The Monzino 80-plus Study

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Living to 100 Conference

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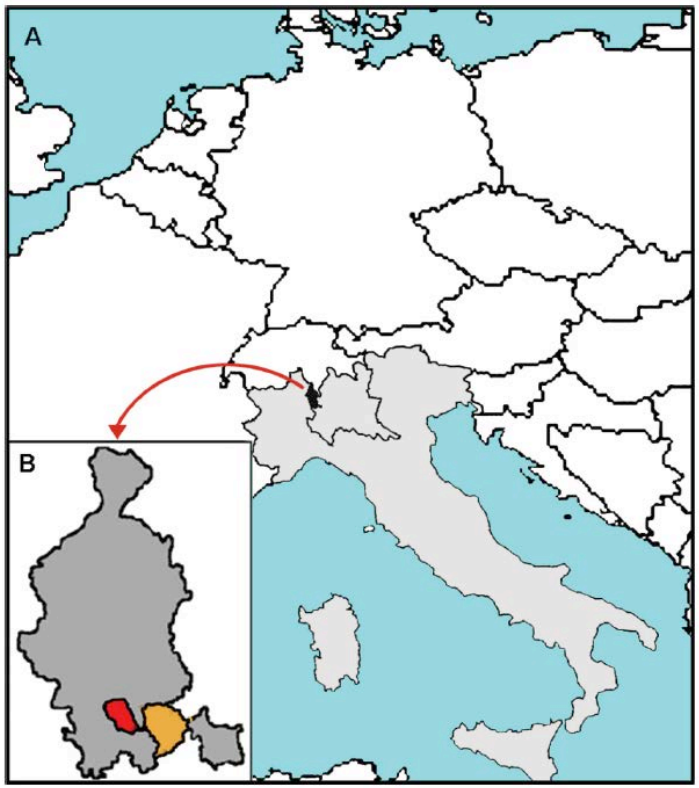


Figure 1 Map of the study area of the Monzino 80-plus Study: A. Europe, Italy (in grey) and, within the borders of the Lombardy region, the province of Varese (in black). B. The study area: the province of Varese (in grey) and the area of the eight municipalities initially investigated: in red Gallarate and in orange the seven municipalities of the lower Olona valley (Fagnano Olona, Gorla Maggiore, Solbiate Olona, Gorla Minore, Olgiate Olona, Marnate, and Castellanza)

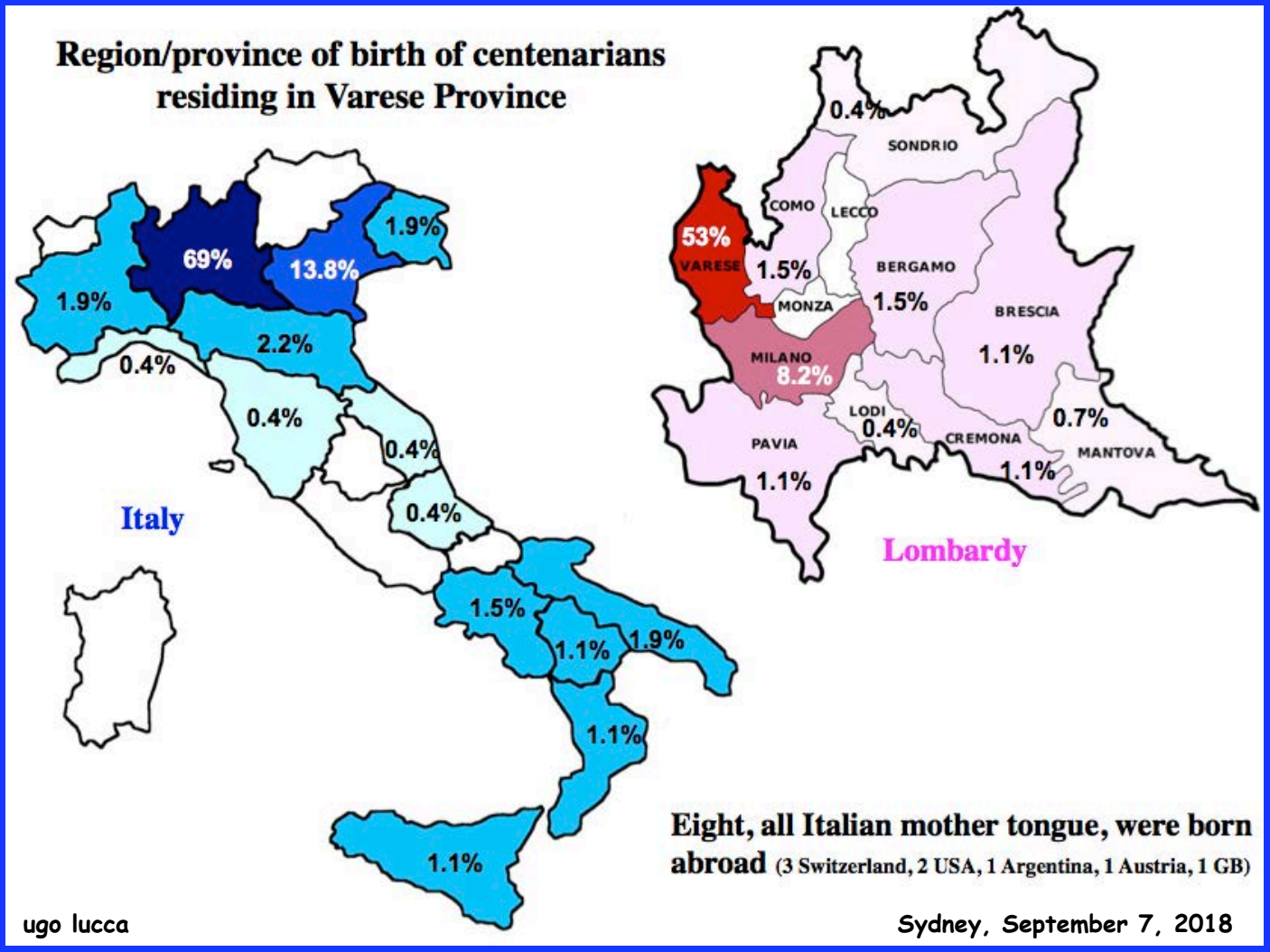
Lucca et al. 2011

Baseline demographic characteristics of the resident population, the population included in the analyses, and the elderly individuals without available information

	Residents	Individuals with information	
		available	not available
All, n (%)	2,805 (100)	2,506 (89.3)	299 (10.7)
Men, n (%)	766 (27.3)	685 (27.3)	81 (27.1)
Women, n (%)	2,039 (72.7)	1,821 (72.7)	218 (72.9)
Mean age at prevalence day, all (SD)	89.4 (6.1)	87.7 (6.1)	86.9 (6.1)*
Age groups †, no. (row %; *column* %):			
80-84	820 (100; *29.2*)	690 (84.1; *27.5*)	130 (15.6; *43.5*)
85-89	737 (100; *26.3*)	654 (88.7; *26.1*)	83 (11.3; *27.8*)
90-94	705 (100; *25.1*)	639 (90.6; *25.5*)	66 (9.4; *22.1*)
95-99	260 (100; *9.3*)	255 (98.1; *10.2*)	5 (1.9; *1.7*)
100+	**283 (100; *10.1*)**	**268 (94.7; *10.7*)**	**15 (5.3; *5.0*)**

*Approximate estimates of the SD.
†Age at interview for resident population and individuals with information; age at prevalence. day for individuals without information.

