

# Future trends in morbidity: implications for long term care

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**4<sup>th</sup> International Conference of Long-Term Care Directors and Administrators  
1-3 August 2018, Sydney**

# Outline



## Is late-life dependency increasing or not? A comparison of the Cognitive Function and Ageing Studies (CFAS)



Andrew Kingston, Pia Wohland, Raphael Wittenberg, Louise Robinson, Carol Brayne, Fiona E Matthews, Carol Jagger, on behalf of the Cognitive Function and Ageing Studies collaboration\*

*Lancet* 2017; 390: 1676–84  
Published Online  
August 15, 2017  
[http://dx.doi.org/10.1016/S0140-6736\(17\)31575-1](http://dx.doi.org/10.1016/S0140-6736(17)31575-1)

### Summary

**Background** Little is known about how the proportions of dependency states have changed between generational cohorts of older people. We aimed to estimate years lived in different dependency states at age 65 years in 1991 and 2011, and new projections of future demand for care.

*Age and Ageing* 2018; **47**: 374–380  
doi: 10.1093/ageing/afx201  
Published electronically 24 January 2018

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## Projections of multi-morbidity in the older population in England to 2035: estimates from the Population Ageing and Care Simulation (PACSim) model

ANDREW KINGSTON<sup>1</sup>, LOUISE ROBINSON<sup>1</sup>, HEATHER BOOTH<sup>2</sup>, MARTIN KNAPP<sup>3</sup>, CAROL JAGGER<sup>1</sup>, FOR THE MODEM PROJECT

# Messages

Past trends in

- Numbers in residential care
- Dependency levels in the community/residential care
- Dementia in residential care

Future trends in

- Dependency and morbidity

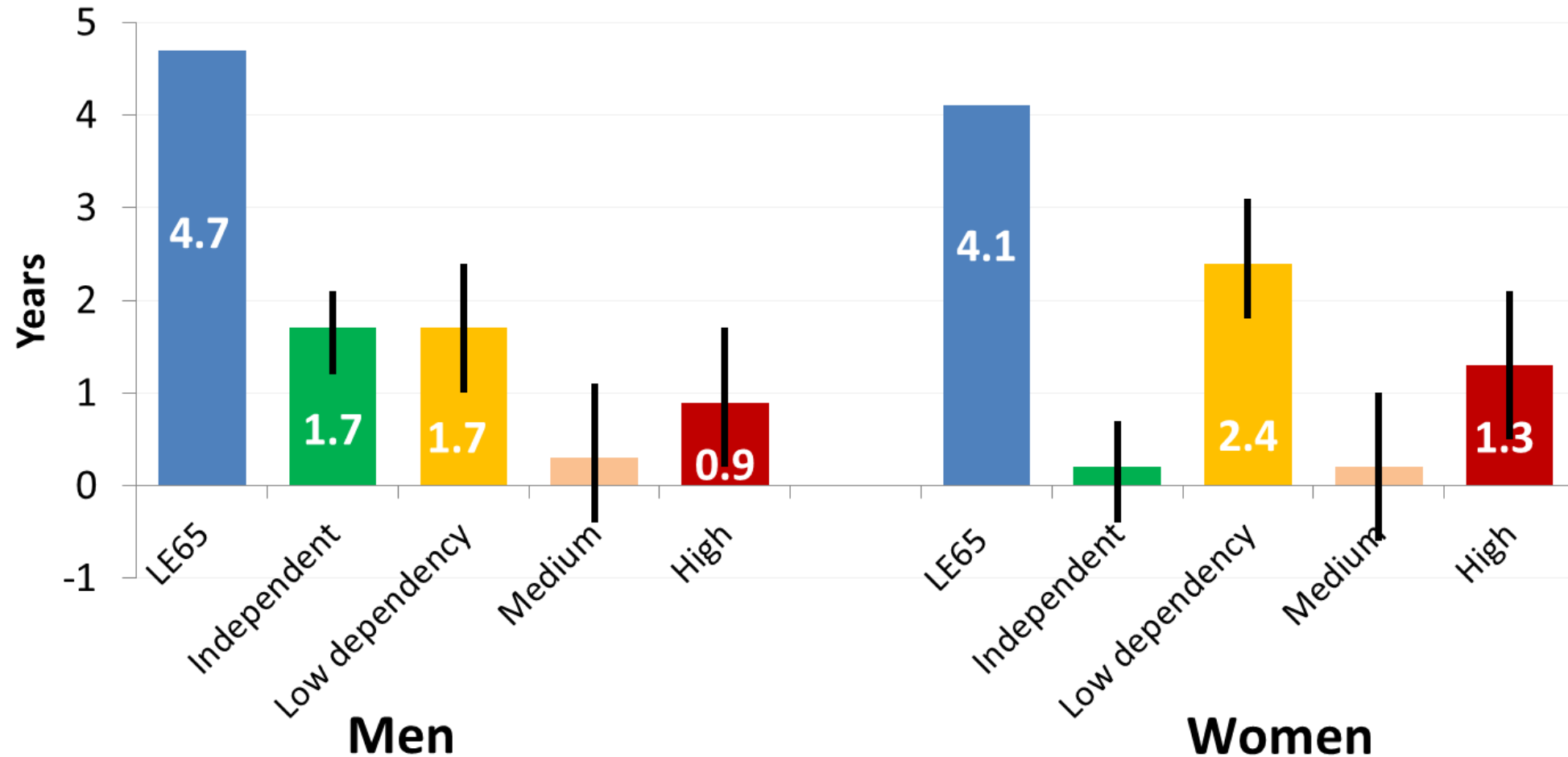


# Defining dependency

- Interval of need (Isaacs and Neville, 1975):
  - **High (requires 24-hour care)**
    - bedbound or chairbound, or unable to get to or use the toilet without help, or need help feeding, or be often incontinent and need help dressing, or have severe cognitive impairment (MMSE < 10)
  - **Medium (requires help at regular times daily)**
    - need help preparing a meal, or dressing
  - **Low (requires help less than daily)**
    - need help to wash all over or bath, or cut toenails, or shop, or do light or heavy housework
  - **Independent**



# How have care needs changed in last 20 years?

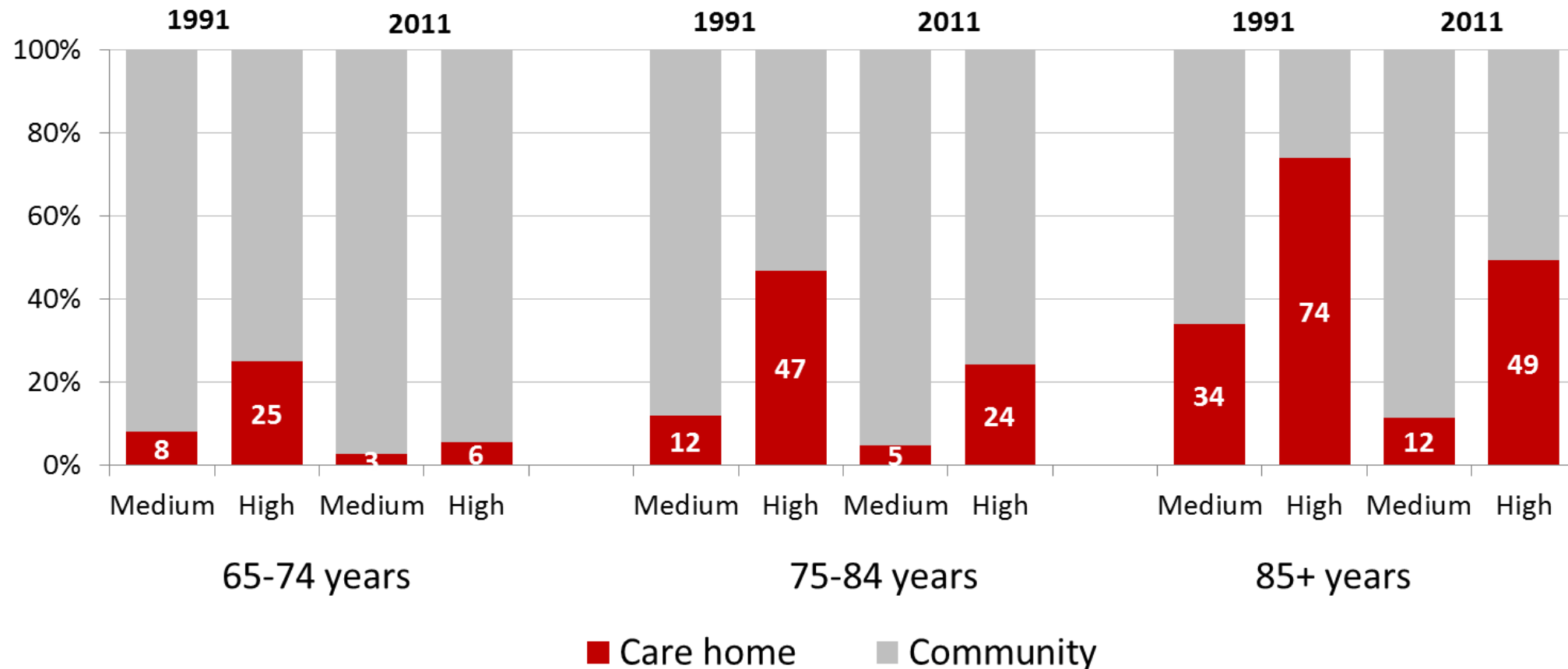


Source: Cognitive Function and Ageing Studies (Kingston et al. 2017)



# Numbers in residential care

- Fewer with substantial dependency now in residential care

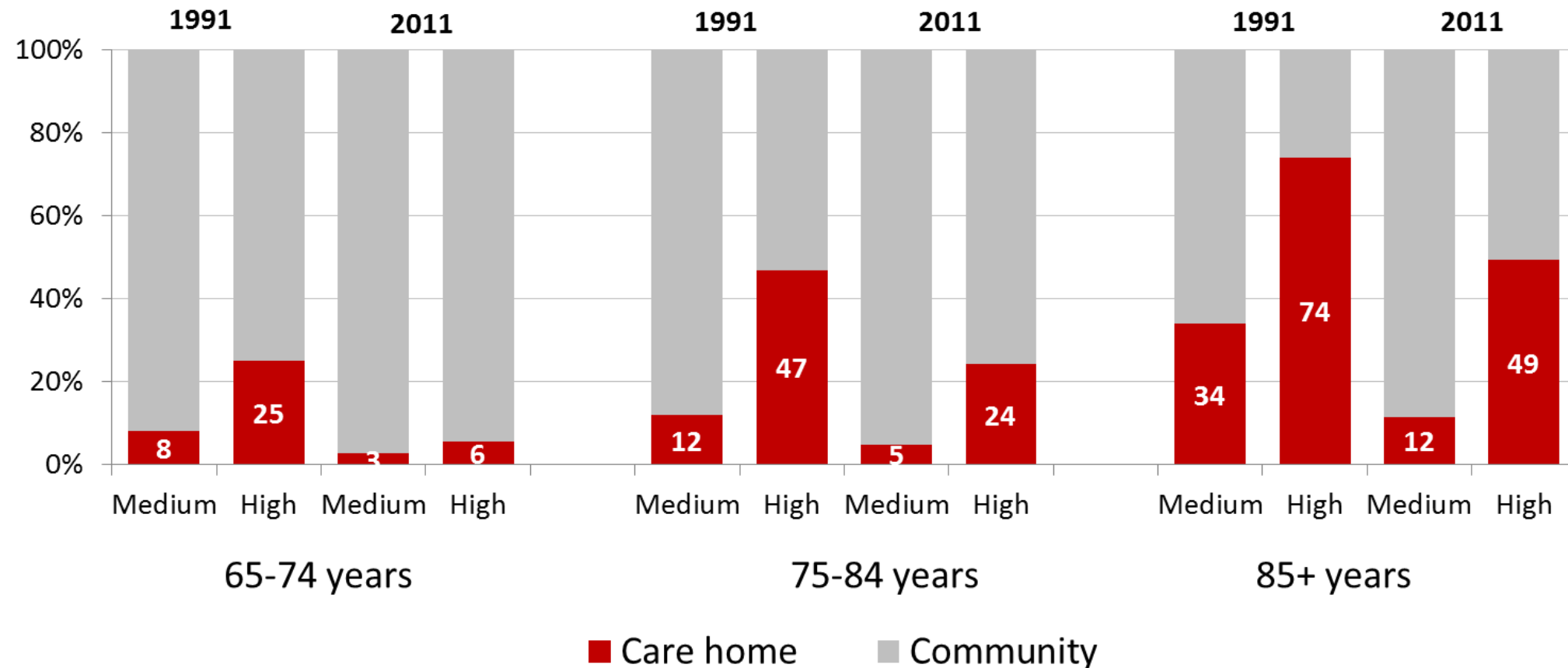


Source: Cognitive Function and Ageing Studies (Kingston et al. 2015)



# Care in the community

- More with substantial dependency now supported in the community

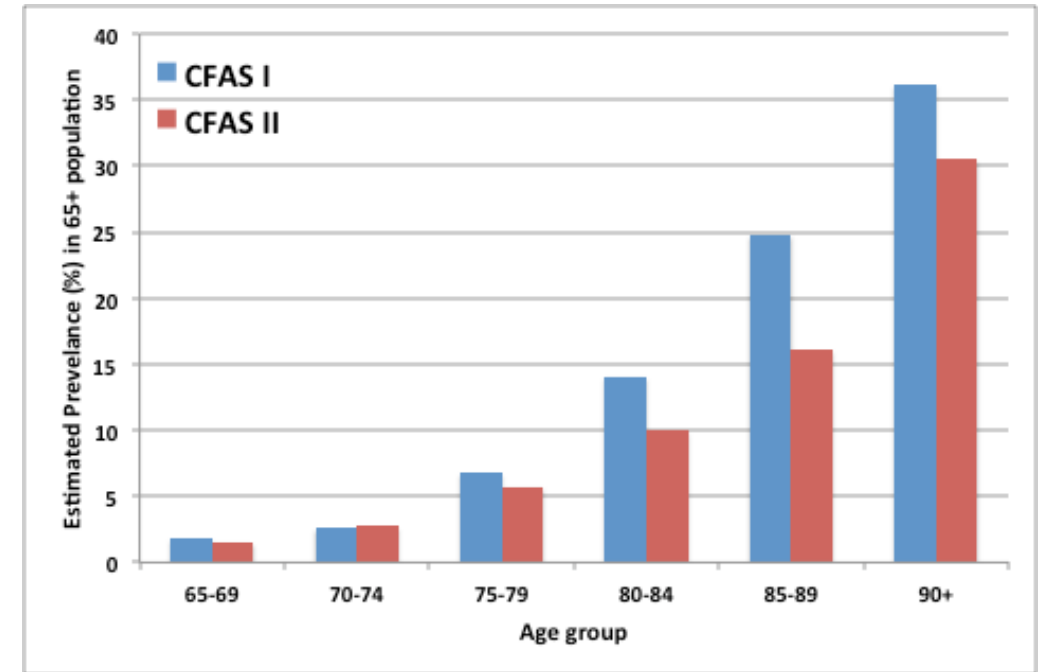
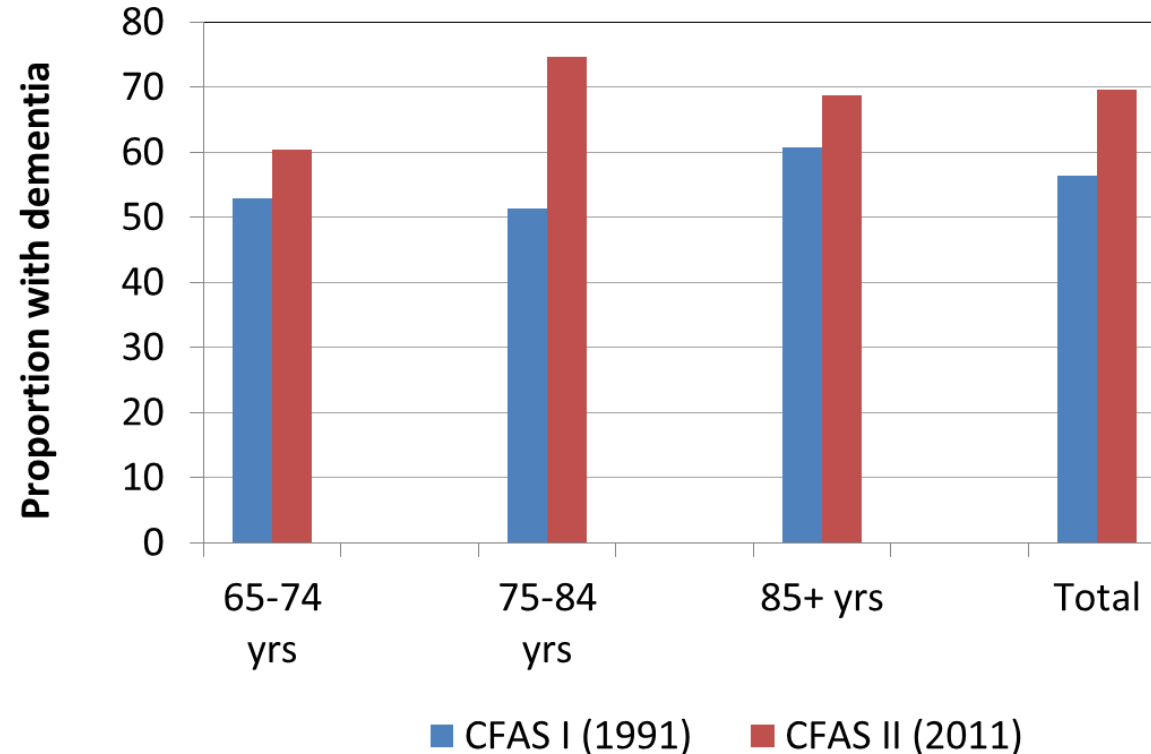


