



Bedre sundhed
i generationer

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Nine months that last a lifetime

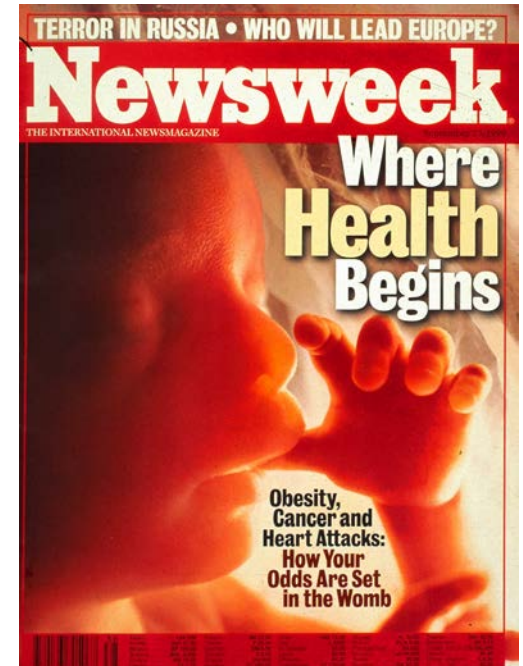
Danish National Birth Cohort

Mads Melbye
Copenhagen, Denmark



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

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

Basic data collection in DNBC



<u>Method:</u>	<u>When:</u>	<u>Description:</u>
blood sample	1 st trimester	Blood from the mother taken in connection to first visit to GP
interview	12 weeks of pregnancy	13 minutes telephone interview
questionnaire	25 weeks of pregnancy	Questionnaire on dietary habits
blood sample	2 nd trimester	Sample taken in connection to GP visit
interview	30 weeks of pregnancy	12 minutes telephone interview
blood sample	Birth or fetal death	Blood from the child taken from the umbilical cord or dead fetus
interview	Child age 6 months	16 minutes telephone interview
interview	Child age 18 months	10 minutes telephone interview

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



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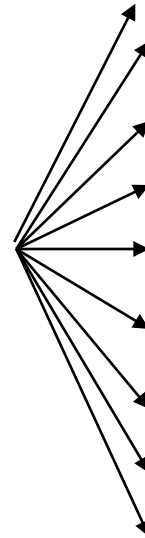


The Danish registries are unique

- an investment worth billions of Danish kroner
- follow the individual from birth to grave
- follow diseases through generations
- millions of individuals
- results are robust



CRS-number



Birth characteristics

Diseases

Prescribed medication

Vaccinations

Childcare facilities

School performance

Family, place of living

Education, employment

Biological specimens



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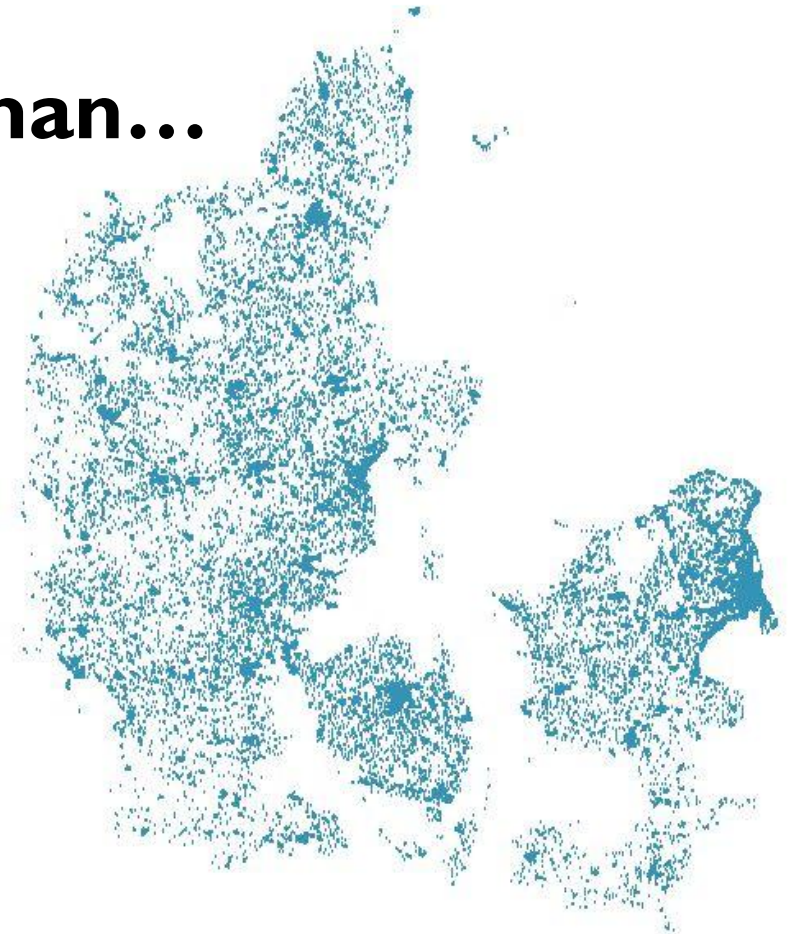
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One dot for each participating woman...