Lucca et al. 2015, revised


Region/province of birth of centenarians residing in Varese Province
69%
13.8%
1.9%
1.9%
2.2%
0.4%
0.4%
0.4%
0.4%
Italy
1.5%
1.1%
1.9%
1.1%
1.1%
0.4%
SONDRIO
COMO
LECCO
53%
VARESE
1.5%
BERGAMO
MONZA
1.5%
BRESCIA
MILANO
8.2%
1.1%
LODI
0.4%
0.7%
PAVIA
CREMONA
MANTOVA
1.1%
1.1%
Lombardy
Eight, all Italian mother tongue, were born abroad (3 Switzerland, 2 USA, 1 Argentina, 1 Austria, 1 GB)
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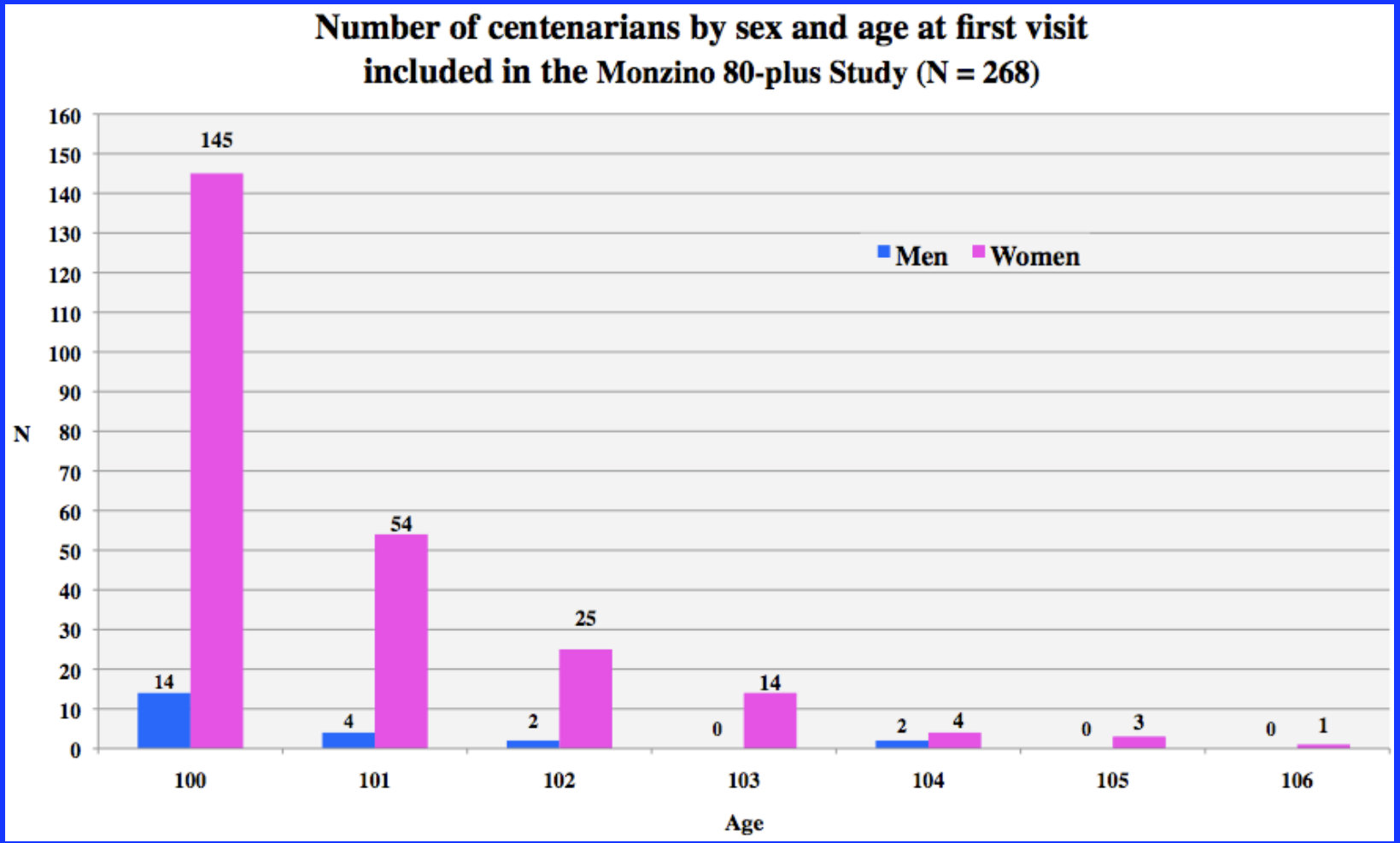
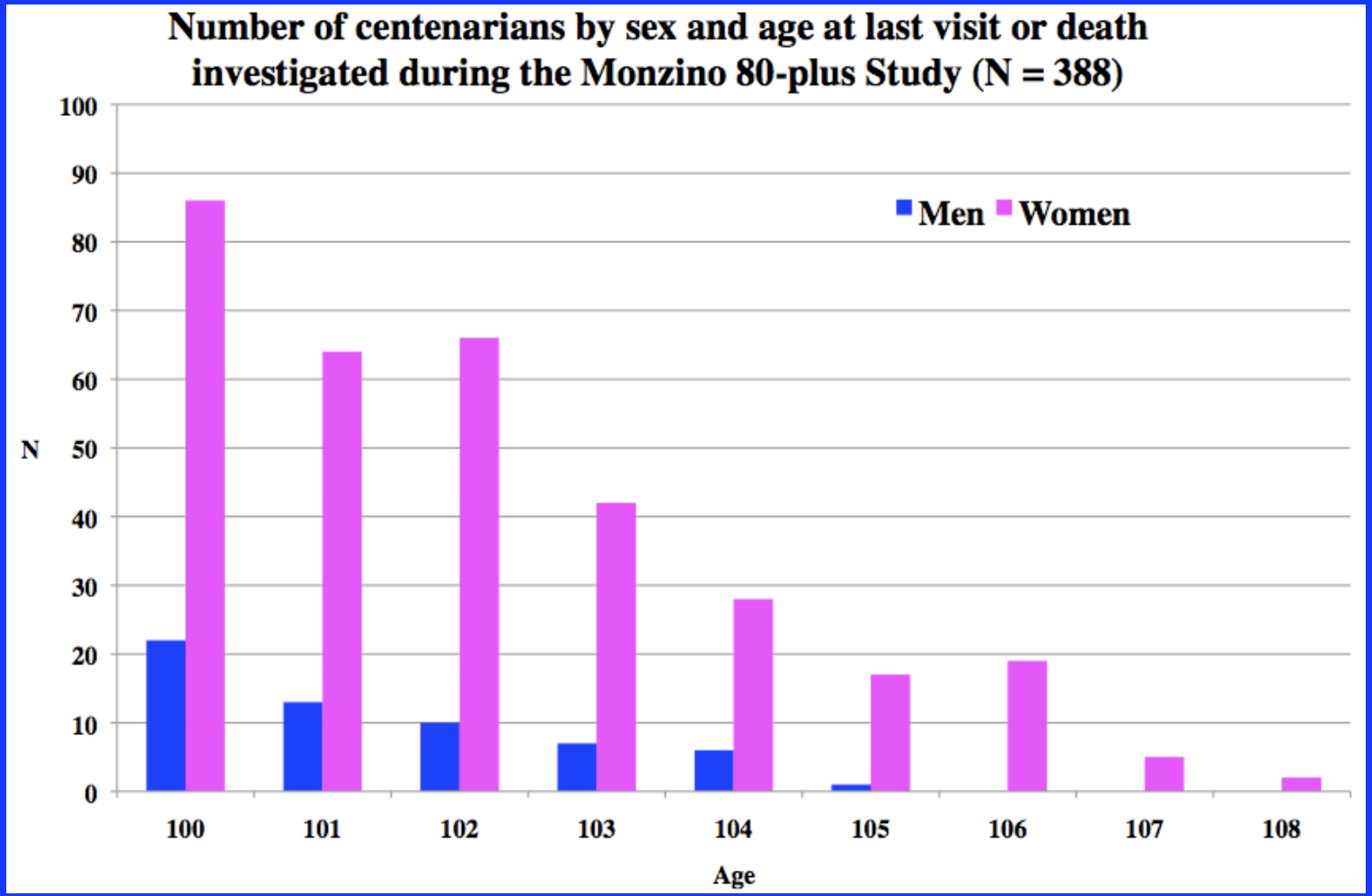
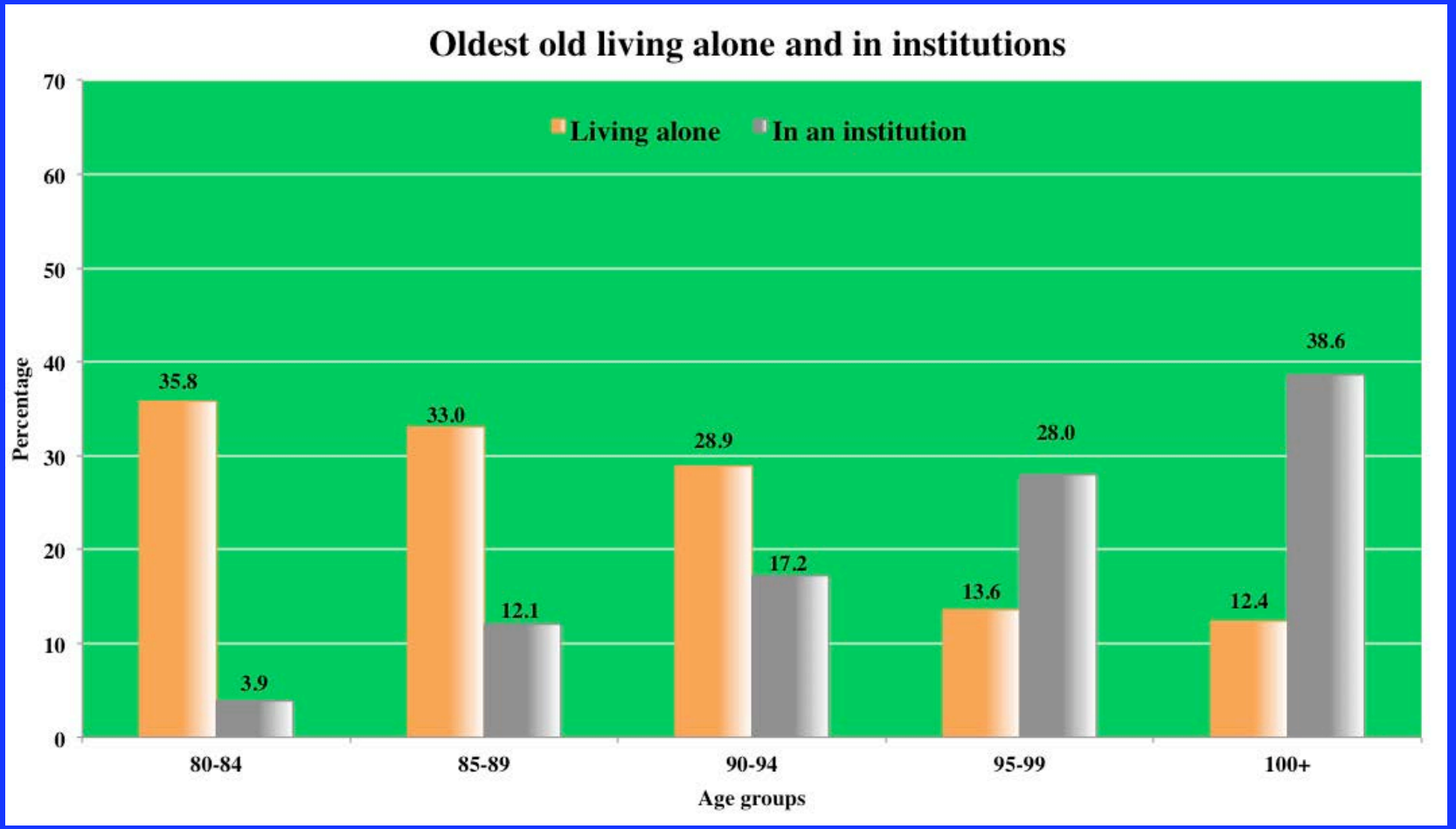
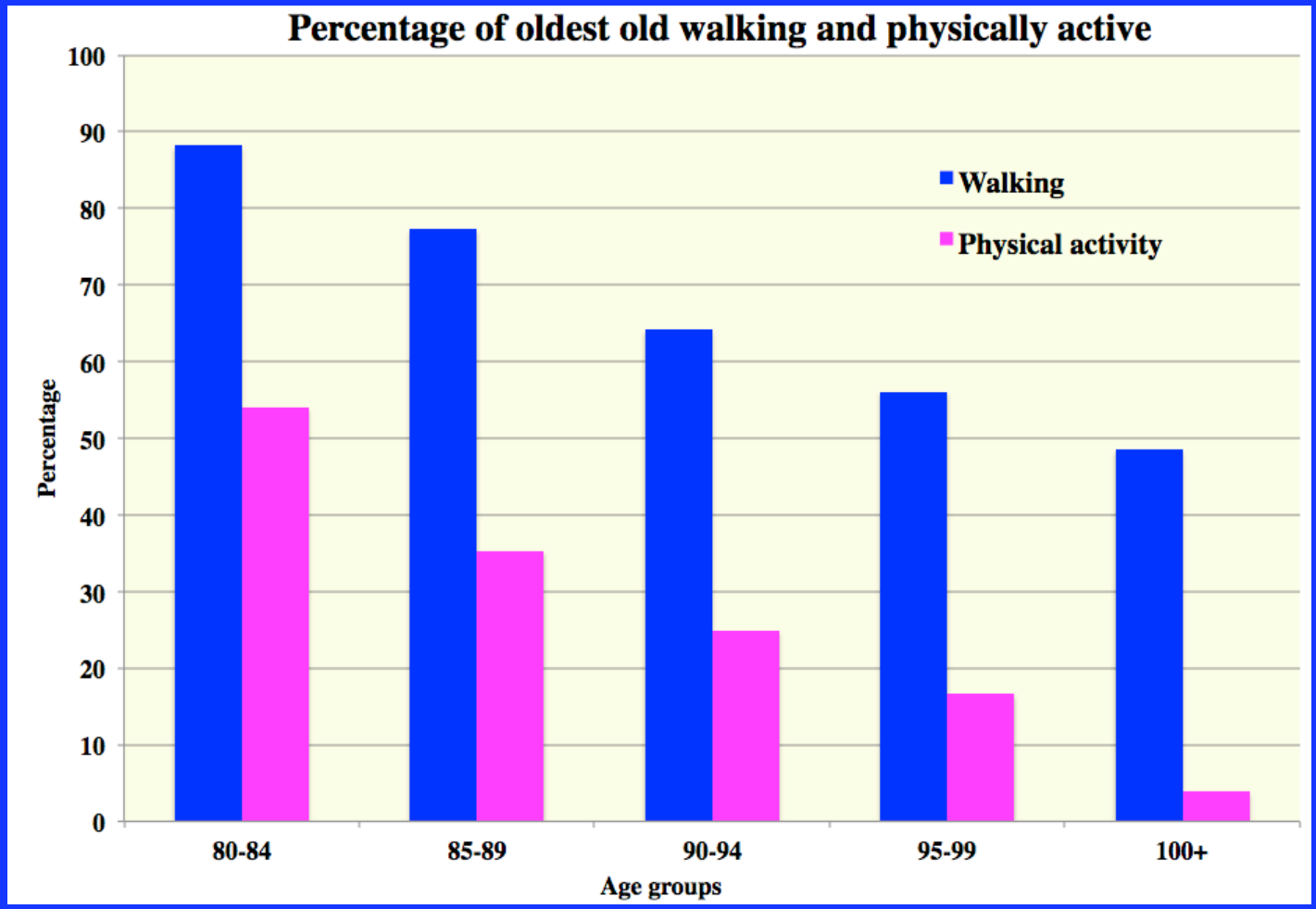

