

Evaluation of listeriosis risk related with the consumption of non-prepackaged RTE cooked meat products handled at retail stores in Greece

GP/EFSA/AFSCO/2016/04

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Background information

- Most available data on the risk of listeriosis from the consumption of RTE cooked meat products are related with pre-packed food products.
- Incidence, persistence, and transmission dynamics of *L. monocytogenes* in food-processing environments and pre-packed foods have been studied extensively
- Data regarding the role RTE cooked meat products handled at retail (e.g. supermarkets, grocery stores, delicatessens, etc) in transmission of this pathogen are limited
- Increased consumption of non-prepackaged RTE cooked meat products.
- Considering the increase trend of listeriosis reported in the EU over the period 2009-2013 (EFSA/ECDC 2015) the evaluation of the impact of non-packed RTE foods handled at retail is of great importance.

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□ Partners



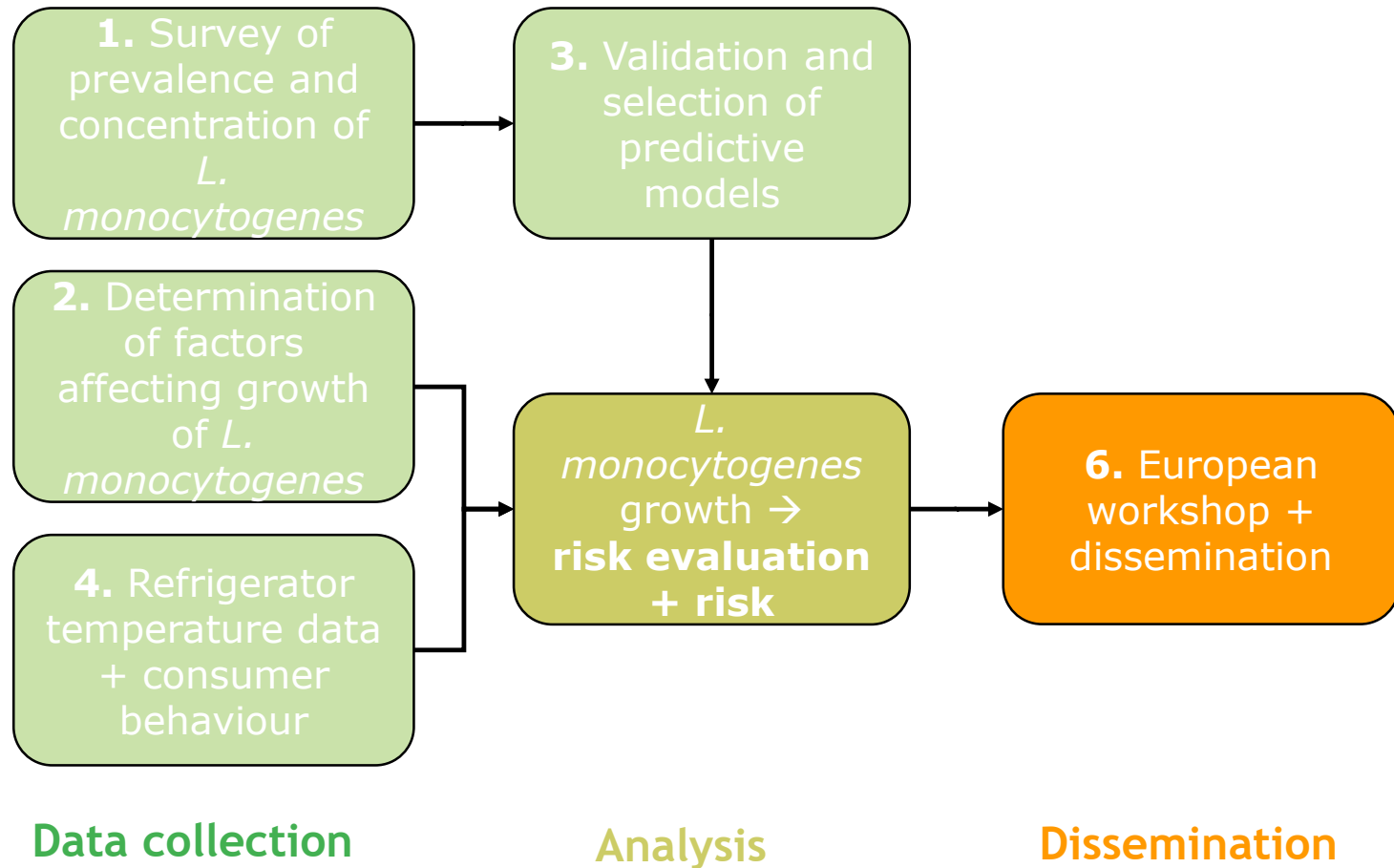
□ **Budget:** 100.000 € - 90% funded



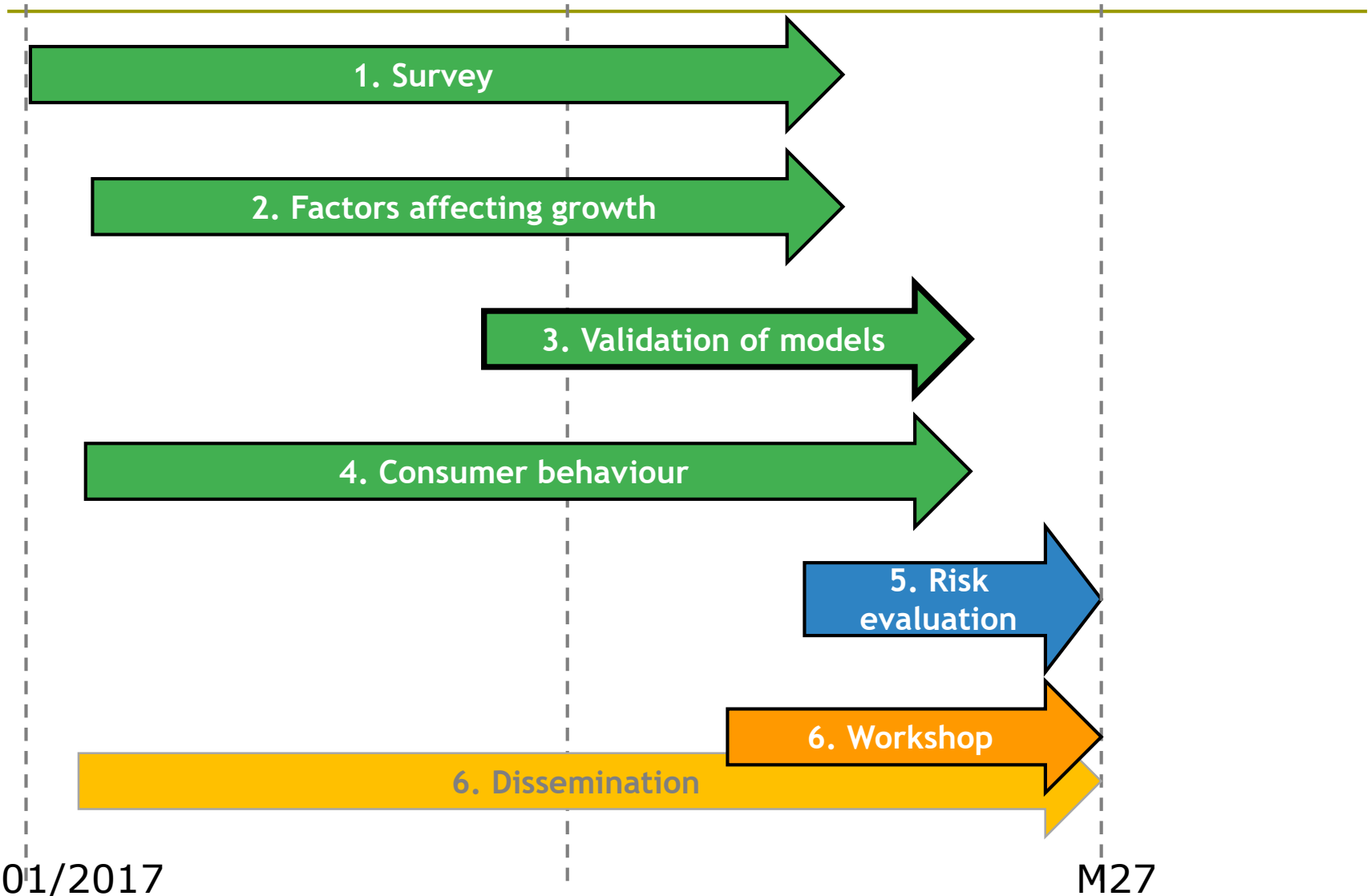
Objective of the project

- To assess the risk of listeriosis related with the consumption of non-packed RTE foods handled at retail food service environments in Greece.
- To identify and propose mitigation strategies for reducing the risk of listeriosis related with the consumption of non-packed RTE foods

Tasks



Timeline of the project



Tasks

1. Survey of prevalence and concentration of *L. monocytogenes*

SESSION II: Objectives & Results of the project

