



Networks as systems: A case study of the World Health Organisation's Global Health Workforce Alliance

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Abstract

Purpose

This paper presents a case study of the WHO's Global Healthcare Workforce Alliance (GHWA). Based on a commissioned evaluation of GHWA, it applies network theory and key concepts from systems thinking to explore network emergence, effectiveness and evolution to over a 10-year period. The research was designed to provide high-level strategic guidance for further evolution of global governance in human resources for health (HRH).

Design/methodology/approach

Methods included (1) a review of published literature on HRH governance and current practice in the field and (2) an in-depth case study whose main data sources were relevant GHWA background documents and key informant interviews with GHWA leaders, staff and stakeholders. Sampling was purposive and at a senior level, focusing on Board members, Executive Directors, funders and academics. Data were analysed thematically with reference to systems theory and Shiffman's theory of network development.

Findings

Five key lessons emerged: (1) effective management and leadership are critical; (2) networks need to balance "tight" and "loose" approaches to their structure and processes; (3) an active communication strategy is key to create and maintain support; (4) the goals, priorities, and membership must be carefully focused; and (5) the network needs to support shared measurement of progress on agreed-upon goals. Shiffman's middle-range network theory is a useful tool when guided by the principles of complex systems that illuminate dynamic situations and shifting interests as global alliances evolve.

Research Limitations

The study was implemented at the end of the 10-year funding cycle. A more continuous evaluation throughout the term would have provided richer understanding of issues. Experience and perspectives at the country level were not assessed.

Practical Implications

Design and management of large, complex networks requires ongoing attention to key issues like leadership, and flexible structures and processes to accommodate the dynamic reality of these networks.

Originality/value

This case study builds on growing interest in the role of networks to foster large-scale change. The particular value rests on the longitudinal perspective on the evolution of a large, complex global network, and the use of theory to guide understanding.

Key words: *human resources for health; inter-organizational networks; systems thinking; global alliance*

Paper Type: Case study

Background

In 2006, with funding from international donors, the Global Healthcare Workforce Alliance (GHWA) was created with a ten-year mandate. The new organization was governed by a board representing its diverse member base of HRH experts and practitioners (<http://www.who.int/workforcealliance/about/en/>). Operations were managed by a secretariat hosted by the World Health Organization (WHO). Historically, discussions about global human resources for health (HRH) issues focused largely on increasing resources to fill staff deficits (Dussault, 2015), taking a relatively simplistic approach to a complex problem. Tackling issue characteristics as varied as recruitment and retention, scope of practice, technological change and mobility requires the coordinated engagement of many sectors. This broader perspective emerged in 2004 when the Joint Learning Initiative asserted that many countries would not meet their Millennium Development Goals (MDGs) due to what the report termed, “the HRH crisis” (Joint Learning Initiative, 2004a). International concern was further focused by the WHO report *Working Together for Health*, which proposed a global alliance of stakeholders to advocate for resources to develop HRH (World Health Organization, 2006).

Over a decade, GHWA’s Board developed a global network involving hundreds of HRH stakeholders. As a convener, the Alliance hosted three global fora resulting in international declarations and political commitments to address HRH in low and middle-income countries. Seeking to act as a catalyst for change, GHWA organized and produced planning tools and resources to support the evolving discourse on ever-changing HRH needs and environment among policymakers and other stakeholders.

In addition to its many important accomplishments, GHWA also encountered significant challenges. By the end of its lifespan, GHWA was judged by some stakeholders as having failed to meet (admittedly vague) expectations.

The past decade also has seen a growing understanding among global health leaders that many of the priority challenges truly are complex (Best and Holmes, 2010; Best *et al.*, 2007; Herbert and Best, 2011). Adam and de Savigny followed their publication for the World Health Organization (WHO) Alliance for Health Policy and Systems Research Flagship Report “Systems Thinking for Health Systems Strengthening” (2009) with a special issue in *Health Policy and Planning* (2012). The supplement highlighted the evolution in thinking about how to improve health systems in low- and middle-income countries.

The Flagship Report’s model for systems thinking underscores the importance of integrated strategy that addresses six cornerstones and their interactions: Governance; Human Resources; Finance; Information; Medicines and Technologies; and Service Delivery. The Flagship Report and special issue highlight key principles of complex systems that affect strategy development and system strengthening for issues like innovation, collaboration and learning, training,

1 measurement and feedback, and network development (Adam and de Savigny, 2012; Atun,
2 2012; Swanson *et al.*, 2012; Willis *et al.*, 2012). The report highlights some of the critical
3 characteristics of health systems and the need for a paradigm shift “from linear, reductionist
4 approaches to dynamic and holistic approaches that appreciate the multifaceted and
5 interconnected relationships among health system components, as well as the views, interests
6 and power of its different actors and stakeholders” (Adam and de Savigny, 2012).
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10 11 **Purpose**