Number of centenarians by sex and age at first visit
included in the Monzino 80-plus Study (N = 268)
N
Age
Men
Women
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
145
14
54
4
25
2
14
0
2
4
0
3
0
1
100
101
102
103
104
105
106


Number of centenarians by sex and age at last visit or death investigated during the Monzino 80-plus Study (N = 388)
N
100
90
80
70
60
50
40
30
20
10
0
Men
Women
100
101
102
103
104
105
106
107
108
Age


Oldest old living alone and in institutions
Living alone
In an institution
Percentage
70
60
50
40
30
20
10
0
35.8
3.9
33.0
12.1
28.9
17.2
13.6
28.0
12.4
38.6
80-84
85-89
90-94
95-99
100+
Age groups



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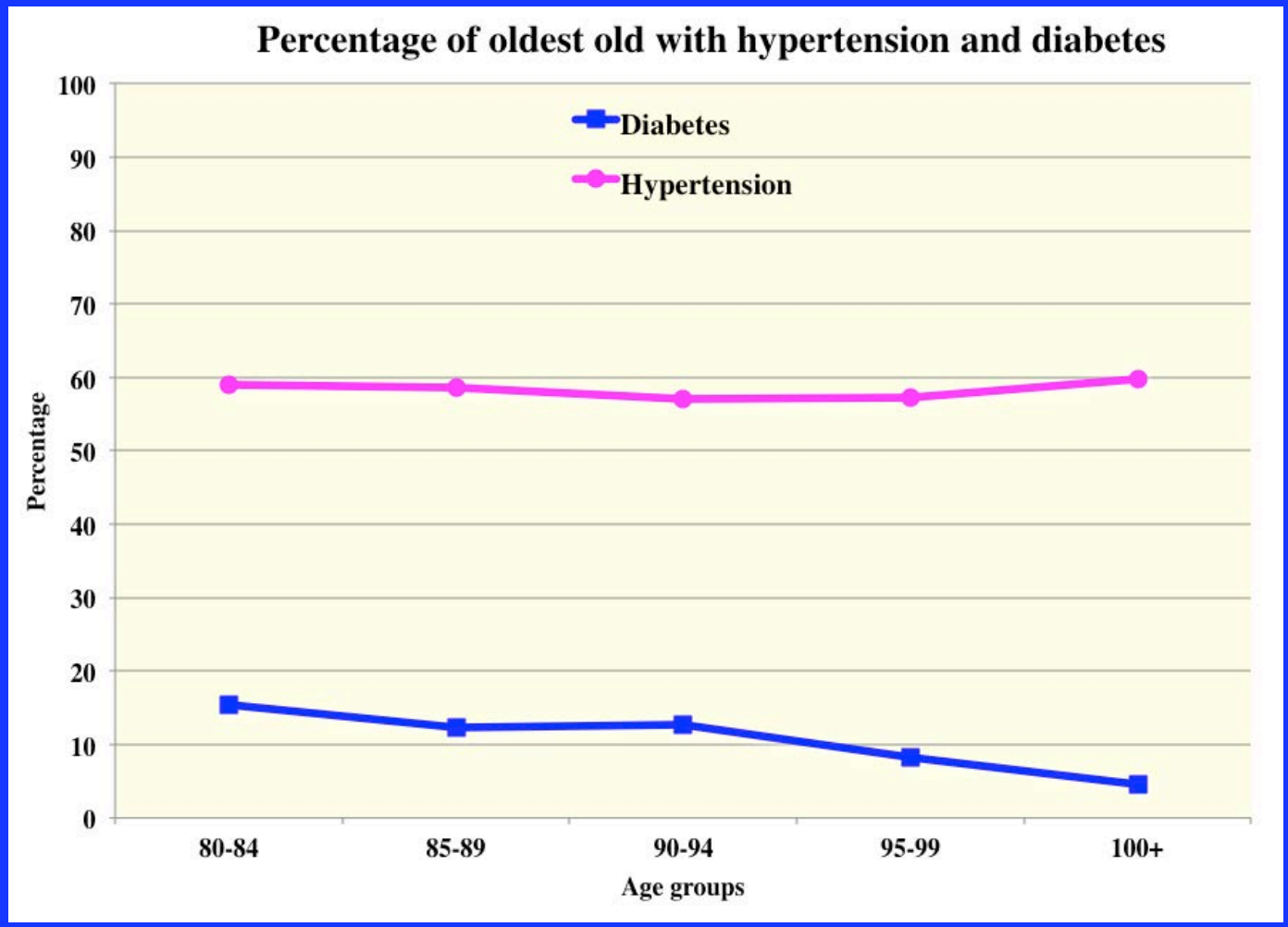
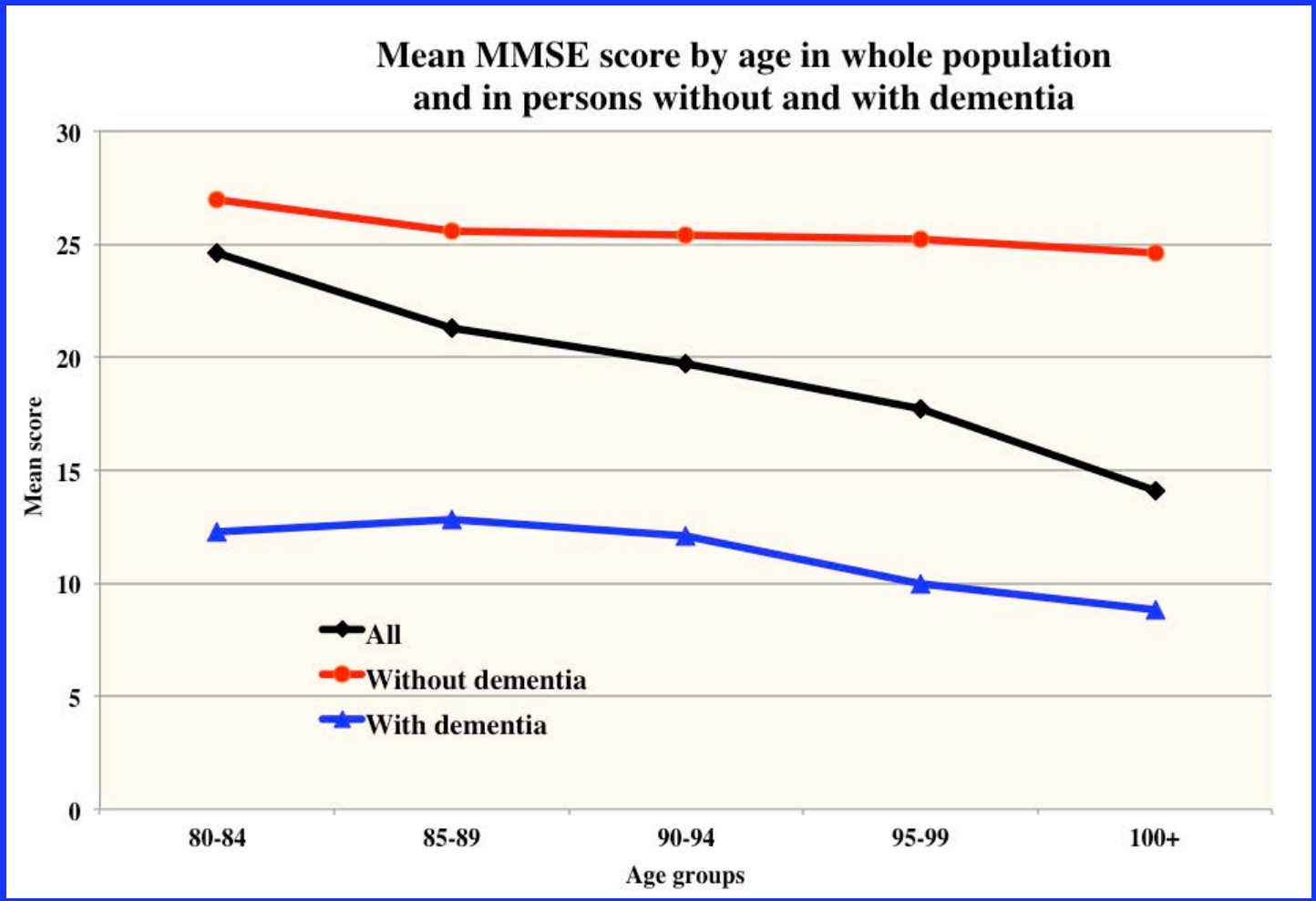
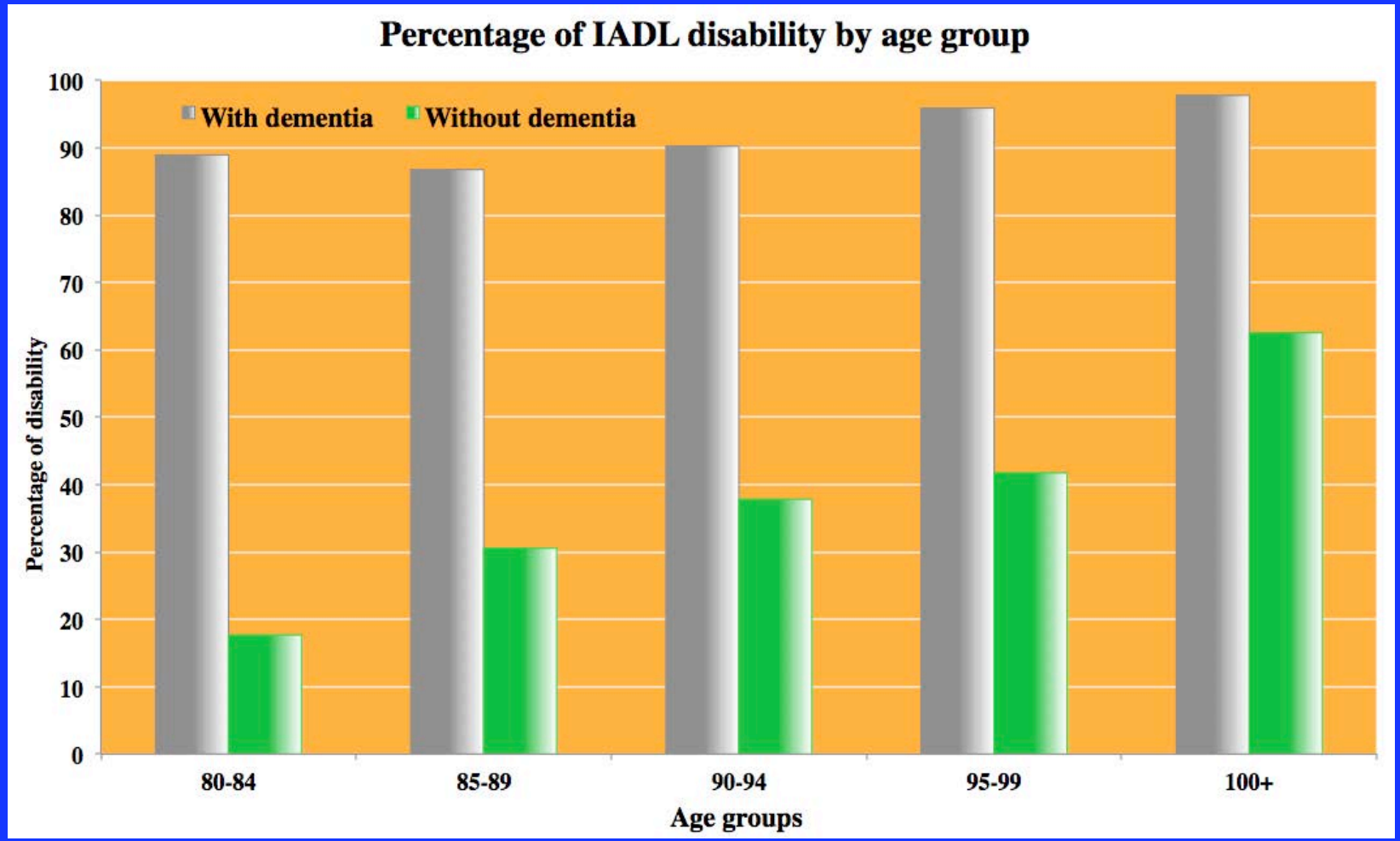
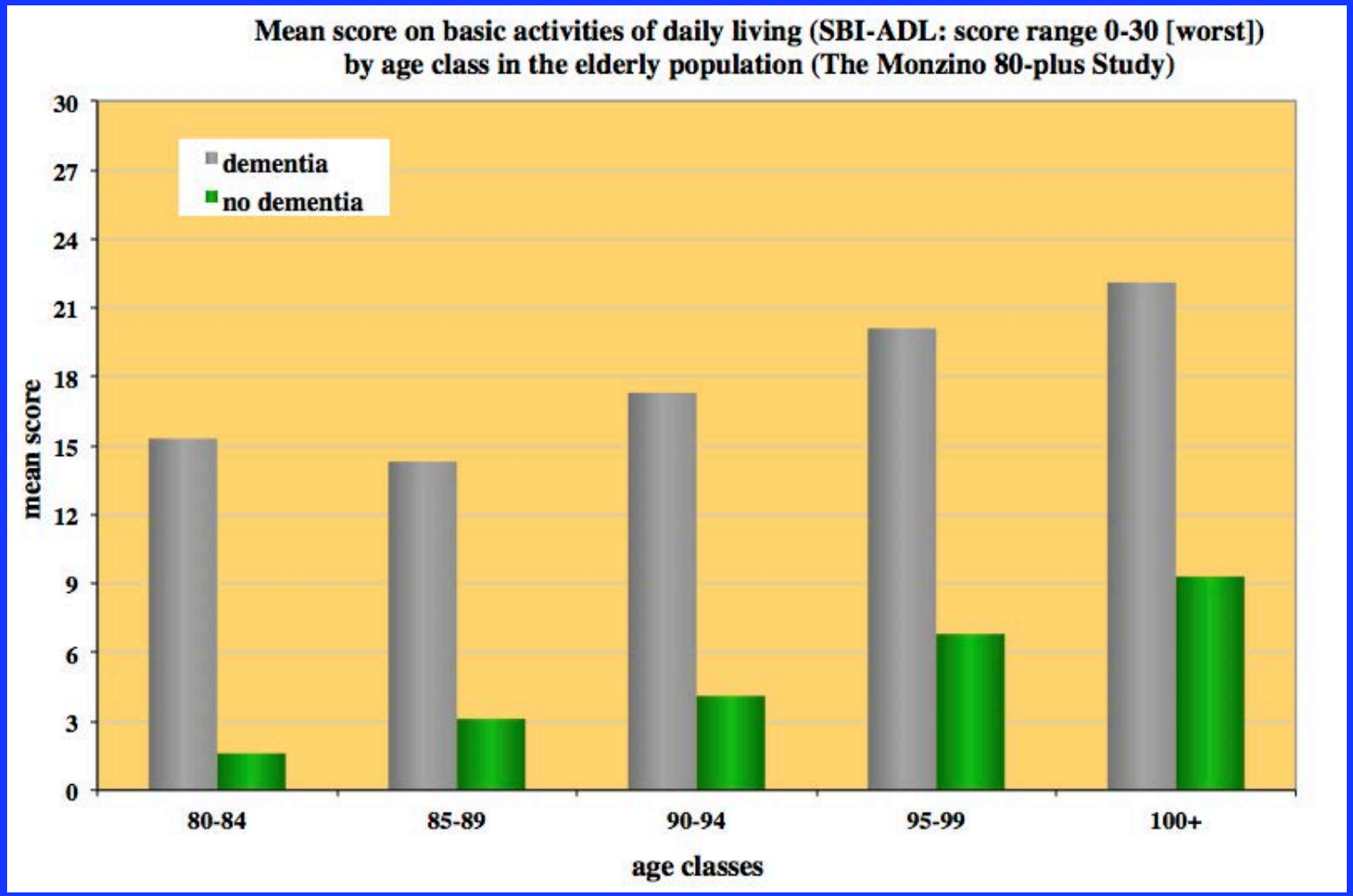