Chair: Winy Messens

4. Refrigerator temperature data + consumer behaviour

14:00-14:45

Survey on food handling practices and risk perception of Greek consumers of non-prepackaged ready-to-eat meat products
George Marakis, Hellenic Food Authority (EFET)

Tasks

3. Validation and selection of predictive models

2. Determination of factors affecting growth of *L. monocytogenes*

4. Refrigerator temperature data + consumer behaviour

L. monocytogenes growth →
risk evaluation + risk

SESSION II: Objectives & Results of the project

Chair: Winy Messens

15:15-16:00

Exposure assessment of consumers to *Listeria monocytogenes* related to the consumption of non-prepackaged ready-to-eat cooked meat products

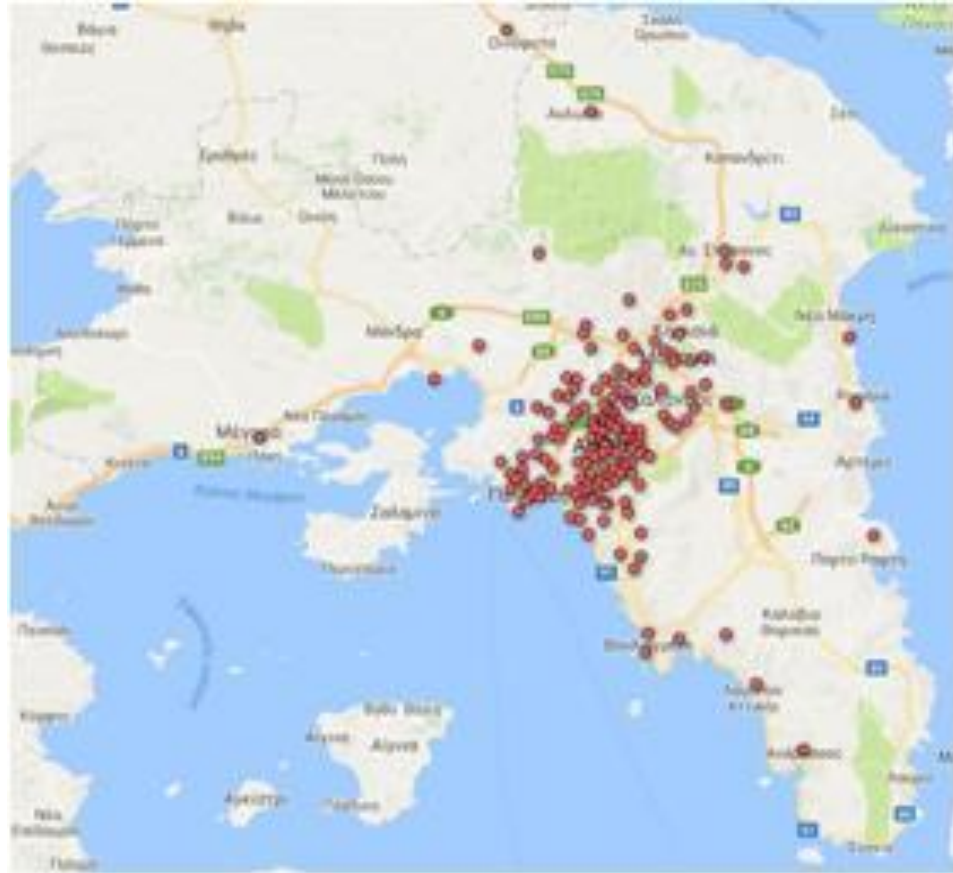
Kostas Koutsoumanis, Aristotle University of Thessaloniki (AUTH)

