Notes from the Kick-off Meeting of the ELIXIR Staff Exchange Project "Empowering ELIXIR Nodes to measure and communicate their performance and impact"

The Kick-off meeting of the ELIXIR Staff Exchange Project "Empowering ELIXIR Nodes to measure and communicate their performance and impact" took place on the 30th January 2020, at INESC-ID, Lisbon, Portugal, with the following programme:

Session 1: The state of the art of performance/impact assessment in RIs (Chaired by Ana Portugal Melo, Deputy Head of Node, ELIXIR PT)

- The ELIXIR Staff Exchange project (Francesca de Leo, Consiglio Nazionale delle Ricerche, ELIXIR IT)
- Towards an assessment of the impact of ELIXIR (Corinne Martin, External Relations Officer, ELIXIR)
- Impact assessment framework RI-PATHS (Matías Barberis Rami, European Science Foundation, RI-PATHS project)
- Landscape of impact assessment in distributed ESFRI landmarks (Christine Stansberg, Node Coordinator, ELIXIR NO)
- The case study of the Spanish ELIXIR node (Eva Alloza, National Bioinformatics Institute, ELIXIR ES)

Session 2: Getting started with performance and impact assessment (I) (Chaired by Corinne Martin, External Relations Officer, ELIXIR)

Session 3: Getting started with performance and impact assessment (II) (Chaired by Matías Barberis Rami, European Science Foundation, RI-PATHS project)

Session 1
1.1. The state of the art of performance/impact assessment in RIs

The showcase of ELIXIR PT

[ELIXIR PT](#), named BioData.pt and founded in 2016, is a consortium of 12 institutions and a national network of experts in bioinformatics and data management aiming to provide the Portuguese scientific system with state of the art knowledge, tools, and training in bioinformatics and data management, as well as computing infrastructure, data science, and capacity building, while contributing to the counterpart European ecosystem. It is organized in platforms and communities, mirroring the ELIXIR's. It is involved in the national mirror group of the [One Million Genomes Initiative](#) and participates in the [CONVERGE- a toolkit for data management](#), among others. Reporting is a way to reach the users, partners and stakeholders attention, thus the most recent achievements of ELIXIR PT can be found in the [report 2017-2019](#), recently released.

Presentation of staff exchange project

[ELIXIR Italy](#) is a distributed infrastructure, composed by 22 members, with focus on European life's Science to stimulate and assist the development, rationalization and integration of bioinformatics research in Italy. In addition, it aims to transfer the benefits of all these activities to European partners and in particular to other ELIXIR Nodes, towards the achievement of a pan-european bioinformatics infrastructure able to cope with the present and future challenges posed by life sciences.

The [ELIXIR Staff Exchange Programme "Empowering ELIXIR Nodes to measure and communicate their performance and impact"](#) results from the willingness of ELIXIR Nodes from Portugal, Norway, and Italy to join efforts to develop simple procedures to assess impact at the national node level. The approaches and methodologies proposed by OECD and ESFRI, as well as, the list of indicators spread by RI-PATHS will serve as bases for this work, which will take into account national context, specificities and needs.

Towards an assessment of the impact of ELIXIR

The European Council asked the ESFRI to consider how to assess the impact of the European Research Infrastructures, leading to a [report](#) proposing a framework.
ELIXIR has started the effort to assess the impact of some of their activities as a pilot study in the RI-PATHS project. As the already proposed indicators list by the OECD and the ESFRI reports showed difficulty to adapt to ELIXIR's specificities, a few more were found. The identification of impact areas is under progress.
Since research infrastructures do not have the specialized human resources or fund to hire an impact analyst, there is a need to develop simple tools that allow internal staff to perform such analysis.
The purpose of this workshop is to simulate the process: thinking about the activities we do, what is the outcome, and then the impact, as well as the information and the steps required.

1.4. Impact assessment framework RI-PATHS

The impact of research infrastructures on the society and the economy is important and should be assessed according to the research infrastructure goals and stakeholders (e.g. partners, funders and users). The RI-PATHS projects started 2 years ago and is now assembling the different elements to propose a model for assessing the impact of research infrastructures. The project is working on some pilot exercises, namely with ELIXIR CERN, ALBA, DESY, Global BioImaging, EATRIS and CESSDA. Impact pathways - processes or activities taking place in the scope of the research infrastructure - were selected based on

the needs of the research infrastructure, the funding agencies, or other stakeholders, to search for concrete impacts overtime. Examples of an ELIXIR impact area under study is staff exchange and networking. To assess the impact of differents pathways, indicators for the activity and respectives outcomes and impact are identified from 4 different areas (Human Resources, Economic and Innovation, Social/Societal and Policy), according to the specificities of the impact pathway under analysis. It is noteworthy that here are different levels of control over the indicators: there is control over the activities, some control over the outcomes (short-term results) and less control over impact, this having a broad range.

