SIMPATHY
Stimulating Innovation Management of Polypharmacy and Adherence in The Elderly

Sunfrail Translational workshop
Understanding and caring for frailty and multimorbidity

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Stimulating Innovation Management of Polypharmacy and Adherence in the Elderly

Simpathy

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PROEIPAHA A3 Promoter

This presentation is part of the project 663082 / SIMPATHY which has received funding from the European Union's Health Programme (2014-2020)

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Project profile

- Funded by the *3rd Health Programme*
- PJ-04-2014 Adherence, frailty, integrated care and multi-chronic conditions
- 2 year project, started 1st June 2015
- **10 partners** from 8 EU member states

1 SCOTTISH GOVERNMENT (Coordinator)	UK
2 UPPSALA LANS LANDSTING	SE
3 FUNDACIO PRIVADA CLINIC PER A LA RECERCA BIOMEDICA ES	ES
NORTHERN HEALTH AND SOCIAL SERVICES TRUST	UK
5 MEDIZINISCHE HOCHSCHULE HANNOVER	DE
6 UNIVERSIDADE DE COIMBRA	PT
7 AZIENDA OSPEDALIERA UNIVERSITARIA FEDERICO II	IT
8 UNIVERSYTET MEDYCZYN LODZI	PL
9 UNIVERSITY OF PELOPONNESE UOP Greece 1 24	GR
10 THE ROBERT GORDON UNIVERSITY	UK

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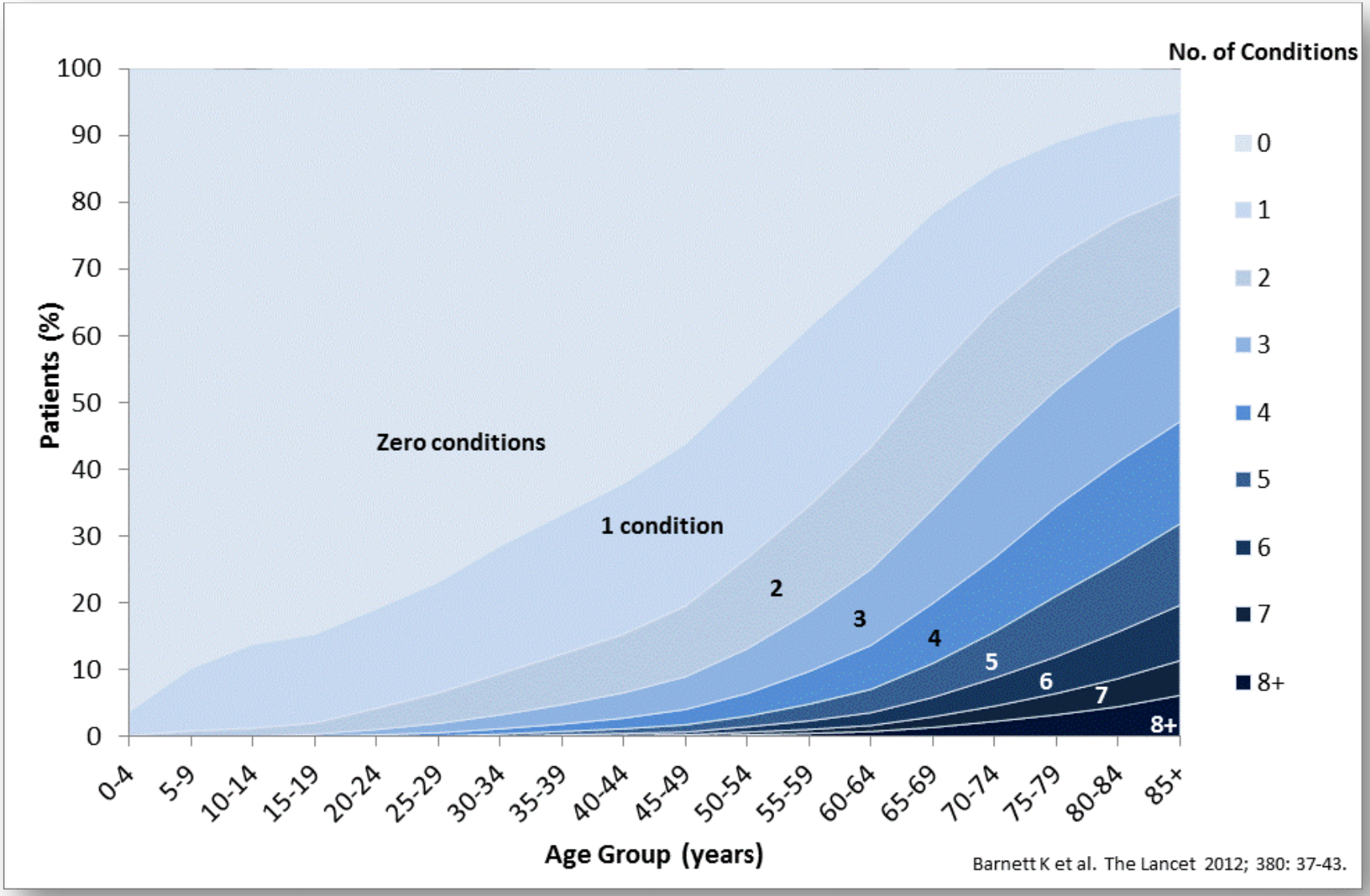
Multimorbidity is common in Europe



Barnett K et al. The Lancet 2012; 380: 37-43.