Publication of the reports

- Report of the project
- Layman report
- Publication (EFSA, Knowledge Junction)
- EFET portal (ppts)

Survey of prevalence and concentration of *L. monocytogenes*

- Mapping retail points (data from major supermarkets, registry from EFET, SEVEK etc)
- 886 retail points
- Simple random sampling using SAMPLELATOR (EFSA, 2018)
- Target of 300 sampling points (351 selected in order to take into consideration any error)
- Swab tested and product if positive swab



Survey of prevalence and concentration of *L. monocytogenes*

❑ Regional Directorate of Attica of EFET

❑ January-March; Monday–Wednesday

❑ Sampling process

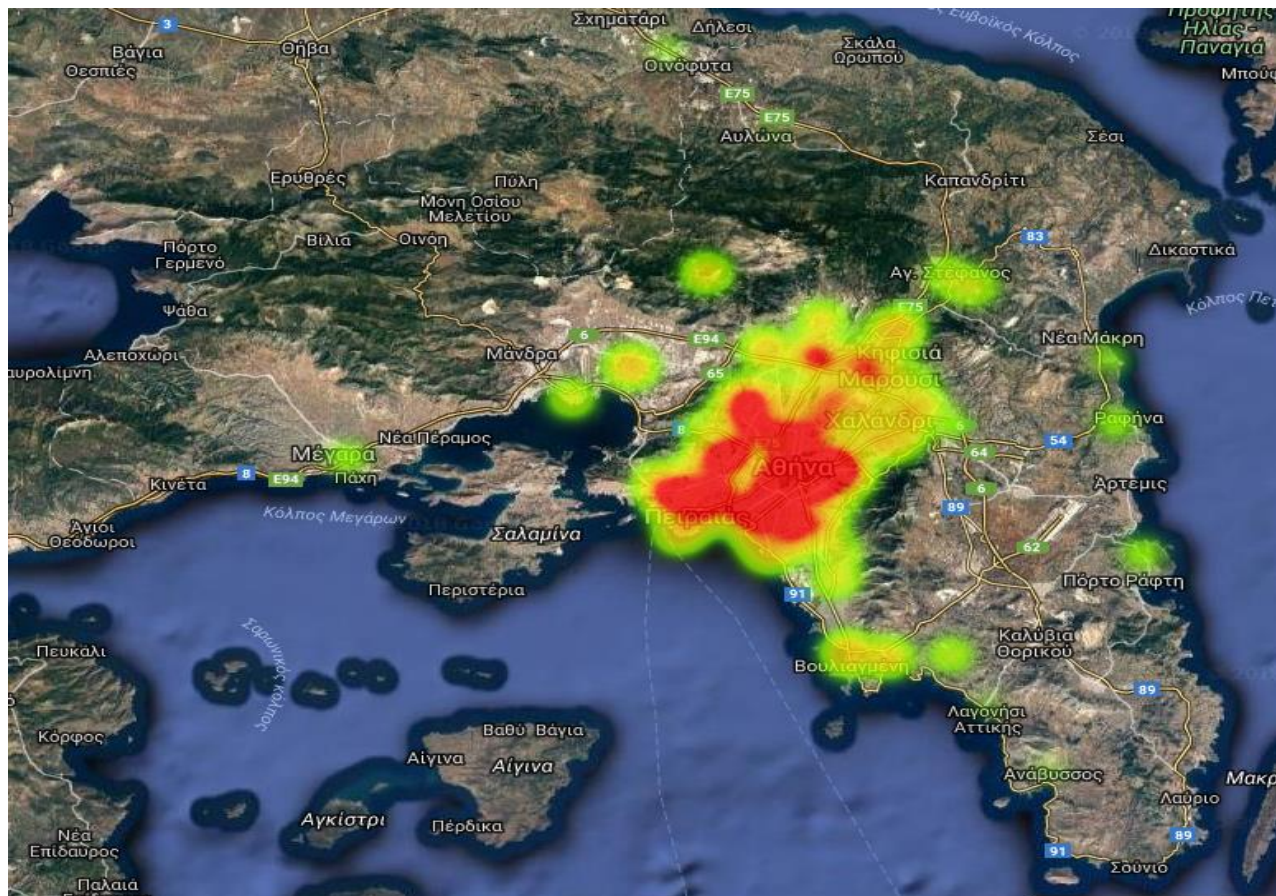
- A sample of approximately 100 g of any non-prepackaged RTE cooked meat product (typically parizer) sliced on the spot at the time of sampling (5-6 slices);
- A cotton swab of the entire exposed area of the cutting tool used for slicing

