Deliverable

13.5 COMPARE Workshop Programme

Version: 01

Due: Month 12 (delayed until M60)

Completed: Month 60
Author: Jeffrey Skiby, DTU

Contents

Deliverable Description

Development and implementation of COMPARE workshops.

In the proposal for COMPARE, it stated:

COMPARE workshops for human and animal health and food safety authorities
Making use of the Expert Advisory Panels (EAPs) established in WP11, we will develop a COMPARE modular workshop in which principal investigators will present the analytical tools and software tailored to the specific needs of the organizations represented in the EAPs. The detailed programme of the workshops will be designed in consultation with the respective EAPs. We will plan and budget a total of ten workshops, where the objective is to have organized at least one workshop for each category of user-stakeholders as organized into the EAPs (e.g. at least one for public health researchers, at least one for clinicians, at least one for food-companies etc.). The workshops will be advertised on the COMPARE portal and those of other related networks.

Once the project started and an introduction to the EAPs was made, it was determined that the workshops as planned would not give the results desired. It was determined that indeed workshops by COMPARE expertise are necessary, but the development of several types of workshops tailored to specific stakeholders, users or groups would be necessary.

In addition, the concept of COMPARE needed to be shared and developed with the stakeholders, taking individual concerns into consideration for the purpose of the workshops. So as the COMPARE concept developed and matured into an established platform for data sharing, data analysis and visualization, so did the workshops that took place.

The following deliverable will describe the various types of COMPARE workshops held, the audiences for the workshops and the number of workshops held.

This deliverable was originally scheduled to be submitted in Month 12. It was overly ambitious to set the Deliverable deadline for D13.5 as Month 12. Both the content and the format had to be discussed and agreed upon, and it had taken the first 12 months of the project to get the COMPARE partners aligned on priorities for training.

When workshops did commence with COMPARE partners as well as stakeholders, it seemed premature to document what had been completed in the middle of the project, knowing that more would be planned for future months.

The delay in submitting this Deliverable did not hinder the work of the project or any other deliverables.

Reason for workshops

COMPARE is committed to establish open and direct dialogue with its stakeholders, the future data providers and information users in particular. In line with its overall purpose, (components of) the COMPARE analytical workflows and the data and information sharing platform should be adopted and applied by the envisaged users across the human and animal health and food safety sectors. These users include the following:

- International public and veterinary health and Food safety authorities (e.g., ECDC, EFSA, WHO, OIE);
- National public and veterinary health and food safety authorities (e.g. public health institutes of Member States and national reference laboratories);
- Food (processing) industry with sequencing capacities (e.g. Unilever, Nestlé);
- Research institutes and their individual researchers (e.g., molecular, clinical, epidemiological, bioinformatics) across the human and animal sectors and covering virology, bacteriology and protozoology;
- Clinicians covering primary and hospital care (human and veterinary);Information about the Deliverable or how it was achieved can be inserted here.

Members of the Expert Advisory Panels (EAPs) established in WP11 were from the above listed organizations. It was envisioned to develop workshops in which the principal investigators would present the analytical tools and software tailored to the specific needs of the organizations represented in the EAPs.

However, when convening the COMPARE Consortium, it was determined that a common vocabulary, a common vision, and a common understanding needed to be nurtured within the Consortium first.
Since COMPARE was designed for users across sectors, domains and pathogens, a common understanding had to be undertaken.

In developing the COMPARE analytical framework, we had to take into account the great diversity in perspectives across the large heterogeneous user population, operating in different sectors, domains, disciplines, expertise and levels of operation and having different information needs, interests, opinions and resistances or hesitations when using COMPARE. Many of these needs from the users had already been identified in the context of Global Microbial Identifier and related initiatives. However, the identification of the needs and concerns of users of COMPARE and the translation into desired functionalities was not a one-off exercise. It was an ongoing process, that continued throughout the development of COMPARE and it was crucial to promote broad European and global sustainable uptake of COMPARE.

