

Sydney Memory and Ageing Study

How healthy are older people?

Henry Brodaty

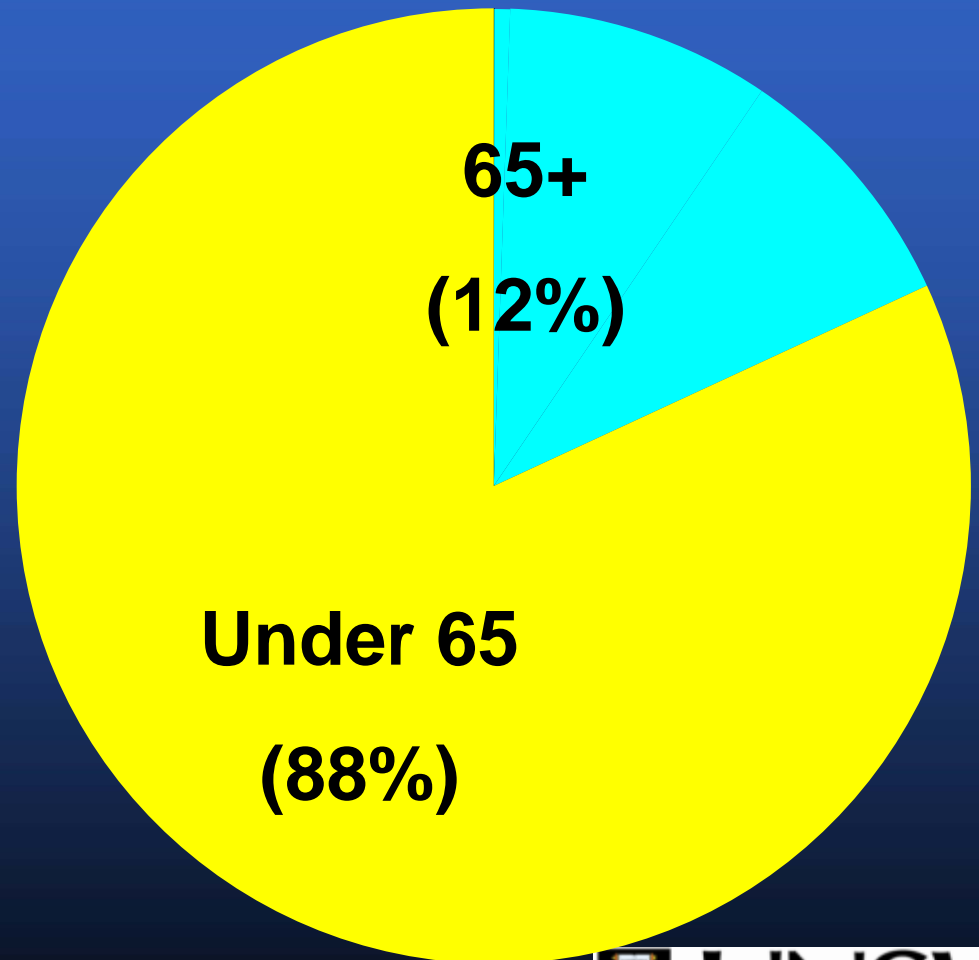


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Australia's population

- 22 million people
- 2.6 million 65+
- 1.9 million 70+
- > 0.1 million 90+
- > 3000 100+

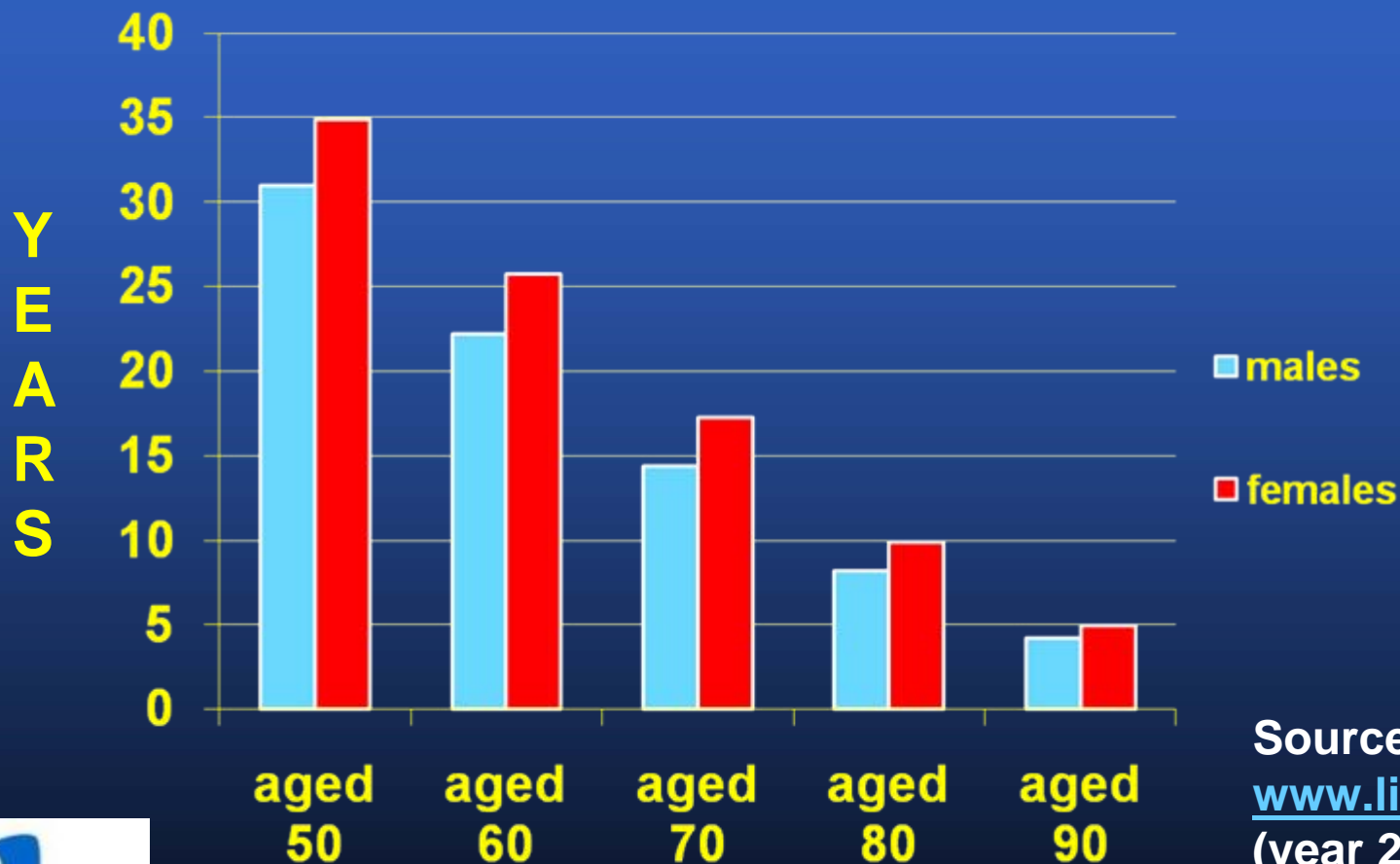


Life expectancy in Australia since 1920



Source:
Wolfram
Alpha

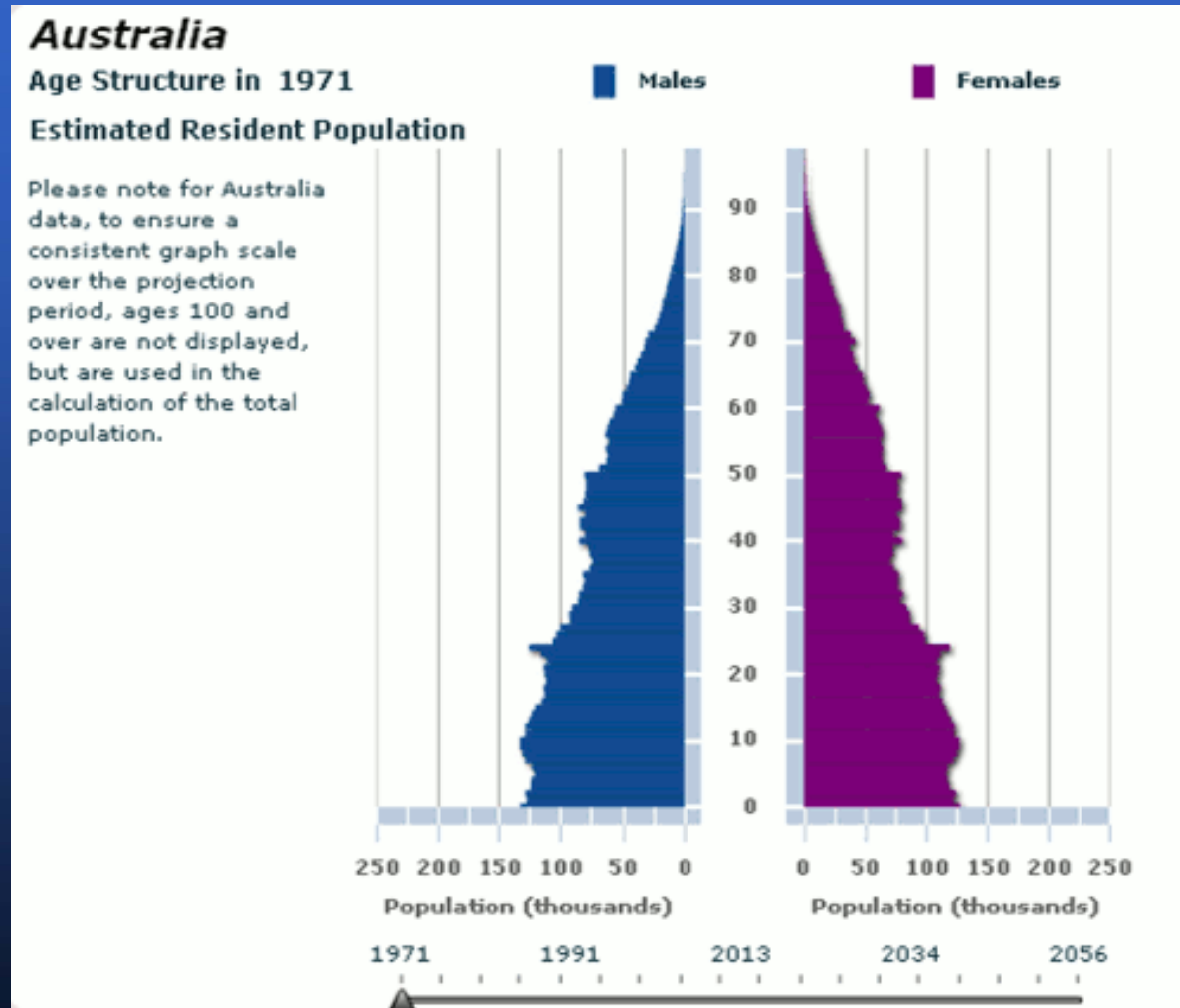
What is the life expectancy of Australians today at a certain age?



