One Health Global Network Task Force Report

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Executive Summary

In May, 2010, an internationally sponsored meeting, *Operationalizing "One Health": A Policy Perspective—Taking Stock and Shaping an Implementation Roadmap*, was held in Stone Mountain, GA, USA. Among the outcomes of that meeting was the formation of a One Health Global Network workgroup that was tasked with identifying a way to streamline access to the growing amount of One Health information that is electronically available. That workgroup convened more than a dozen subject matter experts in Atlanta in October 2011. During this meeting, a Task Group of selected meeting participants was formed to conduct the background research necessary to identify best practices of existing successful global networks; review currently functioning One Health internet resources; analyze critical gaps in existing communication strategies; and further develop the vision for the One Health Global Network.

The Task Group reviewed thirteen widely regarded existing web-based networks and identified eight best practices for such networks. Best practices included: ease of use and navigation; simplicity of interfaces; accessibility using mobile devises; free membership; strong search functions; allowing private messaging between members; ability to support discussion groups; and functions that allow for a two-way flow of information. Successful networks also recognize that content management plays an important role in encouraging user engagement.

The Task Group then reviewed thirteen websites that directly address One Health issues to assess their strengths and weaknesses with regard to the "best practices". Overall, this review found that many of these websites lack organization, are difficult or even impossible to search, and contain out-of-date content. All of these factors limit the utility of existing sites. An additional concern identified was that these websites focus on the veterinary aspects of One Health and have not engaged other key players, particularly those from the human, wildlife, and ecosystem health communities. The complex interfaces and lack of mobile versions of the sites restrict access in regions with slow internet connections. The sites focus on providing information, rather than supporting information exchange and building connections between users.

This review identified strengths and weaknesses, and the need for the One Health Global Network to focus on filling the gaps in the currently available One Health websites. All of the existing websites provide value and the network would optimally link to the existing sites rather than duplicate them. The end product will optimally create a community of practice that unites people who share a passion for One Health and provides a tool for building relationships, supporting collaborations, and capturing and storing knowledge.

Introduction

In May 2010, the Centers for Disease Control and Prevention (CDC), in collaboration with the World Organisation for Animal Health (OIE), the Food and Agriculture Organization of the United Nations (FAO), and the World Health Organization (WHO), hosted a conference entitled "Operationalizing 'One Health': A Policy Perspective—Taking Stock and Shaping an Implementation Roadmap" in Stone Mountain, Georgia, USA. The goal of the Stone Mountain Meeting (SMM) was to identify critical action steps needed to attain a defined 3-5 year vision of One Health[1]. Seven workgroups were formed to collaboratively develop and implement key activities critical to attaining the defined three to five year goals. Due to the synergy of their activities, the Information Clearing House workgroup was later incorporated into the One Health Global Network workgroup[2].

Building on the May 2010 conference, the One Health Global Network workgroup convened the Expert Meeting on One Health Governance and Global Network (OHGN Meeting) from October 31—November 1, 2011 in Atlanta, GA, to, among other objectives, garner international support for a One Health Global Network. Meeting participants agreed that the One Health Global Network should accomplish the following key immediate and long-term objectives[3]:

- Ensure coherence of messaging (regarding strategies, communication and advocacy)
- Unite actors and create synergies through cross-sectoral collaborations
- Ensure coherence of actions (including programs and projects)
- Promote One Health education
- Improve global health security
- Make One Health a part of our daily lives
- Encourage sustainable development in developing countries, countries in transition, and the industrialized world

Participants went on to describe the attributes of a successful global network. They emphasized that the network should serve as a knowledge management system and should encourage information exchange and discussion among contributors. A website would serve as a single portal to the network and would be user-driven. During this discussion, it was clear that individuals would be the most important component of the network; the technology would provide the necessary platform, but people would provide the knowledge, expertise, and community of interest required for action. It was also determined that more research was needed before an effective One Health Global Network (OHGN) could be created.

Based on the discussions during the meeting, participants defined two draft mission statements for the OHGN project—"To create a global virtual community of like-minded individuals around One Health topics to foster synergy and action for the betterment of health in humans, animals, and the environment" and "To identify, bring together, and share and discuss information (new

[1] Operationalizing "One Health" Meeting Overview, 2010
[2] Stone Mountain Workgroups Newsletter, June 2011
[3] Expert Meeting on One Health Governance and Global Network Report, 2011

investigations, articles, events), opportunities (grants, funding employment), and ideas (strategies, policies, training, programmes and projects) related to One Health." A Task Group[4] was formed to conduct the preliminary research needed to build this global network.

The Task Group focused its research on several areas. The group first examined web-based networks to identify the key characteristics of successful global networks and strategies that could serve as a model for the OHGN. A set of One Health-related websites were also examined to assess the utility of the existing sites and identify the gaps in critical areas that should be addressed by the OHGN. Based on these findings, the Task Group developed a preliminary proposal for the OHGN.

The following is the Task Force report to the attendees of the OHGN meeting. For the purposes of this project, the following definitions were used:

- website: a collection of interconnected webpages located on the same server
- web portal: a website that provides access to resources and links to independent sources related to a specific subject
- global network: a web-based communication network that links users from all areas of the Earth

[4] Dr. Pierre Duplessis, Université de Montréal, served as the lead of the Task Group. Contributions were provided by Susie Boggess, U.S. Department of State, Rebekah Kunkel, U.S. Centers for Disease Control and Prevention, and Anna Okello, University of Edinburgh.

One Health Global Network Webportal

Following the OHGN Meeting, the OHGN workgroup developed the One Health Global Network Webportal. This new portal was created to unify the One Health community by connecting the wealth of One Health information scattered across the web through a single portal. The OHGN Webportal was not designed to replace any existing initiatives; instead it seeks to have all One Health stakeholders join the collaborative.

In February 2012, a prototype of the OHGN Webportal was shared with key stakeholders of various One Health Initiatives and websites. These stakeholders expressed their support of the portal, seeing it as an important facilitator for existing One Health initiatives. The OHGN Webportal (www.onehealthglobal.net) launched to the public in April 2012. In the week following the launch, the web portal was consulted more than 500 times and feedback has been overwhelmingly positive. The OHGN Webportal is currently updated on a voluntary basis and One Health professionals are encouraged to contribute to the site.

The OHGN Webportal has made an important contribution to the One Health web presence, but it is only the first step towards developing a vibrant global network.

Best practices of web-based networks

To identify features of successful global networks that could be incorporated into the OHGN, the Task Group researched existing examples of widely used and accepted web-based networks. Several of these web-based networks were specifically mentioned during the meeting and are relevant to One Health, but most were chosen due to their interesting features and widespread acceptance.

Web-based Network	Brief description
AccrualNet	An online community of practice developed by the U.S. National Institutes of Health to address the problem of low accrual rates in clinical trials
Craigslist	An online network of communities that allows users to post local classified advertisements
GHD online	An online platform that provides equal access to relevant information for global health implementers and organizations around the world
GLEWS	A web-based electronic platform designed to share emerging infectious disease outbreak information and develop coordinated efforts
Health Unbound	An online network for the mobile health community to share projects and ideas
HealthMap	A health surveillance system that searches web sources for real-time information on infectious disease outbreaks
Knowledge Hub	A community of practice that facilitates collaboration, knowledge sharing, and professional development opportunities
LinkedIn	A social networking site for professional development
Pivot	An online database that connects researchers with funding opportunities based on their profiles
ProMED	A real-time internet-based outbreak reporting system
Science and Development Network	An online teaching and learning portal for undergraduate students and faculty
Scitable	An online platform that provides reliable and authoritative information about science and technology to the developing world
STAR-IDAZ Global Network	An international forum of program owners and international organizations to share information, improve collaboration, and coordinate research agendas and funding

Appendix I contains brief summaries of the information collected on these sites. Due to their frequent mention during the OHGN meeting, interviews were conducted with key stakeholders in ProMED and GLEWS; interview summaries are available in Appendix III.

