One Health Information Infrastructure

REFERENCE: Short Term Scientific Mission, COST TD1404 NEOH

Beneficiary
Full name of grantee: Mijalche Santa
Current position: Assistant professor (Early Career Investigator)
Affiliation: Faculty of Economics - Skopje, Ss Cyril and Methodius University
Country: Republic of Macedonia

Host
Name of Host: Bendik Bygstad
Current position: Professor
Affiliation: Research Group for Information Systems, University of Oslo
Country: Norway

Period: from *14-08-2016* to *27-08-2016*

Reference code: COST-STSM-ECOST-STSM-TD1404-140816-076919-76919

1. Purpose of the visit

The purpose of my short term scientific mission at University of Oslo was to:

- gain deep insight about information infrastructure and its application to development and evaluation of One Health initiatives
- discuss and draft a proposal for research on primary and secondary datasets from One Health initiatives (case studies from WG2)
- explore the critical realism (Bhaskar, 2008) and integral plurality (Bunge, 1973) as a lens for case and meta-study research.

The purpose stated above is directly related to tasks identified in NEOH

- Enhancement and validation of the evaluation framework
- Development of an approach for meta-study
- Promotion and dissemination of the work from NEOH through scientific publication
- Development of material for NEOH Handbooks chapter 3 (One Health Evaluation Frameworks), chapter 4 (One health methods and metrics) and chapter 8 (Meta analysis)

2. Description of the work carried out

Meetings and discussions

During my stay I had meetings with the following members of the research group:

- Bendik Bygstad, professor. Talked about the usage of critical realism as philosophical approach for researching One Health. Defining research opportunities and cases that could be researched.
- Ole Hanseth - professor. In-depth discussion on information infrastructure theory and its application to One Health initiatives.
- Margunn Aanestad - professor. On the meetings we covered the issues of context and identification of cases where the Atlas framework can be tested.
- Petter Nielsen - associate professor. We had an in depth discussion about the "Health Information Systems Programme (HISP)" and the soft factors that are included in the development and implementation of such programmes.
- Polyxeni Vassilakopoulou - researcher. Discussion about the patient's access to health data and challenges of that implementation.
- Miria Grisot - researcher. Discussions on what and how to evaluate. Identifying the purpose and move from there.
- Troels Mønsted - postdoctoral fellow. In-depth discussion on the social aspects of development of information infrastructures, context inclusion and sharing experience on research projects.
- Egil Øvrelid - PhD student. Philosophical discussions on approaches for analysis and identification of cases for future research.
- Jasmina Masovic - PhD student. General discussion on information infrastructures.
- Mikael Hailu Gebre - Mariam - PhD student. Discussions on One Health initiative, transnational challenges and inclusion of the soft factors in the research.

Attended Workshop:

- During my stay I attended a workshop titled "Exploring the potential of IHE XDS to enable patients' access to personal health information" organized by the Center of Connected Care

Delivered presentation

I organised a presentation for the members of the research group that covered the following topics

- One Health
- NEOH project
- Frameworks for One Health initiatives evaluation

The presentation was well attended and there was a lot of interest and discussion about the topics of the evaluation.

3. Description of the main results obtained

The result of the activities performed during the STSM are:

