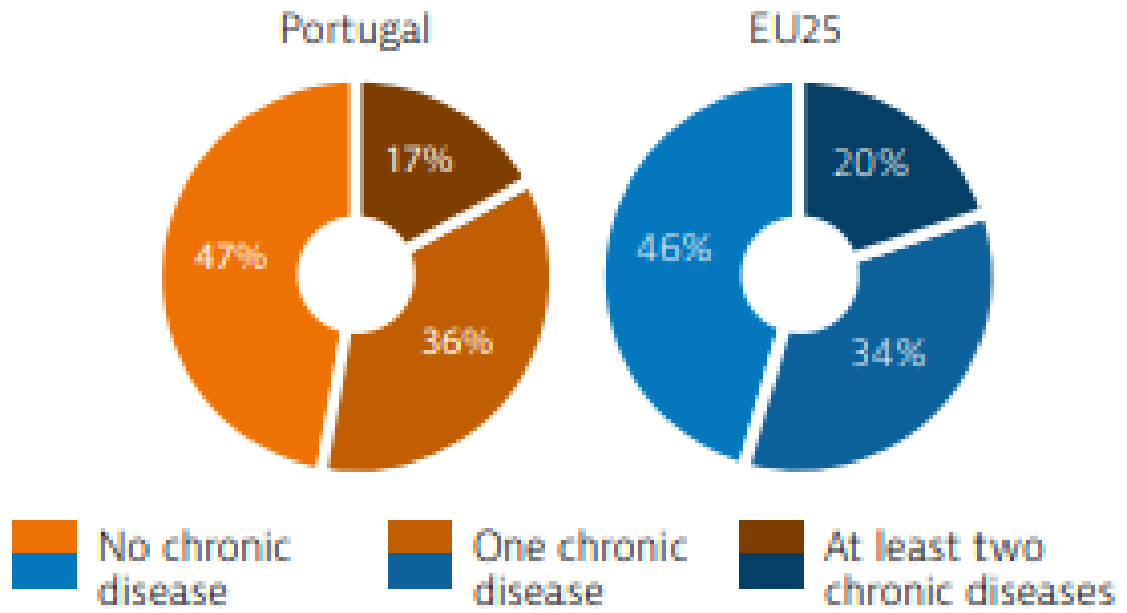
Source: OECD/European Observatory on Health Systems and Policies (2019), Portugal: Country Health Profile 2019, State of Health in the EU, OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels.

Context

Population

% of people aged 65+ reporting chronic diseases¹

% of people aged 65+ reporting limitations in activities of daily living (ADL)²



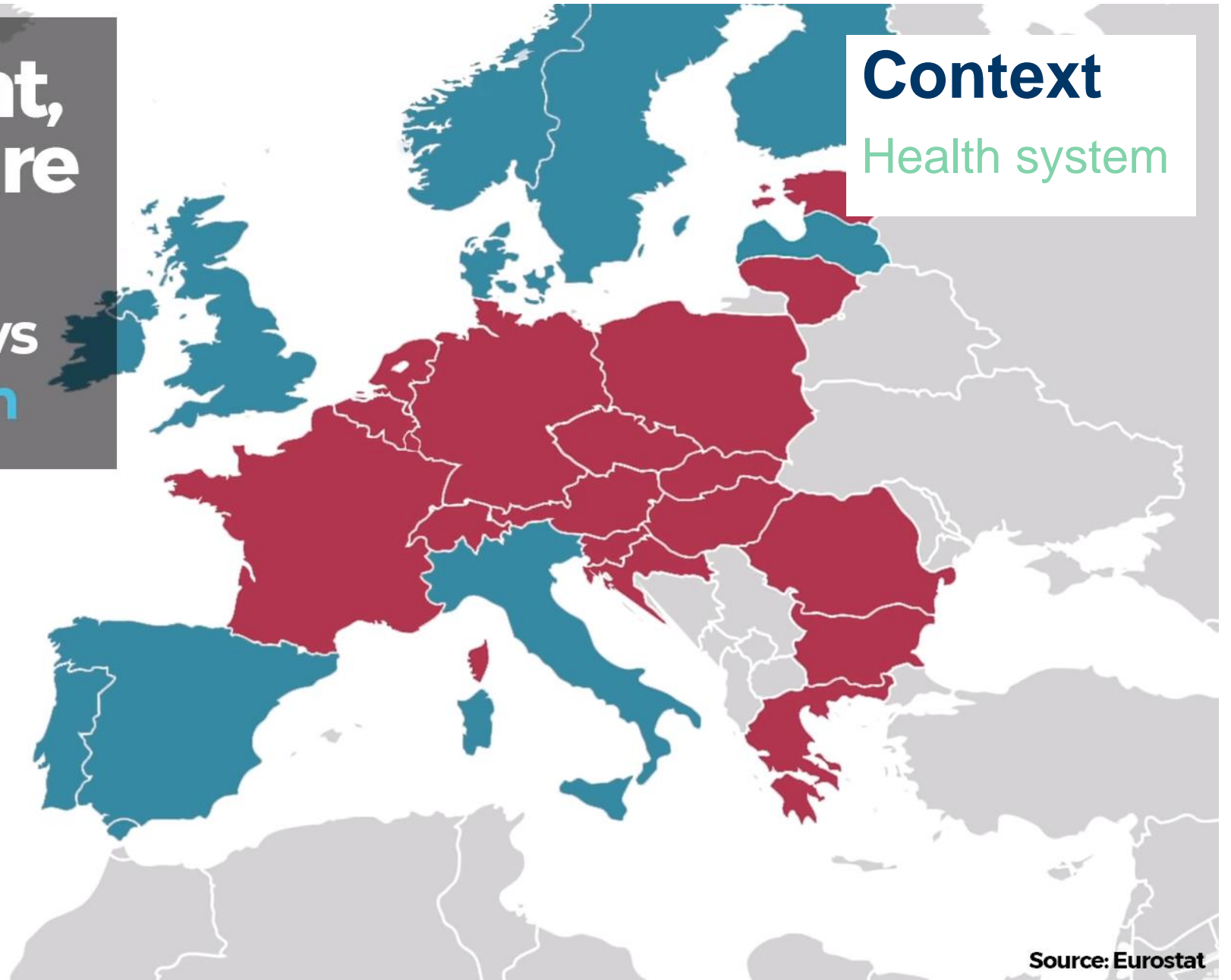
Fonte: OECD/European Observatory on Health Systems and Policies (2019), Portugal: Country Health Profile 2019, State of Health in the EU, OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels.

