Building an understanding of the older population

Carol Brayne
Director
Institute of Public Health
Cambridge University

Outline

- Perspectives
- Public Health and prevention
- Two worked examples: MRC CFAS and CC75C
- Translation of results
- Key messages

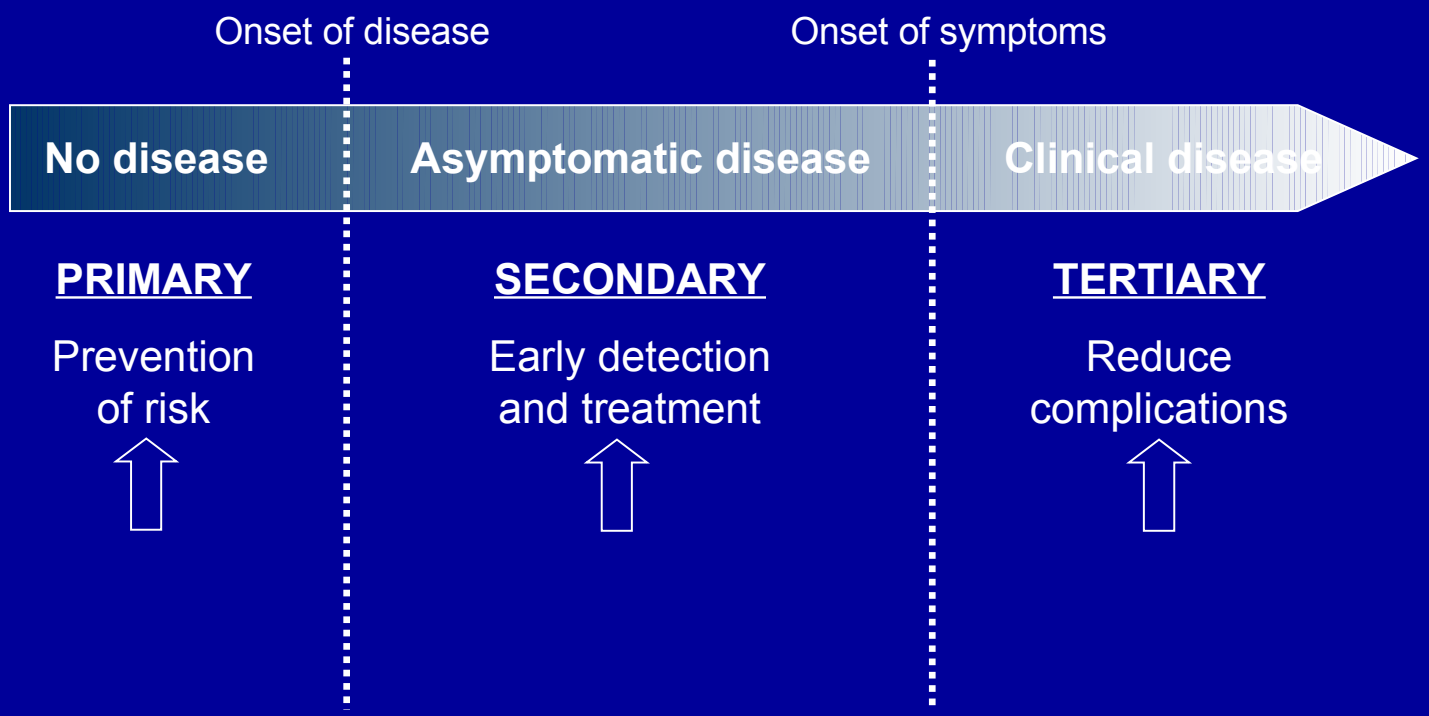
Perspectives

- Individuals
- Volunteers (+focus groups)
- Special interest groups
- Particular populations of interest
- Populations
- What to measure, how to define

- Horses for courses

Public health and prevention

- What is public health?
- How does public health define prevention?

