

Riding the Next Wave of Research Data: Leveraging the COVID-19 response towards advancing data interoperability

The Portuguese experience in enabling interoperability frameworks for scientific data

Ana Portugal Melo (BioData.pt / ELIXIR Portugal)

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BioData.pt



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Problem: Mobilising large volumes of data for global and immediate reuse

- Large volumes of research data being generated are poorly annotated
- Need to reuse old research data
- Need to conduct further research and thus generate more data
- Enhance the analytical capacity to integrate different data type



Solution: Promote data interoperability

to enhance researchers knowledge discovery and data reuse

The FAIR Data Principles



Findability

- Persistent identifiers
- Rich metadata
- Searchable repository



Accessibility

- Access protocol
- Authentication & authorization



Interoperability

- Knowledge representation language
- Controlled vocabularies



Reusability

- Rich metadata, following community standards
- License & provenance

An analysis by the European Commission estimates that adherence to the FAIR principles could save the European economy at least €10.2bn every year.

Goal: Attracting researchers to training in data management

Problem:

- Training offer in data management was agnostic to scientific domain and scarce.
- Researchers did not recognize value in managing their data properly.

Opportunity:

- Design and deliver domain specific training in data management.
- Teach data management best practices for life and health researchers.

READY FOR BIODATA MANAGEMENT ?

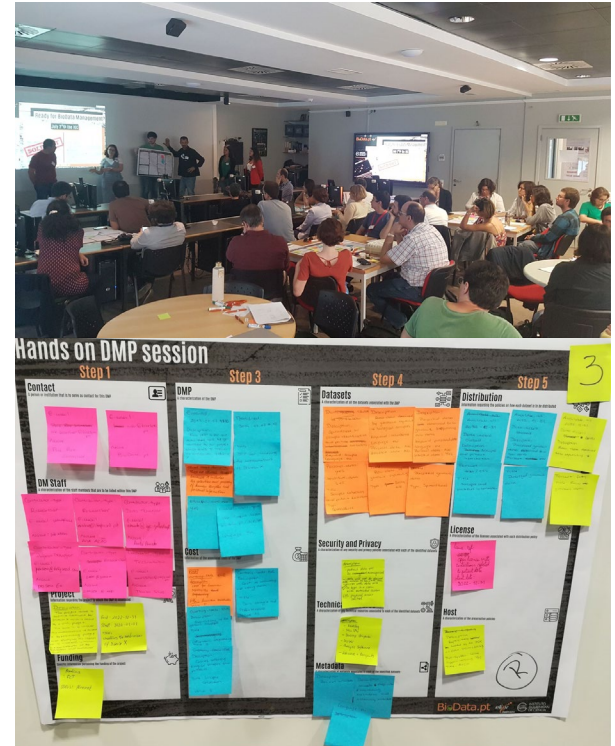
INTRODUCTORY COURSE

One-day hands-on course with a group exercise or two hour lecture with discussions

- State of the art of Data Management
- Introduction to Data management Plans
- Hands on DMP group exercise based on domain specific mock project.

In the lecture modality, the exercise is replaced by a short demonstration of preparing a DMP

Link for materials: <http://ready4biodatamanagement.biodata.pt/>



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ADVANCED COURSE

One-day hands-on course

- Introduction to **DMPOnline platform**
- Overview of the H2020 DMP template
- **Hands-on session** preparing a DMP in the platform, in pairs.

Participants are encouraged to bring their own research project or project plan

Link for materials: <http://ready4biodatamanagement.biodata.pt/>



Plan to make data work for you

Data Management Plans that meet institutional funder requirements.



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Take Home Messages

Do the Best You Can!

- FAIRness is a spectrum, and FAIRer is a step forward

Reach Out For Help!

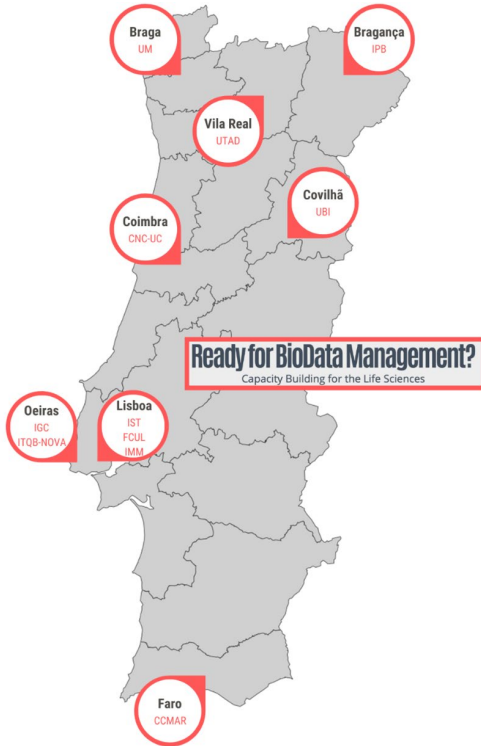
- Data stewards and data managers can provide guidance

Things Will Get Easier!

- There are people working towards more user-friendly data management solutions—they need feedback on what can be improved

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“A new and recent way of preparing a research plan at the management level, and the course had an excellent balance between theoretical lectures, practical exercises, and discussions.”



Socio-economic Impact

Aligned with ELIXIR's impact areas	
Human Capital	Acquisition of new skills and competences, and participants become more employable.
Research Efficiency	Researchers become more efficient in their work. By FAIRifying their data others' research work will also be more efficient.
Bioinformatics Resources Uptake	Exposure to trainees during the course. Indirectly, this also contributes to increasing ELIXIR's visibility with bioinformaticians.
Aligned with RI-PATHS's impact areas	
Human Resources	Number of people trained; Satisfaction of people trained; Career development with improved qualifications; Improved human resources in science and technology.
Economy and Innovation	More collaborative project with industry; Number of people employed by RI; Direct expenditure of RI; Number of DMPs prepared.
Policy	Presence of RI in relevant thematic committees; Presence in national/regional networks; Participation of RI in exchanges with relevant policy makers.
Society	Number of visitors in RI website; Inclusion of topics in academic classes.

ESFRI framework: “delivery of education and training”, “provision of scientific advice” and “optimising data use”

OECD framework: “technology” and “training”.

READY FOR BIODATA MANAGEMENT ?

Other courses under this programme

Plant phenotyping-genotyping data management workshop

(1st ed in 2019, 29 participants (1 from the pulp industry); 2nd ed in October)

Day-to-day data management

(1st ed in September)

This program contributes to more effective and timely research to respond more promptly to unforeseen challenges.

Acknowledgements



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