One continent, two healthcare systems

Bismark system vs
Beveridge system

Context

Health system



Context

Health system



- Beveridge model → Tax-funded NHS and public provision
- Universal coverage → Portuguese Constitution guarantees access to healthcare for a comprehensive set of services covering all residents (Portuguese and non-Portuguese) + EU
- Citizens can buy extra layers of insurance coverage → public health subsystems, private health subsystems and private voluntary health insurance
- Out-of-pocket expenditure → co-payments and direct payments made by citizens for pharmaceuticals, and emergency care if not referred by primary care or SNS24

Context

Health system

14 858 000 000 €

Budget 2023

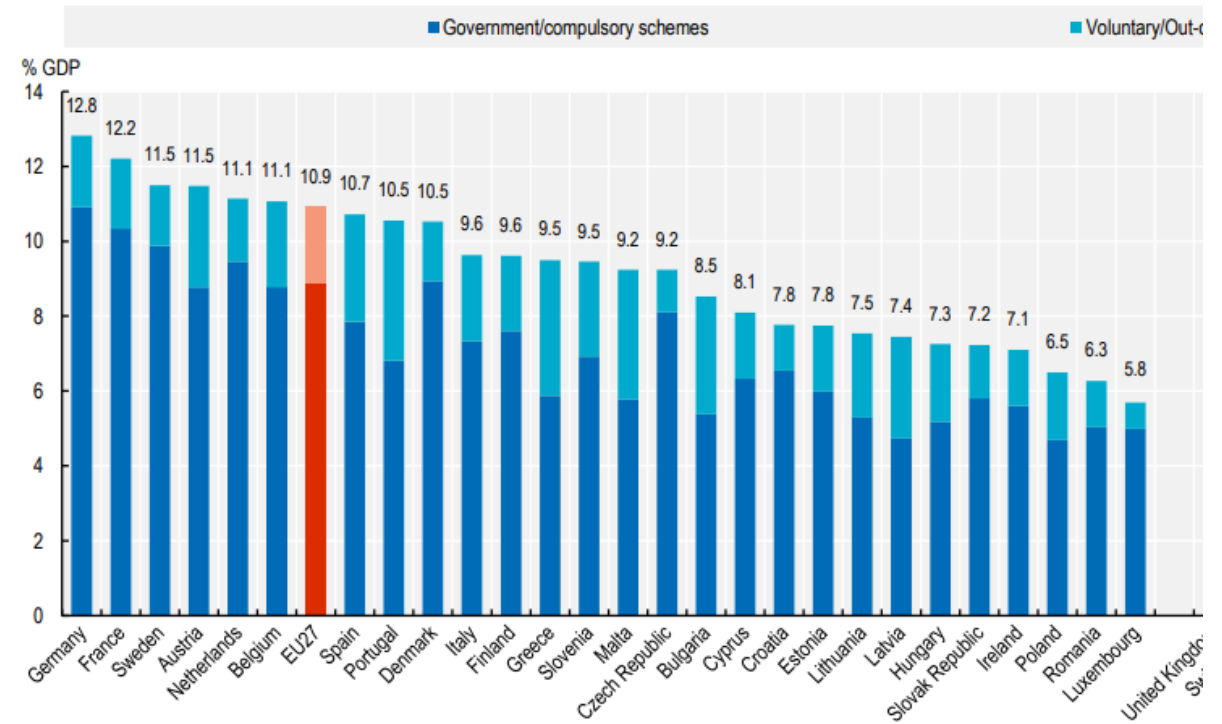
+ 7,8% (2022)

10,5%GDP

2 231€ per capita

(3 159€ EU27)

Figure 5.3. Health expenditure as a share of GDP, 2020 (or nearest year)



Note: The EU average is weighted.

Source: OECD Health Statistics 2022; Eurostat Database; WHO Global Health Expenditure Database.