Source: Cognitive Function and Ageing Studies (Kingston et al. 2015)

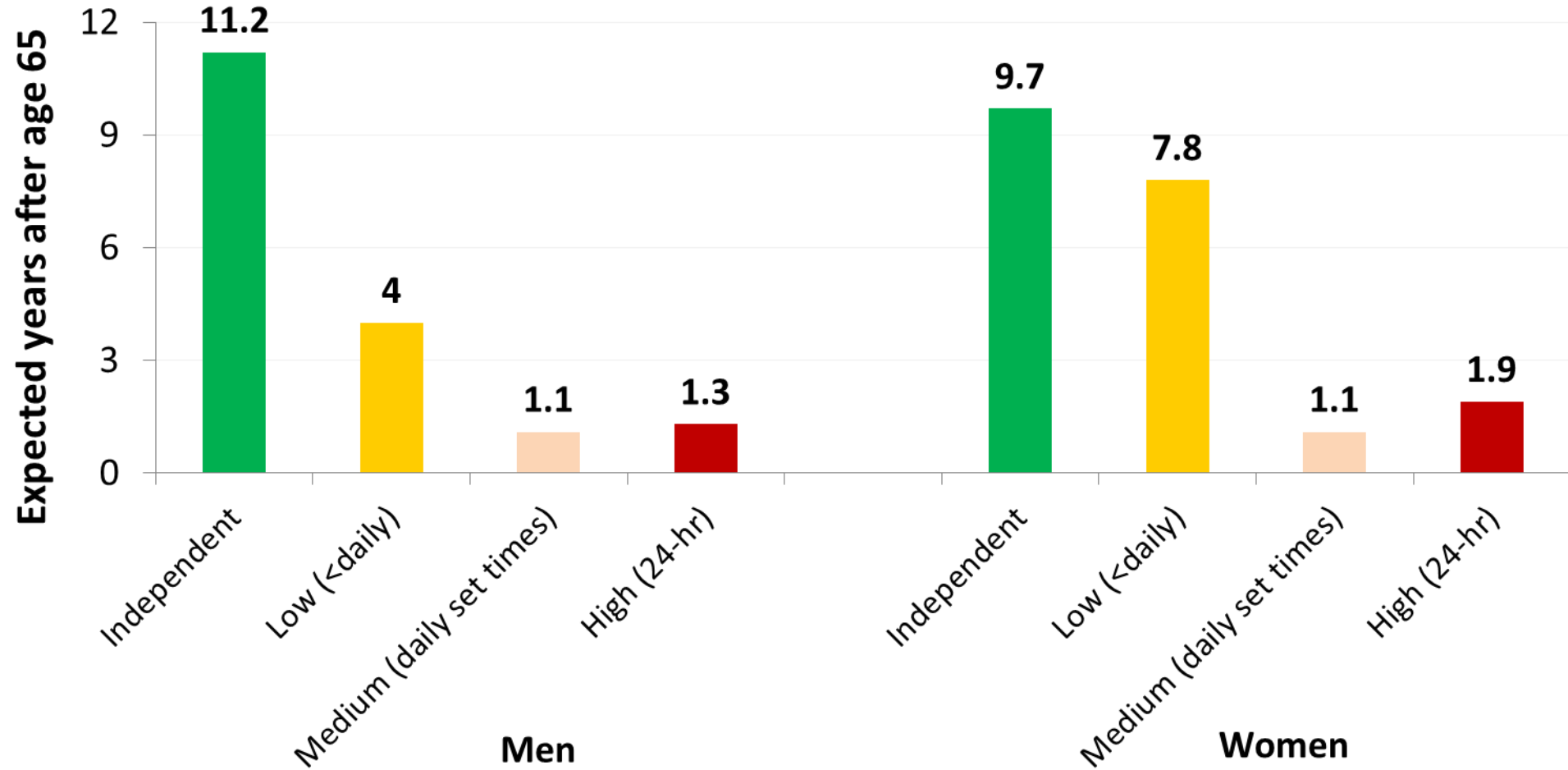


# Dementia in residential care

- But higher proportion in residential care with dementia

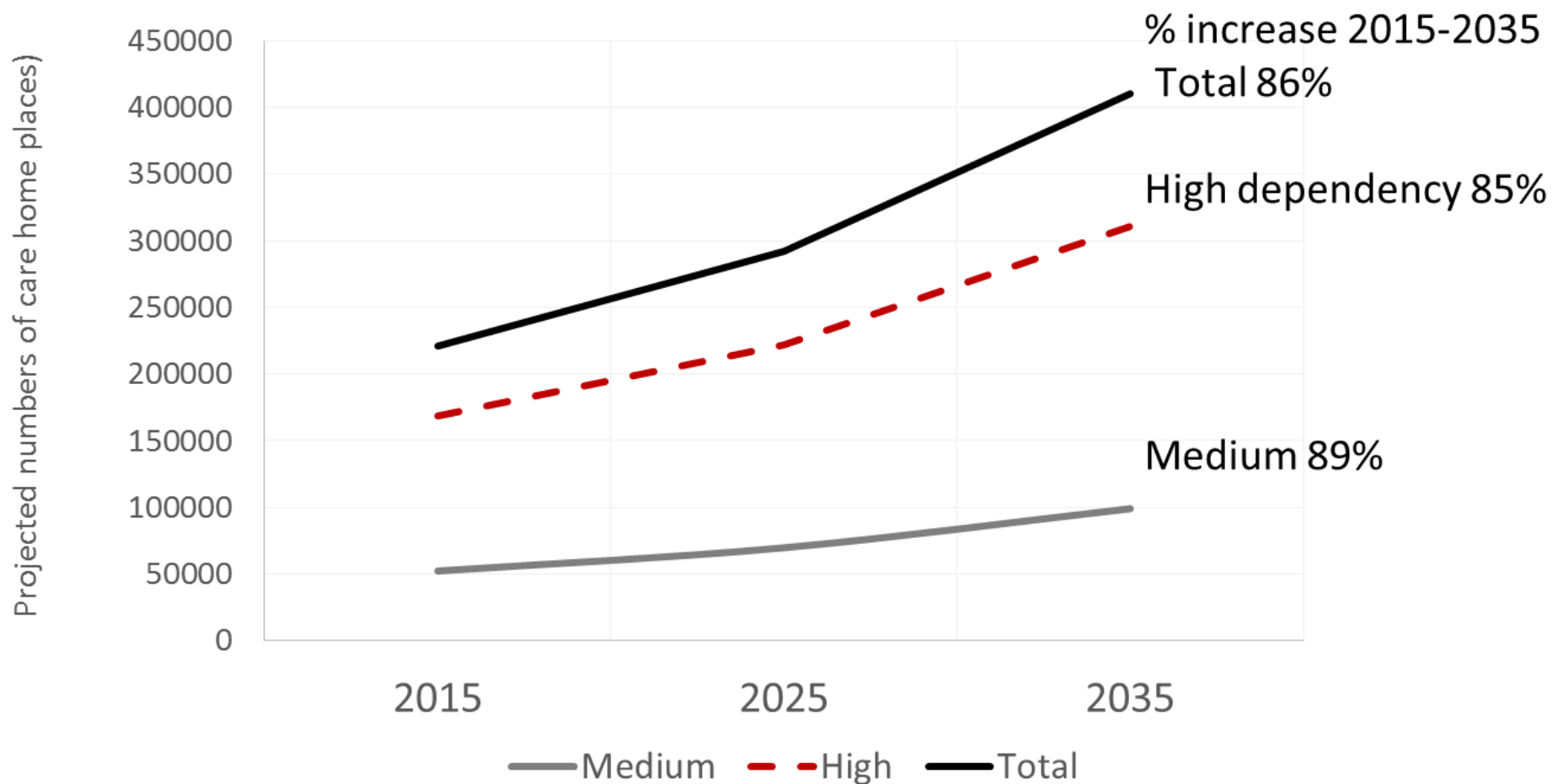


# How long do older people now spend requiring care?



Source: Cognitive Function and Ageing Studies (Kingston et al. 2017)

# Future demand for care home places\*

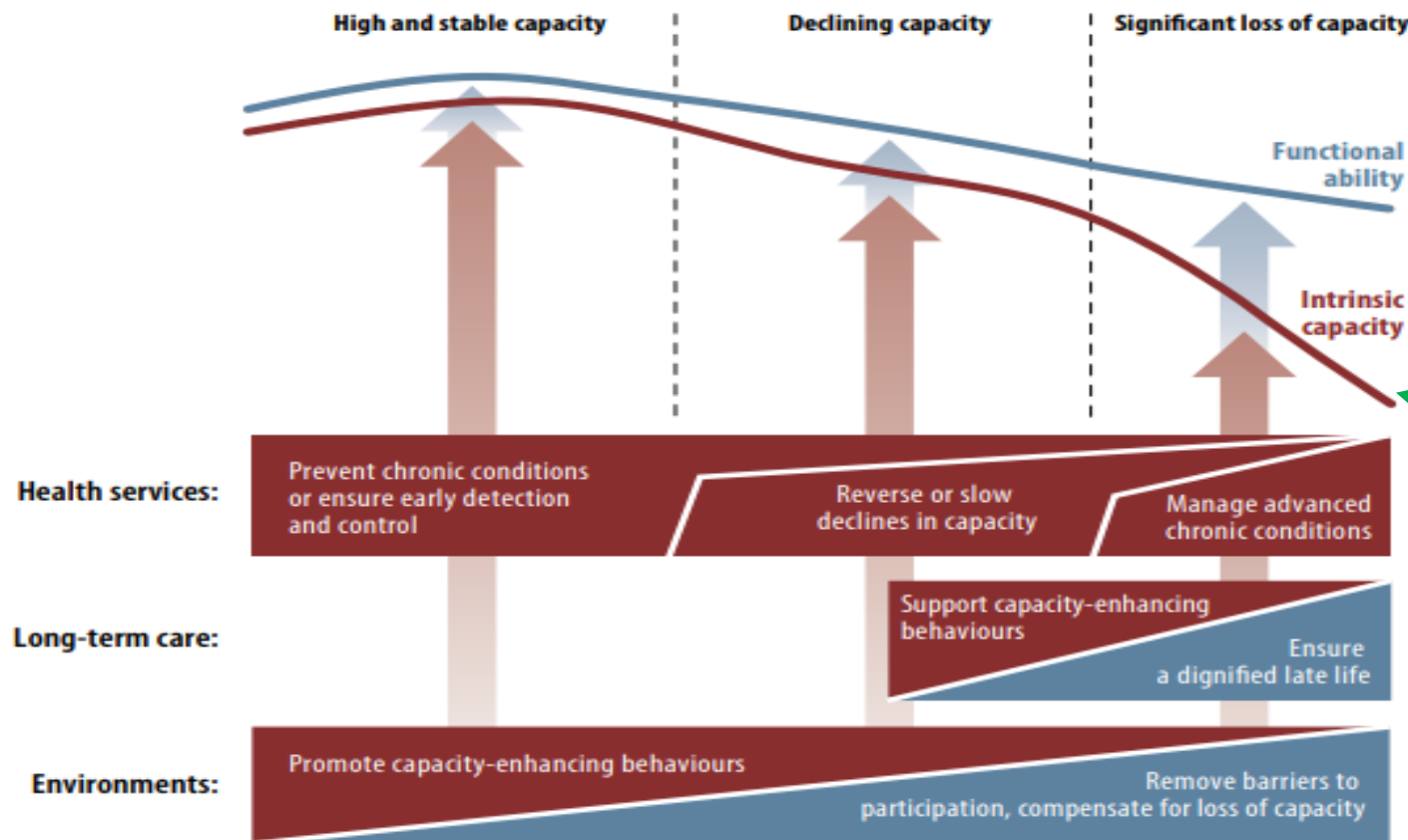


\*assuming 2015 prevalence of dependency and proportion in care homes

Source: Cognitive Function and Ageing Studies (Kingston et al. 2017)

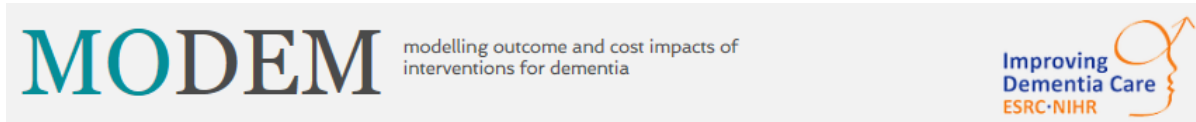
# What will the future hold?

