

# Hormonforstyrrende stoffer, hormonsygdomme og fertilitetsforstyrrelser

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Rigshospitalet og Københavns Universitet

Environmental Health  
**perspectives**  
Supplements

WHO workshop 1991  
Miljøminister Per Stig Møller

Impact of the Environment on  
Reproductive Health



# Miljøprojekt nr. 290

1995

## Male Reproductive Health and Environmental Chemicals with Estrogenic Effects

1995

Ministry of Environment and Energy, Denmark  
Danish Environmental Protection Agency

Miljø- og Energiministeriet **Miljøstyrelsen**

Inside Trump's Haunted House / Death of the Keyboard

# Newsweek

## WHO'S

09.22.2017

The sudden rise in male infertility is a scary national crisis.

# KILLING



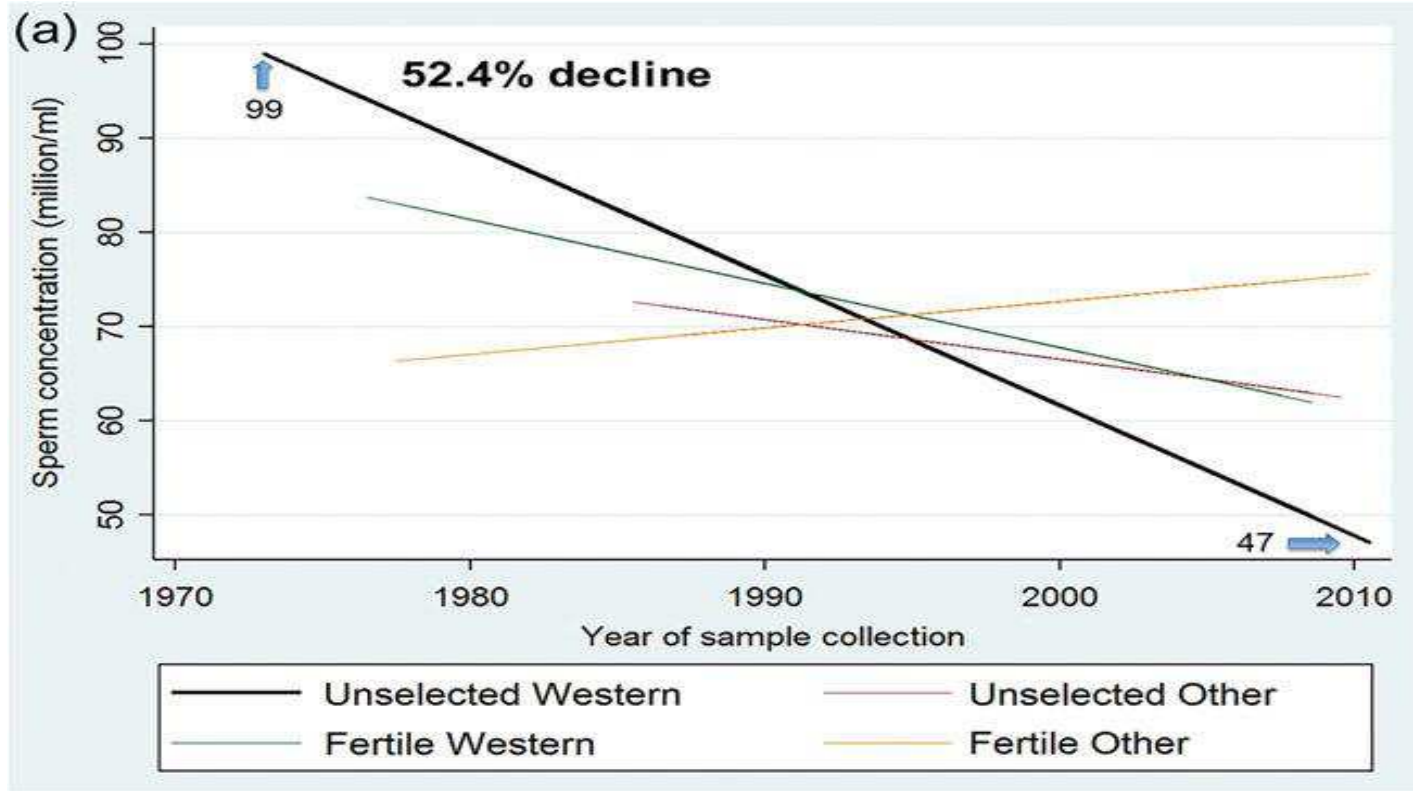
# AMERICA'S

And we can't blame it on Trump—or can we?

# SPERM?

22 sept. 2017

# Nyt fald i sædkvaliteten blandt mænd i vestlige lande





# To unge sessionsdeltagere

Concentration: 125 mill/ml

## Motility

Progressive: 76%

Non-progressive: 13%

Immotile: 11%



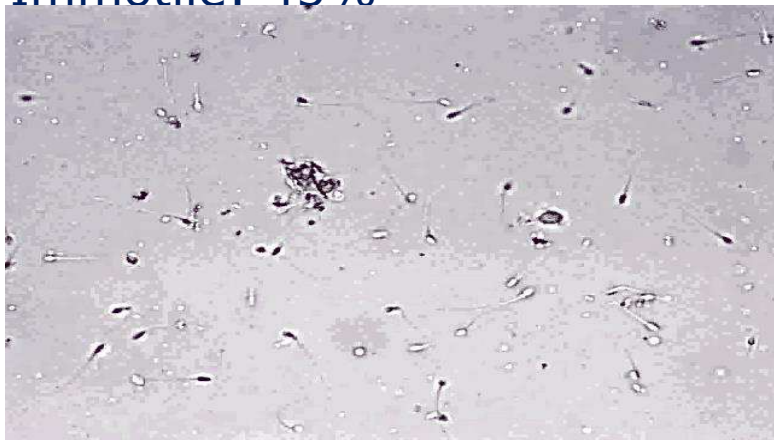
Concentration: 39 mill/ml

## Motility

Progressive: 38%

Non-progressive: 17%

Immotile: 45%



# Flere barnløse mænd i Danmark

|                    |                |
|--------------------|----------------|
| Mænd født i 1945 : | 14% barnløse   |
| Mænd født i 1960:  | > 20% barnløse |