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Multimorbidity and Polypharmacy

- **Safe** and **effective pharmacotherapy** represents one of the greatest challenges in geriatric medicine
- Multiple healthcare providers **work independently** of each other and prescribe medicines
- **Polypharmacy**, the prescribing of multiple medications, is one of the most pressing prescribing challenges

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Overview

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- Four closely linked work packages
- **Case Studies**
- **Benchmarking** EU Strategies
- Policy and **Change Management**
- Knowledge Sharing

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Case Studies

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- In-depth case studies to understand **current practices** in the management of polypharmacy and adherence in the elderly.
  - Sites that showcase **different approaches** in the EU.
  - Provide insight into the present situation and the **challenges** being faced in terms of managing change.
  - Investigate **different dimensions**: regulatory, legal, economic, organizational, work force and continuous education and use of supporting technology.

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Benchmarking

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- Review of **grey and published literature** on strategies of polypharmacy and non-adherence management
- Systematic **survey** of EU stakeholders to build a complete set of information on strategies currently implemented across the Member countries
  - Categorise identified strategies according to different clinical sectors, health care settings, etc.,
  - Benchmark them against the criteria of effectiveness, cost-effectiveness, applicability and scalability

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Change Management

- **Inform** on the change management process and policies for improved outcomes from multi-disciplinary healthcare delivery
- Address **sustainability** of the EU Healthcare System
- Develop and provide useful example **models and tools** to support innovation
- Mapping of change management processes
- Model **strategic plan** for polypharmacy

Knowledge Sharing

- Establishment of SIMPATHY knowledge sharing **portal** structure easing access to information and tools by stakeholders

www.simpathy.eu

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Our Vision

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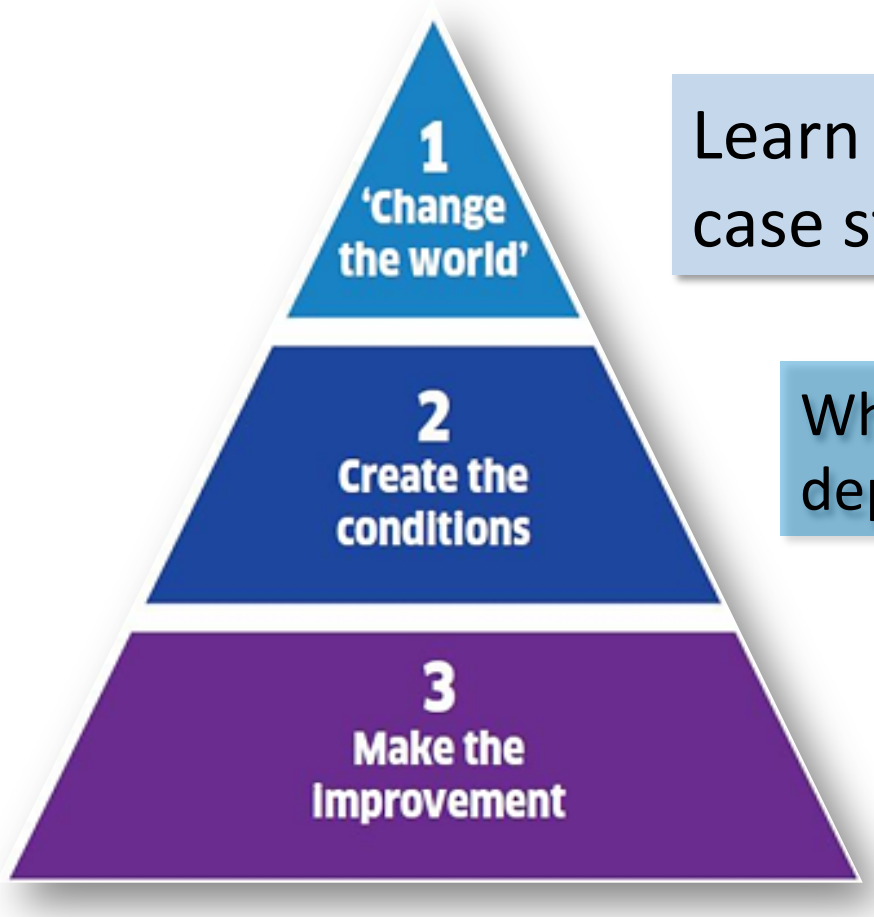

Learn lessons from sites using case studies

What is needed across EU to deploy?

Deploy idea across EU

3-Step Improvement Framework
to unlock and channel the *collective knowledge* and energy towards a common goal of real and lasting *improvement across our public services*.

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Campania Region case study: Preliminary Results

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The absence of key policies and procedures in Italy focusing on polytherapy management in older adults.