**Fig. 2.4.** A public-health framework for *Healthy Ageing*: opportunities for public-health action across the life course



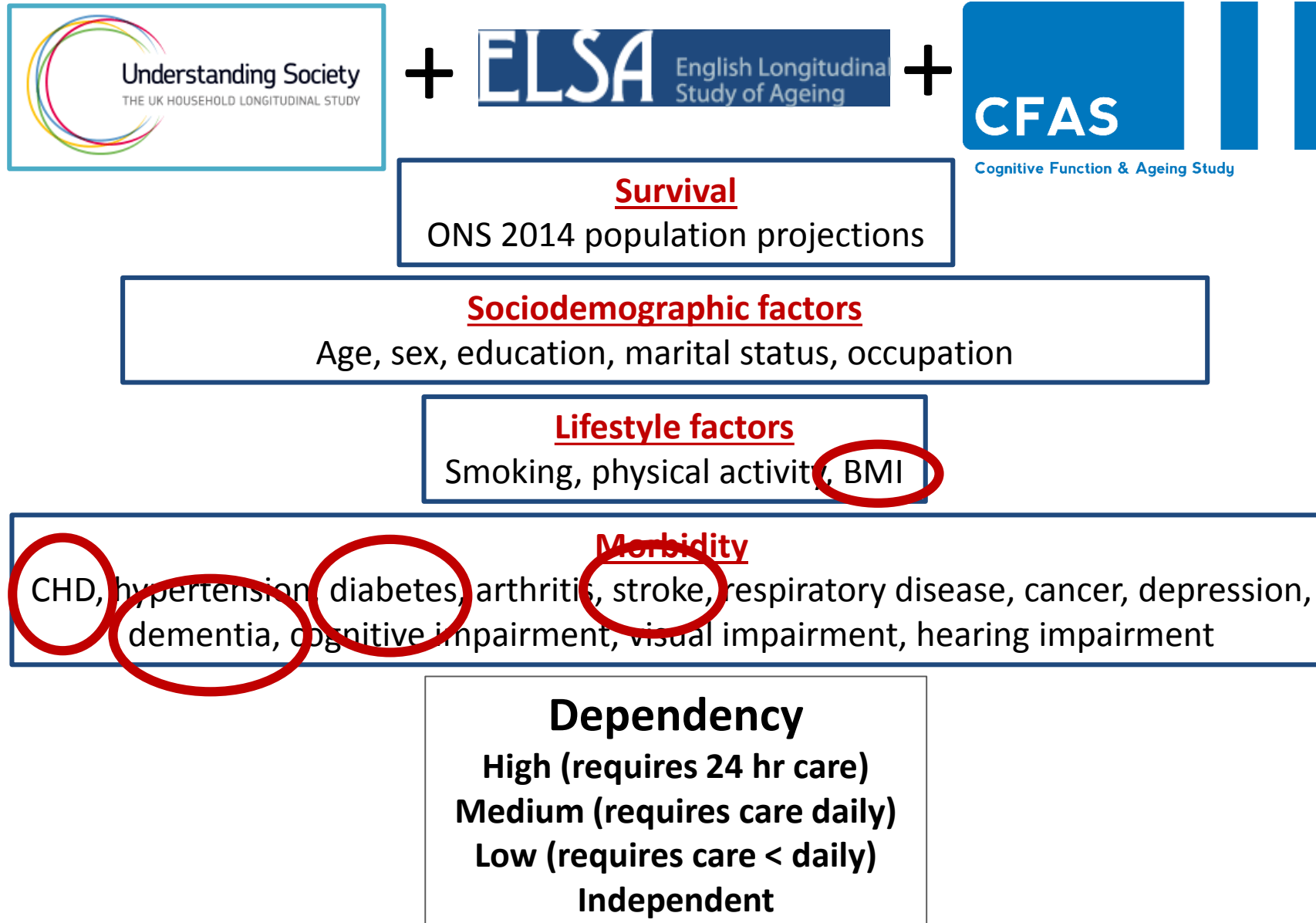
# Population Ageing & Care Simulation (PACSim)

- Microsimulation model built upon previous macrosimulation model SIMPOP and a similar Australian microsimulation model DynoptaSim
- Aims is to model:
  - ❖ The health and associated care needs of the English population from 2014 for the coming decades
  - ❖ The impact of interventions for risk factor reduction, disease prevention and treatments that slow down progression to disease and dependency with a particular emphasis on interventions for dementia



<http://www.modem-dementia.org.uk>

# PACSim Outline



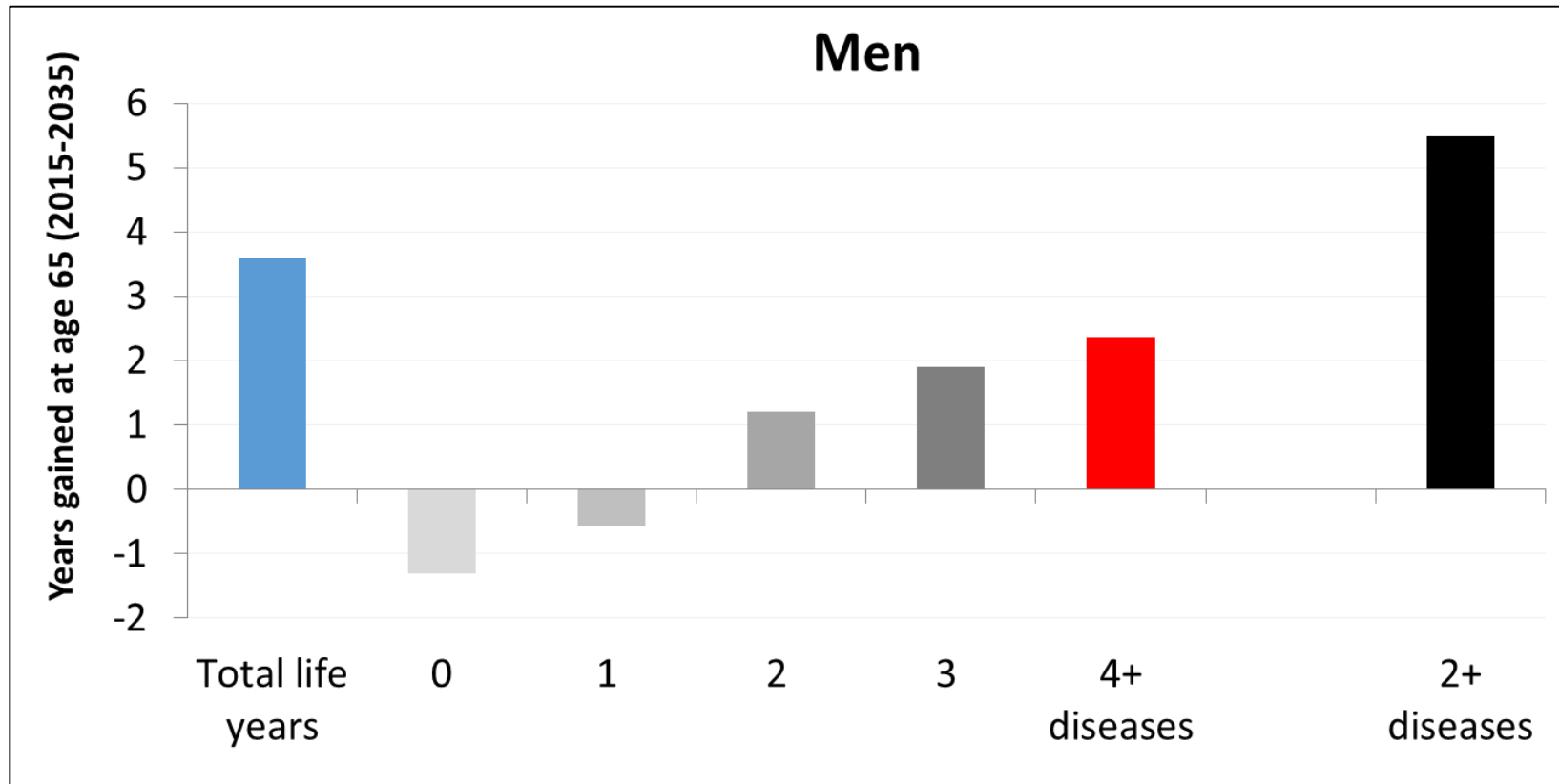
# PACSim: multimorbidity

Between 2015 and 2035

- Numbers aged 65+ with 4+ diseases will double
- Around 1/3 of those with 4+ diseases will have mental ill-health: dementia, depression or cognitive impairment no dementia (CIND)
- Most of gain in LE at age 65 will be in years with 4+ diseases

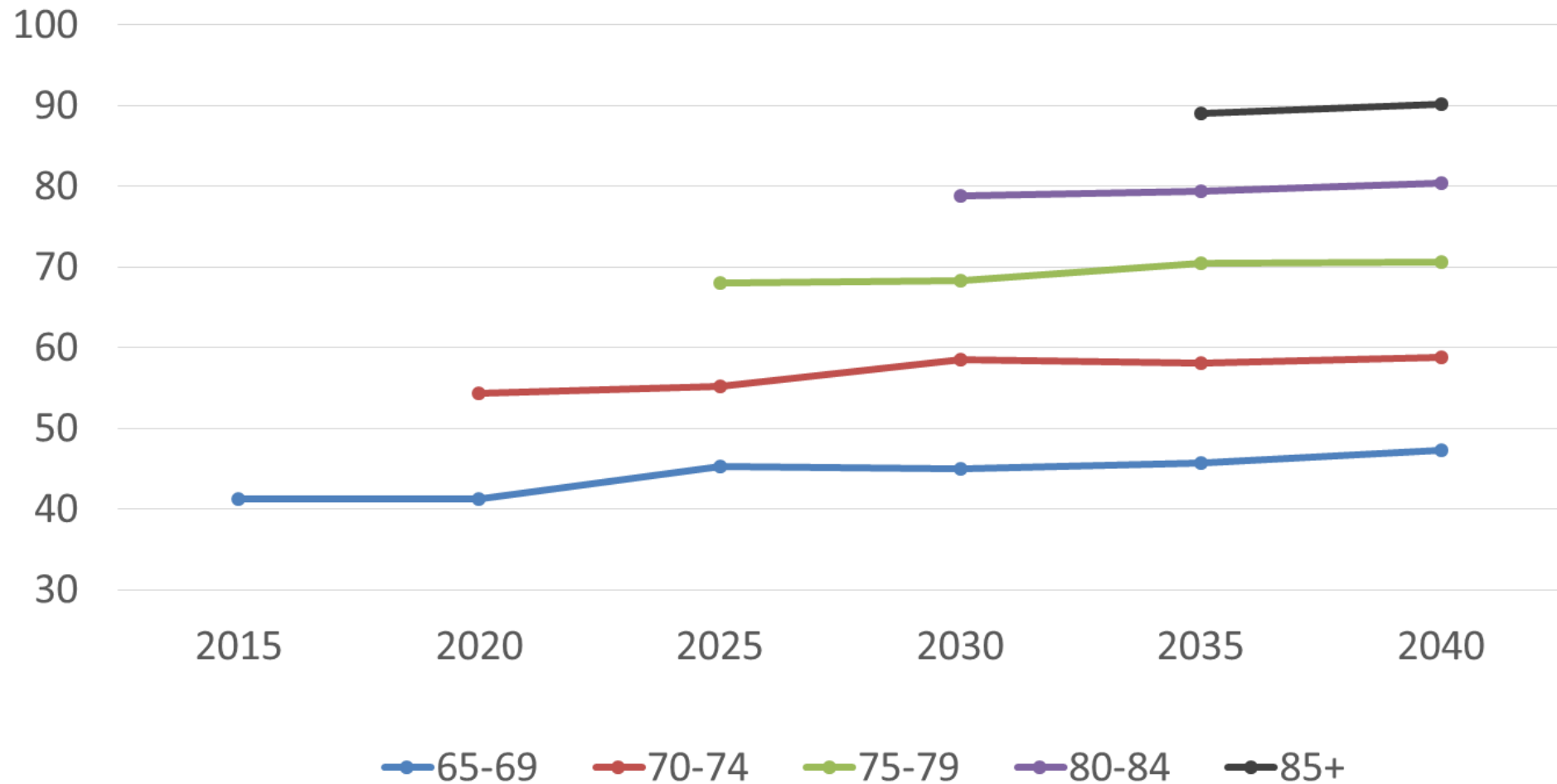
Source: Kingston et al Age and Ageing 2018

# PACSim: Years gained with disease 2015-35



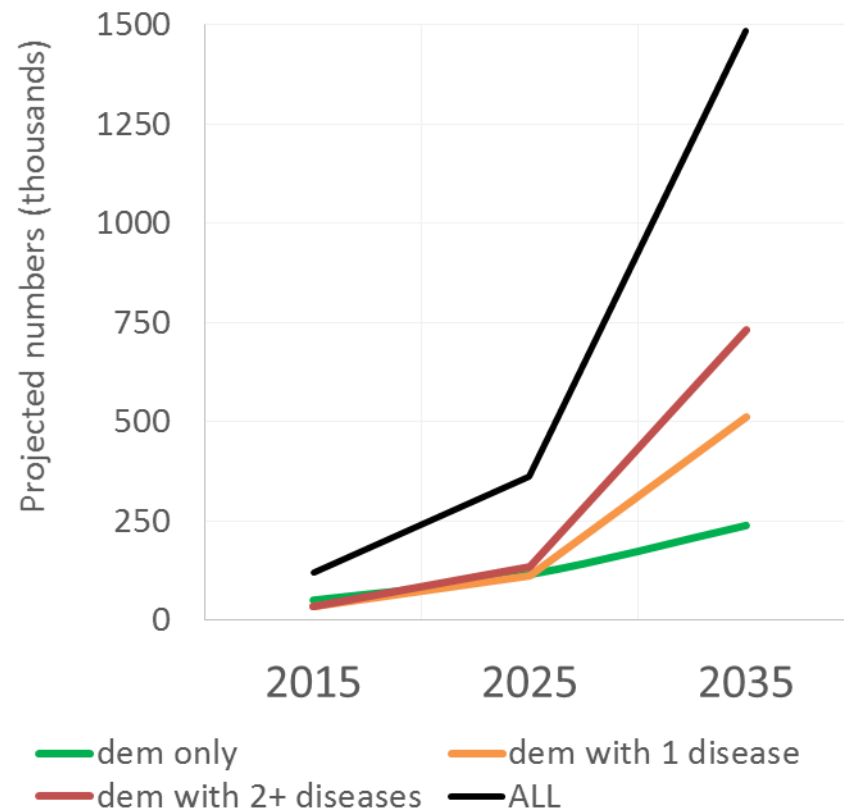
Source: Kingston et al Age and Ageing 2018

## PACSim: Prevalence of multi-morbidity (2+ diseases)

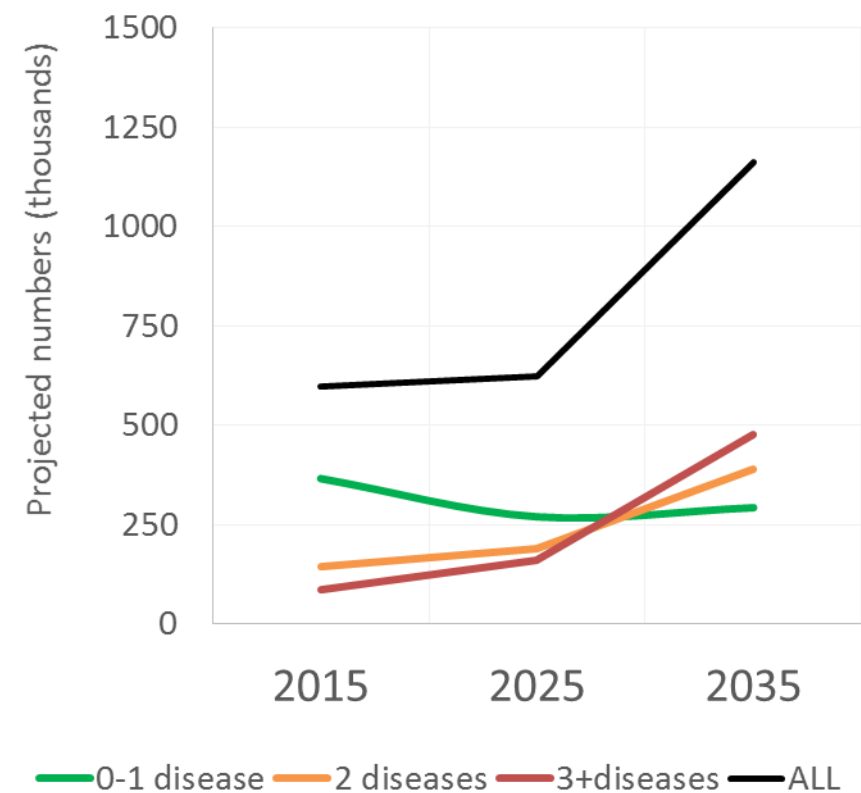


# PACSim: Substantial dependency\*

## With dementia



## Without dementia



\*medium or high dependency

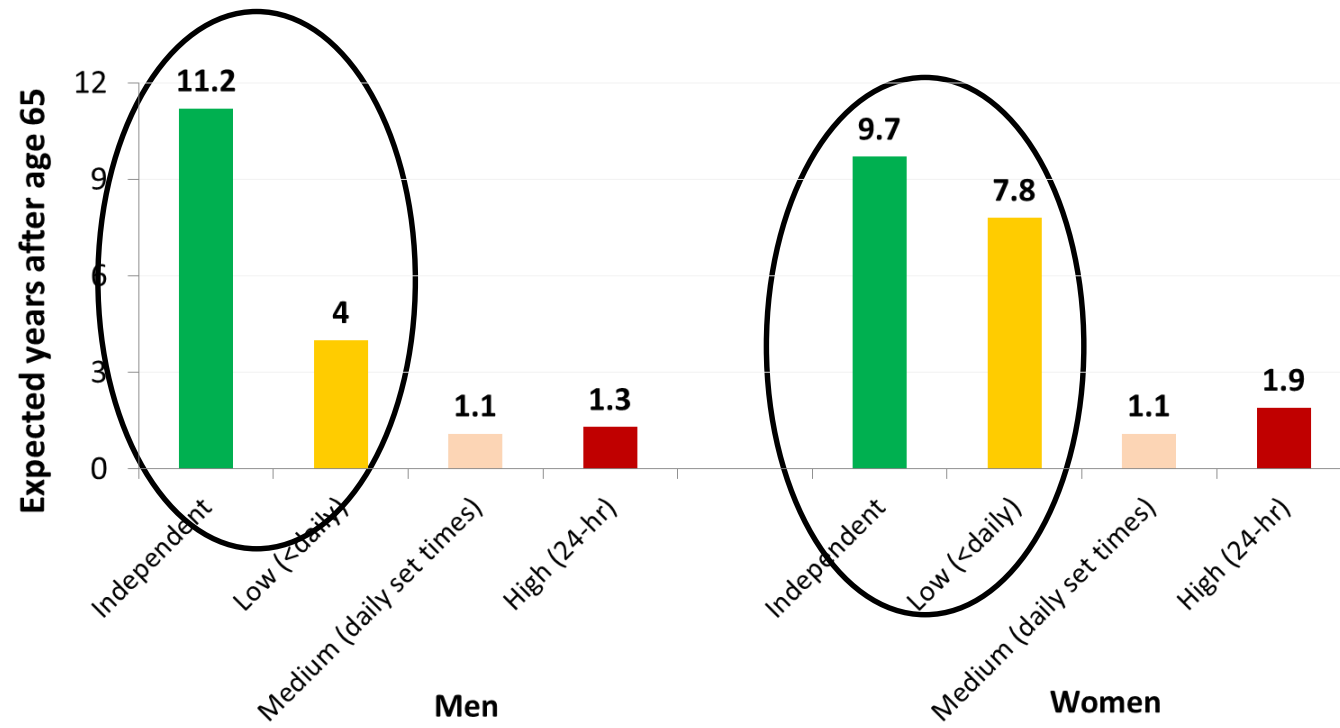
# Conclusions



- In the UK, policy (and individual choice) have resulted in fewer older people with substantial dependency living in residential care
- The residential care population therefore has become more concentrated at the high care needs end
- This is likely to continue in the future as the residential care population (and those with high care needs in the community) will have even more complex needs – specifically dementia alongside two or more other conditions
- At present, individuals, families and care providers should plan for on average 1 year spent requiring care daily and between 1 (men) and 2 (women) years spent requiring 24-hr care
- What is the solution?????