Priskorn et al. IJA, 2012

## NEWS

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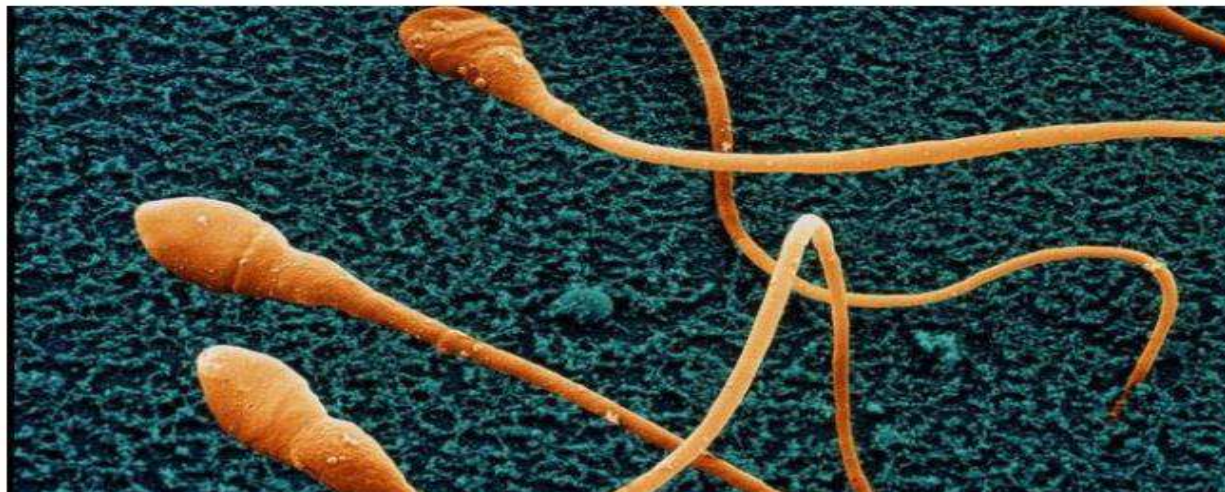
# Sperm count drop 'could make humans extinct'

By Pallab Ghosh  
Science correspondent, BBC News

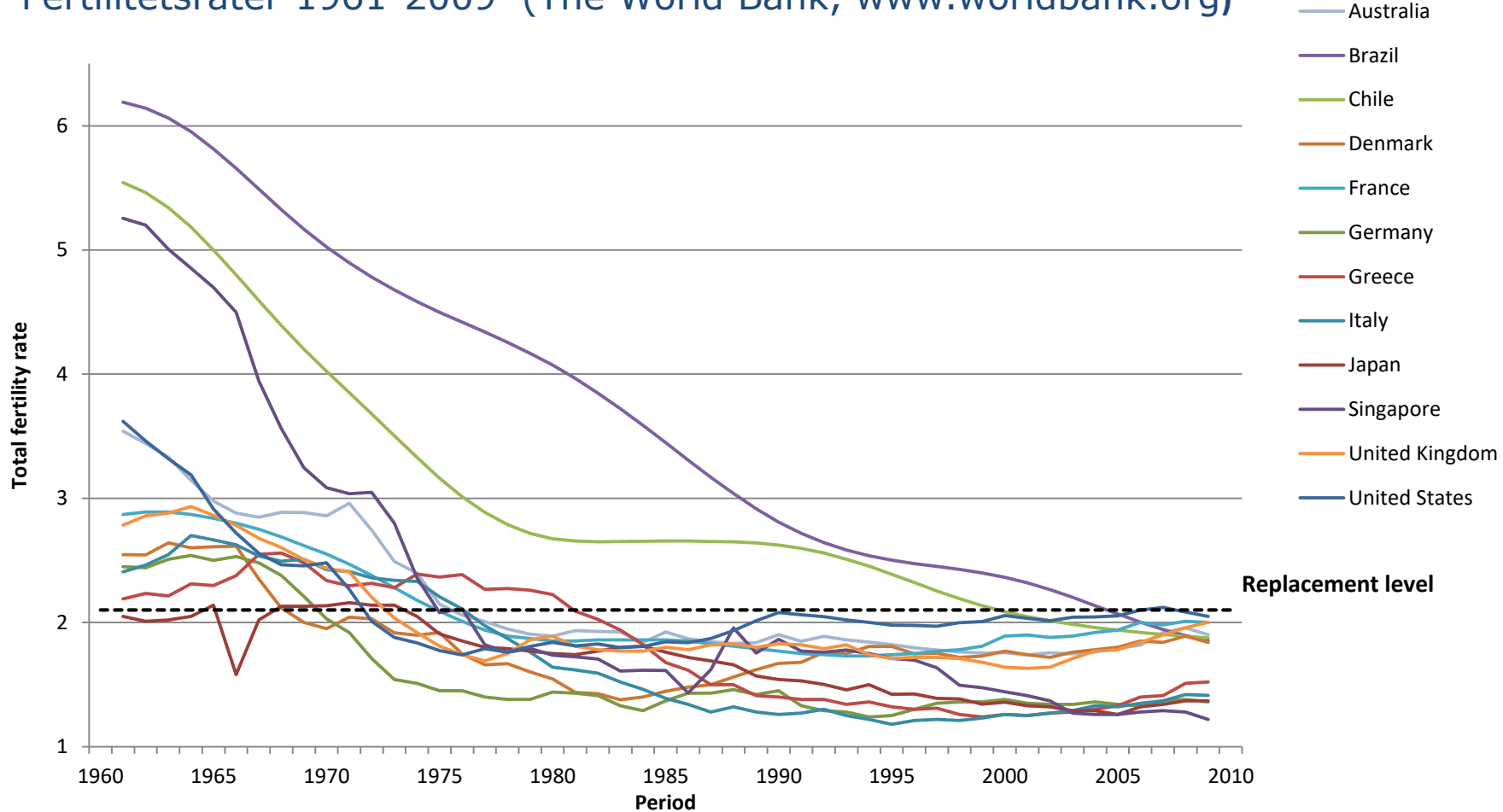
25 July 2017 [Health](#)



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# Fertilitetsrater 1961-2009 (The World Bank, [www.worldbank.org](http://www.worldbank.org))





# Internationalt fokus på fertilitetsproblemer

## Falling Japanese population puts focus on low birth rate

Unless re-energised, demographics will erode Japan's superpower status

© Wed, Dec 2, 2015, 01:00

David McNeill in Tokyo



Elderly people work out with dumb-bells by a temple in Tokyo recently. The estimated number of people aged 80 or older in Japan has topped 10 million for the first time. Photograph: Yoshikazu Tsuno/AFP