Source:
www.lifetables.de
(year 2003-2005)



Projections of ageing to 2050



Source:
Australian
Bureau of
Statistics



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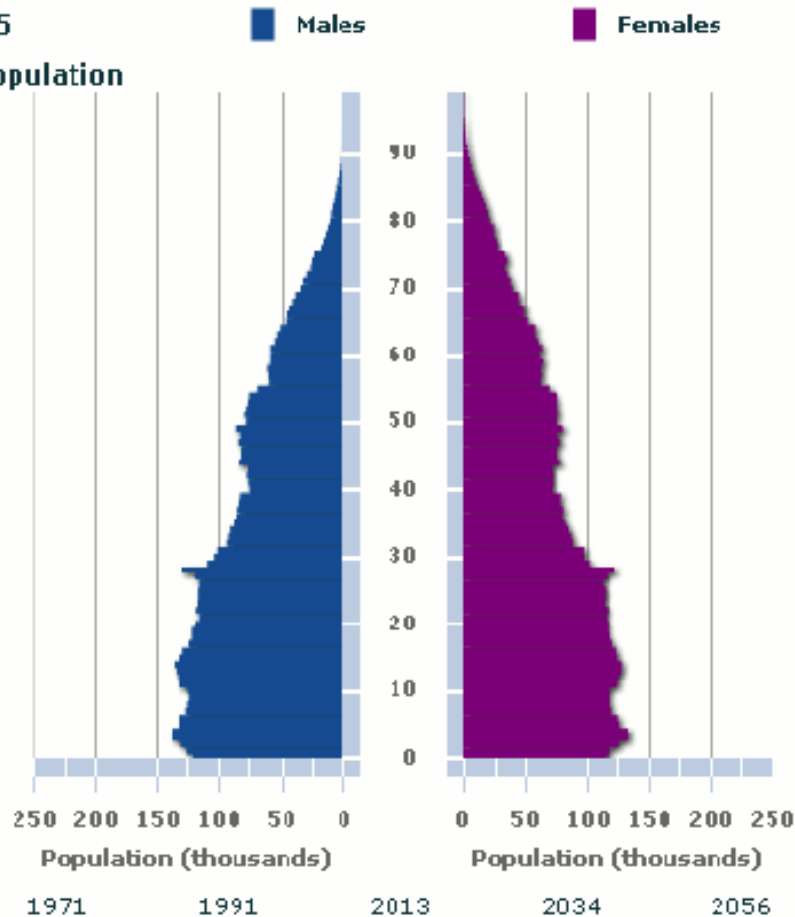
Projections of ageing to 2050

Australia

Age Structure in 1975

Estimated Resident Population

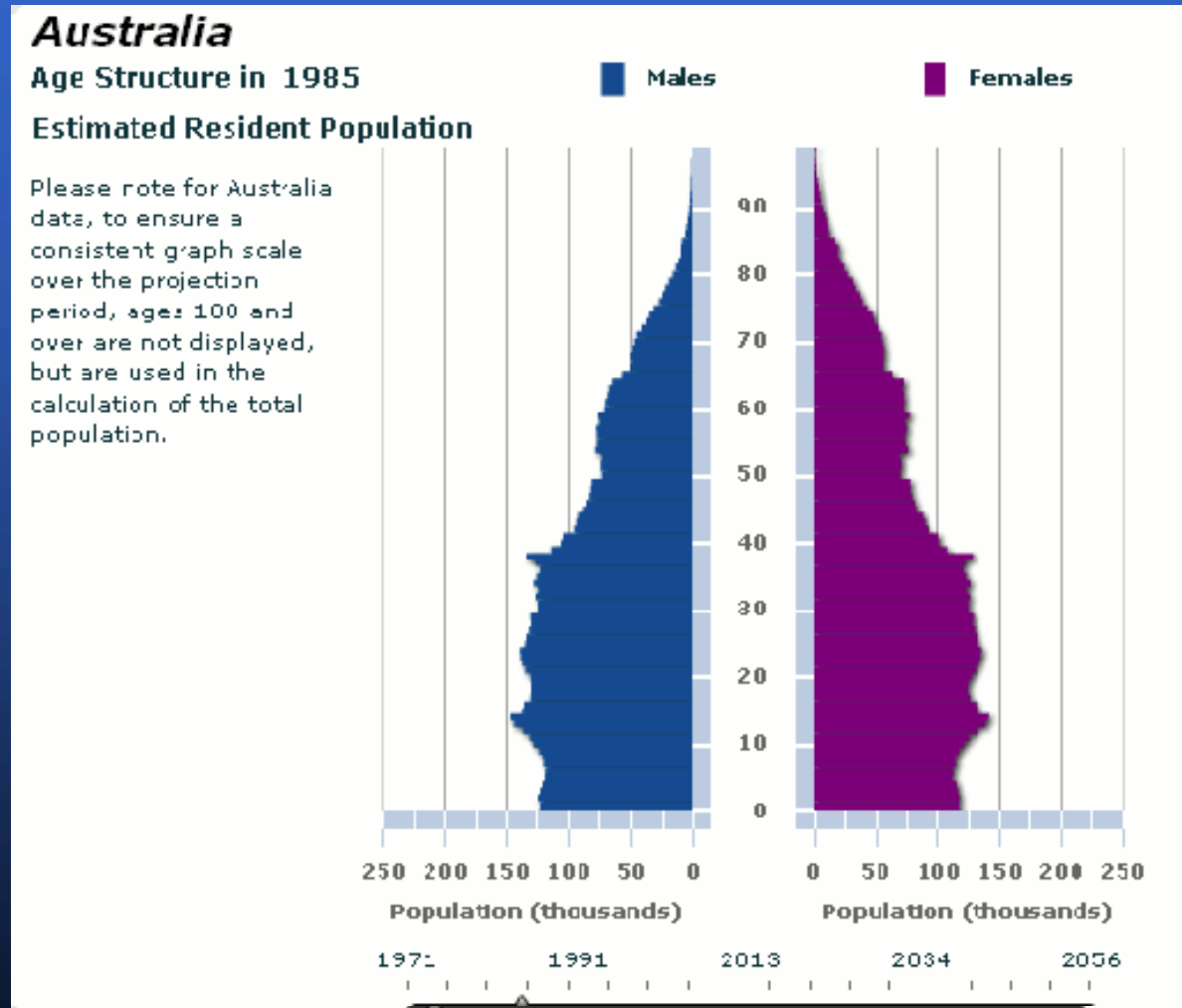
Please note for Australia data, to ensure a consistent graph scale over the projection period, ages 100 and over are not displayed, but are used in the calculation of the total population.



Source:
Australian
Bureau of
Statistics



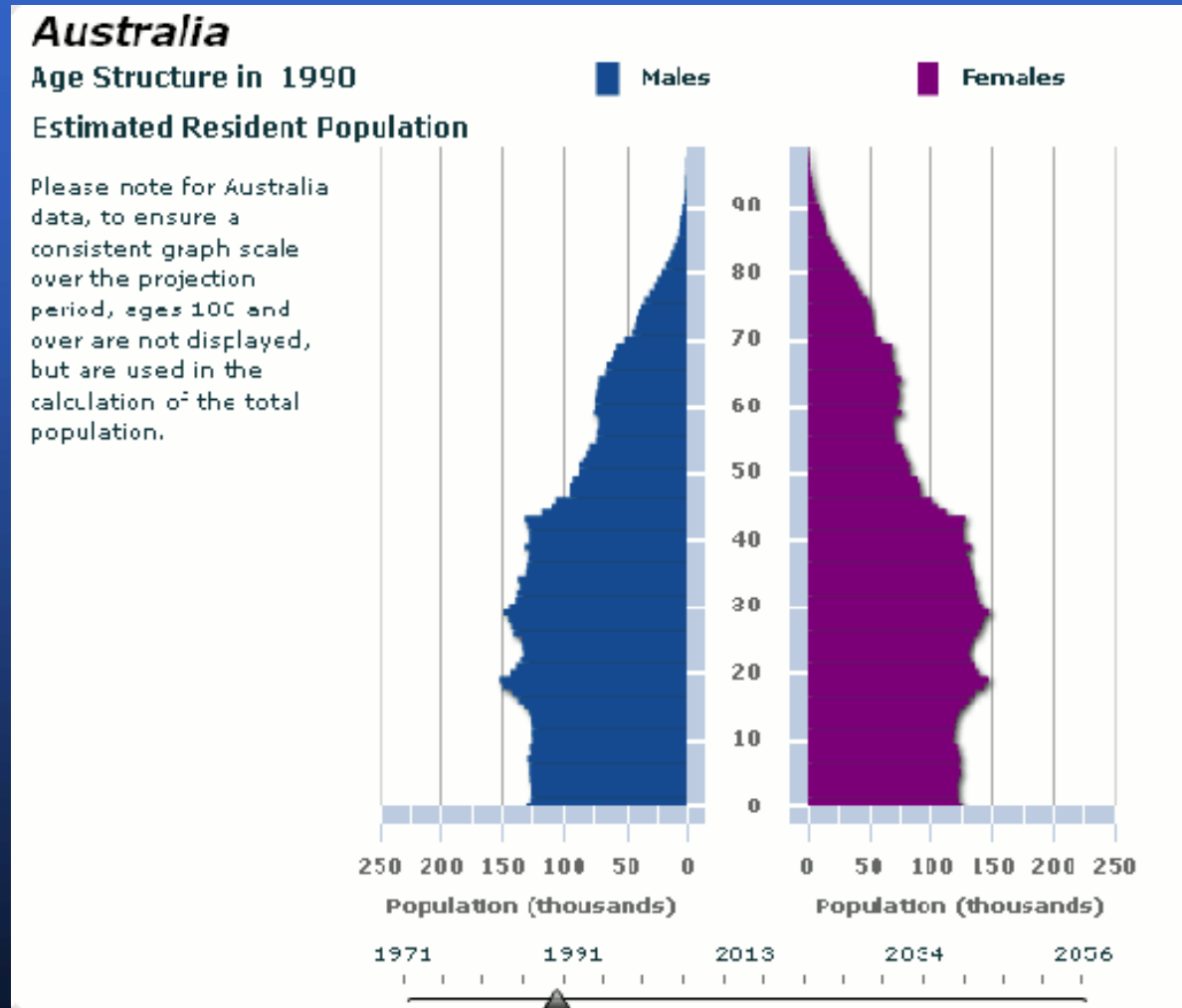
Projections of ageing to 2050



Source:
Australian
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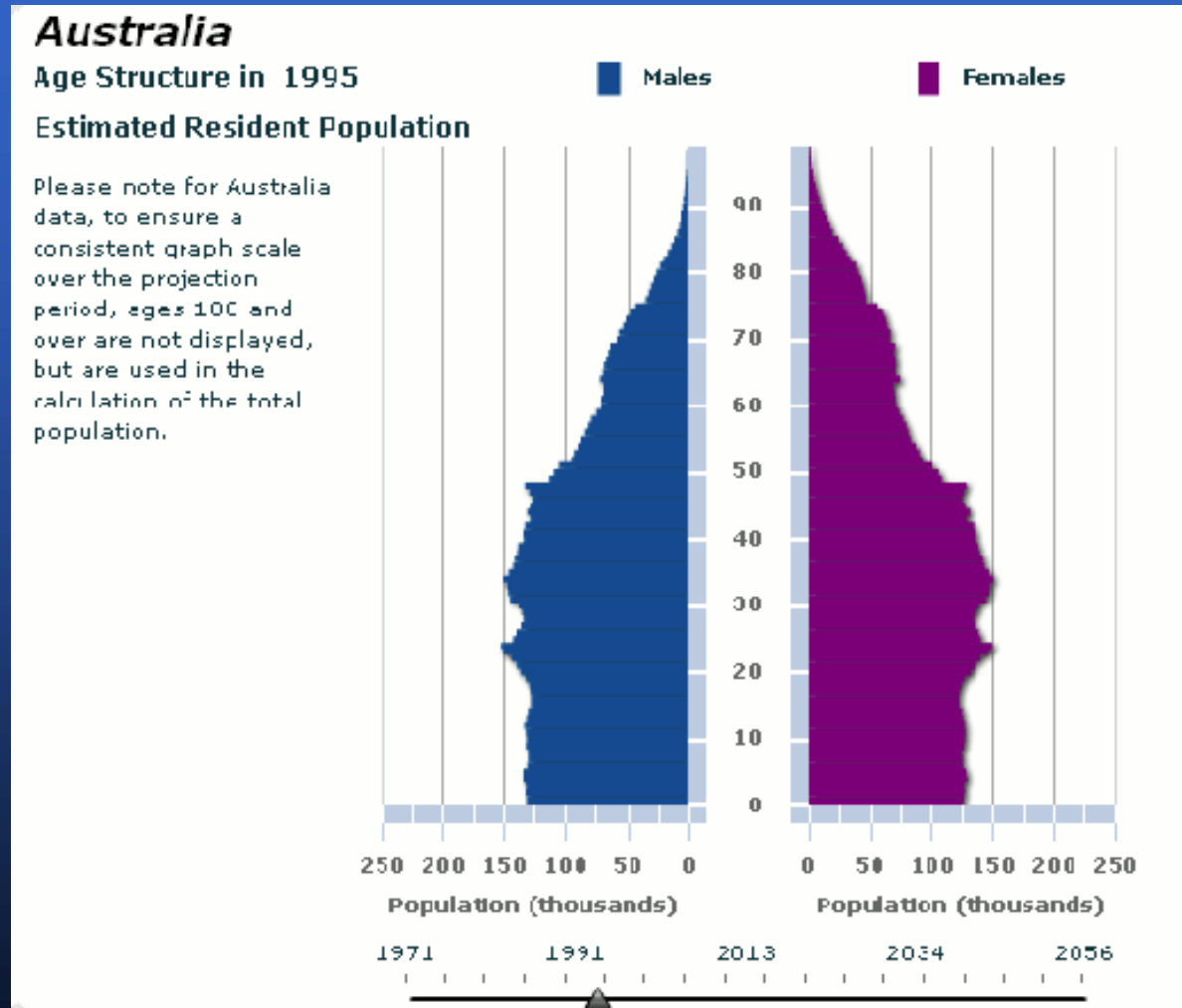
Projections of ageing to 2050