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14 To inform this analysis, we applied Shiffman’s theory of network emergence (Shiffman *et al.*,
15 2016) (Figure 1) on the emergence and effectiveness of global health networks. According to
16 this framework, *issue characteristics* (e.g. HRH shortages and related framing strategies)
17 continually interact with *network and actor features* (characteristics of, and relationships between
18 individuals and organizations in the network), as well as the *policy environment* (measurement
19 systems or accountability structures), resulting in *network emergence and effectiveness*.
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24 The GWHA study explores a cross-cutting network concerned with HRH strategy across
25 numerous content areas, including vertical programs (e.g. disease-specific initiatives) and
26 horizontal (i.e. national) programs. This analysis considers GHWA’s *evolution* as a network
27 over ten years, complementing Shiffman’s focus on *emergence* and *effectiveness*. To aid our
28 theoretical analysis, we also drew upon a number of the case studies in the 2016 special issue
29 of Health Policy and Planning that focused on international health networks (Shiffman *et al.*,
30 2016).
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35 The analysis extends the set of factors included in the Shiffman framework (Shiffman *et al.*,
36 2016) to explore leadership as well as the role of power and context in unexpected events.
37 There is a particular focus on one network function – that of the network administration office
38 – which (for the purposes of this analysis) we took to include convening, acting as a catalyst
39 for change, and provision of tools and resources. In the discussion section, we present key
40 recommendations for the next phase of global HRH governance.
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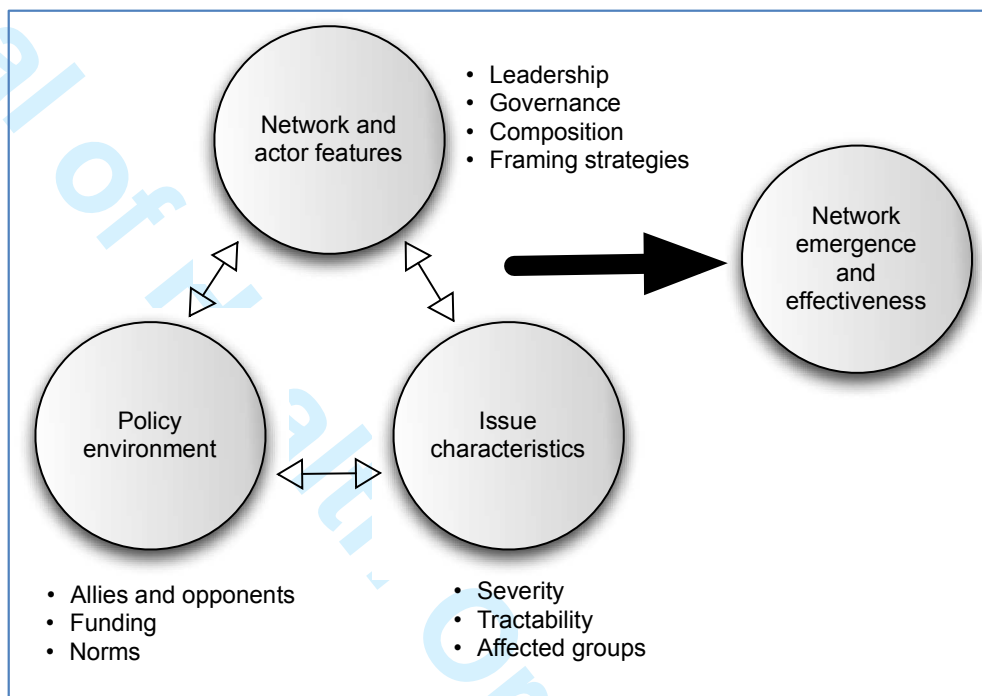


Figure 1: A framework on the emergence and effectiveness of global health networks.

Source: (Shiffman *et al.*, 2016)

Design/Methodology/Approach

Methods included (1) a review of published literature on HRH governance and current practice in the field and (2) an in-depth case study whose main data sources were relevant GHWA background documents and key informant interviews with GHWA leaders, staff and stakeholders. Sampling was purposive and at a senior level, focusing on Board members, Executive Directors, funders and academics. Data were analysed thematically with reference to systems theory and Shiffman's theory of network development.

Review of published literature

The research questions guiding the literature review were:

- What is the state of global HRH governance?
 - How does GHWA fit into the wider HRH governance landscape?
- Actor analysis: Which stakeholders have been involved in developing international HRH policy?
 - What is the nature of their relationships, how do they change over time, and how does their access to resources vary?
- What impact has GHWA had on HRH?
 - What are the measures of success for GHWA and how have impacts of its activities been determined?

