

PortFIR - Portuguese Food Information Resource

– sharing of data information and knowledge –

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Introduction

The integration of food data from research, monitoring, epidemiological investigation and disease surveillance is crucial to manage foodborne risk-benefits. Consequently, the National Institute of Health (INSA) in a partnership with GS1 Portugal launched PortFIR (Portuguese Food Information Resource) a programme for the implementation of national networks of knowledge and data sharing and a web Portal in the areas of nutrition and food safety supported by an Information Management System. PortFIR concept was inspired in EuroFIR (European Food Information Resource) network of excellence.

INSA as national compiler is responsible for the scientific coordination of the networks and for the validation of databases content. GS1 coordinates the activities of information organization and transfer in order to facilitate the information flow.

Objective

To create and sustain a national databank and a Portal on Food Composition and Microbiological and Chemical Occurrence containing standardized and quality assured data and including functionalities to electronically transmit and exchange data with international and national organisations, namely EuroFIR and EFSA (European Food Safety Authority).

Material and Methods

Building networks – Involving data producers, users and stakeholders to work together in thematic working groups and sharing data with the national databank compiled by INSA.

Development of an Information Management System – with a unique data model for composition and chemical and microbiological occurrence food data compatible with EFSA's chemical and microbiological calls for data and with nutrition applications (namely the EuroFIR Databank). For definition of classes and attributes of PortFIR Data Model, PortFIR needs were considered together with relevant international models (EFSA's Standard Sample Description for Food and Feed (SSD), for chemical contaminants[1], Zoonoses Data Collection (ZDC), for microbiological agents and food borne outbreaks [2, 3] (FBO) and CEN/TC 387 prEN_16104 Food Data – Data structure (CEN/TC 387) [4].

Major results

□ The Portuguese Food Composition Network (Figure 1) was the first PortFIR network to be created and started its activity formally in October 2009 with the ultimate purpose of maintaining and updating the national food composition database (FCDB). Since January 2010, four Working Groups – Sampling, Organization and Transfer of Information, Users, and Support to Standardization Work - are developing their activity. The network has currently 56 members (Figure 2), representing namely, food industry and distribution, state and private laboratories, universities, and regulators, of which 28 have declared their willingness to share data with the national FCDB .

□ The Portuguese Food Microbiological Information Network (RPIMA), the second network created, was launched formally in October 2010 during the 3rd PortFIR Annual Meeting, and to date more than 80 entities already responded positively to the invitation to participate. On January 2011, occurred a brainstorming expert meeting (with key representatives of RPIMA, Users and Stakeholders) that lead to the creation of two Working Groups – Foodborne Outbreaks and Food Chain Microbiological Occurrence – that will begin their activity in October 2011.

□ The working groups Organization and Transfer of Information, Users, and Support to Standardization Work are transversal to all networks.

□ PortFIR Data Model is being designed. All attributes in each relevant international data model were listed, correspondence among models was cross-referenced and controlled terminology requirements were identified. PortFIR needs were considered subsequently and its data model was organised in 3 main classes, “data provider”, “sample” and “result”, containing more than 100 attributes, as presented elsewhere [5]

Relevance

The work in progress contributes to:

- create durable and sustainable structures to maintain the viability of the data
- promote the update, the use and the quality of food data at national and international level.
- share experiences and knowledge between all food chain stakeholders to get the best knowledge of the national situation in order to be possible to manage and improve it.
- define priorities concerning public health promotion and foodborne diseases burden mitigation.
- provide science-based evidence to be used to improve public health, trade regulation, legislation, industry, agriculture, environment and to contribute to the optimization of food safety metrics to quantify the impact of risk management decisions.
- relate food information and data with animal and human diseases to contribute to detect, identify, control and prevent foodborne diseases.
- give the possibility to have multiple views on the information through an unique data model; moreover this information tool can be used to support the development of new ones and foster data standardization and resource usage optimization at national level.