Percentage of oldest old with hypertension and diabetes
Diabetes
Hypertension
Percentage
100
90
80
70
60
50
40
30
20
10
0
80-84
85-89
90-94
95-99
100+
Age groups

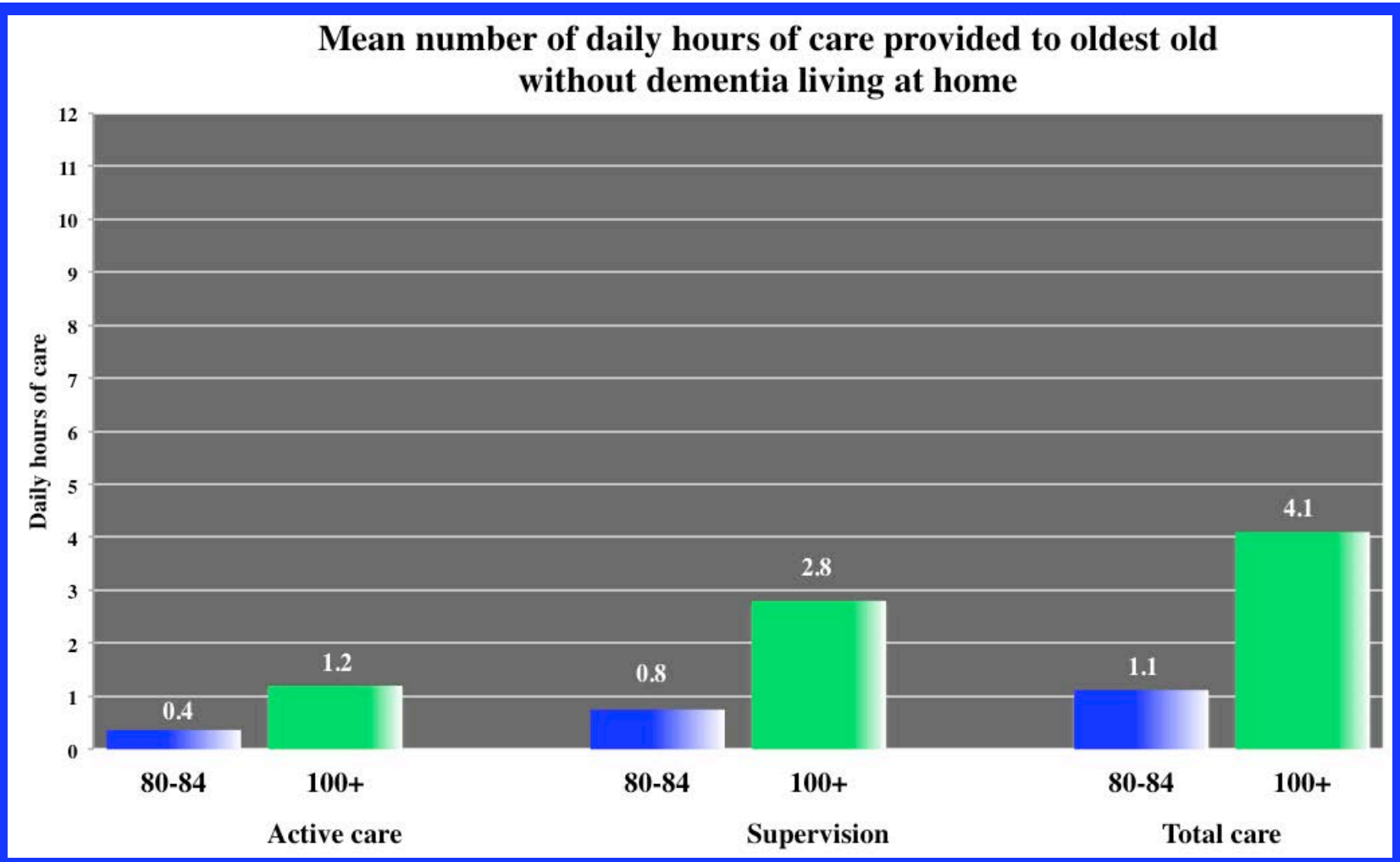
Main clinical features of the population with available information (N ≤ 2506) by age group at first visit

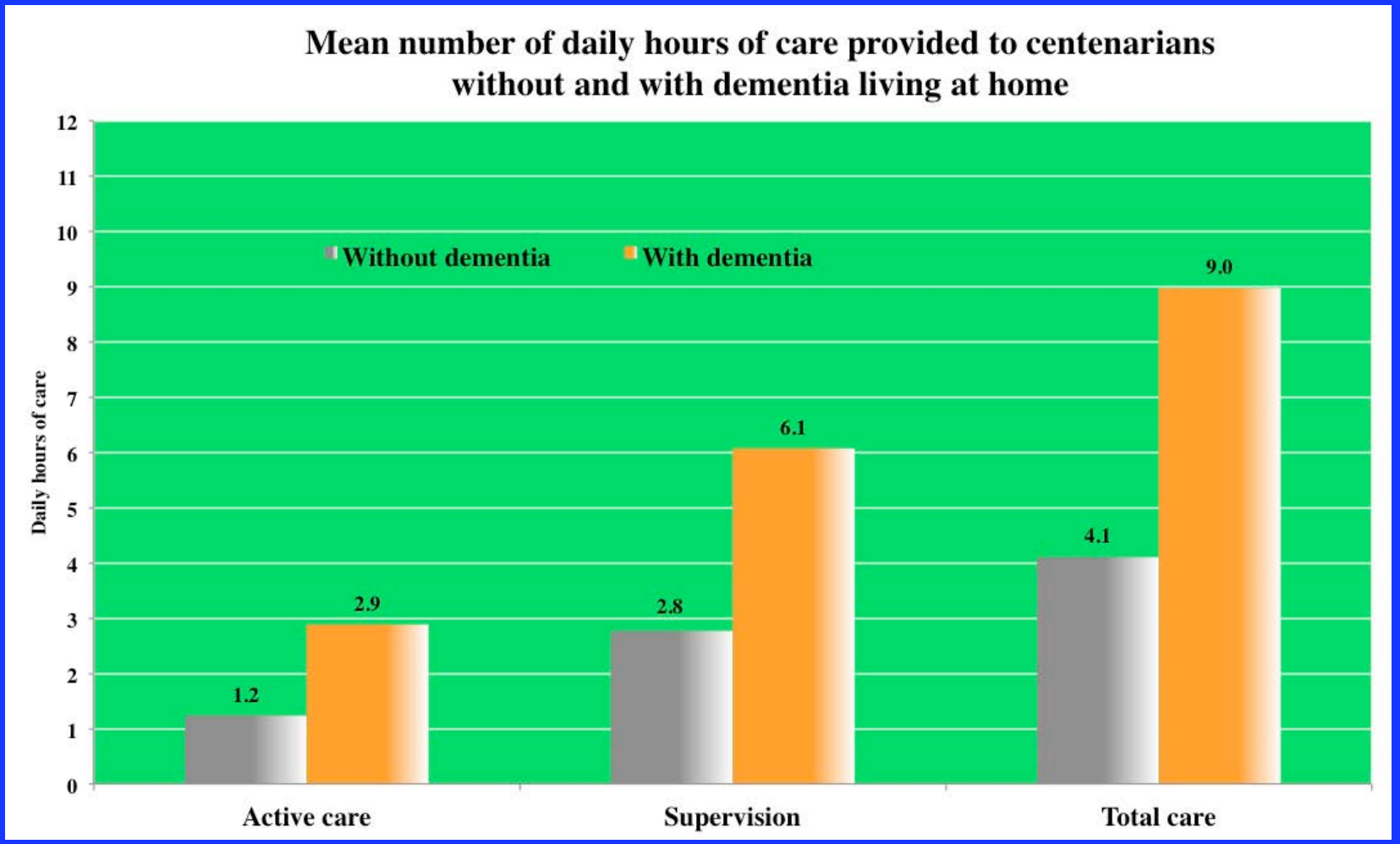
	80-84	85-89	90-94	95-99	100+
Hospital admission, previous year, %	34.7	30.8	26.9	25.1	15.8
Drug use, %	85.4	90.6	91.2	95.6	91.8
Mean number of drugs per users, (SD)	2.7 (2.0)	3.2 (2.2)	3.2 (2.1)	3.6 (2.0)	3.3 (2.0)