❑ Methodology

- Alternative AFNOR validated method, accredited according to ISO 17025 (Certificate Number BIO 12/11-03/04 - validated according to NF EN ISO 16140-2 validation protocol against the reference method NF EN ISO 11290-1/amd A1 2-2005)
- Serotyping by National School of Public Health

Heatmap” of the sampling points weighed by their % share of sales in the total volume of sales of the sample

	Sales amount per month (Kg)
Minimum	1.5
Maximum	6912.0
Average	896.8
Median	620.0
P95	2723.2
P97.5	3371



Results

Volume of sales in retail points where the swab sample was positive for *L. monocytogenes*

Postal code	Sales amount per month (Kg)	Sales rank (%)	Positive swab?	Positive product sample?
15121	1700	87.6	Yes	Yes, <LOQ
15561	2369	93.6	Yes	No

Strain identification

Sample data	Laboratory sample code	Gene presence prs ^(a)	Serotype ^(b) <i>L.monocytogenes</i>
Meat products counter (122)	154/2018	Positive for <i>Listeria</i> spp.	1/2a,3a
Meat products counter (144)	740(a)/2018	Positive for <i>Listeria</i> spp.	1/2a,3a

(a): The sample was tested for the presence of putative phosphoribosyl pyrophosphate synthetase gene (prs), which is characteristic of the genus. *Listeria* spp., based on the work of Doumith et al., JCM 42, 3819-3822, (2004) proposed by the ECDC.

(b): Based on the work of Doumith et al., JCM 42, 3819-3822, (2004) proposed by the ECDC.

Acknowledgments

- **Working group of the project:** Foteini Tzoumanika, Danai Papanastasiou, Gorgias Garofalakis, Spyridoula Mila, George Marakis, Fragiskos Gaitis
- **Inspectors of the Regional EFET Directorate of Attica:** Aggeliki Fyta, Grigoris Charalampakis, Roula Bourgou, Geomila Aristeia
- **EFSA:** Winy Messens, Sérgio Potier Rodeia, Cortinas Abrahantes José

Thank you for your attention!