## Germany's birthrate is the lowest in Europe - and falling fast

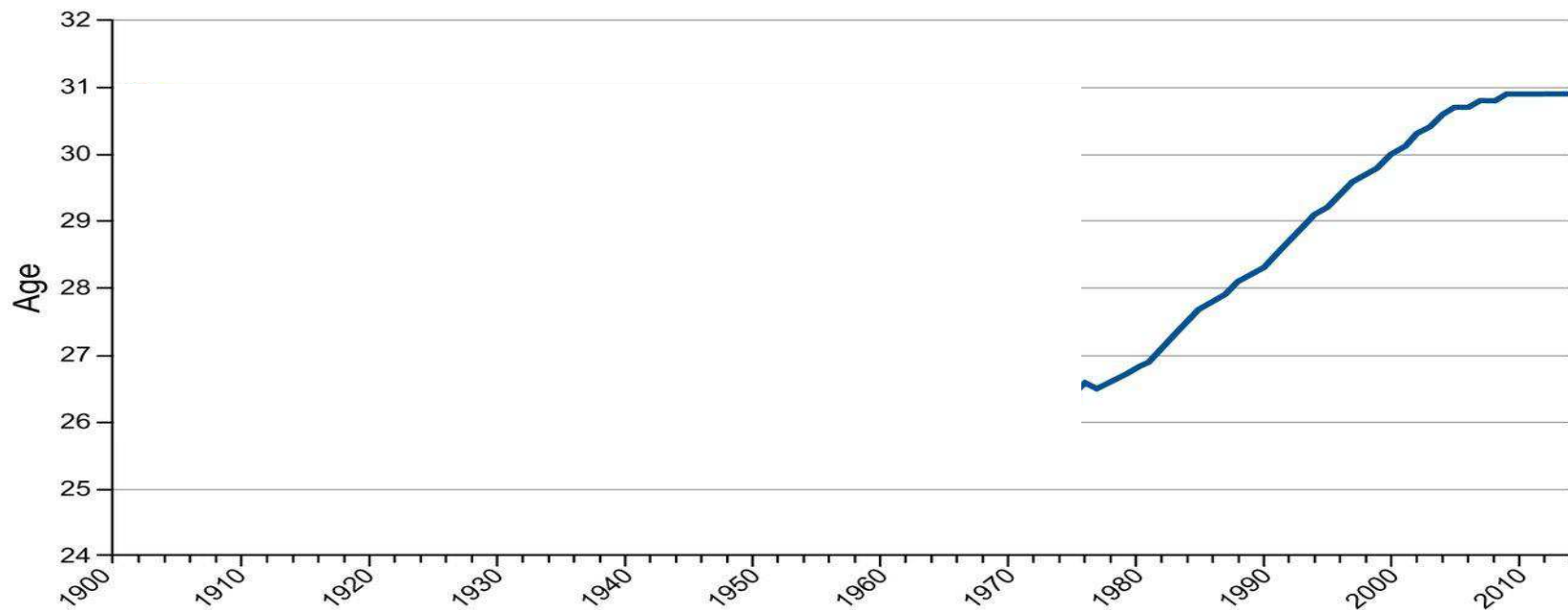
After generous parental allowances fail to reverse the trend, experts call for a different approach



The birthrate in Germany is falling. Many believe this is due to the problems of working women finding childcare. Photograph: Adam Gault / Alamy/Alamy

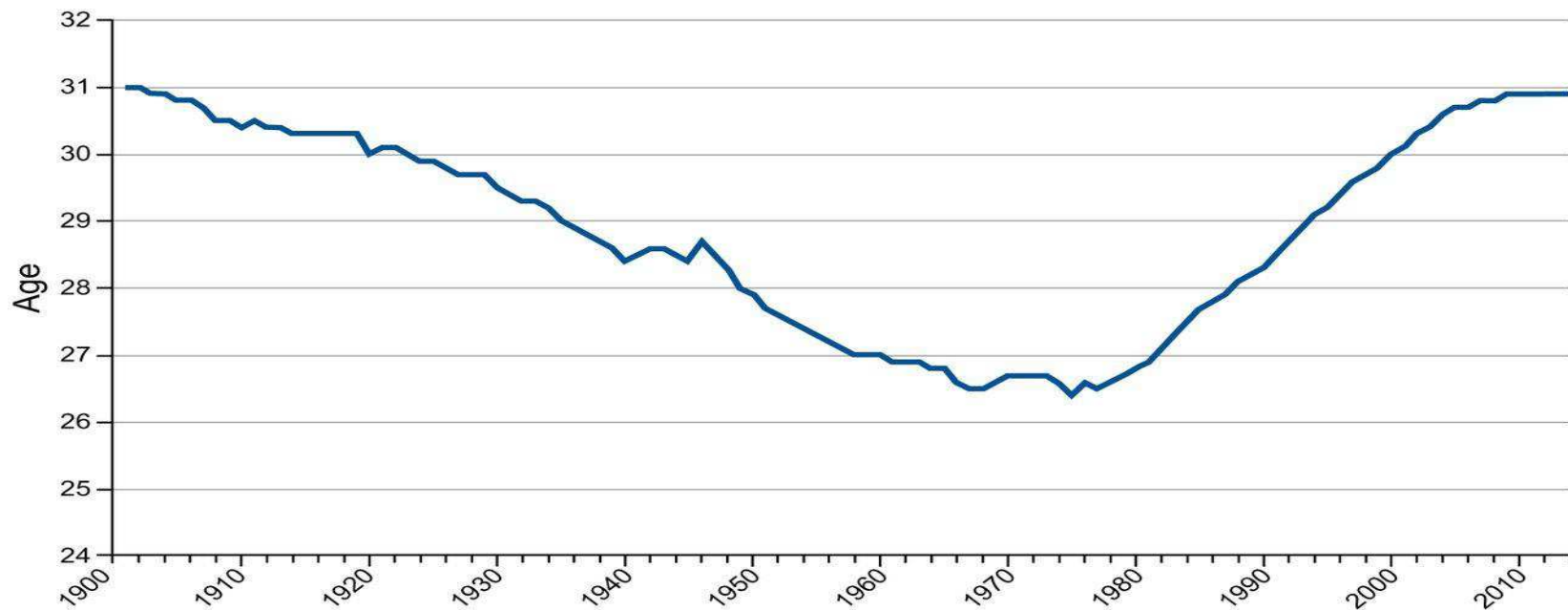
50% færre unge  
tyskere,  
25% færre unge  
danskere!

