

Les 26<sup>e</sup> Entretiens du  
Centre Jacques Cartier

# Les Aînés et la Sécurité routière

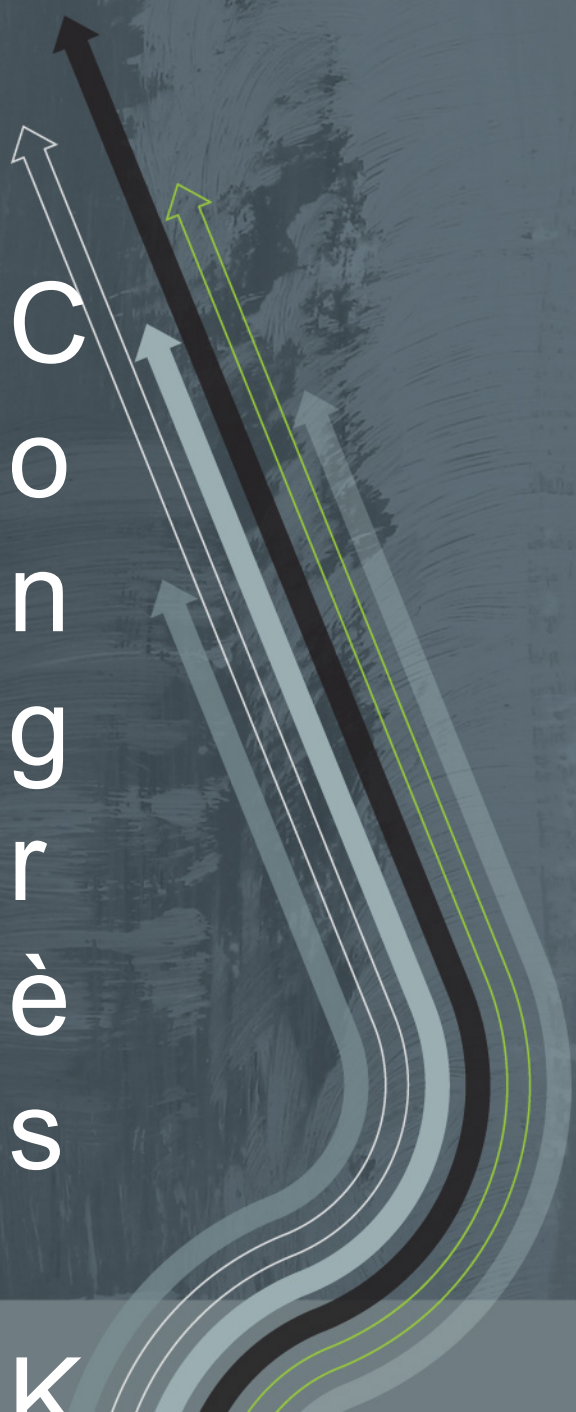
LYON 26 et 27 novembre 2013

Partenaires de l'événement



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Introduction par le Pr Berndt Marin:

"Arrêtons le mythe des seniors dangereux au volant !  
Ils meurent car ils sont fragiles surtout après 75 ans,  
mais ils blessent ou tuent moins que les autres.  
Attention à la façon d'utiliser les statistiques, pour  
essayer de prouver que seniors sont dangereux".



# DECLINING OLDER VEHICLE OCCUPANT FATALITIES IN CANADA AND THE UNITED STATES: POLICY IMPLICATIONS

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Sacha Dubois, MPH<sup>1,2</sup>

*<sup>1</sup>Centre for Research on Safe Driving, Lakehead University, Thunder Bay, Canada*

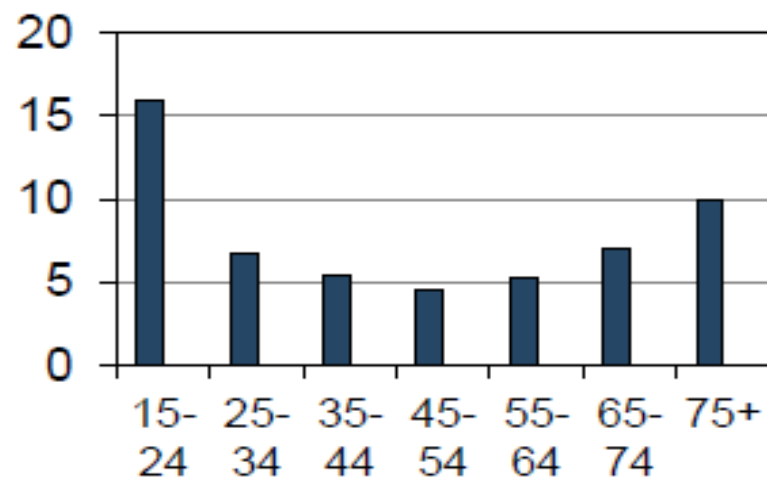
*<sup>2</sup>St. Joseph's Care Group, Thunder Bay, Canada*



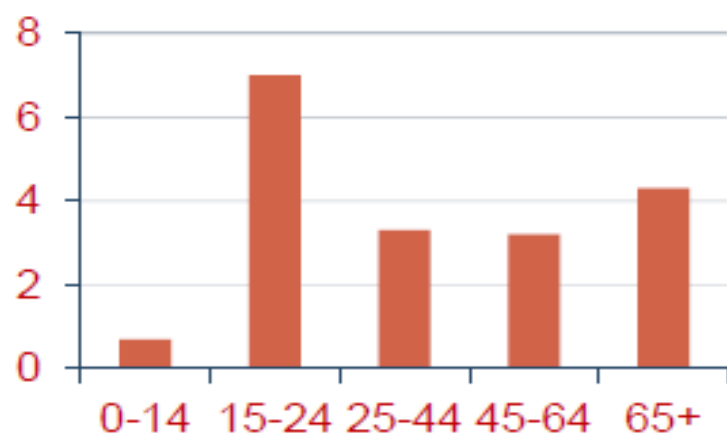


## Senior drivers are under increased scrutiny in most countries

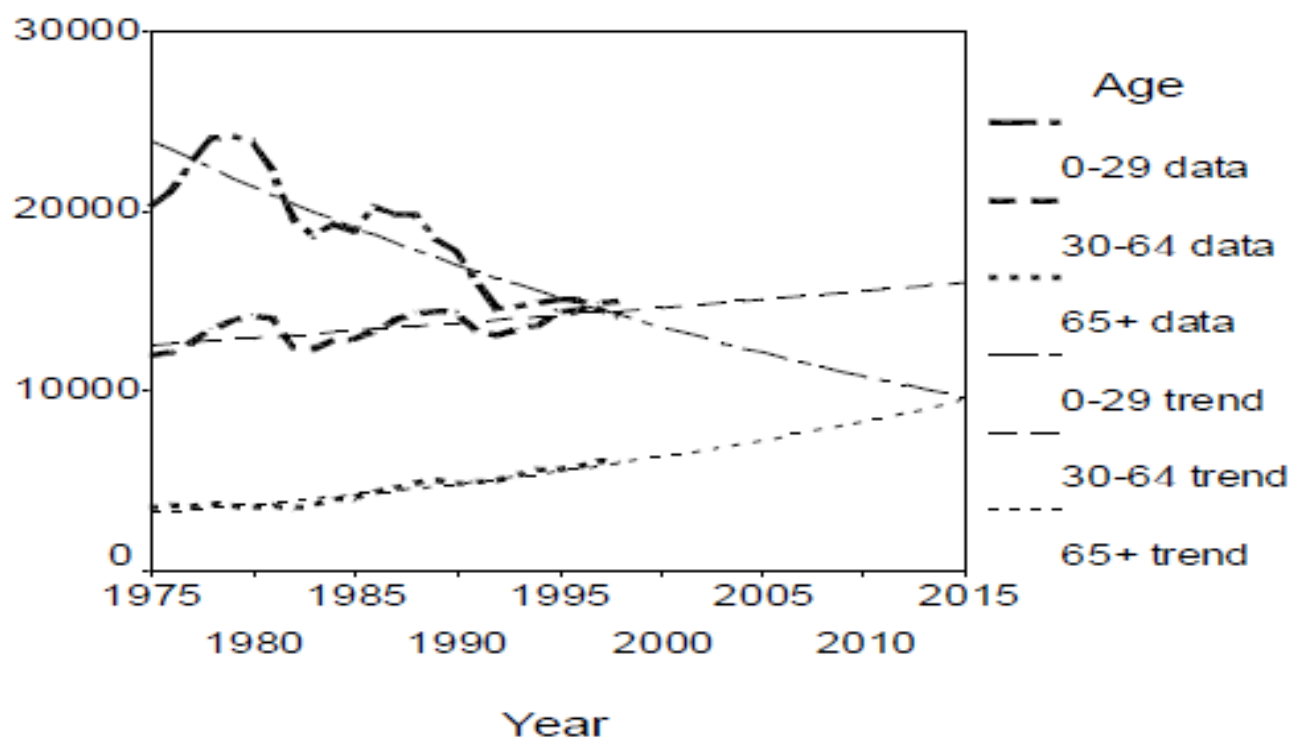
Crash rate (per 1,600,000 kilometers; Alabama, 1996)



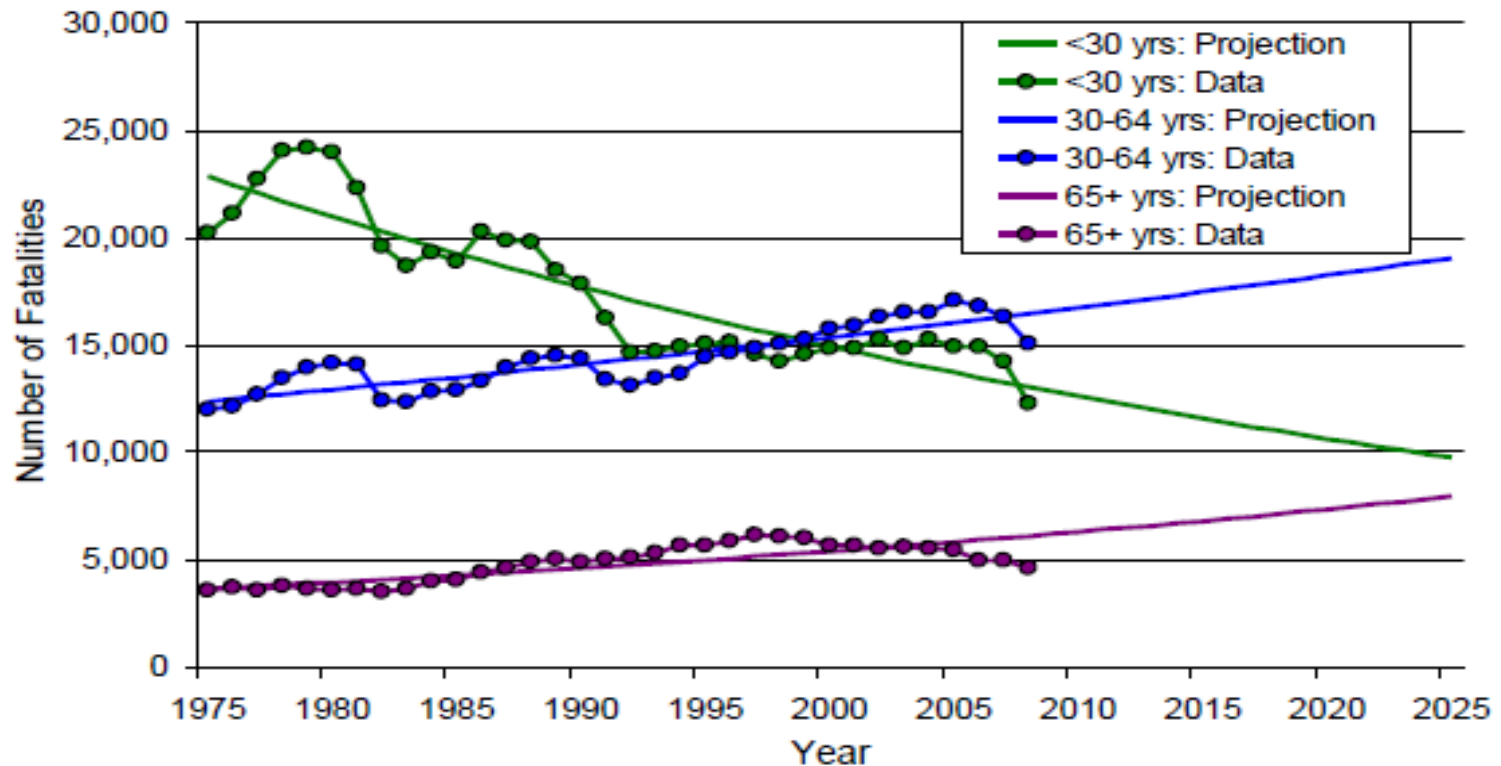
Deaths per 100,000 population (Canada; Ramage-Morin, 2008)



