

APPCARE  
APPROPRIATE CARE PATHWAY

## APPCARE PROJECT FINAL EVENT

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# APPCARE deployment: VALENCIA results and findings

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# The APPCARE project - Valencia pilot site

## Objective

APPCARE project aims at implementing a proactive and comprehensive model to promote health and integrated care for frail older adults (+75 years) with complex and co-morbid clinical situations.

## Specific Objectives

- Provide a geriatric assessment of +75 patients health conditions.
- Facilitate the hospital care pathways for +75 patients in order to reduce the use of healthcare resources.
- Set up of programs for detection of cognitive impairment and social care needs.
- Establish geriatric-oriented coordinated care pathways.



# APPCARE Model – Valencia pilot site

## Hospital care

Patients +75 years coming from E.R. or admittance area

**ASSESSMENT:** Comorbidity, Functional Status, Risk of pressure ulcer, Dementia, Discharge Planning



FURTHER ASSESSMENT AND INTERVENTION  
Up to one week after hospital discharge



## Continuity of care

**ASSESSMENT/FOLLOW-UP:** Functional Status, Risk of pressure ulcer, Dementia + Frailty, Disability, Physical performance, Risk of falling, Polypharmacy, Health-related QoL, Loneliness and Living conditions

**INTERVENTION:** 3 months

**FOLLOW-UP:** Post-intervention



# Hospital care



**WHERE:** Valencia,  
**Hospital Universitario y  
Politécnico LA FE**

## ASSESSMENT OF MEDICAL VARIABLES:

### *Comprehensive Geriatric Assessment*

<i>Medical variables</i>	<i>Measures</i>
Comorbidity	CIRS
Functional Status	Barthel Index
Risk of pressure ulcer	Braden Scale
Dementia	SPMSQ
Discharge Planning	Brass Index
Diagnosis	ICD9
Indication on where the patient is addressed	

**INCLUSION CRITERIA:** Patients +75 coming from E.R. or admittance area, with NO severe cognitive impairment and NO living in residential care facilities.

# Continuity of care

Up to two weeks after hospital discharge further assessments will be conducted to **all participants at their homes**

## CONTINUITY OF CARE ASSESSMENT:

Hospital care  
assessment: →  
Follow-up

VARIABLES	MEASURES
<b>Risk of pressure ulcer</b>	Braden Scale
<b>Dementia</b>	SPMSQ
<b>Functional Status</b>	Barthel Index
<b>Received care</b>	Questions e.g. <i>Due to your health, did you receive help in household work in the past 12 months?</i>
<b>Frailty</b>	Tilburg Frailty Index
<b>Disability</b>	Groningen Activity Restriction Scale (GARS)
<b>Risk of falling</b>	Falls Self-efficacy Scale (FES-I) Questions: Did you fall in the past 12 months?/ Are you afraid of falling?
<b>Polypharmacy</b>	Medication Risk Questionnaire (MRQ-10)
<b>Health-related QoL</b>	SF-12v2 Health Survey
<b>Emotional distress</b>	BSI-18
<b>Loneliness</b>	Jong Giervel (6 item)
<b>Perceived social support</b>	Cuestionario de Apoyo Social Comunitario Percibido
<b>Living conditions</b>	Living Standards Capabilities for Elders (LSCAPE)



## PARTICIPANTS INCLUDED IN THE STUDY

	COMPLETE ASSESSMENT		FOLLOW-UP
	Participants HOSPITAL CARE phase (Comprehensive Geriatric Assessment)	Participants CONTINUITY OF CARE (Home visit)	Participants 3 months follow up
N	223	151	95

(49.3%  
experimental  
mortality)

**LOSS TO FOLLOW-UP (continuity of care): N=69**

- n= 30 Exitus
- n= 28 Withdrew from the research
- n= 11 Unreachable
- n= 3 still to be assessed (home visit)

**LOSS TO FOLLOW-UP (3 months): N=41**

- n= 14 Exitus
- n= 22 Withdrew from the research
- n= 5 Unreachable
- n= 14 still to be assessed



