The GCCM Home Assessment Program: survival analysis of time to institutionalization of an elderly population followed since 2006 in Monaco.

A. Morisot[2], P. Migliasso[1], P. Porasso[1], S. Hesse[2], S. Louchart de la Chapelle[2] A. Pesce[1,2]
apesce@chpg.mc

[1]Gerontologic Coordination Center of Monaco, Monaco
[2]Princess Grace Hospital, Monaco

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CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report.

CONTEXT

- Monaco census 2016: 37 308 residents including 12 433 of more than 60 years old.

- Since 2006, the Gerontologic Coordination Center of Monaco (GCCM) takes care of disable elderly living at home.

- A Comprehensive Geriatric Assessment (CGA) is performed at home, annualy or in case of disability progression, as long as elderly live safety at home.

- The GCCM sets up a personalized assistance plan.

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OBJECTIVES

- Description of the role of the GCCM

- Description of the population followed since 2006

- Estimate the time to institutionalization with a Kaplan-Meier analysis

- Investigate predictive factors of institutionalization with a Cox model

MATERIAL AND METHODS

- **Retrospective, monocentric study**
- Descriptive analysis, Kaplan-Meier analysis and Cox model

- Start of GCCM activity : September 2006
- Endpoint date: August 15, 2017

- The GCCM performs a CGA at home, including:
  - Groupe Iso-Ressources (GIR) calculation
  - Minimental Test Examination (MMS-E) calculation
  - Instrumental Activity of Daily Living (IADL) score
  - Mini Nutritional Assessment (MNA) calculation
  - Unipodal support
  - Four meter walk
  - Frailty score

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GIR : BODILY AND MENTAL ACTIVITIES

- Communicate verbally and / or non-verbally, act and behave logically and sensibly in relation to the standards accepted by society
- To find oneself in space and time,
- To make her toilet,
- Dressing, undressing,
- To serve and eat,
- Ensure the hygiene of the urinary and fecal elimination,
- To rise, to lie, to sit, to pass from one of these 3 positions to another,
- Moving inside the place of life,
- Moving outside the place of life,
- Use a means of remote communication (telephone, alarm, bell, etc.) in order to alert in case of need.

DOMESTIC AND SOCIAL ACTIVITIES

- Manage its affairs, budget and assets, recognize the monetary value of coins and notes, use money and know the value of things, complete administrative procedures, complete forms,

- Prepare meals and pack them so they can be served,

- Performs all routine housework,

- Voluntary use of a means of collective or individual transport,

- Buy voluntarily property,

- Respect the prescription of the doctor and manage his own treatment,

- Voluntarily, alone or in a group, various recreational activities.

MATERIAL AND METHODS

- A personalized assistance plan is proposed using an inter-professional approach:
  - o Nurse at home
  - o Other health carers (AVS, AS…)
  - o Home maid
  - o Meals at home
  - o Alarm at home in case of emergency
  - o Easy access to the memory centre
  - o Daily care center

- Transmission and sharing of results and of care plan with other members of the network

MATERIAL AND METHODS

- People working at the GCCM are:
    - 1 administrative director
    - 1 medical doctor (geriatrist)
    - 2 Nurses
    - 3 Social workers
    - 1 Psychologist
    - 1 Secretary

MATERIAL AND METHODS

- The GCCM has numerous missions:
  - Phone reception of people questions
  - Advice and orientation
  - Assessment at home
  - Implement and follow up of help plan
  - Quality assessment
  - Data collection and sharing
  - Public health

- This study focuses on only two variables : GIR and MMS-E.

- GIR score is a french score for mesuring disability:
  - from 1 (very disable)
  - to 6 (autonomous).

- The MMS-E assesses cognitive impairment from 0 to 30

RESULTS

- **2198 patients** were seen and recorded by the GCCM since september 2006

- 166 were removed from the study because they were seen only once
    - 141 were seen for the first time, the year before the endpoint date of the study;
    - 25 were not followed.

