

Food Consumption Patterns

Data collection and interpretation – the pros and cons

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EFCOSUM

European Food Consumption Survey Method

The EFCOSUM project was undertaken within the framework of the EU Programme on Health Monitoring.

23 European countries participated.

EFCOSUM

European Food Consumption Survey Method

Building on existing experience from

- DAFNE
Data Food Networking
- EPIC
European Prospective Investigation into Cancer and Nutrition
- COST Action 99 (and predecessors)
Research action on food consumption and food composition

EFCOSUM

European Food Consumption Survey Method

Four working groups

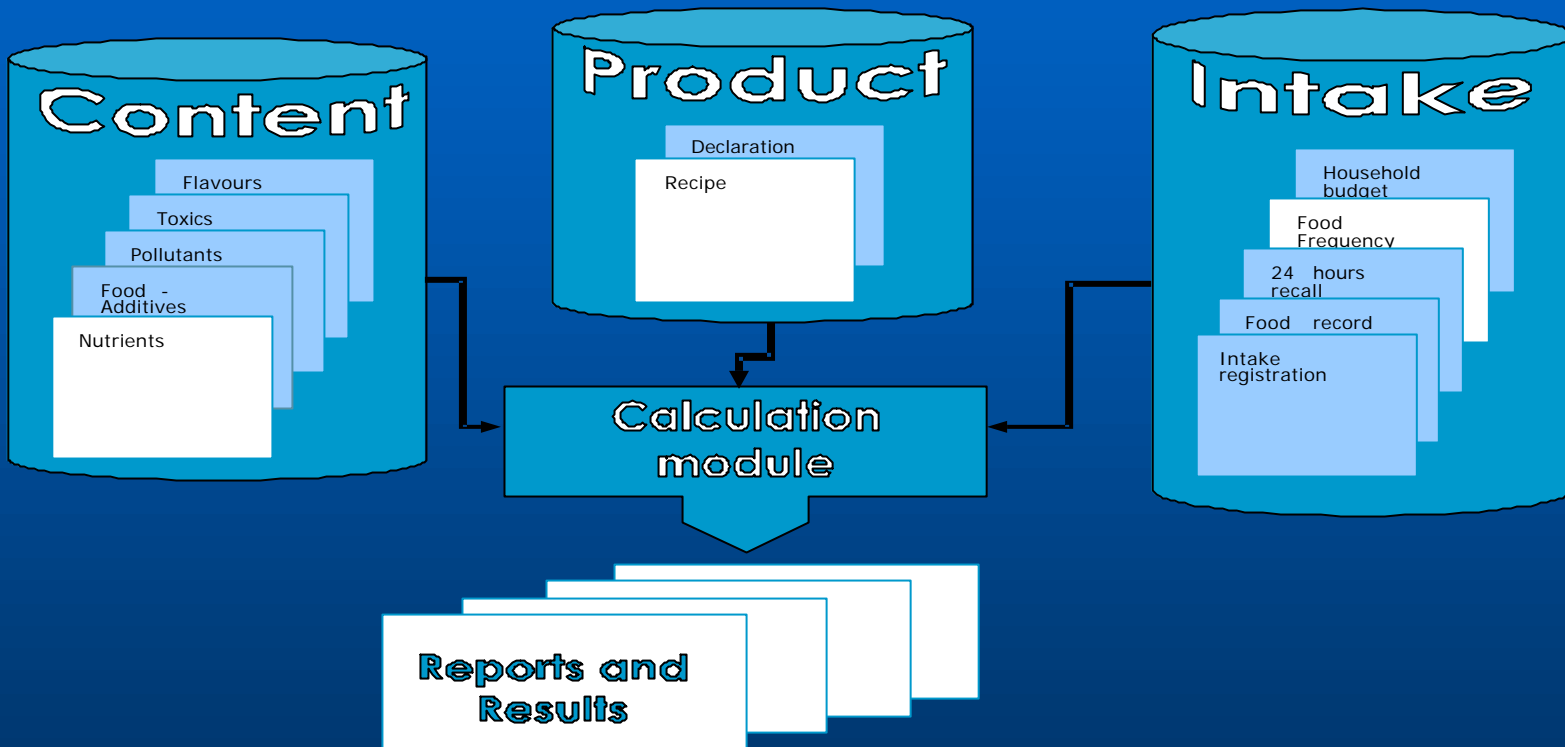
- comparability of food consumption assessment
- comparability of food composition databases
- software and statistics
- operationalization of a European food consumption survey

Intake and Exposure Estimation

The main components:

- **Food Consumption Surveys**
Which foods have been eaten ?
- **Food classification**
How do we group foods together ?
- **Food Composition Databases**
What does the foods contain ?
- **Ingredient definition (recipes)**
How are the foods combined ?