APPCARE  
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**APPCARE – VALENCIA pilot site**

**INTERVENTION**



# Continuity of care

Based on the Hospital care + Continuity of care assessment participants will be referred to care interventions according to their needs

## INTERVENTION

Total duration of 3 months

**MEDICAL PATHWAY** (*treatment as usual*)

**COGNITIVE STIMULATION  
PATHWAY**

**SOCIAL CARE PATHWAY**





# Intervention

## COGNITIVE STIMULATION PATHWAY

Inclusion criteria: Participants assessed as suffering **mild** (3-4 errors in SPMSQ) /**moderate** (5-7 errors in SPMSQ) **cognitive impairment**

Aim: To enhance participants' memory and cognitive function through **attention and memory training**. A specific workbook have been designed including different types exercise (brain games, mandala coloring, etc.)

Professional in charge: Psychologist

Duration: 3 months

Extra measures: Mini mental State Examination (MMSE)

# Intervention

## SOCIAL CARE PATHWAY

Inclusion criteria: Participants assessed with **low perception of social support and loneliness**

Aim: To improve participants' social needs and loneliness feelings through:

- **SOCIAL PARTICIPATION PROGRAM:** Individual home visits where social participation will be enhanced through a **motivational approach** (Prochaska and DiClemente, 1984). An initial motivational interview with the participant in which a **change plan** was negotiated following these steps:
  - Setting Goals
  - Considering Change Options
  - Arriving at a Plan
  - Commitment to the Plan

Professional in charge: Social worker; Duration: 3 months

# APPCARE – VALENCIA pilot site

## RESULTS

# Intervention Results

## Study design

- Prospective longitudinal study.
- Quasi-experimental design: pretest-posttest non-equivalent control group.

## Study sample

- 223  $\geq$  75 years participants were included in the study
- 151 completed the hospital assessment T0a + continuity of care assessment T0b.
- 88 were referred to the care pathways.
- 52 followed the care pathways.

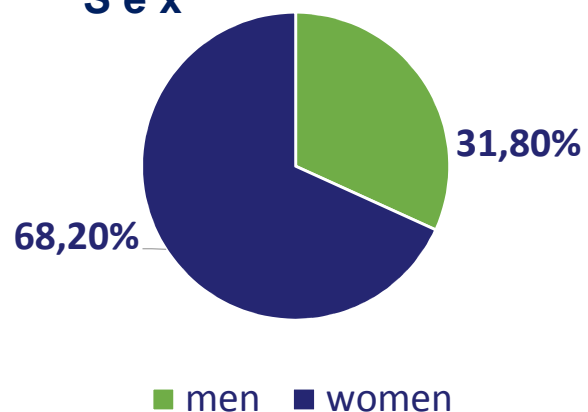
## Data collection

- Hospital (T0a  $\rightarrow$  only the medical variables).
- Participants' home (T0a and T1  $\rightarrow$  medical variables + extra variables).
- Baseline and after 3 months (final evaluation).