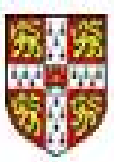

Onset of disease
Onset of symptoms
No disease
Asymptomatic disease
Clinical disease
PRIMARY
Prevention of risk
SECONDARY
Early detection and treatment
TERTIARY
Reduce complications

To do this prevention need first to understand….two worked examples

Cambridge City over 75 cohort

- Original intention evaluation of community resource team impact on care quality and outcomes
- Prevalence, incidence, risk
- Driving behaviours
- Falls
- Frailty
- End of life
- Neuropathology

MRC | Biostatistics Unit



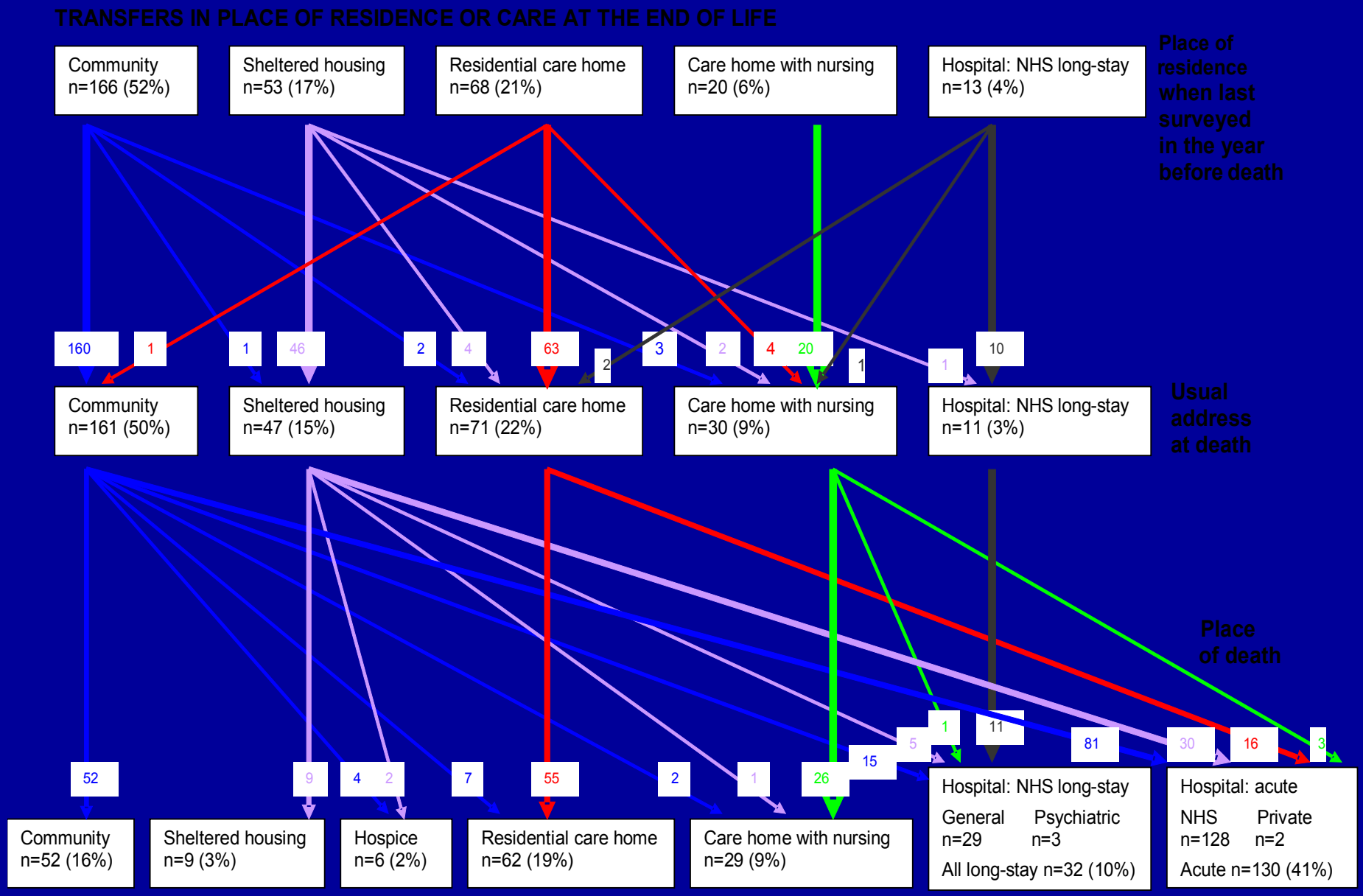
UNIVERSITY OF CAMBRIDGE

Cambridge City over-75s Cohort

- Population-based - community and care homes
- Changes in cognition and function with ageing
- Began 1985/7 screening for dementia
- Repeated surveys
- 95% consent Year 0, still highly representative
- Latest survey included 1yr follow-up = Year 17
- Current work on QoL/EoL survey = Year 21
- Brain donation programme since 1986