SERVIÇO NACIONAL
DE SAÚDE

PORTUGUESE NATIONAL HEALTH SERVICE

98 000
Primary Care Appointments

17 000
Emergency Room Episodes

36 000
Speciality Appointments

2 000
Surgeries

6 500
Calls to SNS 24

2
Transplants



151 703

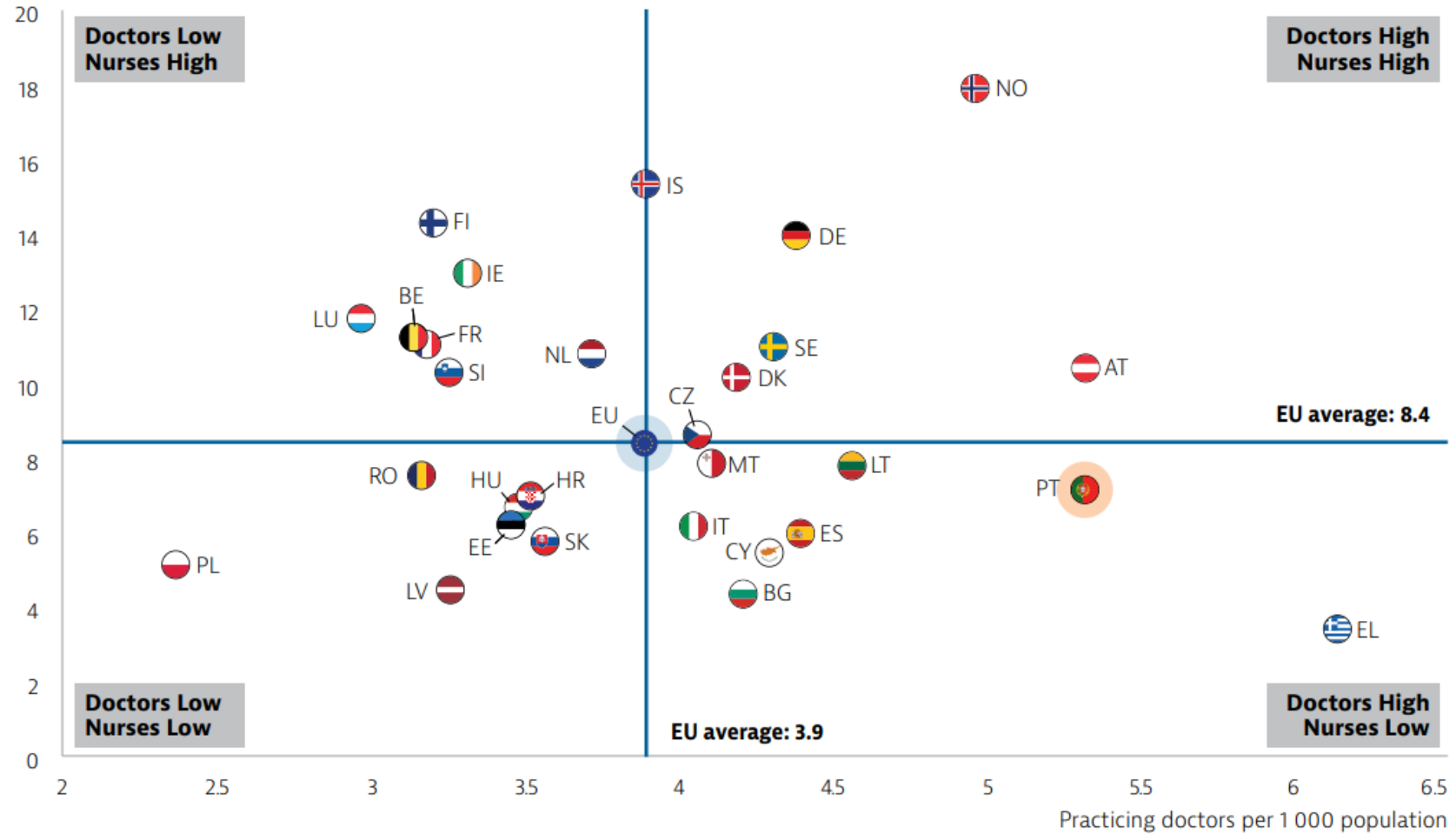
WORKERS IN THE SNS

Jan. 2023



The number of nurses in Portugal remains below the EU average

Practicing nurses per 1 000 population



Note: The EU average is unweighted. In Portugal and Greece, data refer to all doctors licensed to practise, resulting in a large overestimation of the number of practising doctors (e.g. of around 30 % in Portugal). In Greece, the number of nurses is underestimated as it only includes those working in hospitals.

Source: Eurostat Database (data refer to 2019 or the nearest year).



Primary Care

55 Health Centre Groups

in 5 different regions

1294 Units

Including local public health units

Hospital Care

22 Hospital Centres

18 Hospitals

1 Public-Private Partnerships

17 647 Acute Beds



8 Local Health Units

2 313



NHS Network until 2023

3 Oncology Hospitals

803

Mental Health Oriented Beds

National Networks of Long-Term Integrated Care and Palliative Care

Commissioning with the Private Sector

NHS Network 2024



39 Local Health Units
(Board includes municipalities)

Primary Care

55 Health Centre Groups
in 5 different regions

1294 Units

Including local public health units

Hospital Care

22 Hospital Centres

18 Hospitals

1 Public-Private Partnerships

3 Oncology Hospitals

803

National Networks of Long-Term Integrated Care and Palliative Care

Commissioning with the Private Sector

National Risk stratification strategy

Main Goals



Risk stratification strategy

Main goals

- Support clinical governance;
- Allocation of resources (more GPs for populations with higher needs);
- Risk adjusted financing;
- Performance assessment (risk adjusted).

ACSS ADMINISTRAÇÃO CENTRAL
DO SISTEMA DE SAÚDE, IP

OTIMIZAR RECURSOS
GERAR EFICIÊNCIA

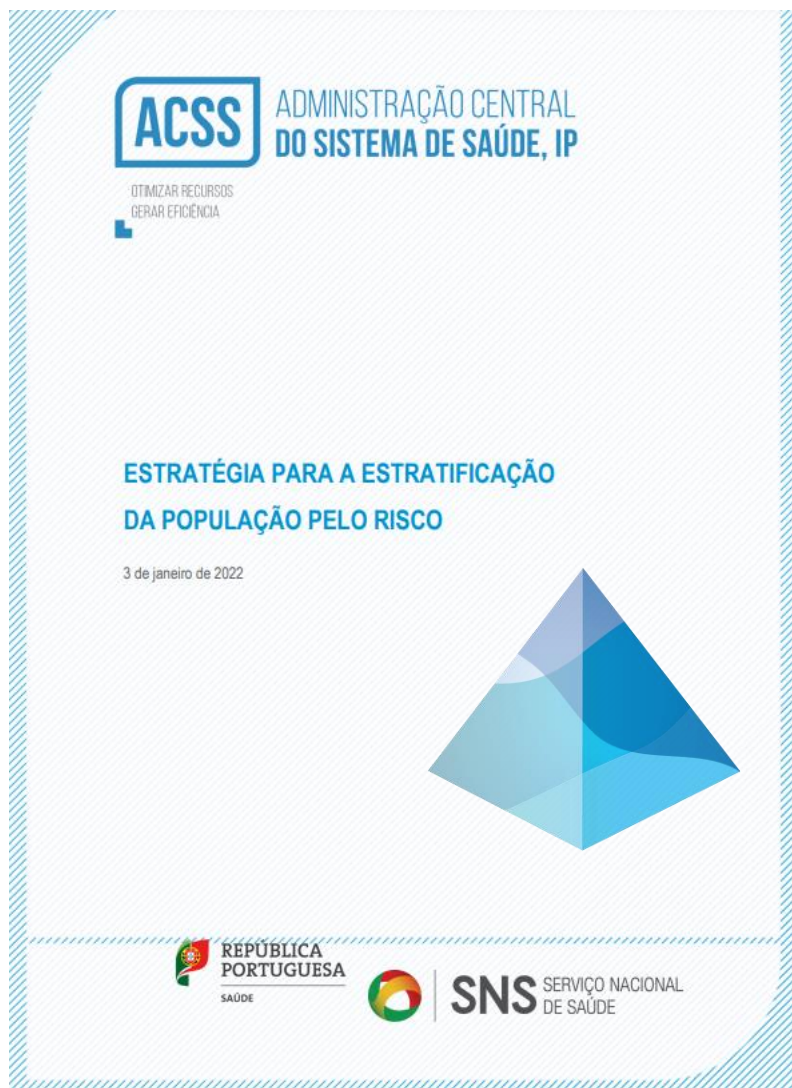
ESTRATÉGIA PARA A ESTRATIFICAÇÃO
DA POPULAÇÃO PELO RISCO