Overall, successful web-based networks share the following characteristics.

1. Successful networks encourage members to visit frequently by:
    a. Being easy-to-use and navigate for novice users
    b. Using simple interfaces and limited graphics to increase accessibility in regions with limited internet access and bandwidth
    c. Having a mobile version of the site
    d. Allowing access to all features and tools with a free membership
    e. Using filtered searches and post categorizations to enhance users' abilities to find relevant information
    f. Allowing members to contribute to the network via the web-based platform and email to encourage the involvement of busy professionals
2. Successful networks support mechanisms that allow members to connect with each other and allow for a two-way flow of information by:
    a. Supporting discussion groups which allow users to share insights and knowledge
    b. Supporting private messaging features which allow members to communicate while protecting personal email addresses
3. Successful networks recognize the importance of community management techniques such as:
    a. Promoting the network through targeted marketing and conference presentations by network leadership and staff
    b. Adding fresh content and promoting ongoing online events to ensure the network remains relevant
    c. Encouraging users to remain actively by developing a strong community through the use of electronic tools and ongoing in-person events

The Task Group suggests that these characteristics of successful global networks be incorporated into the OHGN **(Proposal 1)**.

The current state of the One Health web presence

During the OHGN meeting, participants emphasized that a successful global network would be a "network of networks"; it would not replace the existing networks, but build on them by providing linkages to other networks and connecting communities of interest and international teams.

To determine how the OHGN could contribute to the existing One Health websites and portals, the Task Group first examined three existing websites directly related to One Health—the One Health Commission, One Health Initiative, and One Health Talk. It was important to examine these websites closely as the OHGN will have a unique partnership with these sites due to their likelihood of being recognized as central access points for One Health information. Summaries of the website reviews and interviews with key stakeholders are available in Appendices I and III, respectively.

In addition to the three sites already mentioned (One Health Commission, One Health Initiative, and One Health Talk), the Task Group identified ten additional sites that were of relevance to the network due to the direct or indirect relationship to One Health (Table 1).

Table 1: List of existing websites related to One Health[5]

Site	Relevance to One Health
EEAS	News and meeting updates related to One Health
FAO	Member of the tripartite
GLEWS	Tripartite initiative to strengthen global early warning of major animal diseases
OFFLU	OIE/FAO network of expertise on animal influenza
OIE	Member of the tripartite
One Health Commission	Site focused on One Health
One Health Initiative	Site focused on One Health
One Health Office at CDC	Brief summaries of One Health-related meetings
One Health Talk	Discussion forum focused on One Health
ProMED	Internet based reporting system that provides alerts related to human, animal, or plant health
UNDP	UN organization related to development
UNEP	UN organization related to the environment
WHO	Member of the tripartite

[5] Please note that the listed websites are not exhaustive. While the OHGN Task Group suggests that the above websites be considered for inclusion in the OHGN, the ultimate decision should be made by the OHGN workgroup.

The Task Group identified several areas of concern in the current web presence of One Health:

1) While the websites contain large amounts of information, they are disorganized, limiting their utility for One Health stakeholders
2) The content on these websites is frequently out-of-date
3) These websites are largely static, limiting user involvement to information extraction. The newly launched One Health Talk does have a forum, but conversations focus on the monthly question and dialogue between users remains limited
4) These websites remain heavily focused on the veterinary side of One Health and have failed to engage other key players, particularly the human health and ecosystem health communities
5) The websites contain limited content for ecosystem and environmental health researchers
6) The websites will often include any project/meeting/conference that contains the words "humans and animals," without considering whether these adhere to the true philosophy of One Health
7) There are limited capabilities for access from mobile devices

The new OHGN Webportal addresses some of limitations of these One Health websites, but it is a work in progress. The Task Group suggests that the limitations of the existing One Health websites be considered as the OHGN is developed to avoid repeating similar mistakes **(Proposal 2)**. The Task Group also suggests that the OHGN encourage involvement of the underrepresented sectors—human, ecosystem, and wildlife health **(Proposal 3)**. By identifying areas for improvement and tailoring the OHGN accordingly, the Task Group believes the OHGN will be more successful.

With this basic understanding of the limitations of the existing One Health websites, the Task Group then evaluated the sites using the best practices of successful global networks (Table 2).

Table 2: Adherence of One Health related websites to the best practices of successful global networks

Site	Characteristics of Successful Global Networks						
	Easy-to-use and navigate	**Simple interface and limited graphics**	**Mobile version**	**No paid membership required**	**Strong search functions**	**Private messaging**	**Supports discussion groups**
EEAS				x			
FAO				x			
GLEWS				x			
OIE	x			x	x		
One Health Commission				x			
One Health Initiative				x			
One Health Office at CDC				x			
One Health Talk				x			x (limited)
OFFLU	x			x			
ProMED		x		x	x		
UNDP				x			
UNEP				x			
WHO				x	x		

While all of the sites allow free access to the website tools and materials, very few of the websites adhere to the other characteristics of successful global networks. Most of the websites are not easy-to-navigate and lack a strong search function, which could prove frustrating for users trying to locate information. The websites are visually appealing, but the complicated interface impedes easy access to the sites in areas with low bandwidth. The complicated interface means the sites are not easily accessible from mobile devices. None of the sites support private messaging between users or discussion forums.

Some may say that One Health Talk has addressed the need for discussion forums. One Health Talk has made an important first step in enhancing opportunities for One Health-related communication, but the discussions are limited to specific monthly topics and there is no support for in-depth dialogue related to other issues. Even with the addition of One Health Talk, there remains a substantial gap in the communication support for the OHGN.

Critical functions for One Health

The Task Group then drafted a preliminary list of functions for One Health that the OHGN could accomplish by linking to existing sites or by directly providing information and tools (see Appendix II). This list is based on internal and external reviews of the characteristics of a variety of health-related websites. From nine functions identified in the preliminary list, six were considered critical for the purpose of our work.

These functions include:

1) Serving as an informational resource for:
    a. Topics of interest (e.g. infectious and non-infectious diseases, disease emergence reports, updates on environmental stressors such as climate and disasters, and latest news, including professional opinions on particular topics)
    b. Existing One Health programs and activities
    c. Scientific research and current publications
    d. Information associated with One Health-related conferences, meetings, and events (virtual or face-to-face)
2) Alerting users of epidemiologic and other events
3) Offering opportunities for networking and communication by
    a. Building an interactive community of stakeholders and professionals
    b. Providing avenues for sharing examples of success and best practices
    c. Improving communication to prevent duplication of trainings and activities
4) Supporting training and continuing education
5) Linking to funding opportunities

The Task Group evaluated the websites listed in Table 1 against these functions to identify gaps in these critical areas that should be addressed by the One Health Global Network.

Table 3: Critical functions for the One Health Global Network

Site	Critical areas for the One Health movement[6]					
	Provides information	**Alert mechanisms**	**Conferences, meetings, events**	**Networking and communication**	**Training and continuing education**	**Funding opportunities**
EEAS	x		x			
FAO	x		x			
GLEWS		x				
OIE	x	x				
One Health Commission	x		x			
One Health Initiative	x		x			
One Health Office at CDC	x		x			
One Health Talk				x (limited)		
OFFLU	x					
ProMED		x				
UNDP	x					
UNEP	x		x			
WHO	x					

[6] Please see page 10 for further explanation on each of these areas

Some of the critical One Health functions are currently addressed by existing websites, particularly those activities related to information sharing, providing alert mechanisms, and sharing information and reports from One Health-related conferences and meetings. Similar to the findings observed in Table 2, there is a gap in networking communication. Additional gaps exist in training/continuing education and funding opportunities. Based on these analyses, the Task Group suggests the OHGN focus on filling the gaps in critical One Health functions and avoid duplicating activities already covered by the existing sites **(Proposals 4 and 5)**.