Data collected :

- Cognitive function
- Socio-demographics
- Family / social contacts
- Service contact
- Mood / subjective well-being
- Activities of daily living
- Physical health
- Medication
- CERAD


TRANSFERS IN PLACE OF RESIDENCE OR CARE AT THE END OF LIFE
Community n=166 (52%)
Sheltered housing n=53 (17%)
Residential care home n=68 (21%)
Care home with nursing n=20 (6%)
Hospital: NHS long-stay n=13 (4%)
Place of residence when last surveyed in the year before death
160
1
1
46
2
4
63
2
3
2
4
20
1
1
10
Community n=161 (50%)
Sheltered housing n=47 (15%)
Residential care home n=71 (22%)
Care home with nursing n=30 (9%)
Hospital: NHS long-stay n=11 (3%)
Usual address at death
Place of death
52
9
4
2
7
55
2
1
26
15
5
1
11
81
30
16
3
Community n=52 (16%)
Sheltered housing n=9 (3%)
Hospice n=6 (2%)
Residential care home n=62 (19%)
Care home with nursing n=29 (9%)
Hospital: NHS long-stay
General n=29
Psychiatric n=3
All long-stay n=32 (10%)
Hospital: acute
NHS n=128
Private n=2
Acute n=130 (41%)

MRC Cognitive Function and Ageing Study (www.cfas.ac.uk)