# Middelalder fødende danske kvinder



Fra Danmarks Statistik

# Middelalder fødende danske kvinder

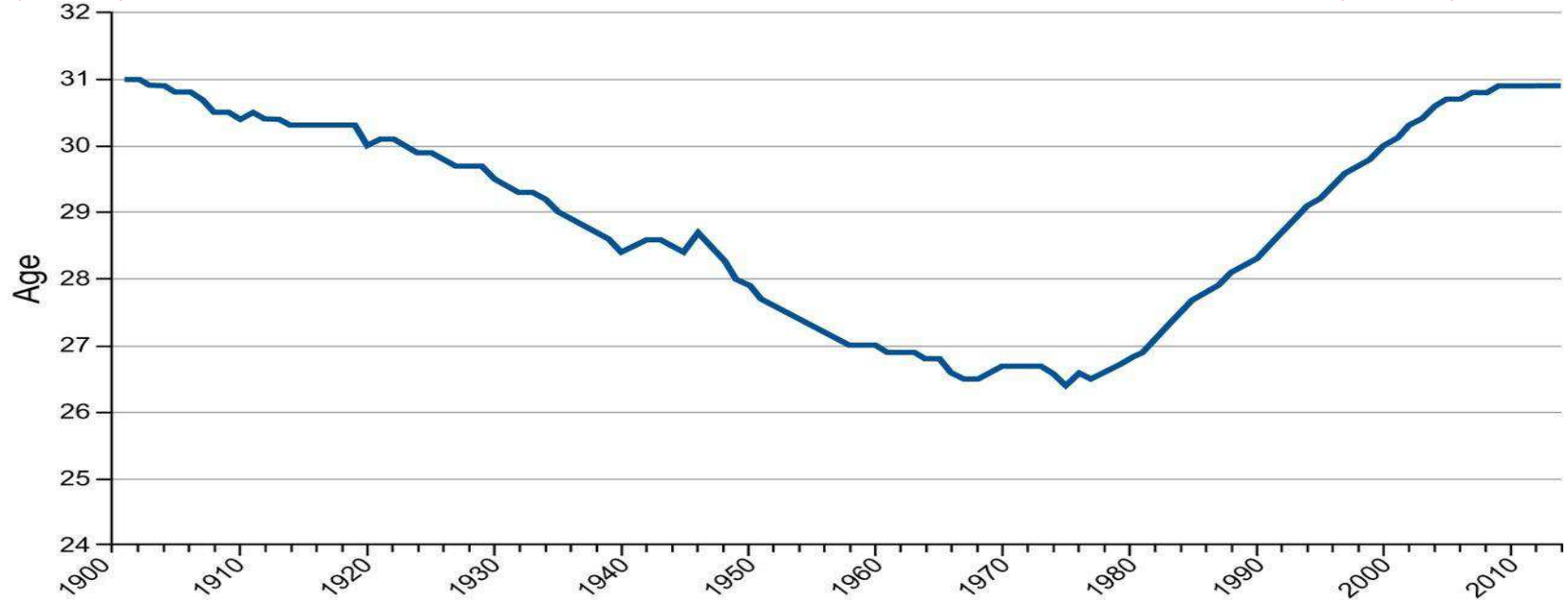


Fra Danmarks Statistik

# Middelalder fødende danske kvinder

4,1 barn/kvinde

1,7 barn/kvinde



Fra Danmarks Statistik

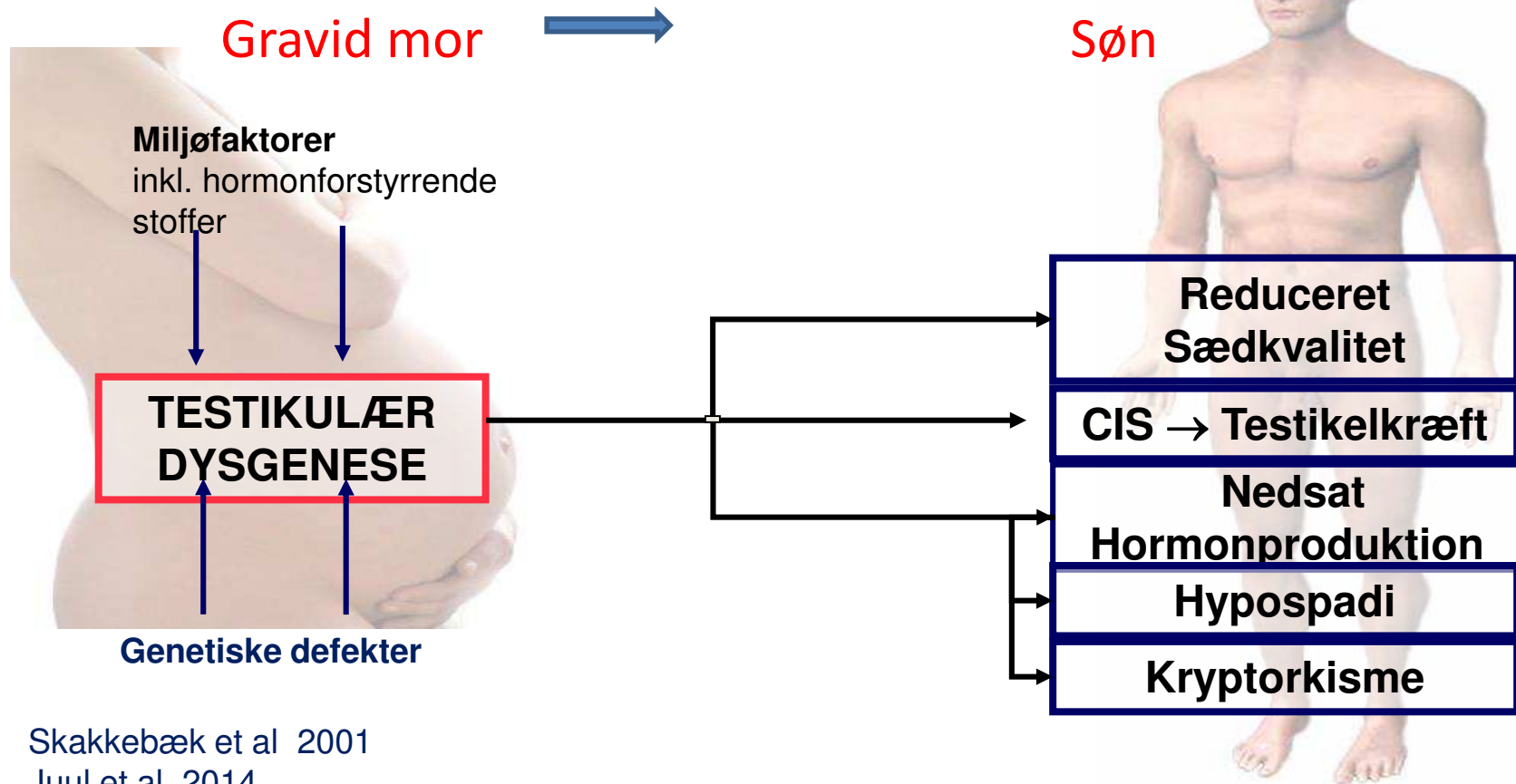
# **Fra Dansk Fertilitetsselskab**

**8-10 % af en fødselsårgang fødes efter kunstig befrugtning**

I gennemsnit to børn i hver skoleklasse



# Testikulært Dysgenese Syndrom, TDS



Skakkebæk et al 2001