The many participants' dots clearly outline the shape of Denmark.

The DNBC truly is a nationwide cohort.



Later data collections

<u>When:</u>	<u>Description:</u>
Child age 7 years	Web-based questionnaire and paper version to mother (or father)
Child age 11	Web-based questionnaire only to both mother (father) and child
11½ and every 6 months	Onset of puberty, web-based short questionnaire
Child age 14	FFQ self-administered web-based
Mother's Health	Web-based questionnaire to all mothers
Child age 18 (planned for February 2016)	Web-based questionnaire to all young participants

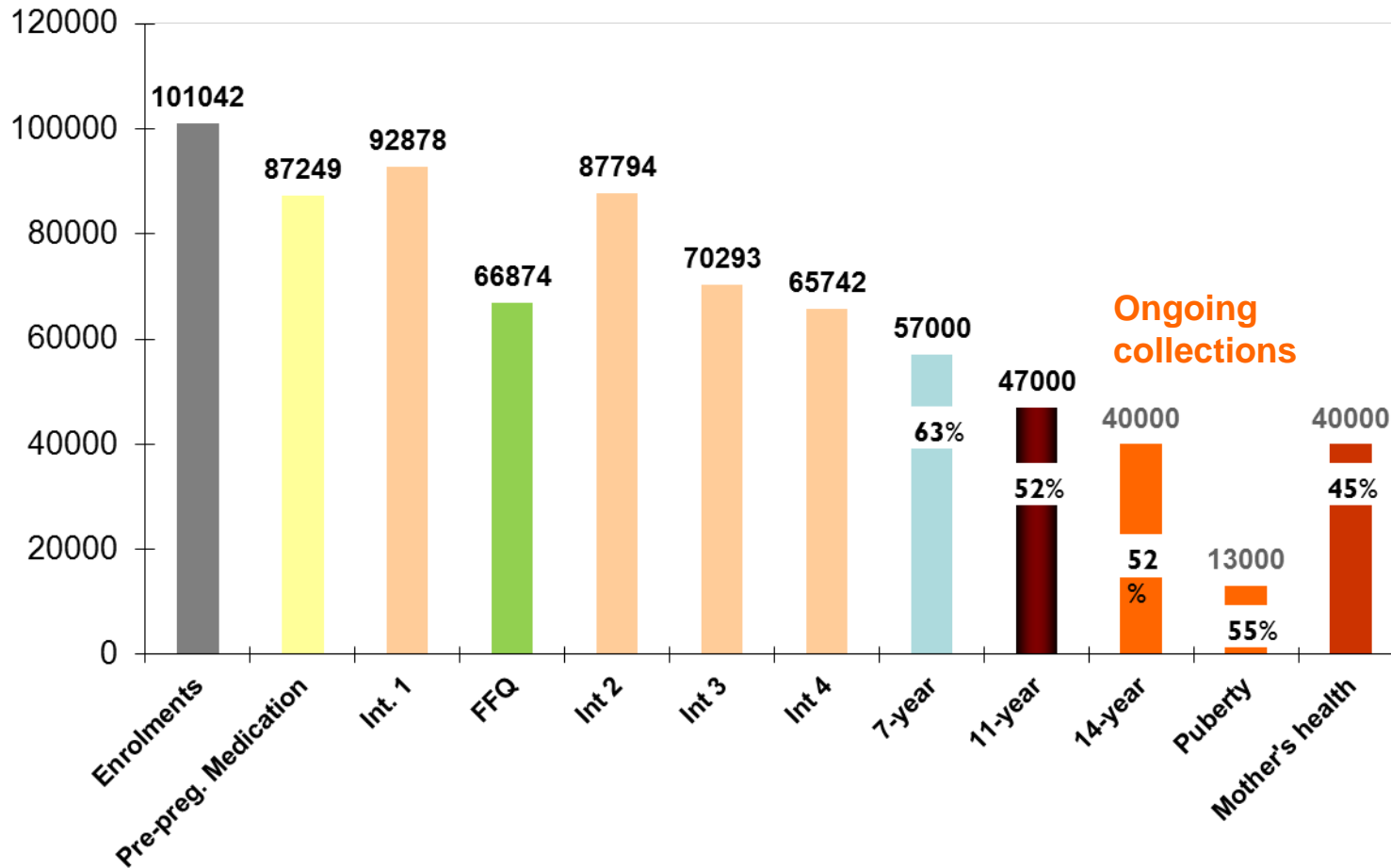


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Data collection waves



Access to Data

- The DNBC is a national registry, owned by the Ministry 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

Administrative Team (5-6 persons)

- coordinating on-going data collections
- coordination preparations for new data collection waves
- processing research applications for access to data
- handling finances
- cleaning and documentation of data
- preparing datasets for scientists
- withdrawing biological samples from biobank



DNBC Management/founders

- 1st approval of data applications
- Ensure cooperation among research groups
- Securing financing
- Planning new data collections

Steering Committee

- Final approval of applications for data
- Advice and guidance on strategic matters



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Website

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News	Health data and ICT	R and D	SSI Diagnostica	Vaccines	Contract Services	Order
> DNBC News > 11-year follow-up	> Access to DNBC data > About the DNBC	> DNBC Publications > Publications on Background and Methods				

English > Danish National Birth Cohort > Access to DNBC data > Data available > Interviews 1-4

Danish National Birth Cohort

- > Access to DNBC data
 - > Conditions for access to data
 - > How to apply for data
- > Data available
 - > Interviews 1-4
 - > History of Births
 - > Miscarriages
 - > Food Frequency Questionnaire
 - > Lifestyle during pregnancy
 - > 7-year follow up
- > DNBC's formalities

[Back to Epidemiology](#)

Interviews 1-4