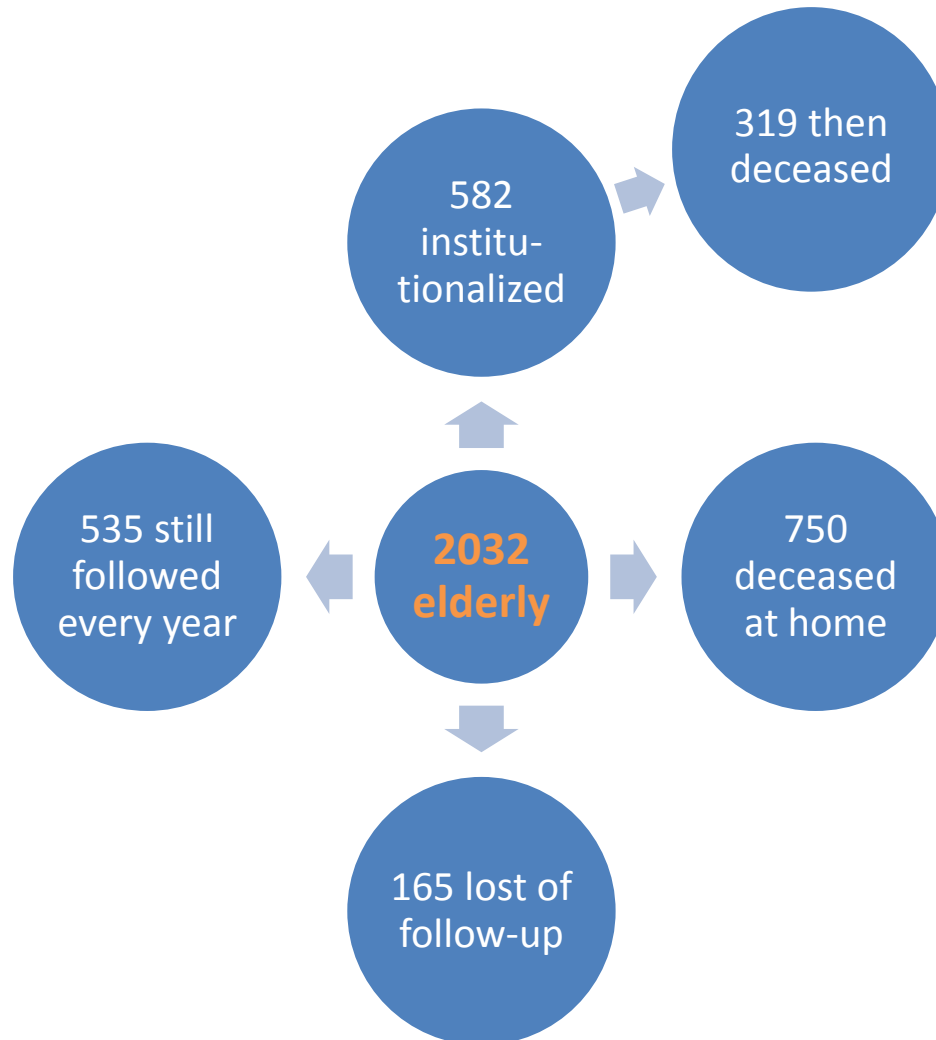- >>> **2032** patients are included in this report.