Juul et al. 2014

# UNEP/WHO rapport om hormonforstyrrende stoffer

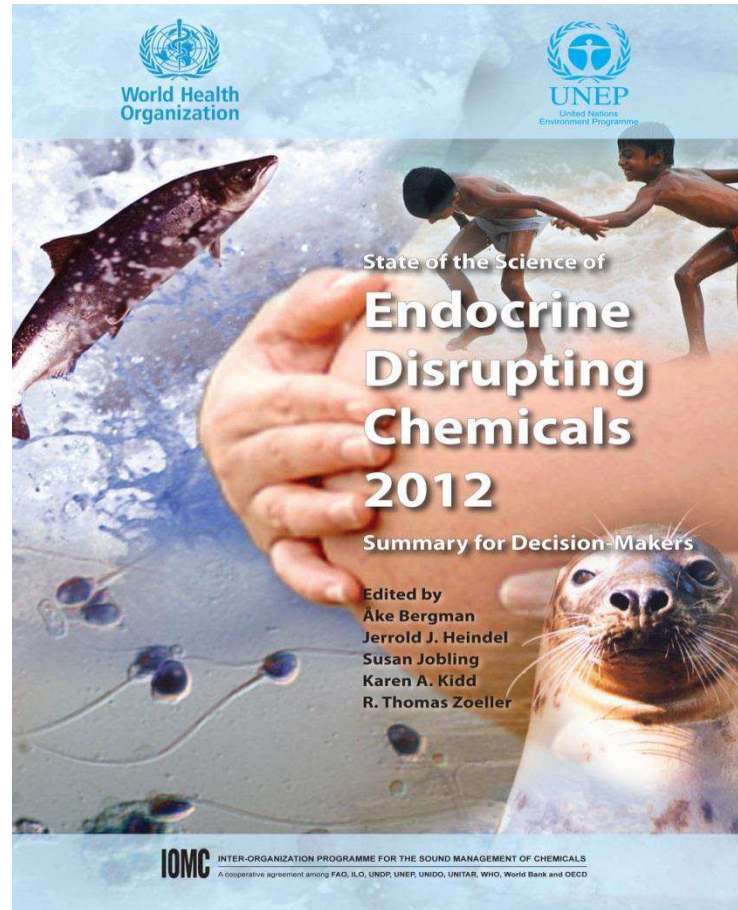


## State of the Science of Endocrine Disrupting Chemicals - 2012

Edited by  
Åke Bergman, Jerrold J. Heindel, Susan Jobling,  
Karen A. Kidd and R. Thomas Zoeller

IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS  
A cooperative agreement among FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD



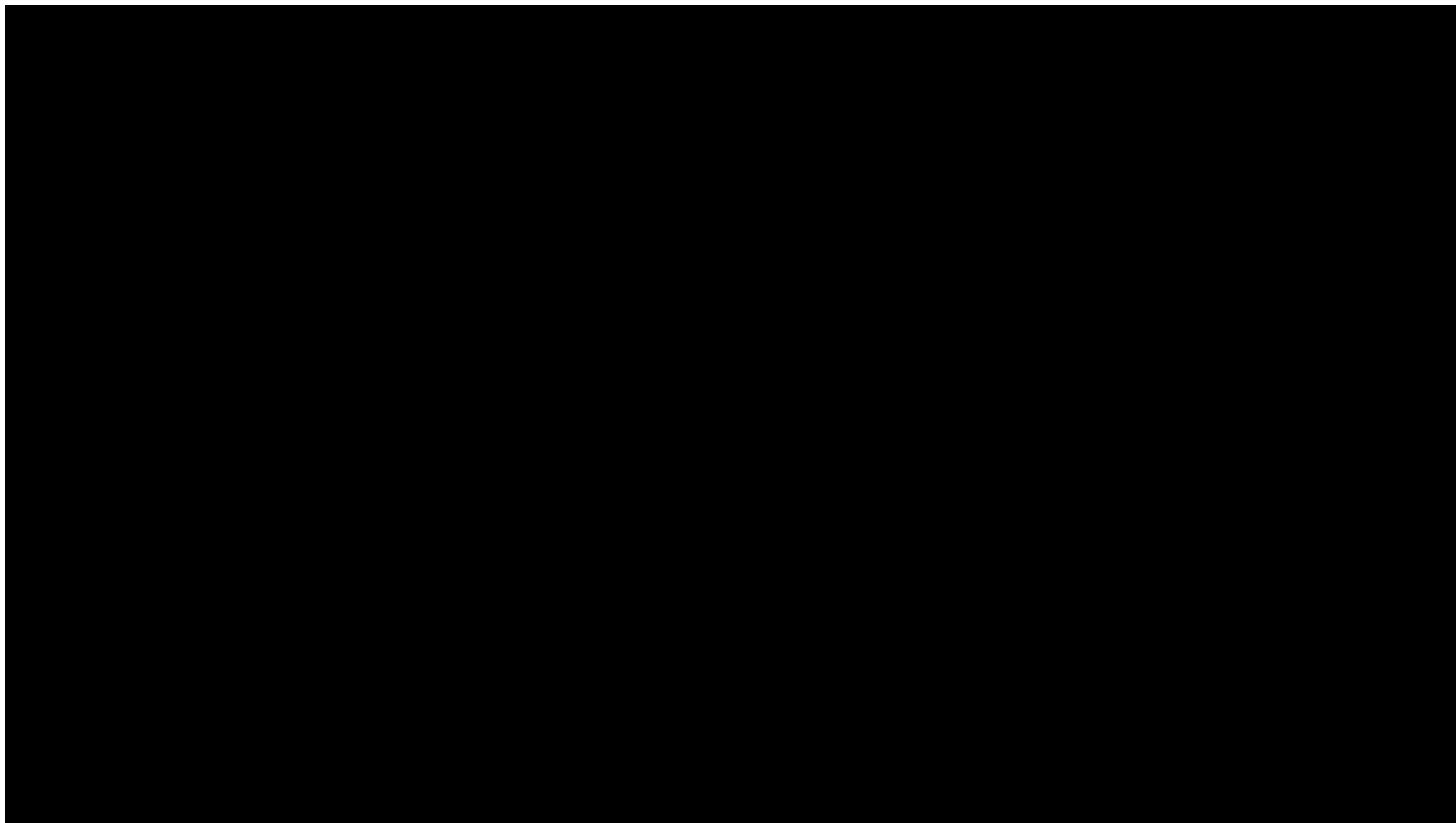
## State of the Science of Endocrine Disrupting Chemicals 2012