# Should we be concerned about senior vehicle occupants? - The 2001 answer

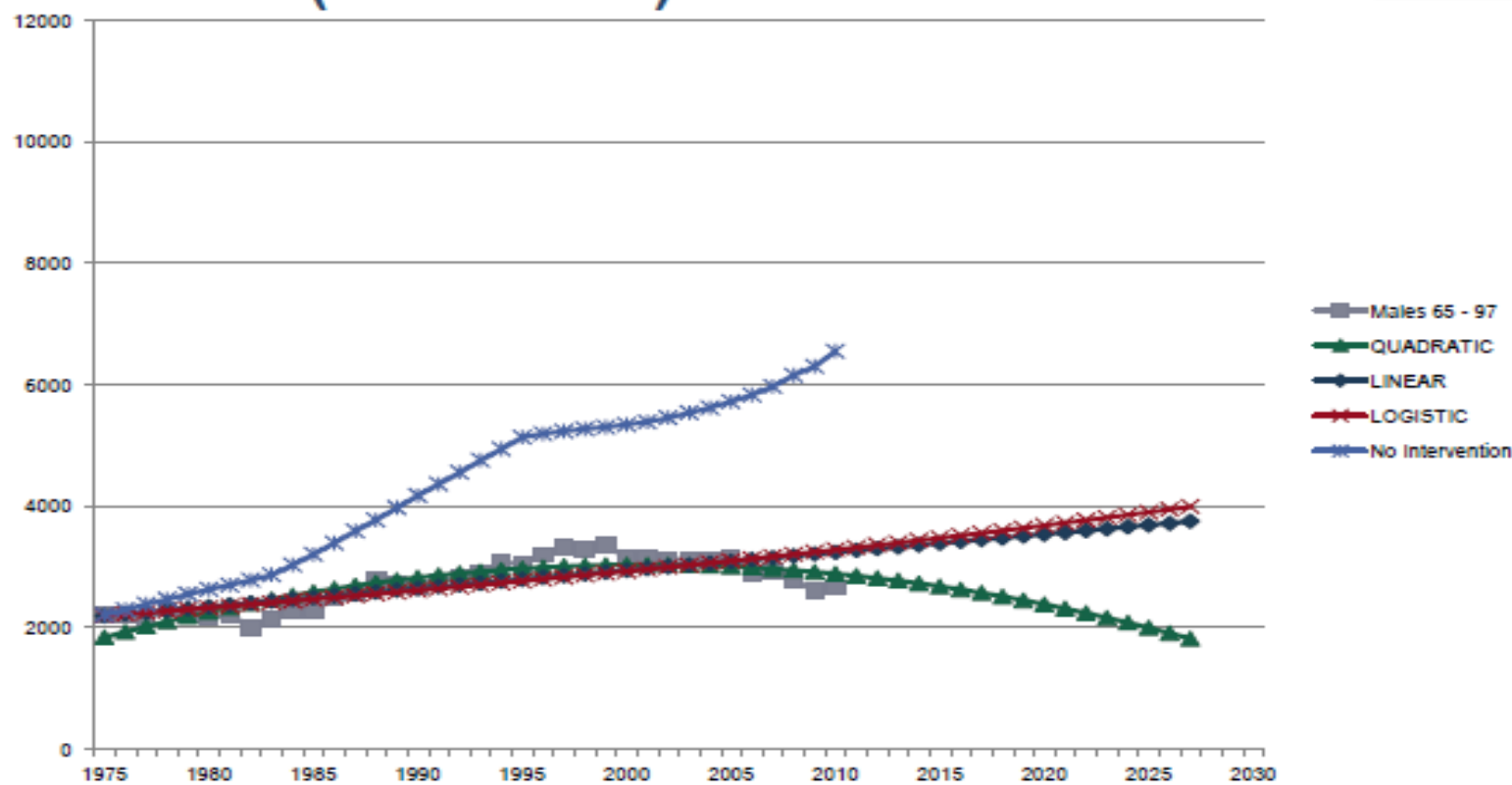


# Should we be concerned about senior vehicle occupants? - The 2013 answer

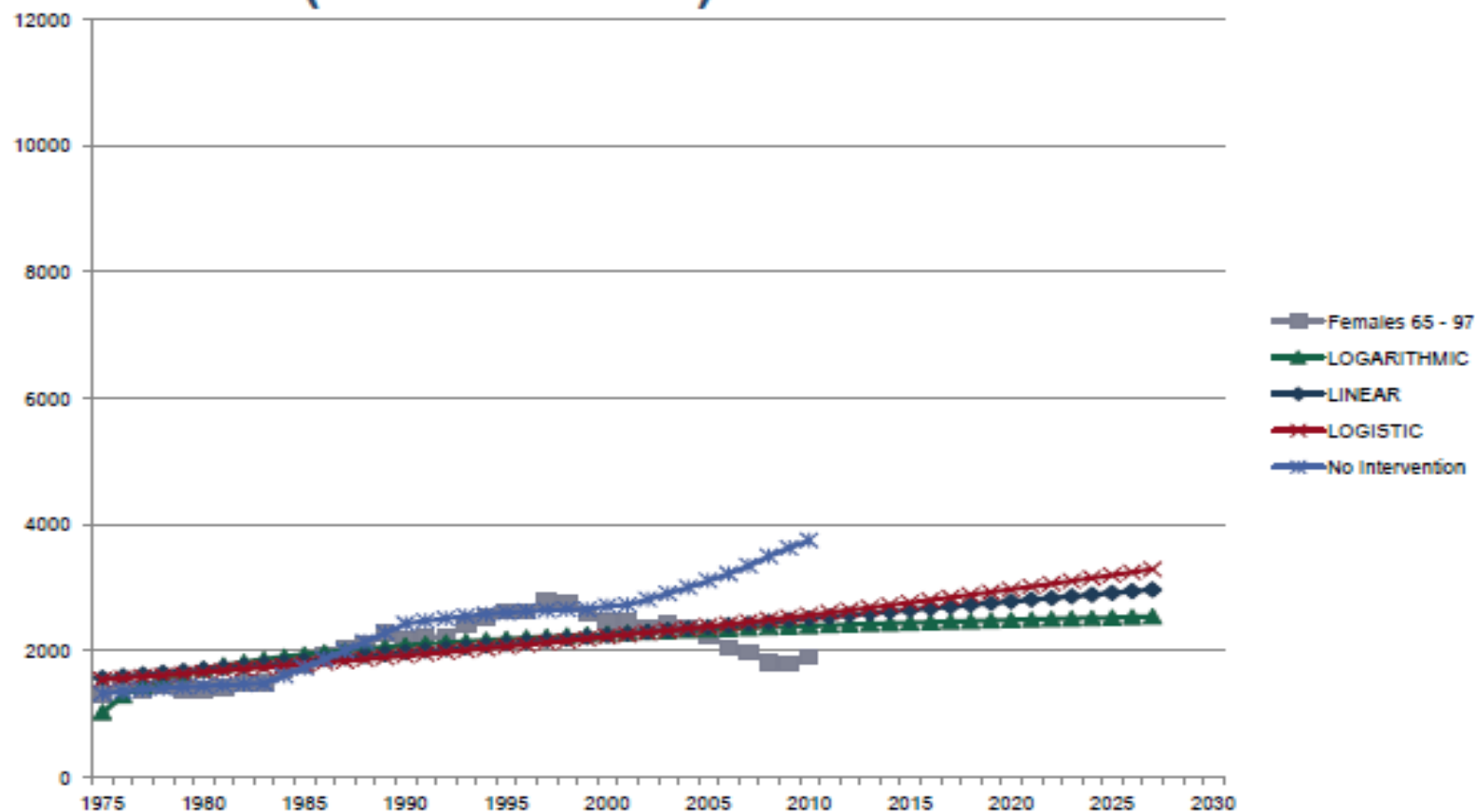




# Fatalities (males 65+) - USA



# Fatalities (females 65+) - USA



## Low mileage bias (Langford et al., 2006)

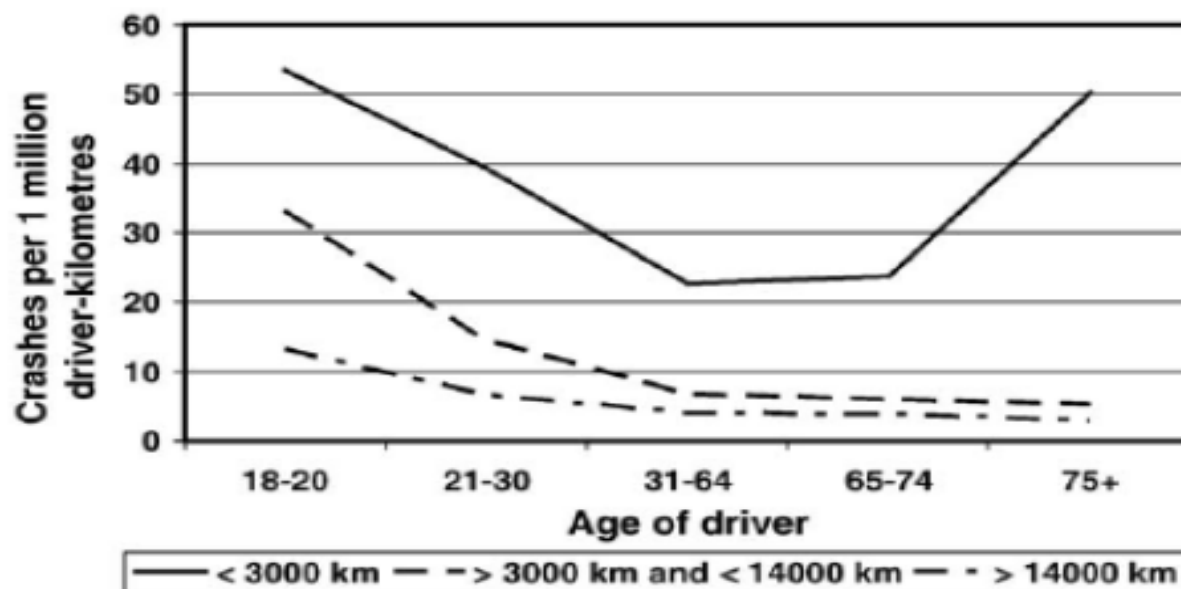
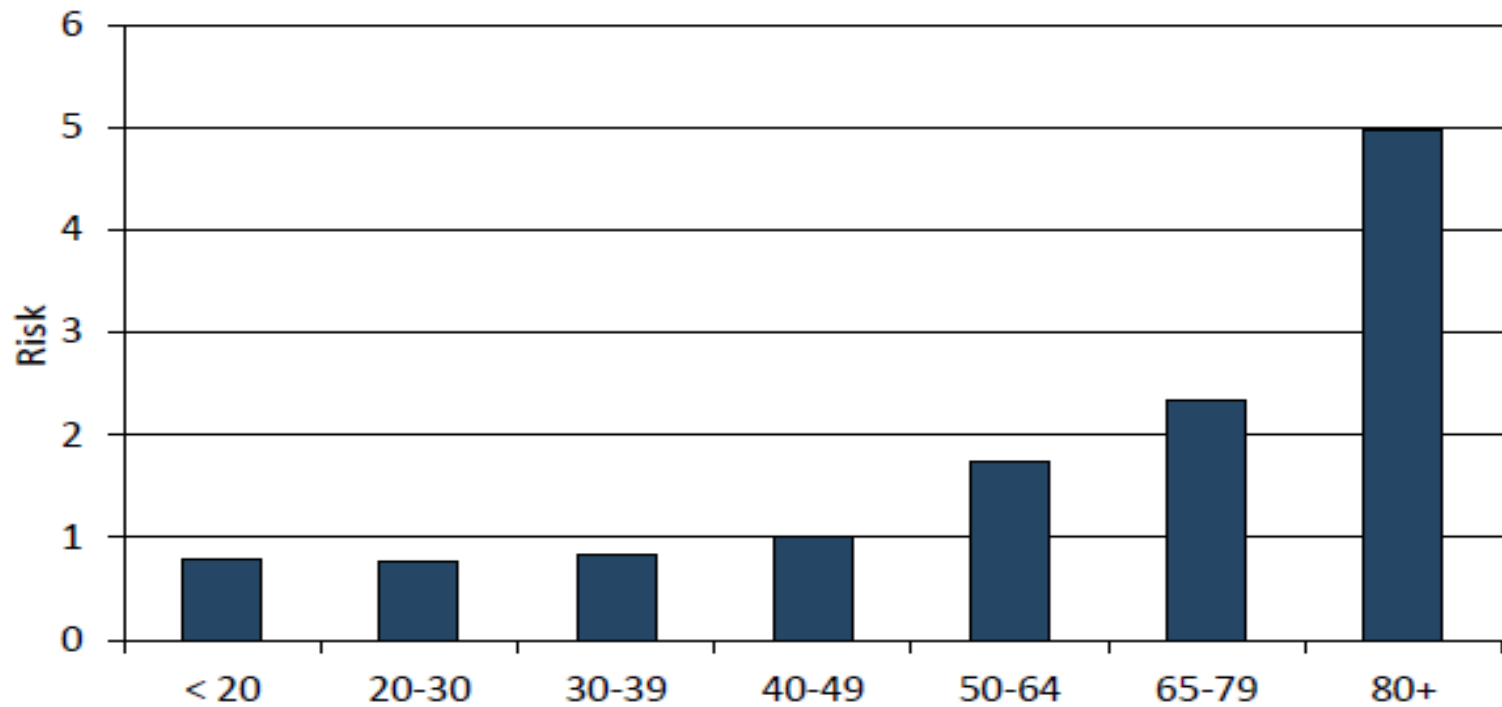