Source:
Australian
Bureau of
Statistics



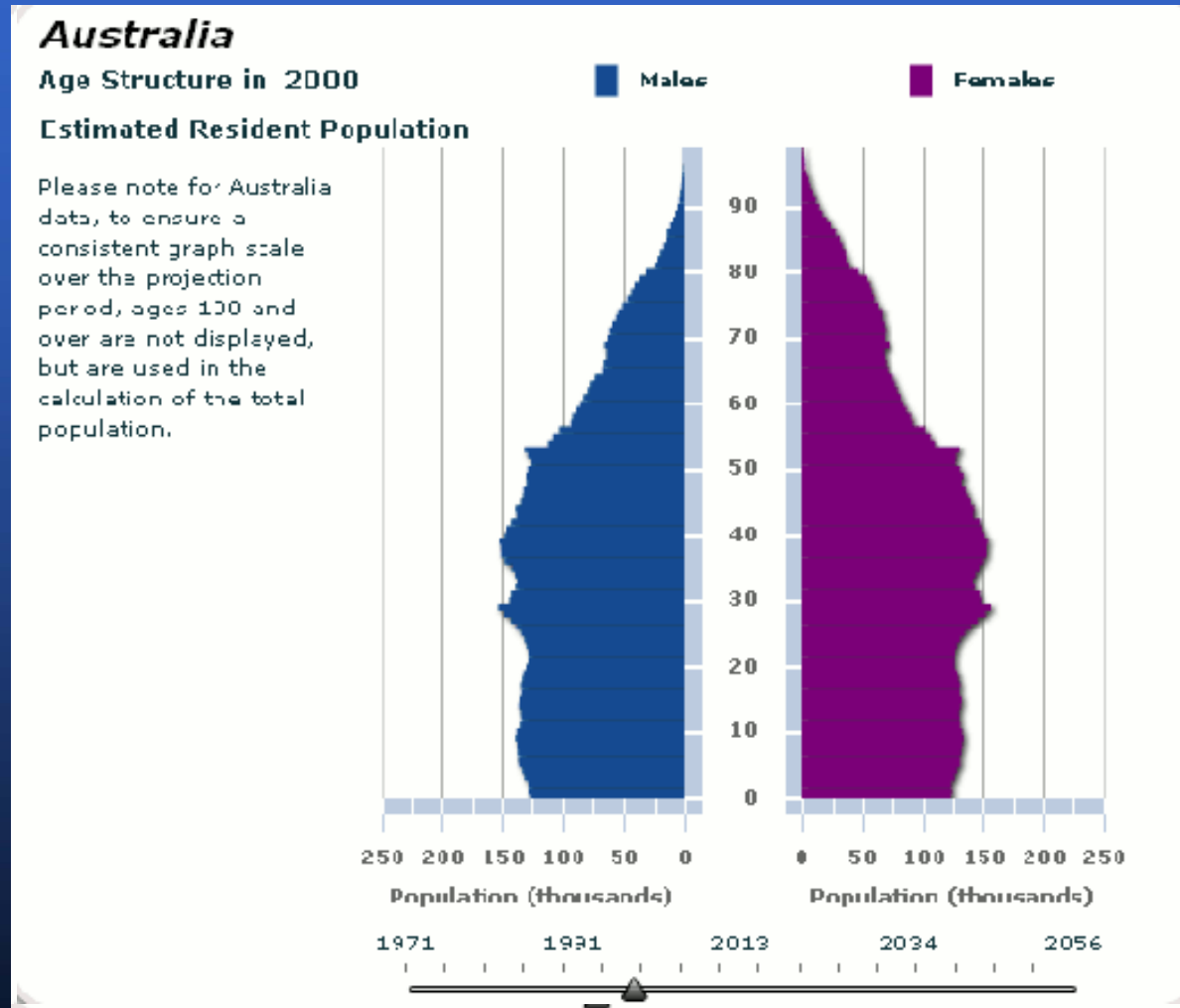
Projections of ageing to 2050



Source:
Australian
Bureau of
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Projections of ageing to 2050



Source:
Australian
Bureau of
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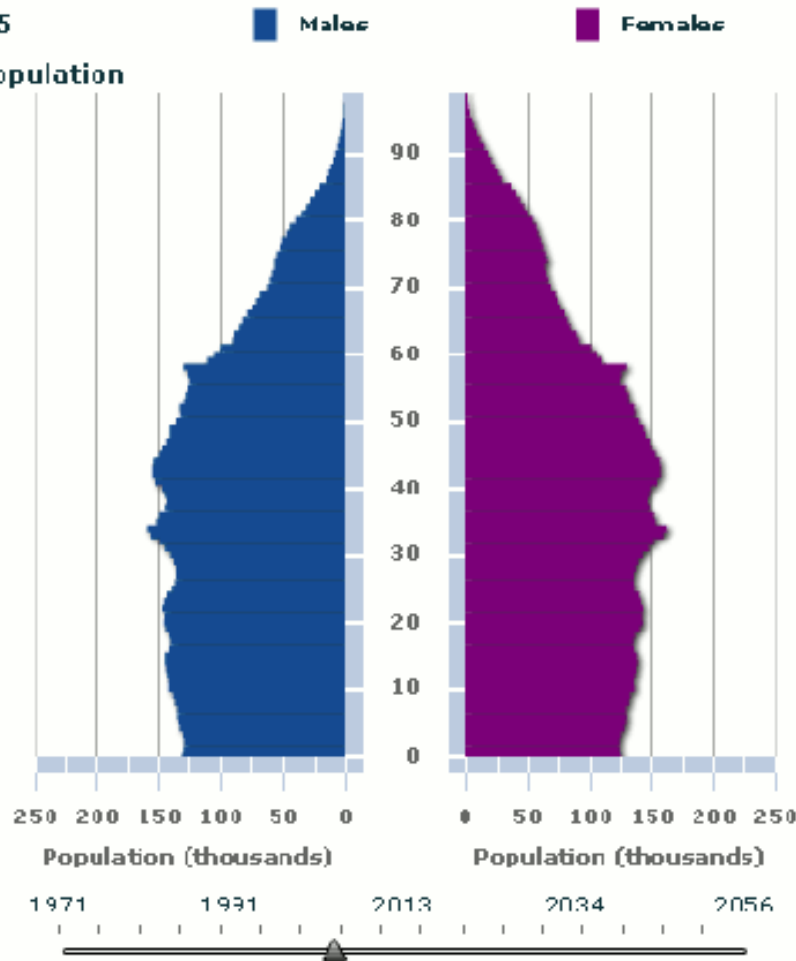
Projections of ageing to 2050

Australia

Age Structure in 2005

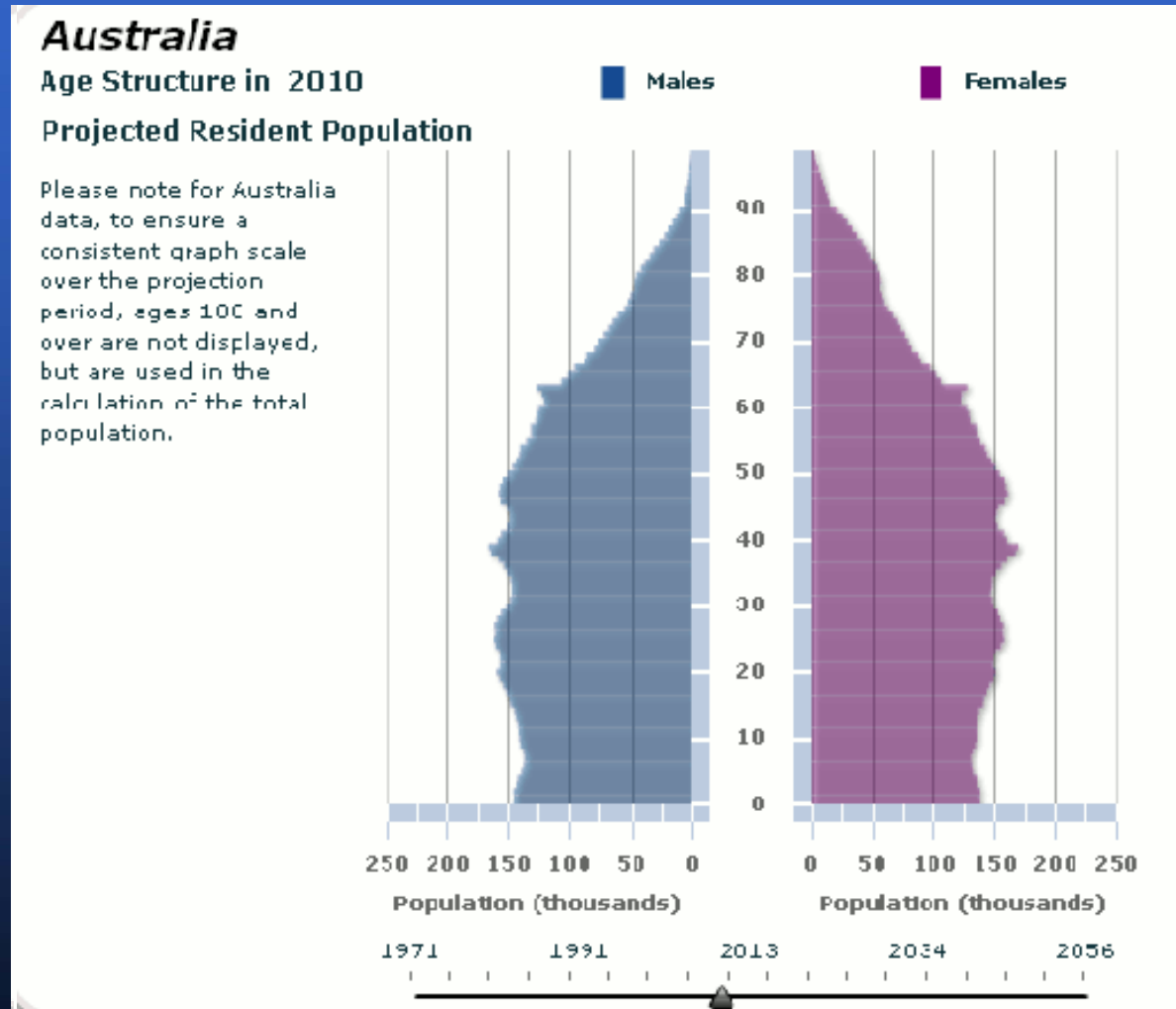
Estimated Resident Population

Please note for Australia data, to ensure a consistent graph scale over the projection period, ages 100 and over are not displayed, but are used in the calculation of the total population.



