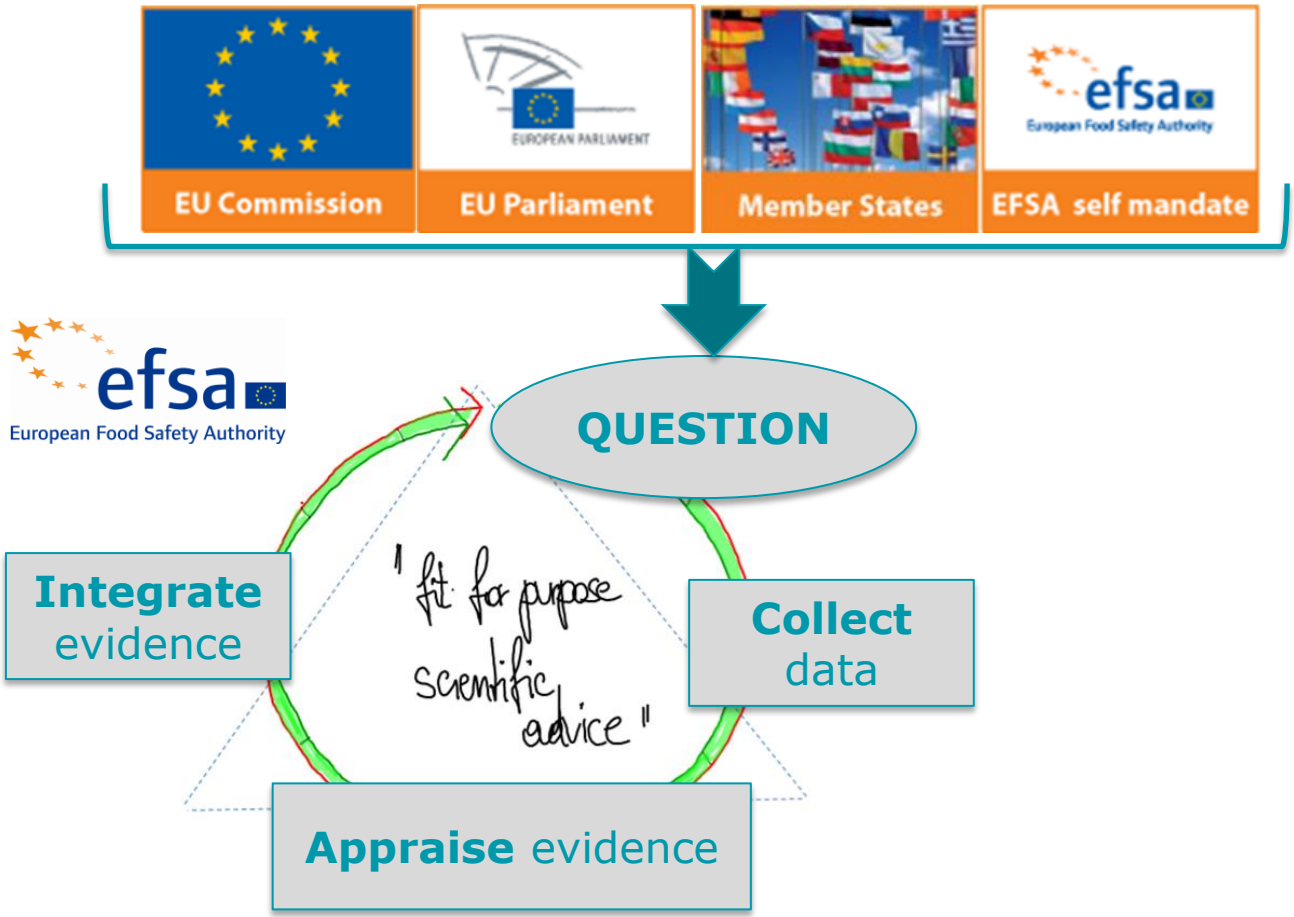
Data quality: the role of stakeholders

Anna F Castoldi

1st meeting EFSA Stakeholder Forum
Parma, 30 May 2017

efsa
European Food Safety Authority

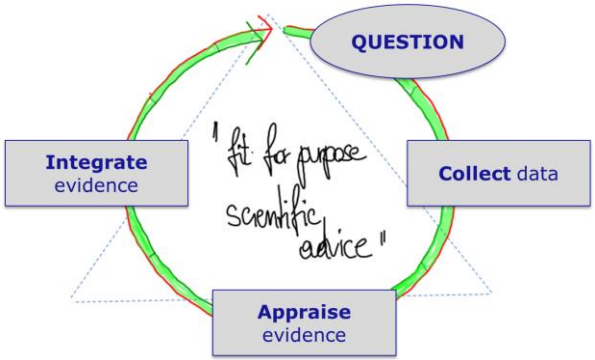

EU Commission
EU Parliament
Member States
EFSA self mandate
efsa
European Food Safety Authority
QUESTION
Integrate evidence
Collect data
Appraise evidence
" fit for purpose scientific advice "

EU Commission | EU Parliament | Member States | EFSA self mandate

QUESTION

Collect data

Appraise evidence



Different "actors" involved in EFSA's assessments :

- ❑ **EFSA experts and staff**
- ❑ **Applicants**
- ❑ **Member States**

EFSA assessments are mainly based on :

- ❑ **data generated *ex novo*** (common for regulated products)
- ❑ **already existing data** (published literature, databases, etc)

4-STEP PROCESS FOR DEALING WITH DATA AND EVIDENCE

1. PLAN (PROTOCOL)

- ❑ Scope of the assessment
- ❑ Sub-questions
- ❑ What data to collect and how; approach for appraising and integrating evidence
- ❑ Whether to apply narrative or extensive/systematic approaches

2. CARRY OUT

- ❑ Data collection
- ❑ Evidence appraisal
- ❑ Evidence integration

3. VERIFY

4. REPORT

- The process is the same for all types of assessments irrespective of their objective, scope or authors
- is applicable to both studies generating data ex novo and assessments based on existing data

EFSA PROMETHEUS PROJECT

PROmoting METHods for Evidence Use in Scientific assessments

- Aims at improving further the EFSA processes for data collection, appraisal and integration by promoting the **4-step approach** (**plan/ carry out/ verify/ document**)

- reduce **subjectivity**, increase **transparency** and **consistency**
- Currently in pilot phase: **BPA hazard assessment protocol is one case study**

MANDATE ON BPA ASSESSMENT PROTOCOL

EUROPEAN COMMISSION
HEALTH AND FOOD SAFETY DIRECTORATE-GENERAL
Director -General

INCOMING N° 14931
12 OTT. 2016