Fig. 2. Annual crash involvement for different driver ages, controlling for annual mileages.

## Frailty bias\*



\*Controlled for sex, BAC, site of impact, restraint use, traveling speed, vehicle model year, vehicle wheelbase (Bédard et al., 2002)

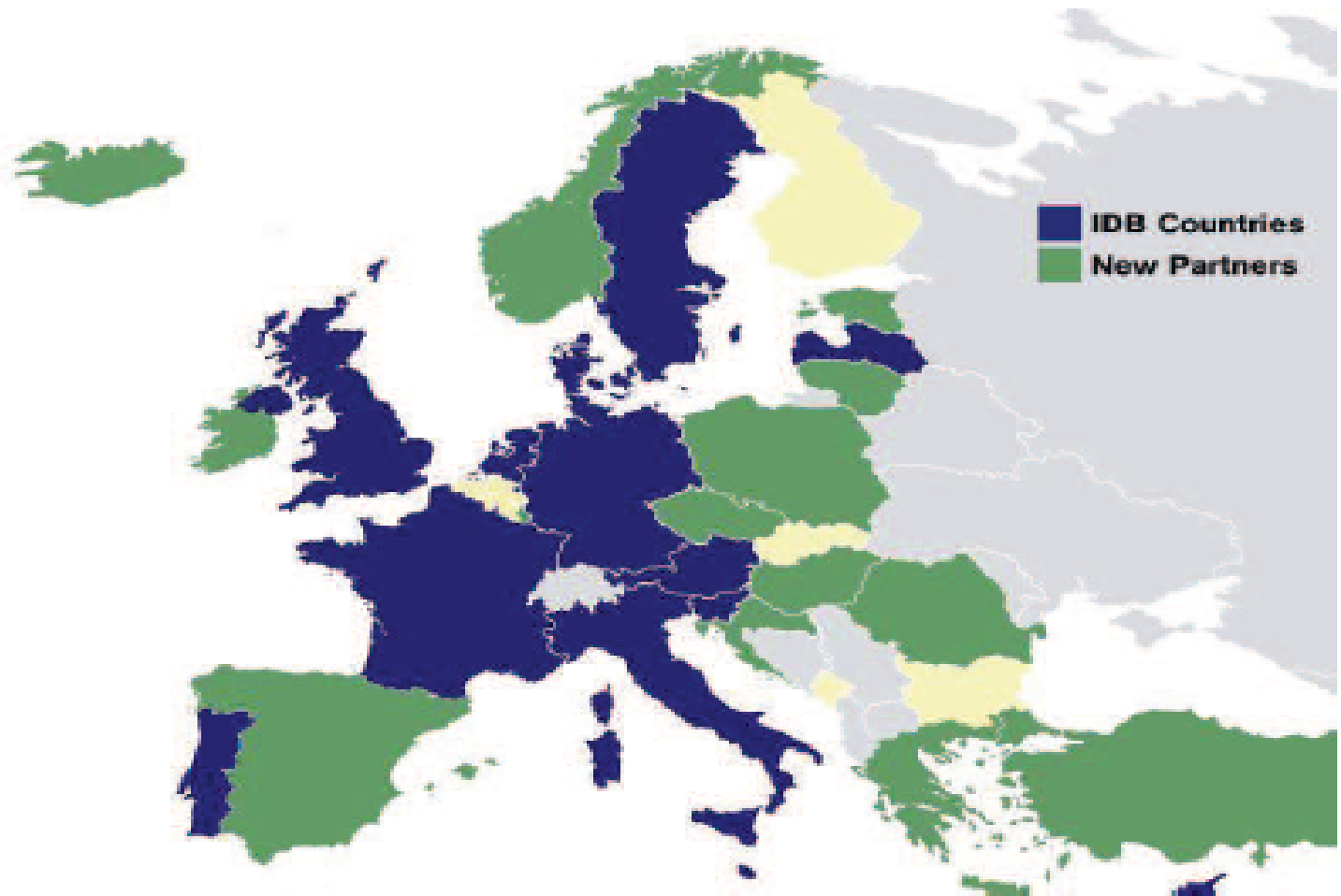


# Characteristics of injury patterns and injury severity in older road users

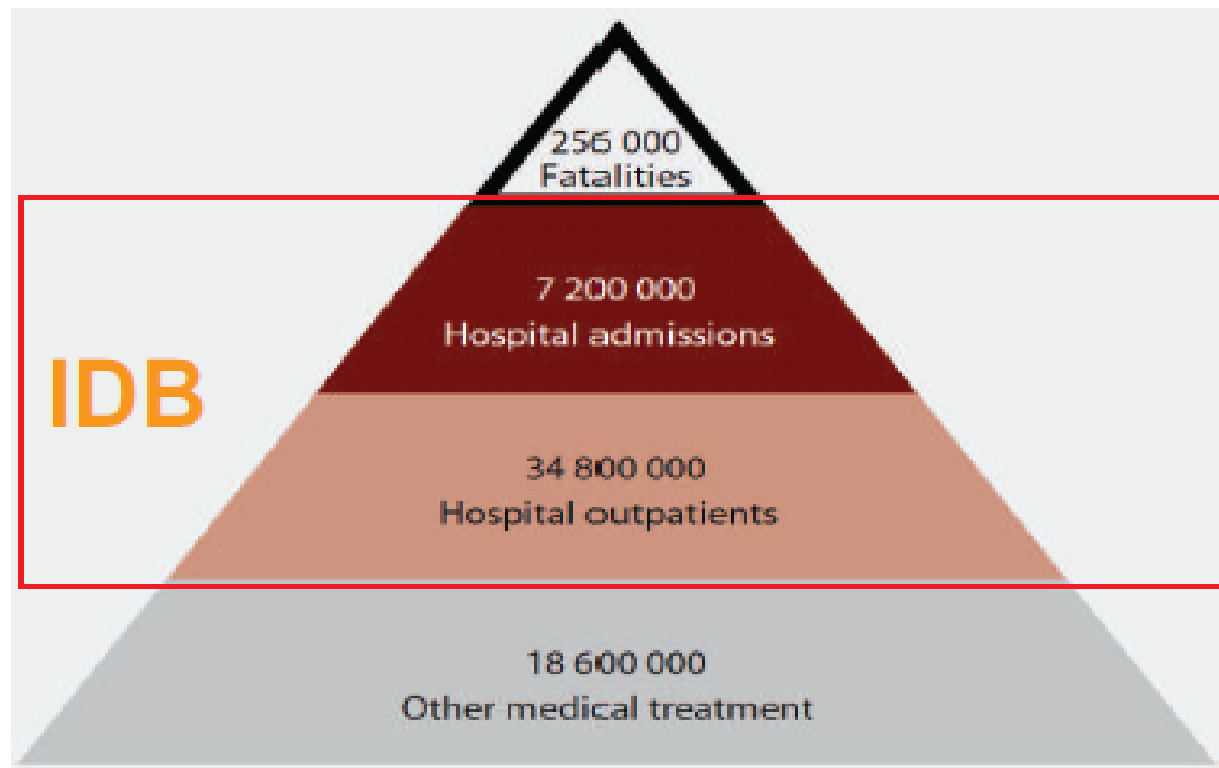
Robert Bauer, Christian Brandstætter, KFV



