Call for food consumption summary statistics for chronic dietary exposure assessment

In 2012, FAO and WHO initiated the collection of individual food consumption data to support chronic dietary exposure assessment and created the FAO/WHO database CIFOCOss | Chronic individual food consumption database – Summary statistics. Since that date 32 countries shared their national data which are available[1] for international risk assessment.

In 2018, FAO and WHO decided to launch a new call allowing Member States to provide newly generated data and to improve the accuracy of shared information based on lessons learned.

The main improvements of this second call are:

- Mapping of the Codex classification with the FoodEx2 Classification[2] as recommended by JECFA[3]
- Separated statistics requested for males and females
- Separated statistics requested for different age groups

In order to harmonize the approaches between various FAO/WHO scientific bodies, the individual food consumption data should be available for dietary exposure to all chemical hazards including veterinary drugs, pesticide residues, food additives and contaminants.

Preamble: Possible contribution to FAO/WHO GIFT | Global Individual Food consumption data Tool

FAO and WHO are working together to develop a publicly available multipurpose global database obtained through the collation and harmonization of existing data collected within individual quantitative food consumption surveys conducted at national or sub-national level. This tool contributes to increase the capacity of all stakeholders to monitor food consumption (http://www.fao.org/gift-individual-food-consumption/en/).

FAO/WHO GIFT is disseminating microdata collected through 24h-recalls or records. Microdata is intended as data at the most disaggregated level of reporting, i.e. each ingredient consumed by each subject over the 24h period of

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[1] http://apps.who.int/foscollab
[2] https://www.efsa.europa.eu/en/supporting/pub/1291e
[3] http://apps.who.int/iris/bitstream/10665/259895/1/9789241210171-eng.pdf

recollection/record, associated with consumed quantities and estimated nutrients content.

Member States owning such individual quantitative food consumption data are encouraged to contribute to the development of FAO/WHO GIFT by sharing their microdata. These data will then directly be integrated from FAO/WHO GIFT to FAO/WHO database CIFOCOss | Chronic individual food consumption database – Summary statistics without any additional input required from the Member State.

If Member States do not own microdata or do not wish to contribute to FAO/WHO GIFT, the following guidance below should be followed to fill in the FAO/WHO CIFOCOss template attached with summary statistics.

Use of Data

FAO and WHO will use data:

- To serve the provision of scientific advice to FAO and WHO on food safety, in particular by experts and expert groups;

- To serve the discussions within the Joint FAO/WHO Food Standard programme and other relevant bodies; and

- To publish summary statistics of data submitted

Data status

Data sharing does not represent a transfer of intellectual property to FAO and WHO. The WHO policy on data sharing is detailed in annex 1.

Submission of data

Data submission should be done exclusively by filling the templates available on:

https://www.who.int/news-room/articles-detail/call-for-data-on-food-consumption-

summary-statistics-for-chronic-dieatry-exposure-assessment

The guidance to fill the templates is detailed in annex 2.

General technical support: P. Verger, vergerp@who.int

FoodEx2 classification A. Balcerzak, Agnieszka.Balcerzak@fao.org

After completion the templates should be sent electronically to:

Dr Philippe Verger
WHO/EMRO/CEHA
Amman, Jordan
E-mail: vergerp@who.int

<u>Annex 1: Policy on use and sharing of data collected in Member States by the World Health Organization (WHO)</u>

Data are the basis for all sound public health actions and the benefits of data sharing are widely recognized, including scientific and public health benefits. Whenever possible, WHO wishes to promote the sharing of health data, including but not restricted to surveillance and epidemiological data.

In this connection, and without prejudice to information sharing and publication pursuant to legally binding instruments, by providing data to WHO, the [*Institution of Country*]:

Confirms that all data to be supplied to WHO hereunder have been collected in accordance with applicable national laws, including data protection laws aimed at protecting the confidentiality of identifiable persons;

Agrees that WHO shall be entitled, subject always to measures to ensure the ethical and secure use of the data, and subject always to an appropriate acknowledgement of [*Institution of Country*]:

- to publish the data, stripped of any personal identifiers (such data without personal identifiers being hereinafter referred to as "the Data") and make the Data available to any interested party on request (to the extent they have not, or not yet, been published by WHO) on terms that allow non-commercial, not-for-profit use of the Data for public health purposes (provided always that publication of the Data shall remain under the control of WHO);

- to use, compile, aggregate, evaluate and analyse the Data and publish and disseminate the results thereof in conjunction with WHO's work and in accordance with the Organization's policies and practices.

Except where data sharing and publication is required under legally binding instruments (IHR, *WHO Nomenclature Regulations 1967*, etc.), the [*Institution of Country*] may in respect of certain data opt out of (any part of) the above, by notifying WHO thereof in writing at the following address, provided that any such notification shall clearly identify the data in question and clearly indicate the scope of the opt-out (in reference to the   above), and provided that specific reasons shall be given for the opt out.

> Department of Food Safety and Zoonoses
> Attention: Dr Philippe Verger
> World Health Organization
> 20, Avenue Appia, CH-1211 Geneva 27
> Switzerland

Annex 2: Guidance for filling the templates

Principles of the tiered classification

The classification is based on 3 hierarchical levels. The level 1 is the most aggregated ("Fruits and fruits products"), the level 2 is intermediate (Berries and other small fruits) and the level 3 the most precise, designating the items by a name ("Blueberries") and a code. Level 1 is not appropriate for reporting.