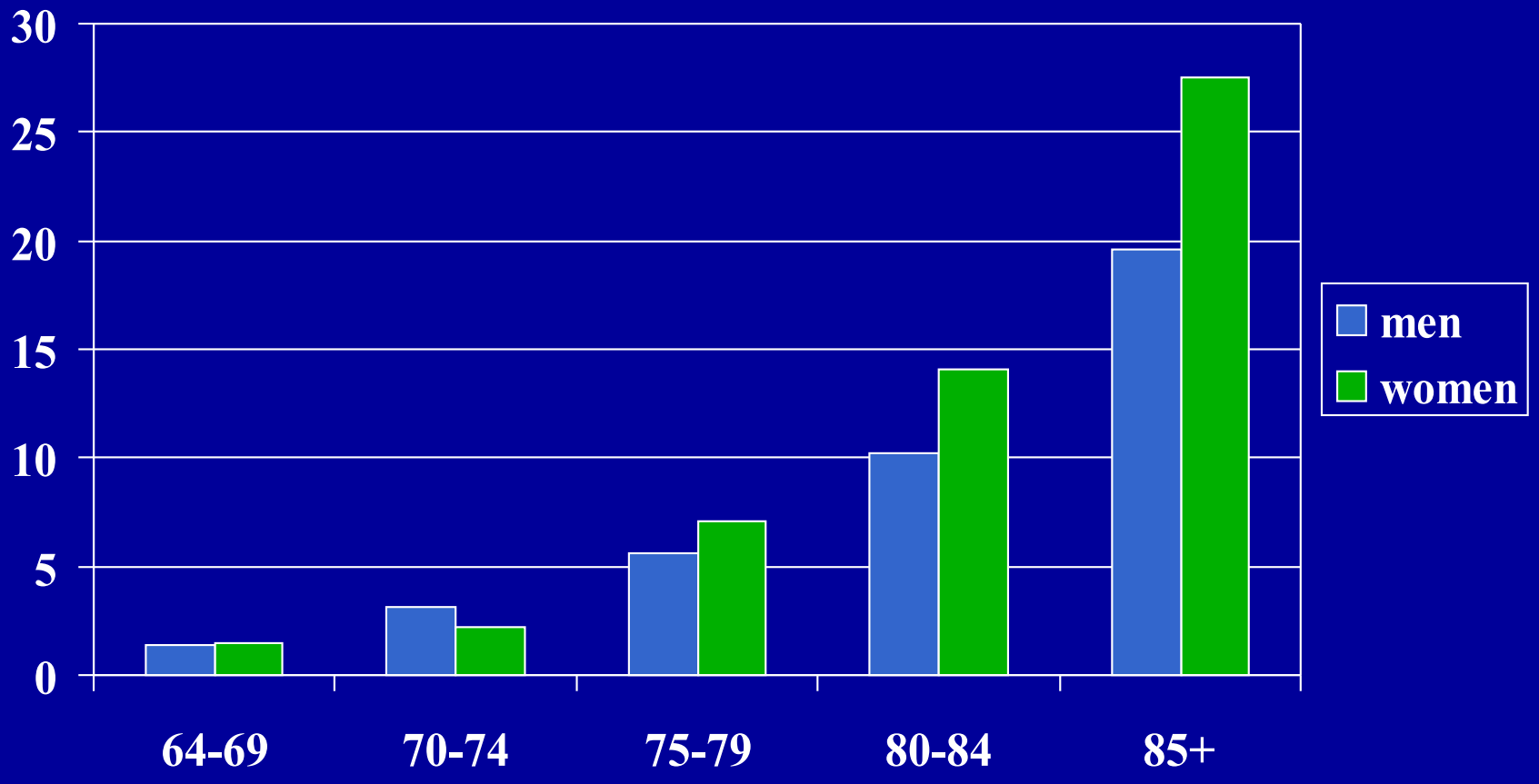
MRC CFAS – brief introduction

- 13,004 individuals (5 identical centres)
- 5, 300 individuals (1 non identical centre)
- Aged 65 and above in 1991, equal weight
- Rural and urban sites
- Population sampling including institutions
- ~ 80% response rate at each stage
- Followed up at regular intervals
- Interview capturing key areas relevant to mental health and disability
- Followed up as far as possible over 10+ years

MRC CFAS


Sites in Britain
Newcastle
Liverpool
Gwynedd
Nottingham
Ely
Oxford

Prevalence (%) of dementia



Example of further development of basic study

- David Seidel, PhD Student Engineering Design Centre

Data & methods

- Locomotion you able to go up and down stairs?"
- Reaching: „Are you able to reach an overhead shelf?"
- Dexterity: „Are you able to tie a knot in a piece of string?"

Data & methods

- Vision: „Do you suffer from poor eyesight which interferes with day-to-day living?“
- Hearing: „Do you suffer from hearing problems which interfere with day-to-day living?“

Data & methods

- Thinking: Mini-Mental State Examination (MMSE)

Data & methods

- Capability at baseline („prevalence“) and two years („incidence“)
- Age at loss by regression modelling of time to event data („survival analysis“)
- Log-rank test for differences between men and women

Results

- 12,318 participants with complete data
- Mean age 75 years, SD 7 years
- 60% women

Conclusions

- User capabilities are lost at different stages in later life
- Lack of locomotion ability may exclude regardless of vision, hearing, thinking, reaching or dexterity ability

Translation of results

- Prevention framework
- Population to policy

Summarising comments

- Doing the best we can involves..
- Assembly of evidence from all sources
- Scrutiny, how has provenance of evidence influenced shape of findings
- Synthesise appropriately to relevant questions and make best judgement possible
- Identify real gaps in our understanding to influence future work
- This leads to timely and ethical use of existing data

Thanks to you

- Funders
- Collaborators in Cambridge, UK and abroad most particularly David Seidel for his slides.
- For full lists please see cfas.ac.uk and cc75cgroup.medschl.cam.ac.uk

Current collaborative group

- Cambridge Department of Public Health (Barclay, Barnes, Brayne, Fleming, Keage, Kinmonth, Marioni, McDougall, Savva, Stephan, Zaccai, Zhao, Xie) & MRC Biostatistics Unit (Gao, Johnson, Matthews, Muniz)
- Dublin (Walsh)
- Exeter (Melzer, Frayling)
- Gwynedd and Liverpool (McCracken)
- Herriott Watt (McDonald)
- IoP (Dewey)
- Leicester (Jagger, Matthews)
- Newcastle (McKeith, Bond, Polvikovski)
- Nottingham (Lowe)
- Oxford (Evans, Esiri, Wilcock, Clarke)
- Queen Mary (Parry), LSE (Comas Herrera, Wittenberg)
- Sheffield (Ince, Forster, Wharton)
- Southampton (Nicoll, Stewart)
- Lay members: Mr Simon Harrison, Mr Francis Weisz

- GSK (BPSD analysis support) Davidson, Ishihara