3 de janeiro de 2022



Risk stratification strategy

Implementation



Implementation plan (2 years)

- **Goal 1 (Feb 2022):** Definition of a Population approach based on risk stratification with impact on quality of care and the sustainability of the NHS
 - Setting pilots
 - Training in risk stratification (262)
 - Compare 3 tools
 - Population risk stratification
- **Goal 2 (Sep 2023):** Proposal for a risk adjusted financing model, improving the the allocation of resources
 - Cenario testing for adjusting the Local Health Units financing model
 - Definition of risk adjusted indicators to improve performance assessment
- **Goal 3 (Dec 2024):** Assessment of the risk stratification implementation



Risk stratification strategy

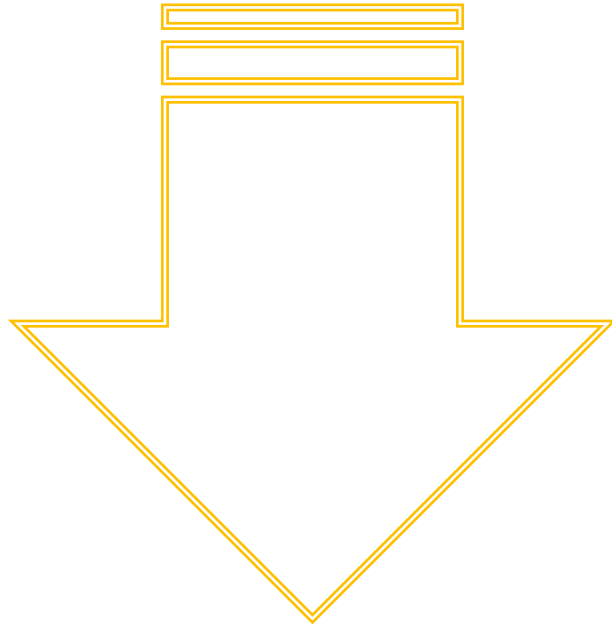
Main goals

FURTHER APPLICATIONS OF THE RISK STRATIFICATION (ACG)

- Financing healthcare at a national level (ongoing)
- Using risk stratification as a priority criteria for the allocation of patients to a gp (family health team)
- Supporting clinical governance (case finding)
- Supporting the redesign of care processes
 - personalized care plan (chronic complex patients)
 - case management, care pathways (case finding)
- Improving the prescription adequacy
- Human resources planning (primary care teams list of patients)

Using ACG

- Pilot study comparing different groupers with 2018 and 2019 population from the 8 existing Local Health Units
(+/- 1 million)



- Applying ACG grouper to the whole of Portugal mainland's 2019 population
(+/- 10 million)



Team's knowledge on patient classification systems and casemix

ICD10CM/PCS coding in all NHS Hospitals (inpatient and some ambulatory), ICPC Registry in all NHS primary care units and ATC codes for all PT Health System prescriptions (private and public)

National Data centrally available per citizen (although in different central databases)

Risk adjustment already in use for Local Health Units financing and General Practitioners patients lists



Team's no specific know-how on ACG – On-the-job learning (OJL)

No cost per patient – Price as proxy had to be used

Low registry of ICD10CM/PCS on emergency care and hospital consultations

Too little time available (8 LHU pilot study > 9 months + Preparing National database and grouping for all citizens > 3/4 months)

Data volume & A new database with all the requiring information had to be created



