Application of screening tools of chronic patients for case-management programmes in Primary Care in Spain

International Long-term Care Policy Network

An interface between researchers, policy-makers and other stakeholders to promote global exchange of long-term care policy evidence and knowledge

Francisco Ródenas
Ascensión Doñate & Jorge Garcés

London, 31st August – 3rd September 2014

Polibienestar
VNIVERSITAT ID VALÈNCIA

CONTENT:

2

1. **Polibienestar Research Institute**

2. **Theoretical framework**

3. **Research studies**

4. **Connection with European projects**

5. **Policy recommendations**

Polibienestar
VNIVERSITAT ID VALÈNCIA

1. Polibienestar Research Institute

The Institute

Polibienestar is a public research institute belonging to the **University of Valencia** (Spain) leaded by **Jordi Garcés**, Prince of Asturias distinguished visiting professor at Georgetown University (Washington DC, EEUU).

It is specialized in **research**, **innovation** and social technology, technical advice and training in the field of **public policies**. Its final mission is the improvement of the **Welfare** and **Quality of Life** of society.

http://www.polibienestar.org/

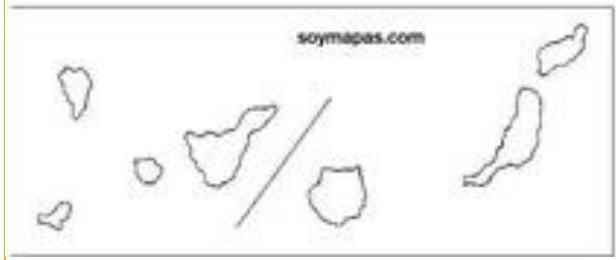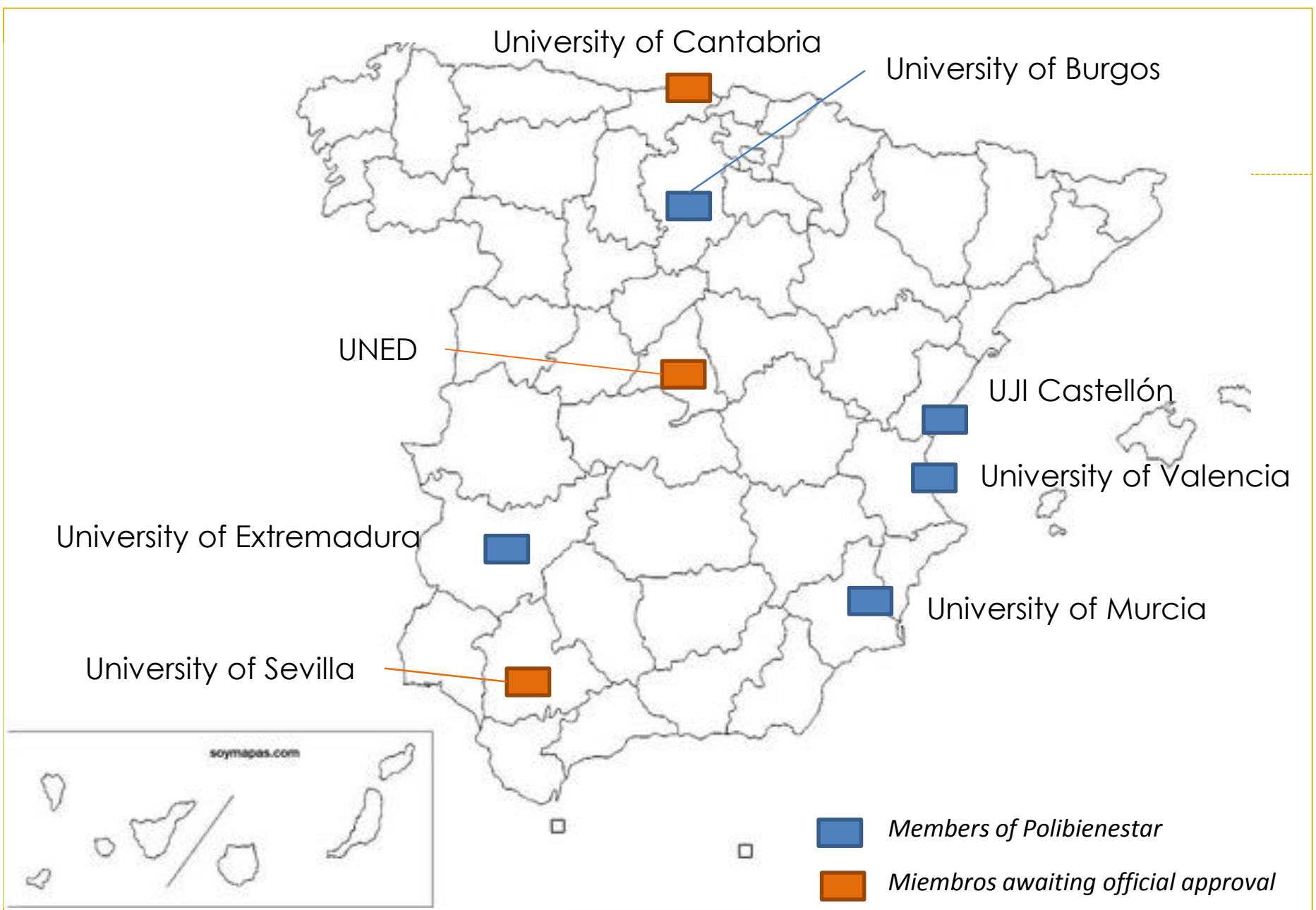Polibienestar
VNIVERSITAT ID VALÈNCIA