EFSA

Brussels,
SANTE/E2/JB/aa (2016)6194724

Dear Dr Url,

Subject: **Re-evaluation of the risks to public health related to the presence of bisphenol A (BPA) in foodstuffs and protocol for the risk assessment strategy**

Annex

Terms of Reference

In accordance with Article 29(1)(a) of Regulation (EC) No 178/2002[2], the European Commission asks EFSA to:

- establish a protocol detailing the criteria for new study inclusion and for toxicological evidence appraisal for the re-evaluation of BPA, to ensure an efficient and transparent re-assessment of BPA;
- re-evaluate the risks to public health related to the presence of bisphenol A (BPA) in foodstuffs. In particular, the re-evaluation should take into consideration new data available from the results of the US NTP/ FDA study due in 2017 as well as all other new available information not previously evaluated by EFSA and which fulfil the criteria laid down in an established protocol. This re-evaluation should seek to clarify the remaining uncertainties concerning the toxicological endpoints of BPA, especially those concerning the mammary gland, reproductive, metabolic, neurobehavioural and immune systems and to establish a full tolerable daily intake (TDI) on the basis of the new information available.

EFSA WG BPA ASSESSMENT PROTOCOL

Experts	
Name	Role
BODIN Johanna	Member
BOSETTI Cristina	Member
FITZGERALD Rex	Member
GUNDERT-REMY Ursula	Chair
HANBERG Annika	Member
HASS Ulla	Member
HOOIJMANS Carlijn	Member
ROONEY Andrew	Member
ROUSSELLE Christophe	Member
VAN LOVEREN Henk	Member
WÖLFLE Detlef	Member

- **4 Experts in individual capacity** (expertise in protocol development / toxicology)
- **7 Experts nominated by their government representing their State**
- Eligibility for nomination:
  - State to have completed BPA risk assessment in the last 5 years
  - Expert to have relevant expertise
- Full expert status: for protocol development, not applicable for BPA safety assessment