Source:
Australian
Bureau of
Statistics

Projections of ageing to 2050



Source:
Australian
Bureau of
Statistics



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Projections of ageing to 2050

Australia

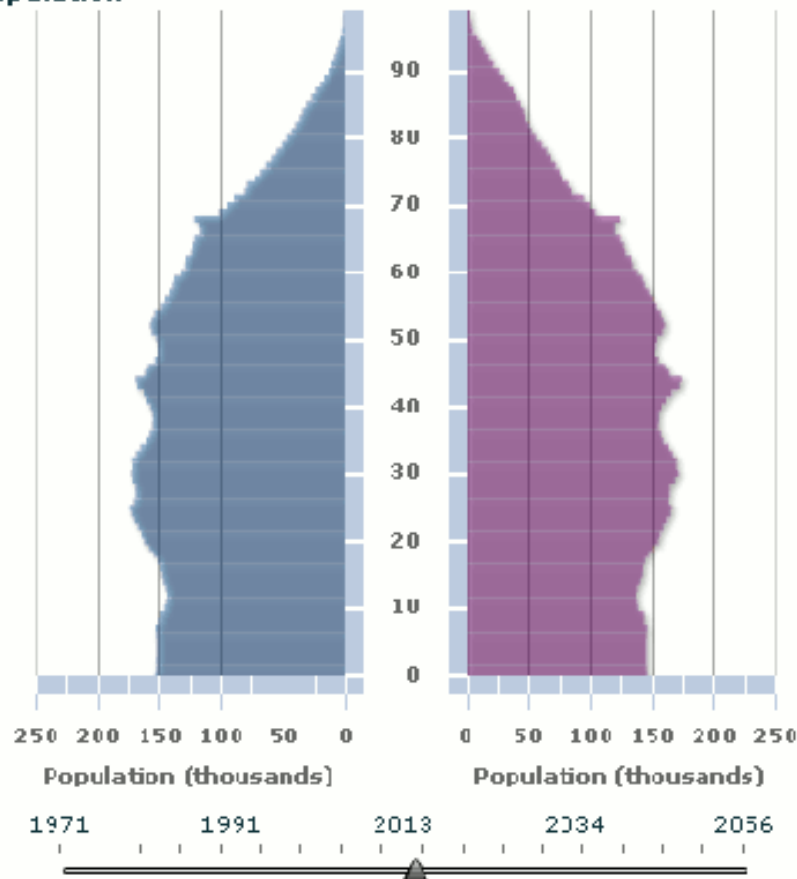
Age Structure in 2015

■ Males

■ Females

Projected Resident Population

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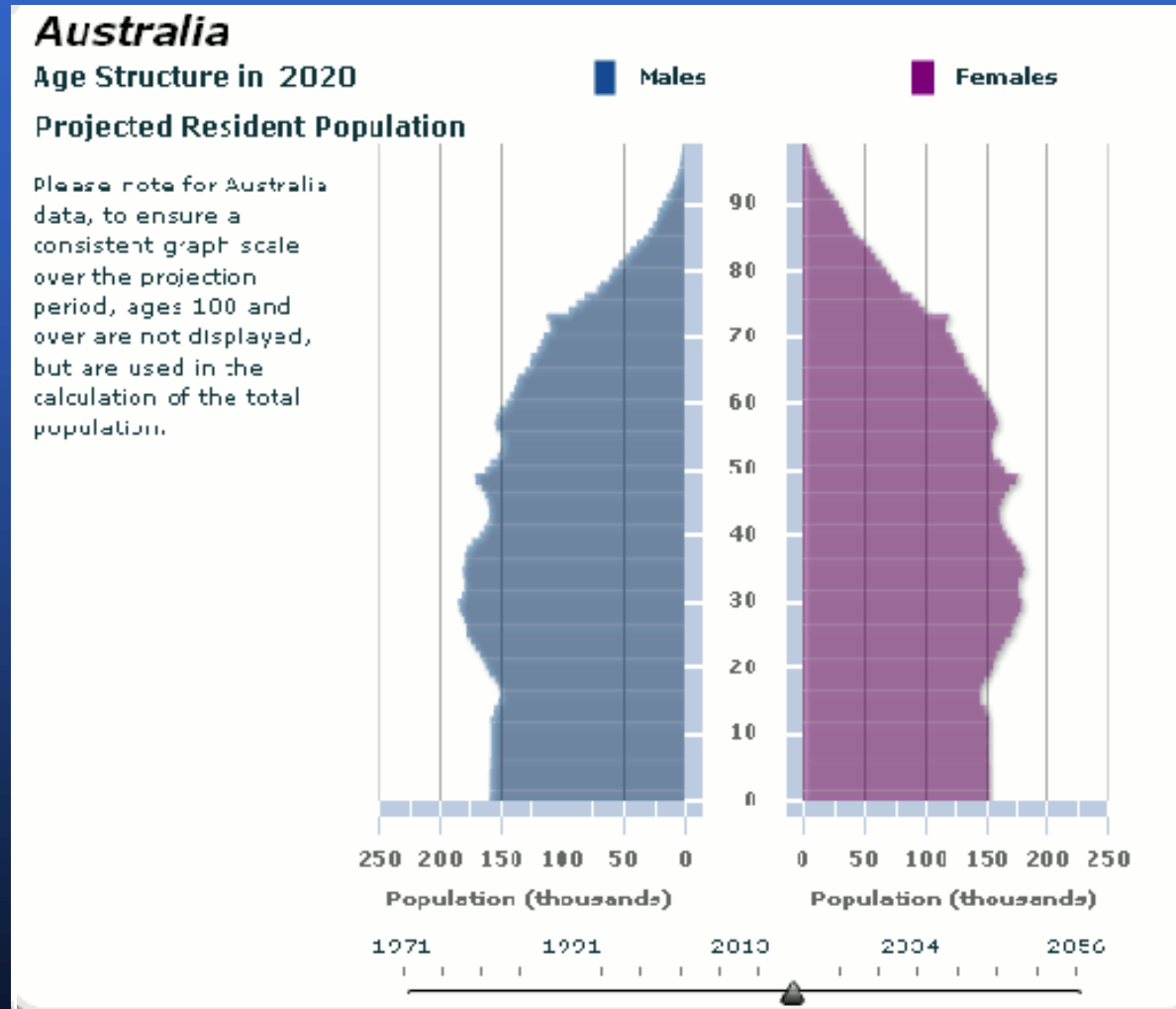


Source:
Australian
Bureau of
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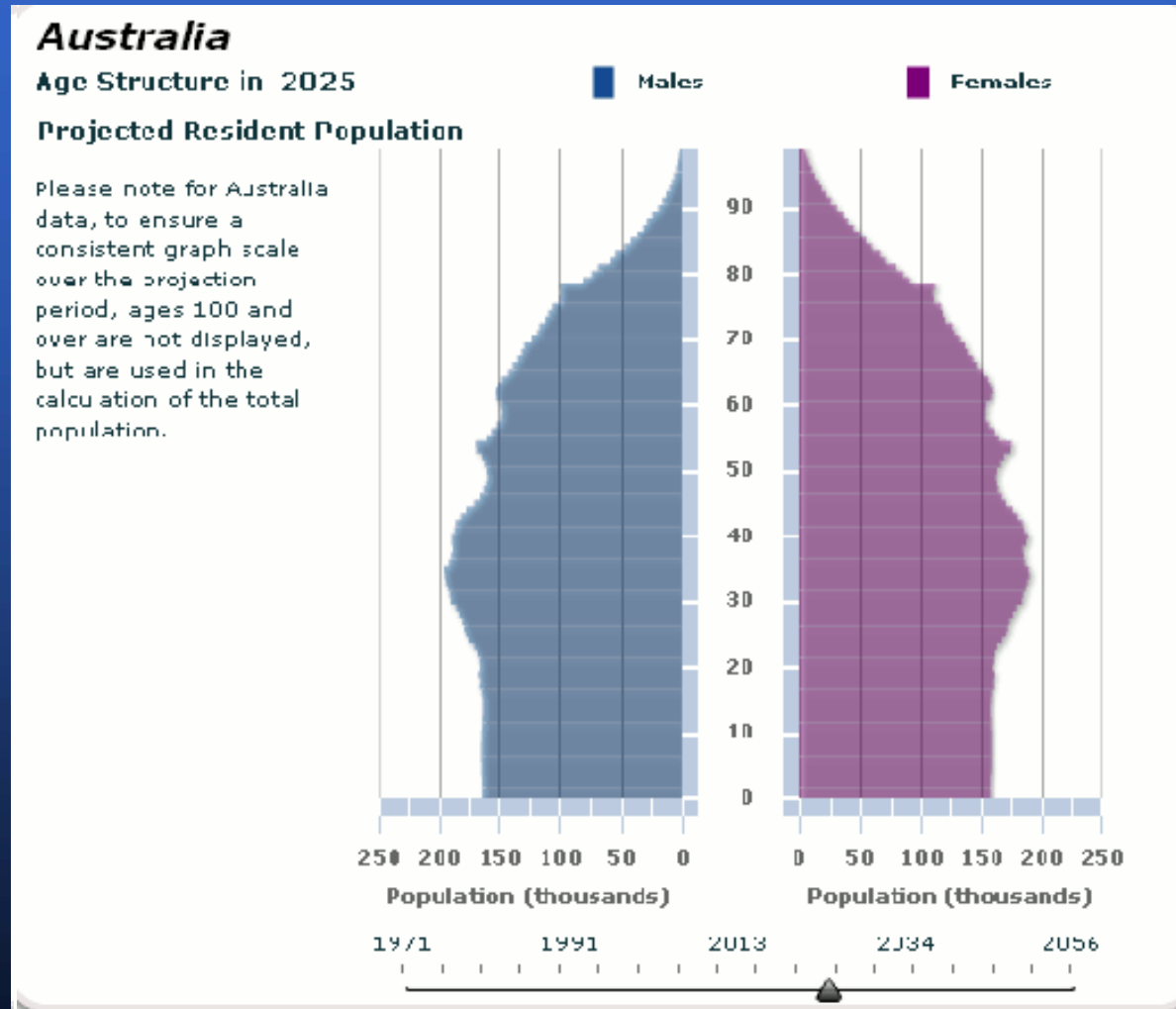
Projections of ageing to 2050



Source:
Australian
Bureau of
Statistics



Projections of ageing to 2050

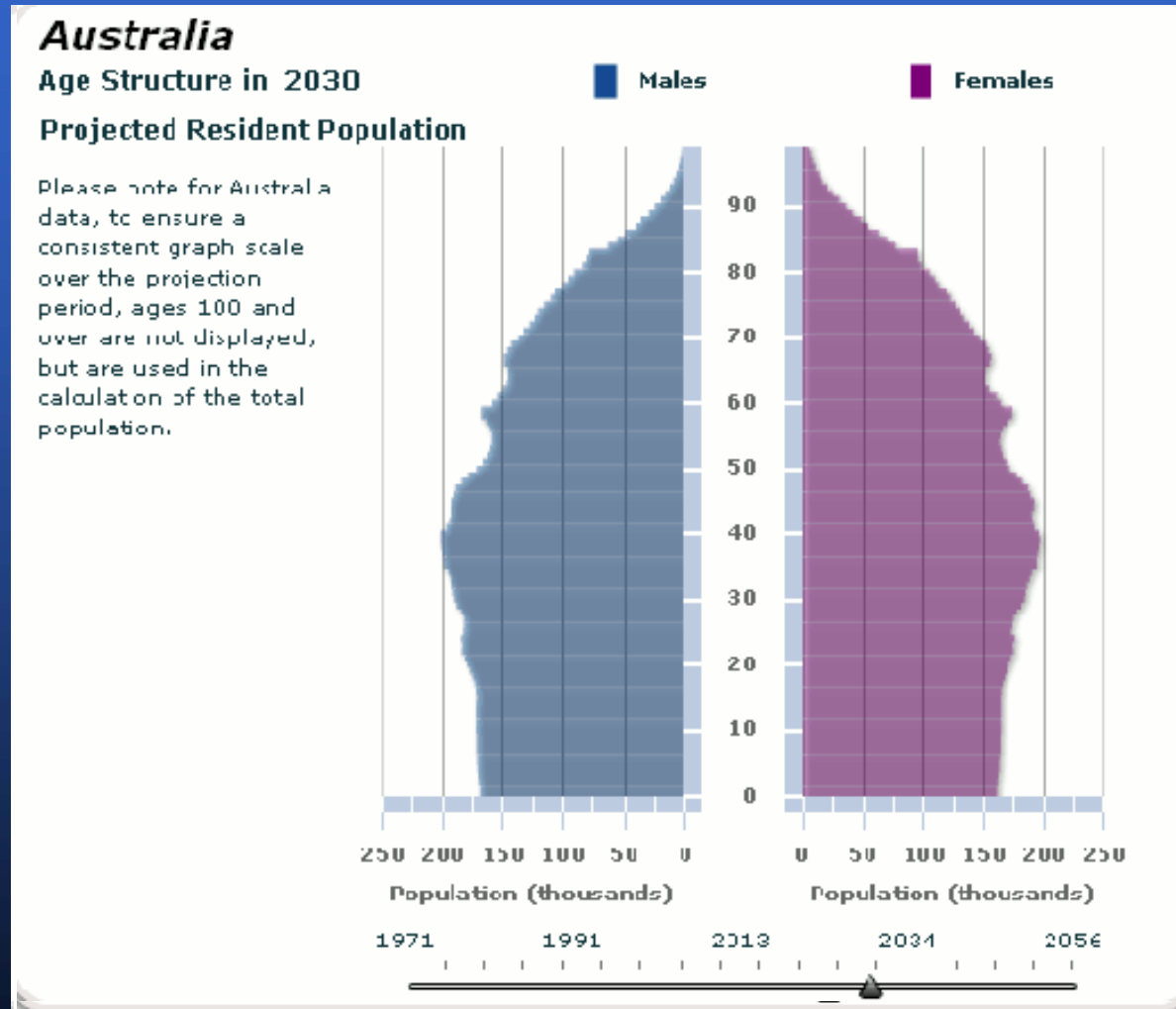


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Projections of ageing to 2050