Consortium workshops

There were several workshops held for the Consortium as a whole. These were held during the General Meetings. In additional to Consortium members, members of the Expert Advisory Panels were in attendance as well, thus reaching our targeted stakeholders.

9 March 2016, General Meeting 2016
- Creating metadata reporting standard checklists
- Metadata standards in Webin
- Metadata reports in data hubs
- Samples and data retrieval from public services
- Data analysis ~~pipeline~~ playground: the Notebook approach
- Porting CGE services to the COMPARE VM
- Data and metadata reporting in COMPARE
- COMPARE analysis – Toolbox, VM and routine workflows

01 March 2017, General Meeting 2017

- Tutorial A: Installing COMPARE workflows for bioinformaticians and software engineers
- Tutorial B: Reporting data into COMPARE for biologists and bioinformaticians
- Tools and services under development, including search, retrieval, new reporting tools, file sharing, analysis workflows
- NGS and MIC data reporting and access for the AMR working group
- Metagenomic Subgroup session (RIEMS pipeline)

02 March 2017, General Meeting 2017

- Defining wishes for IT-platform – NGS data

01 March 2018, General Meeting 2018

Workflow training:
- Introduction and workflow overviews
- Data reporting, the Webin and API option
- Data reporting, the DTU uploader option
- Assignment to data hubs, search, download, from sequence to analysis
- Workflow engine (for software engineers)
- SLIM analysis
- ViromeBrowser
- CGE analysis Kooplex
- Evergreen trees and bacteria

01 March 2019, General Meeting 2019

Combining different types of data – Challenges and solutions
- Network and multi-network approaches to heterogeneous infection-related data
- Combining data: opportunities and challenges
- A platform for the visualization and exploration of data
- Mapping all metagenomic data in the world

In addition to the above COMPARE platform/solution workshops, workshops were held related to barriers to data sharing and issues related to the Nagoya Protocol. The information included in these workshops was just as important to the Consortium and stakeholder members as the exercises for the COMPARE platform.

George Haringhuizen, WP Leader for WP12 (Barriers to open data sharing), led these workshops for the Consortium.

02 March 2017, General Meeting 2017
- Non-technical barriers for the sharing of microbial genetic resources in the COMPARE platform

02 March 2018, General Meeting 2018
- Barriers Workshop: Responsibility for Data and Sharing: An interactive session of case studies

01 March 2019, General Meeting 2019
- Barriers: Charter of Principles

Workshops outside the Consortium
Several workshops outside of the COMPARE Consortium (General Meetings) were held. Most of them were about the COMPARE platform, how the data hubs worked – allowing the participants to test uploading, analysis and visualization.

The following workshops and other meetings were held regarding the COMPARE platform; what it is, how it is used, and what are the benefits.

- VIROGENESIS, 8 June 2016 in-person meeting in Hinxton, UK
- ECDC; ECDC/EC/JRC/EFSA, joint in-person workshop in Brussels, 6 July 2016
- MRC CLIMB, UK Microbial Bioinformatics Cloud, direct communications with project leaders, 15 July 2016
- ECDC-EFSA COMPARE Pilot Project. Workshop/demonstration for ECDC, 8 May 2017, Technical University of Denmark, Kgs. Lyngby, Denmark.
    - Calls and other communications with Member States teams participating in ECDC-EFSA pilot, including Denmark, Ireland, Luxembourg, Norway, Spain and Sweden.
- ECDC, pilot planning discussion, call 21 February 2018
- One Health EJP, cogwheel workshop in Dubrovnik, 16-17 September 2019
- A demonstration-embedded Notebook, connected to the dcc_benoit demonstration data hub, was made available with a video guide at https://www.ebi.ac.uk/ena/pathogens/explore. Open to public.
- One-on-one support/workshop to Unilever for the pilot project.
- GLOPID-R network , December 2019, disease cohort exploration workshop
- NGS Workshop by Pimlapas Leekitcharoenphon, before the Global Microbial Identifier (GMI) 12 Meeting, Singapore, 11 June 2019. Global stakeholders.
- European Union Reference Laboratory for AR Workshop, by Pimlapas Leekitcharoenphon, Technical University of Denmark, Denmark, September 2019 (EURL member state representatives).