PROTOCOL FOR BPA HAZARD ASSESSMENT

1. Problem formulation
2. Data collection: Literature, call for data, inclusion criteria
3. Data extraction
4. Appraisal of the internal validity
5. Weight of Evidence
6. Hazard characterisation
7. Uncertainty analysis

INTERNAL VALIDITY (I) QUALITY AND (II) RISK OF BIAS (ROB)

Quality evaluation

#	Question	Rating* ++, +, - , - -
1	Can we be confident in the exposure characterisation (methods)?	
2	Can we be confident in the outcome Assessment (methods)?	
3	Was the time-window between exposure and outcome assessment appropriate?	
4	Do the statistical methods seem appropriate?	
Overall quality rating (Reliable without restrictions, Reliable with restrictions or Not reliable)		

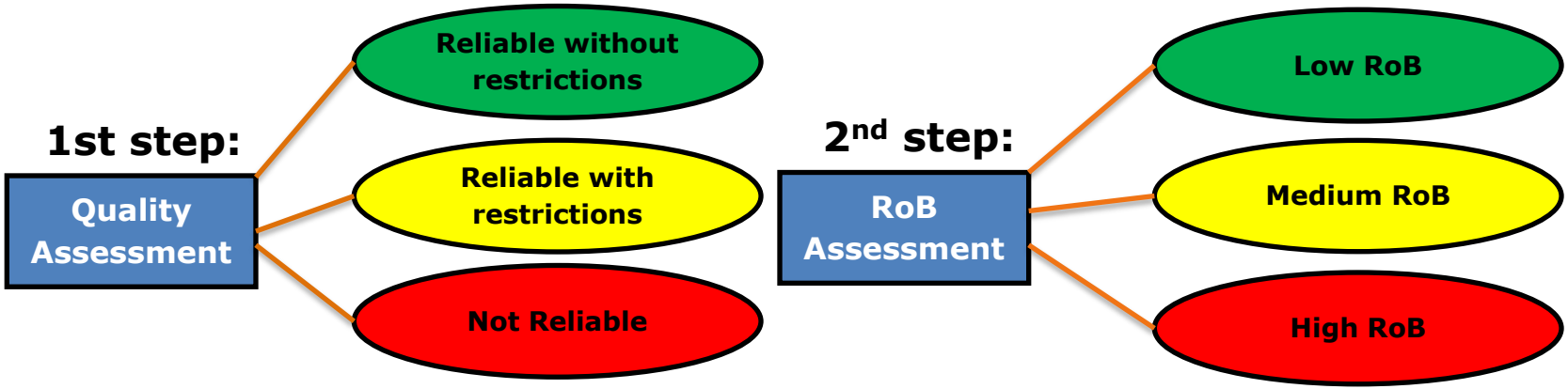
QUALITY: **Intrinsic ability of the methodology/study design** provide **accurate evidence** with regards to the endpoint/ effect under investigation

Risk of Bias (RoB) evaluation

#	Question	Rating* ++, +, -, - -
1	Did selection of study participants result in appropriate comparison groups?	
2	Did the study design or analysis account for important confounding and modifying variables?	
3	Were outcome data completely reported without attrition or exclusion from analysis?	
4	Was the exposure characterised consistently across study groups?	
5	Was the blinding applied and measurement consistent across study groups?	
6	Were all measured outcomes reported?	
Overall RoB rating (Low, medium or High)		

RoB: Systematic error caused by **systematic differences between control and exposed** subjects (e.g. environmental conditions , confounders , data handling) other than the exposure of interest.

APPRAISAL OF INTERNAL VALIDITY OF HUMAN & ANIMAL STUDIES



3rd step:

Setting tiers of internal validity		Quality rating		
		Reliable without restrictions	Reliable with restrictions	Not Reliable
RoB rating	Low RoB	Tier…	Tier…	Tier…
	Medium RoB	Tier…	Tier…	Tier…
	High RoB	Tier…	Tier…	Tier…

ENGAGE AND HAVE YOUR SAY

WG drafting/ revising the protocol (2017)

Call for hazard data (2018)

1. PLAN (BPA PROTOCOL)

- ❑ Scope of the assessment
- ❑ Sub-questions
- ❑ What data to collect and how; approa for appraising and integrating evidence
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2. CARRY OUT