General Intake Estimation Systems



Food Consumption Surveys

- Individual Surveys

Foods as eaten, population intake distributions, non-consumers

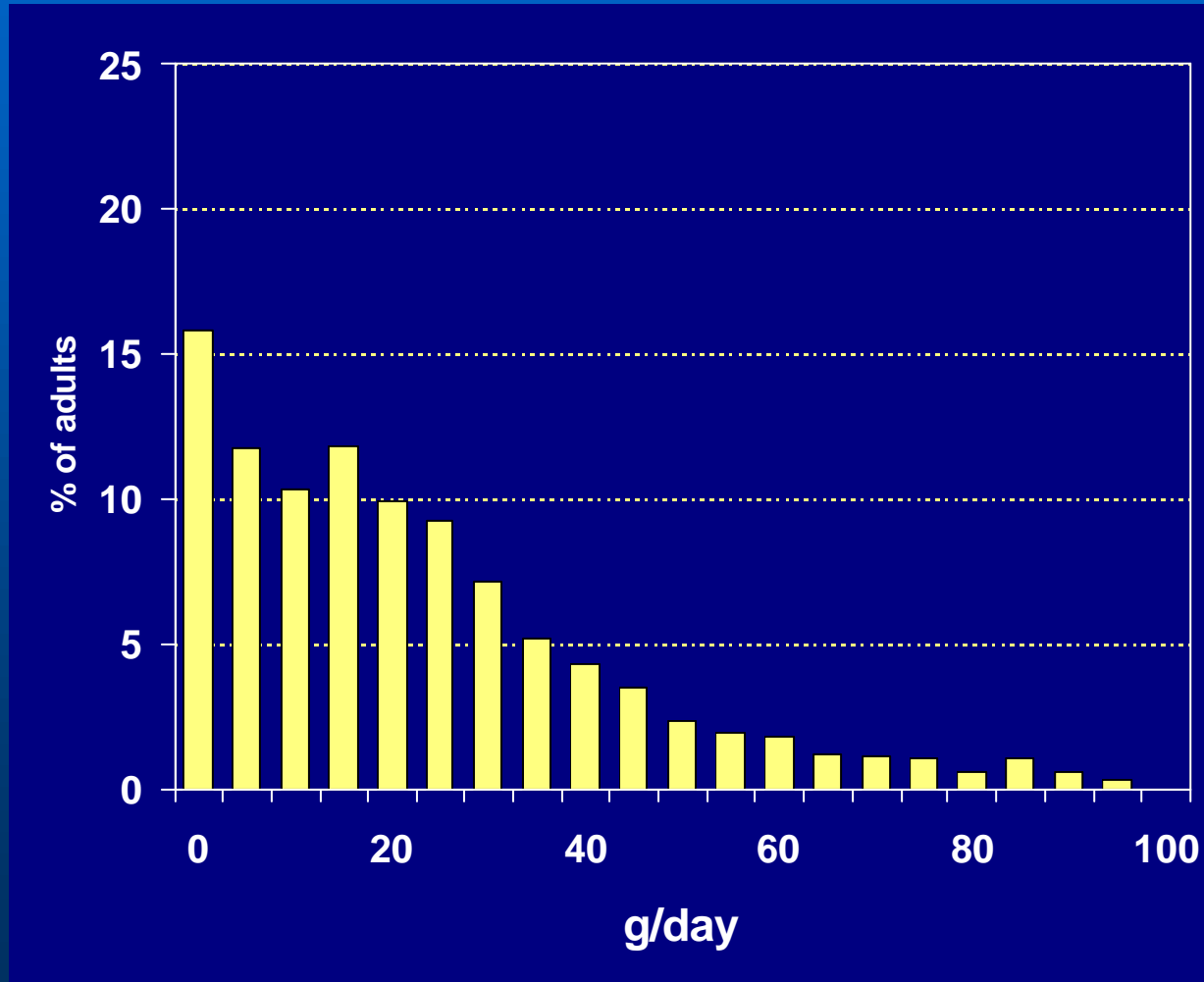
- Household Budget Surveys

Food availability, population/household mean intakes, DAFNE