Creating a vibrant One Health Global Network

According to many subject matter experts in the field, increased cooperation and collaboration are vital for the success of One Health[7,8]. This thought was echoed in discussions during the OHGN meeting. There are numerous initiatives and projects underway which, often unintentionally, duplicate existing online programs. Moreover, it is clear from the review of existing sites that there is currently limited support for One Health experts to engage in discussions and interactions. A successful OHGN needs to stimulate and nurture the *exchange* of expertise, information, and opinions.

No individual website or portal is sufficient to produce and support a coherent network. The web only serves as a platform for the network; the *people* in the network provide the knowledge, expertise, and community required for action. One of the project mission statements from the OHGN meeting also emphasizes the important role of the people—"To create a global virtual *community of like-minded individuals*, around One Health topics, to foster synergy and action for the betterment of health in humans, animals, and the environment."

The Task Group has determined that the One Health movement would benefit from the formation of an online community of practice (CoP). A CoP is a group of people who share a concern, a set of problems, or a passion about a topic and who deepen their knowledge and expertise in this area by interacting on an ongoing basis[9]. The World Bank states that, "A CoP is different from a network in the sense that [it] focuses on a substantive topic; it is not just a set of relationships. A CoP is different from a work team in that the shared learning and interest of its members keep it together. It is defined by knowledge rather than by individual task […]"[10] An online CoP would be of particularly value to the OHGN because it facilitates the formation of a community despite physical and geographic constraints[11].

CoPs, originally developed in the private sector, have been found to improve organizational performance by supporting knowledge sharing, increasing innovation, reducing duplication, and enhancing communication between workers[12]. There are four major goals of CoPs—building relationships, supporting collaborations, capturing and storing knowledge, and providing opportunities for learning and sharing.

Technology is a critical component of CoPs, but its role is to support the social aspects of sharing knowledge; people are still the most critical component. Table 4 lists a few examples of web-based technologies and their role in supporting the goals of CoPs.

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[7] Leboeuf, 2011
[8] Jeggo, 2011
[9] Wenger et al., 2002
[10] World Bank, Communities of Practice—Questions and Answers
[11] Gannon-Leary and Fontainha, 2007
[12] World Bank, Communities of Practice—Questions and Answers

Table 4: Examples of Some Technological Features that Support Communities of Practice[13]

	CoP Goals			
	Building relationships	**Supporting collaborations**	**Capturing and storing knowledge**	**Providing opportunities for learning and sharing**
Technological Tools	Member profiles	Project management	Structured databases	E-learning tools
	Online meetings	Document collaboration	Website links	Web conferencing
	Online discussions	Instant messaging	After-action reviews	How-to-guides
	Searchable member directories	Individual and group calendars	Idea banks	Exit interviews

Other successful web-based networks already use CoPs. For example, AccrualNet[14] is a CoP that allows clinicians to connect with peers and share new approaches to enhance clinical trial accrual. The technological platform contains a searchable database containing journal articles, tools, sample materials, and training resources. The platform encourages community engagement by providing discussion areas for members to interact and share ideas. AccrualNet is a "living resource" that grows and changes through the continued contribution of its members; member contribution is critical to the success of AccrualNet.

Building a sustainable online CoP is more challenging than building a static website with peripheral online and face-to-face activities[15]. Online CoPs require community facilitation in order to be successful; a community manager can identify opportunities for members to interact and build relationships. For a geographically distributed community, both collaboration through the web environment and regular and special online events are vital to build community identity. Despite these challenges, the Task Group believes that development of an online CoP will provide the necessary foundation for the OHGN **(Proposal 6)**.

Face-to-face events outside of the web environment are also vital to build community identity in a geographically dispersed CoP. The online tools can support communication, but face-to-face meetings and conversations are needed to build relationships between members and to develop the commitment necessary for the success of the CoP. Although it seems unnecessary to include physical meetings in an online CoP, "the experience of many communities of practice shows [them] to be a key success factor."[13] By thoughtfully integrating the physical meetings with the web content, an online CoP will be sustainable.

At this stage, it is unclear whether an online CoP could be incorporated into the OHGN Webportal or another existing site. Developing a successful online CoP may require the creation

[13] Asian Development Bank, 2008
[14] For more information, see page 25
[15] Massett et al., 2011

of an additional website to support the technological platform. Understanding the technical requirements for an online CoP will require additional research if this proposal is accepted.

Preliminary vision of the One Health Global Network

Based on the idea of an online CoP and taking into account the best practices of successful global networks, the Task Group outlined a preliminary vision for the OHGN:

Mission Statement: The One Health Global Network Community of Practice will strengthen linkages between One Health practitioners by supporting and building connections between One Health professionals

Audience

- The CoP should be geared to those interested in providing and seeking opportunities for One Health collaboration, including scientists, academia, policymakers, the private sector, and UN agencies
- The CoP should be public and accessible to anyone, but certain sections and content could be accessible only to registered individuals (see "Format" below)

Content

- The major aim of the CoP would be to connect One Health professionals
- The CoP could provide a list of organizations, and specific individuals within those organizations, working in One Health
- The CoP would not directly perform all of the actions needed by the One Health movement[16], but would instead direct users to existing sites that perform those actions
- Funding and training/continuing education opportunities could be highlighted
- Representatives from all relevant sectors would be invited to join the CoP, with active inclusion of ecosystem and wildlife health. When approaching each sector, specific talking points and marketing materials which address their needs and concerns could be used to encourage more widespread involvement

Format

- The appearance of the web platform should be simple, but professional
- CoP membership should be free
- Limiting graphics could increase site accessibility in areas with limited bandwidth
- A flexible platform will allow for access from mobile devices
- The visual interface should be intuitive for novice users
- The search function should be simple and efficient
- A section of the CoP could include discussion forums for members
    - Postings could be accessible to anyone with an internet connection, but membership would be required to post or make comments
    - Membership would be required to view complete user profiles

[16] See page 10 of this document

- The CoP could include a messaging system that will allow members to communicate and connect with each other through the web platform, protecting members' emails addresses if desired

Hosting Organization

- Universities could be considered as a host for the CoP as they have the credibility, neutrality, stability, and infrastructure necessary for this endeavor. The interdisciplinary nature of universities would also serve to support the interdisciplinary goals of the One Health movement
- Informally, the Task Group has been told that universities would be willing to house this sort of project
- The CoP could be initially supported by university grants with the goal that it would eventually become self-sustaining

Funding

- Without an in-depth plan and buy in from the larger group, it is too early for the Task Group to fully research funding sources. However, preliminary research has revealed that the Rockefeller Foundation may be a good source:
    - The Foundation has supported similar initiatives, including the "One Health Commission" and "ProMED-mail"[17]
    - Funding from the Rockefeller Foundation supported the University of Minnesota's development of the One Health Catalog[18]
    - In addition to this history, they have a specific strategy aimed at "Linking Global Disease Surveillance Networks" to address the problems of "inefficient global coordination [that has] curtailed effective responses to outbreaks and pandemics and [has] undermined efforts to build resilience to threats to the health and livelihoods of poor or vulnerable people." Moreover, one of the specific goals of this initiative is "[to build] connections between animal health, human health, and environmental health through the One Health approach."[19]

Language

- The site would initially support English, French, and Spanish. Expansion to support additional languages, particularly Arabic, could be considered in the future.

Sector and Geographic Representation

- The communications plan and marketing strategy for the CoP would include methods of outreach specific to the different sectors and geographic regions
- The CoP should not focus on infectious diseases

[17] Madoff and Woodall, 2005
[18] Global Initiative for Food System Leadership Archives, 2011
[19] Rockefeller Foundation Disease Surveillance Networks Initiative

Regardless of the final vision of the OHGN, it is important to remember that even the most well designed network will require continual time and energy to ensure its long-term success[20]. Simply building a web platform for the OHGN will not foster peer-to-peer interactions. Encouraging user engagement will require community management, campaign strategies, and a detailed content plan[21]. Routine daily activities, such as facilitating discussions, connecting members, and distributing weekly round-ups of new content and discussions, will be vital to ensuring the success of the OHGN. Continual integration of in-person events with the web content is also critical. The Task Group suggests the development of a detailed content and community management plan to ensure the success of the OHGN **(Proposal 7)**.