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3. VERIFY

4. REPORT

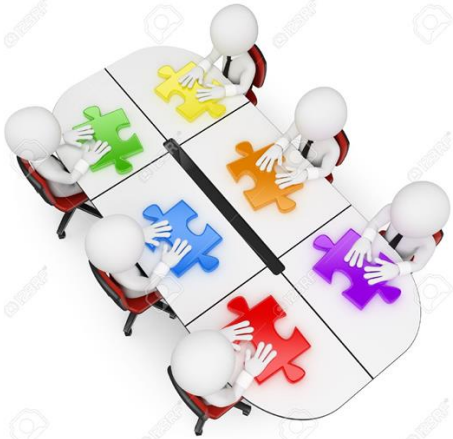
Public consultation (Summer 2017)

Stakeholder event (Autumn 2017)

MUTUAL BENEFITS OF ENGAGING WITH EFSA

Stakeholders

can help shape EFSA's scientific advices (via engaging in public consultations, providing data, etc)



EFSA

can transparently state the criteria used for the assessment of data quality in regulatory science

(gain of clarity & trust from stakeholders)

Data Quality: the role of stakeholders «FOCUS GROUP»

Fernandez Dumont Antonio

1st meeting EFSA Stakeholder Forum
Parma, 30 May 2017

efsa
European Food Safety Authority

FOCUS GROUP – GUIDANCE DEVELOPMENT

1. Introduction

- Good quality data ➡ Good quality risk assessments (RA)
- Ensuring quality in RA ➡ Path to gain trust and credibility
- Guidance documents ➡ Tool to transparently appraise data – set minimum requirements
- EFSA and Stakeholders to play a key role

2. Background

- Within the Open Risk Assessment project
- EFSA is exploring new ways to enhance participation of stakeholders
- EFSA launched a pilot project «Focus group» to actively involve stakeholders in guidance development – Allergenicity GD

3. Objectives

- Foster the engagement of stakeholders
- Enhance the quality, clarity and usability of GD developed by EFSA
- Draw lessons for future engagement with stakeholders

FOCUS GROUP – GUIDANCE DEVELOPMENT

4. Terms of reference

- Members of the «Focus group» to:
  - provide feedback on scientific content of the GD
  - attend specific meetings
  - produce a report on lessons learnt
- Composition of the group:
  - 4 members – EFSA Stakeholder Platform
  - 4 members – Member States

FOCUS GROUP – GUIDANCE DEVELOPMENT

5. Expected "deliverables"

- Active participation in EFSA workshop (June 2015)
- Comment on draft GD before its endorsement (March 2016)
- Comment during public consultation (Summer 2016)
- Attend a WG meeting (October 2016) and EFSA InfoSession (November 2016)
- Provide feedback on experience gained (May 2017)

FOCUS GROUP – GUIDANCE DEVELOPMENT

Main key messages

- Very productive and stimulating initiative
  - Positive feedback from all stakeholders
- Fit-for-purpose
  - Stakeholder engagement
  - Improvement of EFSA GD
- Additional costs
  - Personnel/Budget

FOCUS GROUP – GUIDANCE DEVELOPMENT

Feedback received – points highlighted

- Broad group and involvement in an early stage
- Offered more transparency, strengthening the confidence in results
- Technical discussion with EFSA, gaining knowledge and exchange between stakeholders
- Promoted data and knowledge sharing
- Improved quality and clarity of EFSA GD

Feedback received – points for improvement

- General working guidance on the role of stakeholders to be produced
- An additional review of the draft GD would have been appreciated
- Logistics

