QUALITY SYSTEMS AS A TOOL IN VALIDATION OF NUTRIENT DATA: THE EuroFIR APPROACH

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OUTLINE

✓ The need of standardized food composition data in Europe

✓ The EuroFIR Quality Approach

✓ Quality Principles and Practices

✓ Preliminary Results

✓ Further Developments
OBJECTIVES
PURPOSE

Key issues of Food Composition Data in Europe

- Provide data in accordance with international standards
- To assist multicenter studies investigating diet and health relationship
- Nutritional labelling

EuroFIR aims to develop and integrate a comprehensive, coherent and validated databank providing a single, authoritative source of food composition data in Europe.
DRAWBACKS
EUROFOODS Moller, Ireland et al, 2000

Level 1

Lab A
Lab B
Original Literature
Manufacturer

Archival Data
Compiler Y

Reference Data Base

FCD A1
FCD A2

Level 2

Archival Data
Compiler Z

Reference Data Base

FCD B

Level 3

Level 4

EuroFIR www.eurofir.net
This work focuses on:

1) The contribution of a Quality Framework for scientific validation and exploitation of food composition data

2) The approach to organize quality principles and practices around laboratories, national compilers, databank systems and users and stakeholders purposes and satisfactions

3) Processes, procedures and experiences during the development of framework
MATERIALS & METHODS
QUALITY PRINCIPLES

Fit for purpose

Quality Management

Quality Assurance

Quality Control

Quality Requirements

Users and Stakeholders satisfaction
TOOLS & PRACTICES

• Questionnaire
• Quality Management Systems based on ISO series
• Quality Control of Compilation Process inspired in HACCP (Hazards Analysis of Critical Control Points)
• Quality Assurance of Computerized System
• Data Quality Assessment System
QUESTIONNAIRE RESULTS

- Laboratories accredited
- Laboratories with Quality System in place
- Compilers using Data Quality assessment system
- Compilers with Quality Assurance criteria for computerized system
- Compilers Institutions holding ISO certification
ORGANIZING QUALITY

Tools

- Laboratories
  - 17025 GLP

- Guidance Document

- Compilers
  - ISO 9001
  - ISO 10006

QTF

- WP 1.3
- WP 1.8
- WP 2.4

WP 2.3.1
WP 2.3.2
WP 3.1

WP 2.2
ORGANIZING QUALITY (2)

Coordinator

WP1.3 (INSA)
- QMS (INSA)
- Compilation (AFSSA/Nevo)
- Computerised Systems (Nubel)
- Quality Indices (CSPO/AFSSA)
- Training (SLU)

WP1.8 (DFVF/AFSSA)
- CEN (NFA)
- FID (AFSSA)
- Compiler Network (DFVF)
- Training (SLU)

WP2.4 (DFVF/IFR)
- Compilation (IFR/UCC)
- Data Quality (IFR)
- Training (SLU)
QUALITY REQUIREMENTS

Pre and analytical stages

- Defined by WP1.3 and Research Platform
- Defined by Compilers Network:
  - Recommendations from EUROFOODS
  - Food Indexing (Langual)
  - Value documentation
  - Others defined by WP1.8

Compilation

- Defined by Compilers Network:
  - Recommendations from EUROFOODS
  - Food Indexing (Langual)
  - Value documentation
  - Others defined by WP1.8

Databanks

- Defined by Quality Task Force and Sustainability Platform
  - Technical Recommendations for datasets
  - Criteria in place for computerized system
  - Compliance with regulatory requirements (e.g., nutrition labelling; assessment of dietary exposure; national consumption)

Sampling

- Sampling Protocols in place according with fit for purpose

Analysis

- Laboratory Accreditation
- PT schemes
- Method Validation
- Quality Management System

Defined by WP1.3

- FlowChart
- Quality Index
- SOPs
- Quality Management System
TG2 contribution on compilation process (1)

STEP 1: approach based on HACCP principles at a general level

1. Describe the general compilation process
   => all compilers compilers organizations can fit in
   => common understanding of compilation within EuroFIR.
   => benchmarking?

2. Identify hazards within this process

3. Identify critical points of the process

STEP 2: proposal of practical tools for compilers to adapt to their organization

1 = general flow chart of the compilation process
TG2 contribution on compilation process (2)

STEP 2: propose practical tools for compilers to adapt to their organization

4. Proposal of general standard operating procedures (SOPs) for each critical step identified in the flow chart

=> SOPs for attribution of quality indices and coding of nutrients, foods and background information.

=> for other general SOPs, involve compilers outside this taskgroup.

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- Contents
  - Material technical requirements
  - Archival of data
  - Training of personnel

- When?
- Who?
- How?
- Exceptions
- Checkings and corrections of errors
Quality Assurance Issues for Computerized Systems

Limit requirements to a set minimum of minimum requirements

- Network configuration of FCDBs
- Software development and application
- Security aspects
- List of required Standard Operating Procedures (SOPs)
- The necessity for contingency plans
- Back ups and archives
- Responsibilities
Quality Management System for Compilers

To be developed by EuroFIR QTF

1. Requirements
2. PT type
3. Documentation
4. Training

Technical Competence

- Top Management
- Reviews

Quality Manual

1. Quality Plan
2. Responsibilities
3. Subcontracting

QMS presentation

4. Improvements

Consistent with QMS of national organisation
Block: Data Quality

Role of Quality Management Systems

Analytical data quality

Quality Aspects of compilation process

Data expert systems

EuroFIR Quality Issues

2007
ACHIEVEMENTS

Compilation Process

Compilation Process Flow-chart
Hazards & SOPs

Quality Index

Draft Prototype system for quality assessment of data from scientific publications

Training

Lectures Food Comp Course Bratislava

Quality Management Systems

Criteria Lab Selection
PT schemes
Guidance Document (Compilers & Lab)

Computerized System

Quality assurance criteria computerized system
Towards Certification

Consensus on Quality Requirements

Auditing Quality Practices

Implementation of Quality Requirements

Concensus on Quality Requirements
SIGNIFICANCE
DRAWING CONCLUSIONS

Quality Policy founded in open and constructive debate solves former inconsistencies, observed in previous projects.

Quality principles and practices validated by fit for purpose are fundamental in assuring improved quality for the exchange of data across Europe and beyond.
WE THANK YOU FOR ATTENTION

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