- "The present and future in antimicrobial resistance surveillance", by Rene Hendriksen, EURL-AR Training Course, 24-27 September 2019 (EURL member state representatives).
- EFSA ENGAGE project workshops by Rene Hendriksen, Warsaw, Poland, 12-14 October 2016, and Rome, Italy, 26-27 October 2017. (http://www.engage-europe.eu/resources)
- "The present and future in antimicrobial resistance surveillance" by Rene Hendriksen, Program for Mikrobiologisk Laboratoriedag, 30 October 2019 Søndervang 4, 4100 Ringsted, Denmark. Danish national stakeholders.
- NASEM Webinar on Antibiotic Resistance in Wastewater. 25 September 2018.
- Global surveillance using urban sewage. Webinar hosted by the World Health Organization. 26 March 2019.
- "Whole genome sequencing: a new challenge in the diagnostics of pathogenic agents" Rene S. Hendriksen (Invited speaker). Conference "Management of outbreaks of foodborne diseases" 3 October 2019, Vilnius, Lithuania
- "The present and future in antimicrobial resistance surveillance". Rene S. Hendriksen (Invited speaker) 3rd July 2019, ARAE Toures, France
- "The present and future in antimicrobial resistance surveillance". Rene S. Hendriksen (Invited speaker). Danida Fellowship Center workshop "Resistencia a los antimicrobianos: de la experiencia danesa". 26 June, 2019. Centrales del SENASICA in Mexico city.
- "The presence and future in antimicrobial resistance surveillance" Rene S. Hendriksen (Invited key note speaker). Foodborne pathogens and whole genome sequencing: impact on public health protection, March 26 - 28 2019, ANSES, Paris.
- 5th meeting of the Working Group on Harmonised Tech. Spec. for AMR monitoring, Rene Hendriksen, 5-6 March 2019, EFSA, Parma, Italy.
- "NGS, big data and molecular epidemiology", Rene S. Hendriksen (Invited Speaker), National Symposium on Zoonoses Research 2018, Joint meeting of the National Research Platform for Zoonoses and the Research Network of Zoonotic Diseases, 17th – 19th of October 2018, Berlin, Germany.

There were also outside workshops on the barriers to data sharing and Nagoya Protocol. This area proved to be an area of special interest to our stakeholders and related research projects. COMPARE, and its work with data sharing and Nagoya Protocol, was a beacon to others as we worked to better understand the issues surrounding data sharing and the implications from Nagoya Protocol and possible interpretations.

The following workshops were held regarding barriers to data sharing and Nagoya Protocol.

- 'Non-technical barriers for the sharing of microbial sequence data and possible ways forward', 10th GMI Meeting (16-18 May 2017 in Mexico)
- 'Non-technical barriers for the sharing of microbial sequence data and possible ways forward', The Netherlands National Institute for Public Health and the Environment (RIVM 19 June 2017 in Bilthoven)
- 'Non-technical barriers for the sharing of microbial sequence data and possible ways forward', the EVD-LabNet meeting (10 October 2017, in Rotterdam).
- 'Elaborating on how barriers to data sharing occur in practice in the form of case studies (real-life situations)', at the PREPARE (Horizon 2020 project) Reaching Out Meeting (A meeting to advance clinical research preparedness for infectious disease outbreaks), in September 2018, in Brussel.

- 'Elaborating on how barriers to data sharing occur in practice in the form of case studies (real-life situations)', the COHESIVE (EJP-OH) Inventory Workshop, on November 2018, in Weybridge (UK).

The following presentations were made related to promoting a workshop:

- The European Virus Archive-global (EVAg) project, building a (virtual) biobank library of virus collections, asked for expertise and input on the analysis of constrains as a consequence of the EU Regulation on the Nagoya Protocol.
- 'Elaborating on how barriers to data sharing occur in practice in the form of case studies (real-life situations)', the EVD-LabNet meeting, in October 2017, in Rotterdam.