The One Health Global Guidance Group (3G)[22] should also play an important role in ensuring the success of the OHGN by providing publicity and outreach support **(Proposal 8)**. The 3G should urge other websites and organizations to be actively involved in the OHGN by encouraging their members to join the OHGN or sponsoring events such as webinars. The 3G could also help galvanize support for the OHGN by publicizing it at various high-level One Health related events. By participating in ongoing in-person events, the 3G can support the development of relationships and collaborations that are necessary for a successful OHGN.

[20] Socious Online Community Blog, 2011
[21] Socious Toolkit
[22] Expert Meeting on One Health Governance and Global Network Report, 2011

Overall Proposal

The Task Group is of the opinion that the OHGN workgroup should consider the following major proposals as it continues with the project:

1. The OHGN should incorporate the key characteristics of successful web-based global networks
2. The OHGN should avoid repeating the limitations of the existing One Health websites
3. The OHGN should encourage the participation of the human, wildlife, and ecosystem health sectors
4. The OHGN should focus on covering the gaps in the current One Health web presence, specifically networking, training and continuing education, and funding opportunities
5. The OHGN should link to existing material and sites, rather than duplicating material already available in these locations
6. An online community of practice, supplemented with in-person events and meetings, should serve as the basis for the OHGN
7. A detailed content/community management plan is encouraged to support the growth and success of the OHGN
8. The 3G should publicize the OHGN and provide outreach support

Development of an online CoP has not previously been widely explored for the One Health movement, but in the Task Group's opinion, it would fulfill the needs mentioned during the SMM and OHGN meetings. It would encourage communication across the far reaches of the globe, thus ensuring the coherence of strategies, programs, and projects. It would promote collaborations through member profiles and communication tools. It would provide an avenue for members to share knowledge and experiences related to best practices and lessons learned. It would address the existing gaps in the One Health web presence by encouraging communication between members and supporting training initiatives.

The CoP aspect of this proposal may be uncomfortable for some individuals who assume an online CoP is for social networking. It is important to recognize that online CoPs are not about "friending" other members; these communities are built to provide resources, discussions, and connections that help members be more successful in their jobs.

Developing a CoP will be challenging, but extensive literature exists that the workgroup can use to begin the process. If the CoP is relevant to the One Health community, it will become self-sustaining and be supported by its members, thus requiring minimal input from the OHGN workgroup. The Task Group believes that an online CoP will provide an important basis for the success of the One Health movement. We now turn the project over to the OHGN workgroup to further develop the concept.

Respectfully submitted,
Pierre Duplessis, Susan Boggess, Rebekah Kunkel, and Anna Okello

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Appendix I: Consulted websites

Attributes or features that are particularly relevant to the OHGN are marked with (†) at the first instance.

AccrualNet
Accessible at: https://accrualnet.cancer.gov/

AccrualNet is an online community of practice developed by the U.S. National Institutes of Health to address the problem of low accrual rates in clinical trials. AccrualNet has a searchable database containing journal articles, tools, sample materials, and training resources, allowing clinical trial practitioners to easily locate relevant information[23]. It also provides a discussion forum where users can ask questions and share best practices and lessons learned[23]. Users are able to upload their own content and comment on existing resources. Engagement is encouraged through the frequent addition of new content and allowing comments on existing resources.

Best practices of AccrualNet:

- Rather than just aggregating information, content is delivered in useful ways, such as providing plain language summaries along with links to journal articles[23]
- AccrualNet is community-driven, so it meets the needs of the geographically, culturally, and organizationally diverse workforce[23]†
- Members can comment on existing materials and add new content, allowing others to learn from their experiences†
- There are varying levels of privacy, from targeted learning communities to workgroups for particular projects and programs[23]†
- AccrualNet leadership presents the program at professional conferences and during informal discussions[20]
- Easy-to-navigate due to the simple website design and the use of established health communication techniques (e.g. white space, bullets, bold)[23]†
- The format of the community highlights knowledge gaps, helping identify areas requiring more research[23]
- The frequent addition of fresh content from the community encourages users to return to the community

Limitations of AccrualNet:

- Focused on cancer trials
- Community success is dependent member contributions and engagement
- Requires a moderation team to encourage continued engagement

[23] Massett et al., 2011

Craigslist:
Accessible at: http://www.craigslist.com/

Craigslist is an online network of communities that allows users to post local classified advertisements in a variety of areas, including jobs, housing, services, and advice. Craigslist began in 1995 as an email list of events in San Francisco and now includes over 700 local sites in 70 countries[24]. The growth of the site was mainly due to positive mainstream PR and word of mouth[25]. Craigslist currently has more than 50 million users in the United States and receives over 30 billion page views each month[24]. The site supports 12 languages-- Danish, Dutch, English, Filipino, French, German, Italian, Norwegian, Portuguese, Spanish, Swedish, and Turkish[24].

Best practices of Craigslist:

- The text-based format and simple interface keeps site performance fast†
- No account is required for posting and browsing[25]
- The site is easy-to-use for novice users†
- Posts can contain both text and pictures
- Categorization of posts allows users to easily locate information†
- Users have the option of displaying or hiding their email address†
- User feedback is incorporated into the site[26]†
- Users are the primary mechanism for filtering inappropriate/miscategorized content

Limitations of Craigslist:

- The quality of the site is dependent on the quality of postings by people in the community
- It can be difficult to find information due to the large number of posts
- The simple interface means the site is visually unappealing

GHDonline
Accessible at: http://www.ghdonline.org/

Developed and maintained by the Global Health Delivery Project at Harvard University, GHDonline is an online platform that provides equal access to relevant information for global health implementers and organizations around the world. The website connects members interested in contributing to building the global health delivery knowledge base and serves as a content repository[27]. GHDonline supports nine public online communities of practice where members can engage in discussions with their peers and share experiences and best practices from the field. It also hosts private communities for members involved in collaborative initiatives. As of 2011, the website had members from 134 countries[27].

[24] Craigslist Online Community
[25] Gabbay, 2006
[26] Gabbay, 2006
[27] Weintraub et al., 2011

Experts in the field serve as moderators for GHDonline. They keep forum discussions relevant and up-to-date and work closely with the GHDonline team to identify discussion topics, publish content, and invite new members to join the community. They also promote the communities at conferences and help connect organizations and individuals worldwide.

Best practices of GHDonline:

- Free and open membership
- Easy-to-use
- Allows for a two-way flow of information between implementers and experts[28]
- Reduces barriers to sharing and finding knowledge by reducing the delay between discovery and delivery[27]
- Global membership[27]
- Anyone can view discussions, but only members can contribute, receive emails about community activity, and access members-only content
- Members can contribute to discussions via email, encouraging the participation of busy professionals and in areas with unreliable internet connectivity†
- Searches can be filtered by community, member, organization, or keyword†
- Members' email addresses are not shared with other GHDonline members, although members can opt to include their email in their member bio or a discussion posting†
- The system also supports expert panel discussions†
- Members can also upload documents to share†

Limitations of GHDonline:

- No private messaging between members

GLEWS:

Accessible at: http://www.glews.net

The Global Early Warning and Response System (GLEWS) is a web-based electronic platform run by the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), and the World Organisation for Animal Health (OIE) designed to share emerging infectious disease outbreak information and develop coordinated response efforts. The system combines data accumulated from the three agencies to detect outbreak or patterns of diseases, and issue warnings as appropriate. During the period of July 2009-January 2012, 162 events were entered in the GLEWS platform[29].