The four computer-assisted telephone interviews took place in gestational week 12 and 30 as well as when the child was 6 and 18 months old. Each interview lasted approx. 10-15 minutes.

Focus areas in the two pre-natal questionnaires:

- Earlier pregnancies and childbirths, IVF treatment.
- Health in general and during pregnancy as well as medical pregnancy examinations.
- Drug use
- Work environment
- Home environment
- Diet - vitamins - dietary supplements
- Use of alcohol and tobacco
- Sleep
- Exercise
- Oestrogen
- Socio-economic variables
- Psycho-social stress

Focus areas in the two post-natal questionnaires:

- Child diet
- Child development
- Child vaccinations
- Follow-up on pre-natal questions

Last revised 22 April 2013



DANISH NATIONAL
BIRTH COHORT

Code books for interviews 1-4

- [Interview 1](#)
- [Interview 2](#)
- [Interview 3](#)
- [Interview 4](#)

Bedre sundhed for mor og barn

> **Seneste nyt - Forskningsresultater**
> Forskningsresultater fra BSMB

Tilbage til Epidemiologi



Seneste nyt fra BSMB

Der kommer jævnligt nye forskningsresultater baseret på data fra BSMB. I menuen til højre finder du en emneopdelte oversigt over mange af de forskningsresultater, som BSMBs data er blevet benyttet til.

Overvægt før graviditet hæmmer ikke barnets mentale udvikling

22. april 2014

Overvægtige kvinder får ikke børn med lav IQ, fordi de er overvægtige. Det konkluderer forskere ved Syddansk Universitet og Århus Universitet efter at have analyseret data fra 1783 mødre og deres 5-årige børn, som alle deltog i Bedre sundhed for mor og barn.

Jobstress blandt gravide øger ikke risikoen for misdannelser, lav fødselsvægt eller for tidlig fødsel

2. april 2014

Forskere ved Det Nationale Forskningscenter for Arbejdsmiljø finder ingen sammenhæng mellem jobstress på den ene side og medfødte misdannelser, lav fødselsvægt eller for tidlig fødsel på den anden. Forskerne har analyseret data fra omkring 60.000 gravide deltagere i BSMB.

Overvægt øger kvinders risiko for visse autoimmune sygdomme

1. april 2014

I et nyt studie har danske forskere undersøgt sammenhængen mellem BMI (Body Mass Index) og 43 autoimmune sygdomme hos deltagere i Bedre sundhed for mor og barn. Undersøgelsen viser bl.a. at overvægtige kvinder har forhøjet risiko for psoriasis, gigt og kronisk tarmsygdom.