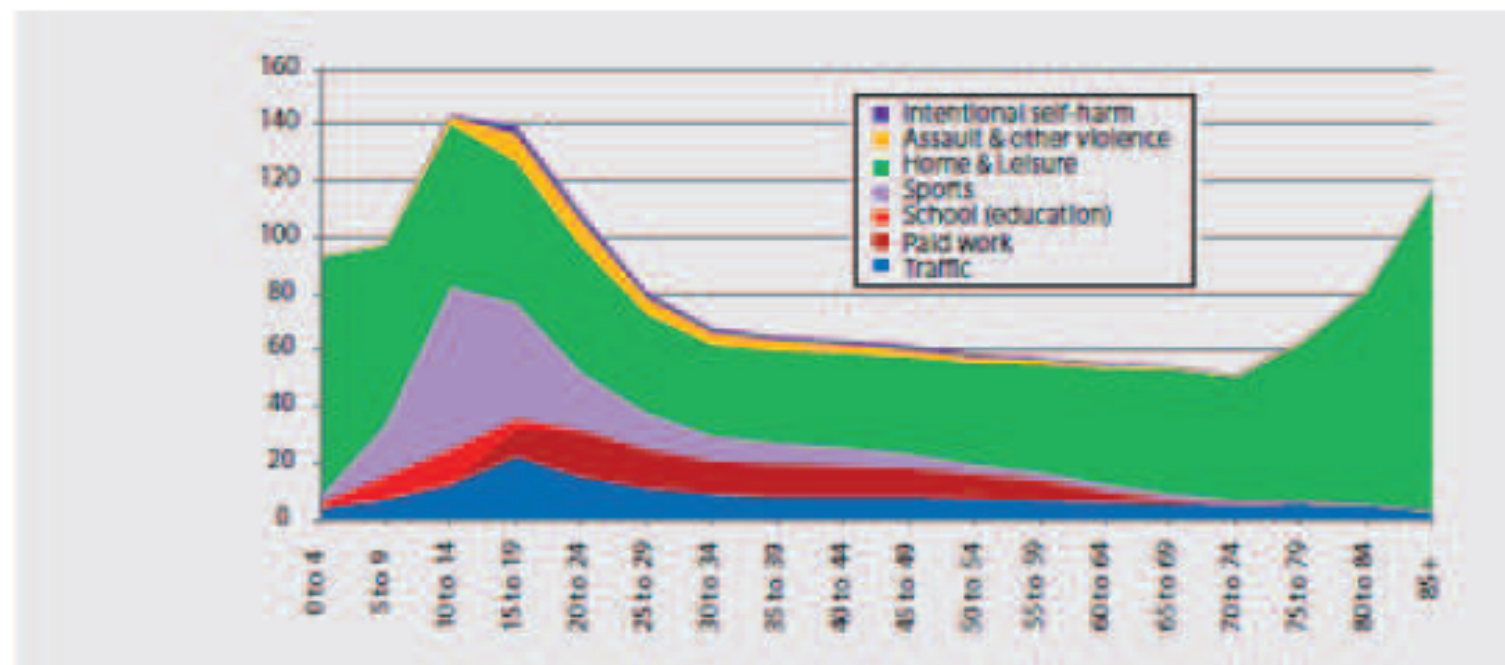
# EU IDB geographical coverage



## The injury pyramid for the EU & scope of IDB data



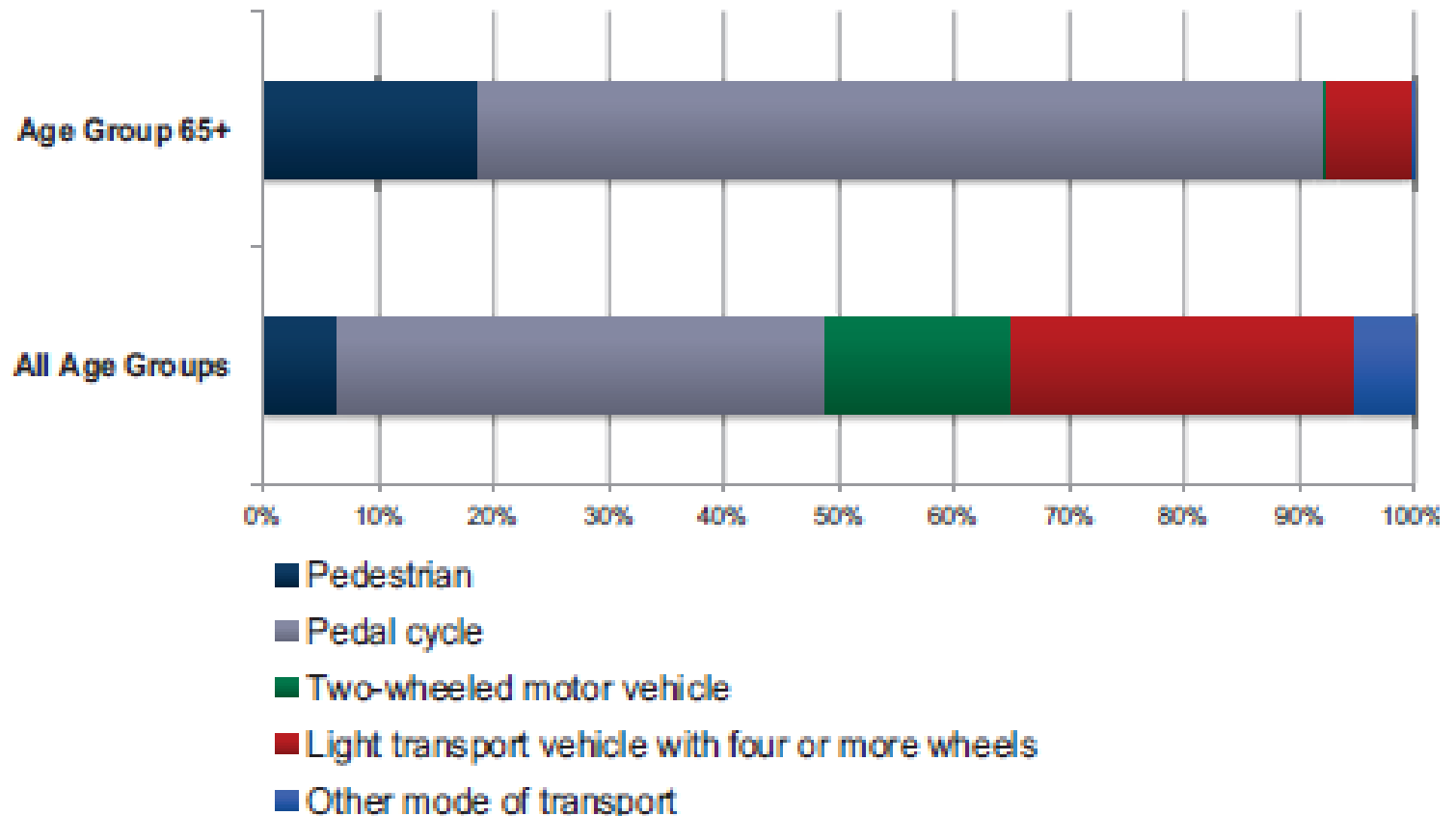
# Hospital treated injuries by age group and injury prevention domain



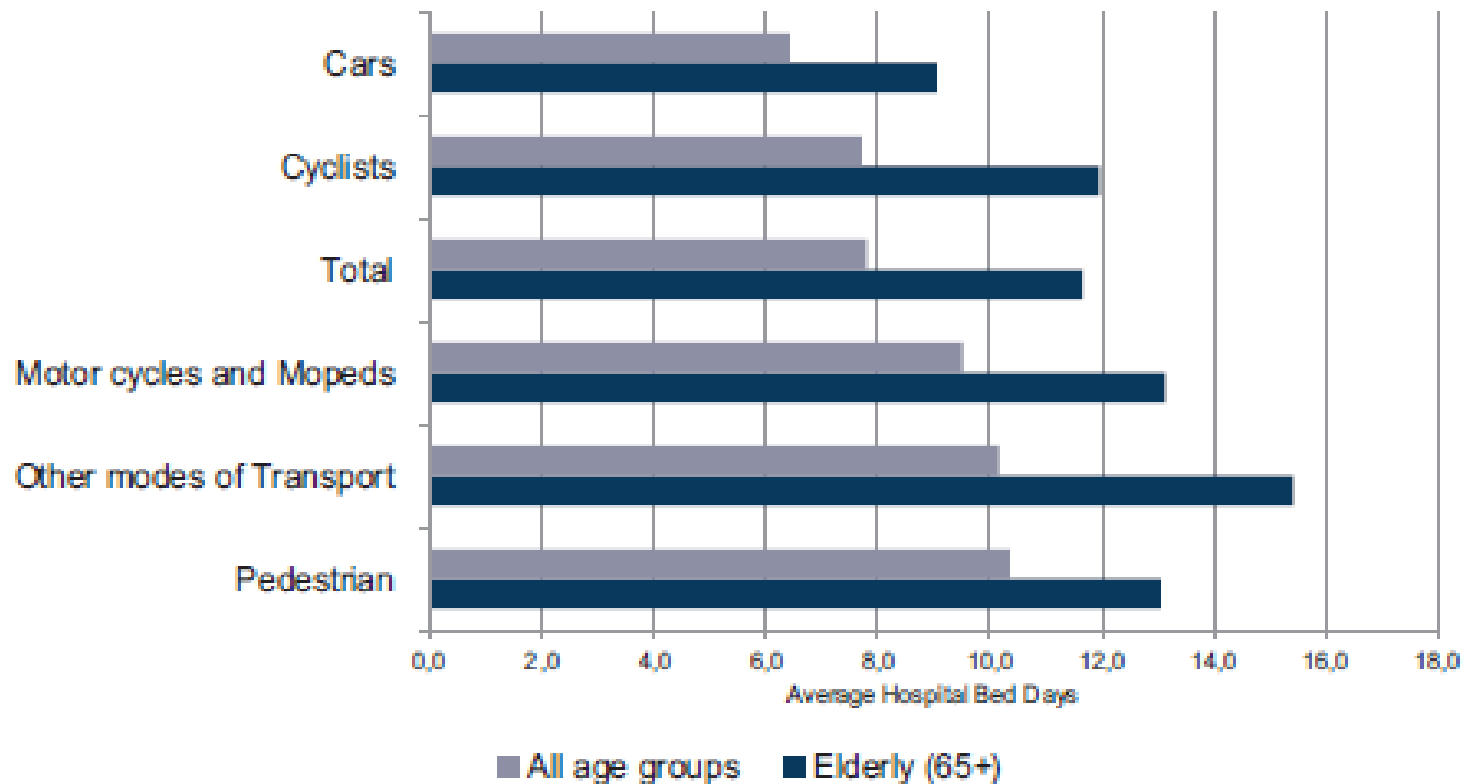
Source: EUI IDB 2008-2010. See Annex "List of figures and tables" for more details.