Summary for Decision-Makers

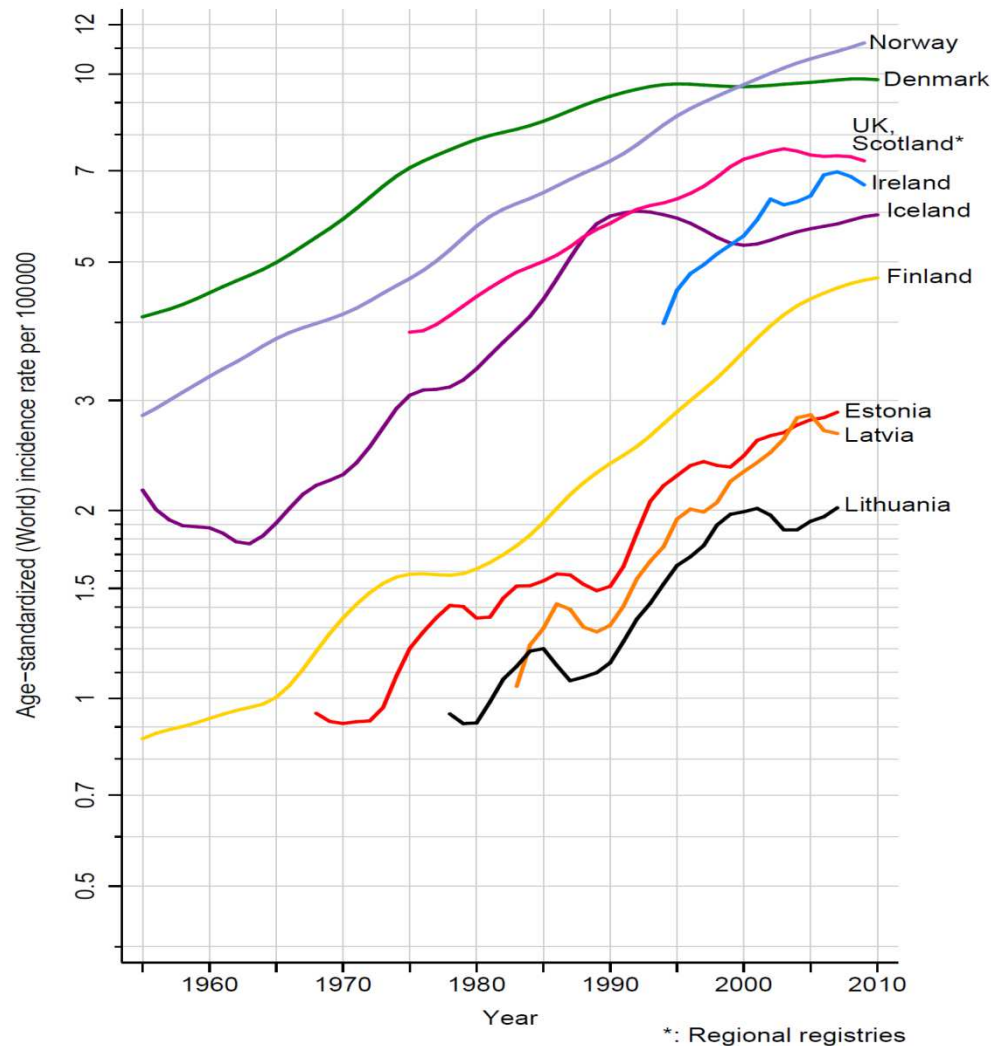
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# Trends i testikel- kræft

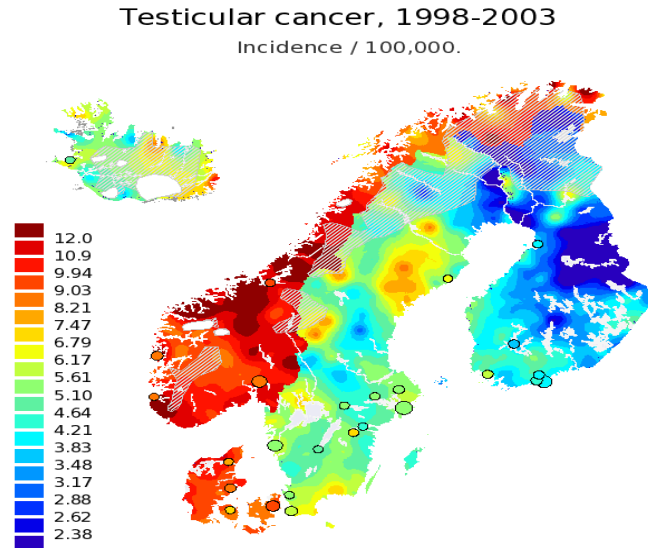
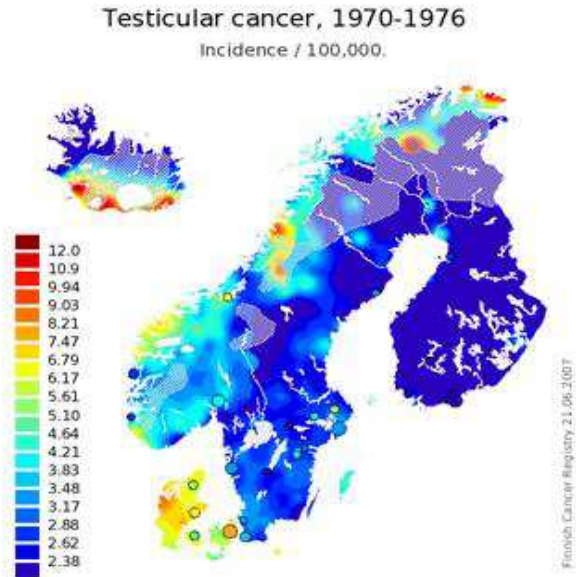