# The solution

- Most years are spent independent or with low dependency – aim to stay here longer to reduce time spent more dependent?



Source: Cognitive Function and Ageing Studies (Kingston et al. 2017)

News > UK > Home News

# Demand for care home places will soar by more than three quarters in less than 20 years, study shows

Almost 190,000 more elderly people will require care by 2035, amid backdrop of rising costs and cuts to funding in 'crisis' ridden care sector

## Find an extra 71,000 beds ... and soon, care homes told

Social care

# UK needs 71,000 more care home places in eight years, study predicts

Britain faces a worsening social care crisis with people living longer but with substantial care needs, researchers say

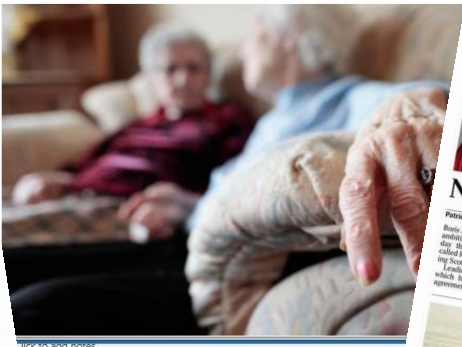
Health

# Number of Britons living with chronic illnesses set to rise

Life expectancy set to increase but sedentary lifestyles will lead to more chronic illnesses, says report



▲ The number of people aged above 85 is set to double from 1.3million in the next 20 years in the UK. Photograph: Kirsty O'Connor/PA



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**Top school bans pupils from having relationships**

**Lazy lifestyles to cause surge in serious illness**

**Middle-aged warned millions of older people will have four diseases in 20 years**

# Lazy lifestyles to cause surge in serious illness

Middle-aged warned millions of older people will have four diseases in 20 years

Obesity, heart disease, cancer and dementia are the four diseases that middle-aged people are most likely to develop by the time they are 65, a new study has warned. The research, published in the *British Medical Journal*, found that people who are overweight or obese at age 40 are 50 per cent more likely to die from these four diseases by age 65. The study also found that people who are physically inactive at age 40 are 20 per cent more likely to die from these four diseases by age 65. The researchers say that these findings highlight the need for people to adopt a healthier lifestyle from a young age to reduce the risk of developing these diseases later in life.

# Top school bans pupils from having relationships

A leading boarding school has threatened pupils with expulsion and a bad university reference if they form romantic relationships with each other. The school, which is one of the most prestigious in the country, has a long history of academic excellence. The headmaster said that the school's focus is on academic achievement and that any pupils who are involved in romantic relationships will be seen as a distraction from their studies. The school's policy is a strict one, and it is not intended to be lenient. The headmaster said that the school's aim is to prepare pupils for the challenges of the real world, and that this includes the ability to focus on their studies and avoid distractions.

# Lazy lifestyles to cause surge in serious illness

Middle-aged warned millions of older people will have four diseases in 20 years

Obesity, heart disease, cancer and dementia are the four diseases that middle-aged people are most likely to develop by the time they are 65, a new study has warned. The research, published in the *British Medical Journal*, found that people who are overweight or obese at age 40 are 50 per cent more likely to die from these four diseases by age 65. The study also found that people who are physically inactive at age 40 are 20 per cent more likely to die from these four diseases by age 65. The researchers say that these findings highlight the need for people to adopt a healthier lifestyle from a young age to reduce the risk of developing these diseases later in life.

# Acknowledgements

CFAS studies collaboration



**MODEM**

modelling outcome and cost impacts of interventions for dementia



- Dr Andrew Kingston
- Colleagues in Newcastle University Institute of Health & Society
- Australian Centre of Excellence in Population Ageing Research (CEPAR)



Thank you

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# 4th International Conference of Long-term Care Directors and Administrators

1-3 AUGUST 2018  
UNSW SYDNEY





Australian Government  
Australian Institute of  
Health and Welfare

# Dependency trends in Australia

International Conference on Long Term Care  
Sydney, 2 August 2018



Stronger evidence,  
better decisions,  
improved health and welfare



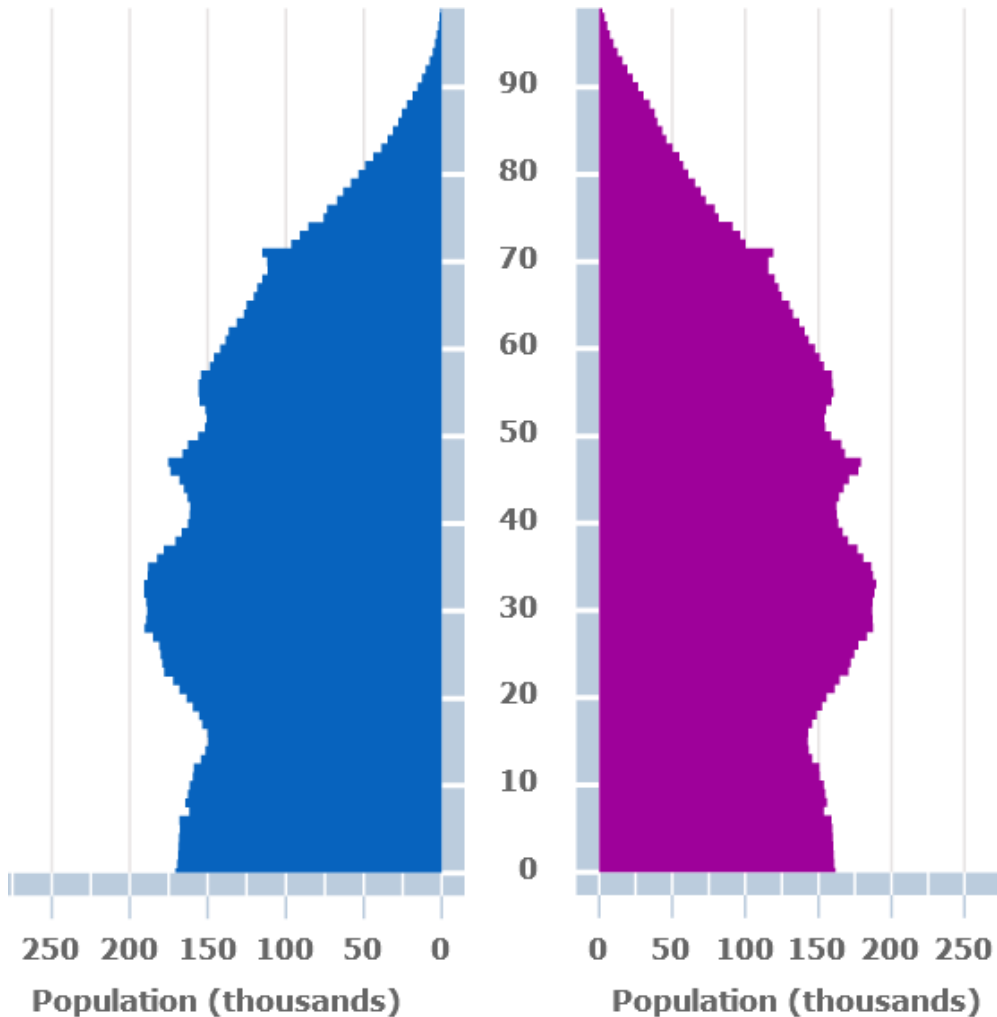
# Overview

- General dependency trends
  - age structure; life expectancy; disability; disability-free life expectancy
- Care trends
  - mix of institutional and community-based care; age of admission; acuity of residential care needs
- What's the role of dementia?

I would expect this slide set to be circulated, so no need to scribble down references or take pictures—unless, of course, you want to!

