Using UK Biobank to study dementia

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Outline

1. What is dementia and why study it?

2. Why do researchers want to use UK Biobank to study dementia?

3. How can we identify the people who develop dementia?
What is dementia and why study it?
What is dementia?

1. Syndrome due to disease of the brain
2. Affects ≥1 cognitive functions
3. Worsens over time
4. Causes functional impairment

Many causes (subtypes):
- Alzheimer’s disease
- Vascular dementia
- Dementia with Lewy Bodies
- Frontotemporal dementia
- Many more….
670,000
number of people with dementia in UK

1 in 3
proportion born in 2015 predicted to develop dementia

£11.9bn
health & social care costs of dementia in UK
Why do researchers want to use UK Biobank to study dementia?
Why use UK Biobank for dementia research?

1. Genetics
2. MRI scans
3. Accelerometry
4. Cognitive tests
5. Lifestyle information
6. Other questionnaires
   - Mental health
   - Dietary
   - Occupation
7. 500,000 people!
Outline

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3. How can we identify the people who develop dementia?
How can we identify the people who develop dementia?
Routinely-collected healthcare datasets

- hospital admissions
- death certificates
- primary care
Routinely-collected healthcare datasets

- hospital admissions
- death certificates
- primary care

how accurate are these datasets?
Present letters to dementia specialists

Created a dementia code list
~150 codes in total

Identify participants recruited in Edinburgh with a dementia code in any dataset

Extract information from the electronic medical record

Anonymise extract

Present letters to dementia specialists
Accuracy

hospital admissions  87%

death certificates  80%

primary care  87%

Wilkinson et al. In Press European J Epidemiology
Primary care data are important

Wilkinson et al. *In Press* European J Epidemiology
How can we help researchers using UK Biobank?

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Dementia
- Yes/No
- If Yes - date
Summary

• Dementia is important

• We can identify people who develop dementia using routinely-collected health datasets

• Primary care data is a useful resource

• UK Biobank is a powerful resource for dementia research
Acknowledgements

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• Dr Tom Russ
• Dr Suvankar Pal

Oxford UK Biobank team
• Dr Naomi Allen

The 500,000 participants in UK Biobank