

## SHORT TERM SCIENTIFIC MISSION (STSM) – SCIENTIFIC REPORT

The STSM applicant submits this report for approval to the STSM coordinator

**Action number: TD1404 (Network for Evaluation of One Health, NEOH)**

**STSM title: Literature review and meta-analysis of One Health initiatives evaluated using the NEOH framework (WG3)**

**STSM start and end date: 14/01/2018 to 19/01/2018**

**Grantee name: Sandra C. Buttigieg**

### PURPOSE OF THE STSM

Since the beginning of the NEOH COST Action, the NEOH consortium has worked on developing a framework and tools to evaluate One Health initiatives in Working Group (WG) 1. These are now finalised and being documented in peer-reviewed publications as well as a handbook. WG2 has used the framework and tools on eight case studies, which are also being published in the [special issue of Frontiers](#).

The overall plan was originally for WG3 to perform a meta-analysis of the case studies to develop an improved understanding of the impact of different One Health characteristics on the outcomes of the initiatives. However, this requires a larger number of studies than the eight case studies from WG2. Therefore, it was decided to review a number of relevant publications to extract information about finalised or on-going One Health initiatives, and to use these together with the NEOH case studies for the meta-analysis. This requires:

- i) reformatting of the NEOH evaluation tools to more simplified versions that fit the types and levels of details of information available in journal publications and/or project reports;
- ii) extraction of information and data for further analysis from a reasonable number of studies on One Health initiatives, which may require a literature search, if not enough publications can be found in already published review papers;
- iii) an exploratory, multivariate analysis of the extracted information to identify context and initiative characteristics, One Health-ness evaluation as well as outcomes of the initiatives.

This is a resource-demanding and difficult exercise requiring time spent on group discussions, and it was anticipated that such time-allocation would be reinforced by a group scientific mission for WG3-participants to pursue the planned objectives of WG3 in NEOH.

The aim after the STSM is to publish a peer-reviewed publication highlighting characteristics of One Health initiatives that may provide added value. These characteristics might include systemic organisation, planning, working, learning and sharing underpinning One Health objectives as well as One Health thinking in the initiatives. This also serves to illustrate the usefulness of the adjusted NEOH framework and tools in the One Health community and to raise attention to the methods developed by NEOH.

Finally, the group STSM aimed to build capacity in WG3 by aligning the understanding of the evaluation/scoring approach and specific criteria in this fairly complex framework.

## **DESCRIPTION OF WORK CARRIED OUT DURING THE STSM**

This STSM was organised as group work involving Biostatistician Vladimir Grosbois as the host at CIRAD in Montpellier (France), visited by Associate Professor Sandra Buttigieg, Head of Department of Health Services Management, Faculty of Health Sciences, University of Malta (Malta), PhD student Thanos Angelou, Department of Parasitology and Parasitic Diseases, Aristotle University of Thessaloniki (Greece), PhD student Aitor Vozmediano, Department of Veterinary Sciences, University of Turin (Italy) and Professor Liza Rosenbaum Nielsen, Department of Veterinary and Animal Sciences, University of Copenhagen (Denmark). The members of this group met at CIRAD and worked together all day from Monday 15 to Friday 19 January 2018. The following lists the daily accomplishments during that week:

### Monday 15 January 2018:

We shortly discussed how to proceed. We postponed the decision on the literature search strategy for later because there is already available reviews of One Health initiatives that we can probably use to identify initiatives for scoring, and we decided to start with the Element 1 in the NEOH framework.

- 1) We went through the Excel sheets for Element 1 in the evaluation framework (context and initiative description) that was initiated by the Skopje-workshop participating NEOH-members in September'17. We updated and changed variables that need to be assessed, when screening literature and used 'the Lawa project' (Sripa et al. 2015) as an example to go through the forms for recording of information and scoring in the evaluation.
- 2) We also created a TOC-sheet (outcomes and impacts) to extract information about Element 2 from the literature studies.
- 3) We started a log-book to ensure that we kept track of arguments and notes for the future manuscript preparation.

### Tuesday 16 January 2018:

We used 'the COHERE-framework' (Davis et al., One Health, 2017) to identify definitions of One Health, One Medicine, Environmental Health and Veterinary Preventative Medicine, and added those definitions as a variable in the initiative characterisation, to give a clear classification of the initiatives that may prove useful later on. This provides an opportunity to create a synergy link to the evaluation framework in that study (mainly reporting guidelines for publication of One Health studies) with the NEOH framework.

We had lengthy discussions on the definition of sharing in initiatives with participatory elements involving community members or stakeholders directly in the knowledge gain or intervention. Members from the community or other stakeholders, who participate or become involved in the initiative are considered internal to the initiative. That has important implications for the scoring of the internal sharing element. We ensured to include comments in our scoring of the Lawa project to enable more harmonised scoring between several evaluators. However, we realise that training/calibration is needed for all evaluators involved in the scoring of the initiatives

We discussed how to score basic, adaptive and generative learning at individual/team, organisation, direct environment and general environment based on what is described in a publication, and collapsed lines in the simplified tool on learning into four elements with a score from 0 to 1 indicating what the main type of learning in the initiative was (4 levels: no learning, basic, adaptive or generative learning). For the working tool we realised it would be hard to assess interactions between people from the paper descriptions.