# Dependency trends

# Population 2018



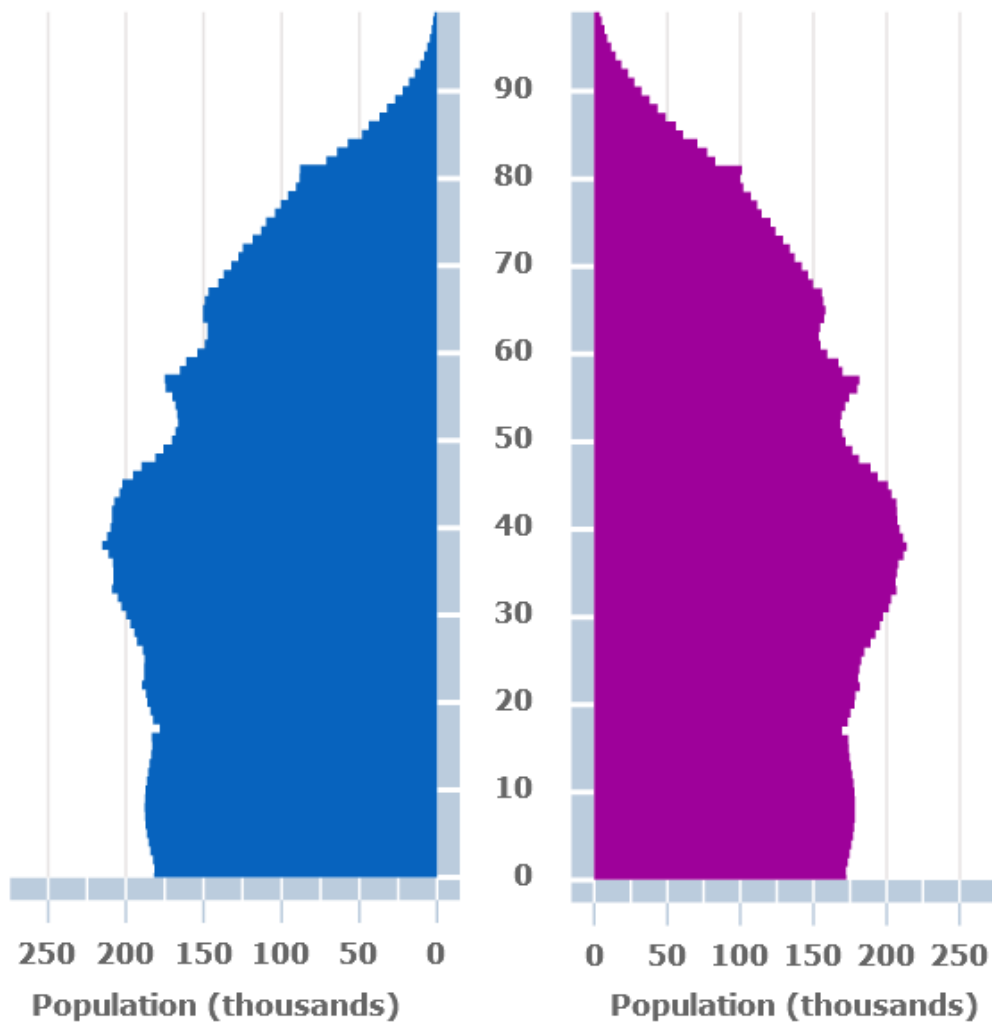
Total 25.2m

65+ 3.9m

including

85+ 0.5m

# Population 2028



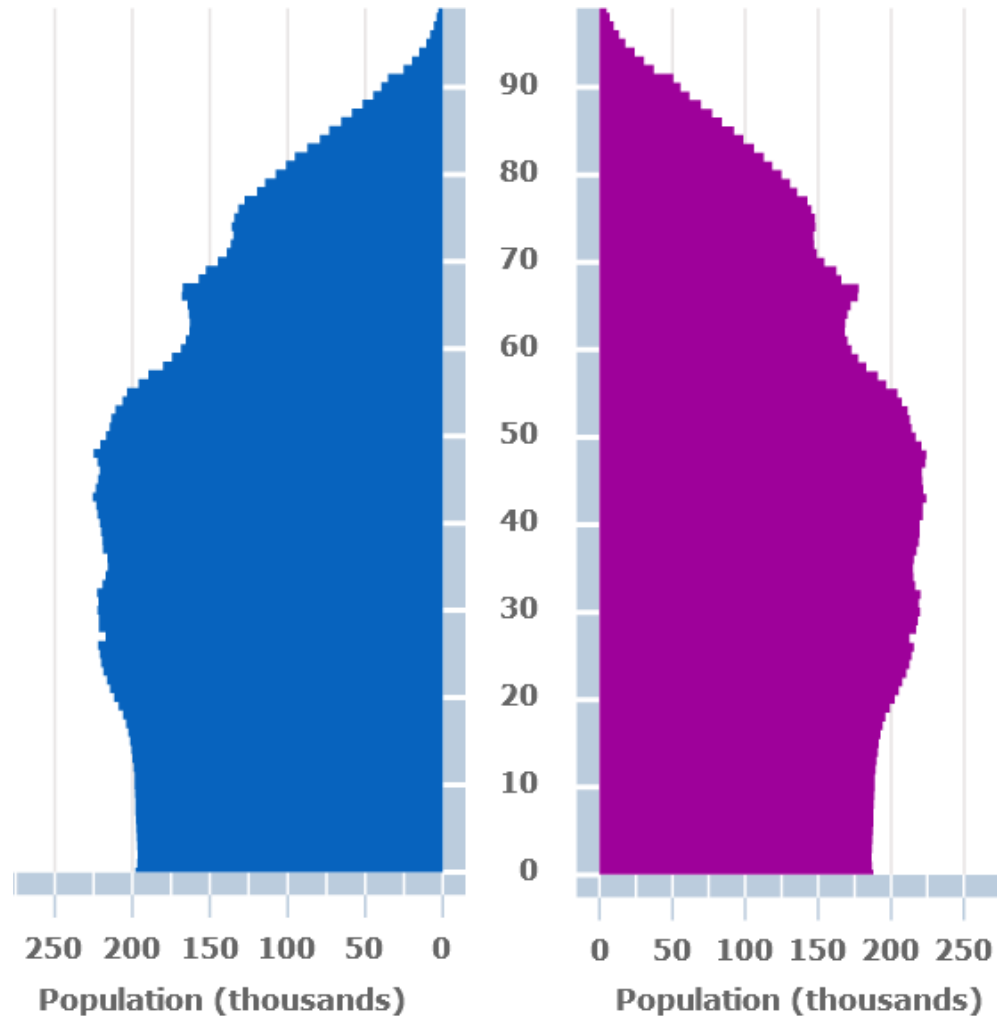
Total 29.3m

65+ 5.3m

including

85+ 0.7m

# Population 2038



Total 33.2m

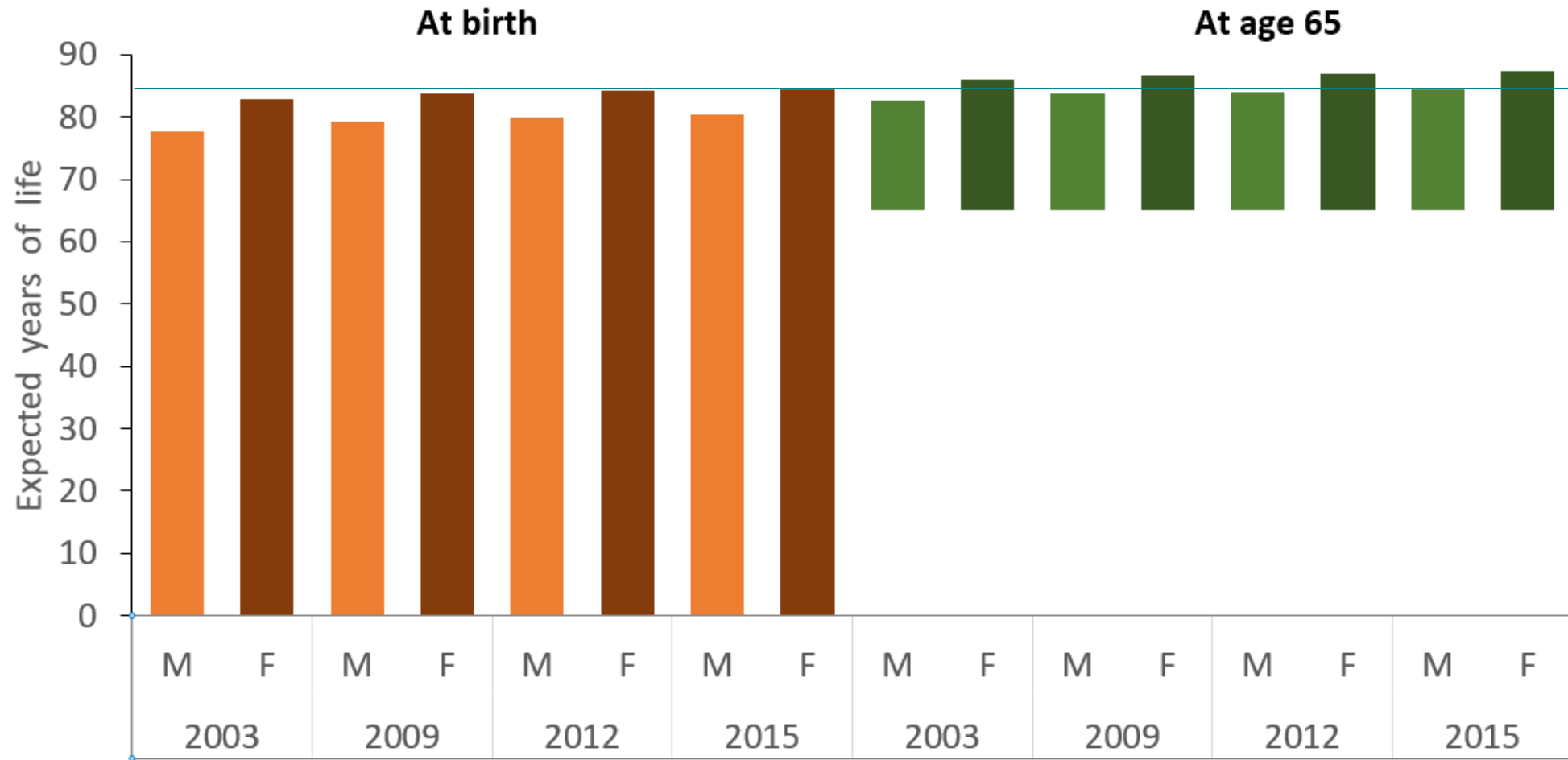
65+ 6.6m

including

85+ 1.1m

Up 120%  
since 2018

# Life expectancy increasing



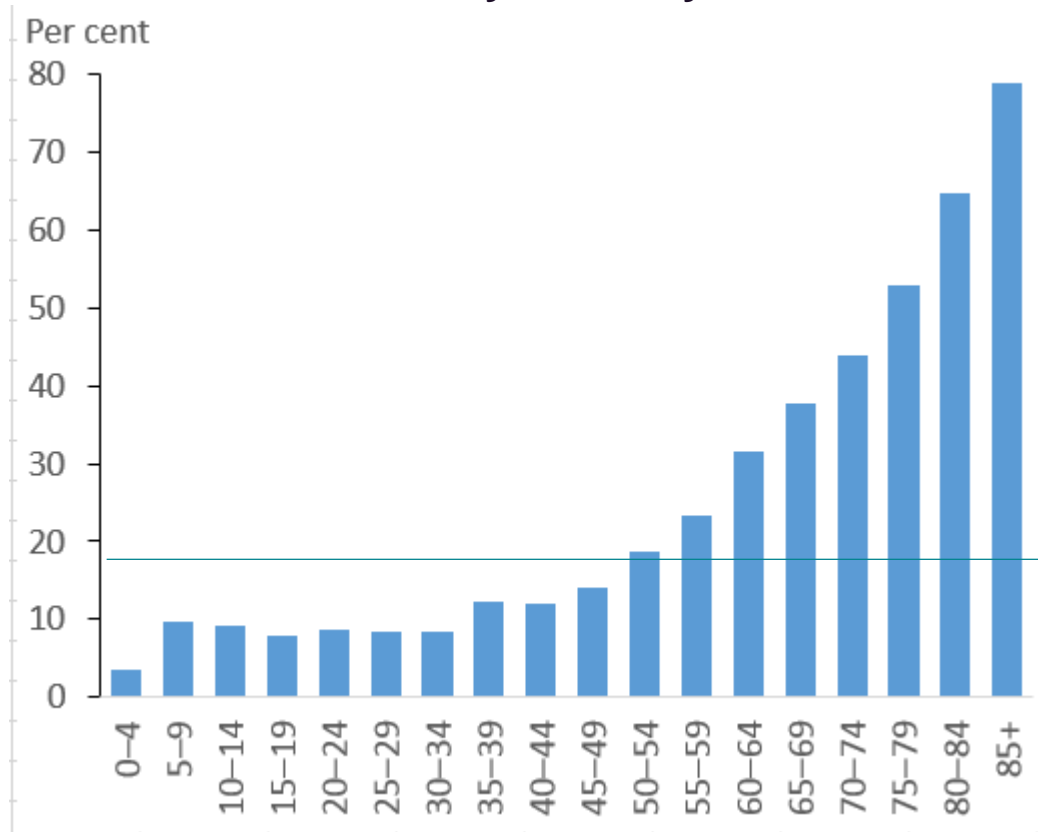


# Disability definitions

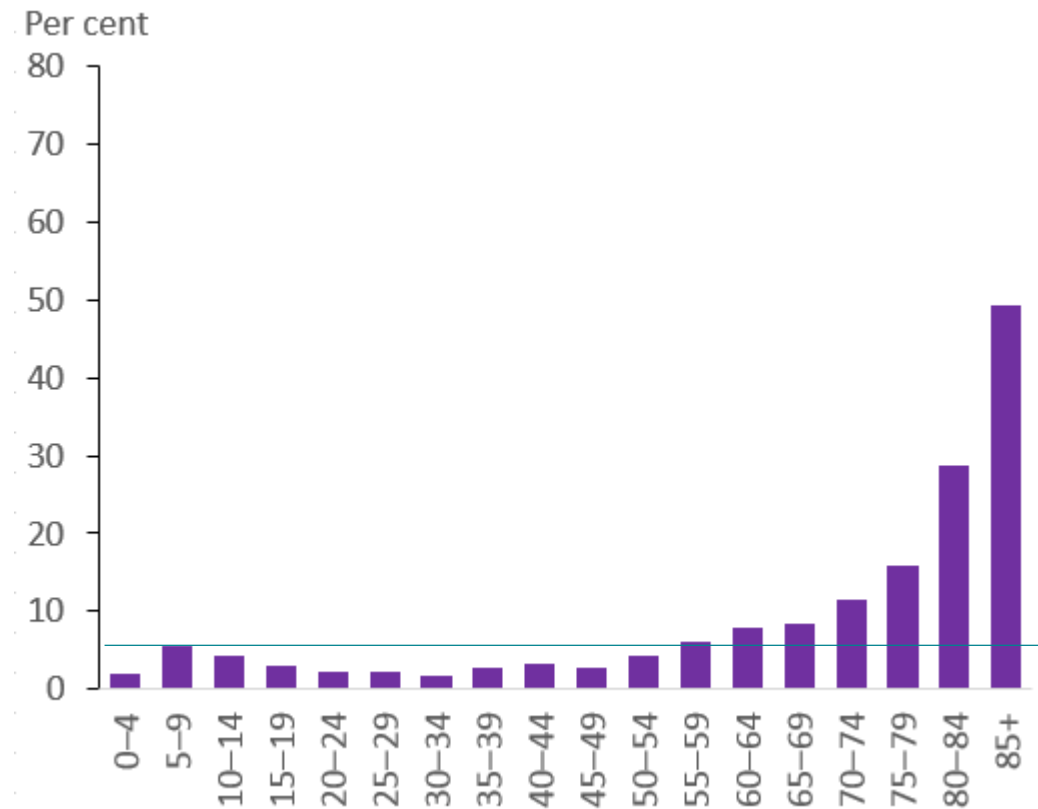
- Based on Australian Bureau of Statistics' implementation of International Classification of Functioning, Disability and Health (ICF)
  - *Any disability*  
A limitation, restriction or impairment, which has lasted, or is likely to last, for at least six months and restricts everyday activities.
  - *Severe or profound core activity limitation (SPCAL)*  
A person **sometimes** or **always** needs help with one or more of the core activities (mobility, self-care and communication).