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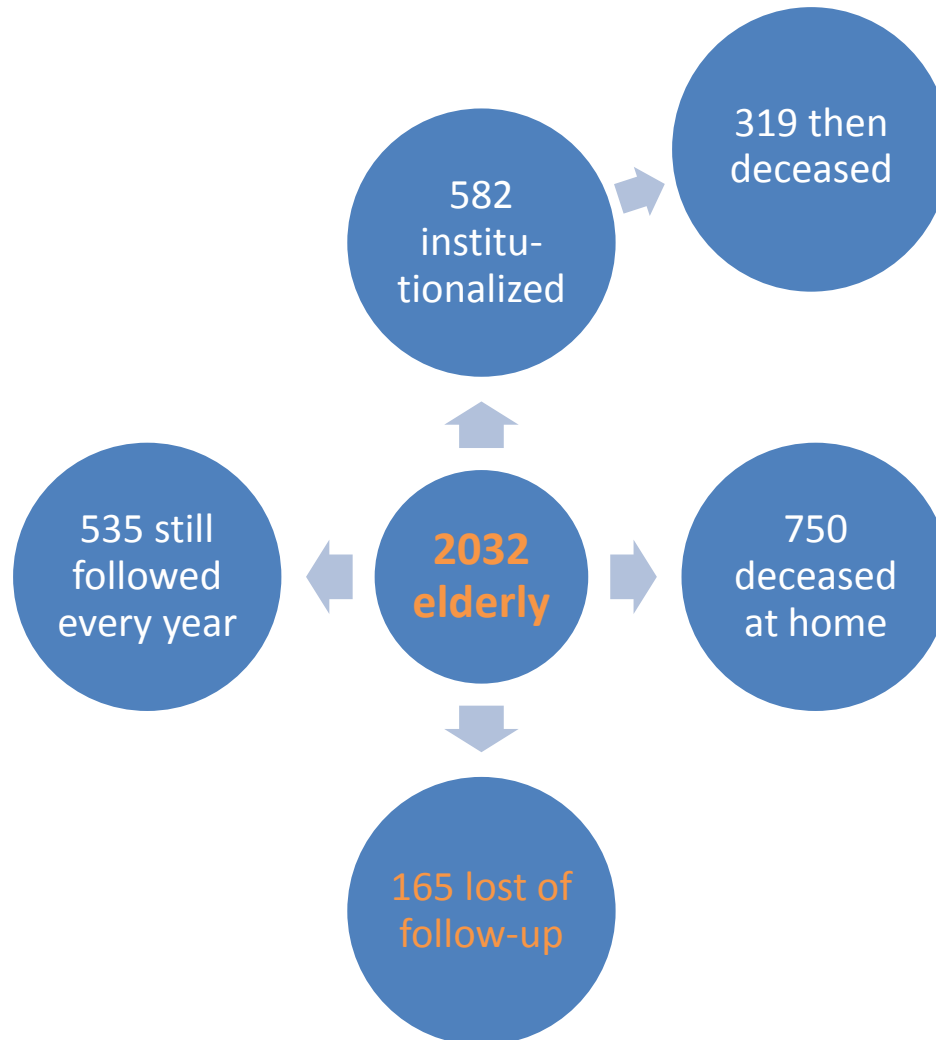- >>> **2032** patients are included in this report.

