

Dietary surveys in risk assessment

Data challenges to improve dietary exposure assessment

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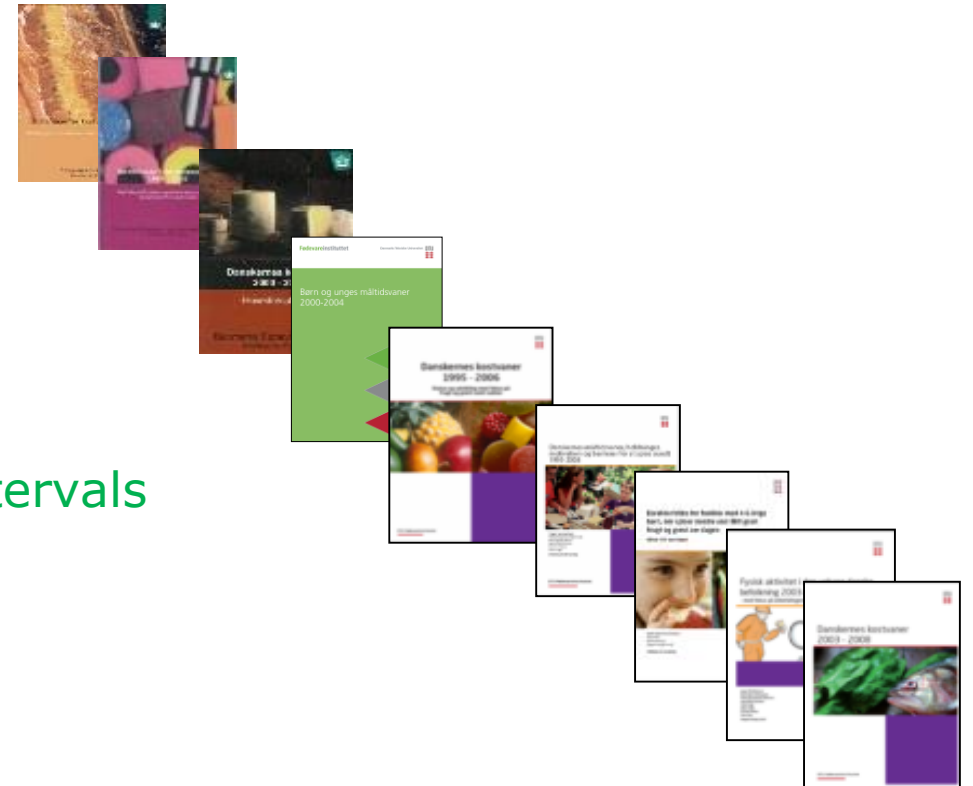
Long tradition of Danish nationwide dietary surveys

Surveys in 1985 (adults) and 1995 (children and adults)



DANish National Survey of Diet and physical Activity (DANSDA)

- 4-75 y: 2000-2002, 2003-2008 and 2011-2013
 - 12000 participants, simple random sample
 - Participation rate 54% (2011-13)
 - One week of recording
 - >160.000 eating occasions (2011-13)
- ½-3 y: 2006-2007 and 2014-2015
 - 3000 participants, simple random sample in 5 age intervals
 - Participation rate 54% (2006-07)
 - One week of recording
 - >65.000 eating occasions (2014-15)



AIM of DANSDA

- Monitor intake of foods and nutrients to identify nutrition- and health- related problems in risk groups
- Perform research on associations between diet, physical activity and health
- Estimate dietary exposure of contaminants, food additives, pesticide residues etc.
- Analyze determinants of dietary habits and physical activity

Interdisciplinary team

Nutritionists, dieticians, food scientists, sociologists, data managers in close collaboration with statisticians, chemists, toxicologists and microbiologists.

Social science in combination with natural science keep us asking the right questions:

- "Is it possible for participants to answer the questions precisely ?"
- "Will the type and number of questions raise the respondent burden ?"
- "Will we get valid answers?"