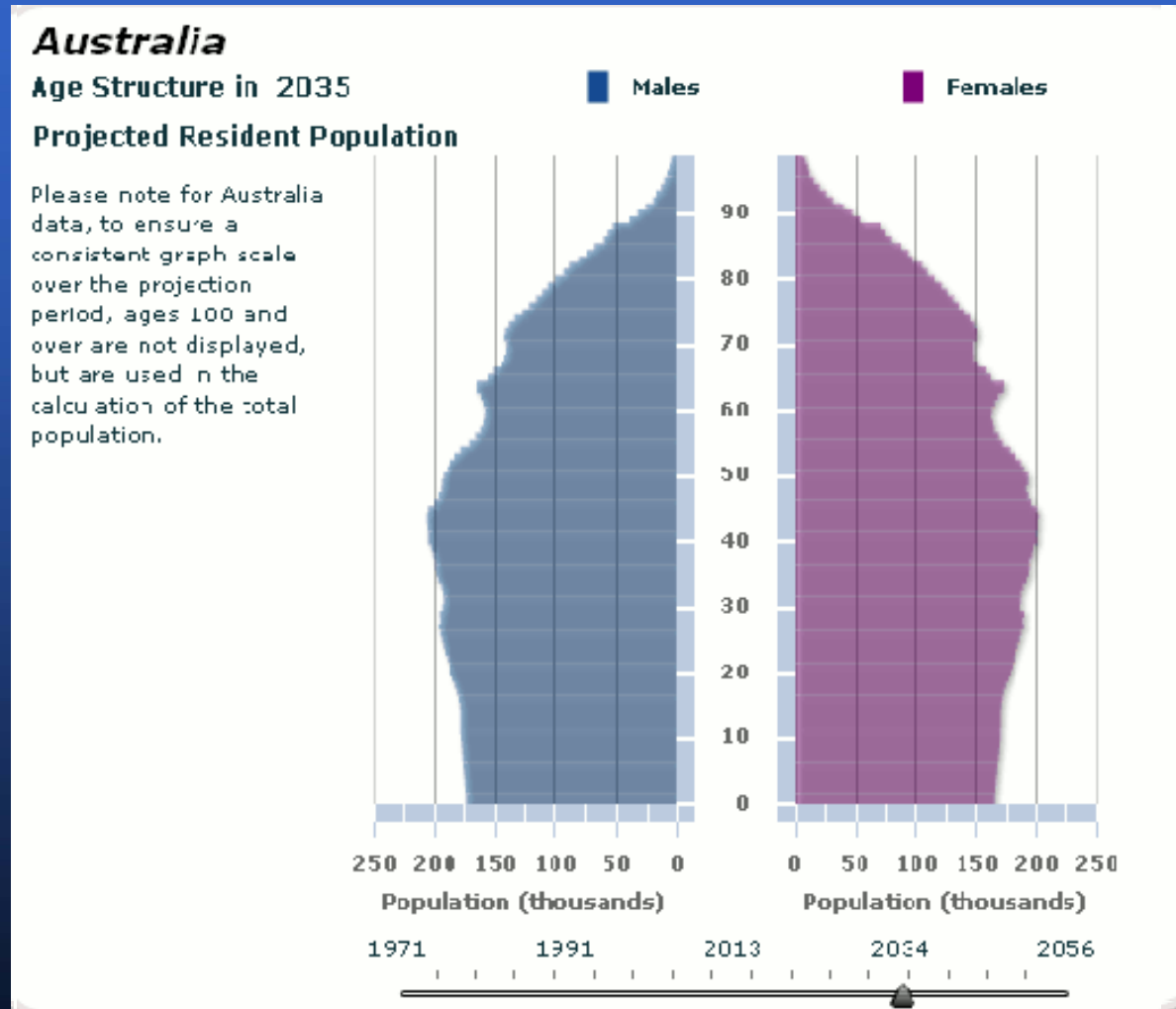


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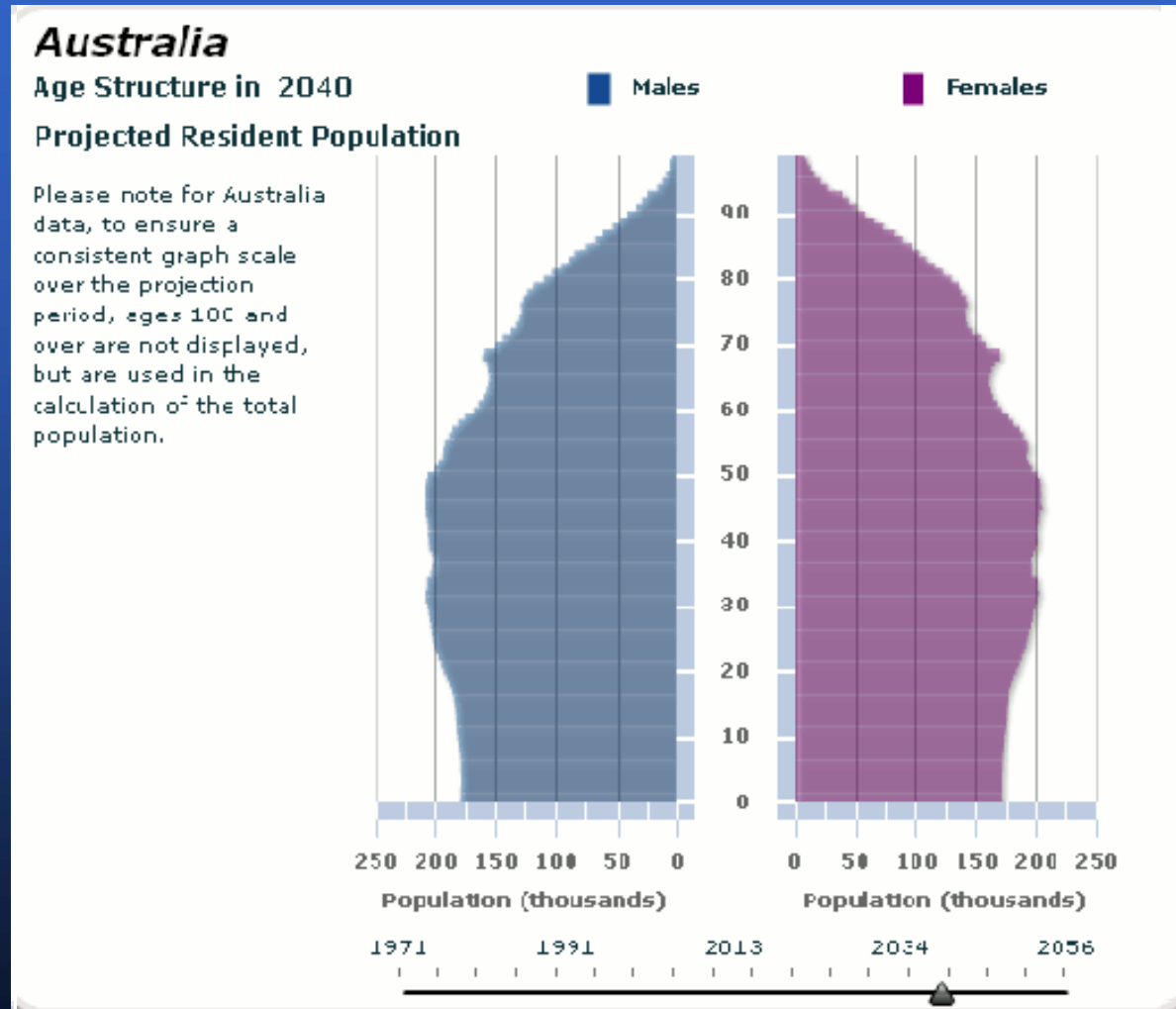
Projections of ageing to 2050



Source:
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Projections of ageing to 2050