Best practices of GLEWS:

- Has the support of the tripartite
- Only shares information that has not already been covered by the media and the Global Public Health Intelligence Network to avoid duplicative messages[30]

[28] Open Forum Archives, 2010
[29] Fourth GF-TADS for Europe Steering Committee Meeting
[30] GLEWS Taskforce Meeting

Limitations of GLEWS:

- Very few events are actually reported
- Funding has been a challenge
- Activities are not aligned with food safety and wildlife diseases

Health Unbound
Accessible at: http://www.healthunbound.org/

Health Unbound (HUB) is an online network for the mobile health community to share projects and ideas. Notably, the idea for HUB came from a 2008 conference in Bellagio, Italy, where "participants envisioned an overarching 'network of networks' to bring together diverse stakeholders, ideas, and activities—a network to foster discussion and collaboration…"[31]

Registration in the network is free and open to anyone. Blog entries are categorized to ease users' ability to find relevant information. HUB is specifically geared towards supporting collaboration among mHealth users to reduce redundancy and duplication of efforts.

Best practice of Health Unbound

- Free registration
- Categorized blog entries eases users ability of find relevant information
- Supports discussion groups
- Has an event calendar that can be filtered by date, location, and topic
- Searches can be conducted by topic, country, or type of initiative

Limitations of Health Unbound

- Posts are classified by users, which may lead to misclassifications
- Little traffic is seen on the discussion boards

HealthMap
Accessible at: http://healthmap.org/en/

HealthMap, developed by a team of researchers, epidemiologists, and software developers at Children's Hospital Boston, is a health surveillance system that searches web sources, such as news outlets, discussion sites, and disease reporting networks[32], for real-time information on infectious disease outbreaks. HealthMap aims to organize the abundant information available on the internet in one central location to provide a comprehensive view of infectious disease reports globally[33]. ✝

[31] Health Unbound, 2012
[32] Brownstein et al., 2008.
[33] HealthMap brochure

As of 2008, information was collated from over 20,000 websites; approximately 300 reports were collected each day and 85% were acquired from news media sources[34]. The majority of reports are in English, but HealthMap also monitors information sources in Chinese, Spanish, Russian, and French[34]. The system receives over a million visitors each year.

Best practices of HealthMap:

- Data is aggregated by disease and displayed by location
- Users can easily access the original reports
- The visual interface is intuitive for novice users[35]
- There is a limited need for human contribution as data aggregation is automated[34]
- Free access for users[35]
- Reports are acquired from free news sources, minimizing operational costs[36]
- Has an application for mobile devices which provides real-time disease outbreak information[33]†
- Reports can be searched by disease, location, report source, and date[35]
- Combines data from multiple sources in one location[34]

Limitations of HealthMap:

- Low-impact, high news-worthy events are often reported[34]
- Stories are often reported without adequate confirmation
- Biases may be intentionally introduced for political reasons through disinformation campaigns or state censorship of information relating to outbreaks[36]
- More reports come from countries with higher numbers of media outlets, more developed public health resources, and greater availability of electronic communication infrastructure[36]

Knowledge Hub

Accessible at: https://knowledgehub.local.gov.uk/

Knowledge Hub is a community of practice containing over 90,000 professionals that facilitates collaboration, knowledge sharing, and professional development opportunities. It offers opportunities to collaborate and learn through webinar series, discussion forums, newsletters, and access to relevant project management office research. Members are able to control who has access to their information.

Members are able to join groups based on their specific interests. Groups contain a library section, where files can be uploaded and shared. Groups also have an events calendar which can serve as a comprehensive directory for all the upcoming conferences, seminars, workshops, and courses relevant to the group.

[34] Nelson, 2008
[35] Freifeld et al., 2008
[36] Brownstein et al., 2008

Best practices of Knowledge Hub

- Free membership
- Documents and blog posts are regularly added to the Hub library
- Supports discussion groups
- Groups can create events calendars
- Members can follow the activities of other users
- Content can be filtered by date and content type
- Users can receive email notification about their groups
- Can subscribe to activities via RSS feed†

Limitations of Knowledge Hub

- Documents and blogs are categorized by the users which may lead to misclassifications
- No standardization for member names which reduces credibility

LinkedIn:

Accessible at: http://www.linkedin.com/

LinkedIn is a social networking site for professional development launched in 2003. Members connect with professional associates to build their business network. Users can post their resume, send messages to other members, join interest groups, and participate in discussion areas. Employers can use the site to post employment opportunities and search for potential candidates. Since it is mainly used by members seeking a new job or business leads, the site recently began to focus on developing real-time data and content to encourage more frequent visits by users. As of February 9, 2012, LinkedIn had over 150 million members in over 200 countries and territories, with 60% of its members from outside the U.S.[37]

Best practices of LinkedIn:

- Currently available in 17 languages[2737]†
- Interest groups allow members to share insights and knowledge†
- Members are able to send messages to each other via the platform, protecting their personal email addresses†
- Powerful "keyword" search allows members to identify appropriate professionals even outside their contact list†
- There is a mobile version of the site†
- Limited information is required to build a profile
- Members can use the "LinkedIn Answers" feature to ask the community questions
- Members can determine how much of their profile is visible through privacy controls
- Potential contacts can be identified using email contact lists
- Users can create up to 3 saved searches and can receive weekly or monthly reminders via email when new members in the network match the saved search criteria

[37] LinkedIn Press Center

Limitations of LinkedIn:

- There is no monitoring of posted CVs, so unreliable and misleading information may be posted
- Spam messages are often posted in group discussions
- A paid membership is required to send messages to people outside connections

One Health Initiative:
Accessible at: http://www.onehealthinitiative.com/

The One Health Initiative is a website focused on increasing communication and collaboration between human, animal, and ecosystem health professionals. The website became operational in October 2008, and has since received over 287,400 visits from 145 countries, averaging 130 countries monthly[38]. As of February 29, 2012, the website is linked, or has been linked, to 81 websites and the email distribution list included 920 individuals from 55 countries. Six hundred and twenty-nine individuals are listed as One Health supporters[38].

The One Health Initiative website provides valuable information on news, events, and publications, but this information is difficult to search because it is abundant and poorly organized. Although one of its initial goals was to serve as a venue for supporting collaborations, the website does not have a means for active and ongoing communications amongst the One Health community. The website also remains largely US-focused.

Best practices of the One Health Initiative:

- Collates a large amount of information related to One Health

Limitations of the One Health Initiative:

- Weak search function
- Disorganized
- Does not support communications between professionals
- Largely US-focused

One Health Commission
Accessible at: http://www.onehealthcommission.org/

The One Health Commission (OHC) was created to establish closer professional collaborations and educational opportunities across the health science professions and their related disciplines. The OHC was incorporated as a nonprofit organization on June 29, 2009[39]. Initial funding for the Commission included a grant from The Rockefeller Foundation. Similar to the One Health Initiative, the OHC aims to serve as a central resource for One Health initiatives and activities worldwide. The OHC provides information on a variety of One Health initiatives,

[38] One Health Initiative Website Statistics, March 1, 2012
[39] Executive summary of the One Health Commission Summit

including a description of the projects, links to websites, and contact information for key individuals. The OHC also includes a list of updates and news releases related to One Health, organized by date, as well as a list of One Health-related events and conferences. Users can email the OHC with information on events or resources to add to the website.

Although the website provides specific contacts for some of the listed One Health initiatives and activities, the site still does not support networking and direct connections between One Health professionals.

Best practices of the One Health Commission

- Has an extensive list of One Health organizations and programs
- Has a calendar for One Health related events
- Has specific contacts listed in the One Health related organizations

Limitations of the One Health Commission

- Weak search function
- Can be difficult to find relevant information
- Limited list of news updates
- Does not support networking and communications between professionals

One Health Talk

Accessible at: http://www.onehealthtalk.org/

Launched in January 2012, One Health Talk is a virtual dialogue on One Health aimed at allowing contributors to share their opinions, as well as learn from the opinions of others. The website is designed to provide a place for collaborative conversations that transcend sectors and geographic boundaries. The website was developed by the University of Minnesota in conjunction with the Food and Agriculture Organization of the United Nations. Each month, One Health Talk posts several questions in its forum to promote dialogue. Discussions are facilitated by a technical expert and a discussion moderator. Participants are also invited to send in information they would like to share, such as papers and videos. Initially, the website garnered a significant amount of activity. Two weeks after launch, discussion contributions had come in from 11 countries and, one month following launch, the site had 356 registered participants.