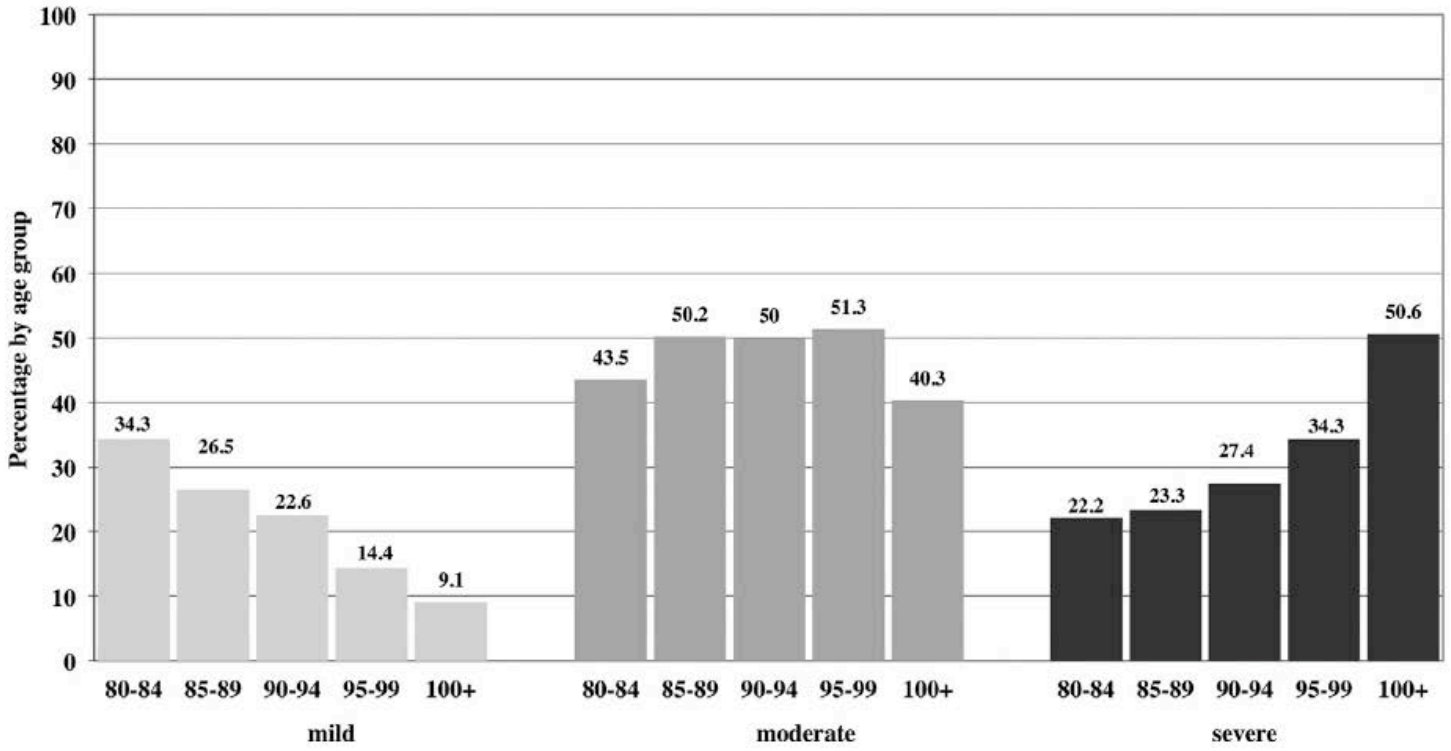

Mean MMSE score by age in whole population
and in persons without and with dementia
30
25
20
15
10
5
0
Mean score
All
Without dementia
With dementia
80-84
85-89
90-94
95-99
100+
Age groups


Percentage of IADL disability by age group
With dementia
Without dementia
Percentage of disability
100
90
80
70
60
50
40
30
20
10
0
80-84
85-89
90-94
95-99
100+
Age groups


Mean score on basic activities of daily living (SBI-ADL: score range 0-30 [worst])
by age class in the elderly population (The Monzino 80-plus Study)
dementia
no dementia
mean score
30
27
24
21
18
15
12
9
6
3
0
80-84
85-89
90-94
95-99
100+
age classes

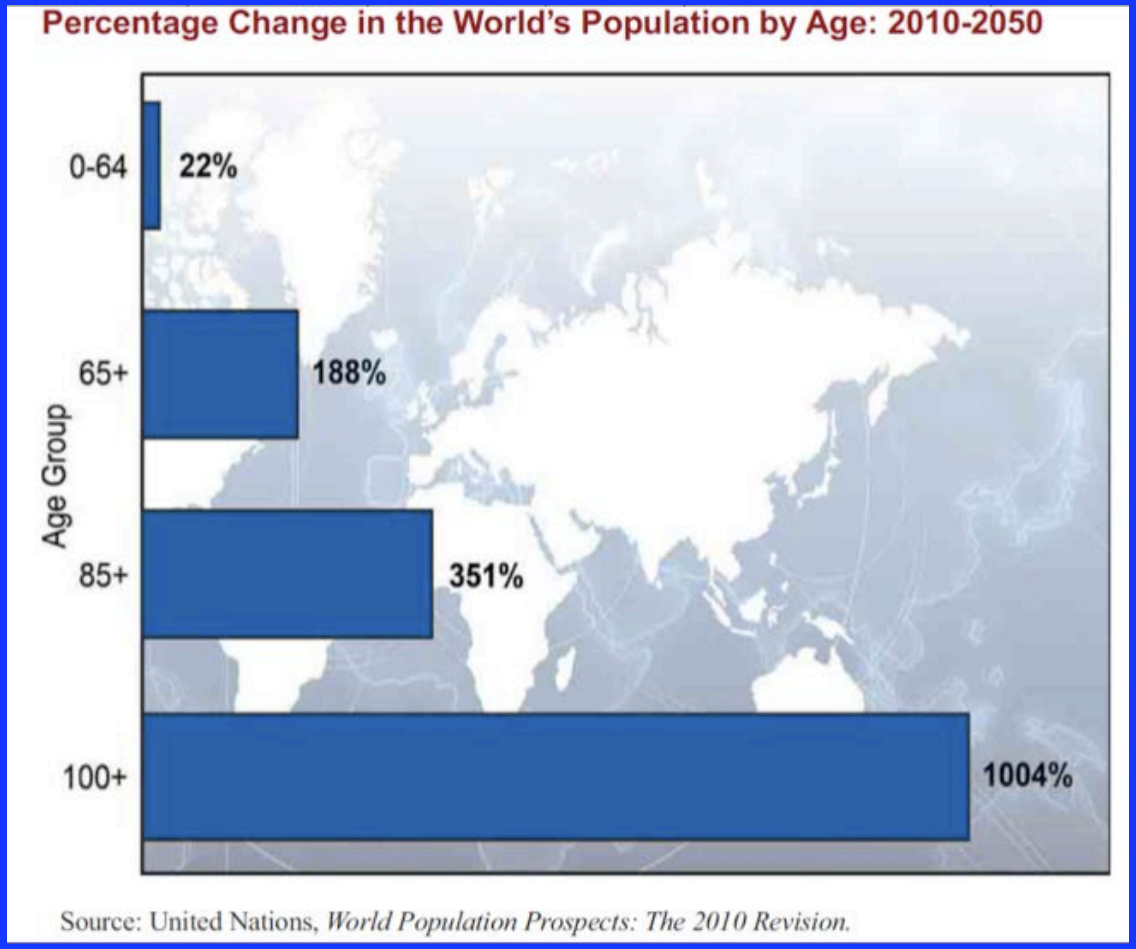

Mean number of daily hours of care provided to oldest old without dementia living at home
Daily hours of care
12
11
10
9
8
7
6
5
4
3
2
1
0
0.4
1.2
0.8
2.8
1.1
4.1
80-84
100+
80-84
100+
80-84
100+
Active care
Supervision
Total care