Time and resource constraints dictated a strategic search process, initially with guidance from GHWA staff and our expert panel, followed by keyword searches of indexed databases, to

1 identify key articles. Sixty-five articles were considered, both academic (i.e., peer-reviewed)
2 and non-academic (e.g., government and NGO reports, grey literature). Articles were excluded
3 if their abstracts did not mention HRH or governance or focused too narrowly on a specific
4 occupation or country. Fifteen publications met inclusion criteria and were fully reviewed and
5 extracted using a template developed to help answer the research questions. Key article
6 references were mined for additional sources from which nine additional articles were
7 identified for a total of 24 sources.
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12 *Review of background GHWA documents*

13 The research questions for the background document review were:

- 14 • How was GHWA conceived? What were its goals at the outset? What rationale was
15 provided?
- 16 • What model has GHWA used for HRH governance?
- 17 • What were the major milestones in terms of activity?
- 18 • What has worked in particular contexts and what has not?
- 19 • How has GHWA's original plan changed over time (and why)?
- 20 • What is the impact of GHWA globally, locally and regionally?

21 To deepen our understanding of GHWA's history, we catalogued over 700 documents from
22 the GHWA website. Titles and descriptions of each were categorised, reviewed and prioritised
23 based on their relevance regarding the research questions. Data from the 27 documents most
24 relevant to our research questions were synthesised to guide the key informant interviews.
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27 *Key informant interviews*

28 Twenty-three individuals from a list of 26 provided by GHWA staff were interviewed over a
29 four-week period in late 2015. They included current and former GHWA Board members and
30 executive directors, as well as funders, academics and other global HRH stakeholders who had
31 participated in GHWA activities. The interview protocol included questions about GHWA's
32 legacy and impact on advancing global HRH governance. Interview responses were analyzed
33 thematically to identify recurrent themes and observations. Early findings and "hunches" were
34 discussed with GHWA Board members as part of a regular meeting of the Board.
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37 *Data analysis*

38 Interviews were audiotaped and transcribed. Thematic analysis was used for both secondary
39 sources (published literature) and primary sources (documents and interview transcripts). As
40 we applied Shiffman's theoretical model of network emergence, we were prompted to return
41 to the original data sources to explore selected themes in more depth. Narrative synthesis was
42 used to craft a historical account of GHWA's evolution, attempting to identify how external
43 forces and critical success factors changed over time, taking account of the components within
44 Shiffman's model. This over-arching narrative was enriched iteratively as successive sources
45 were added to the account.
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3 To ensure consistency and to minimize the risk of bias from any resource type, we triangulated
4 our findings from the literature review, background document review, and key informant
5 interviews.
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8 Findings

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10 Results are presented using the Shiffman et al. framework to explain how the mechanisms of
11 network development interacted with other influences in a dynamic context. Arrows between
12 key components or spheres of the framework (Fig. 1) represent the constant, multiple, and
13 dynamic interactions that appeared to contribute to the emergence and effectiveness of
14 GHWA. Whilst we have attempted to identify achievements that could be fairly confidently
15 attributed to GHWA efforts, many other organizations also contributed to the changes during
16 this period.
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20 *Building a global network of diverse actors*

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22 Governed by a multi-sectoral board, GHWA engaged over 400 members from national
23 governments, international development agencies and banks, academia, and civil society
24 groups including professional organizations. Significantly, GHWA reached beyond traditional
25 health service stakeholders to include aid donors as well as private not-for-profit groups,
26 although it was less successful in engaging for-profit private sector interest.
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31 According to Provan and Kenis (2008), goal-oriented networks such as GHWA require greater
32 structural stability to ensure participants engage in mutually supportive activities, address
33 conflicts, and use resources efficiently. GHWA benefitted from such a relatively stable
34 structure with a well-defined mandate including clear work plans, a representative governing
35 Board, a secretariat hosted by the WHO, reasonable operating resources, and regular meetings
36 and communications. This was particularly appropriate at the outset, considering the number
37 of network members, the complexity of the issues and the lack of consensus regarding network
38 goals (Provan and Kenis, 2008).
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43 Our key informants cited specific activities as evidence of GHWA's success in convening
44 actors both within and separate from pre-existing networks. For instance, three global fora
45 were organized, resulting in significant political commitments to both policies and
46 improvement of resources. Key informants noted that GHWA was the only organization that
47 could have convened these well-attended fora of diverse stakeholders. Other agencies were
48 perceived by our informants as lacking the mandate or trust, a critical element in effective
49 network development (Provan and Kenis, 2008). One informant commented: "We learned that
50 it is possible to create a broad movement that allows participants to set their own local and
51 regional priorities.... [and] that these regional efforts may be the most appropriate level to
52 develop implementation strategies. The 'centre' (sic) can frame the issues but not drive the
53 change."
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Emerging understanding of complexity as a critical issue

According to Shiffman's framework, *issue characteristics* include how topics are framed as the basis for a common agenda. One of GHWA's key achievements was its ability to shape dialogue on HRH issues. Each of its fora resulted in significant policy statements that framed a response to causative factors of HRH shortages. The Kampala Declaration from the first forum highlighted the need for all stakeholders to address the HRH crisis through an "Agenda for Action" (World Health Organization, 2008). A key outcome of the second forum in Bangkok (2011) was a critique of progress since the first forum and a recommendation for follow-up work to achieve the goals of the Agenda for Action. At the third forum (2013), the Recife Declaration set the stage for countries to accept accountability for taking action to address their national HRH issues.