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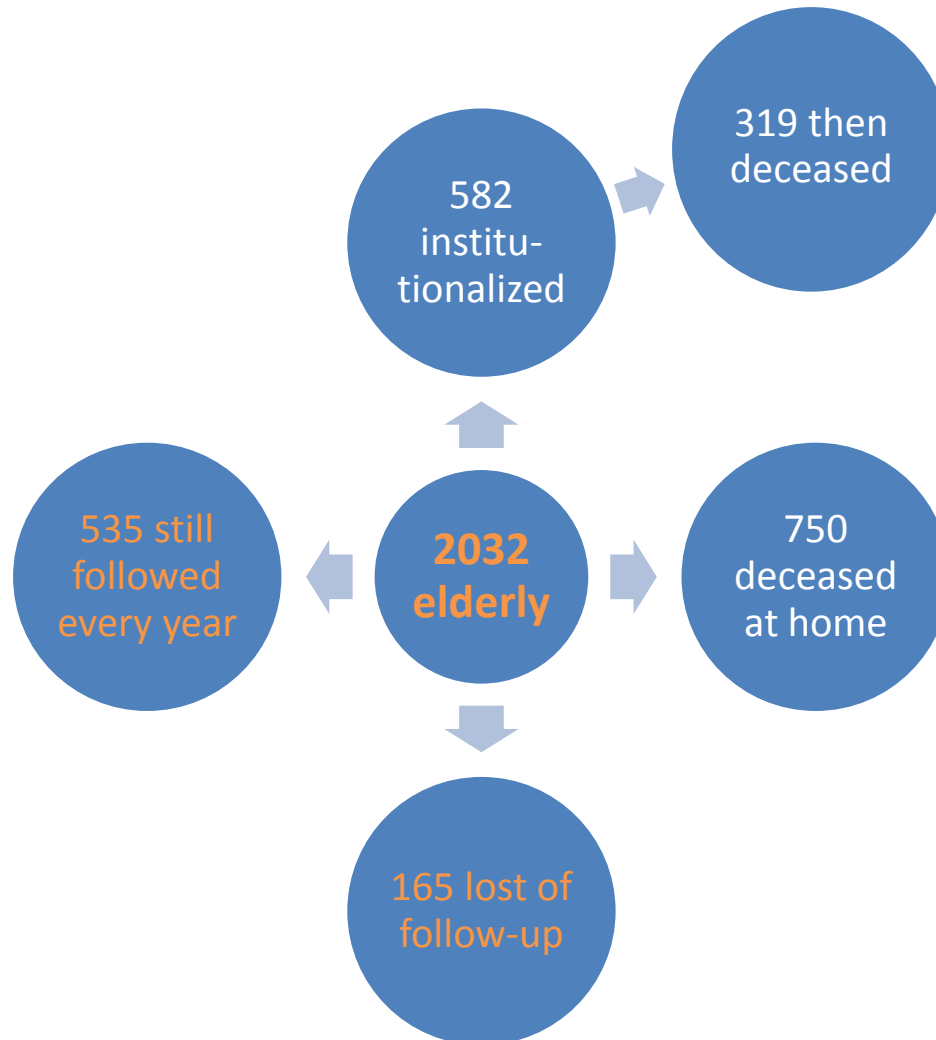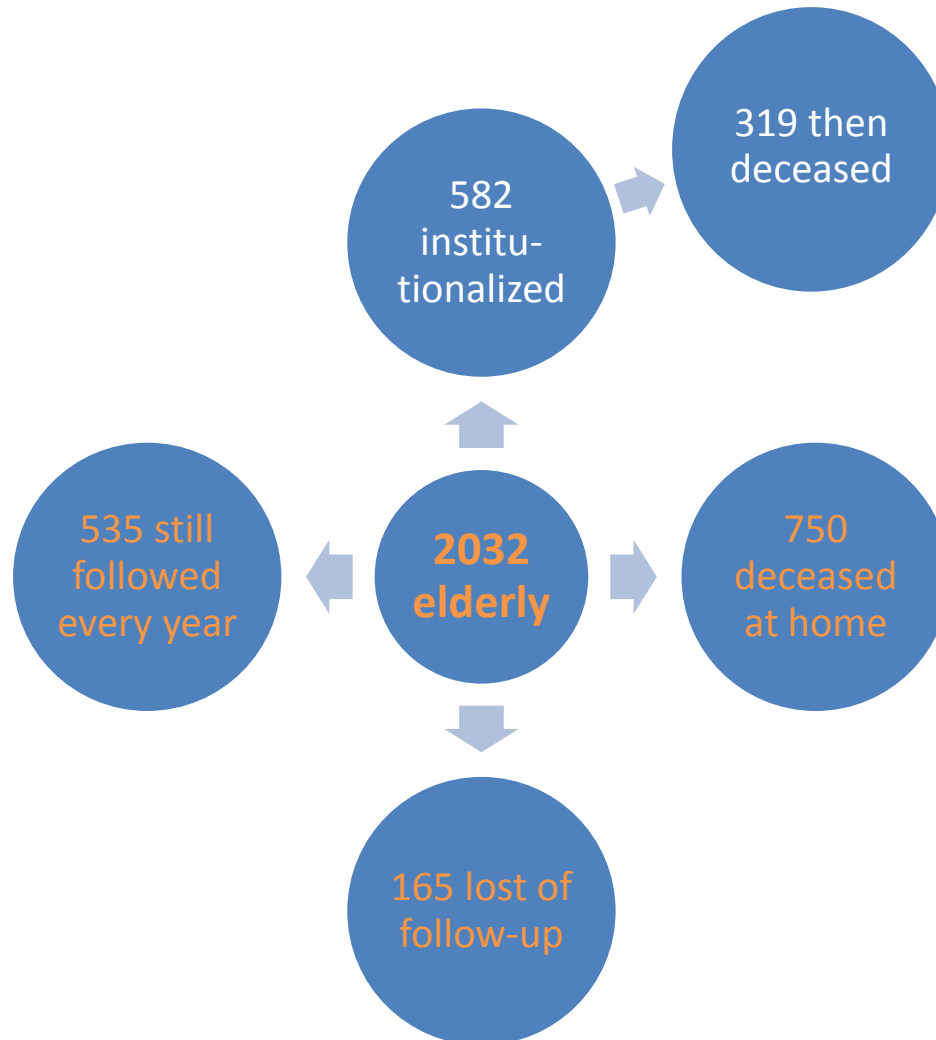
RESULTS