Figure1 Portuguese Food Composition Network (RPCA)

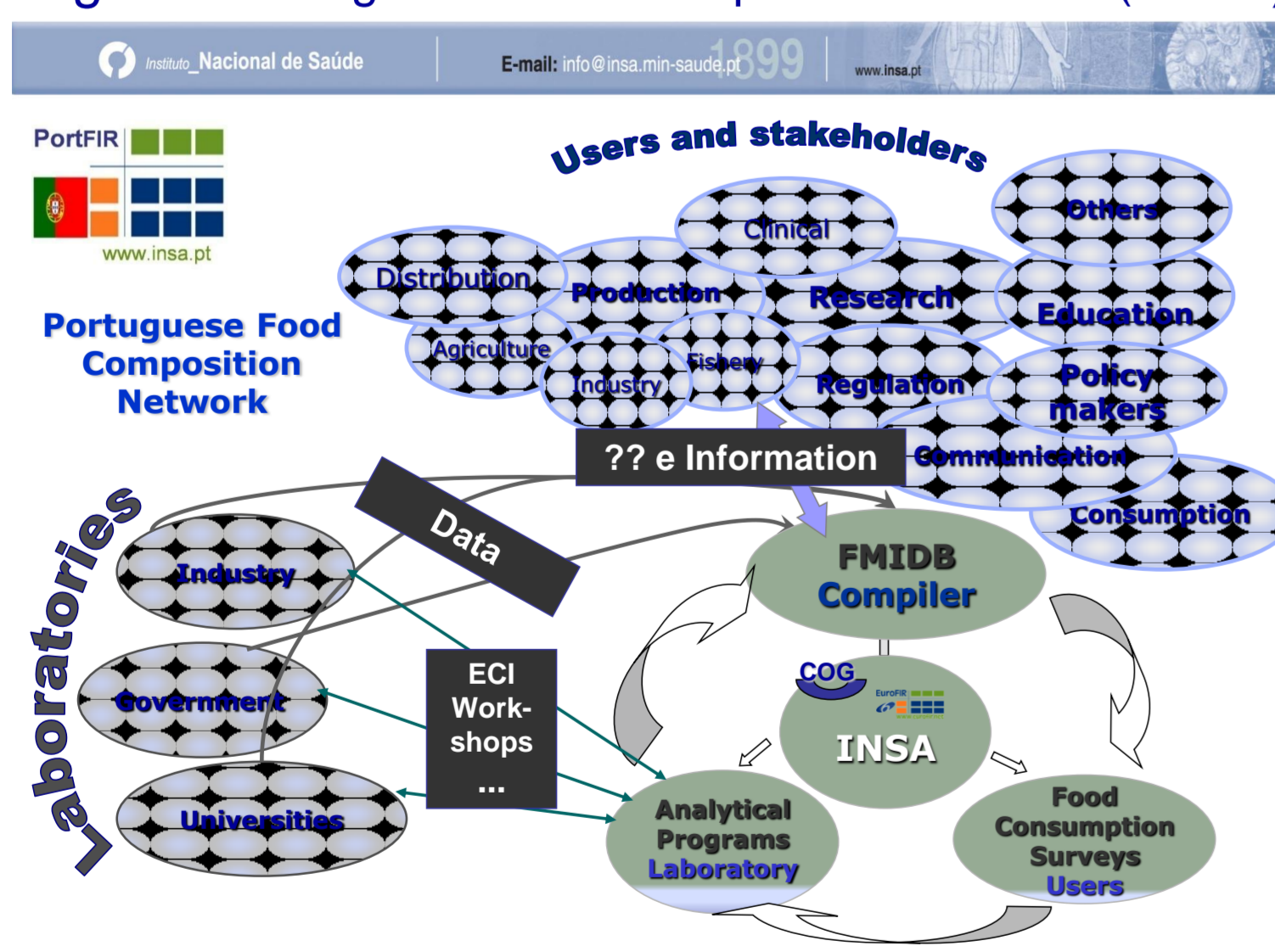
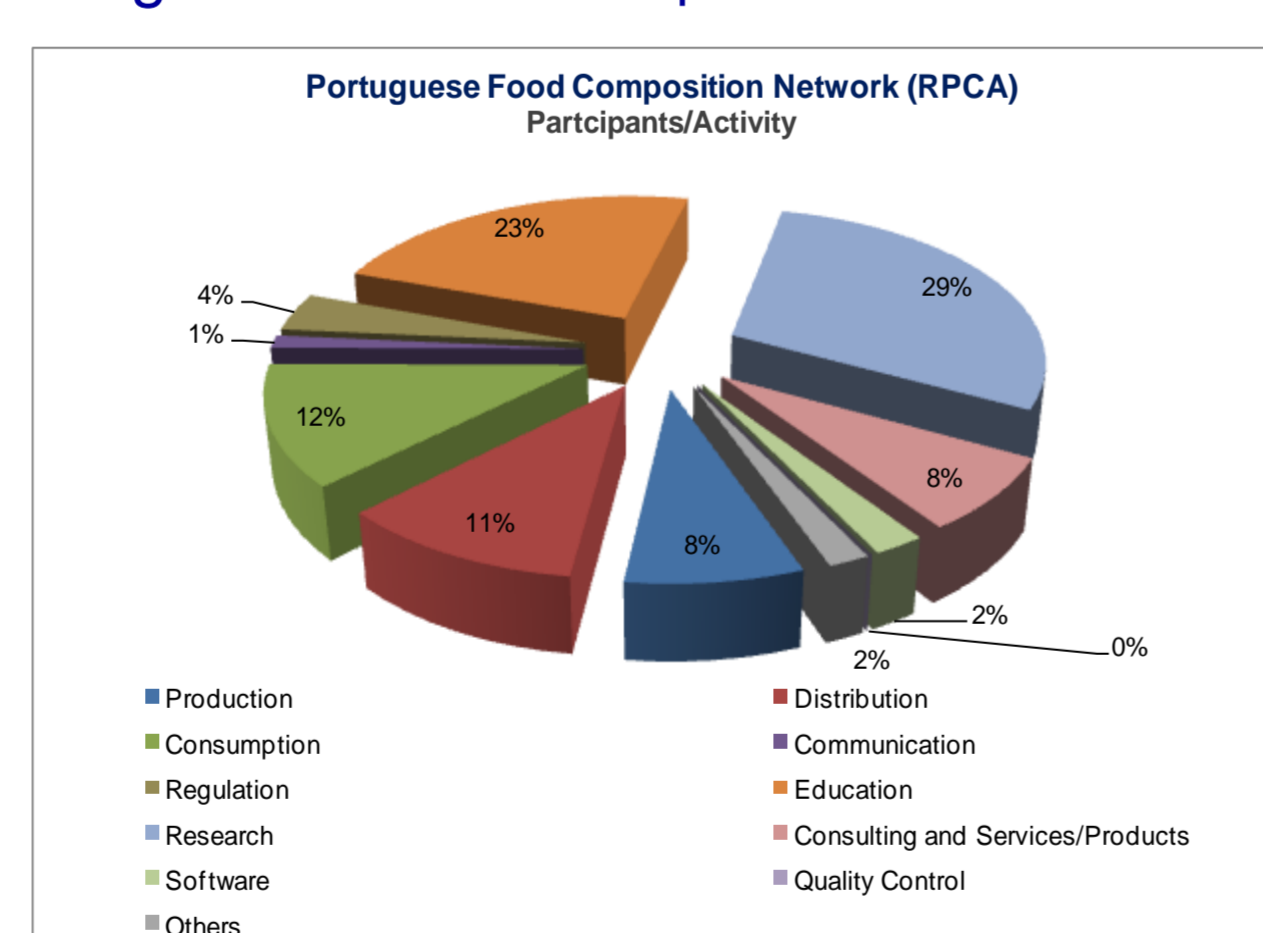


Figure 2 RPCA Participants' activities



Conclusion

The close cooperation of data producers, users and stakeholders improves the usage of national resources and amplifies and disseminates knowledge on food safety and nutrition.

The ability to store all the information needed in a single database designed to be compatible with other national and international databases facilitates data exchange and sharing and contributes to improve food safety at global level.

References

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