Despite its success in convening three fora that helped shape consensus and motivation for ground-breaking initiatives, GHWA's ability to maintain a consistent, governance-level agenda remained a challenge. One limitation, according to some key informants, was allowing Board members to participate with independent voices rather than as agents or representatives of their organizations. Some Board members were perceived as representing their own personal views, rather than speaking on behalf of their respective organizations. At times this disconnect hindered development of a common platform by the participating organizations. Key informants observed that active board membership and engagement is essential to the effectiveness of an organization like GHWA. According to one key informant: "Governance matters, and if a board is somehow able to pull on its networks and link people who want to [achieve] this agenda, then things will move forward." Other informants ventured that the effectiveness of the GHWA Board in support of the Alliance's agenda became weaker over time partly because of its failure fully to engage its networks.

Key informants generally agreed that GHWA's two greatest contributions to global HRH governance are first, the introduction of systems thinking and planning about HRH issues; and second, the development of network learning and competencies that will be the foundation for the next iteration of global HRH efforts. Evident as this now appears, GHWA's pioneering efforts raised initial awareness of the systemic nature of the HRH crisis among various stakeholder groups, at both national and international levels. Here again, GHWA's efforts were instrumental and also illustrates the evolving reach of its network: The initial focus on crisis countries evolved to include low- and middle-income countries (LMIC's), then shifted further to bring high-income countries to the table. As described in the next paragraph, development of the WHO Code initiated thinking about HRH as not only an LMIC issue. Among many examples of its impact, for instance, GHWA's influence prompted inclusion of HRH-specific language and targets in the UN's Global Strategy for Women's and Children's Health. Additionally, key informants also noted the importance of linking previously isolated or unengaged stakeholders, in particular from development finance and disease-based

1 programmes, which may impose unexpected strains on national HRH systems. Moreover, the
2 systems perspective demonstrated that achieving Universal Health Coverage and Sustainable
3 Development Goals would require an “investment platform” to deliver a comprehensive
4 approach to HRH development.
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8 *A dynamic policy environment*

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10 As noted, GHWA’s first global forum resulted in the Kampala Declaration. This forum also
11 reignited momentum for a “WHO Global Code of Practice on the International Recruitment of
12 Health Personnel,” later adopted by the World Health Assembly (Dayrit *et al.*, 2008). This very
13 significant achievement indicated that high-income countries recognized not only the
14 complexity of their own HRH issues but also their potential to undermine national health
15 system development in LMIC’s (McCoy *et al.*, 2008).
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20 Over GHWA’s decade of existence, the policy environment changed significantly. The
21 financial events of 2008 triggered not only budget pressures for WHO and national
22 governments, but also retrenchment from international initiatives. Coincidentally, the need for
23 both a common agenda between global funders and local actors, and mutually reinforcing
24 activities, is reflected in the literature on HRH governance, which emphasises *local applicability*
25 (Brown, 2014; Dieleman *et al.*, 2011; Lavis *et al.*, 2005). Without attention to local contexts and
26 capacities, HRH plans may have little impact (Dussault, 2015). GHWA tackled this significant
27 challenge head on with several programmes that helped strengthen capacity within applied
28 areas: extensive work on tasks and roles of mid-level and community-based health
29 practitioners; building the Health Workforce Advocacy Initiative to link civil society
30 initiatives; and supporting HRH aspects of various “vertical” programmes that targeted
31 specific health issues such as HIV-AIDS.
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38 At the second GHWA forum in 2011, participants identified a lack of reliable and comparable
39 national HRH data. They recommended routine collection, collation, analysis, and sharing of
40 country-level data to inform planning and management. In addition, participants called for
41 new benchmarks for monitoring and evaluation that would consider more variables than
42 national per capita densities of health workers (Global Health Workforce Alliance, 2011). This
43 reflects the emerging conceptualization of HRH as a complex systems problem. The GHWA
44 Board recognized that effective networks should include shared measurement systems (Kania
45 and Kramer, 2011). Unfortunately, these shifting measures may have also contributed over
46 time to perceptions that GHWA failed to meet expectations. That is, we heard mixed reviews
47 about GHWA’s repository of analyses, reports and tools. An external evaluation found these
48 resources were high quality and influential at a global level, but largely unknown by intended
49 end-users at the national level (Vaughan *et al.*, 2011). Additionally, some key informants
50 thought this work was duplicative of other, better repositories.
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1 The third global forum in 2013 is a further example of GHWA's ability to influence the policy
2 environment (Global Health Workforce Alliance, 2013). Participants issued another call for
3 action in the Recife Political Declaration on Human Resources for Health which was similar to
4 previous forum statements, including the recommendations of *Working Together for Health*
5 (World Health Organization, 2006) and the report of the (Joint Learning Initiative, 2004b).
6 National governments and NGOs issued public commitments to their own HRH goals – a
7 major accomplishment since it required accepting accountability for improvement. Forum
8 attendees recommended that WHO develop what later became its "Global Strategy on HRH:
9 Workforce 2030" (World Health Organization, 2015). Following this, GHWA led an inclusive
10 and participatory process to analyse current thinking, especially the emerging initiatives
11 framed by the Universal Health Care concept, with GHWA playing a key role in synthesising
12 the evidence base for WHO's Workforce 2030 strategy.
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20 *Dynamic interplay of network and actor, issue, and policy factors*