SOME NUMBERS

	Men n=692	Women n=1340	Total n=2032
Age at first CGA	82.6 [51.6-100.7]	83.6 [40.1-105.1]	83.2 [40.1-105.1]
GIR at first CGA : 1 to 4 5 to 6	520 (68%) 172 (32%)	912 (75%) 428 (25%)	1432 (70%) 600 (30%)

MMS-E at first CGA : 1 to 19
                20 to 24
                25 to 30
                ND
	134 (21%)
	167 (26%)
	299 (45%)
	92 (8%)
		279 (20%)
		350 (24%)
		604 (43%)
		107 (13%)
			413 (20%)
			517 (26%)
			903 (44%)
			199 (10%)

Total number of CGA	2.8 [1-10]	3.4 [1-12]	3.2 [1-12]
Age at institutionalization	86.6 [64.5-101.5]	89.1 [59.6-105.6]	88.3 [59.6-105.6]

Numbers and percentages for categorical variables
Means, min and max for continuous variables

➢ **1019 persons had 3 or more CGA**
➢ **6497 CGA since 2006**

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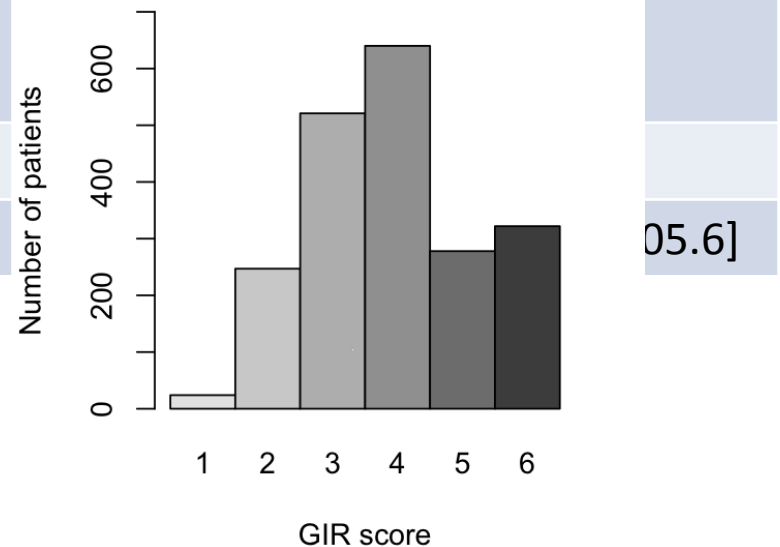|	Men n=692	Women n=1340	Total n=2032
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KAPLAN-MEIER ANALYSIS

- Endpoint date : August 15, 2017

- Time of observation is defined as the time from the first GCA until :
  - Institutionalization
  - Death
  - Date of last news or GCA
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- Event if interest is the institutionalization

- Mean time of observation : 2.8 years
- Median time of observation : 2.09
- Maximum time of observation : 10.8 years

