



SCHOOL OF POPULATION HEALTH  
THE UNIVERSITY OF QUEENSLAND



# Large Scale Studies: Issues and Challenges

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Illustrated by “Men, Women and Ageing:  
Australian Longitudinal Study on Women’s Health and  
Perth Health in Men Study”

Emerging Researchers in Ageing - 2008 Masterclass, Brisbane





# Large Scale Studies

- ∅ Many people
- ∅ Multiple levels – e.g. population, community, family, individual
- ∅ Longitudinal follow up over time



# Advantages

- ∅ Statistical power: probability of detecting real effects
  - ∅ Interactions, confounding, effect modification
  - ∅ Rare events
- ∅ For longitudinal studies
  - ∅ Direction of causation – not just association/correlation
  - ∅ Effects of time/ageing – un-confounded by period effects

# Challenges



## ∅ Logistics

- ∅ Recruiting and keeping track of many people
- ∅ Communication

## ∅ Measurements – need to be

- ∅ Valid (truth)
- ∅ Reliable (repeatable)
- ∅ Responsive (different between groups and change over time)
- ∅ Practical

# Australian Longitudinal Study on Women's Health



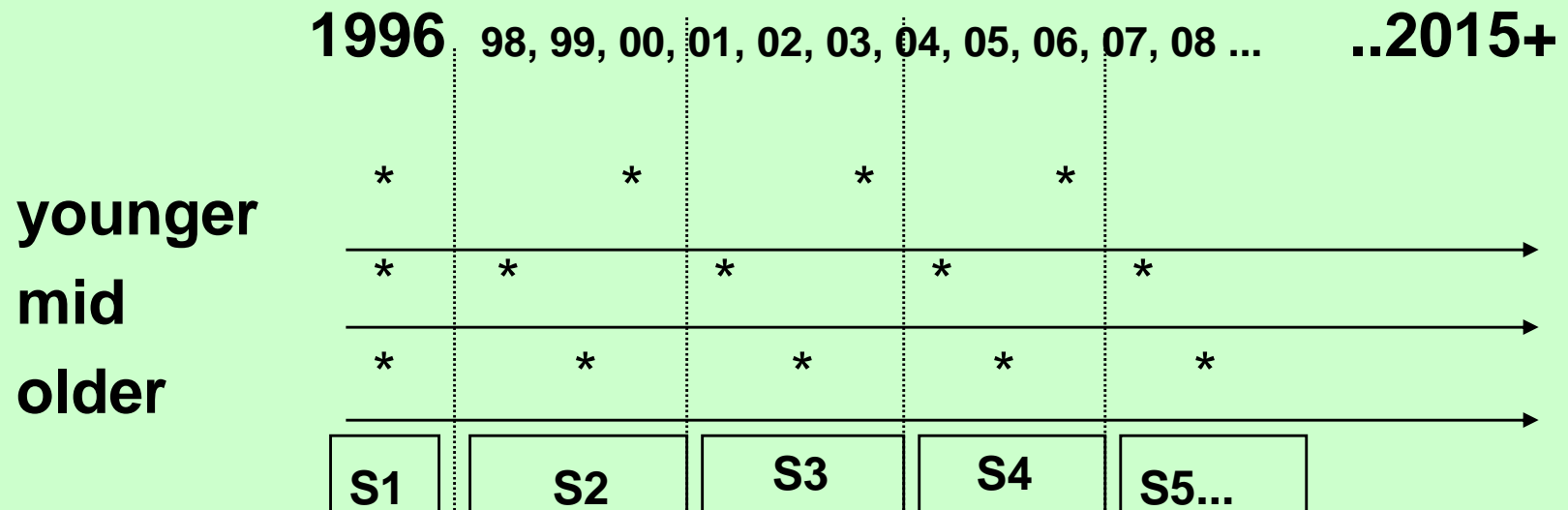
- Ø Cohort study – health, well-being and health service use of Australian women
- Ø Social view of health
- Ø Started 1996 – to continue until at least 2015
- Ø National – over 40,000 participants
- Ø Funded by Australian Government Department of Health & Ageing

# Australian Longitudinal Study on Women's Health: outline



- Ø Three age groups: 18-23, 45-50 and 70-75 years in 1996
- Ø Sampled randomly from Medicare database
- Ø Systematic over-sampling in rural/remote areas
- Ø Postal surveys every 3 years
- Ø Linkage to Medicare database
- Ø Additional sub-studies on particular issues

# Australian Longitudinal Study on Women's Health: Study Design



Currently about to mail out S5 for older women and planning S5 for younger women

# Australian Longitudinal Study on Women's Health: Older participants aged 70-75 in 1996



	Survey 1	Survey 2	Survey 3	Survey 4
Deaths since last survey		529	569	769
Too frail/withdrawn since last survey		368	779	888
Non-respondents		1101	1540	1372
Respondents	12,432	10,434	8,647	7158
Retention (% of eligible)		90.5%	84.9%	83.9%