The Institute

Polibienestar is composed by an **interdisciplinary team** with 24 senior and 18 junior researchers

It develops research since an **interdisciplinary perspective** on both basic and applied economic, social, political and technical welfare systems

Research on **Welfare Systems**

- Social Work
- Psychology
- Teaching and Education
- Sociology
- Medicine
- Political Science
- Law
- Economics
- Computer Science

Polibienestar
VNIVERSITAT Ð ID VALÈNCIA

University of Cantabria

University of Burgos

UNED

UJI Castellón

University of Valencia

University of Extremadura

University of Murcia

University of Sevilla

soymapas.com

Members of Polibienestar

Miembros awaiting official approval

Polibienestar
VNIVERSITAT ID VALENCIA

2. Theoretical framework

THE PROBLEM? → Ageing population

Increasing prevalence of **chronic conditions** in western countries

Major source of burden in healthcare systems; especially at primary care levels (WHO 2010). In Spain, the care related to chronic conditions imply between 70-75% of the total healthcare costs (SEDAP, 2013).

A POSSIBLE ANSWER TO THE PROBLEM?

*Development and put into practice **comprehensive** and **multidisciplinary** approaches and initiatives to **manage** chronic patients and cope with their social and health consequences:* **Sustainable Social and Health Model (SSHM)**

Sustainable Social and Health Model (SSHM)

Garcés, 2000; Ródenas et al., 2008; Garcés et al., 2011

Joint reorganization of social and health care systems

Care pathways based on social and health needs of patients

- Diagnostics
- Dependence level
- Polipharmacy
- Hospital admissions
Etc.

Initial assessment of users → **STRATIFICATION tools**
Implementation of '*The Community Assessment Risk Screen – CARS*' in the primary care system in Spain

Polibienestar
VNIVERSITAT ID VALÈNCIA

3. Research studies

Study 1. Test of screening tools in Spain

Application of:

➤**The Community Assessment Risk Screen – CARS** *(Shelton et al. 2000)*

In:
- *a sample of 500 patients (65+ years)*
- *from 6 primary care centres in Valencia*

Variables of the instrument from 2008 and predictive variable (hospital admissions from 2009) were gathered through electronic health databases:
- **SIA-Abucasis**: primary and specialized care.
- **GAIA**: medical prescription of drugs.
- **MDS** *(Minimum Data Set):* hospital admissions.