21 Not every attempt by GHWA to influence global HRH strategies was successful. Within the
22 policy environment, WHO coordinates global health diplomacy through negotiation and
23 support (Renganathan, 2013); whereas GHWA acted as a convenor, knowledge broker, and
24 advocate to raise political awareness and catalyse action. At times, the different roles of WHO
25 and GHWA became confused. An example of the challenges in tackling complexity is the
26 planning model developed by GHWA to assist HRH development at the country level. In
27 GHWA's early days, members' initial enthusiasm led to rapid growth of the network with
28 productive engagement on several initiatives. After the first global forum, however, conflict
29 arose between GHWA and WHO, partly due to budget pressures from the global economic
30 crisis. Recognising the need to focus its systems perspective on actionable issues, the GHWA
31 Board concentrated on the national HRH context. The resulting Country Coordination and
32 Facilitation Framework provided guidance for inter-sectoral and multi-constituency
33 collaboration to accelerate the implementation of a country's HRH agenda, based on core
34 principles (Global Health Workforce Alliance, 2010).
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42 Several key informants regarded GHWA's Country Coordination and Facilitation Framework
43 work as a major contribution, noting that where it was applied, the Country Coordination and
44 Facilitation Framework process brought together diverse participants within each country,
45 often including hard-to-reach political leaders and important supporters, such as staff from
46 Ministry of Finance. However, we also heard that some stakeholders accused GHWA of going
47 outside its original mandate with its Country Coordination and Facilitation Framework,
48 intruding in the realm of national governments, and leading to a lack of alignment and
49 cohesiveness within the Board. This also created significant friction with WHO, which felt
50 GHWA was intruding on WHO's sphere of influence. Contextualizing this, one key informant
51 commented, "... these are issues that WHO HR department should be looking at HR was
52 too headquarter-centric so there was a gap in support to countries." Clearly, these network
53 and actor features pose a difficult balance to negotiate.
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3 The 2008-2012 period during which GHWA worked to implement its Country Coordination
4 and Facilitation Framework was widely viewed by our key informants as the low point in its
5 history. Causes were both externally and internally driven. With its Country Coordination and
6 Facilitation Framework activity, the GHWA Board appears to have been trying to provide
7 structural stability, focused action and practical opportunities for shared learning.
8 Unfortunately, this created a widespread perception that GHWA leadership was politically
9 insensitive about role boundaries. Key informants identified situational factors such as budget
10 pressures and territoriality within WHO as aggravating factors but were particularly critical of
11 GHWA leaders' communication styles, both in managing the policy relationship with WHO
12 and in engaging network members around a coherent vision of GHWA's role. To address the
13 significant tension with WHO, involving both actor and issue features, the GHWA Board
14 subsequently refocused its role, strengthened its advocacy and convening functions through
15 the global fora and avoided the troublesome boundary issues. Paradoxically, despite the
16 credibility issues arising from the implementation process, the Country Coordination and
17 Facilitation Framework was viewed by many of our key informants as one of GHWA's most
18 significant achievements. Moreover, the Country Coordination and Facilitation Framework
19 (CCFF) methodology appears to have been useful, with external evaluation and GHWA's
20 analysis of CCFF usage showing positive outcomes for several countries (Global Health
21 Workforce Alliance, 2012a, 2012b; Vaughan *et al.*, 2011).
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32 *Network evolution in response to environmental pressures*