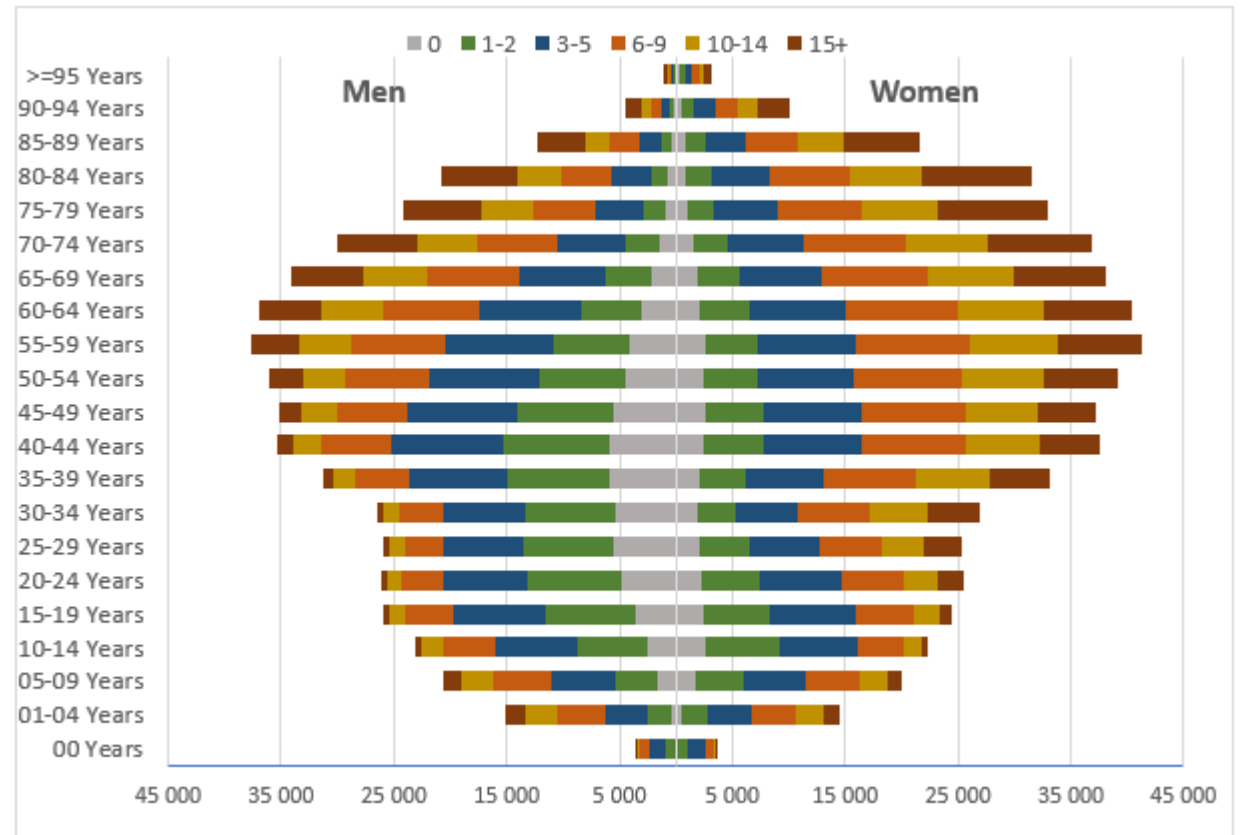
- **Pilot study* on 8 Local Health Units (+/- 1 million citizens)**

	2019		
	<i>Citizens</i>	<i>Contacts</i>	<i>Contacts average</i>
Hospital consultations & emergency care	455 292	1 795 349	3,94
Inpatient & Ambulatory surgery	98 161	178 167	1,82
Primary care consultations	798 154	3 748 802	4,70

* Comparing different risk adjustment groupers

● Pilot study* on 8 Local Health Units (+/- 1 million citizens)

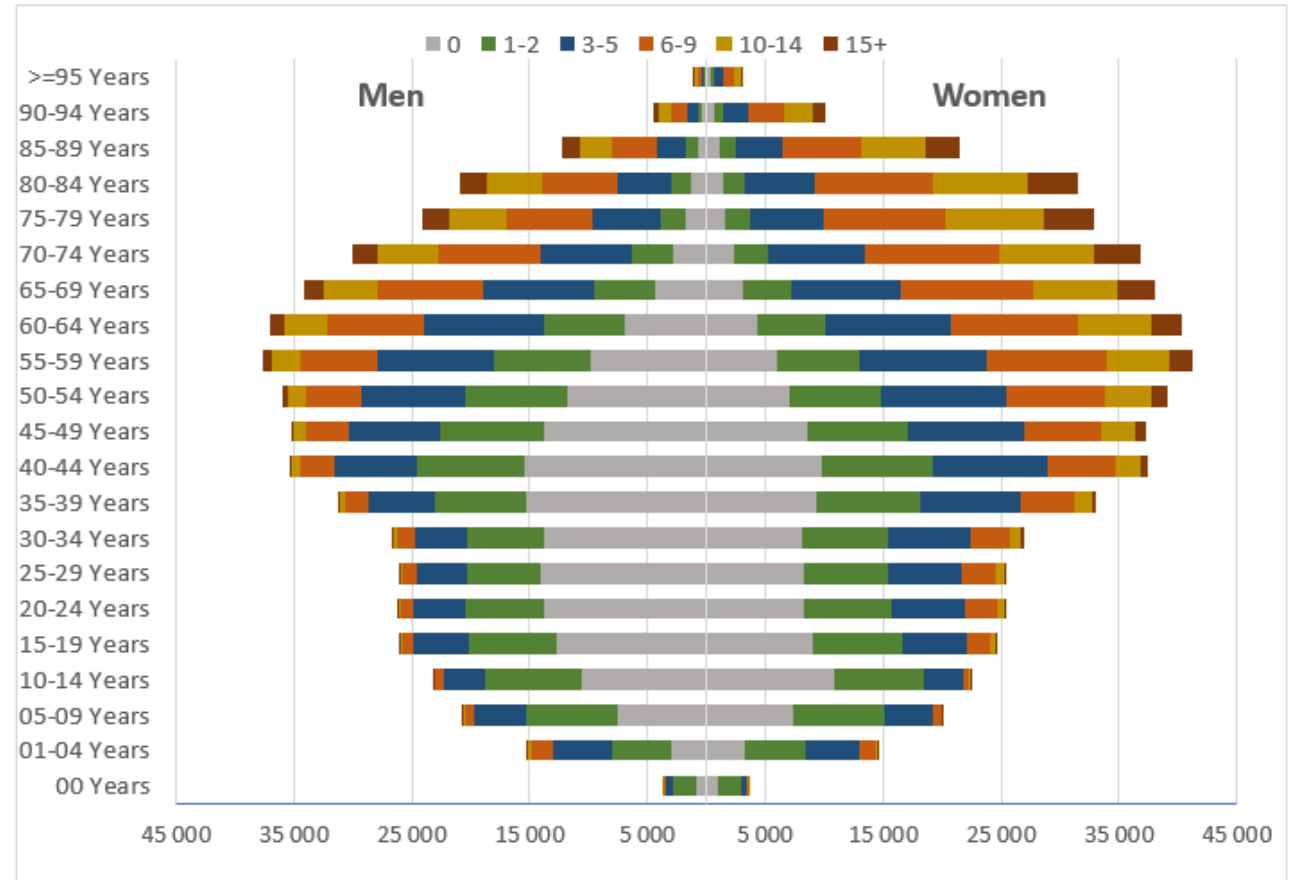
➤ Multimorbidity – More than 14% of the 8 LHU population with more than 15 diagnoses (considering 5 years data)