Polibienestar
VNIVERSITAT ID VALÈNCIA

The Community Assessment Risk Screen (CARS)

1. Do you have any of the following health conditions? Yes/ No

a) Heart disease? ___ ___

b) Diabetes? ___ ___

c) Myocardial infarction? ___ ___

d) Stroke? ___ ___

e) Chronic obstructive pulmonary disease? ___ ___

f) Cancer? ___ ___
(Score: If 2 or more conditions are "YES" score = 2)

2. How many prescription medications do you take? ___
(Score: If "5 or more" medications score = 3)

3. Have you been hospitalized or had to go to an emergency department or urgent care center in the past 6 months? Yes/No

(Score: If the answer is "YES" score = 4)

Study 1. Test of screening tools in Spain

Items	Variables of CARS	Total (n= 500)
1	Heart disease	90 (18.0 %)
	Diabetes	131 (26.2 %)
	Myocardial infarction	4 (1.2 %)
	Stroke	12 (2.4 %)
	COPD	47 (9.4 %)
	Cancer	82 (16.4 %)
2	Prescription medications (≥ 5)	127 (25.4 %)
3	Hospital admissions/ED visits (2008)	169 (33.8 %)
	Risk of hospital admission High Low	 203 (40.6 %) 297 (59.4 %)

Ródenas et al. (2014)

Study 1. Test of screening tools in Spain

Curva ROC
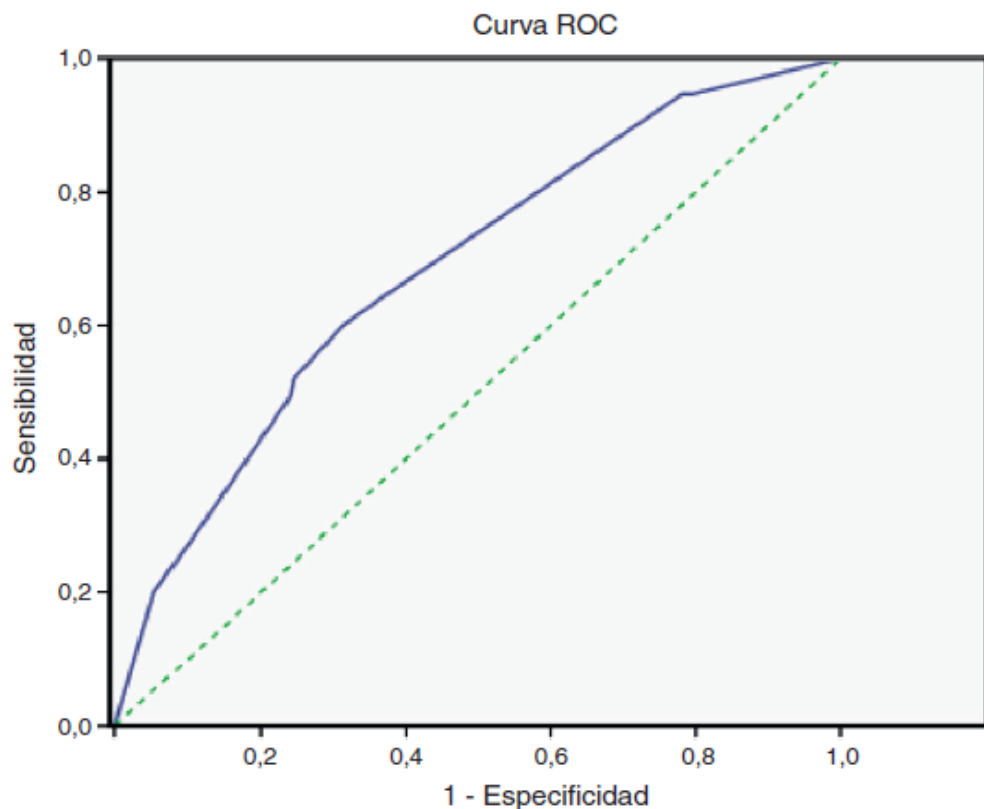
Operating characteristics of CARS	
Sensitivity	0.64
Specificity	0.64
Negative PV	0.91
Positive PV	0.24
Diagnostic efficacy	0.67
Area under the curve (AUC)	0.69

Ródenas et al. (2014)

Polibienestar
VNIVERSITAT Đ D VALÈNCIA

Study 2. Practical implementation of CARS in Spain

Methodology

▪ Pilot application of Valcronic programme on more than 6.250 patients; 2.928 elderly (+65).
▪ With chronic diseases (diabetes, COPD, heart failure, high blood pressure).
▪ From 4 Health Areas in the Valencian Region.