## Nordeuropa

Fra Znaor et al,  
European Urology,  
2014

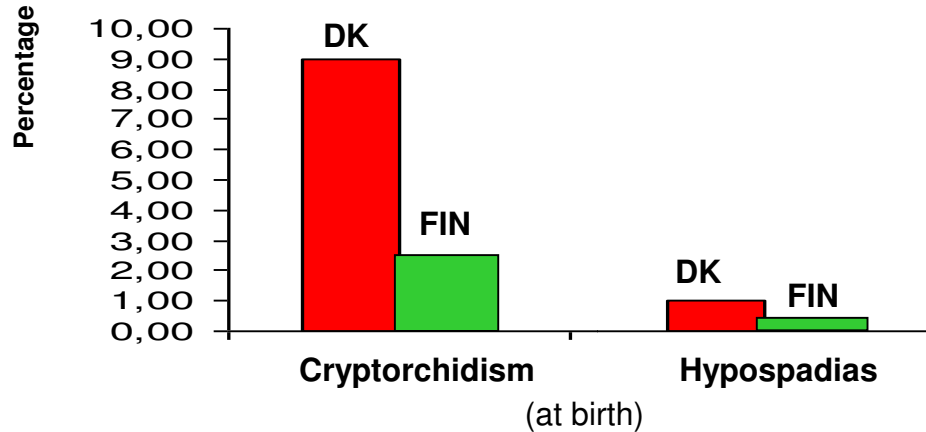
# Kraftig stigning i testikelkræft hos unge nordiske mænd

## Danmark og Norge ligger højest

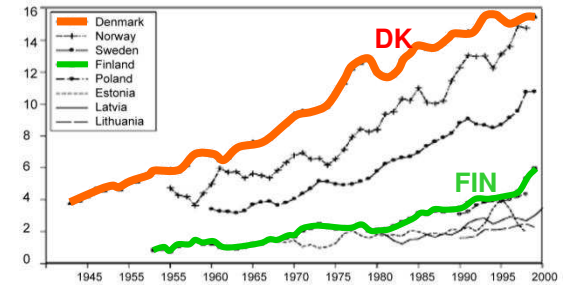


# Danmark vs. Finland

## Prevalence of genital malformations in boys

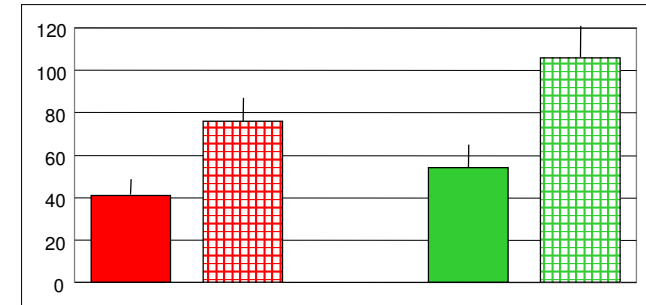


Boisen et al. Lancet 2004; JCEM 2005



Testis Cancer (Richiardi et al. 2004)