Stadig flere forskningsresultater fra BSMB

20. marts 2014

I de sidste par år har der været en markant stigning i antallet af publikationer baseret på data fra BSMB. Samtidig søger stadig flere forskere om adgang til BSMBs data.

Spontane aborter kan forebygges

4. marts 2014

Op mod en fjerdedel af alle spontane aborter kan undgås, siger forskere fra Københavns Universitet. Kvindens alder, vægt og alkoholforbrug er de vigtigste parametre. Resultaterne bygger på oplysninger fra 91.427 danske kvinder i undersøgelsen Bedre sundhed for mor og barn.

Håndkøbsmedicin taget under graviditeten kan måske forøge risikoen for ADHD hos barnet

24. februar 2014

Risikoen for at få et barn med diagnosen ADHD ser ud til at forøges, hvis den gravide har taget smertestillende håndkøbsmedicin med paracetamol under graviditeten, vurderer et forskerhold fra Århus Universitet og University of California (UCLA).

D-vitamin beskytter ikke mod fødselsdepression

13. februar 2014

Gravide behøver ikke tage d-vitamin for at sikre sig mod en eventuel fødselsdepression – det virker ikke. Forskere ved Statens Serum Institut og Statens Institut for Folkesundhed har analyseret data og biologiske prøver fra en gruppe gravide i Bedre sundhed for mor og barn (BSMB), men finder ikke den forventede sammenhæng mellem d-vitamin og fødselsdepression.



BEDRE SUNDHED
FOR MOR OG BARN

Kontakt

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Website Research results

Participants are primary target group
for this communication

BEDRE SUNDHED
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18-års undersøgelsen

Vores nye undersøgelse stiller skarpt på 18-åriges sundhed og trivsel. Næsten 90.000 af vores deltagere inviteres til at være med!
[Læs mere om den nye undersøgelse..](#)

Nyt navn og logo

18-års undersøgelse

14-års kostundersøgelse

Pubertetsundersøgelsen



Bedre sundhed
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Kontakt BSIG

Bedre sundhed i generationer

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This page in English:
www.dnbc.dk

Nyheder fra BSIG

BSIGs deltagere på landkortet
20-02-2015
Når vi siger, at BSIG er et landsdækkende projekt, har vi...

2014: ny rekord i antallet forskningsresultater
02-01-2015
2014 bød igen på ny rekord i antallet forskningsresultate...

[Se alle seneste nyt fra bsig](#)



Login

Her kan du logge på med dit password
[Alle spørgeskemaer finder du her...](#)

14-års kostundersøgelse

Hvordan påvirker kosten vores helbred på længere sigt?
[Gå til spørgeskema...](#)

Pubertetsundersøgelsen

Pubertetsundersøgelsen er lukket natten mellem 4. og 5. juni
[Gå til login...](#)



Ønsker du at forske?

[Læs mere om, hvordan du søger om adgang til BSIGs data.](#)

Er du klar til digital post?

Hvis vi ikke har din email-adresse, vil vi efterhånden begynde at sende henvendelser til din digitale postkasse.
[Tilmeld dig digital post på borger.dk eller e-boks.dk](#)

www.dnbc.dk

Results & Policies



- DNBC widely known as research resource
- Data shared with +50 research groups in Denmark and abroad
- Spin-off: Funding from international sources (European Union, NIH, ...) ensure new data collections and research
- 365 peer-reviewed publications (November 2015)