Continuously development and improvements

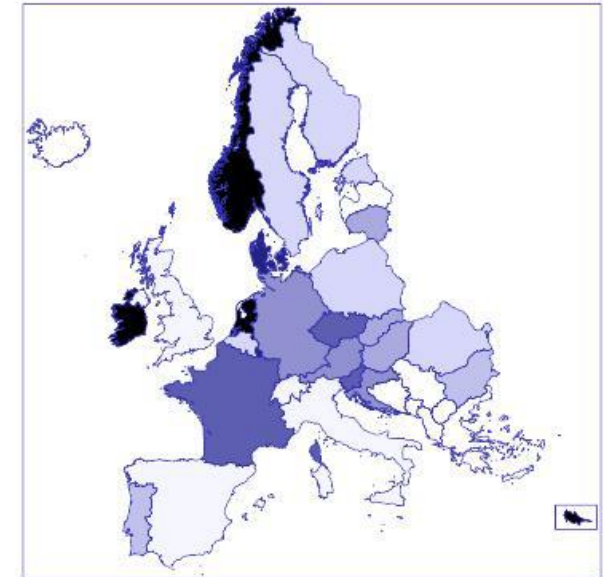
- Continuously development and improvement of survey design and assessment methods
- Increased use of dietary survey in risk assessment, but also ad hoc surveys in special groups
- More details about foods
- Increasing participation rate through change of design
- Participants feedback (focus group interviews) to improve future survey design and assessment methods
- Risk assessors of non-nutrients are asked about their needs before data collection

Merging of consumption data and data from chemical analysis

- Continuously analyses for chemical contaminants and pesticide residues for control purposes which also to a large extent fulfil the need for monitoring
- (no of samples 2.000-2.500/year)

Challenge

- Not consumption data for all analysed foods
- We eat composite foods, but content often determined in raw product



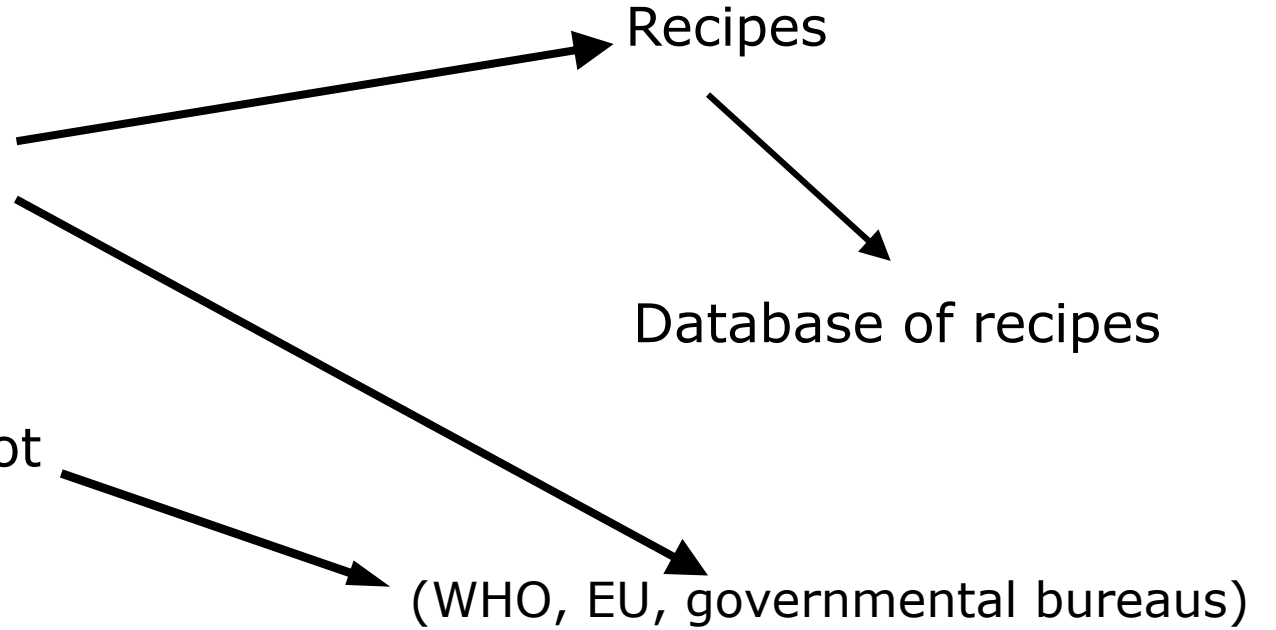
Summary of the 2016 Data Collection on Contaminant Occurrence Data. Number of reported data normalised by the country population