# Disability prevalence, 2015

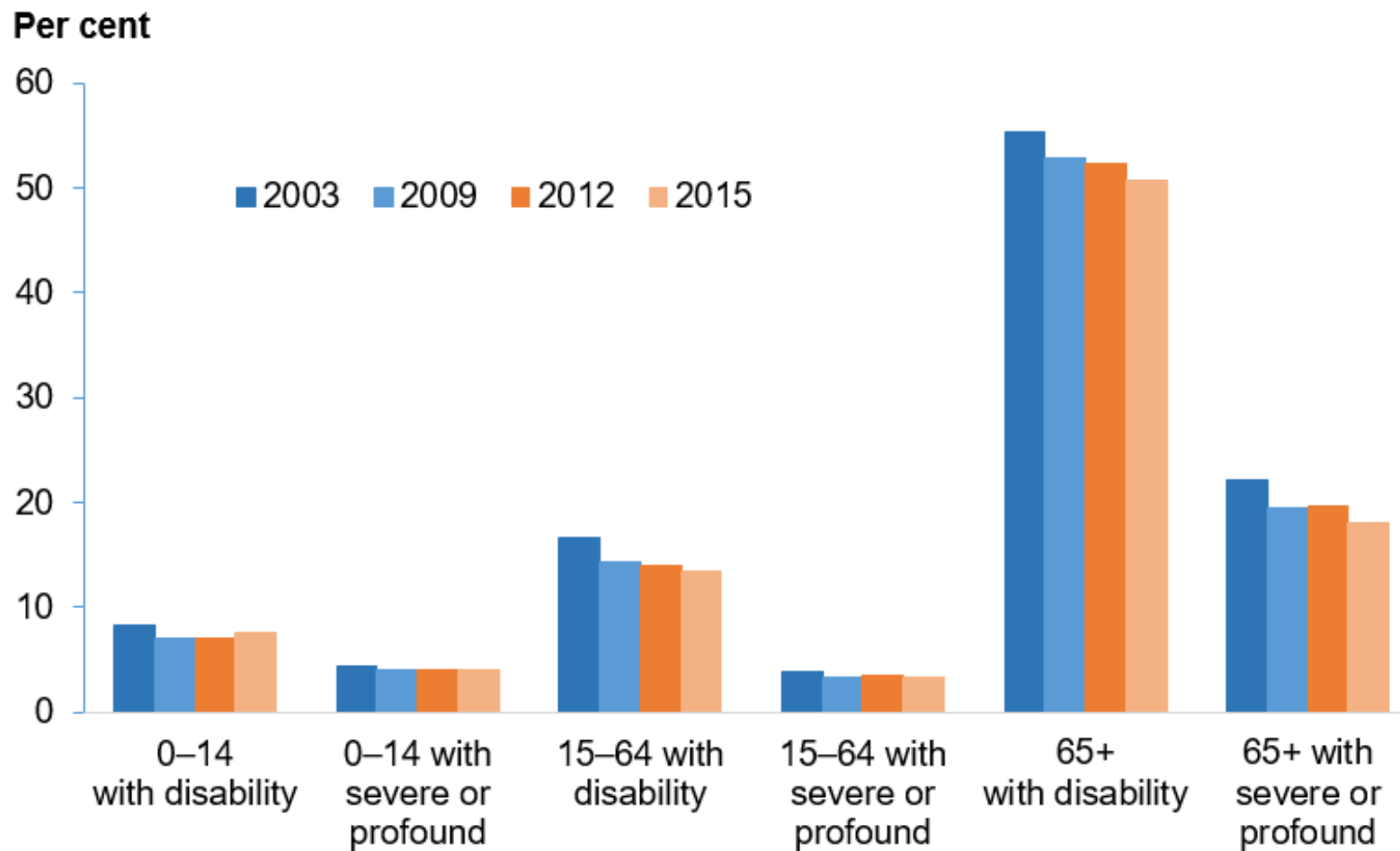
Any disability



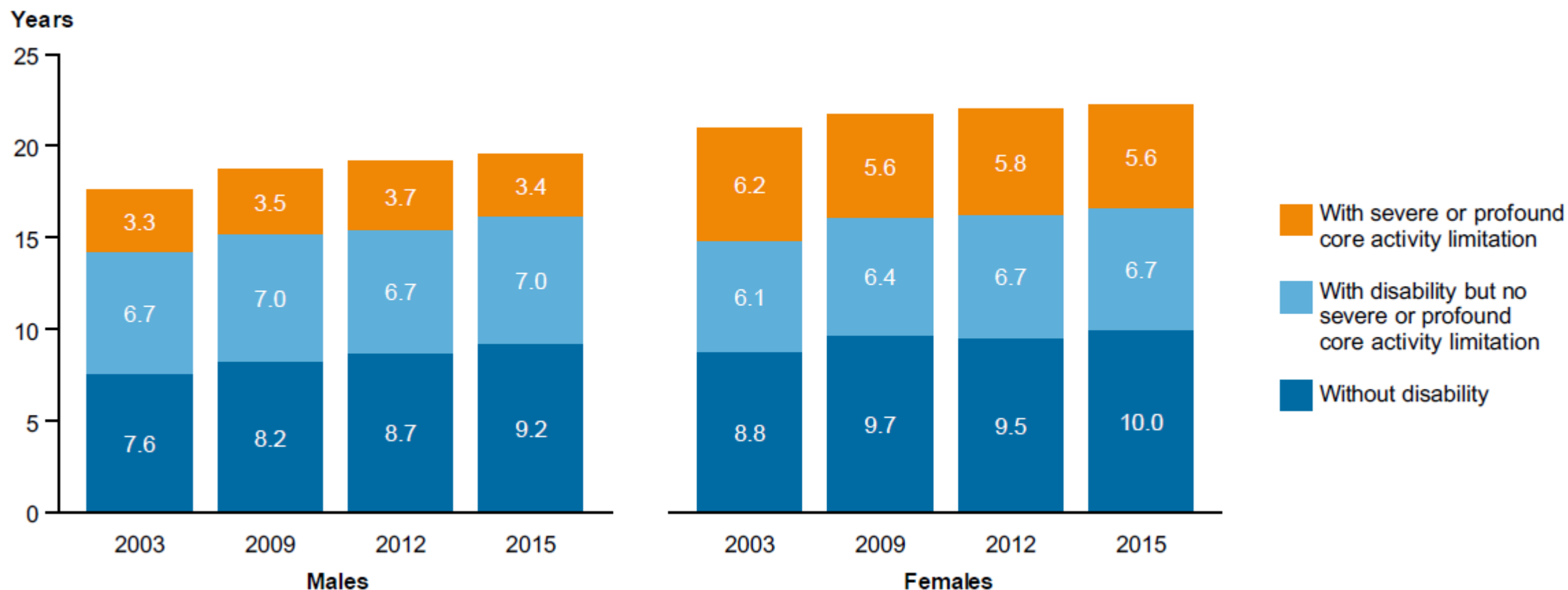
SPCAL



# Disability trends



# Disability-free life expectancy increasing (age 65)



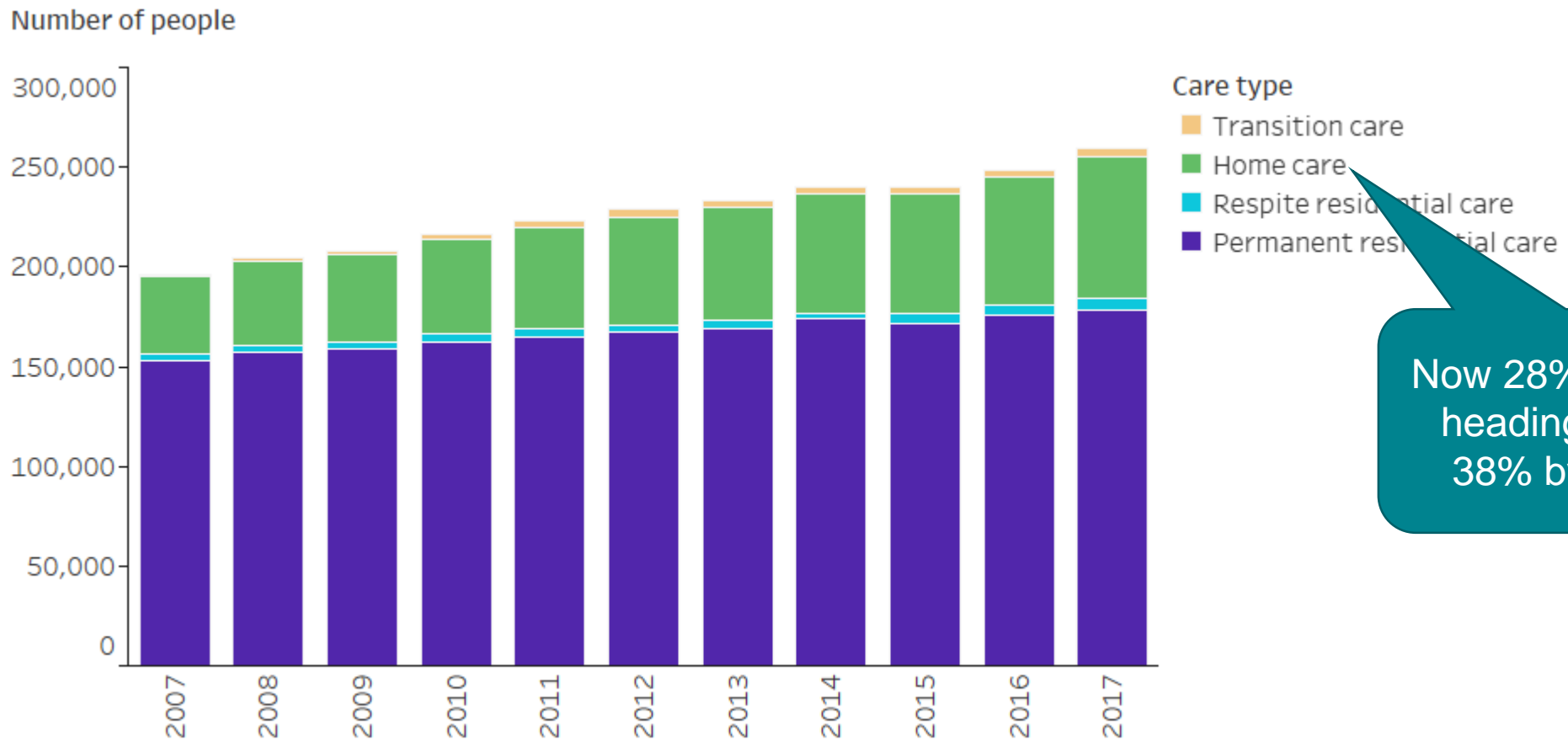
# Care trends



## Long-term care in Australia

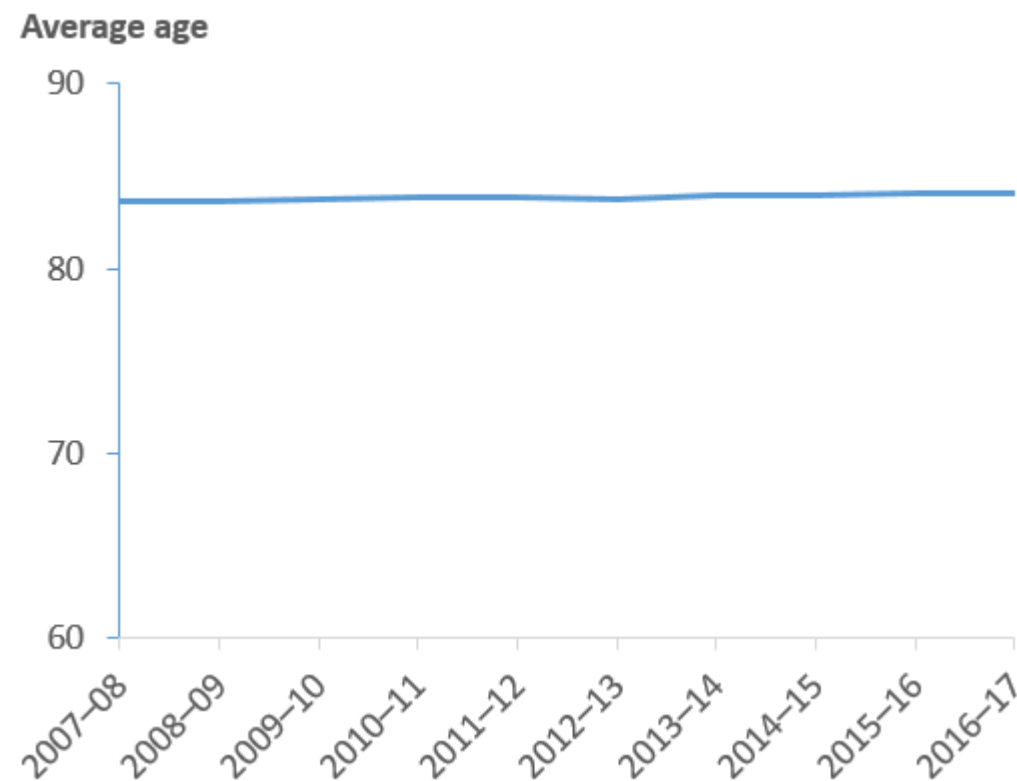
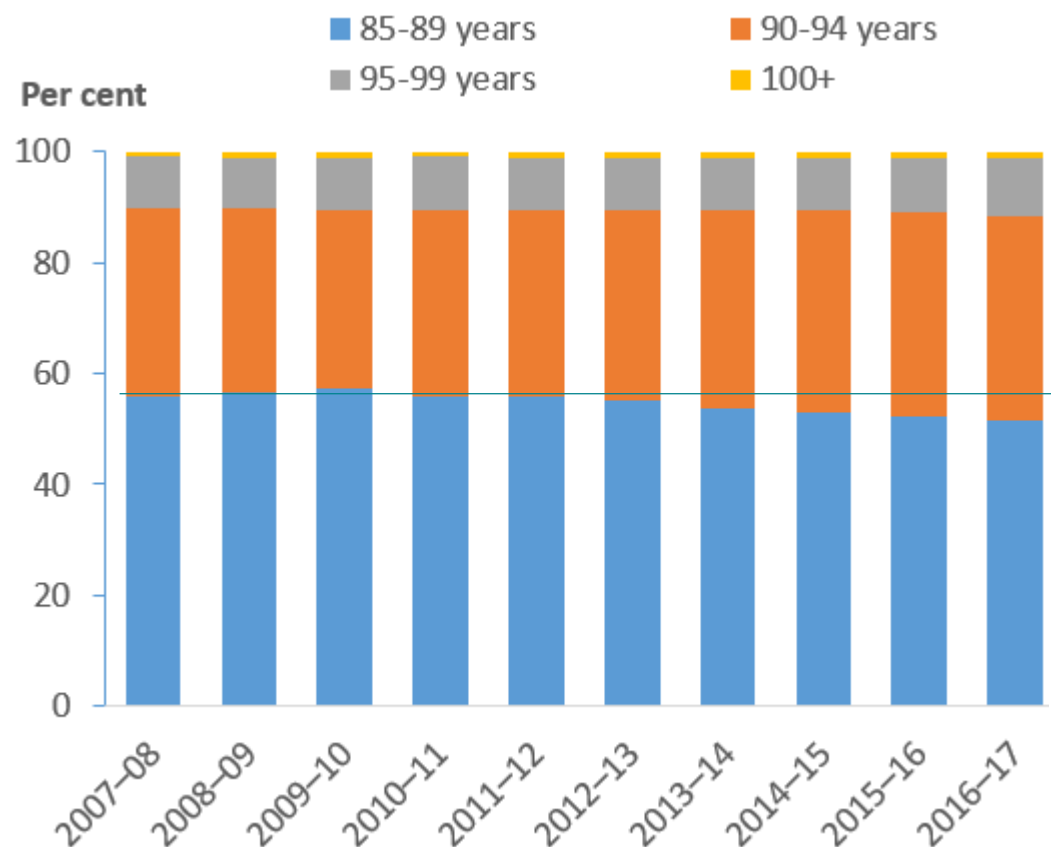
- Government-subsidised, universal access, no minimum age
- Means-tested capacity to pay
- Institutional = Residential Aged Care  
Non-Institutional = Home Care Package, available at 4 levels  
(plus Home Support Programme for entry-level care needs;  
plus some flexible programs covering residential and community care)
- About 1.3 million people receive some services across the year

# Home care accounts for most growth



Now 28% of capacity,  
heading to around  
38% by 2021–22

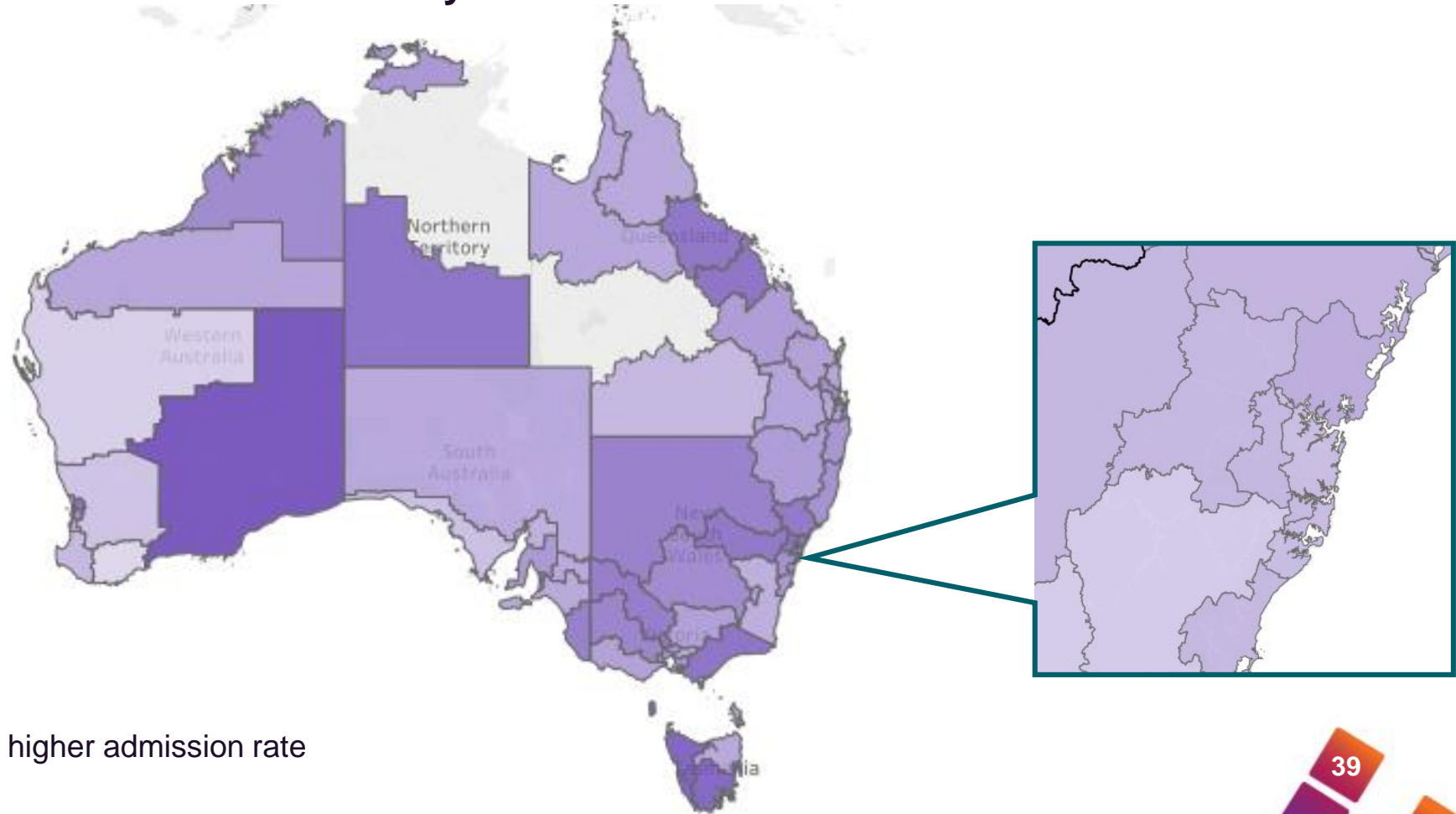
# Admission\* age profile not changed much



