



AGENCE FRANÇAISE
DE SÉCURITÉ SANITAIRE
DES ALIMENTS

Collection of food consumption data for infants and children

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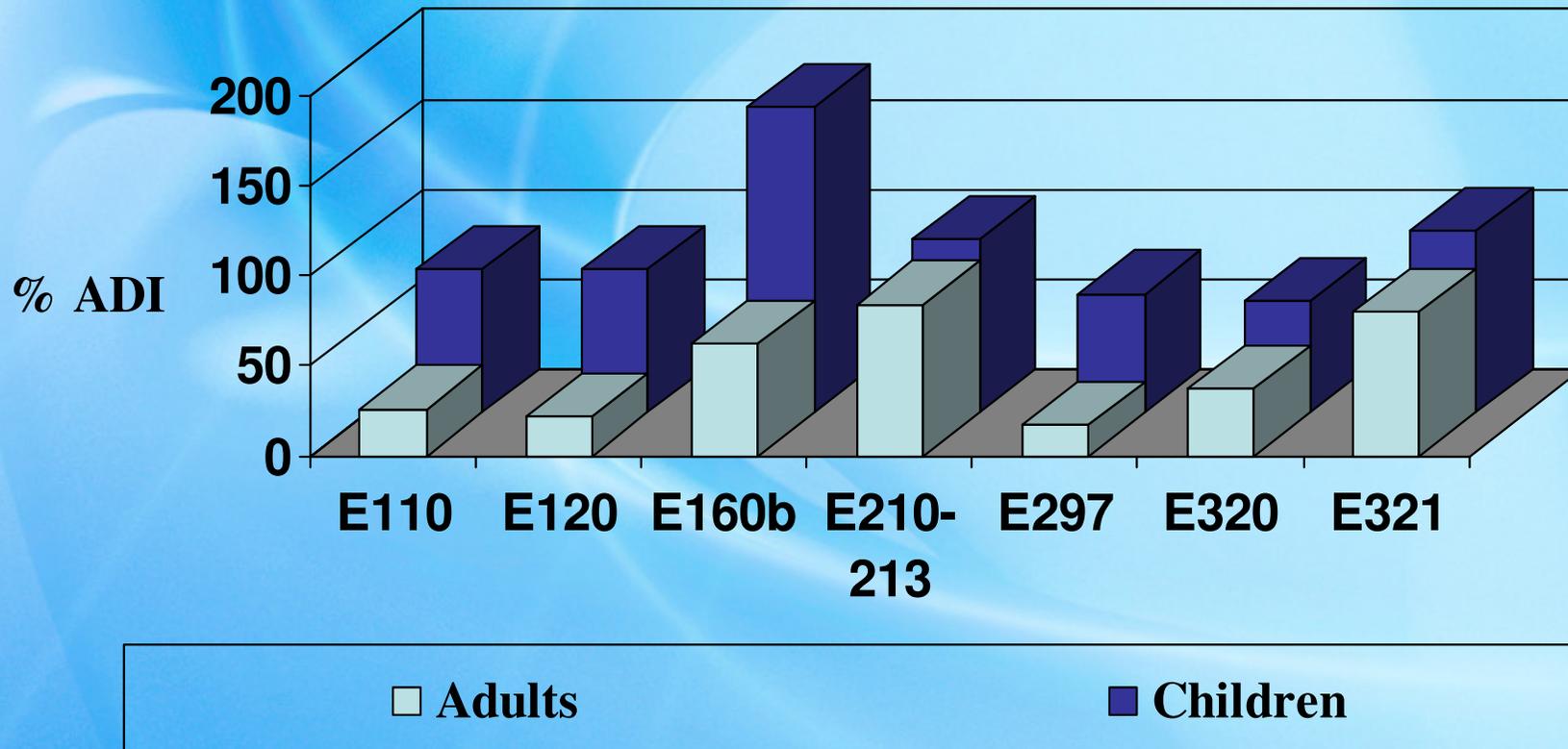
Bfr Berlin, EFSA food consumption project 15-16 May 2008

Children intake assessment is necessary for risk assessment

- In comparison to their bodyweight, children have higher intakes than adults
- For toxicological risk assessment, exposure is divided by the bodyweight (for instance $\mu\text{g}/\text{kg bw}/\text{day}$)
- Children, when considered, have higher exposure than adults

Example : theoretical maximum daily intakes of certain food additives :EU report 2001