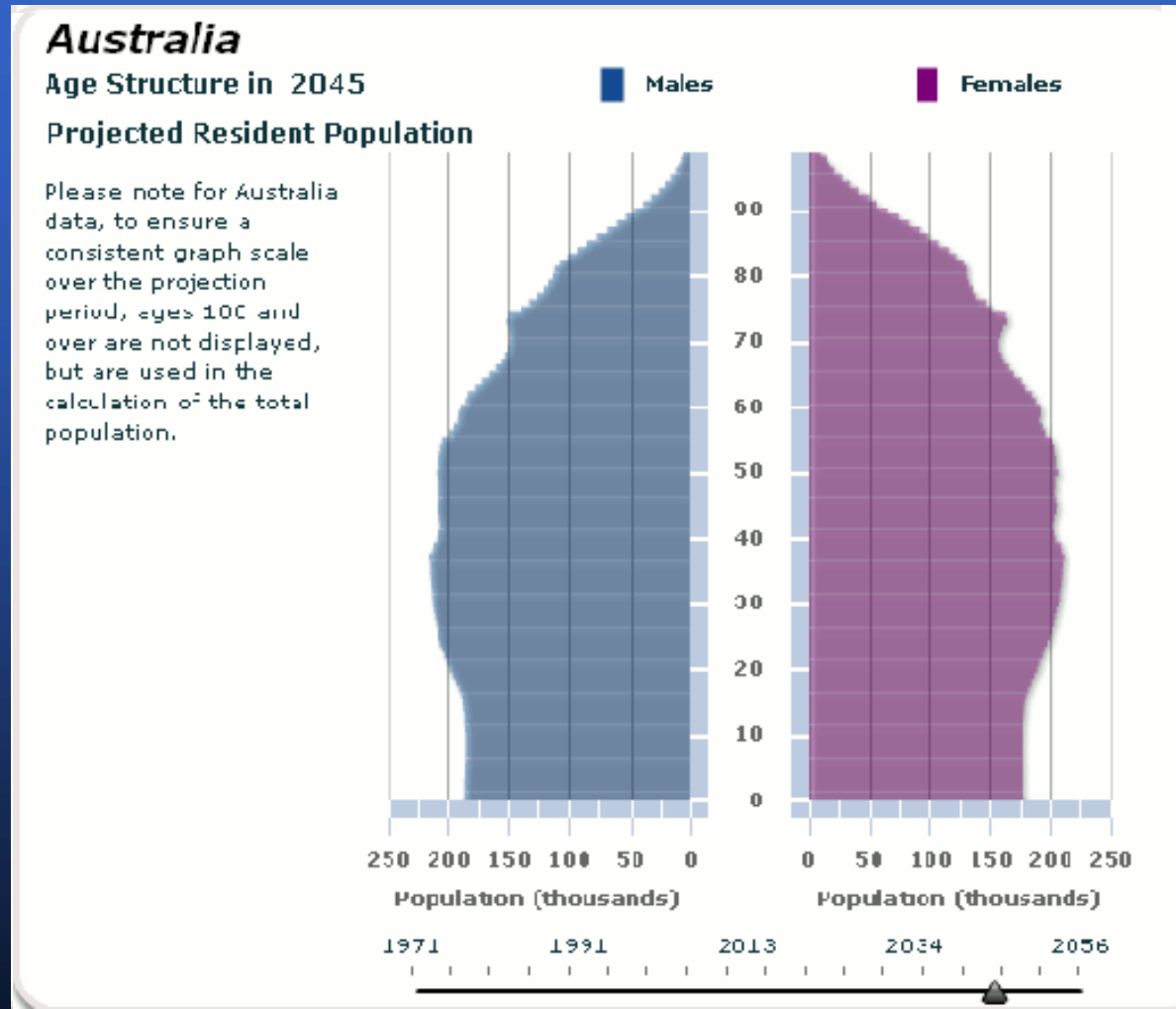


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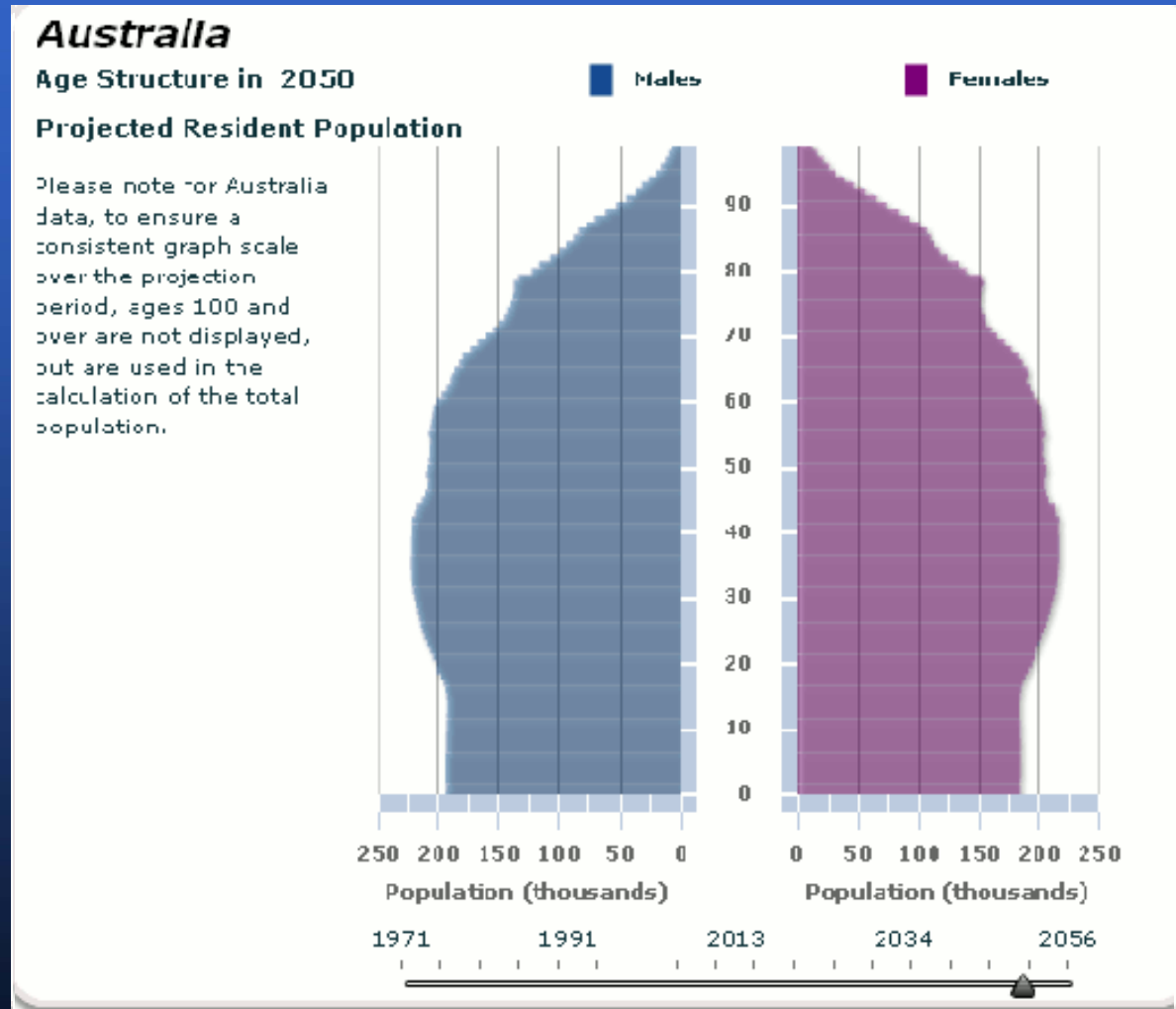


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Projections of ageing to 2050

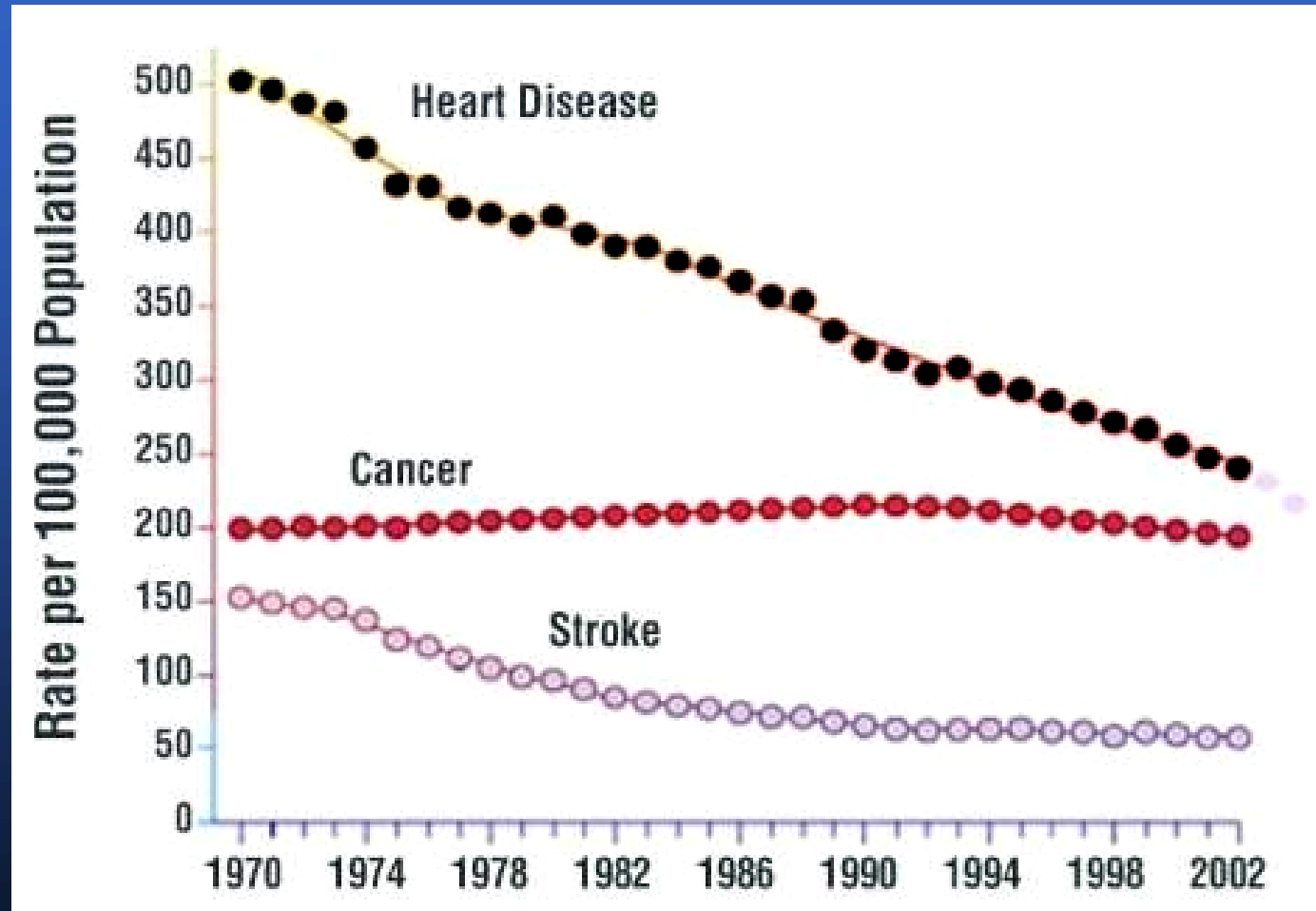


Source:
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Heart and cancer-related deaths declined over last decades



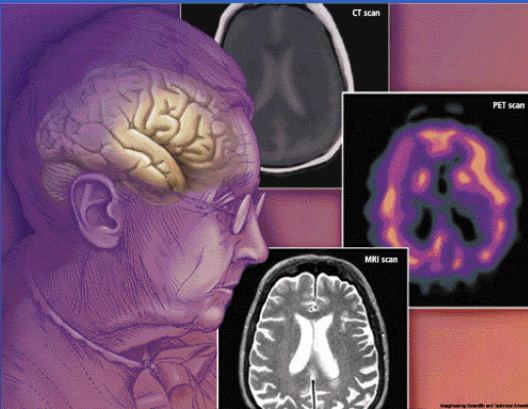
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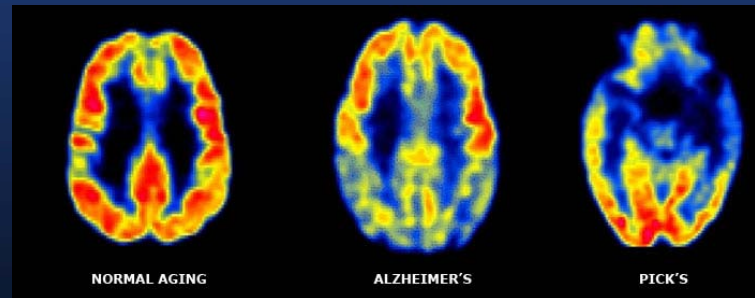
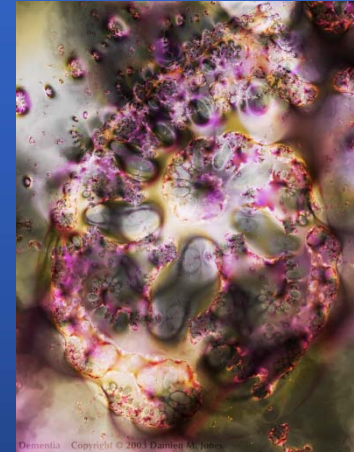
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Heart and cancer-related deaths declined over last decades



21st century's priority:
neurodegenerative
diseases

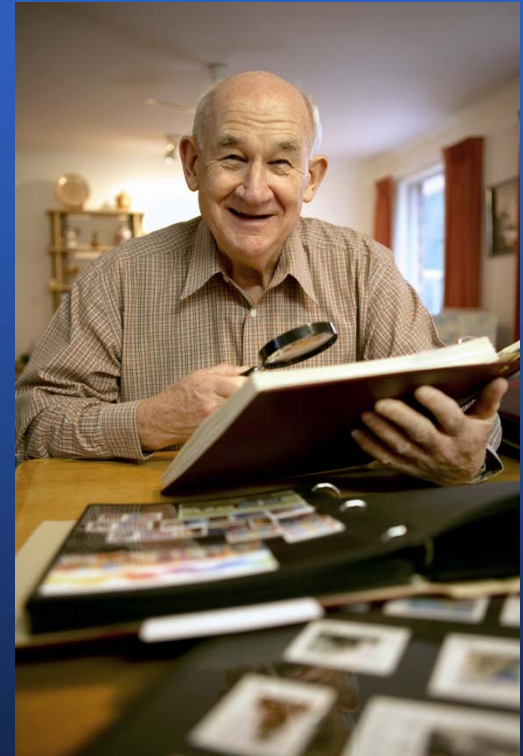


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Sydney Memory and Ageing Study

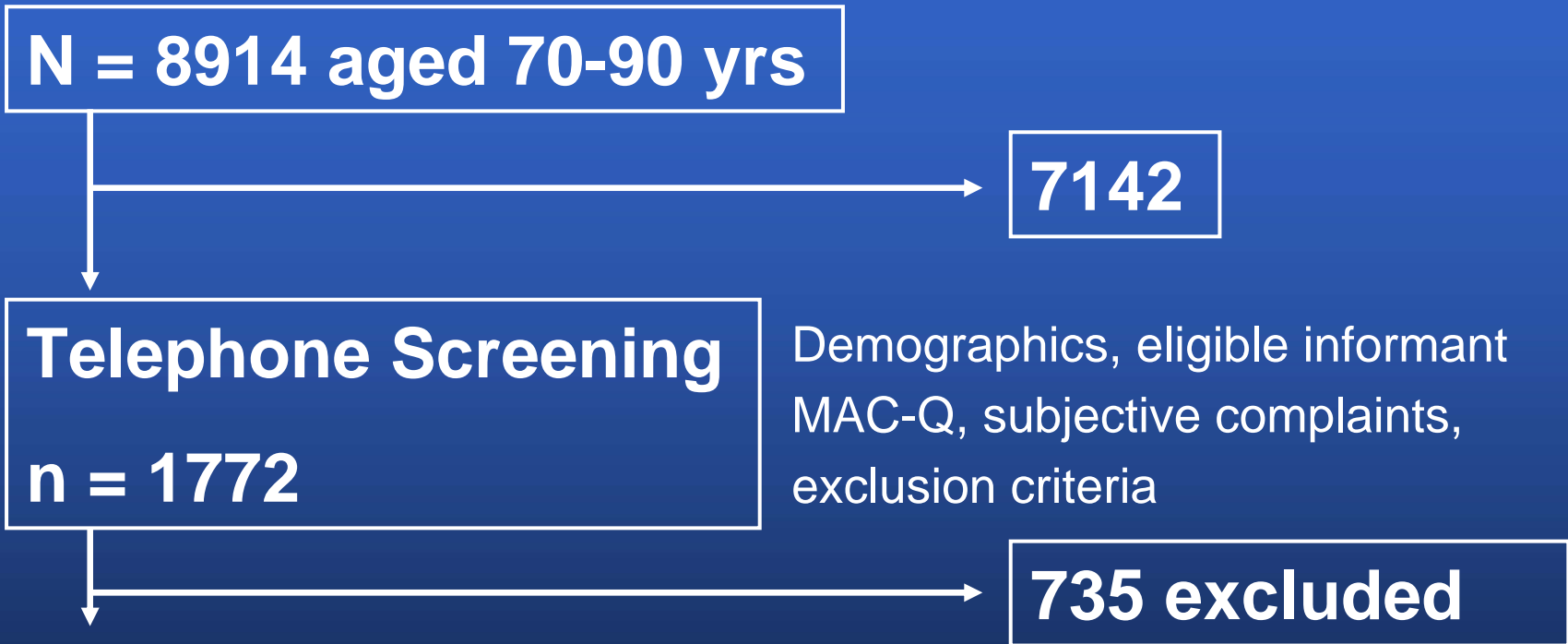
- We wanted to know about cognitive ageing in older people
 - What predicts cognitive decline?
 - What predicts cognitive health?