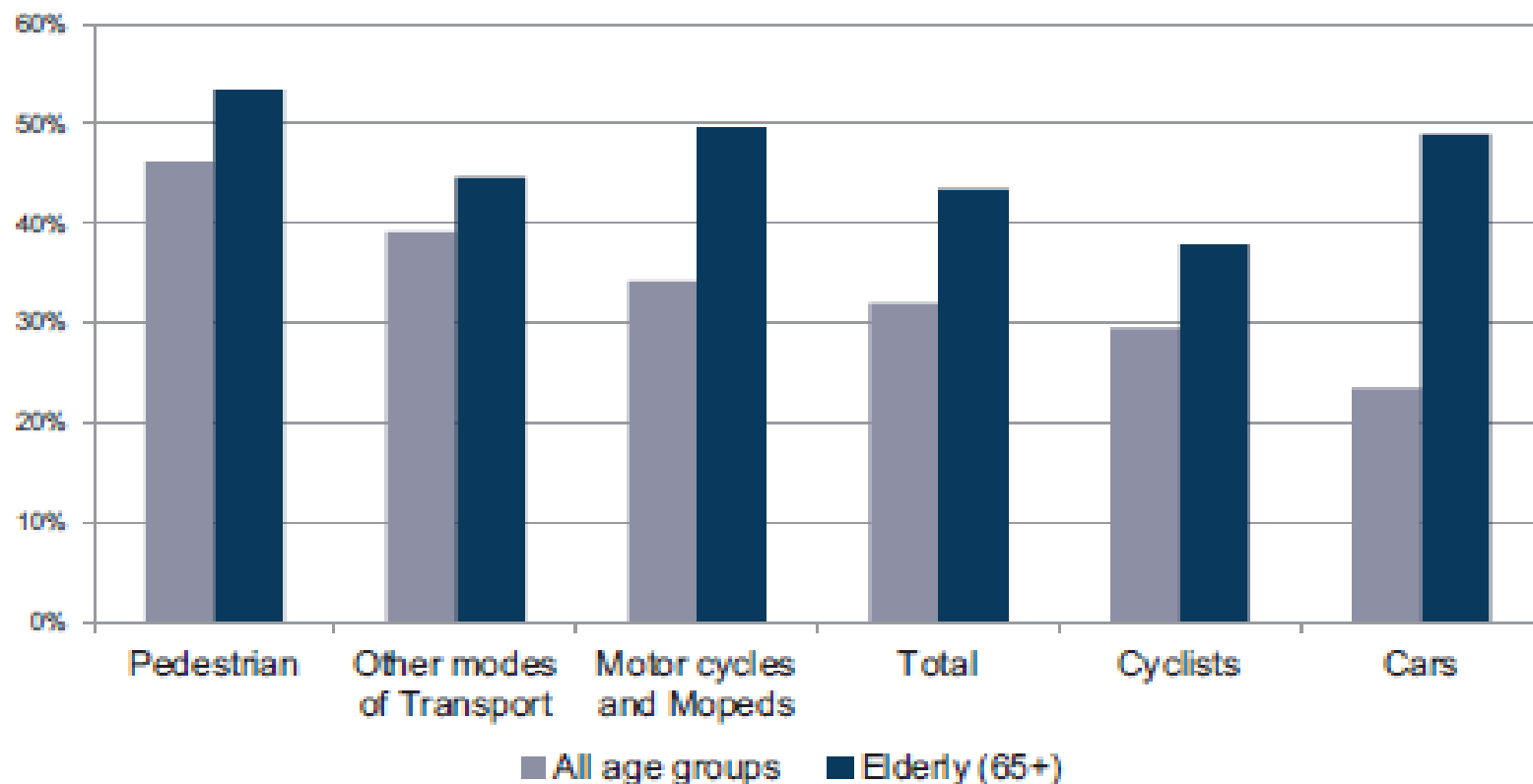
## EU IDB Results – Mode of Transport



## EU IDB Results – Hospital length of stay



## EU IDB Results – Share of admitted patients





International Congress  
19.-20. June 2013 / Palais Ferstel Vienna

↑  
MOBILITY &  
ROAD SAFETY  
IN AN AGEING  
SOCIETY

# Comparative Analysis of Road Safety of the Elderly in Europe

George Yannis, Petros Evgenikos, Panagiotis Papantoniou



Jeremy Broughton 

Pete Thomas, Alan Kirk 

20 June 2013, Vienna

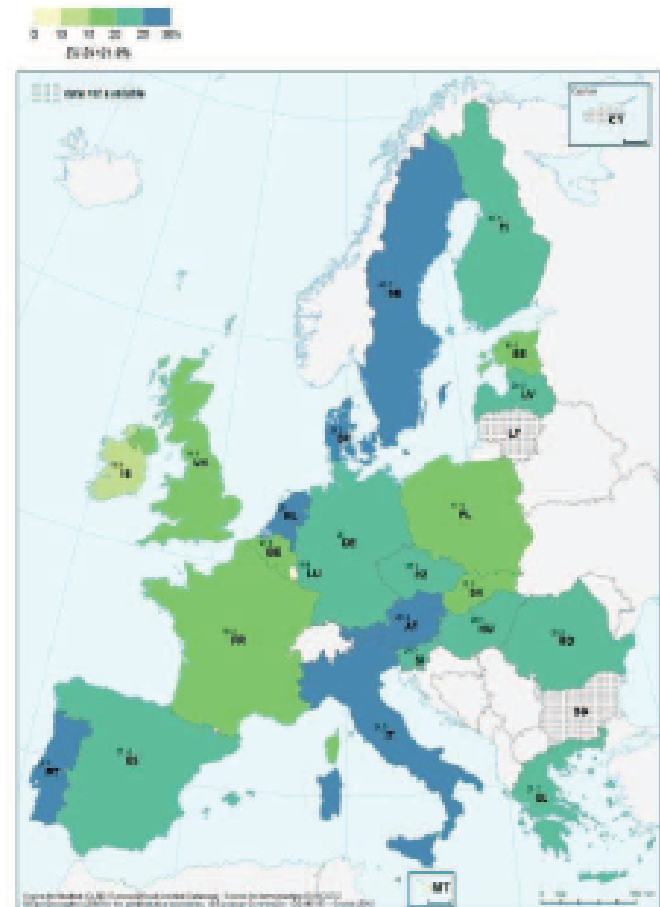
## Objectives

- Macroscopic analysis of basic road safety parameters related to elderly people, using data from the EU CARE database with disaggregate data on road accidents, together with data from other international data files
- Comparative analysis among countries will allow for drawing an overall picture of the safety level of elderly people in Europe
- Provide useful support to all decision makers working for the improvement of safety in the European road network

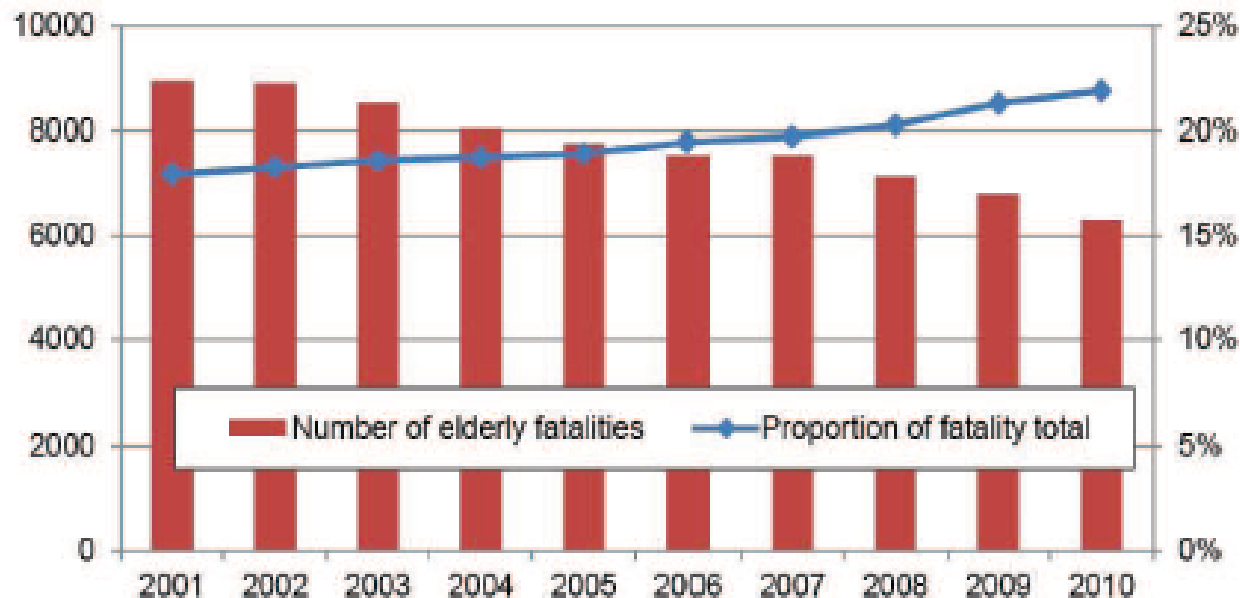
*This work was carried out within DaCoTA project of the 7<sup>th</sup> framework programme on transport research of the European Commission.*



- Elderly people (> 64 years old) are vulnerable road users
- In 2010, over 6.500 elderly people died in road traffic accidents in 24 European countries
- The number of elderly people who died in the EU-19 countries fell by 30% between 2001 and 2010
- Elderly fatalities constitute 22% of fatalities of all ages
- Among the larger countries, the proportion of elderly fatalities ranged between 17% in Poland and 29% in the Netherlands

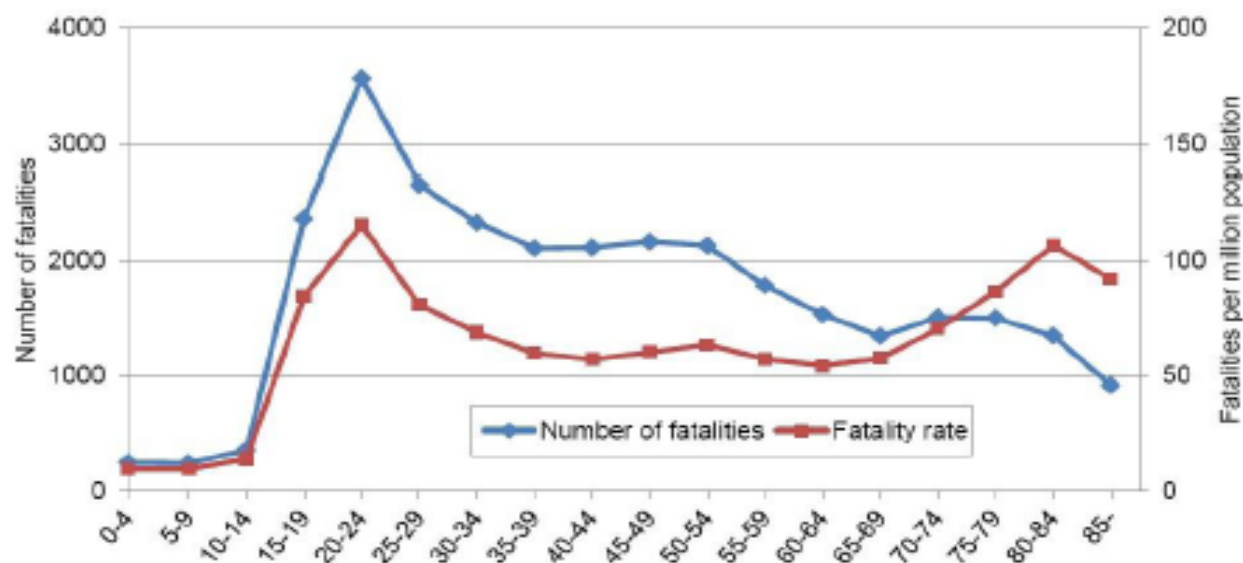


## Number of elderly fatalities and share of fatality total



- The number of elderly people who died in the EU-19 countries fell by 30% between 2001 and 2010
- Although the number of elderly fatalities has decreased over the last decade, the total number has fallen faster and the proportion of all fatalities who were elderly has tended to rise