Example : theoretical maximum daily intakes of certain food additives : EU report 2001, French data



The infants, toddlers and children diets used for pesticide exposure assessment at EFSA

- Among the 27 diets used by EFSA for chronic pesticide exposure assessment (from 13 countries + FAO-WHO GEMS-Food) 9 are specific for children or infants
 - Infants < 2 (FR, UK)
 - Toddlers and young children 2-6 (DE, DK, FR, NL,UK)
 - Children all ages (IT) or > 7 (ES)
- Some diets include all the population (children+adults) : FR, NL, PL, SE

Methodological recommendations for children intake assessment are not as strong for children as for adults

- EFCOSUM European food consumption survey method 2000-2002 (DG Sanco)
 - Recommendation of 2 X 24h dietary recalls for adults
 - Use of EPIC-Soft as a basis for questionnaire software for adults
 - What could be recommended for infants and children ?

Validity of dietary assessment methods in children (EFCOSUM report 2001)

- « 24 h recalls can be used with acceptable and external validity with children if the children are 7 or 10 years or older ».
- Before that age parent's help is necessary
 - Is accuracy of reporting comparable ?
- Prospective intake information is dependent of the child's reading and writing ability

Different intake collection methods for infants and children in EU countries: The Netherlands

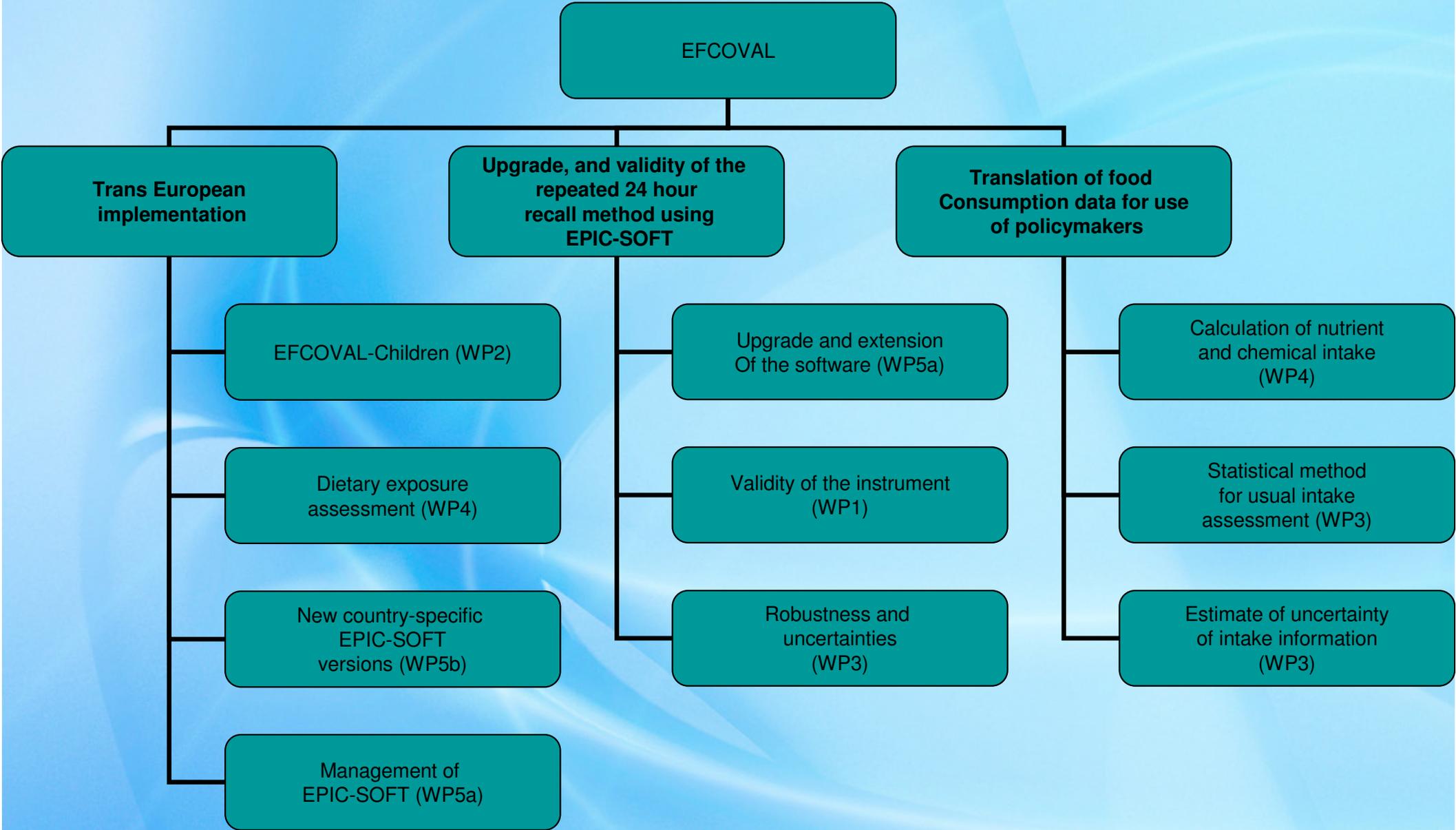
- Young children 2- 6 in 2005-6
 - 2 non consecutive days open-ended food records
 - Specific picture book
 - Data entry EPIC-Soft by dieticians
- Children 7-15 : Two non consecutive EPIC-Soft 24h recall at home with parent/caretaker