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Sydney Memory and Ageing Study



Recruitment & Screening

n=1037

Wave 1

Wave 2

Wave 3



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Sydney Memory and Ageing Study

Baseline Assessment

n = 1037

Neuropsychology, medical exam,
medical history & service utilisation,
mental health, informant interview &
questionnaire

1yr follow-up interview

n = 973

General health & well-being,
memory test, IADL/ADL

64 withdrawn

52 withdrawn

Recruitment &
Screening
n=1037

Wave 1
n=921

Wave 2

Wave 3



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Sydney Memory and Ageing Study

Neuropsychology, medical exam,
medical history & service utilisation,
mental health, informant interview &
questionnaire

2yr Assessment

n = 921

33 withdrawn

General health &
well-being,
memory test,
IADL/ADL

3yr follow-up interview

n = 888

**Recruitment &
Screening**
n=1037

Wave 1
n=921

Wave 2
n=888

Wave 3



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Sydney Memory and Ageing Study

↓
Commenced Oct 2009
To date: 94 Ax,
29 informant interviews

← Expected completⁿ Dec 2011

Recruitment &
Screening
n=1037

Wave 1
n=921

Wave 2
n=888

Wave 3



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Sydney Memory and Ageing Study

- **Exclusion criteria:**
 - Dementia
 - Psychiatric disorders
 - Neurological disorders
 - Developmental disability
 - Active malignancy
 - Insufficient english competency for testing

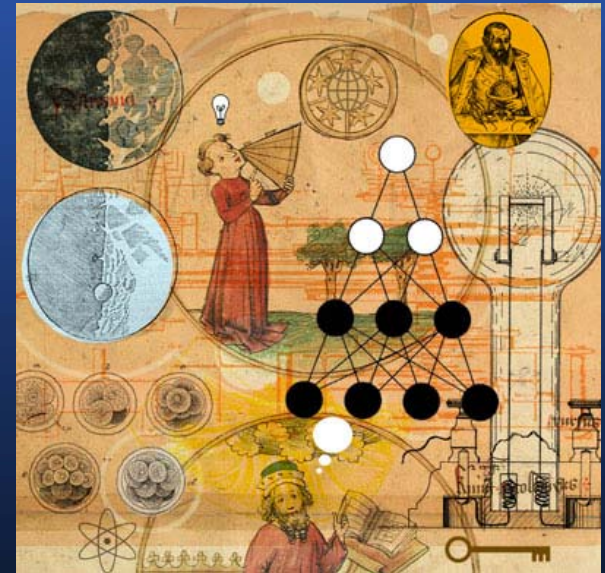


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Tests we did

- **History**
 - medical history
 - psychiatric history
 - life style questions
 - medications
 - family history



Tests we did

- History
- Physical examination



Tests we did

- History
- Physical examination
- Blood tests



Tests we did

- History
- Physical examination
- Blood tests
- Brain scans

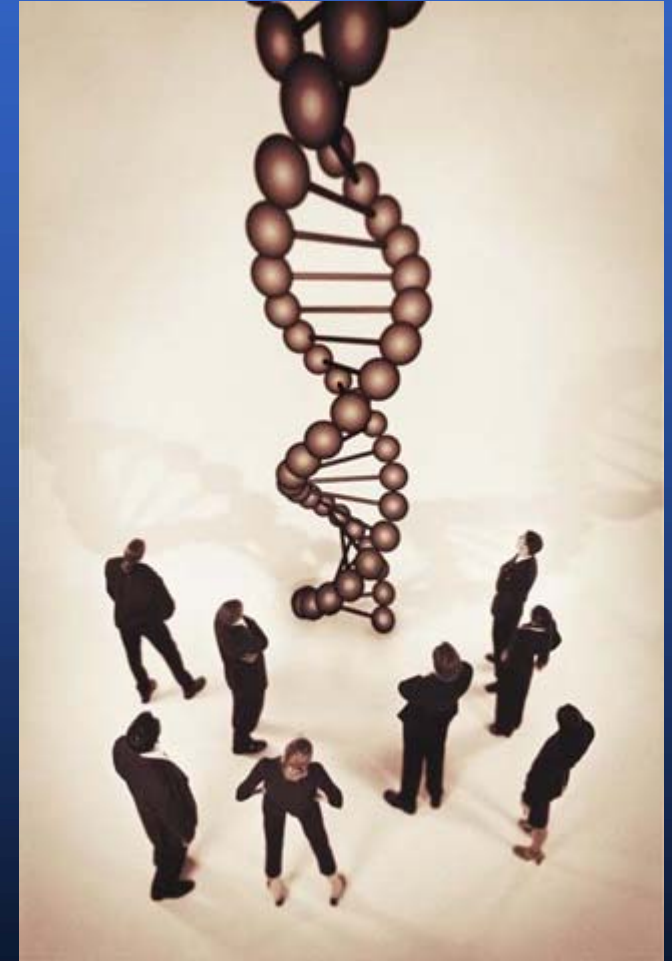


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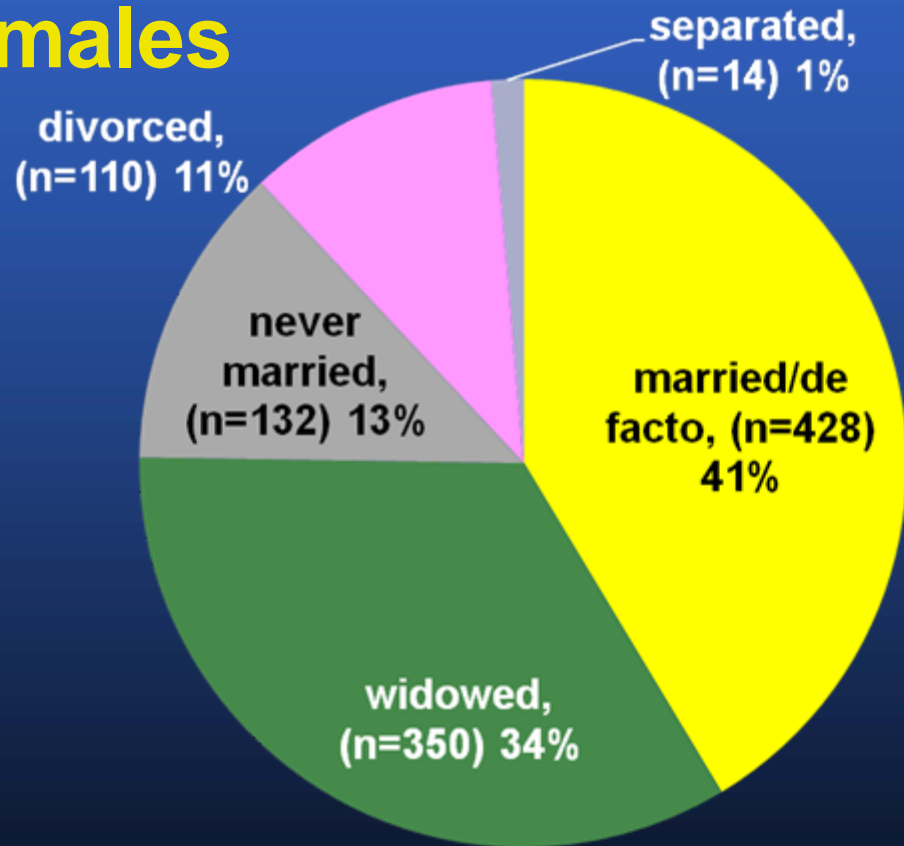
Tests we did

- History
- Physical examination
- Blood tests
- Brain scans
- Genetic tests



What we found - Demographics

- Age: mean 78.84 yrs (SD: 4.82)
- Gender: 44.8% males
- Marital status:



What we found - Demographics

- Highest formal education: **43.5% bachelors degree or higher**
- Occupation: **156 still working, 860 retired**
- Living alone: **46.9%**



What we found – Medical History

Average number of medical conditions

- 6.04 (SD: 2.96)
- “Have you ever been diagnosed with... or seen a doctor about...?”
→ self-report medical history



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...any vascular disease?

	NUMBER	%
Hi blood pressure	629	60.7
Heart problems	352	33.9
Claudication	223	21.5
Angina	133	11.6
Heart attack	120	11.6
Cardiac arrhythmia	76	7.3
Atrial fibrillation	69	6.7
Heart valve disease	53	5.1
Aortic aneurysm	15	1.4
Cardiomyopathy	7	0.7



...any brain related disease?

	Number	%
Migraine	160	15.4
Head injury	156	15
Loss of consciousness	135	13
TIA	69	6.7
Stroke	41	4
Other brain disorder	33	3.2
Parkinson's	12	1.2
Epilepsy	7	0.7
Brain infection	7	0.7
Hydrocephalus	1	0.1

...any respiratory disease?

	Number	%
Asthma	73	7
Chronic bronchitis	60	5.8
Emphysema	30	2.9
Chronic Obstructive Pulmonary Disease	20	1.9

...any musculoskeletal problems?

	Number	%
Arthritis	560	54
Osteoporosis	219	21.1



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...any mental health problems?

	Number	%
Depression	163	15.7
Other mental health issues	127	12.2



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...any eye problems?

	Number	%
Cataract	609	58.7
Glaucoma	114	11
Macular degeneration	94	9.1



Self-report medical problems: The Big Five

- High blood pressure: 61%
- Cataract: n = 609 (58.7%)
- Arthritis: n = 560 (54.0%)
- Cancer/leukaemia: n = 409 (39.4%)
- Heart problems: n = 352 (33.9%)
- Claudication: n = 223 (21.5%)



What we found – Medical History

Average number of medications

- 5.76 (SD 3.31)
- Min: 1
- Max: >20



What we found – physical exam

Blood pressure

- 61% 'diagnosed' hypertension
- 59% on antihypertensive Rx
- 24% systolic BP > 160mmHg
- 14% diastolic BP > 95mmHg
- **Composite: 65% definite**
- **17% borderline**



What we found – physical exam

- Diabetes 13.4%



What we found – physical exam

- Diabetes 13.4%
- Hi cholesterol /lipids/ triglycerides 22.8%



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What we found – physical exam

- Diabetes 13.4%
- Hi cholesterol /lipids/ triglycerides 22.8%
- Use of statins 51.6%



What we found – physical exam

- Diabetes 13.4%
- Hi cholesterol /lipids/ triglycerides 22.8%
- Use of statins 51.6%
- Obesity (BMI>30) 22%



What we found – physical exam

- Diabetes 13.4%
- Hi cholesterol /lipids/ triglycerides 22.8%
- Use of statins 51.6%
- Obesity (BMI>30) 22%
- Smoking Past: 53.9%
Current: 3.9%



What we found – cognitive

- Subjective cognitive complaint (SCC)
VS
- Informant cognitive complaints
VS
- Objective cognitive impairment

(MMSE > 28/30)



