Summary break out sessions and Final take-home message

Chair and overall rapporteurs

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NEEDS: Can a Risk-Benefit Assessment be performed that would better support the development of dietary advice?

- **Problem formulation**: frame the RBA as narrow as possible for a useful answer.

- **Constant and iterative interaction between RA-RM**.

- **Scenario-based approach**. To be provided by RM.

- **Common metrics**: how to get there?

- Difference in endpoints between risks and benefits, differences in population and age groups.

- **Uncertainty**: Different for risk and befits and how they are assessed and quantified.

- Roles of RA and RM in the RBA exercise, and communication.

- Availability of clear scientific opinions on 'benefits', e.g. of fish consumption. Clarity and common understanding of terms used in the RBA context.

METHODS: Weighing health risks and health benefits of combined exposure to different contaminants and nutrients through consumption of particular foods in specific regions across Europe

- **Focus on improving current RBA methods**: rank/prioritise/select components to be included in the RBA (to reduce variability of expert's opinions and time needed). Transparency in the choice of components.

- **Clarity on the purpose of the RBA (problem formulation)**: precise problem formulation: 'hazard/nutrient and public health effect'.

- **Population-based approaches** for RBA

- **DALYs, QALYs**: have limitations. BUT: can integrate indicators and compare parameters and scenarios. BUT: Adjustment needed.

- Limited data to do 'full' evaluation (e.g. only few members of a chemical class). Data poor chemicals.

Break-out Session 2

METHODS: Weighing health risks and health benefits of combined exposure to different contaminants and nutrients through consumption of particular foods in specific regions across Europe

- **Other approaches**:

  - Probabilistic methods?

  - Use of Margin of exposure for RBA?

  - Integration of alternative evidence lines (NAMs, observational studies)?

  - Compile various approaches? Common metrics + reference values approach

  - Weight of evidence needed to integrate risks and benefits.

  - TEFs or RPFs useful to assess and quantify benefits ('beneficial equivalency factors')?

  - Tailored RBA for:

    - genotoxic/carcinogenic, unavoidable, intentionally-added.

    - scenarios for different endpoint and populations depending whether they refer to the same age group/population and health effects.

DATA: Collection of data and other information for a risk-benefit assessment that would support the development of dietary advice

- Current data and methods can be used, BUT data not sufficient for both risk and benefit characterisation (e.g. emerging contaminants). **Need of up-to-date, representative and tailored data for the objectives of a particular RBA**.

- The **objectives of the RBA determines the data needs**: clear roadmap needed.

- **Harmonisation at EU level on data collection/generation** on contaminants and nutrients using comparable methodologies.
  - **International joint effort** by competent authorities,
  - **Open and structured databases** containing the needed data on ref points, critical effects, HBGV/DRVs.
  - **Harmonised DALYs/QALYs at international level?** Database with the underlying assumptions for the currently available DALYs.

DATA: Collection of data and other information for a risk-benefit assessment that would support the development of dietary advice

▪ Need of more detailed and updated **food composition** data, including novel or less known foods.

▪ Occurrence/consumption data:

– Data on, or taking into account, the **influence of processing** on contaminants and on nutrients.

– **Availability of data** at national level, use of national data vs EU levels data.

– **Consumption data** needs to cover more age groups (and harmonisation across age groups), changes in preferences and diets (country–specific), more coverage of long term exposure, usefulness of FFQs, more coverage of survey respondent characteristics (bw, etc). Increase participation rates and representativeness of surveys

– **TDS**: lacking for nutrient assessment. Not performed in all countries. Should be promoted and harmonised.

– In case of **lack of data**: extrapolation? Design tailored new studies? Pros and cons.

▪ **Toxicokinetic data:** needed and link to internal exposure.

DATA: Collection of data and other information for a risk-benefit assessment that would support the development of dietary advice

- **Epidemiological studies:** usefulness and their limitations. Focusing on health effects, both adverse and beneficial, of the whole food. BUT limitations: misclassification exposure, time- and resource-demanding.

- **Mechanistic data: common metric for RBA?**
  - Development of outcome pathways for the assessment of nutrients feasible? **BOPs: 'Benefit Outcome Pathways'**)?
  - Use of QSAR, *in silico* tools, NAMs
  - Nutrient-contaminant interactions?

- Combination of TDS for contaminants and nutrients and linking with human biomonitoring/biomarkers and AOP/BOPs.

Final take-home messages

- Clear problem formulation and iterative refinement are key

- Current methodologies are still useful, but can and should be improved

- More work is needed to define practicable common metrics

- More (and targeted) population based and harmonized data are required

- Mechanistic information (NAMs & other) can improve the picture

- Application of AOP could facilitate the use of data at various levels

- Collaboration on data generation, exchange and use is needed

- Overall, methodologies should remain flexible and open to improvement

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