Different intake collection methods for infants and children in EU countries : France

- Open-ended 7 days record (INCA1 and INCA2 surveys),
 - with the help of the parents between 3 and 11
 - With explanations of skilled interviewer at home (two visits + intermediate phone call)
- Parents get school meals menus at the beginning of the survey week
- 3 days record for infants and young children 3-36 months (Alliance7 survey)

European Food consumption validation (EFCOVAL)

- FP6: FOOD-CT-2006-022895
 - Food Quality and Safety
- STREP (Specific Targeted REsearch Project)
- Starting date: 1st October 2006
- Duration: 3 years
- Coordination RIVM (The Netherlands)



Main features of EPIC-SOFT (IARC) and potential for pan-European surveys

- Standardised procedures across countries to *describe, quantify, probe* and *calculate* food and beverage intakes (incl. food supplements)
- 11 translated versions with the same interface adapted to each country
(Tested in different study contexts and populations within/outside EPIC)
- Systematic quality controls before, during and after data collection
- Standardized procedures to classify, store, retrieve and export data
- Standardized procedures to update EPIC-SOFT databases (58 files)
- Harmonized nutrient databases (ENDB), outside EPIC-SOFT
- Validated measurements (at the population level in EPIC)



Current limitations of EPIC-SOFT

- Versions are not available for all EU countries
- To be adapted to different population groups (e.g. adolescents, ethnic groups)
- As a data entry system for children or more ?

Outline WP2 EFCOVAL-Children (E Trolle DFVF Denmark and L F Andersen UIO Norway)

- **Identify the most appropriate method(s) for dietary assessment in children (< 15 yrs)**
 - *Inventory and critical evaluation of the methods used for dietary intake for children*
 - *Recommendations on the best cost-effective setting/conditions to conduct the dietary method among children*
 - *Pilot test the recommended method in a feasibility study in two countries (Denmark, Spain)*
 - *Relative validation study of the selected EFCOVAL-child method against 7-day records in Denmark*

Other EU – wide projects with methodological work regarding collection of infants or children intakes

- **Helena project** : intakes of adolescents
 - Aged 13-17
 - In 10 European cities
 - Self-administered computerized 24 h recall YANA-C
 - Standardized picture book for > 300 foods
 - Flemish, translated in English, German, French, Spanish, Italian, Swedish...
 - Relative validation study administered by dietician vs self-administered

Other EU – wide projects with methodological work regarding collection of infants or children intakes

- **Idefics project** : intakes of children (within intervention studies)
- 2-10 y
- 8 intervention centers
- 24h recall adapted from YANA-C, 2 week days and 1 week-end day
- Extra support needed to monitor intake at school
- Children eating habits questionnaire



The NHANES experience in the USA (CDC NCHS)

- 2 x 24h recalls
- 1 x 24 h recall face to face at the exam center
- 1 x 24h recall by phone
- < 6 years proxy respondent (parent)
- 6-8 years proxy with assistance from the child
- 9-11 years child reports assisted by adult
- 12 y + self report by the child



Conclusions

- There is a need to consider infants and children, especially young children in exposure assessments
- What age groups ?
Infants 0-1, Young children 1-3, other children 4-10
(EFSA call)
- Harmonisation of dietary surveys in Europe is less advanced for children than for adults (EFCOVAL)
- Validity question for 3-9 children : parents have to help before 9 – 11, they don't have direct access to the intakes of their children during school meals