* Comparing different risk adjustment groupers

● Pilot study* on 8 Local Health Units (+/- 1 million citizens)

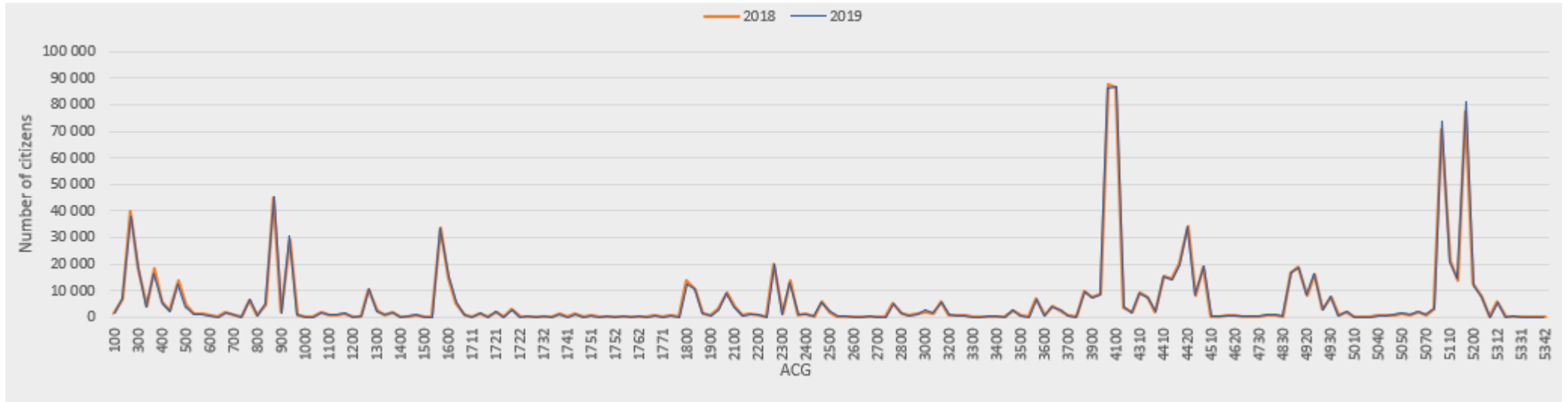
- Polipharmacy – Almost 4% of the 8 LHU population with more than 15 ingredients



* Comparing different risk adjustment groupers

● Pilot study* on 8 Local Health Units (+/- 1 million citizens)

- Total match between 2018 and 2019 ACG's grouping



* Comparing different risk adjustment groupers

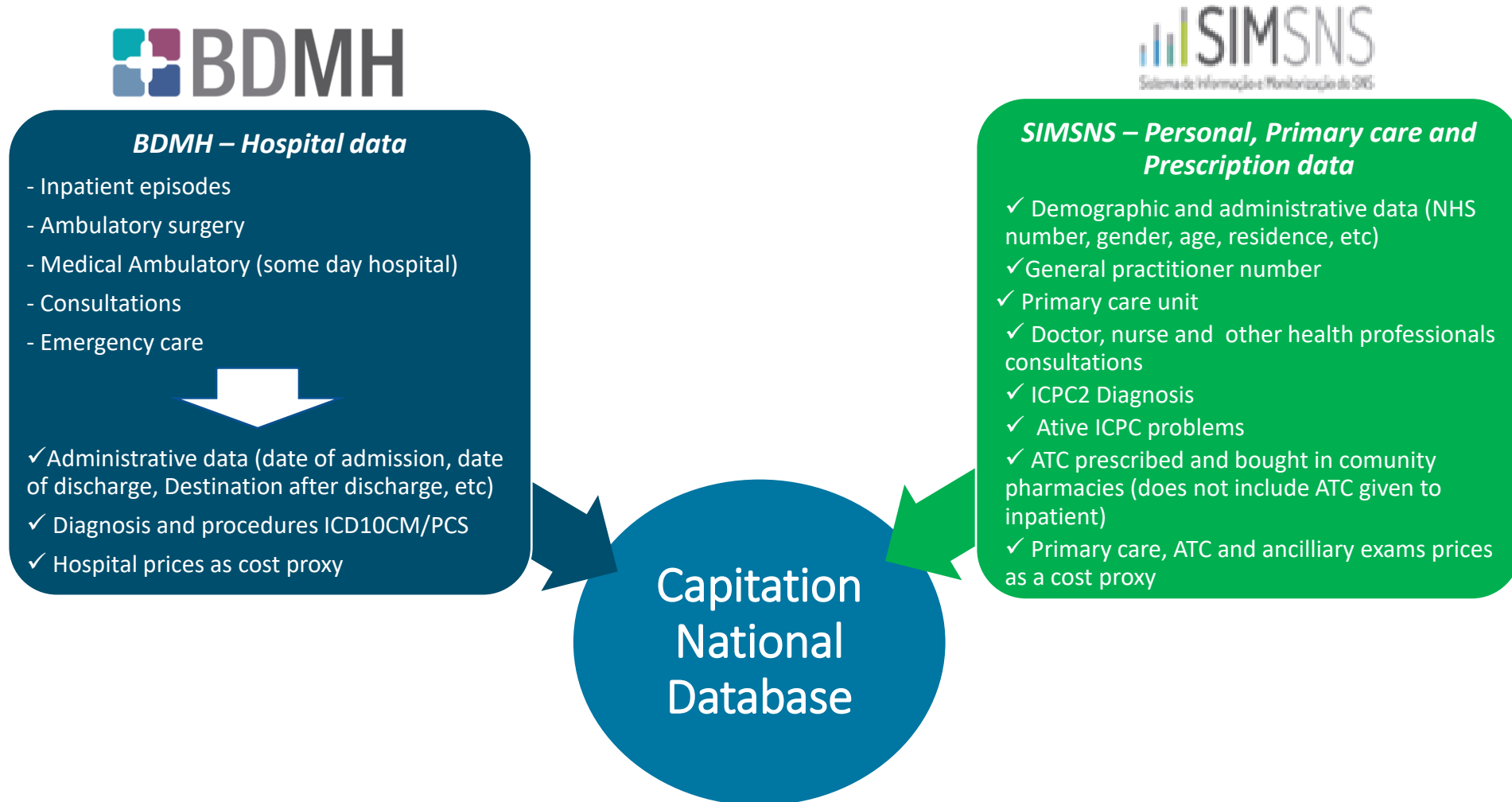
● Pilot study* on 8 Local Health Units (+/- 1 million citizens)