Dietary surveys 2000-2013 - use of other data sets

Household panel/GfK/sales/market data

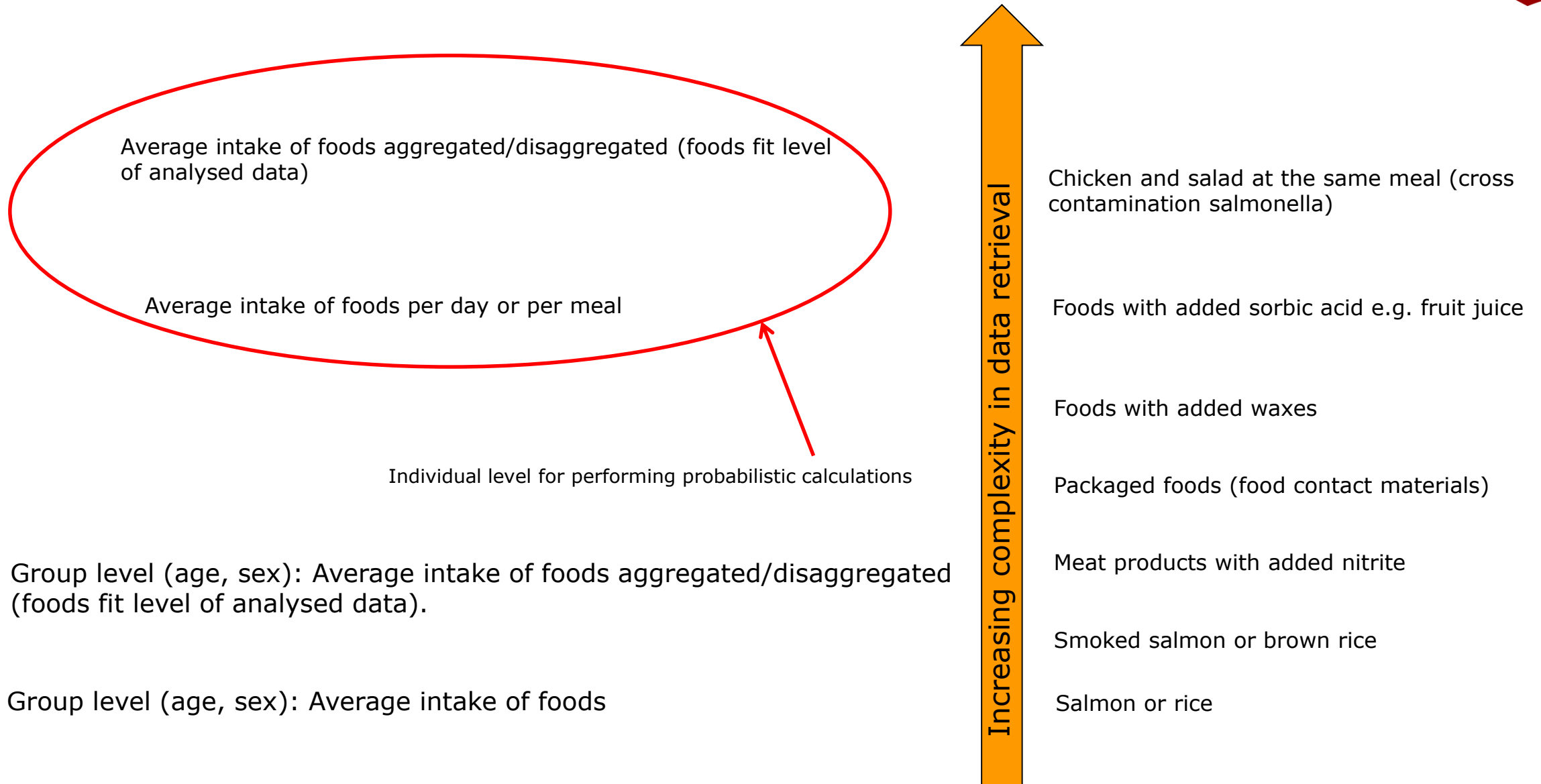
Distribution between breakfast cereals, types of cheeses etc. (brandname, packaging size, distributor)

Distribution between types of fish: cold/hot smoked salmon, canned/fresh etc.



Exposure assessment of non-nutrients: Adjustment of data so food consumption data fit analytical data or vice versa

Examples of dietary data used in risk assessment of non nutrients



Future

2014- : Web based technology

- More details on specific foods or facets about food preparation
 - Possible to ask more questions, but still limitations on level of details due to participants burden and knowledge
- Continuation of combining different data sets (more value for money)

Validation study

- 2 x 24 h recall (recommended by EFSA) vs. 7 d pre-coded food diary (DANSDA)

Future dietary surveys will provide more detailed food consumption data beyond nutritional aspects – enables better exposure risk assessment

Thank
you

The interdisciplinary team behind DANSDA

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