Provision of care and technology in accordance to a classification based on the risk of hospital readmission

CARS tool + clinical criteria

CARS tool was employed to stratify around 700,000 population into risk groups being **computationally-introduced** into SIA-Abucasis database.

Study 2. Practical implementation of CARS

	EDUCATION		TELECARE
Risk	**Equipment**	**Biomedical devices**	**Communication with the patient**
High	Tablet PC	Scales, tensiometer, pulsimeter, glucometer	Programmed visits and calls, personalized messages, alarms, etc.
Mod.	Smartphone	Scales, tensiometer, pulsimeter, glucometer	Calls, SMS, etc.
Low	Website	--	Massive campaigns (website, SMS, etc.)

Polibienestar
VNIVERSITAT Ð VALÈNCIA

Study 2. Practical implementation of CARS

Results

Currently, we are analyzing the impact of the programme in a sample of chronic patients (older adults)

Health related to Quality of Life

Satisfaction

4. Connection with European projects

# European Innovation Partnership on Active and Healthy Ageing (EIP-AHA)

Aimed to enhance European competitiveness and tackle societal challenges through research and innovation

Polibienestar
VNIVERSITAT Ð ĐĐ VALÈNCIA

Action Group B3 - Capacity building and replicability of successful integrated care systems based on innovative tools and services.

Action Group D4 - Innovation for age-friendly buildings, cities and environments.
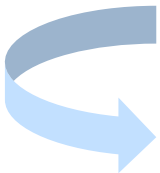
*Aimed to reduce the **unnecessary hospitalizations** of elderly people with **chronic diseases** through the **efficient** implementation of programmes of **integrated care** and **management models***

Urban Health center 2.0 (UHC2.0)

http://uhce.eu/

MAIN OBJECTIVE	FINAL OBJECTIVE	TARGET GROUP
To promote innovative and integrative health and social care pathways.	To produce and spread an innovative, transferible and easy-to-implement model for urban health care centres to promote active and healthy ageing in EU countries.	- 75+ years old people. - Independent (no institutionalized and without formal caregivers). - Without disabling diseases nor cognitive impairment.

Polibienestar
VNIVERSITAT Ð ID VALÈNCIA

Activation of Stratification Strategies and Results of interventions on frail patients of Healthcare Services (ASSEHS)

http://assehs.eu/

MAIN OBJECTIVE	FINAL OBJECTIVE	TARGET GROUP
Implementation of stratification strategies around European Union. **→ Sustainability of healthcare systems.**	**Development of a comprehensive and personalized care.**	**- Chronicity** **- Multimorbidity.** **- Frailty or risk of frailty.**

5.Policy recommendations

23

- In the Spanish Healthcare System the standardized use of tools to detect patients at high risk of hospitalization makes sense through its computerized application within health information systems and the subsequent introduction of patients in **case-management** and **monitoring programmes** in accordance with their needs.

- Potential use in **European projects**:
  - **UHC2.0** → to detect patients at risk of frailty.
  - **ASSEHS** → as one of the tools to be assessed.

- Results show the application of CARS in a Spanish context have several **limitations**:

  ➢ Development of **new tools** taking into consideration our specific context and characteristics of the Spanish healthcare system.

- Implementation in a more comprehensive **simulation tool**: **LTCMAS** (Long-Term Care Multi-Agent Systems) → computer-based simulator for integrated LTC systems for elderly people.

THANKS!

www.polibienestar.org

francisco.rodenas@uv.es
ascension.donate@uv.es
jordi.garces@uv.es