\*Permanent residential

# Age profile\* not evenly distributed

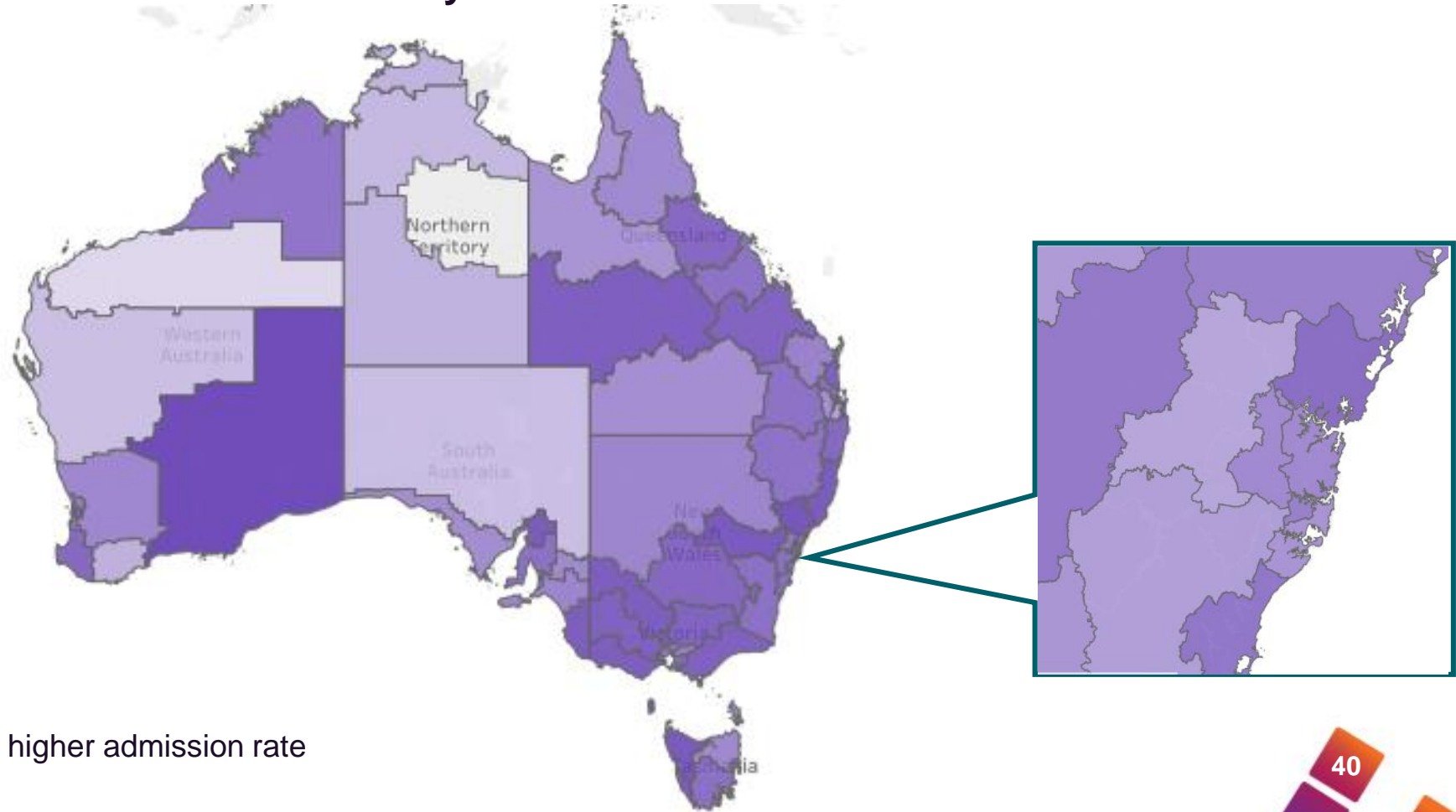
65–69 years



\*Permanent residential; darker means higher admission rate

# Age profile\* not evenly distributed

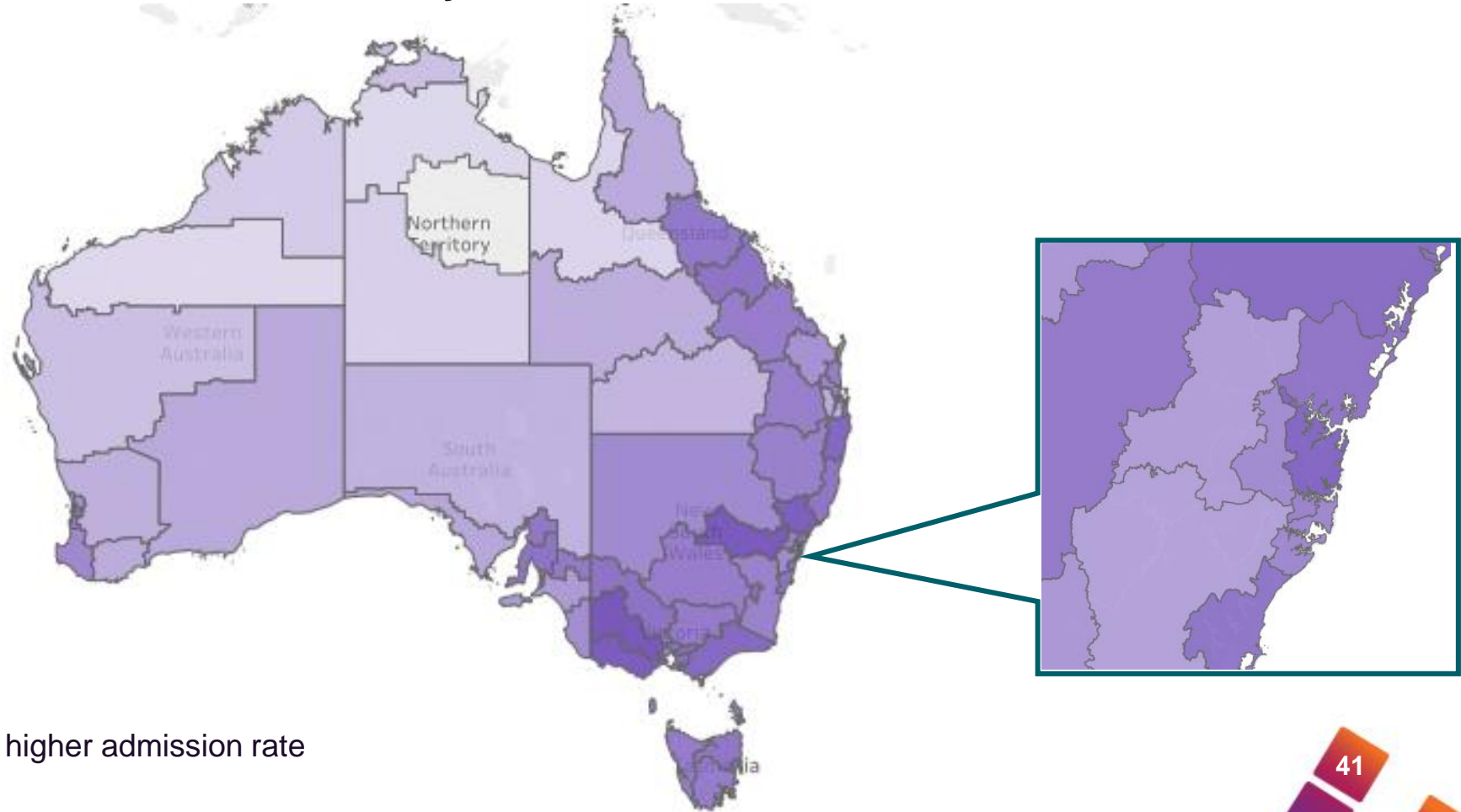
75–79 years



\*Permanent residential; darker means higher admission rate

# Age profile\* not evenly distributed

85–89 years



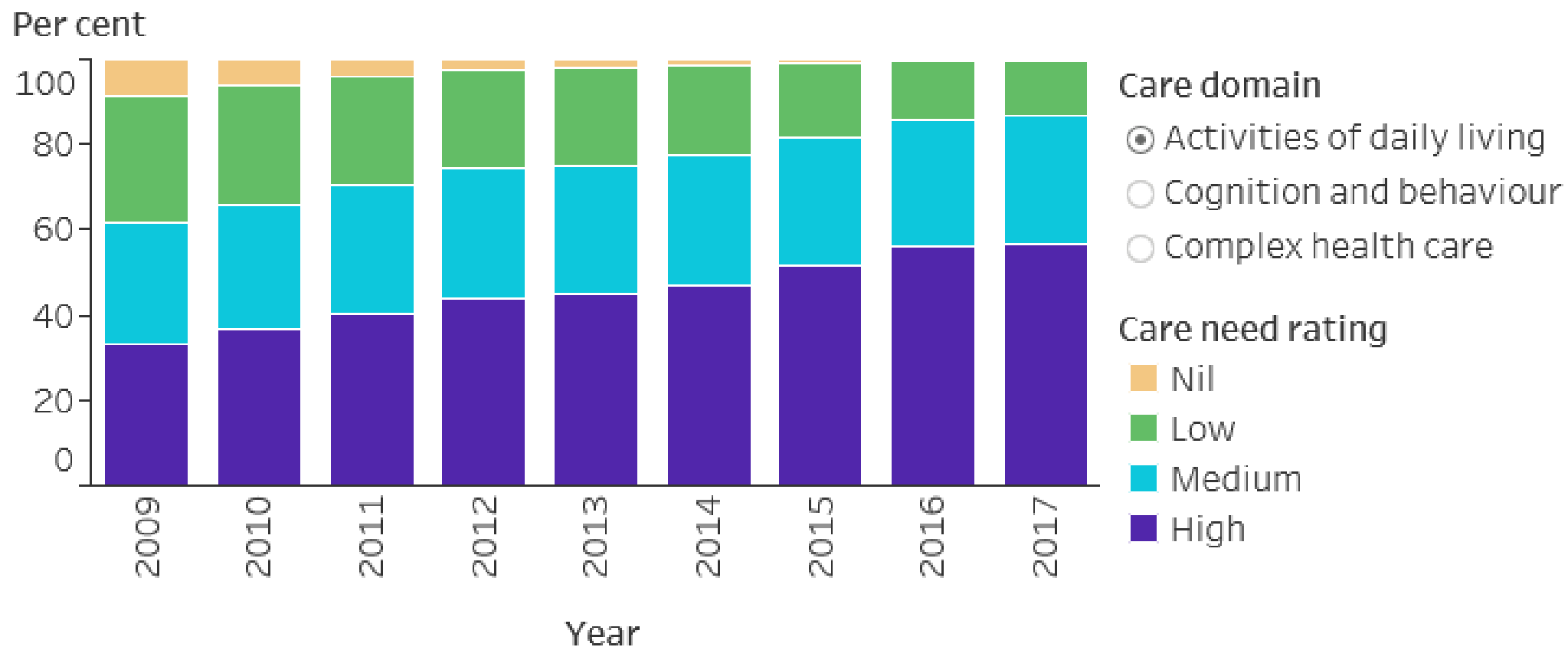
\*Permanent residential; darker means higher admission rate



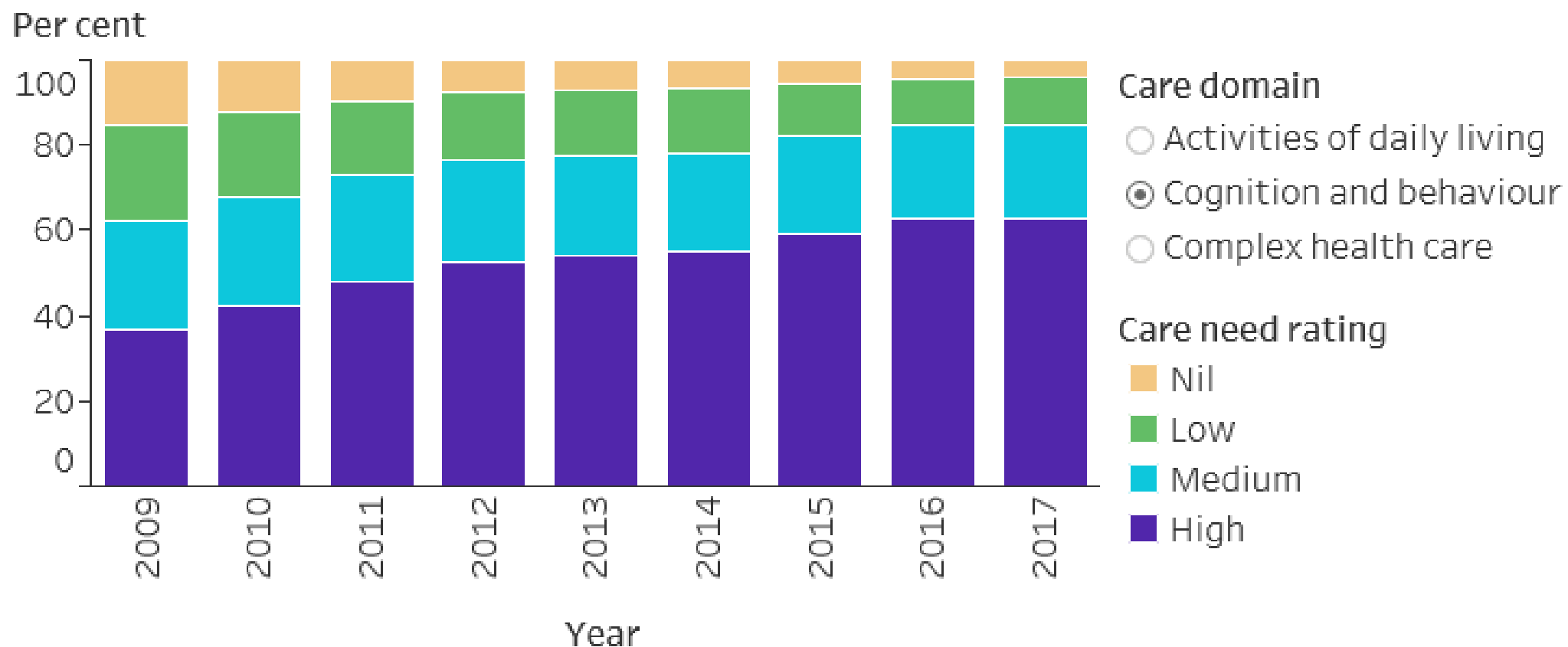
# About the Aged Care Funding Instrument

- Used to assess care needs that most contribute to the cost of care
- Applies only to permanent residential aged care clients
- Covers 3 domains, each of which can be rated as nil, low, medium, high:
  - Activities of daily living
  - Cognition and behaviour
  - Complex health care (including palliative care in the ‘last days’ of life)
- Evidence requirements for conditions such as dementia and depression
- Introduced in 2008