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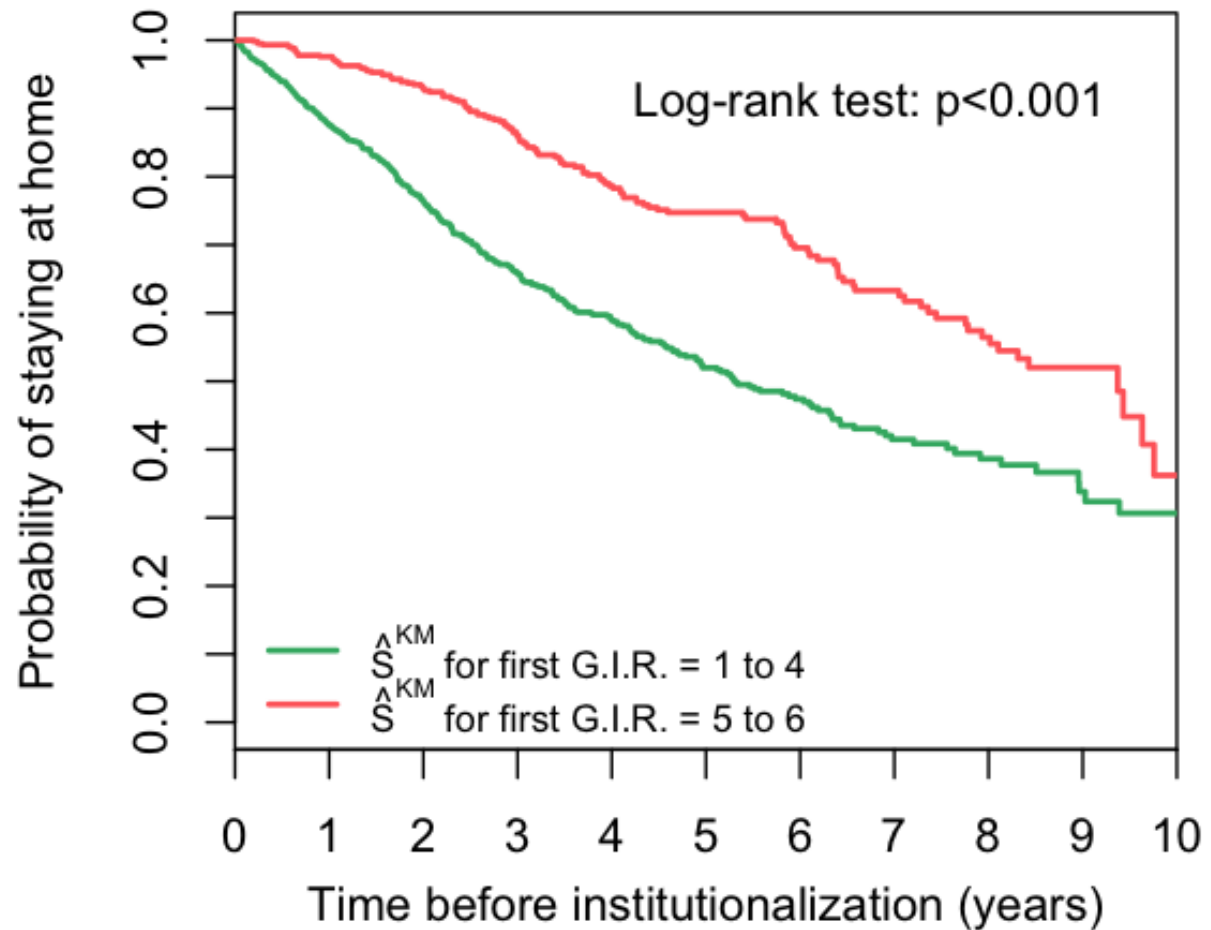
Time to institutionalization according to the sex