## Sperm concentrations in DK and FIN



Denmark

Finland



Young unselected men

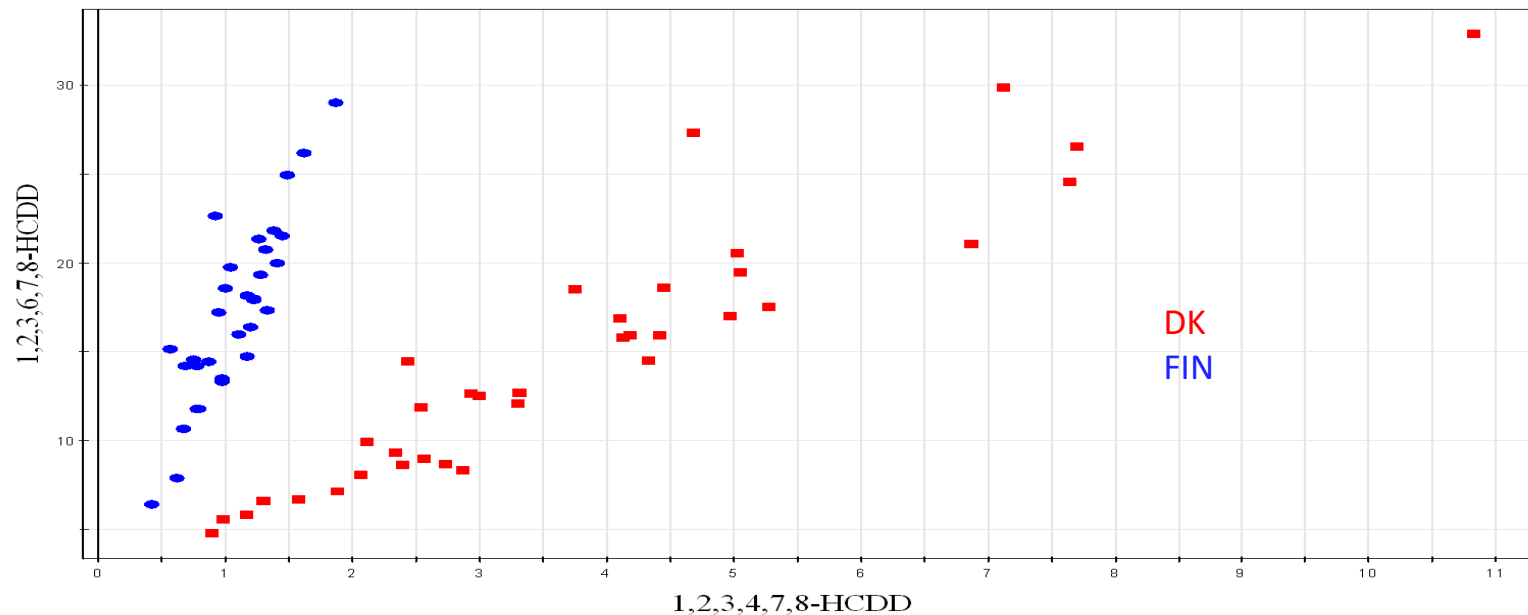
Fertile men

Jørgensen et al. Hum Reprod 2001; 2002



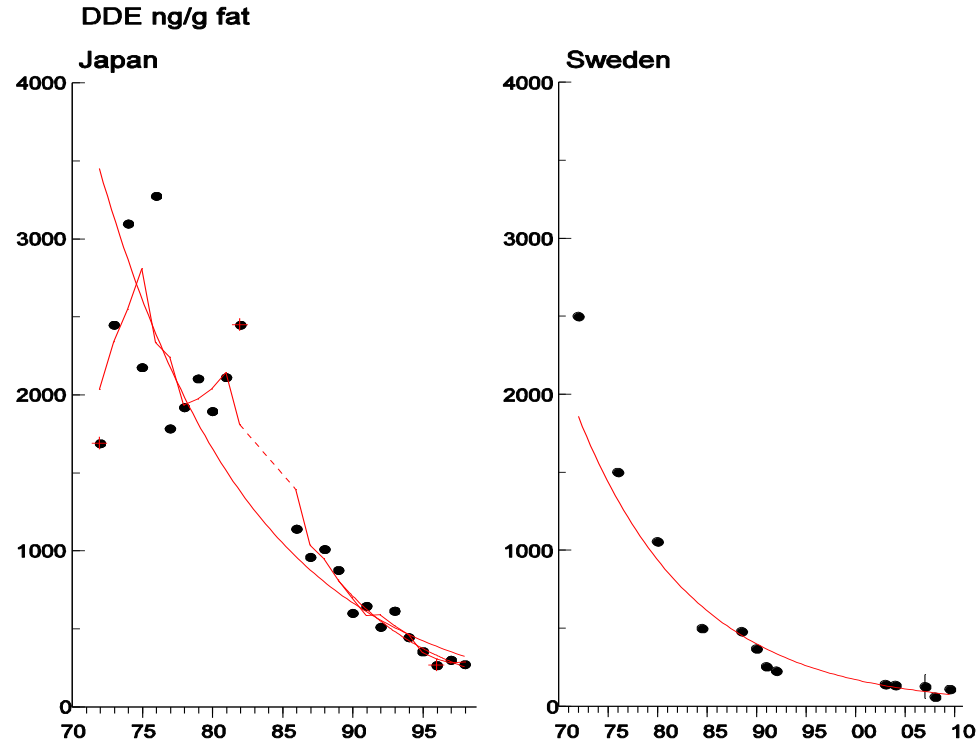
# Vi bærer en kemisk signatur fra det land vi er vokset op i: Dansk modernmælk mere forurennet end den finske

Analysen af to dioxiner, Int J Androl. 2010



# Regulering hjælper

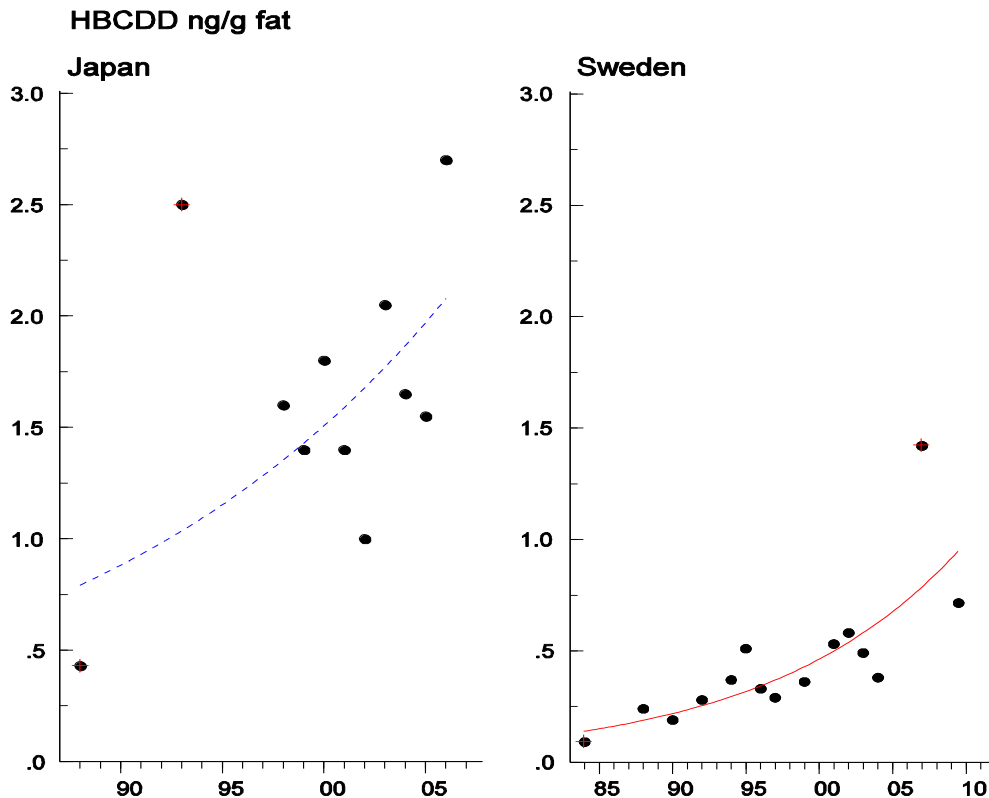
Trends, DDE (ng/g fat) Japan og Sverige  
Fra: Åke Bergman, Stockholm



# Manglende regulering/viden om nye kemikalier giver udslag i øget eksponering af befolkningen

Hexabromocyclododecane (HBCD, Flammehæmmer)

Fra: Åke Bergman, Stockholm



# Forudsætning for regulering er forskning

En regulering, der skal virke, må baseres på meget mere viden end vi har i dag - dvs. grundig udforskning af årsager til og løsninger på de mange hormonsygdomme og fertilitetsproblemer vi ser i befolkningen i dag.

*Se leder i British Medical Journal (BMJ) i dag!*

*‘Our human future will only  
be as healthy as our sperm.....’*

*Nicholas Kristof*

THE NEW YORK TIMES

March 12, 2017