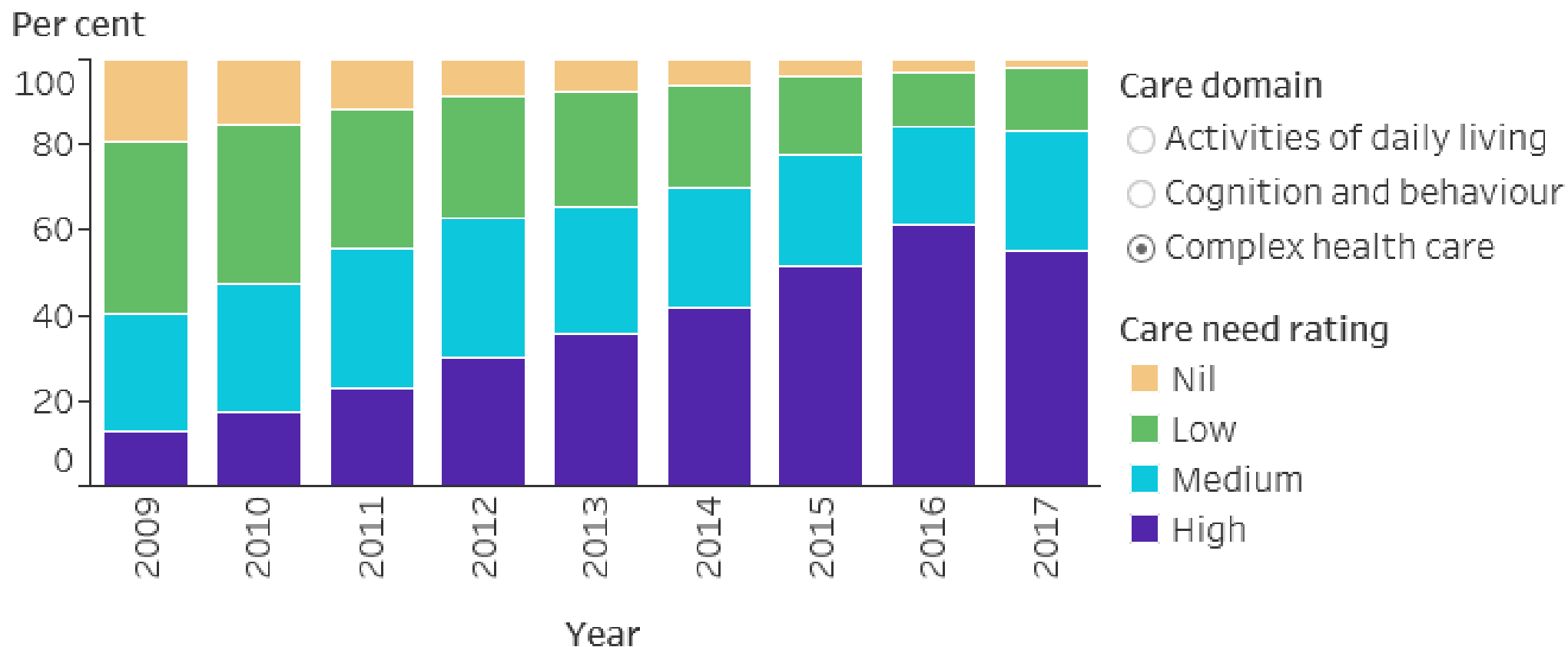
# ADL care needs



# Behaviour care needs

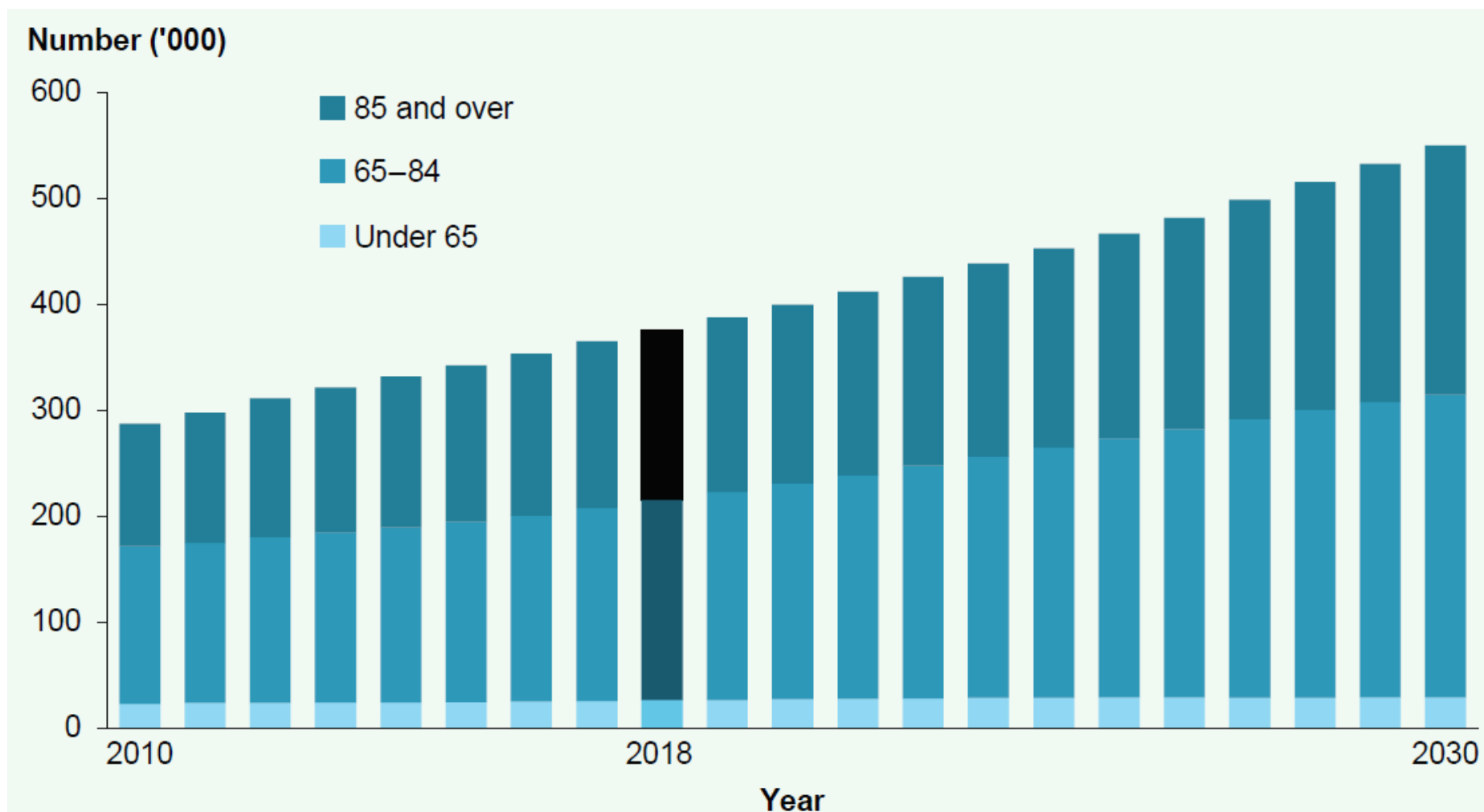


# Complex health care needs

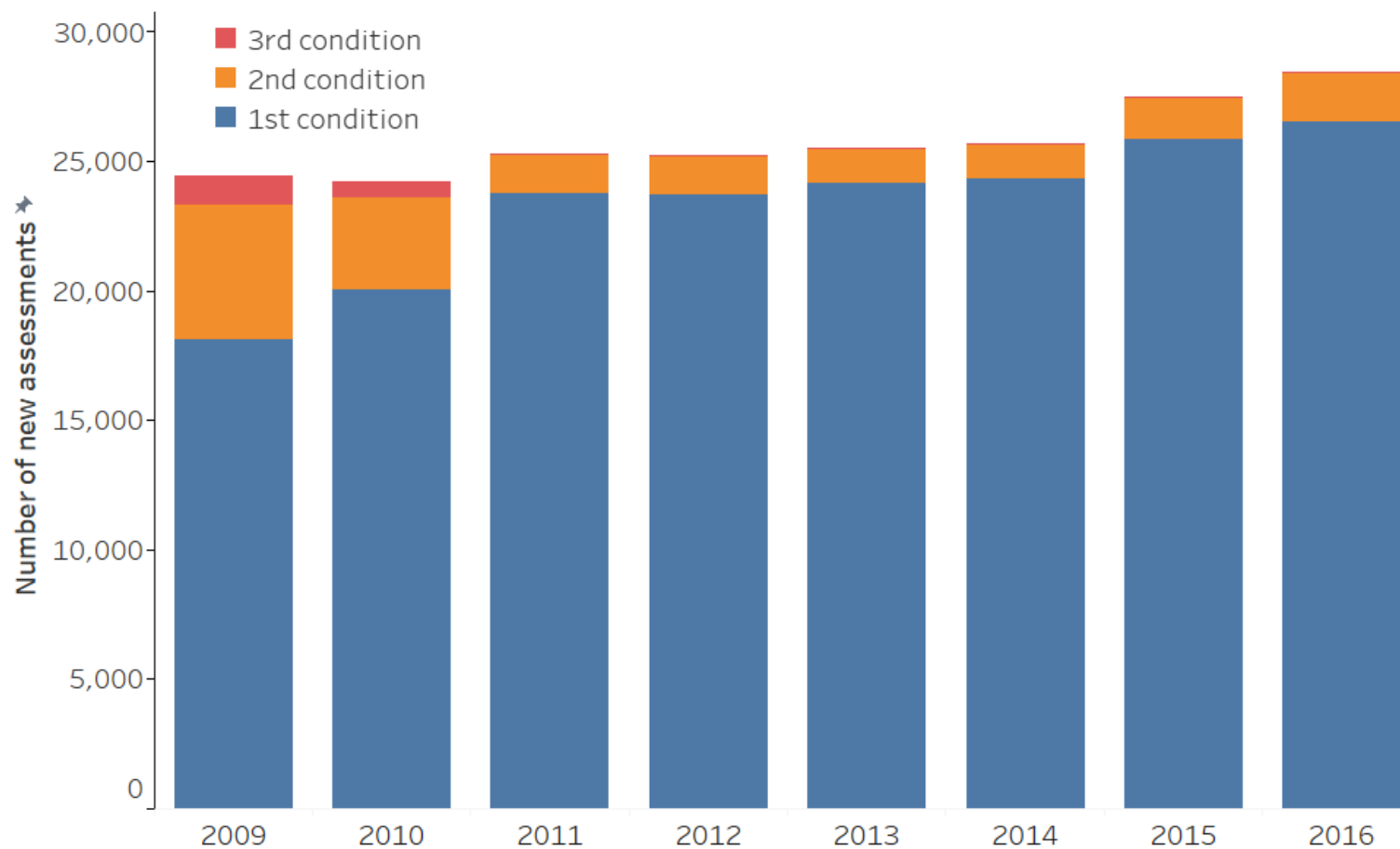


# Dementia role

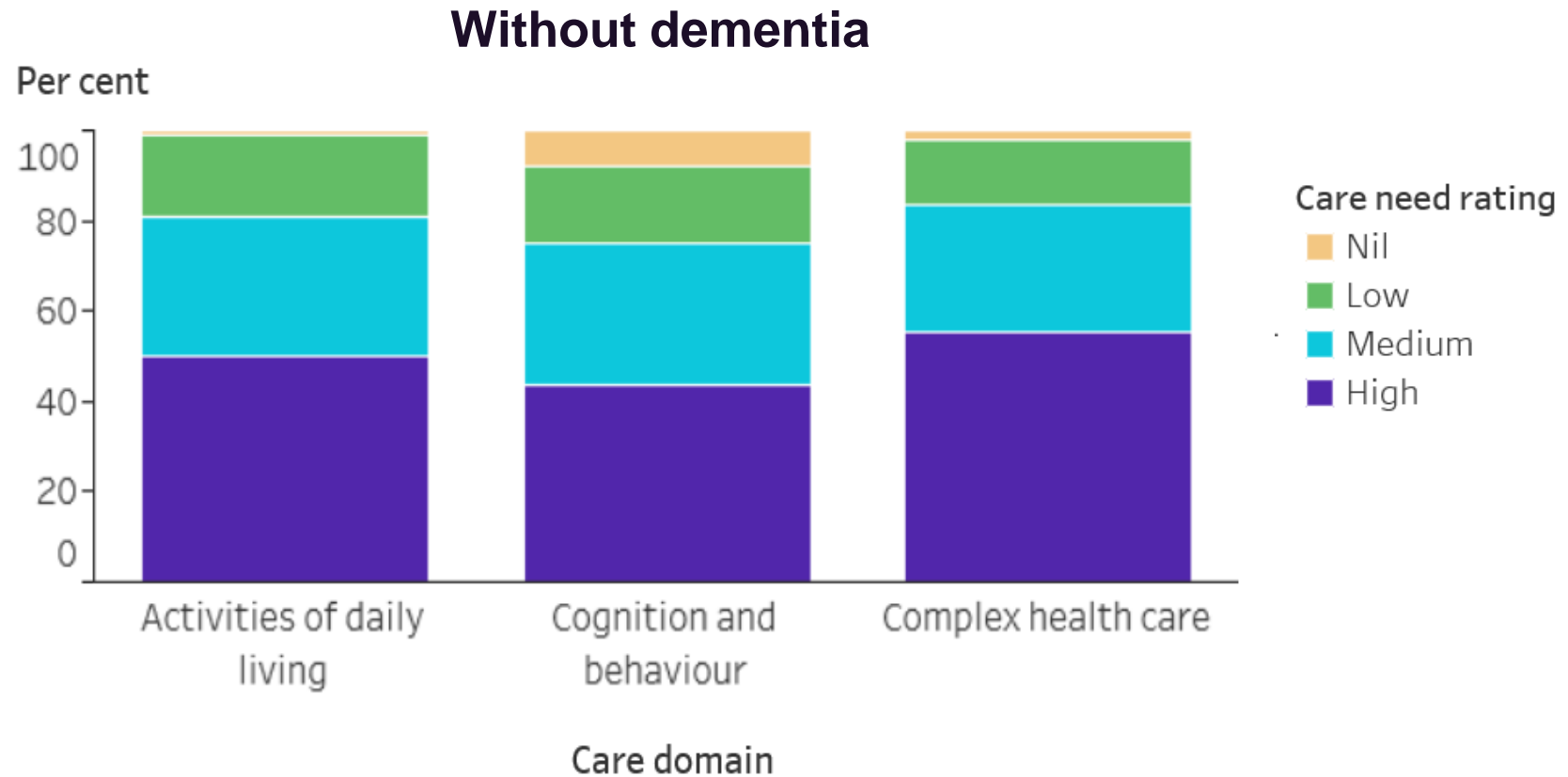
# Standard dementia prevalence 'model'



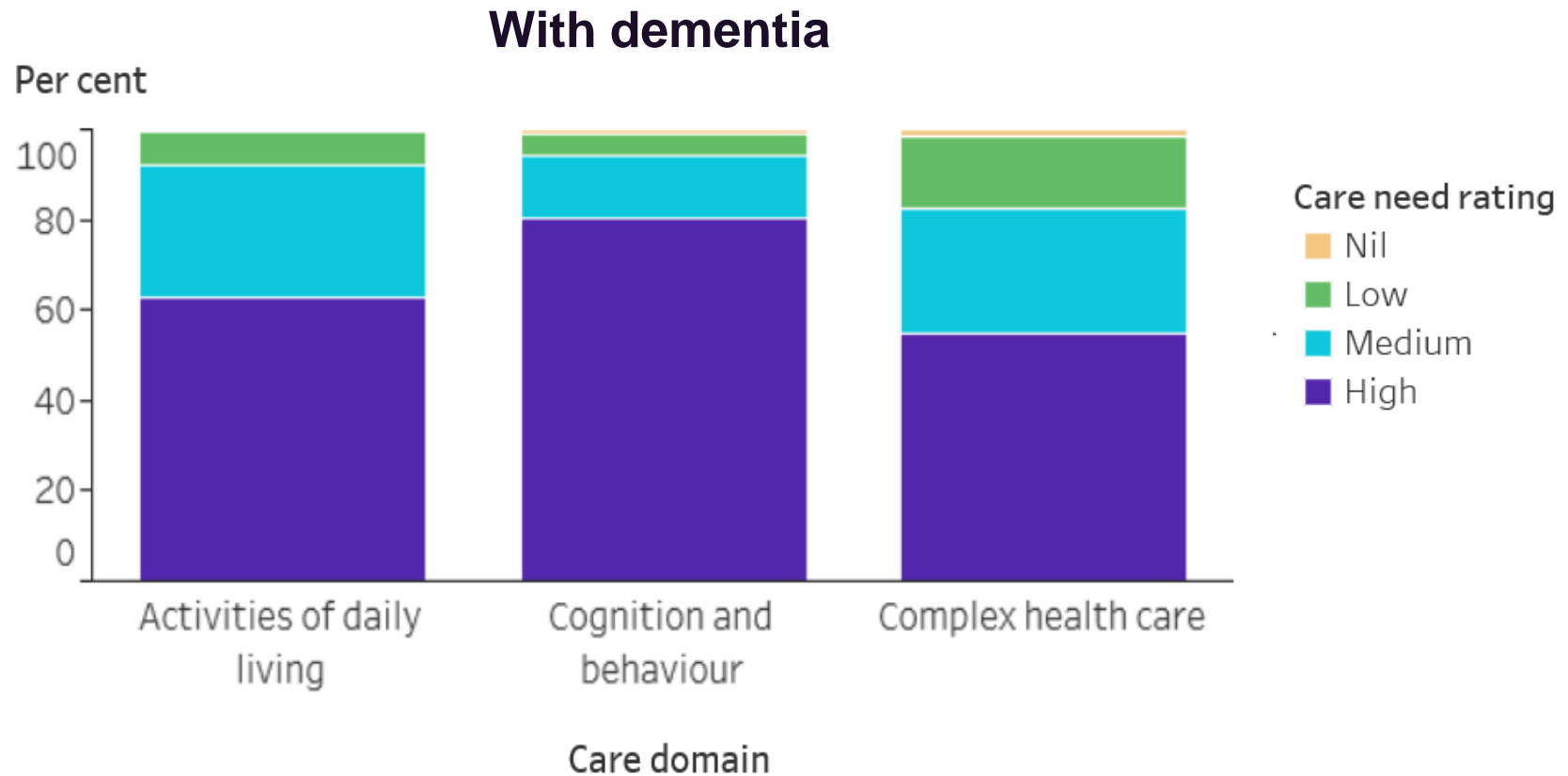
# Dementia on first ACFI assessment




# Dementia affects other care needs



# Dementia affects other care needs



# But does the standard model still apply?

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Health

## Dementia rates show signs of falling

By James Gallagher  
Health and science reporter, BBC News

🕒 22 November 2016 📄





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Format: Abstract

[JAMA Neurol.](#) 2017 Nov 1;74(11):1345-1351. doi: 10.1001/jamaneurol.2017.1964.

**Trends in Dementia Incidence in a Birth Cohort Analysis of the Einstein Aging Study.**

[Derby CA](#)<sup>1,2</sup>, [Katz MJ](#)<sup>1</sup>, [Lipton RB](#)<sup>1,2</sup>, [Hall CB](#)<sup>1,2</sup>.

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Neurology > Dementia

## More Evidence of Dementia Decline

— Better treatment, more education may improve brain health despite rising rates of obesity, diabetes, CV risk factors

ing and prevention. To better understand incidence  
e used this approach.

ovascular comorbidities among individuals aged 70

tia incidence in persons enrolled in the Einstein  
ited, population-based sample of 1348 participants  
nt and at least one annual follow-up was studied.  
educational level, race, and birth cohort, with profile



## Summary

- Selection of indicators suggest no dramatic change in dependency levels over time, so most of the demand growth comes from demographic factors
- Home-based long term care is becoming more prominent in the mix
- While dementia is a significant driver at the moment, the longer-term impact is unclear

# Contact



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Questions,  
comments