The website has remained fairly quiet since the January 2012 launch despite the fact that new discussions are posted monthly and discussions between users have remained limited. Additionally, individuals have expressed concern that logging into the platform is not straightforward and some individuals have been unable to register at all. One Health Talk uses social media, but in a limited way. The Facebook page, started in November 2011, only had 4 posts and 5 “likes” as of May 31, 2012. The Twitter feed for One Health Talk has been slightly more active, with 20 tweets from January 2012 to May 2012.

Best practices of One Health Talk

- Supports discussions between members

Limitations of One Health Talk

- Discussions are limited to the monthly topic and does
- Individuals have noted difficulties logging into the platform
- Dialogue on the site has been limited to only a few members

Pivot

Accessible at: http://pivot.cos.com/

Pivot connects researchers with matching funding opportunities, as well as with each other, by combining a database of funding opportunities with scholar profiles. The database contains over 25,000 domestic and international funding opportunities in all academic areas, including research, travel, and fellowships. Pivot automatically matches researchers with funding opportunities based on information in their profile and the researcher's prior work. Unfortunately, funding opportunities and potential collaborators will only be identified accurately if the scholar's profile is accurate.

Training and online tutorials are provided so that users can effectively utilize the platform. When users search for funding opportunities, they are able to view potential collaborators from inside and outside their institution. Conversely, a search for other researchers will link to matching funding opportunities. Tools are available that allow users to save, organize, prioritize, share, and track opportunities. Users can also create and manage groups for ongoing communication regarding funding opportunities; messages to these groups can also be distributed directly to the email addresses of individuals without pivot accounts.

Best practices of Pivot

- Allows users to track application deadlines†
- Connects researchers to potential collaborators†
- Users receive alerts when new matching funding opportunities are posted
- Keywords help locate appropriate opportunities

Limitations of Pivot

- An individual's organization must be a member in order to join
- Organizations must pay to join

ProMED

Accessible at: http://www.promedmail.org/

The Program for Monitoring Emerging Diseases (ProMED) is a real-time internet-based outbreak reporting system intended to complement official surveillance systems and allow

users to stay up-to-date on current events[40]. ProMED releases 7-10 alerts a day[41,42,43] which are distributed through email to 30,000 email subscribers in over 180 countries[41,42,43]. Alerts are also available on their website, which receives approximately 10,000 visits per day[44]. ProMED was hosted for free by SatelLife[42] until 1998. As of 2007, ProMED's annual budget was under $500,000 USD[43].

All reports and released alerts have been approved and edited by ProMED staff[42]. Moderators serve an important role; they verify information in reports, find additional information from media reports, online summaries, and local observers, and add commentaries to postings, which have become important as the nonprofessional segment of membership expanded[45]. These commentaries are particularly important for explaining the human health relevance of the veterinary postings[45].

Best practices of ProMED:

- Free membership†
- Information is accessible to anyone with internet access†
- Alerts are available through email and the web, enhancing access for people with limited internet access
- Program has few graphics, allowing it to load quickly in locations with slow internet connections[46]†
- Not tied to political bodies, eliminating constraints that may result in the distribution of misinformation and reporting delays [46]†
- One of the few informational sources to combine animal and human alerts[47]
- Posts are grouped by disease agent, affected species, and location, allowing for easy searches[48]

Limitations of ProMED:

- The majority of reports are from the United States. There are obvious reporting gaps in the Sahara desert region from Mali to Egypt, areas of the Middle East, and some parts of central Europe[48]
- The majority of subscribers are also from the United States, representing 63.8% of users in 2006[48]
- The large number of postings means the system is sensitive, but ProMED rarely discerns between instances of high and low importance, making it difficult to identify pertinent information and to utilize the program for threat detection[47]

[40] Kay et al., 1998
[41] Madoff, 2004;
[42] Madoff and Woodall, 2005
[43] Zeldenrust et al., 2008
[44] Miller, 2008
[45] Hugh-Jones, 2001
[46] Hugh-Jones, 2001
[47] Zeldenrust et al., 2008
[48] Cowen et al., 2006

- Information is not always accurate[49]
- Funding is often inadequate because ProMED is not owned by a specific individual or entity[48]
- Moderating, which is performed on a volunteer basis, is time-consuming[46,50]
- Postings are often not reported in scientific language[47]

Scitable
Accessible at: http://www.nature.com/scitable

Launched in 2009, Scitable, offered by the Nature Publishing Group, is an online teaching and learning portal for undergraduate students and faculty. The website, which can be viewed on mobile devices, provides free access to up-to-date science information and research. Scitable members can browse scientific articles, share content with others, and store articles to their profile for easy retrieval. Faculty can build online classrooms with resources for students. Currently, Scitable is used by students and instructors in over 160 countries and approximately 40% of the users are from the U.S.

Scitable utilizes social media elements which allow people to message each other, create study groups, and contact experts with questions. Study groups can be either public or private. Members can find users to connect with by searching for specific roles (undergraduate students, graduate students, faculty, librarians) or locations (by continent or country). The site also features a monthly podcast and a video blog.

Best practices of Scitable:
- Free membership
- Has a mobile version of the site
- Supports messaging between users
- The research and information in the library are accurate and valid
- Site is easy to navigate
- Member can create study groups with other users
- Articles can be stored for later reference
- Uses interactive media
- Includes peer-reviewed material

Limitations of Scitable:
- Has not expanded its focus beyond genetics
- Not all website features are available from mobile devices
- Currently only available in English
- Maintaining the site is expensive

[49] Lancet article
[50] Woodall and Calisher, 2001

Science and Development Network
Accessible at: http://www.scidev.net

The Science and Development Network, launched in 2001, is a nonprofit organization dedicated to providing reliable and authoritative information about science and technology to the developing world†. The website gives policymakers, researchers, media, and civil society a platform to explore how science and technology can reduce poverty, improve health, and raise standards of living around the world. In 2010, there were over 54,000 registered users, 73% from developing regions and the website received more than 1.6 million visits and over 3.2 million page views[51]. Major funders include the UK Department for International Development, the Swedish International Development Cooperation, the Dutch Ministry for Foreign Affairs, and the Canadian International Development Research Centre. Annual costs for 2010 were £993,183[51] (roughly $1.6 million).

This network offers a variety of information to users. Registered members are able to comment on articles and can submit announcements, events, jobs, and grants to be featured on the website and in the weekly emails. Information on the website is organized by topics and regions, making it easily searchable. The network also utilizes social networking and blogs to engage users.

Best practices of the Science and Development Network:

- Information is sorted by region and topics
- Available in several languages†
- Allows access from mobile devices
- Information is up-to-date

Limitations of the Science and Development Network:

- Organization of key documents within categories is unclear
- Most of the news articles and notices are only posted in one language, with the majority in English

STAR-IDAZ Global Network
Accessible at: http://www.star-idaz.net/

The STAR-IDAZ Global Network is a 48-month EU-funded project aimed at coordinating research activities on the major infectious diseases of animals and zoonoses through the establishment of an international forum of research and development program owners and managers and international organizations to share information, improve collaboration on research activities, and work towards common research agendas and coordinated research funding. The program began on February 1, 2011 and involves 22 organizations from 18

[51] SciDevNet Annual Review 2010

countries, including partners from the Americas, Asia and Australasia, and Europe, the animal health industry, and international organizations.[52]

This program is of interest because of its extensive communications plan. Although STAR-IDAZ is still in its initial stages of implementation, the communications strategy document documents how and when information will be disseminated to all stakeholders. Along with a website, the group plans to use a variety of other communication mechanisms including written reports and documents (including e-reports), talks, letters and emails, e-newsletters, press notices, and participating in and attending external meetings. These mechanisms are targeted to different stakeholder groups as appropriate and information is distributed at varying frequencies depending on the mechanism.