- Identified the information infrastructure theory as an appropriate theoretical framework through which the developments and implementation of One Health initiatives/ projects need to be evaluated. This aspect of evaluation on One Health is omitted in the current work in the handbook. In the current evaluation framework, it is very narrowly defined and it focuses on the data and hardware. Furthermore, the principles of the information infrastructure theory and the One Health resonate in the same direction. The guiding principle of development of the information infrastructure is "Infrastructures should rather be built by establishing local working solutions supporting local practices which subsequently are linked together rather than by defining universal standards and subsequently implementing them" (Ciborra and Hanseth 1998). This resonates with the principles of One Health initiatives: not be "possessed" or "mastered" by any one organization or institution; remain flexible and comprehensive; can be promoted by various institutions, but it should not be institutionalized. **The outcome of this is that I will propose and subsequently write a subsection for the handbook that will focus on information infrastructure evaluation.** During my stay I collected sufficient number of articles and reports to write the subsection and had in-depth discussions with very knowledgeable people about the information infrastructure and its evaluation.
- During my stay I had a lot of discussion on philosophical approaches, their impact on developing research and evaluation of that research, theorisation of the research discoveries, and methodologies how this can be done. As a result I identified that in the process of meta-analysis of the data we should also include a meta-study of those data with a purpose to develop a theoretical insight of One Health. **I will make a proposal to the WG3 that we also to perform a meta-study of the identified literature through the critical realism approach and propose a theoretical insight of One Health.** The point of departure in critical realism is that the world is structured, differentiated, stratified and changing . It claims to be able to combine and reconcile ontological realism, epistemological relativism and judgemental rationality. The aim is to develop theories that will deliver integrated pluralism by successfully combine diversity with unity.
- Regarding the case study research I **identified the Health Information Systems Programme (HISP), although not directly seen as One Health initiative, as a potential case for research** that could inform the development and evaluation of One Health practices. The aim is to publish the research outputs as a journal article. Also, we **agreed with the research group members to jointly perform analysis of certain cases of One Health projects**.

4. Future collaboration with host institution

Based on the performed activities the following future collaborations were identified

- Discuss with NEOH management to invite some of the research group members to make a presentation to the NEOH meetings and identify opportunities for their in involvement in NEOH project
- Make proposal to the research group for three papers that will cover the aspects of information infrastructure and One Health and that can be researched and written together
- Inform the group for the developments in One Health initiative and NEOH project

5. Projected publications resulting or anticipated to result from the STSM

Based on the STSM the following publications are projected

- for the Handbook I will write a subsection on information infrastructure evaluation
- one journal article that will result from the evaluation of HISP case study
- one journal article from an evaluation of a One Health case study (identified by WG2) from an information infrastructure theoretical lens
- one journal article that will provide a theoretical insight to One Health initiatives from critical realism approach

The plan is the submission of the papers to be in the second half of 2017. Possible outlets (no decision is made yet) for publication are:

- MIS quarterly
- International Journal of Medical Informatics
- Journal of the Association for Information Systems
- The Lancet Global Health

Each publication published and which has been made possible due to this STSM (or any other activity organised by this COST Action), will be acknowledged in the paper through the statement "This work has been partly supported by the EU COST Action TD1404 Network for Evaluation of One Health"

6. Confirmation by the host of the successful execution of the mission

Prof. Bygstad, my host, in an official letter stated "I confirm that dr. Santa satisfied all these aims. First, he conducted meetings with most of our professors, discussing key issues regarding e-health infrastructures. Second, he conducted an excellent and well-visited seminar on One Health, and stimulated an interesting discussion among faculty and PhD student. Third, he engaged in an on-going discussion with prof. Bygstad on Critical Realisms."

7. Financial summary

Expenses	Total expenses in EUR	% covered by NEOH grant (EUR)
Travel	550 EUR	72,5% (400 EUR)
Accommodation	1300 EUR	100% (1300 EUR)
Consumables (meals)	600 EUR	86.6% (520 EUR)
Total	**2450 EUR**	**89.8% (2220 EUR)**

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8. Other comments (if any)

I am most thankful to prof. Bendik Bygstad for not only having me invited for this STSM, but also for the excellent support, cooperation and friendship during my stay. I am also thankful to all the research group members for their cooperation and devotion to the topics we discussed.

Bhaskar, R., 2008. A Realist Theory of Science, 1 edition. ed. Routledge, London ; New York.
Bunge, M., 1973. The Metaphysics, Epistemology and Methodology of Levels, in: Method, Model and Matter, Synthese Library. Springer Netherlands, pp. 160–168.

Signatures

Date (26-09-2016)

Grantee

Mijalche Santa

[redacted]

Host

Bendik Bygstad