FAO/WHO GIFT and FAO/WHO CIFOCOss make use of a food categorization and description system called FoodEx2. FoodEx2 is a systematic way of describing and categorizing foods which facilitates harmonization between datasets, in particular between food consumption and food composition data. This system was originally developed by the European Food Safety Authority (EFSA) to serve as a harmonization tool for EU Member States. Together with EFSA, FAO and WHO worked at scaling up FoodEx2 at global level. FAO/WHO GIFT and FAO/WHO CIFOCOss use it as an harmonization tool for all datasets collected worldwide.

A correspondence has been established between the Codex classification and the FoodEx2 classification as FAO and WHO recommend using the FoodEx2 classification for data reporting.

General guidance for filling the templates

The workbook contains 10 worksheets and should be used to report results for a single survey. The first worksheet is entitled "Presentation". Here have to be declared all the information about the survey. If several surveys are available (e.g. among several age groups), all have to be precisely presented with their characteristics in separated workbooks.

A very important piece of information that should always be included is the name and affiliation of a contact person to which FAO/WHO can turn in case of further questions. FAO/WHO reserves the right to exclude data from the database that do not comply with the general guidance.

The following eight worksheets have to be filled with data, and are classified by age group (Whole population, Infants 0-35 months, Young children 3-5 years, Children 6-14 years, Adults 15-49 years, Young old 50-74 years, Elderly >75 years, All adults >15 years).

The last one contains a food classification and establishes a correspondence between the FoodEx2 classification and the Codex classification.

1. Processed vs unprocessed food items

The foods are basically separated into "Unprocessed (incl. home-cooking)[4]" and "Processed". The term "processed" includes freezing and canning. As soon as a food undergoes further processing than home-cooking, it goes under those items. Some very common processing are explicitly listed in the template (e.g. "Bread").

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[4] Unprocessed by default if not specified

2. Disaggregation of recipes:

Recipes must be disaggregated. Disaggregating dishes comprises three steps:

- Developing a list of ingredients (recipe) for the composite dish
- Determine the proportion of the cooked ingredients in the cooked composite dish using yield factors (given in the references below):

$$Yield\ factor = \frac{cooked\ (as\ consumed)\ weight}{raw\ weight}$$

$$Cooked\ weight = Raw\ weight * yield\ factor$$

1. Determine the weight of each individual ingredient consumed :

$$Weight\ individual\ ingredient\ consumed$$
$$= proportion\ of\ ingredient\ in\ cooked\ composite\ dish$$
$$* weight\ composite\ dish\ consumed$$

Yield factors tables:

1. Bognár (2002) Tables on weight yield of food and retention factors of food constituents for the calculation of nutrient composition of cooked foods (dishes).
   Available at http://www.fao.org/uploads/media/bognar_bfe-r-02-03.pdf

2. Bergstrom (1994) Nutrient Losses and Gains in the Preparation of Foods. Available at http://www.fao.org/uploads/media/Bergstroem_1994_32_Livsmedelsverket_nutrient_losses_and_gains.pdf

3. USDA (2014) Table of Cooking Yields for Meat and Poultry. Available at https://www.ars.usda.gov/northeast-area/beltsville-md/beltsville-human-nutrition-research-center/nutrient-data-laboratory/docs/yield-and-retention/

3. Reporting food items (worksheet)

It is unlikely that the level of disaggregation in the National survey is aligned with the classification used for the templates. Two cases may occur:

1. Less food items: When national survey results are less disaggregated than the classification proposed by the templates, in other words when the information for the more detailed category is not available for a reported food, it is possible to report the food in the closest generic item including the term "nes".

   ***Example**: A consumed crustacean without a precise name reported from the survey can be reported as "Crustacean, nes" within the worksheet.*

2. <u>More food items</u>: On the contrary, it's possible to insert food items missing in the template with a FoodEx2 code. <u>The additional food items should be inserted at the end of the template under category "other food"</u> with the name, description and proposed FoodEx2 code, found in the FoodEx2 classification (https://www.efsa.europa.eu/en/data/data-standardisation).

4. Food consumptions and other parameters (Columns)

For each age group (each worksheet), consumption for all individuals should be reported together (Females and Males) and separately: Females, Males. Separated columns are dedicated for food consumptions of the whole population and of consumers only.

The three first columns (Portion reported, State of Food reported, Industrial Food preservation) have to be filled for every line of data reported. They are scroll-down lists, the data provider have to choose:

- If the values reported include the inedible portions of the food (peel…)

- If the values reported correspond to weight after cooking

The other columns contain consumption values:

<u>The unit of the values for consumption should be grams/kg body weight/day.</u>

For results based on at least 2 days of survey, consumption values collected over x days should be averaged for reporting. This average should include zero values for days when the food under consideration was not consumed.

Consumption values collected on a single day are considered not to be appropriate for chronic exposure because they are likely to lead to great overestimates.

<u>Example</u>: On a survey conducted over 3 days, if rice was consumed at 250, 0 and 20 grams respectively on days 1, 2 and 3. The consumption level for long term risk should be 270 : 3 = 90 grams/day.

The **percentile** indicates the **percentage of subjects who consume** below that percentile. The percentile of food consumption of the "whole group" indicates the percentage of subjects who consume below that percentile within the whole population of study. The percentile of food consumption of the "consumers only" group indicates the percentage of consumers who consume below that percentile.