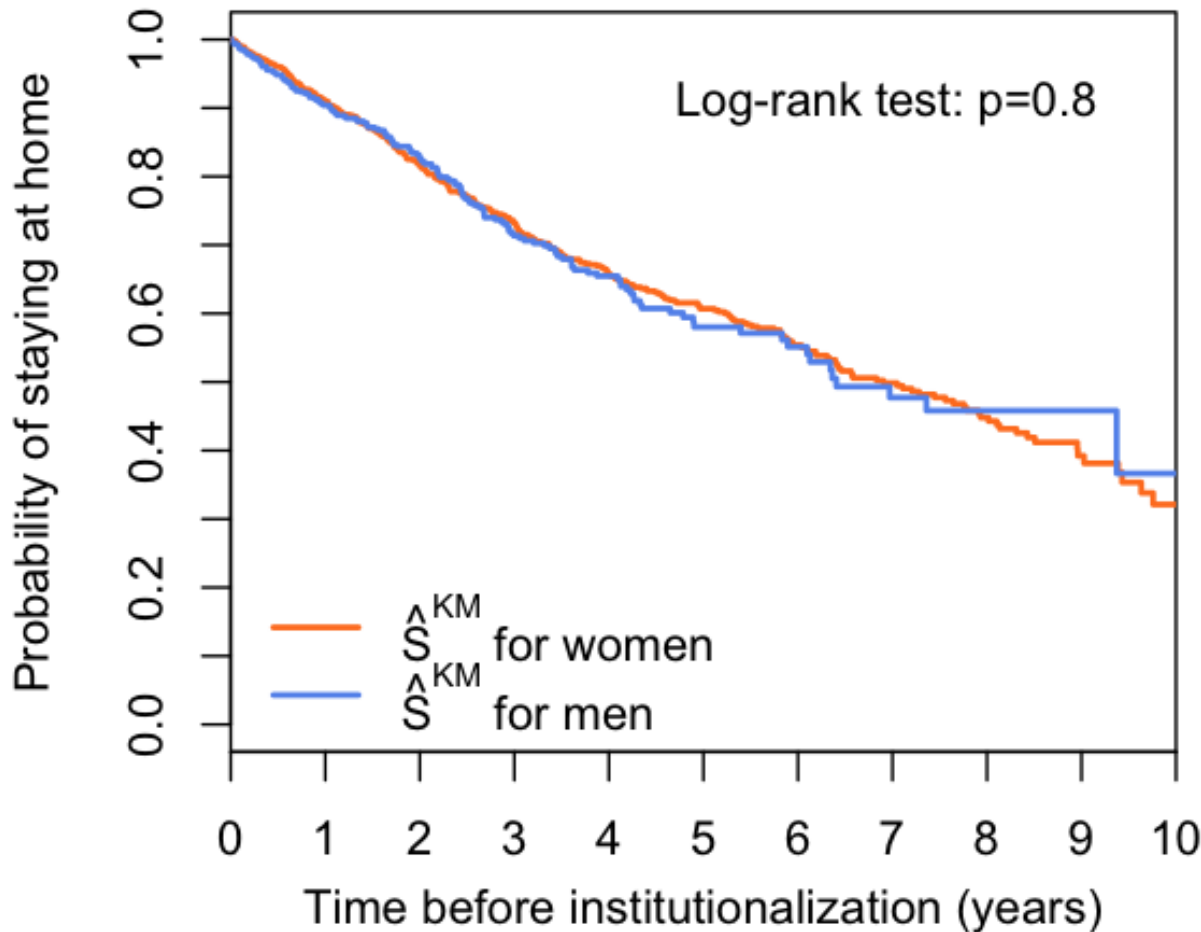
- 2 years after the first CGA:
  - 82% of men
  - 82% of women are still at home