33 By late 2011, halfway through its ten-year mandate, a mid-term evaluation noted GHWA's
34 strengths in advocacy and convening, the success of its global fora, and its ability to work at
35 global, regional, and country levels (Vaughan *et al.*, 2011). Weaknesses identified by the
36 evaluation included the secretariat management style; advocacy that was too focused on the
37 deficit in numbers of health workers in developing countries; and lack of innovation in
38 renewing the Alliance's objectives over time. The evaluators identified potential challenges for
39 GHWA, including emergence of new global and regional HRH organizations, increasing
40 competition for donor funds, and GHWA's reduced credibility to lead.
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46 The GHWA Board responded to the evaluators' findings with transformed objectives and a
47 better balance among network, issue and policy factors. These prioritized areas of work where
48 an alliance has comparative strength such as its intersectoral membership representing
49 strategic constituencies. The Board also developed a different business model, with a greater
50 emphasis on results and specific accountability of the members and partners – an approach
51 consistent with the principles of complex systems (minimum specification from the centre;
52 autonomy devolved to local actors). As a result of this stronger strategic focus, the friction with
53 WHO lessened. Since 2008, financial problems have been particularly challenging due to both
54 the global economic downturn and WHO's budget difficulties. As one key informant stated,
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2 “GHWA has often had to spend quite a lot of time trying to mobilize funding, which can be a
3 distraction from the actual job of doing something about the workforce crisis.” According to
4 key informants, financial problems ultimately led to a decision not to extend the GHWA
5 mandate.
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9 Summing up, our key informants were consistent in recognizing GHWA’s effectiveness in the
10 areas of advocacy and convening. There were mixed opinions about its effectiveness as a
11 knowledge broker – although for some this function was well served by the three global fora.
12 GHWA successfully integrated all three elements of Shiffman’s model – issues, policies and
13 networks – across such diverse HRH issues as training, retention, skill mix and labour
14 markets. As expressed by one key informant, “GHWA fundamentally changed the policy
15 framework in the health sector. It shifted policy and then enabled it to move into practice.”
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20 Discussion

21 This review has produced a rich narrative of the activities and impacts of a single international
22 network that operated over a ten-year period. The conceptual framework we used helped to
23 elucidate and tease apart the strengths and weaknesses of GHWA’s experience. Our findings
24 affirm the general principles common to complex systems and suggest refinement of
25 Shiffman’s theory with several more specific principles for network evolution in such systems.
26 Given that these principles have been drawn from a single case study, further research is
27 needed to examine the extent to which they may be generalized. Our research study included
28 recommendations to GHWA regarding next steps in supporting global HRH initiatives, based
29 on the notion of a new HRH network consisting of a central “hub” hosted by WHO, that
30 would link with and synthesize efforts of independent satellite networks (e.g. satellites focused
31 on unique topics such as pre-service training, migration or benchmarks).
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38 Recommendations for the next stage of global HRH governance

39 *Effective management and leadership are both critical*

40 This was the main message we heard from many key informants, particularly regarding the
41 difficulties during GHWA’s middle stage. Greenhalgh et al. (2016) provided a literature review
42 and case study of co-creation in community-based health services that underscored the critical
43 role of leadership in achieving research impact. Consistent with the co-creation perspective, as
44 systems become more complex, leaders need to rely more on facilitation and empowerment,
45 self-organizing structures, participatory action, transparency and continuous evaluation (Saul
46 et al., 2014a, 2014b). As Iles and Sutherland suggest, leaders must model openness, risk taking
47 and reflection to build and communicate a compelling vision, while providing the support
48 needed to lead others toward it (Iles and Sutherland, 2001). The dysfunction key informants
49 described of GHWA’s middle years left some with strong negative feelings. Such tension
50 should not be unexpected as it is a persistent problem in the context of a CAS (Bowser et al.,
51 2014; McCoy et al., 2008; Vujicic et al., 2012). Based on key informant insights, we could add to
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2 the comment by Shiffman et al: "Things quite easily could have turned out differently" ...with
3 *different leadership*.

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6 Organizational culture affects leaders' ability to act (Willis *et al.*, 2016). Key informants noted
7 that GHWA exhibited more flexibility than was feasible or comfortable for WHO, highlighting
8 the tension between formal governance and co-creation perspectives. Looking ahead, they
9 voiced concerns that effective leadership of a network hub supported by WHO may be
10 constrained by overly bureaucratic processes. This concern may be superseded given WHO's
11 evolving governance mechanisms for hosted partnerships since 2011, but remains a concern in
12 some constituencies.
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18 Balancing the "softer" leadership skills, our key informants also noted that any attempt to
19 create a new HRH network to succeed GHWA would require strong administrative capacity,
20 for instance to coordinate roles and relationships. GHWA played a critical role as a "backbone
21 support organization," a contribution highlighted in the literature on networks (Kania and
22 Kramer, 2011). Key informants clearly expected that despite any resource mobilisation
23 challenges, any new network organization should have sufficient budget to fulfill its role and
24 achieve impact. Effective management refers to establishing network structures such as
25 working groups with clear role expectations and support; priority setting based on a shared
26 vision and common agendas; plus, processes to facilitate rapid and comprehensive
27 information-sharing and learning within constantly evolving actor, policy and issue
28 environments. Without adequate staff time to construct and apply focused communications,
29 such feedback mechanisms can result in information overload. The feedback mechanisms
30 work best if user-friendly and well aligned with accountability mechanisms.
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37 *Balance "tight" and "loose" approaches to structure and processes of the central hub*