Impact of DNBC

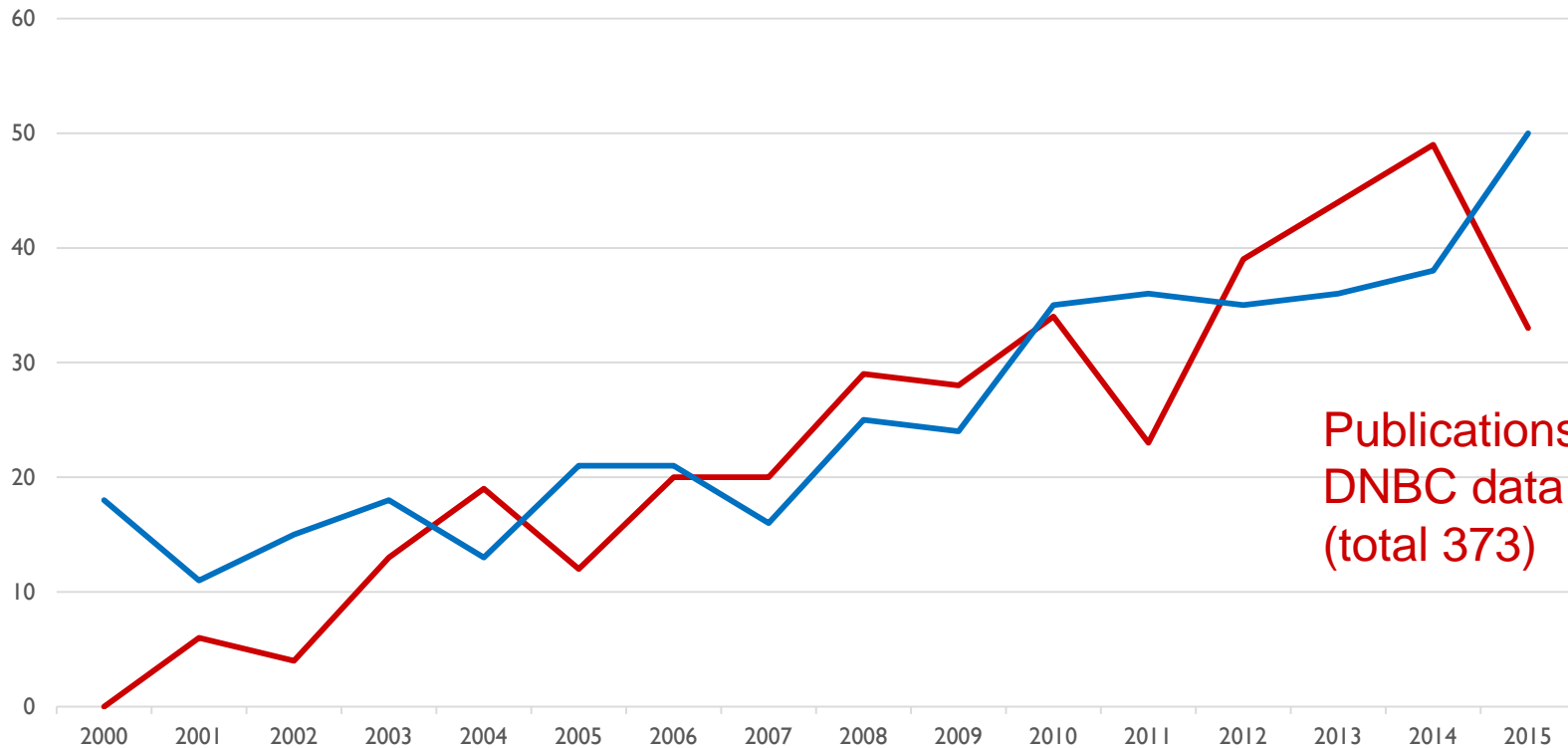


- Contributed to evidence-based information in ante-natal care
- More knowledge about drug safety during pregnancy
- Many aspects of the influence of the diet during pregnancy have been analysed
- Impact of work environment during pregnancy

Publications/Year

DNBC Applications and Publications 2000 - 2015

Applications for access
to DNBC material



Publications based on
DNBC data
(total 373)

Publication 359-373

(15 most recent papers)



The association of pre-pregnancy **alcohol** drinking with child **neuropsychological functioning**.

Predicted **vitamin D** status during pregnancy in relation to **offspring forearm fractures** in childhood

Multi-ancestry **genome**-wide association study of 21,000 cases and 95,000 controls identifies new risk loci for **atopic dermatitis**.

Filaggrin genotype and skin diseases independent of **atopic dermatitis** in childhood.

Occupational exposures and **sick leave during pregnancy**

Publication 359-373

(15 most recent papers)

Maternal thyroid disease in the Danish National Birth Cohort: prevalence and risk factors.

Fever and infections in pregnancy and risk of attention deficit/hyperactivity disorder in the offspring.

Preconceptional and prenatal supplementary folic acid and multivitamin intake and autism spectrum disorders.

Perfluoroalkyl acids and time to pregnancy revisited

Maternal use of selective serotonin reuptake inhibitors and risk of miscarriage

Publication 359-373

(15 most recent papers)

Prenatal antidepressant exposure and child behavioural outcomes at 7 years of age.

Developmental Coordination Disorder in Children with a History of Infantile Colic.

Mental disorders in motherhood according to prepregnancy BMI and pregnancy-related weight changes.

Exposure to Road Traffic Noise and Behavioral Problems in 7-Year-Old Children

First trimester coffee and tea intake and risk of gestational diabetes mellitus