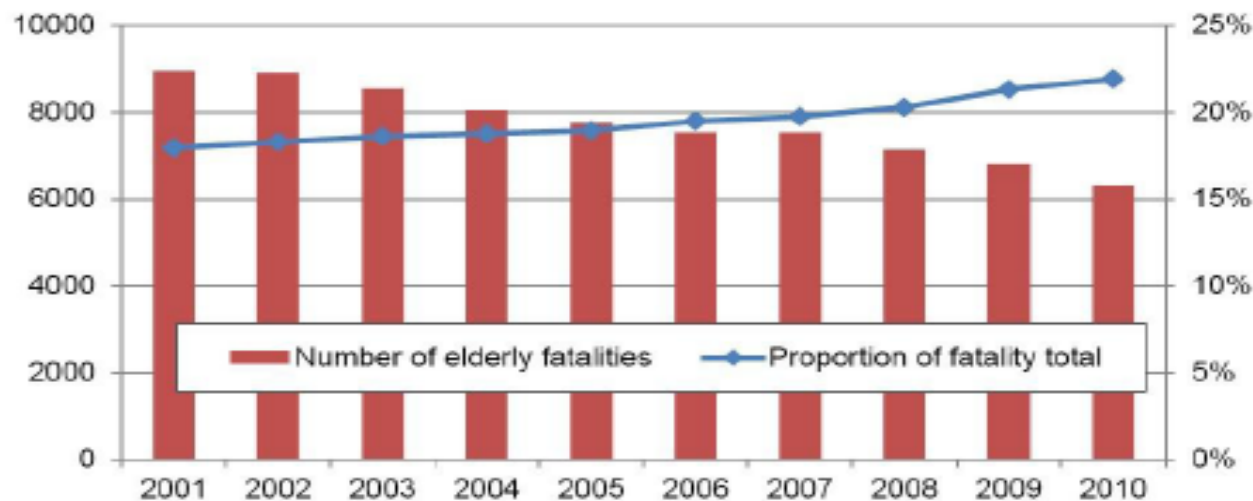
## Number of fatalities and fatality rate by age group



- The elderly suffered fewer fatalities than the younger adult groups, but their fatality rates were amongst the highest
- The rate of road traffic fatalities per million population begins to rise about the age of 65

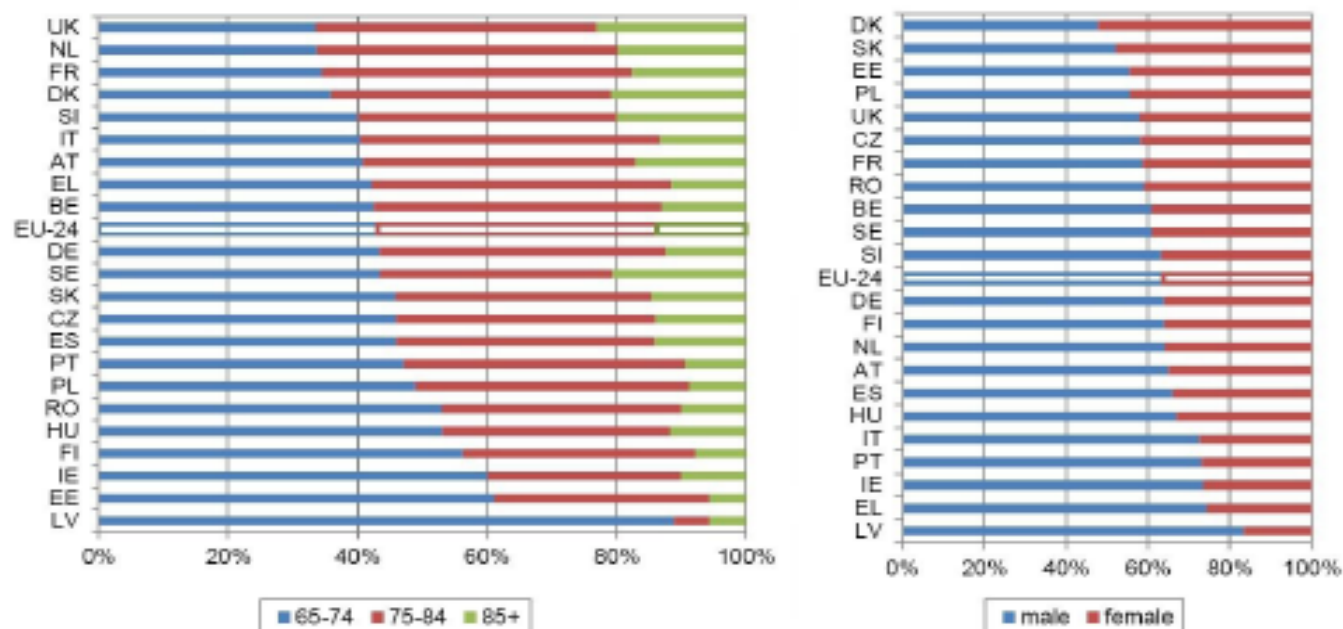


## Number of elderly fatalities and share of fatality total



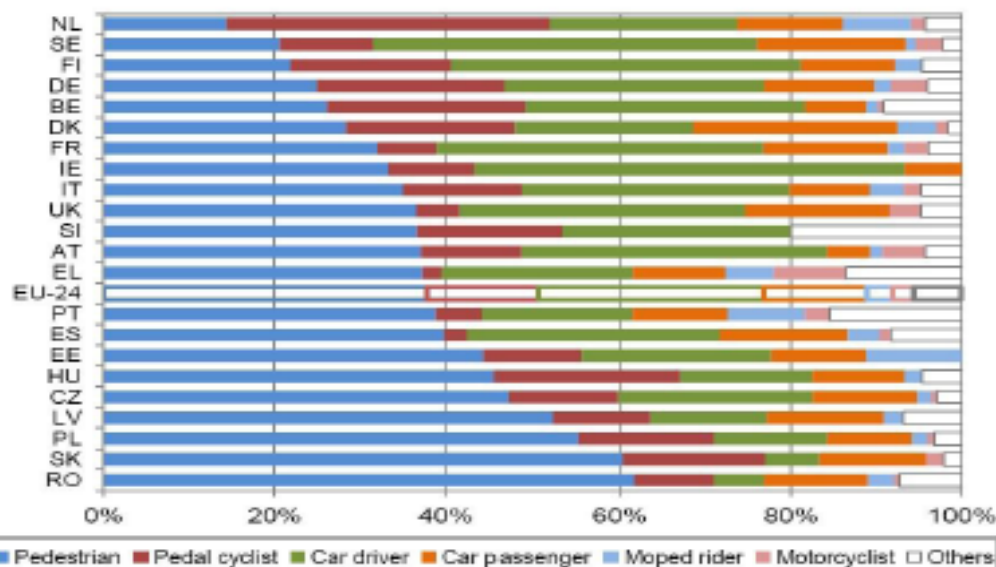
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## Elderly fatalities by age group and gender



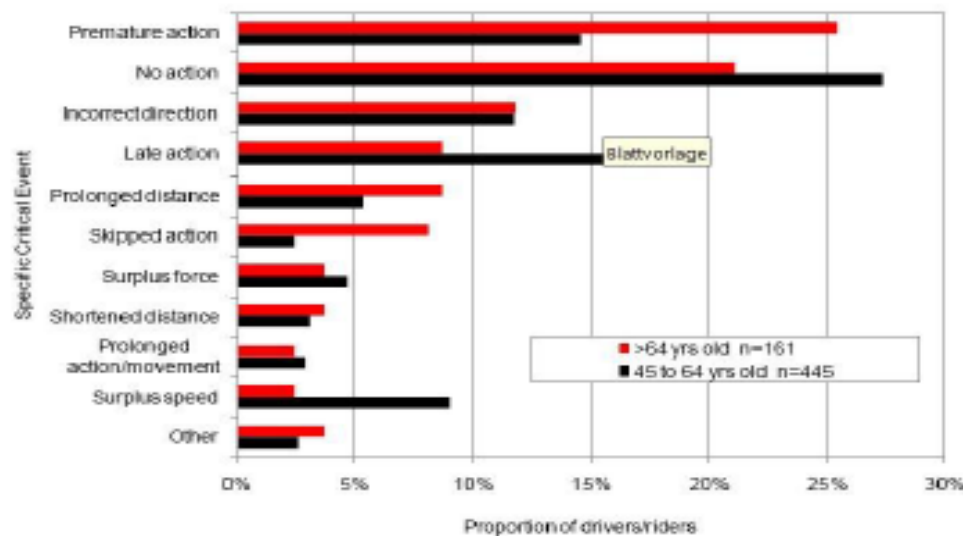
The highest proportions of female elderly fatalities occur in Denmark (52%) and Slovakia (48%)  
 The highest proportions of elderly fatalities aged 65-74 occur in Ireland (60%) and Estonia (61%)

## Elderly fatalities by road user type



- 38% of elderly fatalities were pedestrians in the EU-24 countries
- Among the larger countries, the percentage of elderly fatalities who were pedestrians is greatest in Romania (62%) and least in the Netherlands (14%)
- The proportion of elderly fatalities who were car drivers ranged between 6% in Romania and 50% in Ireland

## Distribution of specific critical events – elderly and middle-aged drivers/riders



- Specific critical events under the general category of 'timing', no action, premature action and late action, are important for both the elderly and middle-aged groups
- Specific critical events relating to 'timing' are recorded for 55% of elderly drivers and riders in the sample