38 Obviously, network success is not determined solely by a formal governance model. The
39 effectiveness of any network model varies according to where and how densely trust is located
40 within the network; its size; consensus on strategic goals; and the nature of the task (Provan
41 and Kenis, 2008; Shiffman, 2007). Ferlie et al. identify such key influencing factors as
42 inclusiveness and engagement of stakeholders, shared learning, and capacity for innovation
43 and change (Ferlie *et al.*, 2010). Over time, simple projects create trust and capacity for more
44 complex endeavours (Provan and Kenis, 2008). We recommend that any new network
45 relationships should be built iteratively using insights from a co-creation framework, with
46 frequent and structured opportunities for trust-building, learning and self-assessment (Holmes
47 *et al.*, 2015)
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54 At the same time, too much flexibility creates the risk of messy and inconclusive processes. The
55 challenge is that as networks become more complex, demand can be expected to increase for a
56 network's central hub to provide structure and direction (Provan and Kenis, 2008). There are
57 established and mandatory WHO procedures for operating networks: these are more flexible
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1 than those that govern formal partnerships, but the challenge will be in communicating these
2 norms effectively, and in how partners adapt to them. Early in its mandate, a new HRH
3 network would need to develop an architecture that is appropriate for a global, inter-sectoral
4 governance network. This includes the constitution of satellite networks including common
5 and specific purposes and roles, adequate platforms supporting their work, financial stability
6 and distribution of responsibility. Yet at the same time, central orchestration around larger
7 themes will need to create opportunities for stakeholders to pursue their own goals through
8 local innovation, recognizing contextualized priorities and capacity. Following on the GHWA
9 experience, the central hub will need to strengthen participants' collective orientation,
10 including communication to and from their home agency. One key informant expressed
11 concern that limited financial resources for a central hub would reduce its ability to influence
12 the agendas of some of the satellite hubs or to maintain pressure for results. Another urged
13 that central hub oversight must ensure at least some priorities and strategies are linked across
14 the satellite hubs, because civil society groups may lack resources to balance the influence of
15 wealthier groups.
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24 *Use a vigorous communications strategy to create and maintain support for the central hub*

25 Evaluation of GHWA's performance was outside the scope of our review, but perceptions of
26 effectiveness deserve comment. As always, perceptions matter greatly due to the highly
27 contextualized interplay between results, expectations and communications. Overall, despite
28 GHWA's many achievements as cited in the mid-term evaluation, several key informants felt it
29 did not perform to its potential and did not achieve notable impact "on the ground." One view
30 holds that regional alliances of network members were not strong enough to influence high-
31 level decision makers, or to engage stakeholders outside the health sector. This perception gap
32 is not easy to explain. On the one hand, it should not be a surprise: as noted by some key
33 informants, training programmes and policy initiatives take many years to yield results. It
34 should also be noted that GHWA spent an infinitesimal portion of the annual global spend on
35 health care, and a fraction of what was thought to be required to achieve its original mandate.
36 On the other hand, GHWA did spend \$50 million over its ten-year term, so the expectation
37 that it should have had some impact is not unreasonable. How can these conflicting views be
38 balanced? Some key informants noted a possible factor contributing to the perception of
39 GHWA's insufficient impact was the deterioration in communications from GHWA to its
40 members over time. As an example, a critical factor not adequately known by external
41 stakeholders was the dramatic decline in availability of financial resources following
42 withdrawal of a major sponsor in 2011. Hardly a subject to be trumpeted in a quarterly
43 newsletter, this was nonetheless a significant challenge. Better communicated, this could have
44 helped network members adjust expectations and subsequent perceptions of progress. Going
45 forward, it is important to accept the importance of perceptions - justified or not - especially
46 when political leadership and national support for investments in HRH can change quickly. To
47 avoid similar issues, the central hub will need sophisticated, coordinated communications
48 expertise delivering timely, relevant messages within and beyond its networks.
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Focus goals, priorities, and membership for the central hub

Issue characteristics and the policy environment are closely intertwined and evolving. For instance, competition for scarce funding requires alignment with decision-makers' priorities, especially since research evidence is only one of many elements in the policymaking process. This uncertain environment is typical for networks operating in a complex system, where strategic management requires a mix of loose and tight approaches. Progress requires maintaining a clear view of broad strategic goals, carefully selecting from the range of implementation approaches and responding nimbly to evolving situations with consistent management grip.