Best practices of STAR-IDAZ Global Network:

- Has an extensive communications plan†
- The global network is a combination of regional networks
- Publications database can be searched by country or by topic
- Supports a calendar of events

Limitations of STAR-IDAZ Global Network:

- Still in the early stages of development, so its success cannot be fully assessed

[52] STAR-IDAZ Global Network for Animal Disease Research Communications Strategy

Appendix II: Attributes (functionalities) of relevant websites

- Sharing information
  - General topical info[53]
  - General updating[54]
  - Programs and activities
    - Descriptive[55]
    - Case studies, guidelines and best practices[56,57]
  - Logistical, operational, budgetary[58]
  - Scientific
    - Reporting[59]
    - Publications[60]
  - One Health conferences, meetings, and events[61]
- Alert mechanisms[62]
- Reporting on events[63]
- Mapping[64]
- Business planning[65]
- Networking
  - Bringing professionals together[66]
  - mHealth networking[67]
  - Info sharing among members[68]
- Continuing education, knowledge sharing, publications[69]
- Advocacy, communication & resource mobilization[70]
- Referral or re-directing[71]

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[53] Morbidity and Mortality Weekly Report http://www.cdc.gov/mmwr/mmwr_wk/wk_cvol.html
[54] European Union, External Action, Latest News http://www.eeas.europa.eu/index_en.htm
[55] WHO, programmes and projects http://www.who.int/entity/en/
[56] One Health Commission – case studies
http://www.onehealthcommission.org/index.cfm?nodeID=38649&audienceID=1&action=display&newsID=15887
[57] Public Health Agency of Canada website, infectious diseases, Infection Control Guidelines http://www.phac-aspc.gc.ca/id-mi/index-eng.php
[58] American Public Health Association website, see relevant sections in home page at: http://publichealthbuyersguide.com/
[59] One Health Global Network, meetings info http://www.onehealthglobal.net/?page_id=45
[60] OIE, publications section http://www.oie.int/publications-and-documentation/general-information/
[61] CDC, One Health Related Meetings http://www.cdc.gov/onehealth/meetings.html
[62] GLEWS http://www.glews.net/
[63] GLEWS, disease events http://www.glews.net/disease-events/
[64] OIE – WAHID Interface
http://web.oie.int/wahis/public.php?page=disease_outbreak_map&disease_type=Terrestrial&disease_id=15&empty=999999&newlang=1
[65] CIDRAP, business planning section http://www.cidrap.umn.edu/cidrap/content/influenza/biz-plan/index.html
[66] LinkedIn http://www.linkedin.com/home?trk=hb_home
[67] One Health Approaches to Global Climate Change - Facebook event http://www.facebook.com/events/110594178981148/
[68] One Health Talk http://onehealthtalk.org/
[69] FAO; info under relevant menu items http://www.fao.org/knowledge/kfhome/en/
[70] Harvard School of Public Health http://www.hsph.harvard.edu/give/
[71] One Health Commission http://www.onehealthcommission.org/en/resources/

Appendix III: Interviews with subject matter experts

Interviews with representatives from five existing websites (ProMED, GLEWS, One Health Initiative, One Health Commission, and One Health Talk) were conducted by Dr. Pierre Duplessis in May 2012. Summaries are listed below.

Interview Summary for GLEWS
Representative: Dr. Bernadette Abela-Ridder

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1. Thank you for the call and congratulations for the site
2. Sharing background info
3. Launch and maintenance of the site:
    a. How much did it cost to launch and to maintain?
    Launching costs: unknown
    Maintenance costs: minimal
    b. Who is doing the work? And who is hosting?
    Tripartite endeavor
    GLEWS is the IT platform. There is a network behind it, the Food Borne Infectious Diseases Network, which brings capacity building capability
    c. Current/future challenges associated with the site?
    Future lies in enhancing capability
    GLEWS has to be an value-added tool
4. What is the future envisaged for your website? (status quo, expansion, merging…)
A GLEWS concept note is to come out soon and will clarify the issue. There could be, for example, a proposal for an external advisory committee to address objectives, policies, strategic and technical matters.
Noteworthy is the fact that Human Resources (HR) is a challenge since GLEWS operates in a tight budget-wise environment.
5. Explore if and how we could liaise/connect with OHGN
    - **We don't want to own GLEWS necessarily. Work is already done in partnership. Expanding partnership has always been something positive and we consider inviting external people on thematic working groups for instance or on the external advisory group.**
    - **We do have a role, a convening power supported by a very powerful network. GLEWS has machinery behind it which connects to the EMPRESS.**
    - **GLEWS' platform will remain a tripartite internal mechanism.**

6. What are the gaps in OH today?
   - **How to be vibrant? Current? Inclusive?**
   - **The food safety issue that inevitably touches on One Health**
   - **In-countries legislation makes it often difficult to be cross-sectoral [within those countries].**
   - **Are we giving enough to countries? Are we meeting their expectations?**
   - **There is a lot of value in the One Health approach, but we are so absorbed and distracted by the number of epidemics, by efficiency and by costs.**

Summary of two interviews with the One Health Commission
Representatives: Dr. Roger Mahr and Ms. Connie Scovin

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1. Thank you for the call and congratulations for the site (sharing background info)
2. Background info on OHGN TG mandate for the benefit of the interviewees
3. Launch and maintenance of the site:
    a. How much did it cost to launch and to maintain?
    Minimal costs: we bought a simple platform and built from it.
    Maintenance is very low ($1500/year), but hidden costs are not taken into account (ex: in-kind, volunteer time, etc.).
    Partners are involved in many aspects, including financially.
    A strategic planning process is ongoing and we have a corporate plan in order to secure grants for sustainability.
    b. Who is doing the work? And who is hosting?
    Consortium of many partners at the beginning [see website partners].
    Currently the site is physically located at the "Nutrition Wellness Center."
    The Commission entered in a partnership with some organizations for 3 years (end: May 2012); this is coming to an end and is actually being reexamined.
    There is a need for a leading partner at this juncture.
    Our current strategic planning exercise will bring clarity to these issues for the short and the long term.
    We benefit from in-kind services from the "Center for Food security and Public Health" (Ms. Connie Scovin acting as communication person for One Health Commission).
    c. How do you decide what is posted and what is not? (policies?)
    Direction and oversight for this platform is basically filtered through the communication person who acts as administrator of the portal
    d. Current/future challenges associated with the site?
        i. **Making sure the info is <u>accurate</u>, relevant and timely.**
        ii. **Membership including directors on the Board are part of the strategic planning process and reflection: what and who; how many; what will be the contribution of partners ($ and otherwise).**
        iii. **Medium term as planned was and is addressed quite well.**
        iv. **Flexibility of the site allowed new issues to be dealt with efficiently.**
        v. **Expansion is also to be considered: the more you are known, the more it calls for expansion – and resources…**
4. What is the future envisaged for your website? (status quo, expansion, merging…)
    We want the site to be more interactive than it is today (i.e. to facilitate interaction at various levels, be it national, regional, local)
5. Explore if and how we could liaise/connect with OHGN including exchanging contact lists

There is willingness on our part. Discussion has to take place on how best doing it for the benefit of the two organizations. [Note: as a result of these two interviews, Dr. Vandersmissen was put in touch with Ms. Connie Scovin].