# Health In Men Study



- Ø Men aged 65-83 randomly sampled from electoral roll in 1996-9 for screening trial for Abdominal Aortic Aneurysm (AAA)
- Ø Followed up in 2001-4 for first HIMS wave
- Ø Perth area only
- Ø Physical examination, biomarkers, questionnaire
- Ø Funded by NHMRC project grants

## Health In Men Study: participants



AAA attendees	12,203	(100%)
Deaths before HIMS	2,379	(20%)
Non-participants in HIMS	4,240	(35%)
Questionnaire only	1,322	(11%)
HIMS attendees	4,262	(35%)

~ 43% survivors of AAA attended

# Health In Men Study: measurements



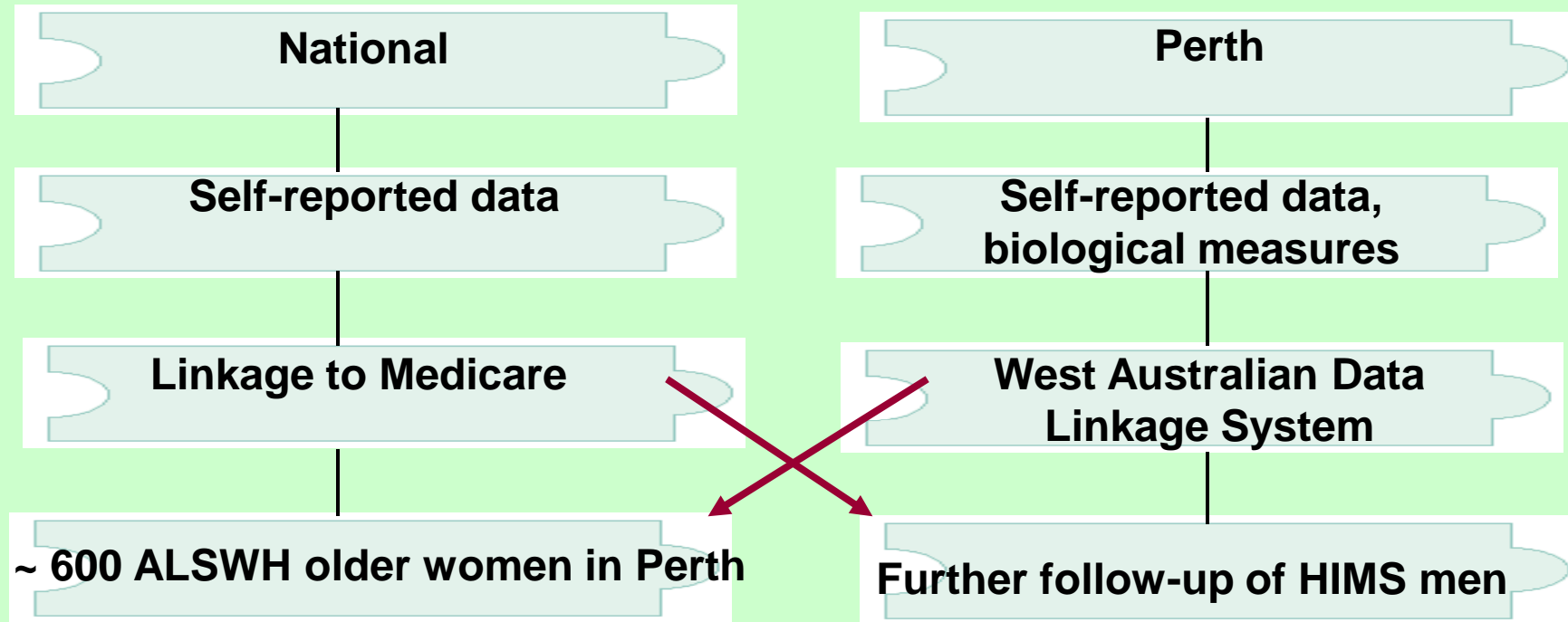
- ∅ Height, weight, blood pressure and circumference at waist and hips
- ∅ Medical history, medications, smoking,
- ∅ Fasting blood sample – lipid levels, DNA, etc
- ∅ Mini Mental State
- ∅ Geriatric Depression Scale
- ∅ Psycho-social measures from ALSWH

# Men, Women and Ageing



**ALSWH**

**HIMS**



**Men, Women and Ageing**  
NHMRC/ARC Ageing Well, Ageing Productively  
Strategic Award

# Men, Women and Ageing



## HIMS + ALSWH questionnaire items in common

- Ø Medical history
- Ø Falls
- Ø CAMDEX (eg sleep)
- Ø SF36
- Ø Medications
- Ø Smoking
- Ø Hearing & sight problems

- Ø Availability of health services
- Ø Living arrangements
- Ø Housing
- Ø Social support
- Ø Neighbourhood
- Ø Family support

## Lessons from ALSWH and HIMS



- Ø Older people die – need large samples to ensure adequate statistical power is retained
- Ø Those who die are different from those who survive – beware of invalid inferences based on survivors
- Ø Impaired cognition adds noise to most measurements



Please visit our website for more details  
***[menwomenandageing.org](http://menwomenandageing.org)***