Time to institutionalization according to the GIR

- 2 years after the first CGA:
  - 76% of 1-4
  - 93% of 5-6 are still at home

Time to institutionalization according to the MMS-E
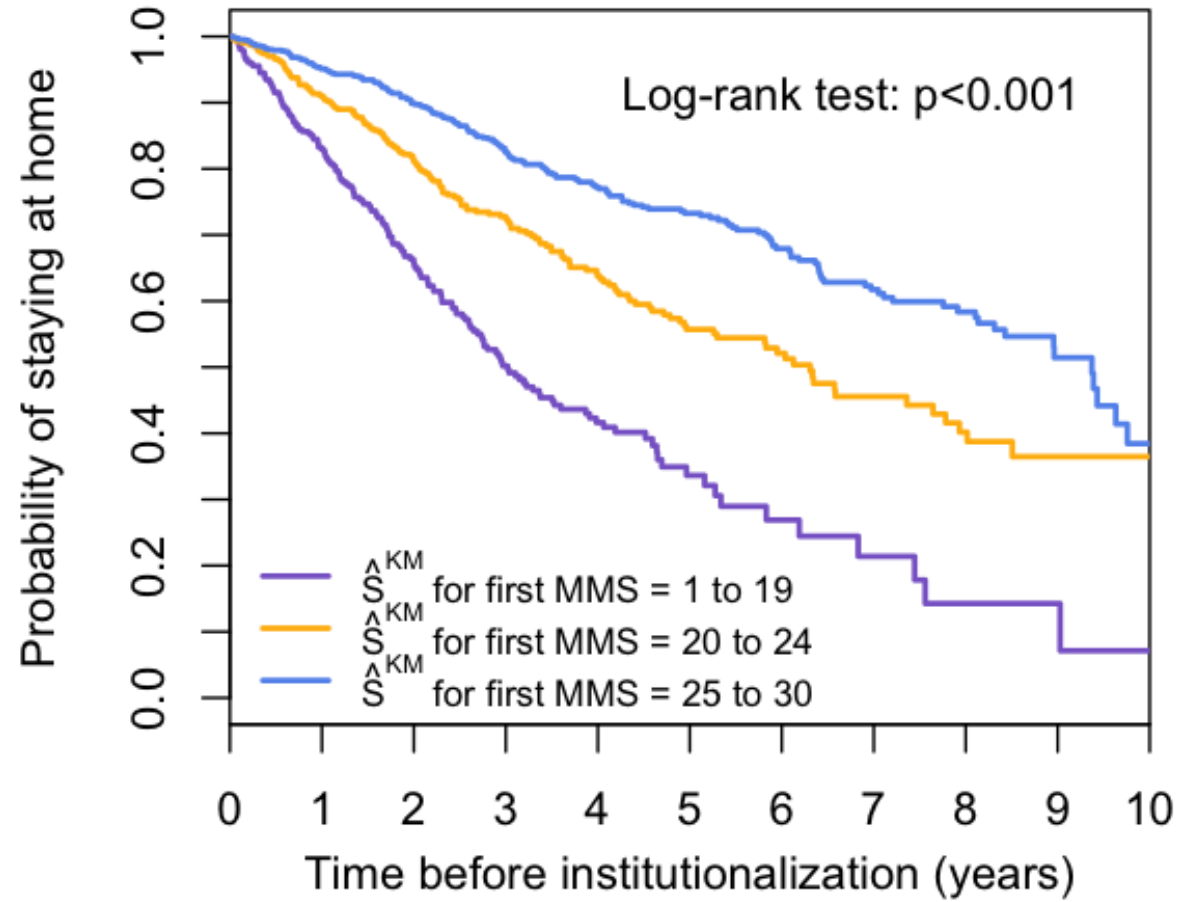
- 2 years after the first CGA:
  - 66% of 1-19
  - 81% of 20-24
  - 90% of 25-30 are still at home

MULTIVARIATE COX MODEL

	Hazard Ratio	P-value
Age at first CGA (per unit)	1.03	<0.001
GIR at first CGA : 5-6 1-4	Ref 1.66	 <0.001
MMS-E at first CGA : 25-30 20-24 0-19	Ref 1.5 2.74	 <0.001 <0.001

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- 2032 patients followed at home every year until their death or institutionalization.

- Repeated practice of CGA by a medical doctor and nurses at home.

- *Establishing of coordination*, which keeps elderly at home as long as possible.

- Our study confirms some well-known predictors of institutionalization : age, disability and presence of cognitive impairment.

- These are our first results : more to come with all scores performed during the CGA:
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