# Elderly as car drivers

Uwe Ewert, PhD MPH | 06/20/2013 | bfu – Swiss Council for Accident Prevention

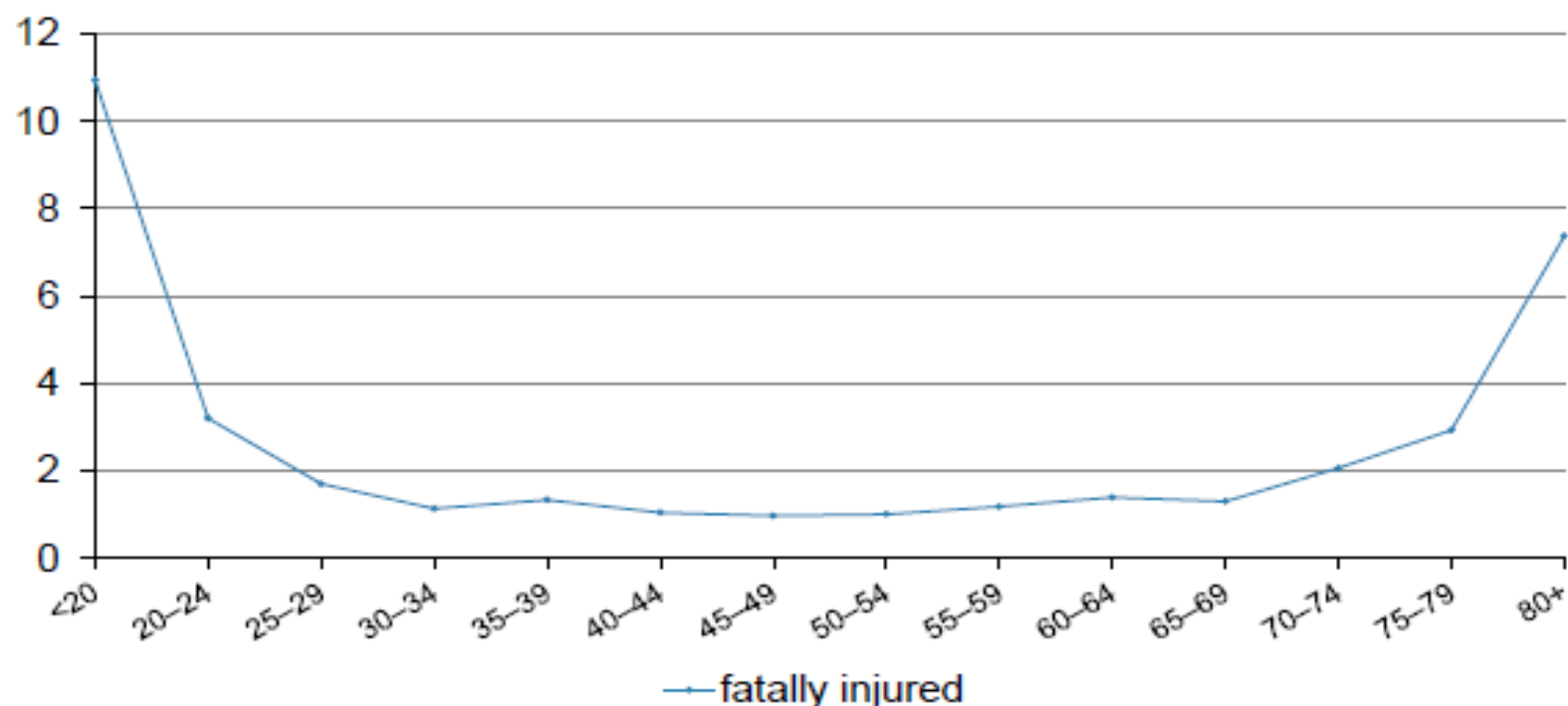
## Crashes



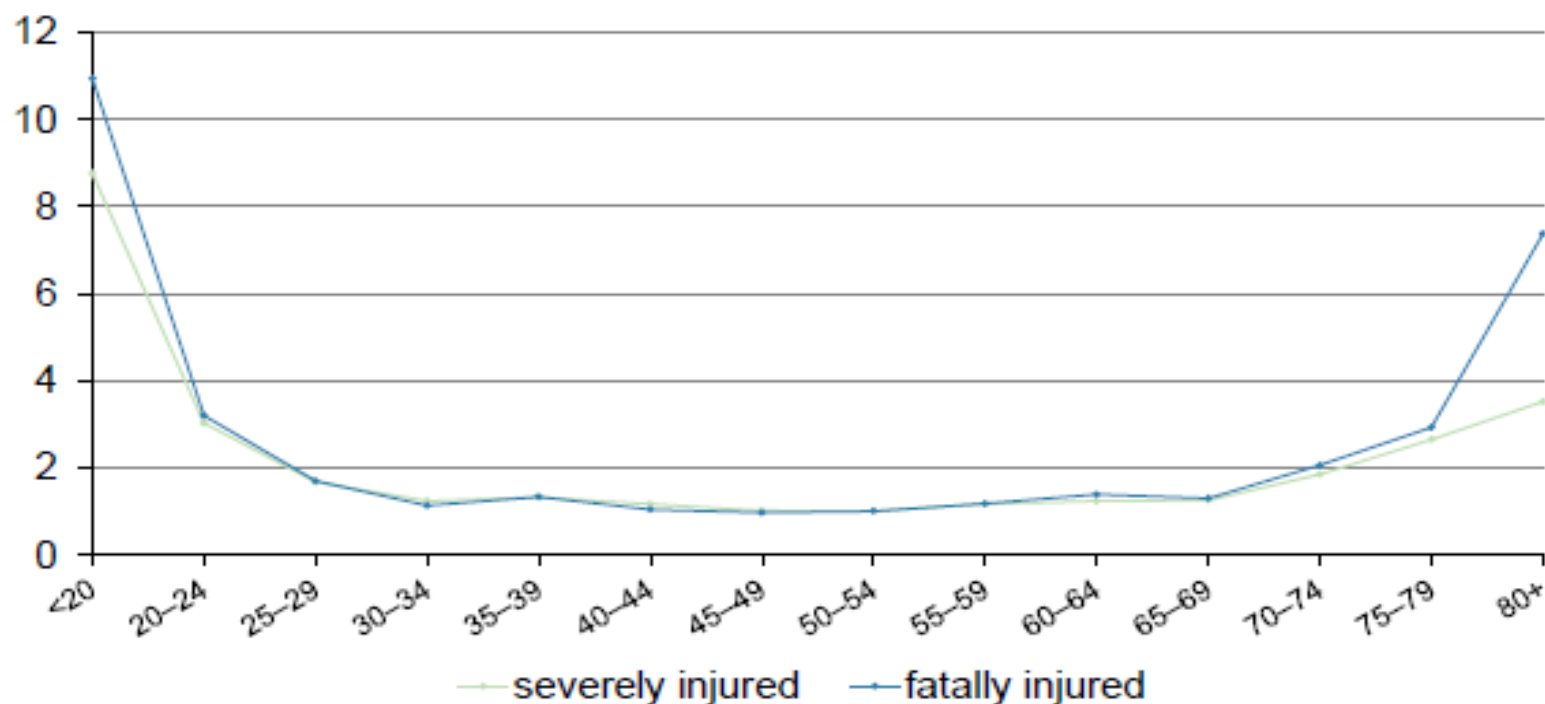
In Switzerland elderly car drivers (age 65 and older)

- account for 13% of all road fatalities (not equal to being at fault)
- 50% of the fatally injured are the elderly drivers themselves
- 37% are crash opponents (mostly pedestrians and motorcyclists)
- 13% are (mostly elderly) passengers
- $\frac{3}{4}$  of persons killed in crashes of elderly drivers are 65 and older

## Crashes: Injured per 100 million kilometers driven by age of car driver

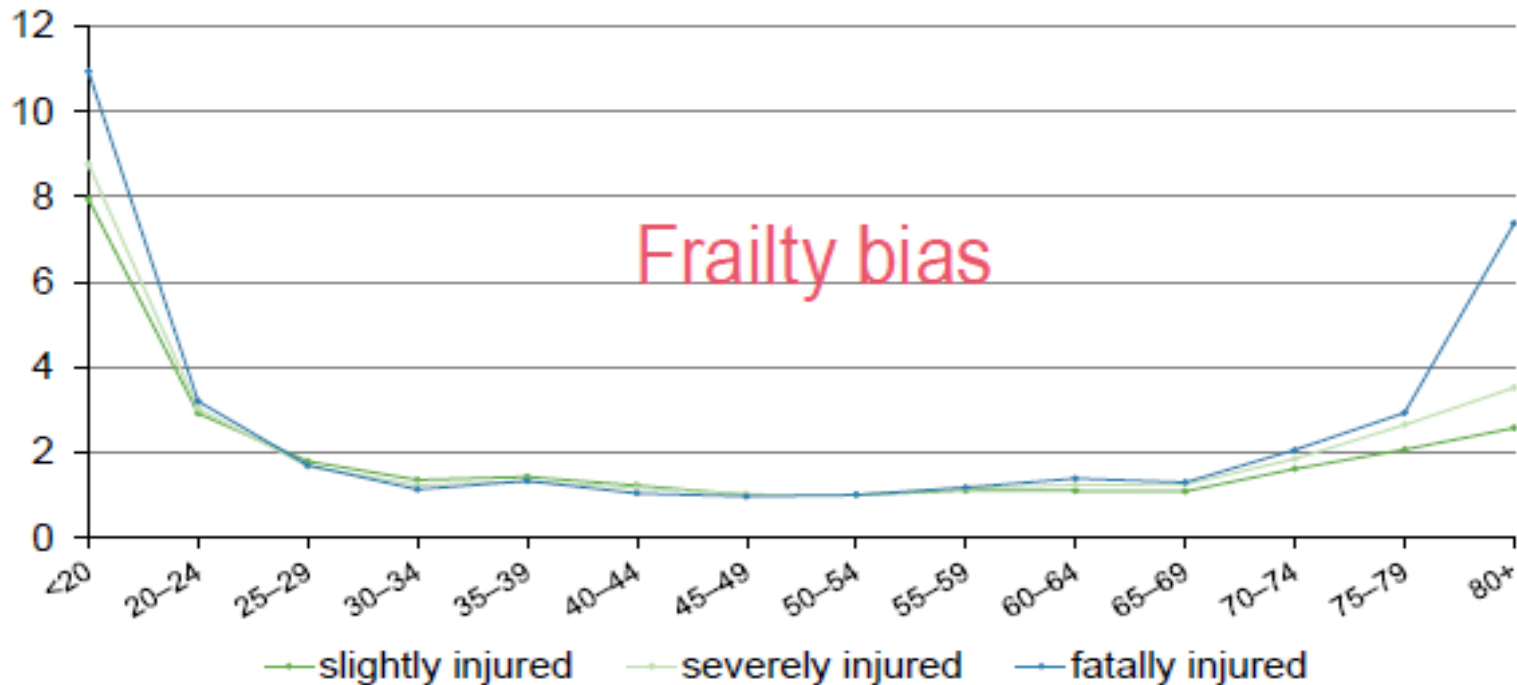


## Crashes: Injured per 100 million kilometers driven by age of car driver





# Crashes: Injured per 100 million kilometers driven by age of car driver



## Prevention



- Diseases

In Switzerland: mandatory age-based medical screening system biannually beginning at age 70.

Scientifically not recommended but widely used in Europe.

Possible negative consequences: more elderly crashes as pedestrians, reduced social contacts, depression.

Focus should be on the treatment of diseases instead of driver selection.



# **Growing old in motion**

## **RACC study on aging and driving in Catalonia**

**Xavier Ruestes | June 2013 | Vienna.**

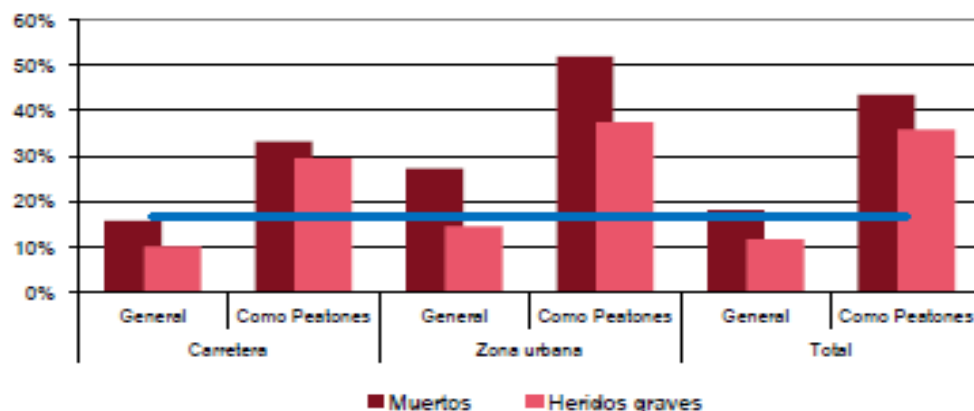
- In the last decade the number of people killed in traffic accidents has been reduced by 40% and serious injuries by 37%.
- The typology of these accidents has three main features:
  - The fatal accident is concentrated increasingly in men.
  - Growing percentage of serious injuries in traffic accidents in elder people
  - The proportion of these accidents occurring in urban areas is increasing.