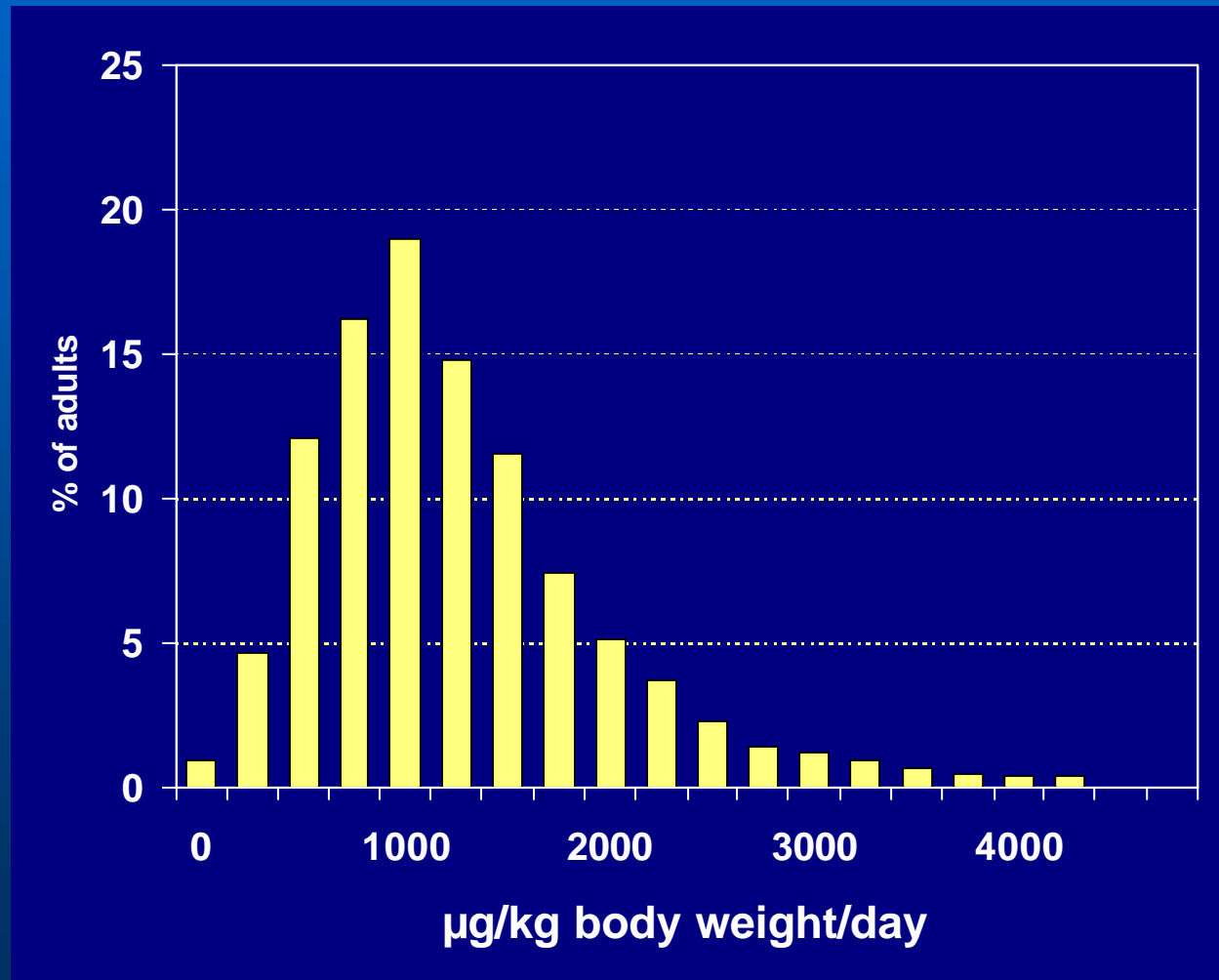
- Food Balance Sheets

Commodities available, population mean intakes

Example: Fish Intake



Example: Intake of benzoic acid



EFCOSUM Conclusions

Food Consumption Data

Available food consumption data:

- Regrettable lack of internationally comparable data
- Guidelines to make food consumption data more comparable
- Out of 23 countries, 15 (of these, 10 present MS) can provide data that can be made “reasonably” comparable

EFCOSUM Conclusions

Food Consumption Data

New food consumption data:

- 24h recall selected as the best and most cost-effective method
- ***A set of dietary health indicators were defined***
- A common food classification is needed (European Food Groups)

EFCOSUM Conclusions

Dietary health indicators

- *Foods*
vegetables (excl. potatoes), fruits (excl. fruit juices), bread, and fish
- *Nutrients*
saturated fatty acids (E%)*, total fat (E%)*, ethanol (g/day)
- *Biomarkers*
folate, vitamin D, iron, iodine, and sodium

**) total energy needs to be assessed in order to calculate E%s*

EFCOSUM Conclusions

Food Consumption Data

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Food Classification Systems

- Classification, what is the purpose?
- What do we want to classify?
Foods eaten, components by food group, or ...?
- Common/specific - detailed/simple?
Eurocode 2, European Food Group, Common Nomenclature...

Food Classification Systems ₂

Specific International food classification systems

- Food additives (CIAA, Codex Alimentarius GSFA)
- Pesticides (Codex Classification of Foods and Feeds, CCPR)
- Contaminants (Codex Classification for Contaminants and Toxins, GSC)
- EPIC classification of food items
- Common Nomenclature, PRODCOM, WTO, ...

and many different national food classifications

Food Classification Systems

3

At which level ?

Survey Type	Foods as eaten/prepared	Foods as ingredients/purchased/raw	Foods as commodities
Individual	X	X*	X**
Household Budget Survey		X	X**
Food Balance Sheets			X

* obtained by disaggregating food intake into ingredient

** obtained by disaggregating ingredients into commodities

European Food Grouping

the impact of reporting level

EFG g/day	Intake level	Ingr. level	EFG g/day	Intake level	Ingr. level
Bread and rolls	142	162	Fruits and fruit products excl. juices	108	113
Breakfast cereals	34	14	Fruit juices	156	73
Flour	-	21	Non-alcoholic beverages	587	734
Pasta	17	8	Coffee, tea, cocoa powder	815	815
Bakery products	39	1	Beer	187	187
Rice and other c.p.	15	7	Wine	60	60
Sugar	3	22	Other alcoholic beverages	5	5
Sugar products excl. chocolate	16	1	Red meat and meat products	89	111
Chocolate	7	7	Poultry and poultry products	14	17
Vegetable oils	-	4	Offals and offal products	1	1
Margarine and lipids of mixed origin	16	33	Fish and seafood	22	21
Butter and animal fats	6	8	Eggs and egg products	15	19
Nuts and nut products	2	2	Milk	276	314
Pulses and pulse products	4	8	Cheese	22	31
Vegetables excl. potatoes	80	99	Other milk products	55	71
Starchy roots and potatoes	110	119	Miscellaneous foods	190	5

Food Composition Databases

The International Perspective

- Today's food composition databases are incompatible without minor/major adjustments
 - with respect to foods (coverage, raw/prepared foods, brand name/-generic foods)
 - with respect to components (analytical methods, calculations, modes of expression, etc.)
- The problems are multidimensional

[Deharveng et al., Slimani et al.]

EPIC – European Prospective Study into Diet and Cancer, WHO IARC

EFCOSUM Overall Conclusions

- Need for co-ordination of nutritional surveillance activities within the EU
- In order to make existing data comparable, a considerable amount of work has to be done
- HBS data (DAFNE project) fulfil needs of HIEMS for food availability data
- Broad consensus on the basic 'ingredients' of an individually based monitoring system oriented at diet.

So, what are we doing ?

- EuroFIR

European Food Information Resource
DG RTD, FP6 proposal, April 2003
(Paul Finglas, IFR, Norwich, UK)

- HARMONID

Improvement of food intake assessment using
currently available data based on individual food
consumption surveys
DG SANCO, Public Health Programme Application,
May 2003 (Philippe Verger, INRA, France)

Thank you for your patience !

For more information on EFCOSUM,
see

European Journal of Clinical Nutrition
Volume 56, Supplement 2, May 2002