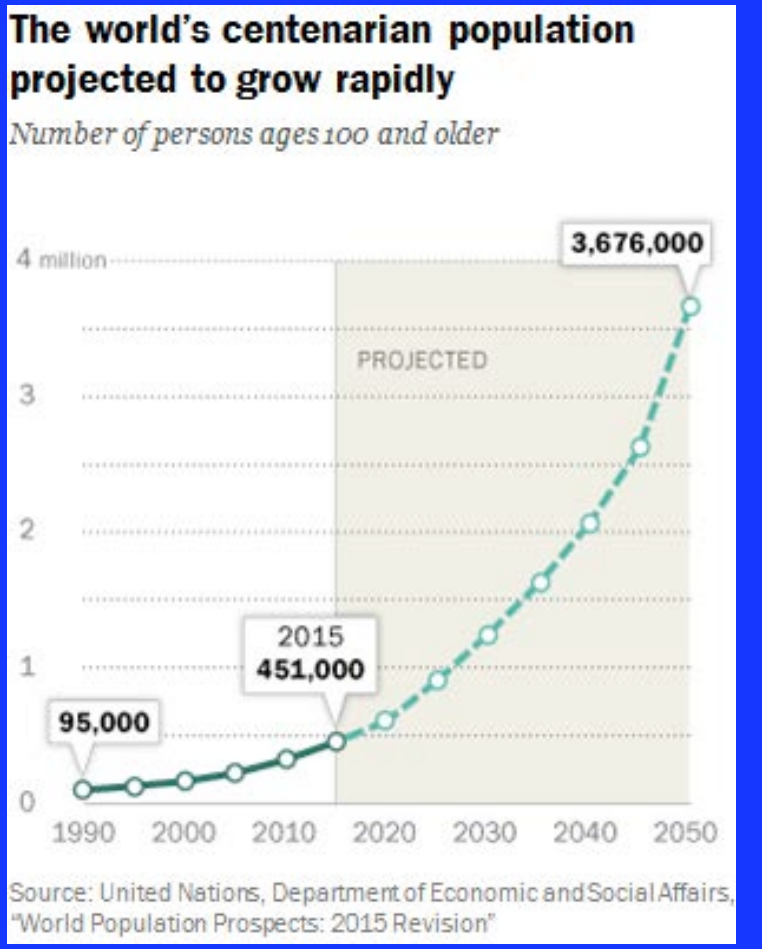

Mean number of daily hours of care provided to centenarians without and with dementia living at home
Daily hours of care
0
1
2
3
4
5
6
7
8
9
10
11
12
Without dementia
With dementia
1.2
2.9
2.8
6.1
4.1
9.0
Active care
Supervision
Total care



Supplementary Fig. 2. Percentage of mild, moderate, and severe dementia in each age group in the Monzino 80-plus Study.

Lucca et al. 2015


Percentage Change in the World's Population by Age: 2010-2050
Age Group
0-64
22%
65+
188%
85+
351%
100+
1004%
Source: United Nations, World Population Prospects: The 2010 Revision.


The world's centenarian population projected to grow rapidly
Number of persons ages 100 and older
4 million
3
2
1
0
PROJECTED
3,676,000
2015
451,000
95,000
1990
2000
2010
2020
2030
2040
2050
Source: United Nations, Department of Economic and Social Affairs, "World Population Prospects: 2015 Revision"

Aging Clin. Exp. Res. 12: 77-84, 2000

Do men and women follow different trajectories to reach extreme longevity?

C. Franceschi[1,2], L. Motta[3], S. Valensin[1], R. Rapisarda[3], A. Franzone[3], M. Berardelli[3], M. Motta[3], D. Monti[4], M. Bonafè[1], L. Ferrucci[2], L. Deiana[5], G.M. Pes[5], C. Carru[5], M.S. Desole[5], C. Barbi[1], G. Sartoni[1], C. Gemelli[1], F. Lescai[1], F. Olivieri[2], F. Marchegiani[2], M. Cardelli[2], L. Cavallone[2], P. Gueresi[6], A. Cossarizza[7], L. Troiano[6], G. Pini[2], P. Sansoni[8], G. Passeri[8], R. Lisa[2], L. Spazzafumo[2], L. Amadio[2], S. Giunta[2], R. Stecconi[2], R. Morresi[2], C. Viticchi[2], R. Mattace[9], G. De Benedictis[10], G. Baggio[11], and the Italian Multicenter Study on Centenarians (IMUSCE)*

Table 2 - *The health status of 382 centenarians (classification criteria are reported in Table 1).*

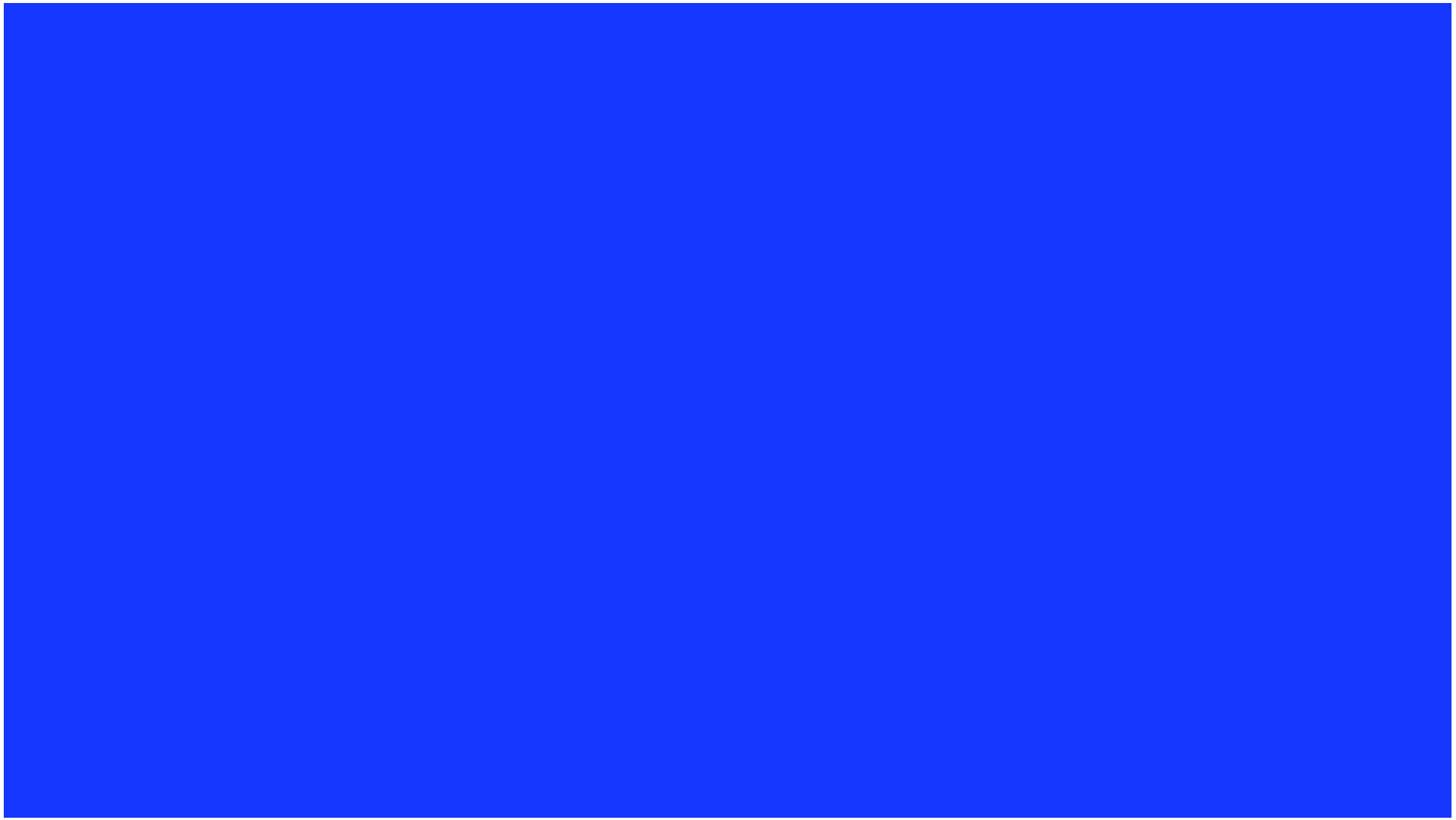
Category*	Centenarians (total number)	Females	Males	% (total)
GOOD HEALTH STATUS	85	58	27	22.2
INTERMEDIATE HEALTH STATUS	113	92	21	29.6
BAD HEALTH STATUS	159	139	20	41.6
TOTAL	357	289	68	93.4

"Are older people more likely to become centenarians because they are in better health or because it is much easier to survive today? Although it is very difficult to answer this question, there is evidence in favour of a strong decline in the mortality selection." Despite a "trend showing that the higher the life expectancy, the higher the healthy life expectancy", in low mortality countries "the fast accumulation of centenarians seems to be accompanied by a parallel decline in their functional health status."

Robine, Saito and Jagger 2009

The future of centenarian studies

From unveiling the secret to live to 100, to identifying the determinants to reach 100 ... in good health.

The idea is to die young as late as possible
Ashley Montagu

In the province of Varese (Cunardo) in the early 1900s