Large-scale surveys and technology innovation event

Dr David Bann
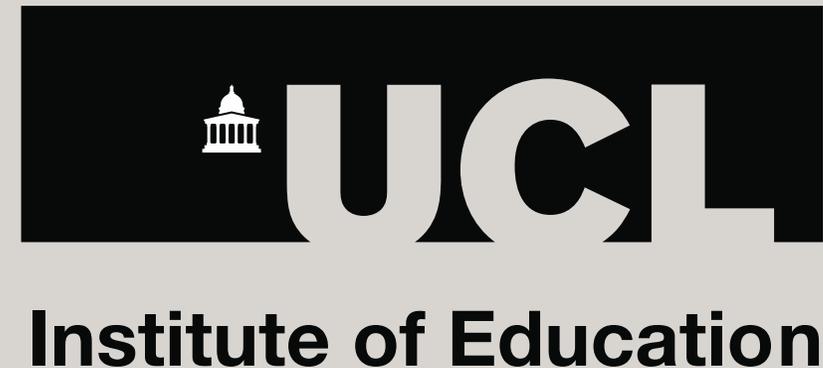
Associate Professor in Population health

Co-Investigator of the birth 1958 cohort

Thanks to our funders and host institution

Institute of Education

Funded by

www.esrc.ac.uk

Hosted by

www.ucl.ac.uk/ioe

…and event funders

Introduction + purpose of this event

- Interest in encouraging commercial + academic collaboration

- Ensure cohorts are on cutting edge of technology (+science!)
  - e.g. note interest in this event

- Aim of today = facilitate this
  - Technologists & scientists, from both academic and commercial sectors
  - Explore new technologies that could be incorporated into large-scale surveys (cohorts) – presentations & demos

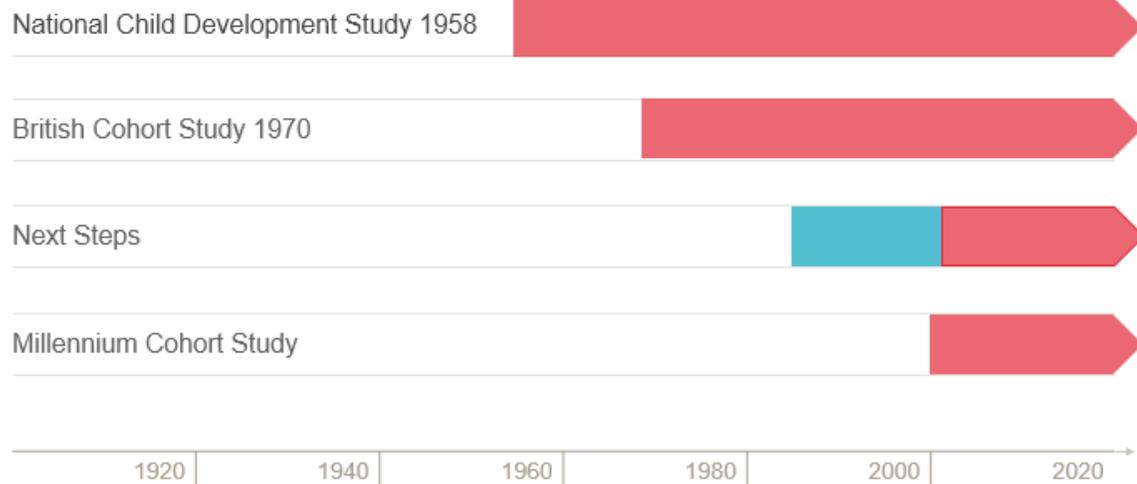# Brief overview of large-scale studies (cohorts)

- Large (5-17k) & nationally representative, decades of follow-up
  - Data collected historically via surveys, but increasingly developing (eg, web surveys, wearables, data linkages)

- Used in multiple disciplines – eg, health, social science
  - Thousands of papers + key role in science
  - Policy informing findings