First, it will be critical to focus on the central hub's purpose or mission. Despite valuing GHWA's system perspective, some key informants felt it made the agenda unmanageably large – including issues ranging from high-level policy dialogue to technical details – and thus difficult to prioritise. Whereas all our key informants valued GHWA's advocacy and convening activities, not all saw added value from the Country Coordination and Facilitation Framework and knowledge brokering. In the future, resources will be even more constrained so focused priority setting will be critical. Key informants suggested that although some networks may emphasise research, more are likely to be concerned with accountability, advocacy (especially for inclusive economic growth) and operational issues, such as productivity. At the same time, a strong working relationship between advocacy and research will be critical to ensure evidence-informed strategy options and quality evaluation. The central hub could make sense of this diversity, for example by tightening its strategic focus – possibly around the goals of WHO's "Global Strategy on HRH: Workforce 2030", the outcomes of the UN High-Level Commission on Health Employment and Economic Growth or broad themes such as the SDGs, or to support regional initiatives. One key informant suggested, "Use the network as a 'collective brain' to pool expertise, i.e. to identify where the next opportunities will emerge."

Following from a clearly defined purpose, focusing on "the right network for the right issues" will be critical to avoid duplicating efforts of other groups. There are already many autonomous networks addressing HRH issues, including vertical, disease-based programmes that advocate for narrow HRH interventions in their areas of interest. It seems likely that even more autonomous groups will emerge, some less concerned with development issues and more focused on economic growth and labour market issues (Holmes *et al.*, 2015; World Health Organization, 2016). Identifying the right stakeholders for the central hub's governance role will require analysing networks and actors both within and beyond WHO. Regional networks may play an important role, for instance to tackle HRH issues in high-income countries. It will be important to engage former GHWA members and others with a primary role outside the health sector, recognizing for instance, the increasing role of the private sector in delivering health services and pre-service education. It may also be strategic to look beyond health care

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2 and establish partnerships with organizations espousing related, but distinct goals, such as
3 food security or education. Lessons learned and best practices can and should be gathered and
4 shared widely to avoid duplication of effort, and to leverage resources and systems where
5 possible.
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8 *Support the shared measurement of progress on agreed goals*

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10 Strengthening accountability systems has special relevance for HRH governance as noted
11 earlier. Our literature review and key informants indicated that data collection capacities,
12 progress indicators, and repositories pose significant issues for HRH governance (Connell *et al.*,
13 2007; Holmes *et al.*, 2015; Kaplan *et al.*, 2013; Mikkelsen-Lopez *et al.*, 2011; Pittman, 2015;
14 Warren *et al.*, 2013). Given the complex interplay of factors influencing HRH issues, it will be
15 critical to align accountability processes with shared learning mechanisms for instance around
16 common language and metrics. Developing system assessment and learning tools that employ
17 continuous feedback from end-users will support global priority-setting, advocacy by civil
18 society groups at the national level and evidence to assess innovations. Fostering global
19 monitoring and mutual accountability is a natural development, consistent with GHWA's
20 achievements at the global fora. Support for developing shared measurement and learning
21 systems will also be helpful if the central hub chooses to prioritise assistance to countries in
22 meeting SDG and Universal Health Care goals. Any success with accountability measures will
23 depend on the central hub earning authority and legitimacy from stakeholders to deliver this
24 sensitive responsibility on their behalf.
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34 **Conclusion**

35 In this paper, we applied Shiffman's model to analyse the ten-year legacy of GHWA. As a
36 uniquely complex case in a rapidly evolving global environment, GHWA had a number of
37 successes, some partial successes, and some failures.
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41 Theories that assume a complex system, such as Shiffman et al's framework (Shiffman et al,
42 2016) enable us to analyse the political issues and special interests influencing GHWA. The
43 theories allow us to do so at a more fine-grained level, teasing apart policy environment, issue
44 framing, and actors as a mechanism for understanding what happened, identifying emerging
45 themes, and drawing lessons that can be applied to other networks, in other contexts. Because
46 all three elements are examined closely, we can apply these lessons appropriately, in a
47 nuanced and tailored way, and not as a blunt instrument expecting that one size fits all.
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52 These dynamic and evolving influences are key aspects of context. Individual case narratives
53 from key informants illustrated particular examples of political issues that either helped or
54 hindered particular GHWA initiatives. Policy environments were either more or less
55 conducive to efforts to manage these issues.
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1 Adding the third “e” of evolution to the Shiffman et al focus on emergence and effectiveness
2 offers rich lessons in how complex networks adapt over time. Key learnings underscore the
3 utility of a complexity perspective and the need to balance sometimes conflicting priorities
4 with flexible structures and processes. Evolving complexity requires *both* ever greater focus on
5 clear goals and innovation *and* ongoing renewal. Paradoxically, the apparent need for more
6 stable structures must give way to greater reliance on shared learning around a flexible
7 strategy tailored to local context. Challenges change as the network evolves, highlighting the
8 need for continuous investment in relationships, trust and capacity building. Key success
9 factors for the backbone organization that implements the evolving strategy will be tight
10 strategic focus, distributed leadership, adept orchestration of network members, and a
11 responsive platform for shared measurement and learning.
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