Nine months that last a lifetime

The Danish National Birth Cohort

Mads Melbye
Copenhagen, Denmark

The 10-minute presentation

- Danish conditions for prospective studies
- The aim and design of the birth cohort
- Materials collected
- Ownership and access

The Danish registries are unique

- An investment worth billions of Danish kroner
- Follow the individual from birth to grave
- Follow diseases through generations
- Millions of individuals
- Results are robust

Danish Cohort of 101,000 pregnant women and offspring

Birth characteristics
Diseases
Prescribed medication
Vaccinations
Childcare facilities
School performance
Family, place of living
Education, employment
Biological specimens

Science, 11 juli 2003
Overall aim
To identify prenatal and perinatal determinants of importance for reproductive failures and diseases that manifest themselves later in life.

Practical aims
• To recruit 100,000 pregnant women and offspring
• Collect exposure information by means of 4 telephone interviews
• Set up a biobank with 2 blood samples from the mother and 1 from the child
• Get food frequency data and over-the-counter medication from questionnaire

Participants
• Target population: all pregnant women
  – living in Denmark
  – speaking Danish well enough to take part in interviews
  – intended to carry their pregnancy to term
• Recruitment as early as possible in pregnancy (first visit to general practitioner)
Danish National Birth Cohort

Recruitment

• During 1996-2002 we enrolled 101,042 pregnancies. We have prospectively monitored the outcome of these pregnancies.

• Approximately 30% of all pregnant women in Denmark were recruited through collaboration with GP’s and midwives.

• About half of all GPs were active, about 60% of women invited finally joined.

Three types of data collected

Self-reported data on exposures and outcomes.
Main exposures of interest are: lifestyle factors, diet, social conditions, infections, medications & environmental exposures.

Biological data.
Blood from mother (pregnancy week 12 and 24), and child (cord blood and PKU card at day 3-5) stored in biobank.

Data from existing registers.
F.ex. National Patient Registry & the Medical Birth Registry, medical prescriptions, disabilities, and death.

Number of respondents

Blood samples

Danish National Birth Cohort

Access to Data

- The DNBC is a national registry, owned by the Danish National Board of Health.
- DNBC data are available for all researchers (see DNBC@ssi.dk)
  - As long as projects
    - do not harm the DNBC’s reputation
    - are compatible with the overall aim
- Access to biological specimens is restricted
- All applications must be approved by the Management Group and Steering Committee

Danish National Birth Cohort

11-year follow-up

- Internet-based questionnaire to mothers and children.
  - www.club11.dk