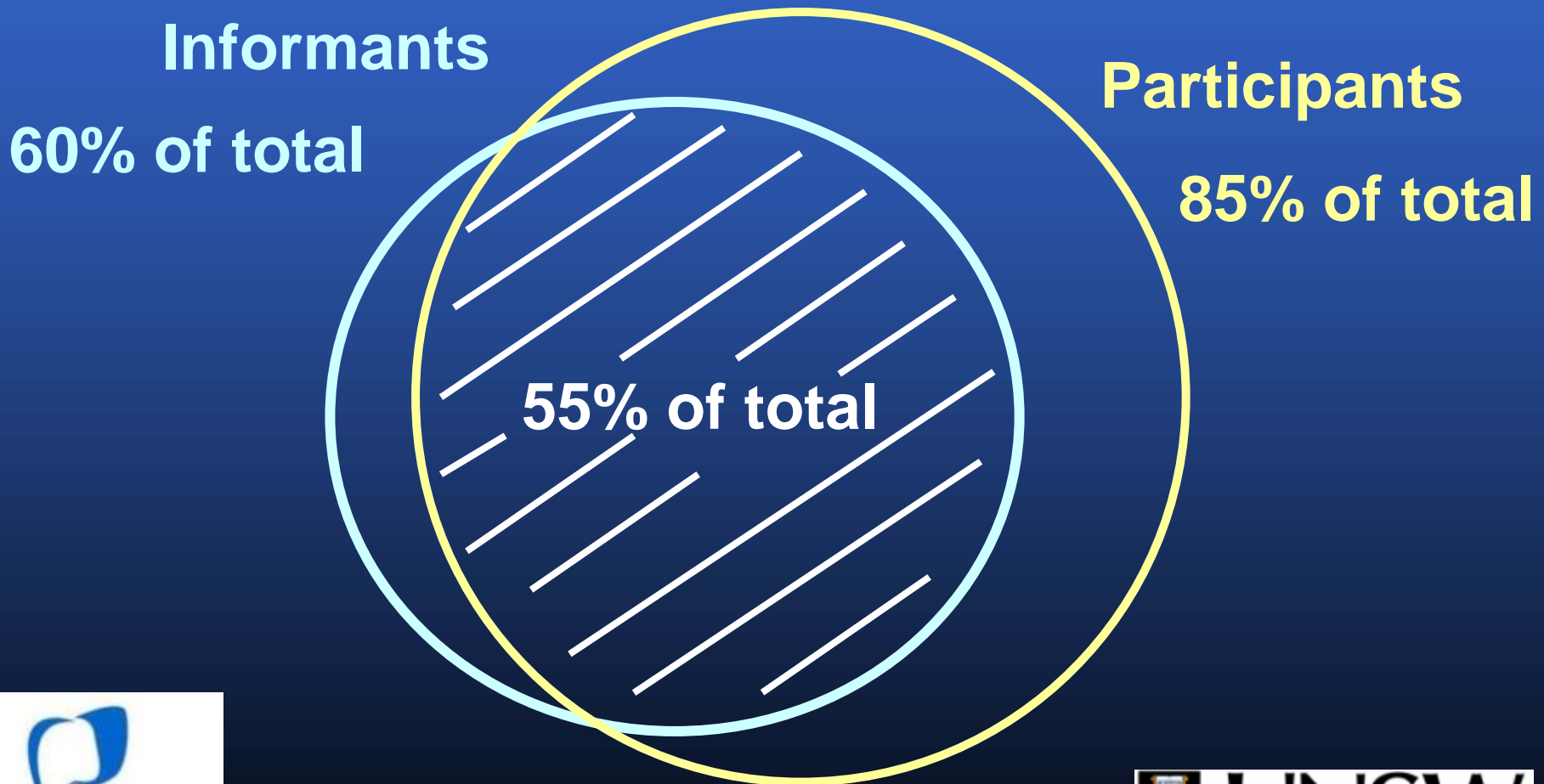
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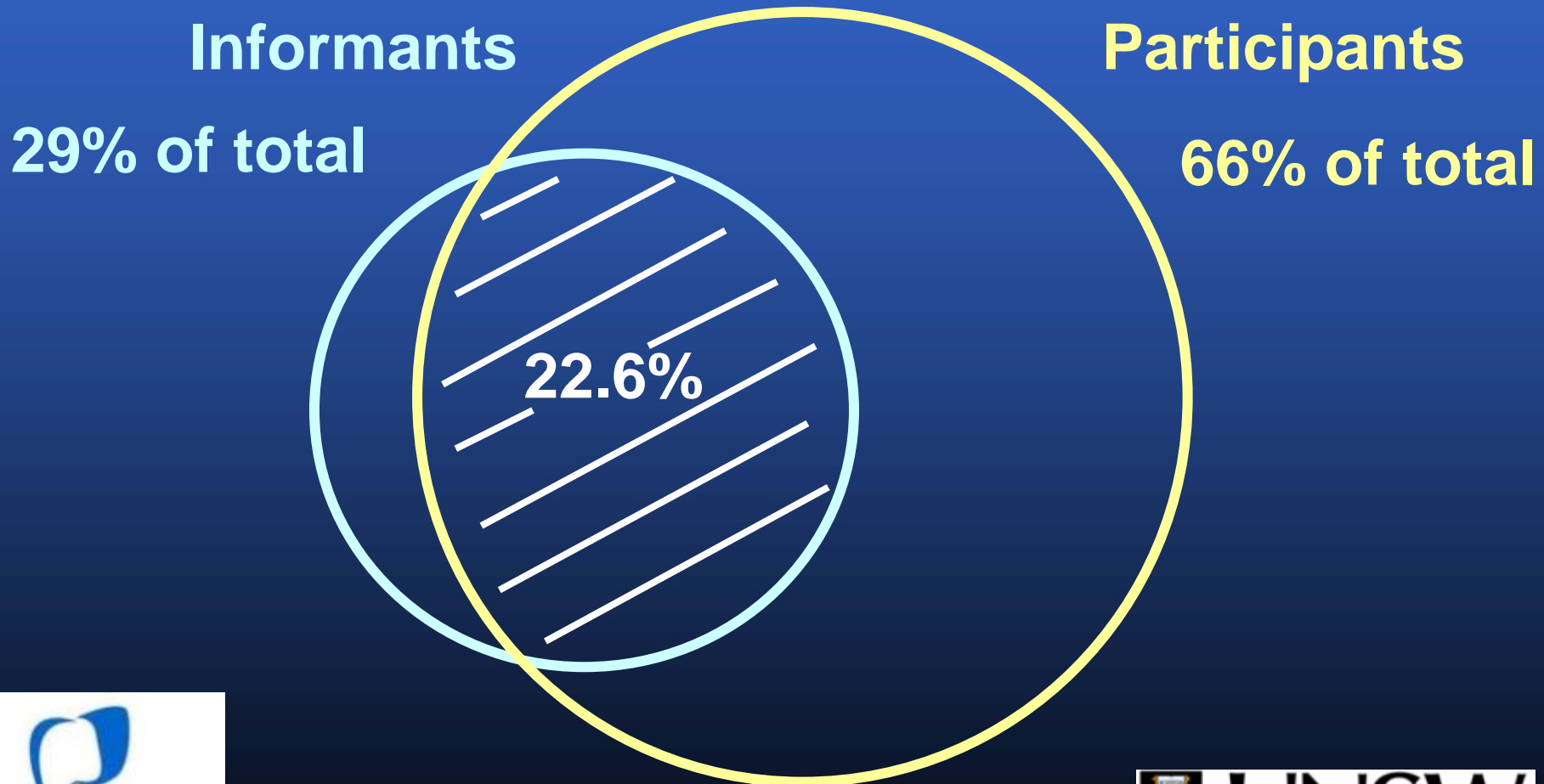
Summary of SCCs

	Memory compl	Non-mem compl	Either
Participant	89%	70%	92%
Informant	63%	31%	66%
Either	94%	78%	96%

Memory Complaints



Non-Memory Complaints



Why we worry about our memory



What we found - cognitive

- Mild Cognitive Impairment (MCI) said by some to be precursor to dementia
- Definition contentious but important
- At Wave 1, MCI = 1.5% - 55.8% depending on definition; best est. = 9.1%
- Dementia: 0 at Wave 1 → 13 at Wave 2
- Our quest: to identify accurately people before they develop dementia



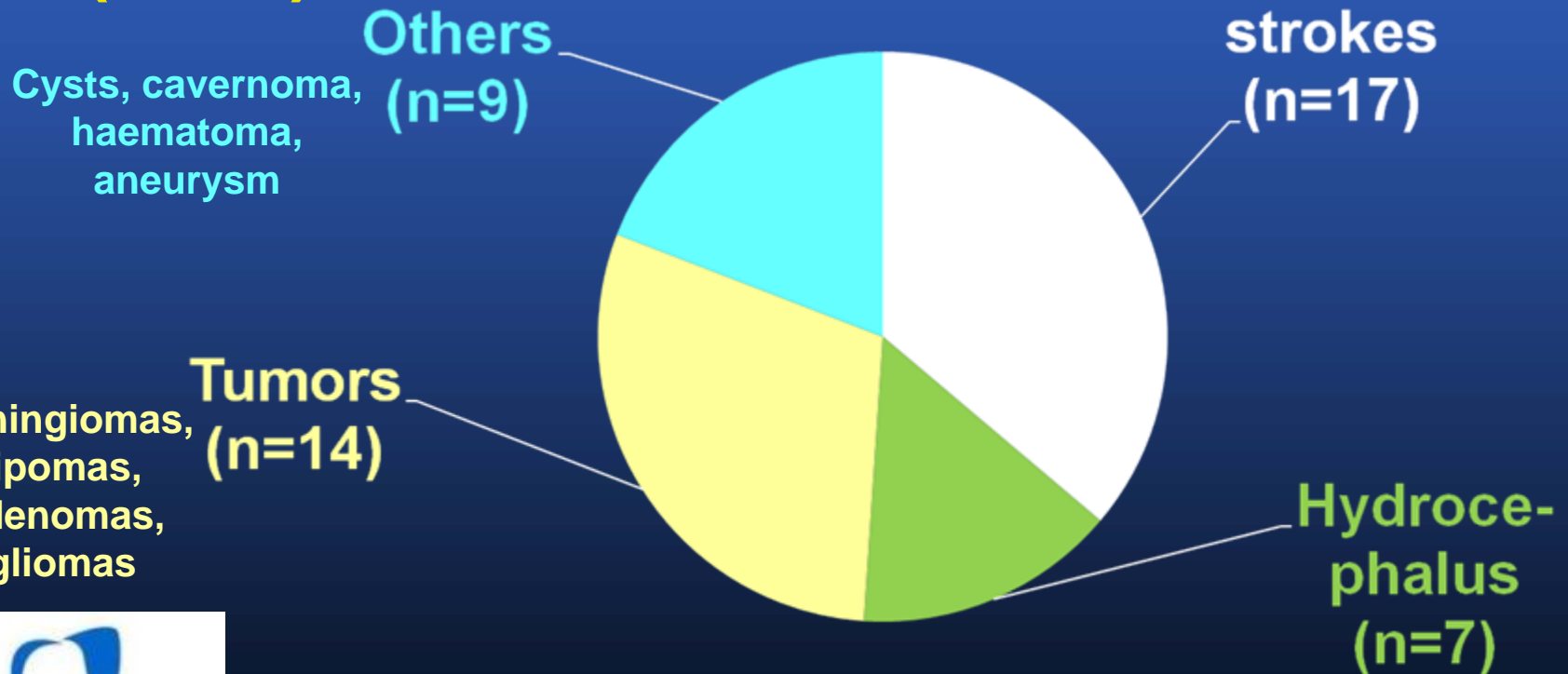
What we found about daily function

- Someone who knows you well answered 25 questions about ability of function day to day eg taking a message; doing two things at same time; counting money
- 1 = no impairment → 10 = unable to do
- Average score \cong 1.4 (i.e. good)
 - Women scored slightly better than men!



What we found – Brain Scans

- **Incidental findings in 47 participants (8.7%)**



Next steps...

- **Yet to analyse:**
 - How many develop MCI from Wave 1 → 2?
 - What happens to brains for those who had repeat MRI scans
 - Do people who exercise more, eat better and use their brain more maintain their cognitive function for longer?
 - Interaction of genes and environment



Next steps...

- **Future...**
 - **Wave 3 underway (an hour less testing and no scan or bloods)**



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Sub-studies and research projects deriving from MAS

- MRI – Wei Wen
- Blood analysis – Ora Lux
- Genetics – Karen Mather
- Falls study – Stephen Lord
- CVA study – Julian Trollor
- Diabetes – Katherine Samios
- Respiratory – David McKenzie
- Prospective memory – Claire Thompson
- MAS carer study – Katrin Seeher



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Conclusions for 70-90 yr olds

- Most people have some health problems but are functioning well
- Nearly everyone complains about their memory but few go on to develop dementia over the next two years
- Some people have significant impairment and will decline
- Everyone is taking some medication



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Thanks to...

- RAs and AAs
- MAS staff
- MAS participants
- MAS informants
- And...



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