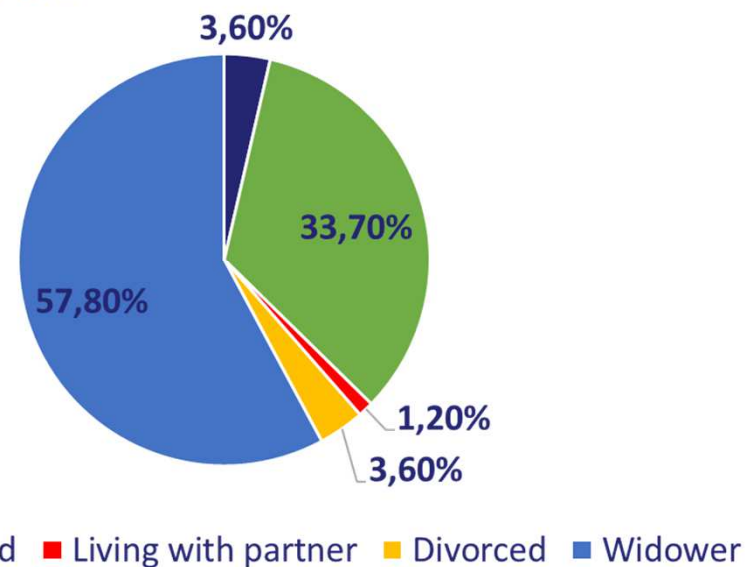
# Intervention Results

## Participants' demographic and socioeconomic profile (n=52)

Sex



Marital Status

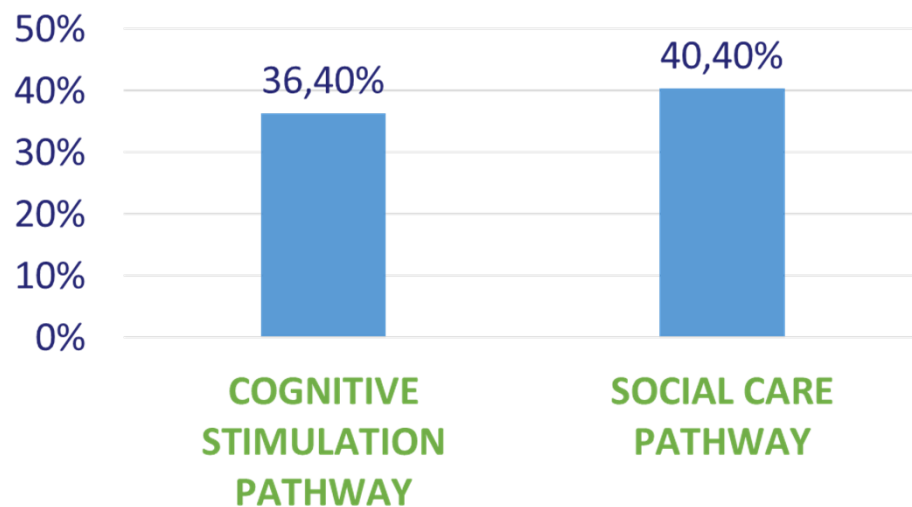


Average age → 84,34



# Intervention Results

Participants meeting  
the inclusion criteria



	Participants who followed the intervention (3 months)
COGNITIVE STIMULATION PATHWAY	22
SOCIAL CARE PATHWAY	23
BOTH	7

# Intervention Results

## Cognitive function → SPMSQ

	PRE Mean ± SD	POST Mean ± SD	Pre-Post difference
COGNITIVE STIMULATION PATHWAY	4,00 ± 1,19	2,88 ± 1,55	$p=,170$
BOTH PATHWAYS	4,86 ± 1,95	3,86 ± 2,54	$p=,134$
			<i>*Student's t-test</i>

## Loneliness → De Jong Gierveld Loneliness Scale

	PRE Mean ± SD	POST Mean ± SD	Pre-Post difference
SOCIAL SUPPORT PATHWAY	2,80 ± 1,73	1,50 ± 0,94	$p=,013$
BOTH PATHWAYS	2,57 ± 1,61	3,00 ± 1,82	$p=,675$
			<i>*Student's t-test</i>



# Intervention Results

## USE OF HEALTHCARE RESOURCES

	PRE Mean ± SD	POST Mean ± SD	Pre-Post difference
<b>N doctor visits</b>	11,5 ± 2,37	3,07 ± 3,24	<i>p</i> = ,000
<b>N ER visits</b>	5,89 ± 7,18	2,16 ± 2,12	<i>p</i> = ,000
			<i>*Student's t-test</i>
	PRE N	POST N	Pre-Post difference
<b>N participants hospitalised</b>	22	12	<i>p</i> = ,000
			<i>*McNemar test</i>



**A novel proactive and comprehensive model including social and psychological care pathways showed to be effective for older adults suffering from moderate and mild cognitive impairment and/or loneliness.**





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**Thank you for your attention**