### Wednesday 17 Jan 2018:

We struggled with the Thinking scoring sheet in Element 3, and identified a distinction between the system dimensions relevant to the health issue and the system dimensions described by the initiative authors/actors. We added elaborate explanations to the scoring for the Lawa project paper to help future evaluations of OH-ness thinking of other papers/studies, because in particular the identification and scoring of dimensions in the thinking tool is very difficult.

We created a Mendelay reference group to let all have access to the reference list, but we were having problems getting all of us enrolled in the group.

Thursday 18 Jan 2018:

We went through a new initiative, the Lao-ACIAR-project, based on a project report rather than a published peer-reviewed journal paper and discussed the scoring of the adjusted forms, which led to further adjustments of the scoring forms and adjustments to the scoring criteria.

Friday 19 Jan 2018:

We went through thinking, learning and systemic organisation in Element 3 for the Lao ACIAR-project. We developed a plan for how to proceed with the WG3 work. This will have to be discussed at the Murcia-meeting in the NEOH-MC 9 February 2018 (Vladimir and Sandra will attend).

Monday 22 Jan 2018:

Vladimir and Liza met to go through analysis method, plans for finalising the work and identify the next case study to evaluate, and also discussed the draft of the STSM report.

All in all a good, productive and very inspirational STMS for all of us!

**References**

Davis, M.F., Rankin, S.C., Schurer, J.M., Cole, S., Contie, L and Rabinowitz, P. for the COHERE Expert Review Group (2017). Checklist for One Health Epidemiological Reporting of Evidence (COHERE). *One Health* 4, 14–21.

Sripa, B., S. Tangkawattana, T. Laha, S. Kaewkes, F. F. Mallory, J. F. Smith and B. A. Wilcox (2015). "Toward integrated opisthorchiasis control in northeast Thailand: the Lawa project." *Acta tropica* 141: 361-367.

Conlan, J., Thompson, A., Blacksell, S., Fenwick, S., Vongxay, K. and Khamlome, B. (2012). ACIAR. Management of pig-associated zoonoses in Lao PDR (2012). Project report: <http://aciarc.gov.au/publication/fr2012-14> (Accessed 22 January 2018).

**DESCRIPTION OF THE MAIN RESULTS OBTAINED**

It turned out to be a very difficult process to ensure that we all understood and agreed on the purpose and scoring criteria for each evaluation point for each case study / publication. This means that it will be hard to include new people in the scoring group, but it is needed, if we are to score many studies before the multivariate analysis can be performed. We therefore had to adjust the plan a bit, but still managed to create the most important output: new scoring tools.

The main achievement of the STSM was that we developed an explained and exemplified adjusted version of the NEOH evaluation tools that can be used to extract information from published studies (i.e. peer-reviewed journal papers and project reports) of One Health initiatives for evaluation of system/context and initiative within the system descriptions (Element 1), theory of change-impact description (Element 2) and simplified One Health-ness evaluation (Element 3).

We also developed a log-book with notes for the future manuscript preparation, and a Mendelay reference group was initiated.

**Important notes for working with the updated evaluation tools:**

*1) If we only include one paper in the evaluation of a One Health initiative, we might miss important aspects of the initiative and the systems thinking, integration etc. in the actual initiatives. This has to be addressed either by including more papers for each initiative (a lot of work / difficult!), or in the discussion.*

*2) Systemic organisation is going to be difficult if not impossible to assess from published papers, because it requires being able to talk to people actively involved in the initiatives. The needed information for the scoring is typically not included in the reporting of the initiative, so even though it is an important aspect of transdisciplinarity we cannot include it in the assessment of OH-ness based only on written materials.*

3) *The evaluator has to understand the health issue to be able to score the system description, e.g. should understand basic principles of vector-borne diseases, if the initiative is about vector-borne disease.*

4) *The second question in the thinking tool now evaluates (i.e. scores) whether the initiative actually addresses all of the relevant dimensions in the system (the match), and the original matching question has been deleted entirely. Therefore the questions are differently phrased than in the original evaluation tools. However, it makes the scoring exercise simpler, and this was the intention with simplifying the tools.*

### **FUTURE COLLABORATIONS**

Several future collaboration opportunities were identified and discussed during the week. The group members will continue the work on the WG3-tasks to the extent possible for each person and with regular online meetings to compare evaluation scores. We are considering whether it will be possible to meet again in May 2018 in connection with the ISESSAH/RISKSUR conference.

We also identified opportunities for student exchange between institutions and collaboration in relation to the European College of Veterinary Public Health that Thanos and Aitor can benefit from joining (Liza is Diplomate in the ECVPH and can facilitate the enrolment process or provide relevant network contacts).

Finally, we discussed other COST Actions that Sandra and Thanos are members of and the benefits of joining COST Actions. In relation to that we discussed the future of NEOH after this COST Action funding runs out.

Sandra C. Buttigieg