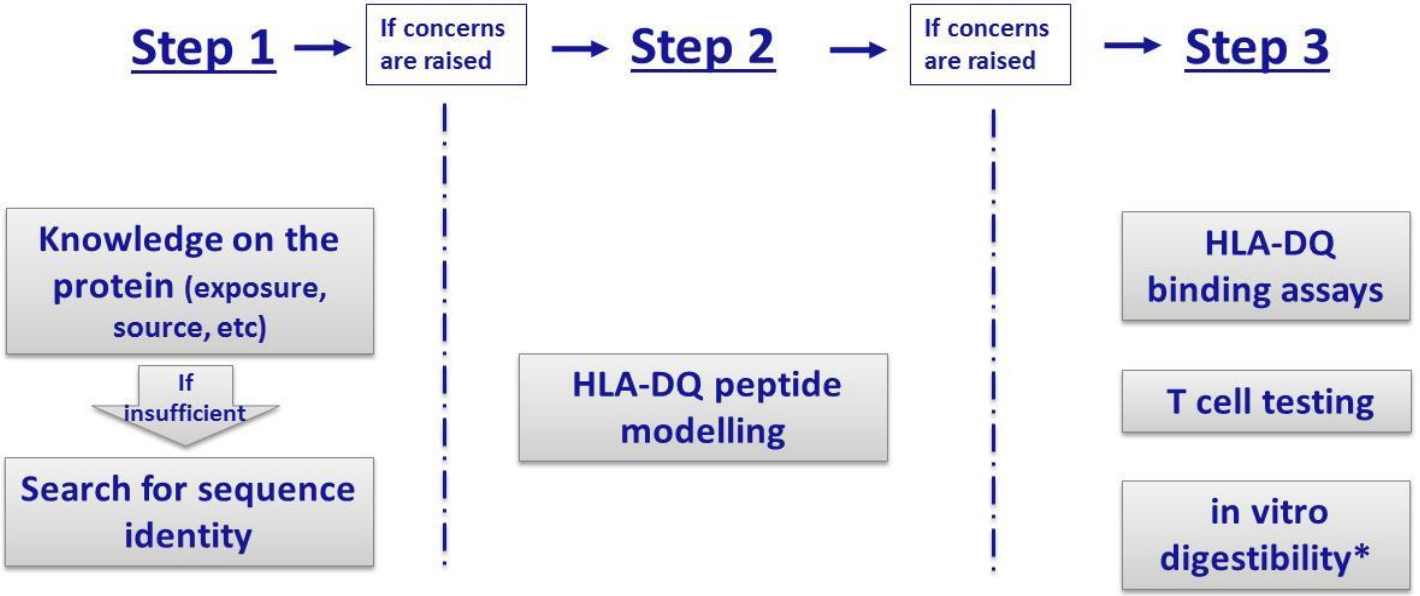
FOCUS GROUP – GUIDANCE DEVELOPMENT

Good quality data for RA

- Data/information sharing: key aspect
- EFSA ⇨ Focus group
- Focus group ⇨ EFSA
- Focus group shaped data needs
  - Non-IgE-mediated adverse reactions: stepwise approach
  - *In vitro* protein digestibility: streamline conditions tested
  - Endogenous allergenicity: methods for quantification

FOCUS GROUP – GUIDANCE DEVELOPMENT

Fig 1. Stepwise approach for risk assessment

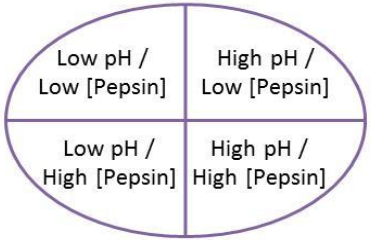


* for details, please see chapter on *in vitro* digestibility

FOCUS GROUP – GUIDANCE DEVELOPMENT

Examples for test conditions – digestion conditions

Possible gastric conditions:



Elderly/adults in fasted state
Elderly/adults in fed state
People with impaired gastric function
People taking antacids
Infants

Proposed gastrointestinal conditions:

High pH / Low [Pepsin]

pH 5.5

[Pepsin] = ~1,000 U/mL[1] of gastric juice (biosurfactants)[2]

Low pH / High [Pepsin]

pH 1.2-2.0

[Pepsin] = Classical pepsin-resistance test[3] (biosurfactants)[2]

Intestinal digestion

pH 6.5

[Trypsin] = ~1,600 U/mL[1]
[Chymotrypsin] = ~800 U/mL[1]
of intestinal juice (biosurfactants)[2]

[1]Dependent on the used substrate and enzyme activity assay; [2]for further details please see Annex B-3; [3]Pepsin : protein ratio of 10 U : 1 µg (Thomas et al., 2004).

Armand et al., 1995; Metheny et al., 1997; Blanquet et al., 2001; Dupont et al., 2010; Moreno et al., 2005; Mandalari et al. 2008; Mandalari et al. 2009b; Mercuri et al. 2011; Minekus et al. 2014

DATA QUALITY: THE ROLE OF STAKEHOLDERS

Thank you for your attention