➤ Kayser pyramid

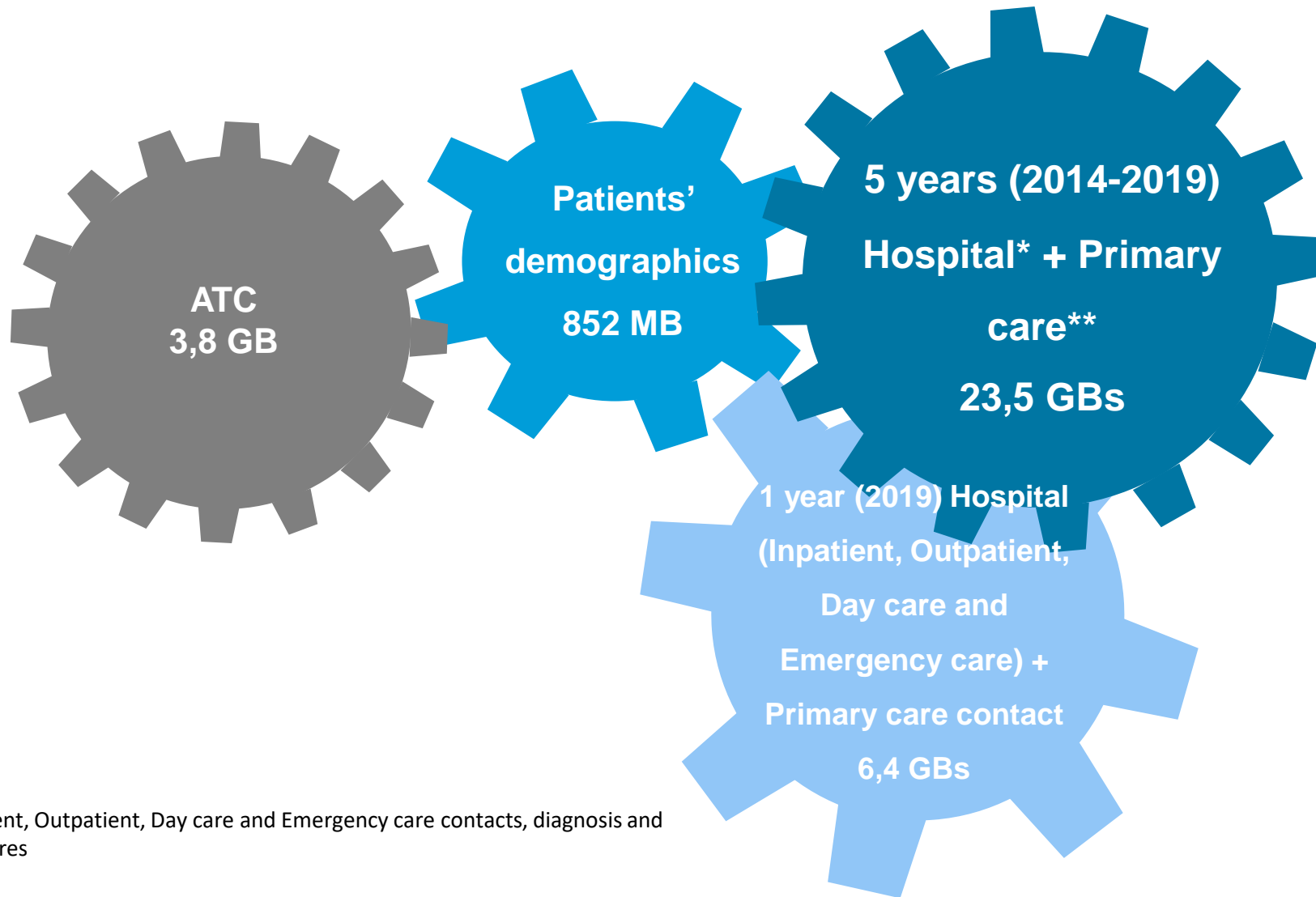
8 LHU 2019 ACG						
	Percentil	% Citizens	Citizens	% Total cost	Average cost	Relative weight*
Cronic (RUB: 3-5 - PNG: 6-7)	P95%	6%	40 751	26%	3 786,56 €	6,3583
	P80-95%	13%	98 065	23%	1 402,70 €	2,3563
	P0-80%	81%	588 572	50%	502,90 €	0,8451
Healthy (RUB: 0-1 + PNG: 6-7)	NA		344 076		144,17 €	0,2438

* Local Concurrent Risk

- Getting national data ready for grouping – Creating Capitation National Database (+/- 10 million citizens)