FIGURES	2011
Licensed Drivers	12%
Actual Drivers	9%
Deaths in Vehicles	18%
Deaths as Pedestrian	55%
Deaths Total Traffic Accidents	24%

## Accidents of the elderly as pedestrians

- Older pedestrians when suffering an accident, have greater consequences in terms of injuries and / or death. In the period 2007-2012 70% of pedestrian deaths in the city were elderly – 52% over 75 years, and outside the city percentage is 35 percent.

Large percentage of the total number of victims of traffic accident victims. Serious harmfulness. Average values for the period 2007-2012.



Font: elaboració a partir de dades de la DGT

Nota: La línia blava representa el percentatge de persones grans en el conjunt de la població.

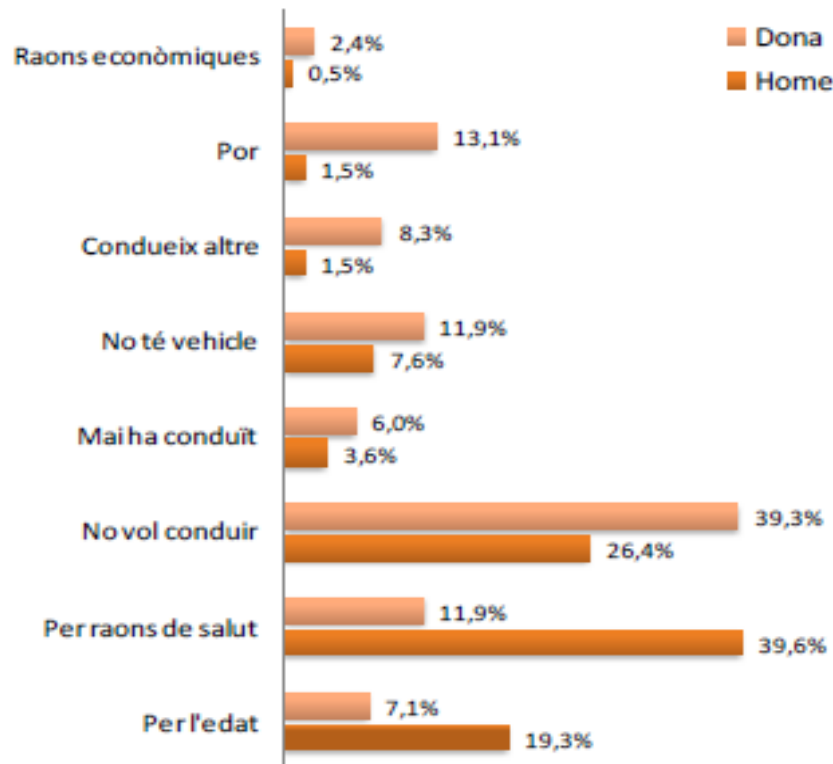
## Drivers not active

- ❖ 25 percent of men and 38 percent of women with a license, don't drive.
- ❖ These drivers have an average of 7.6 years for men and 12.2 years for women without driving.
- ❖ Despite not driving regularly, 21 percent of men and 41 percent of women say they renew their license.

**Percentage of inactive drivers by gender and age**

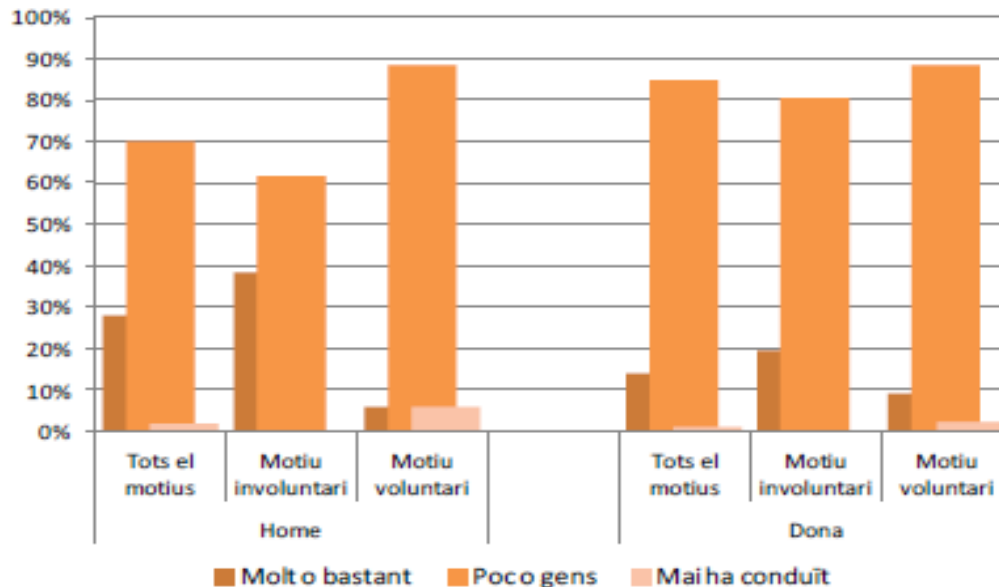
	Men	Women	Total
65-69	13,0%	33,9%	19,0%
70-74	20,9%	28,6%	22,6%
75+	40,7%	60,9%	43,5%
<b>Total</b>	<b>25,4%</b>	<b>38,2%</b>	<b>28,2%</b>

## Reason for not driving



**Among licensed drivers half of men and one third of women ceased the practice of driving for reasons that can be considered as involuntary (eg health or age). Half of women stopped driving by choice.**

**Stop driving effect on lifestyles by gender and reason**



**Involuntary reason: age, health, economic reasons, not holding vehicle**

**Among respondents who have ceased the practice of driving due to involuntary reasons, the impact on their lifestyle has been significantly higher, especially among men. Thus, 38 percent of men and 20 percent of women said they were affected a lot.**



**Intensity and frequency of driving**

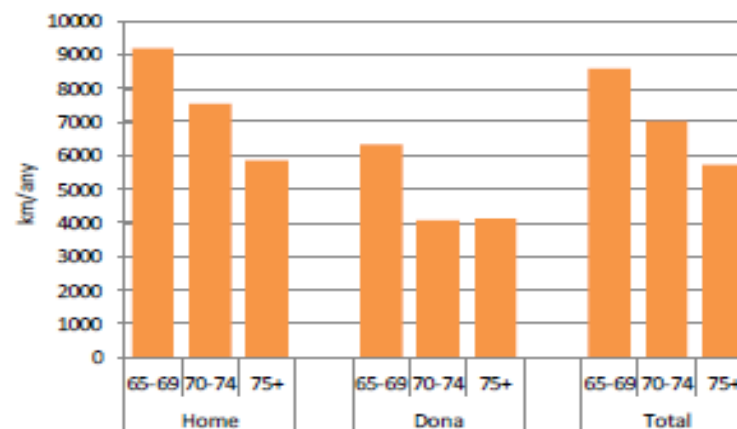
**Frequency of weekly driving by gender**

	Menys 2 dies	2 o 3 dies	4 o 5 dies	6 o més dies
Homes	10,9%	34,5%	12,1%	42,6%
Dones	11,7%	33,6%	17,2%	37,5%
Total	11,0%	34,3%	13,0%	41,6%

**Frequency of weekly driving by age**

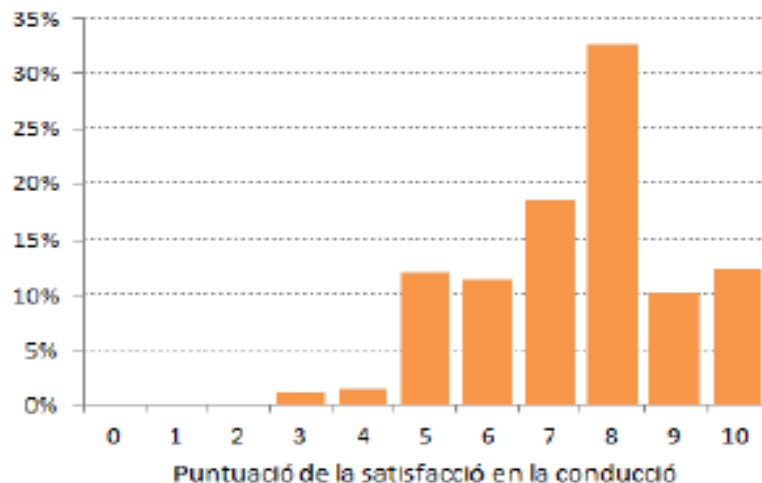
	Menys 2 dies	2 o 3 dies	4 o 5 dies	6 o més dies
65-69	10,4%	30,8%	13,2%	45,6%
70+	11,5%	37,5%	12,9%	38,1%
Total	11,0%	34,3%	13,0%	41,6%

**Driving intensity (km / year) by gender and age**

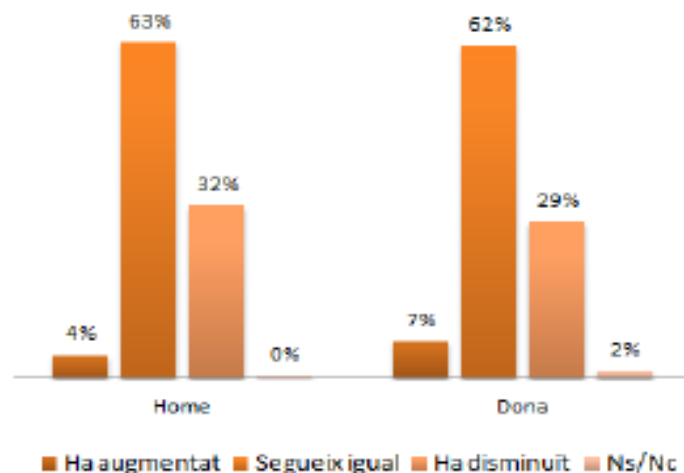


The average frequency of driving for all 65 and over drivers is 4.4 days a week. The intensity is about 7.500 km / year, placing the men at 7.800 and women at 5.500 km / year. This intensity depends on a set of variables such as place of residence: 7.300 km / year living in the town and 8.000 if your residence is in the suburbs.

**Scale of satisfaction in driving**



**Evolution of desire to drive with age**



On a satisfaction scale (0 to 10) in the practice of driving the average is 7.4 reflecting a remarkable degree of satisfaction

When asked if their appetite for driving changed with age, two out of three said that their desire to drive has not diminished

# Profile of a senior driver

## GROWING OLD IN MOTION

### DRIVING

30% of drivers over 74 years use the car daily

They drive an average of 4.4 days a week

Over 40% believe that road signs are not sufficient to guide

2 out of 3 believe that the desire to drive doesn't decrease with age

65% plan to continue driving in the next 5 years



### VEHICLE

98% own a vehicle

14% expressed intention of buying a vehicle in the next 5 years. 86% did not

The cruise control, GPS navigator and automatic parking aid devices are the best rated to aid driving

- The projection indicates that Catalan drivers over the age of 65 years will more than double from 0.5 in 2011 (0.4 men and 0.1 women) to 1.3 million in 2030 (0.9 men and 0.4 women).

	Population >65		Drivers >65		% Drivers>65/Population >65	
	2011	2031	2011	2031	2011	2031
Men	526	1.080	387	857	74%	79%
Women	719	1.296	108	400	15%	31%
Total	1.245	2.376	495	1.257	40%	53%
Total Population	7.490	8.423	4.072	5.226		
% >65/Total Population	17%	28%	12%	24%		

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