6. Network of Networks: is this something needed?
   - **Indeed and this is exactly what the Commission tries to offer.**
   - **We might say there are many similarities with OHGN and we should explore how to enhance our One Health efforts.**
7. What are the gaps in One Health today?
   - **We need to create awareness among all players.**
   - **We also need to work altogether.**
   - **The challenge on how to communicate information is very real.**
   - **Unusual partners need to get involved. Ex: humanitarian organizations, social sciences (culture, behavior), health dimensions like prevention**
   - **Future of One Health will have to go through:**
     - **information between different audiences (establishing a lead organization? Ex: a "Center for communication resources"?)**
     - **a transformation process: human health, animal health and ecosystems working together in demonstration projects for instance, in education projects, research projects**
     - **mechanisms to facilitate people working together**
   - **One Health should not get as much into funding as into dissemination and facilitation. The question is: "How to really facilitate people working together?"**
   - **Similar to what is happening in the US, outreach has to be significant (USDA extension in land grants could be duplicated in similar extension processes globally)**

Interview Summary for the One Health Initiative
Representative: Dr. Bruce Kaplan

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1. Thank you for the call and congratulations for the site
2. Sharing background info
3. Maintenance of the site:
    a. How do you decide what is posted and what is not? (policies?)
    No formal policies. Posting and articles are reviewed by those professionals who make the decision from a scientific and professional standpoint.
    b. Who is doing the work? And who is hosting?
    This site is maintained through personal money, *pro bono*, and with time and work of a handful of dedicated people. As of today we are basically five persons believing in it, and working to make it happen (Dr. Lisa Conti, Dr. Laura Kahn, Dr. Bruce Kaplan, Dr. Thomas Monath, and Dr. Jack Woodall).
    c. How much did it cost to launch?
    No idea. Was and is Dr. Roger Mahr's idea (site launched in 2008). Personal efforts by all of us. (Note: a small group of interested people in OH informally got together in 2006; Dr. Mahr joined in 2007).
    d. How much does it cost to maintain and update?
    No governmental agencies nor university support. Only individuals.
4. What is the future envisaged for OHI portal? (status quo, expansion, merging…)
We don't know what the future holds. Status quo for the moment. As long as we can maintain it.
5. Discuss the World Veterinary Association site within the One Health Initiative
Equal opportunity to all. This is the case with the World Veterinarian Association. The One Health Initiative is not the preferred platform for the World Veterinarian Association nor is it the association's official vehicle.
6. What are the gaps in One Health today?
    - **One Health is evolving in silos, with different interests from different groups. –**
    - **Major bureaucratic agencies involved as well. An important point would be to avoid taking ownership.**
    - **If there are "official" organizations as part of this movement, there are also many important people who have to be given due consideration.**
7. Network of Networks
    a. Is this something needed? **By all means. Everything is in silos right now. And so many silos!**
    b. What would be needed and how to make it happen? **We have to work together in this, to avoid the multiple agendas, to avoid as well the preponderance of one organization over the others.**

Interview Summary with One Health Talk
Representative: Dr. Will Hueston

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1. Thank you for the call and congratulations for the site
2. Background info on OHGN TG mandate
3. Launch and maintenance of the site:
    a. How much did it cost to launch and to maintain?
    - **Setting up required: 1/ collaborative work + 2/ grant money + 3/ serendipity + 4/ involvement of an intergovernmental organization like FAO (Dr. Olsen to spend few months in Rome with FAO was coincidental to One Health Talk): around 5 different grants (not necessarily One Health grants but One Health related); expertise of different committed professionals (ex. Olsen), University of Minnesota (U of M); National Center for Food Defense and Security (NCFDS) at U of M.**
    - **Launching costs difficult to assess.**
    - **Maintenance (technical) is around $40-50,000/year to which we need to add the costs of hosting, professional time for selection of topics, discussion moderator, editing and posting.**
    - **By and large, it's a patchwork**

    b. Who is doing the work? And who is hosting?
    Hosted by NCFDS at U of M. We do not want this to be seen as solely a U of M site; it is a shared initiative

    c. How do you decide what is posted and what is not?
    Careful balance between topics (we do not want to be too narrow), regions, disciplines, current issues, etc.

    d. Current/future challenges associated with the site?
        i. **language barrier to be addressed**
        ii. **access to all disciplines**
        iii. **costs associated with maintenance of the site (if we keep on with the university path, then we need to be curriculum oriented to justify a university involvement ex: graduate students to participate in the discussion)**
        iv. **we need to listen to all other voices in the world (every region)**
4. What is the future envisaged for your website? (status quo, expansion, merging…)
    i. **We are dependent on the interest that is "out there"**
    ii. **We will need eventually to do some "development work" otherwise we risk to become stagnant**
    iii. **If a wonderful opportunity were to present itself, we will simply donate all what we have done**
5. Explore if and how we could liaise/connect with OHGN and exchanging contact lists

i. **We need to explore further with Alain Vandersmissen the how and the what. Discussions already started in Davos**
ii. **We are open to any valuable opportunity**

6. Network of Networks (NoN)
    a. Is this something needed? **It is critically important**
    b. What would be needed and how to make it happen?

- New ideas are generally driven by individuals not as much by organizations
- I see NoN more as connecting people than simply connecting electronic platforms/tools
- The question begs: how to bring this to the next level?
- <u>Network of people</u>
We need to create a network up to date at every moment ex: LinkedIn
- <u>Images</u>
To see people adds a lot than just reading or hearing a voice. We create a much more comprehensive communication this way. Skype offers us an example.
- <u>Social media</u>
We need real time connectivity like Twitter, Facebook. Can we generate a sort of professional flash mobs?
- <u>Stories</u>
The power of stories is not to be underestimated. One Health stories are critically important. Ted Talks combined with YouTube is an example; TEDx is even more relevant to One Health (sometime homemade videos carry more weight than edited ones).

Interview Summary for ProMED-mail[72]
Representative: Dr. Peter Cowen

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1. Thank you for the call and congratulations for the site (languages, search engines, alert and up-to-date info, announcements, m-Health applications)
   Note: Dr. Cowen is on the Curriculum Task Force of the Stone Mountain Meeting, thus knowledgeable about OHGN
2. Quick background info about the OHGN TG mandate
3. Maintenance of the Pro-MED site:
   a. How do you decide what is posted and what is not? (policies?)
      Many committees, experts, etc. including Google editor since Google is partly funding. In the early days, there were 5 people/experts with a top moderator. Today the top moderator filters everything first, and redistributes to subject experts according to subject matters. Outside experts are sometimes required.
   b. Who is doing the work? And who is hosting?
      International Society of Infectious Diseases (ISID) is still the legal owner and offers the legal entity aspects (all grants, funds, etc. go through ISID). Hosting the site is the Harvard School of Public Health (HSPH). All servers are at HSPH. Dr. Madoff of the University of Massachusetts Medical School is the Editor.
   c. How much did it cost to launch and maintain?
      Don't know the numbers. Dr. Madoff would know. However probably $200-300,000?
      It has always been a not-for-profit. There is a lot of personal time invested from people like Dr. Cowen.
   d. Challenges associated with the launch and maintenance of the site?
      Keeping it a public good, not-for-profit, without direct government involvement.
      Financing ProMED on the long run will remain the biggest challenge.

4. What is the future envisaged for Pro-MED? (status quo, expansion, merging…)
- **Real time outbreak reporting through cell phones and mobile devices**
- **We want to keep it a public good**
- **No advertisement**
- **We encourage people to use it, to reproduce information**

5. Explore if and how we could liaise/connect with OHGN (including exchanging contact lists)
   It does not seem to be a problem. We would be hesitant only if we thought a website/group to have an agenda
   (Note: the exchange of contact lists has not been addressed as such)

[72] ProMED-mail is a program of the International Society for Infectious Diseases

6. Network of Networks
    a. Is this something needed?
       Yes it is needed. See the Foot and Mouth Disease portal at OIE. We are probably talking about something similar.
    b. What would be needed and how to make it happen?
       This is more an Internet question and less of a structural one. Dr. Cowen said he is not fully qualified to answer that question.
7. What are the gaps/challenges in One Health today?
    - **There has to be a constant education on One Health. Unfortunately Avian Influenza was a missed opportunity: rather than being a call for One Health, it turned out to be a criticism of a supposed overreaction of public health authorities**
    - **Human medicine, i.e. doctors, have to be more involved**
    - **It is not just about the infectious disease model**
    - **We have to do better with the "third leg" i.e. the ecosystems**