● Getting data ready for grouping – Extracting information files

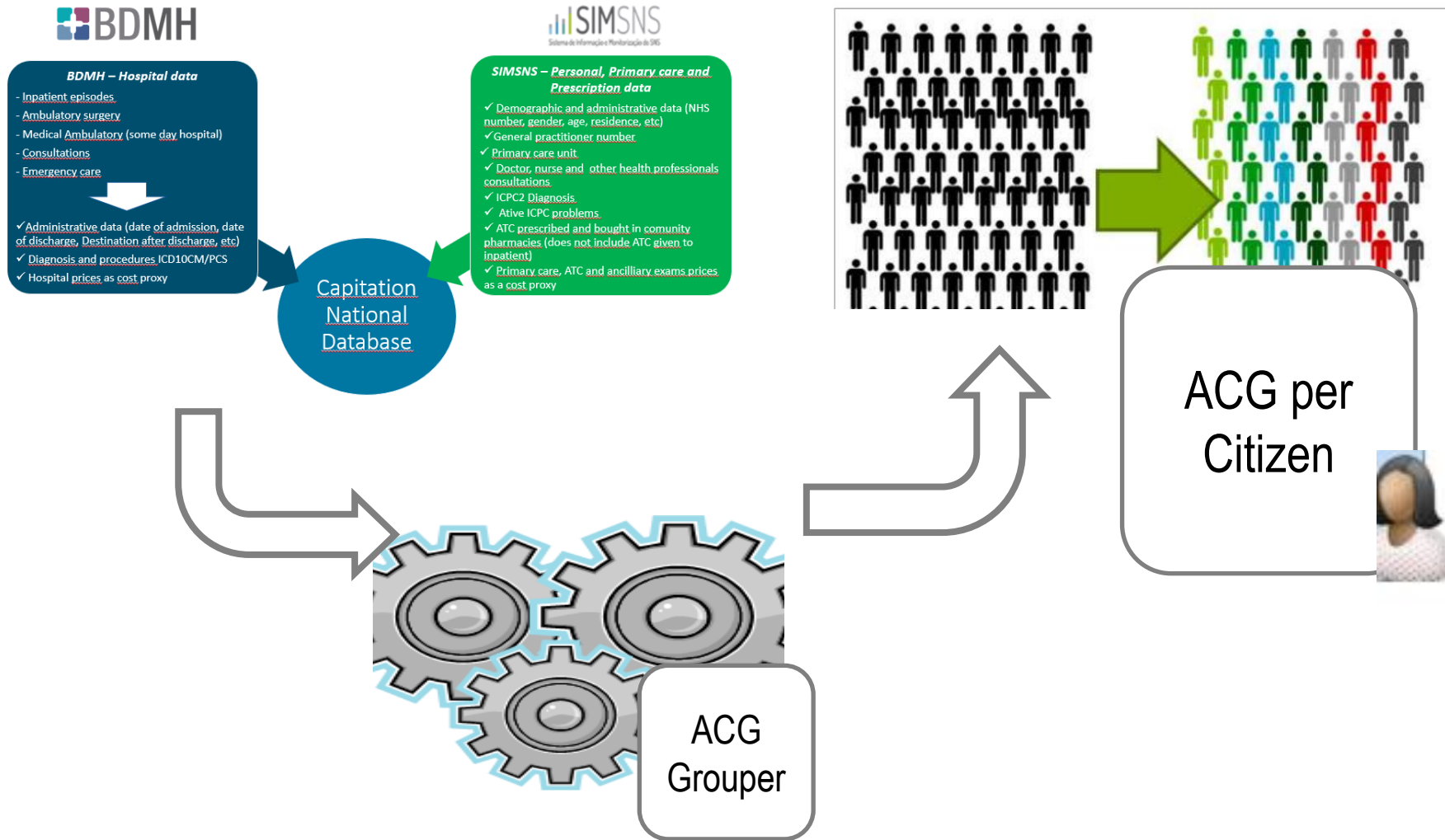


2 working days

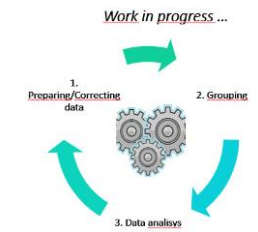
* Inpatient, Outpatient, Day care and Emergency care contacts, diagnosis and procedures

** Contacts and diagnosis

● ACG Grouping



3 to 5 hours*



- Depending on the number of years of historical data used

● ACG National Grouping – Some results

- 48% healthy population
- 2,2% of the population with more than 15 diagnosis
- 3,4% of the population taking more than 15 ATC
- Local Health Units ACG Casemix varies from 0,7471 > 1,2709 with, in most cases, a negative correlation with the DRG Casemix

Next steps on using ACG

● Financing

What we have

- More than 50% of hospital budget with DRG Casemix Index (CMI x Production x Price)
- Existing 8 Local Health Units budget with risk adjustment through a statistic model using different demographic and clinical indicators
- Primary Care Units with historical budget

+

Pay for performance



What we aim to have

- All 8 existing Local Health Units

+

31 new Local Health Units budgeting through capitation, with +/- 80% of the budget being allocated through

ACG Casemix Index
(CMI x Population x Capita)

+

Pay for performance

● Results

Where we are

- 2019 National Capitation Database – ACG grouping results have been little analysed



Where we aim to be

- Enlarge internal knowledge on 2019 ACG grouping results > Data Analysis

● National Capitation Database

Where we are

- 2019 National Capitation Database



Where we aim to be

- Enlarge National Capitation Database from 2019 to 2010-2023
- Run grouper, compare and scan results
- Establish regular importing data procedures

● Knowledge & Data availability

Where we are

- No general tutoring has been given to NHS professionals on ACG
- No data on ACG is available for NHS professionals



Where we aim to be

- Proceed with NHS professionals training
- Develop BI system and incorporate results within the software's used on hospital and primary care by managers, doctors and nurses

● Legislation

Where we are

- No legal reinforcement has been given to the use of risk adjustment and ACG
- No ACG data has been published for the general public



Where we aim to be

- Risk adjustment legislation
- Proceed with annual publishing of PT stratified and grouped population

Thank You!

Cláudia Medeiros Borges
cborges@acss.min-saude.pt

Vanessa Ribeiro
vribeiro@acss.min-saude.pt