There is general agreement among key informant interviewers that a shared, multi-step approach is needed to achieve the best-tailored pharmacotherapy for each patient

- **identification of patients at risk for drug-related problems**
- **medication review overtime and use of inappropriateness criteria (supported by computerized systems)**
- **a comprehensive geriatric assessment**

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Comorbidities in Campania
Community dwelling PREFRAIL OLDER ADULTS

PERSSILAA
SEVENTH FRAMEWORK PROGRAMME
Project Number: 610359

Subjects with polimorbidity 75 %

Subjects with one disease 25 %

In treatment with > 4 drugs: 25,5 %

In treatment with 0-4 drugs: 67 %

No treatment: 7,5 %

Predominant Clustering

- **Obesity-Diabetes mellitus- hypertension-dyslipidemia**

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Polypharmacy and Vulnerability

A **retrospective cross-sectional study** by using electronic geriatric forms. This data source was matched, by record-linkage analysis to outpatient pharmacy records and the civil registry in order to collect pharmaceutical information and demographic information.

Variables	Robust (0-4 score)	Vulnerable (5-9 score)	Very vulnerable (10-15 score)	Total	*p*
	N (%)	N (%)	N (%)	N (%)	
	71,895 (80.9)	**14,451 (16.3)**	**2,532 (2.8)**	**88,878 (100.0)**	
Gender					**<0,001**
Male	39,249(54.6)	9,304 (64.4)	1,758 (69.4)	50,311 (56.6)	
Female	32,646 (45.4)	5,147 (35.6)	774 (30.6)	38,567 (43.4)	
Age					**<0,001**
65-74 years	43,528 (60.5)	3,855 (26.7)	358 (14.1)	47,741 (53.7)	
75-84 years	23,423 (32.6)	6,343 (43.9)	1,011 (39.9)	30,777 (34.6)	
≥85 years	4,944 (6.9)	4,253 (29.4)	1,163 (45.9)	10,360 (11.7)	
Number of drugs					**<0,001**
Non polypharmacy (0-4)	25,453 (35.4)	2,945 (20.4)	577 (22.8)	28,975 (32.6)	
Polypharmacy (5-9)	31,949 (44.4)	6,281 (43.5)	1,043 (41.2)	39,273 (44.2)	
Excessive polypharmacy (≥10)	14,493 (20.2)	5,225 (36.2)	912 (36.0)	20,630 (23.2)	
Cardiovascular disease	54,315 (75.5)	12,593 (87.1)	1,997 (78,9)	68,905 (77.5)	**<0,001**
Respiratory disease	7,802 (10.9)	6,829 (47.3)	2,114 (83.5)	16,745 (18.8)	**<0,001**
Cerebro-vascular disease	13,210 (18.4)	4,885 (33.8)	819 (32.3)	18,914 (21.3)	**<0,001**
Mental desease	2,348 (3.3)	1,716 (11.9)	895 (35.3)	4,959 (5.6)	**<0,001**
Metabolic disease	24,575 (34.2)	6,625 (45.8)	1,013 (40.0)	32,213 (36.2)	**<0,001**
Chronic renal failure	2,073 (2.9)	1,401 (9.7)	283 (11.2)	3,757 (4.2)	**<0,001**
Liver failure	2,183 (3.0)	571 (4.0)	97 (3.8)	2,851 (3.2)	**<0,001**

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Polypharmacy and Vulnerability

This study showed that polypharmacy status was very frequent in our population:

- **about 44% of elderly patients received between 5 and 9 drugs - POLIPHARMACY**
- **23.2% took more than 10 drugs - EXCESSIVE POLIPHARMACY**
- **Our data (5-9 drugs) are in line with findings from Italian National Agency (AIFA).**
- **Our findings are clinically relevant, as polypharmacy is associated with a higher risk of poor health outcomes.**
- **In particular, the excessive polypharmacy is associated with increased vulnerability in elderly persons.**

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Focus Group: FRIENDD pilot

Federico II University Hospital & Federico II University - CIRFF

DIPARTIMENTO	UNITA'	REFERENTE
Neuroscienze cliniche, anestesiologia e farmacoutilizzazione	Clinical pharmacology and toxicology	Mauro Cataldi
Neuroscienze cliniche, anestesiologia e farmacoutilizzazione	Pharmacosurveillance and Pharmacogenomics	Gianfranco Di Renzo
Medicina clinica e chirurgia	Reumatology	Raffaele Scarpa
Medicina clinica e chirurgia	Geriatric Medicine	Alfredo Postiglione
Gastroenterologia, endocrinologia e chirurgia	Endocrinology	Rosario Pivonello
Scienze mediche e traslazionali	Geriatric Medicine	Nicola Ferrara
Scienze mediche e traslazionali	Internal Medicine & Nursing School	Carlo Vigorito
Farmacia	CIRFF	Enrica Menditto

Goal and primary objective

- Set-up and test a model for systematic review of prescription regimens in politherapy patients

Secondary objectives

- Improve prescription appropriateness;
- Reduce side effects and drug interactions
- Improve prescription adherence in politherapy patients

Tools

Joint review of politherapy regimens by a multidisciplinary team

User-friendly ICT tools

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