1.5. Landscape of impact assessment in distributed ESFRI landmarks

This is the result of the work carried out by Ana Portugal Melo, Christine Stansberg and Francesca de Leo, in the field project of the Executive Masters in Management of Research Infrastructures they are attending in Milano-Bicocca University, in the frame of the RItrain project.
The 14 distributed ESFRI landmark research infrastructures that have produced an annual report in 2018, were searched in these reports for the impact indicators (or proxy) proposed for specific areas by the OECD and the ESFRI. Of these, three research infrastructures have recently published impact assessment reports, CESSDA, ESS and ICOS. All reports were carried out by Technopolis.
As expected, it was observed that there are indicators broadly used by the different research infrastructures irrespectively of their specificities, and others more specific to the objectives and mission of each research infrastructure.

The case study of the Spanish ELIXIR Node

The Spanish Node of ELIXIR, INB, was founded in 2003. From 2003 to 2018, there were 10 national nodes to which 9 were added since 2018. Its main goals are maintaining and increasing the national alignment with ELIXIR, and increasing the translational capacity of the INB towards the Spanish National Health Institute.
ELIXIR ES acquired a custom made impact application tool, based on the European methodology, that allow the setting of parameters like period, sources, affiliations, metrics. It is used to measure scientific and social impact, in an automated process.
When it is difficult to create indicators, powerful narratives can be used.

The discussion during session 1 highlighted the importance to learn about the impact assessment process and how measure impact. Participants considered critical the role of knowledge and experiences sharing as done in this session. Furthermore, peer validation of processes and results is mandatory.

Sessions 2 and 3: Getting started with performance and impact assessment

The process of applying the principles of assessment to a concrete activity was experienced by groups of participants; the results are summarized in the table I.

Activity	Outcomes	Impact	Methods
Run Data Management (DM) Course 1) Introductory workshop 2) Advanced course 3) Academic lectures	- Participants equipped with DM skills - Networking peer group - Course certification - Improved DM Plan templates - Attendance Progress from the Introductory workshop to the Advanced course - Satisfaction of attendees	- Avoid loss of Data - More research areas covered by DMPs - Research effectiveness and efficiency - More employability - Fundability improved - Human capital - Knowledge exchange - Benefits of working together/networking - Asking for more editions - Start using DMPs in the day to day - FAIR and open science - Success with H2020 - Consulting services	- Surveys - Feedback questionnaires - Recommendations from users - List of participants (Online registration + sign-in sheet, cross-check attendance sheets) - Test people (e.g., mentimeter, polleverywhere.com, quiz) - New connections on social media during the course - Testimonial - Follow up courses - Number of areas covered with D.M. courses - Project reports (to see if people with that profile are hired, alumni) - Repositories for data (users ID); and connected data (publications) - Forum - Number of datasets authored by participants - Number of submitted projects - Number and length of contracts - Keep track of the emails people send

When developing impact assessment, different social media networks should be considered, depending on the chosen target.
This impact assessment approach can be useful beyond the activities developed by the research infrastructure Node.

Evaluation by participants

The workshop was well-structured and helped to think more critically about the activities conducted in the Nodes and presented framework can be implemented in the Nodes or institutions. This was a starting-point to face the reality to be measured, and reflect on difficulties and possibilities.

Concluding remarks

For assessing impact it is critical to focus on specific activities so-called impact pathways that lead to clear outcomes and impact. In the process of impact assessment adequate indicators are identified that need to be supported by evidence. The RI-PATHS model under progress suggests a broad list of indicators grouped in four areas: Human Resources, Economic and Innovation, Social/Societal and Policy. Different methods can be used to obtain the necessary information, namely surveys, interviews or workshops. The selection of indicators, evidences and methods should be influenced by context, specificity and needs. In addition, these may be influenced by the target of the assessment, being important to tailor the impact message to convene.
The next steps of this project will try to showcase to elaborate overall guidelines that can support the implementation of these processes at the national node level.
Participants considered this meeting instructive and inspiring to adapt to the activities of their own organizations.

List of participants:

Ana Portugal Melo (ELIXIR PT)	Gonçalo Antunes (HeartGenetics)
Anna Strachotova (ELIXIR CZ)	Isabel Rocha (ELIXIR Board)
Christine Stansberg (ELIXIR NO)	João Cruz (Congento)
Corinne Martin (ELIXIR HUB)	Mariana Silva (IGC)
Cristiana Leandro (FCT)	Marta Silva (ITQB NOVA)
Daniel Faria (INESC-ID)	Matías Barberis Rami (ESF - RI-PATHS)
Eva Alloza (ELIXIR ES)	Nelson Saibo (ITQB NOVA)
Filipa Sacadura (P-Bio)	Susana Val (ELIXIR PT)
Francesca di Leo (ELIXIR IT)	