



Life Study

An overview

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Aims and objectives

- Life Study is a major cross-disciplinary venture, large in scale and innovative in design, starting in pregnancy with strong focus on first year of life
- It will help us to understand pathways leading to life long health and well being and the complex interplay between biology, behaviour and the broader social economic physical and family environment
- It will provide a research resource to inform health and social policies in areas of major public health, public and social importance relevant to UK children now
- It will help translate new discovery science into populations and promote interdisciplinary research and collaboration

Research themes

- Developmental origins of childhood health and illness with emphasis on
 - health behaviours: eg obesity, physical activity, smoking, alcohol*
 - mental health*
 - Infection & immunity, inc the 'microbiome' at birth and subsequent asthma and allergic disease*
- Social, emotional & behavioural development and outcomes: child: parent interplay
- Neighbourhoods and environmental pollutants
- Early life antecedents of school readiness & educational performance
- Inequalities, diversity and social mobility

Design

- An integrated sample of up to 90,000 babies to be recruited via two different sampling strategies
 - Maternity unit component (pregnancy) ~60-70,000*
 - National probability component (birth) ~20,000*
- Data collection via
 - Interviews*
 - Observations, measurements, and biological samples*
 - Linkage to administrative records and environmental data*
- Study design allows
 - Rich data in pregnancy and first year of life*
 - Socio-economic and ethnic diversity of UK population*
 - Statistical power to examine interplay between biology, behaviour and environment*
 - Inference to UK population & cross-cohort comparisons*



The core scientific protocol

- Developed by cross disciplinary working groups 2011-12
- Consultative conference and web survey August 2012
- Policymakers contacted and consulted
- Feedback summarised and reviewed by Scientific Steering Committee (SSC)
- Protocol signed off by SSC January 2013
- Pilot of protocol in 2013
- Protocol finalised early 2014





Pregnancy

- Mother
- Partner

- Interview
- Measurements
- Samples



6 months

- Mother
- Baby

- Interview
- Measurements
- Samples
- Observations



12 months

- Mother
- Baby

- Interview
- Measurements
- Samples
- Observations



Parents

- Identity
- Health
- Lifestyle
- Education
- Employment
- Income
- Relationships

- Pregnancy and birth



Infants

- Health
- Growth
- Development
- Sleeping and crying
- Nutrition

- Parenting
- Childcare



The environment

- Housing
- Social networks
- Neighbourhoods
- Environmental pollutants

Proposed biological samples

Mother @ pregnancy and 12 month visit: blood, urine

Father/partner @ pregnancy visit: blood, urine

At delivery: Placenta, umbilical cord

Infant @ 6 and 12 month visit: urine, saliva in multiple births





Health: hospital and primary care records, registers (inc cancer)

Education

Benefits and employment records

Mobile phones, air pollution, water quality, heavy metals

Assisted conceptions (HFEA database)