# State of play of the ImproRisk model

**Dr. Georgios Stavroulakis**

Mrs. Maro Christodoulidou

EFSA Focal Point

Risk Assessment Unit

State General Laboratory (SGL)

Ministry of Health, Cyprus

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# Deterministic model- ImproRisk©

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- An empirical distribution model using the deterministic method of dietary exposure assessment to chemical substances
- Developed by IMPROVAST CO. (www.improvast.com) in 2015
- Implemented in MS-Excel (supported by the 2010 version or later)
- The exposure assessment to each chemical is calculated at individual level taking into account the individuals characteristics - weight & consumption - leading to accurate and refined exposure assessment
- ImproRisk was validated at EFSA DATA Unit (during SGL's staff visit in the context of the Guest Scientist scheme), using SAS software.

# Current features of the model

- Easy (a click of a button) loading of the Occurrence and Food Consumption Datasets - The relevant templates are provided separately
- Descriptive statistics of the exposure (mean, P95, etc.)
- Exposure contribution of food categories (FoodEx Level 1 & 2)
- Probability and cumulative distributions of population exposure
- Statistical inference tests (t-test) for comparison of exposure across gender and other tests, which quantify the size of the difference in exposure
- RECENT DEVELOPMENT: Incorporation of weighting factors to adjust the sample for non-representativeness of the population
- Provided instruction manual in english.

# ImproRisk- Benefits and national use

- **Complementarity: It abridges the gap between screening and probabilistic models and is employed in the field of exposure assessment for Contaminants, where there is no established model at EU level.**
- **Simplicity: Totally straightforward and user friendly model. Calculations are performed easily (with a click of a button)**
- **Transparency: It is not a closed box model. All formulas are transparent; consequently, the model results can be validated easily.**

- **Improrisk model was used by the Risk Assessment Unit of SGL for the Exposure Assessment of the adolescent in Cyprus in several contaminants such as Lead, Mercury, Cadmium, Nitrates, Aflatoxin B1, Acrylamide and PAH4 (benz[a]anthracene, chrysene, benzo[b]fluorantene and benzo[a]pyrene).**
- **The risk assessments were carried out according to relevant EFSA's opinions/technical reports and the results were comparable to EFSA's estimations.**

# Impact and status of the ImproRisk model at EU level

- Access to ImproRisk was initially granted to 18 MS and 4 pre-accession countries during the Workshop on ImproRisk (17-18 May 2016, Larnaca, Cyprus)
- ImproRisk was presented in quite a detail during the "Training in Montenegro: Basic concepts and methodology of Food Safety Risk assessment", with 30 participants from pre-accession countries (30/05 – 01/06/2016, Podgorica, Montenegro)
- Training of the Competent Authorities for Food Safety in Belgium (05/09/2016) and in Estonia (12/2016) on the use of the ImproRisk model, by the Belgium and Estonian participant in the Cyprus workshop, respectively
- Based on feedback from ImproRisk users at national & EU level, an updated version of the model (ImproRisk 1.4 BETA) was prepared on 07/11/2017 and sent to more than 60 registered persons in the ImproRisk website (http://www.improrisk.com) from Art. 36 Organisations or Food Safety Authorities from pre-accession countries.

# Moving ahead

- Cyprus currently works towards further improving this risk assessment tool in terms of its capacity to carry out exposure assessment of contaminants down to **FoodEx level 3**

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***Thank you for your attention!***