- Ongoing collaborative endeavours
  - Scientific, survey, data management, comms expertise

Past ←----→ Future

The future?
Enormous potential

Cohort studies @ UCL

Study	
National Child Development Study 1958	
British Cohort Study 1970	
Next Steps	
Millennium Cohort Study	

1920 1940 1960 1980 2000 2020

Understanding Society @ University of Essex

UKHLS 2016-18	UKHLS Wave 8
UKHLS 2015-17	UKHLS Wave 7
UKHLS 2014-16	UKHLS Wave 6
UKHLS 2013-15	UKHLS Wave 5
UKHLS 2012-14	UKHLS Wave 4
UKHLS 2011-13	UKHLS Wave 3
UKHLS 2010-12	UKHLS Wave 2
UKHLS 2009-11	UKHLS Wave 1

Scientific themes at CLS

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- Improving social mobility, and generational change

- Tackling the obesity challenge

- Improving mental health across the whole of life

- Cognitive development and cognitive decline

- Healthy ageing and productive working older lives

- Labour markets, and skills for the future in a digital economy

- Families and intra-household dynamics

- Political attitudes and trust in a turbulent age

Gender and ethnicity, early intervention; resilience and reversibility, social genomics

Some of the considerations when adding new tech to cohorts

- Clear scientific rationale?

- "New and shiny bias" and its opportunity cost

- Is the new method / device:
  - Accurate / precise?
  - Comparable with previous data collected?
  - Interpretable given masses of new data?
  - Justifiable in terms of cost?

- At the right point to add (a 'sweet spot' of demonstrated value/innovation/scalability)?

Note previous relevant reports eg, CLOSER reports: Jackle et al 2018, Stone and Skinner, 2017; ESRC Longitudinal Studies Review 2017

10:30 Welcome and brief overview Dr David Bann, Centre for Longitudinal Studies

10:35 Presentation sessions 1 - *Health and medical*
- Chair: Prof Ann Blandford, Deputy Director (Digital Health), UCL Institute of Healthcare Engineering
- Boris Dimitrov, Checkpointcardio LTD
- Dr Mert Aral, Medopad Health
- Dimitry Alexeev, Atlas Biomed Group

11:55 Refreshment break in the foyer space

12:10 Presentation sessions 2 - *behaviours (physical activity, diet) and social media data*
- Chair: Prof Alun Hughes, MRC Unit for Lifelong Health and Ageing
- Dr Patrick Esser, Oxford Brookes University
- Dr Kirsten Rennie, MRC Epidemiology Unit, University of Cambridge
- Hannah Carpenter, Kantar
- Curtis Jessop, National Centre for Social Research

13:30 Lunch in the foyer space

14:00 Tech demonstrations 1

15:00 Presentation sessions 3 - *The wider environment and advances in survey data collection*
- Chair: Dr Emily Gilbert, Centre for Longitudinal Studies
- Adam Cooper, UCL STEaPP
- Dr Pippa Bailey, Ipsos MORI
- David Wright, Kantar

16:20 Tech demonstrations 2, drinks reception opens

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Tech demos

- **Telemonitoring:** Boris Dimitrov, Checkpointcardio LTD

- **Smartwatch:** Chris Stone, University of Bristol

- **Cardio health monitors:** Elaine Richmond, Qardio Europe Limited

- **Blood test for Alzheimer's disease**: Jérôme Braudeau, AgenT

- **Smart clothing:** Toju Raine, KYMIRA

- **Breathalyzer for disease detection**: Hazel Pinhiero, Owlstone Medical

- **Mobile data platforms:**
  - Ifty Ahmed, Healthbit
  - Matt Kepple, Makerble

- **Voice/speech data:** Rebecca Bright, Therapy Box

- **Cognition**: Emma Dominic, Cambridge Cognition Ltd

Study timelines and future 2020-2030

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MCS Next Steps BCS70 NCDS