

Improving Global Health by Employing Knowledge Management in Low-Resource Settings

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Author Biography

Leah Gordon currently works for a USAID-funded population, health and nutrition project to strategically engage global target audiences with experts in their field. On a part-time basis, she provides consultancy to organizations in the development of online communication strategies that link the organization with user groups and community building efforts.

Leah's work increases the profile of products and services among user groups online. To do this, she employs her background and experience in knowledge management, public relations and community relations.

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I have neither given nor received unauthorized assistance while preparing this assignment and I have written the code myself.

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Lessons learned as a result of applying methods for improving public health outcomes for developing country populations are seldom shared among peer groups and/or creators of the methods being used. Lack of knowledge sharing can lead to repetition of failed efforts and can lead to mismanagement of human and monetary resources.

Effective knowledge sharing can be achieved through strategically implanting knowledge management into programs in low-resource settings. If the practice and use of knowledge management functions are not improved upon in public health, best practices for health program implementation will not be incorporated and considered for well-informed decision making.

This essay will provide definition of knowledge and knowledge management, and define knowledge management's role among public health workers in low-resource settings.

This essay will explore knowledge management's challenges and opportunities to contribute to improved health outcomes for country populations using information communication technologies.

Knowledge Management

Knowledge management comprises a range of practices used in an organizations to identify, create, represent distribute and enable adoption of insights and experiences. Such insights and experiences comprise knowledge, either embodied in individuals or embedded in organizational processes or practice (Wikipedia).

KM refers to how best to leverage knowledge internally and externally. It deals with creating a process for generating value-added benefits from an organization's intellectual assets (Liebowitz, Schieber, Andreadis, 2010).

Types of Knowledge

People are an organization's greatest asset. People are important because of their intellect, knowledge and information they possess. Three knowledge types are defined to explore the important role of knowledge sharing in global health among health practitioners.

Tacit Knowledge

Tacit knowledge can be defined as knowledge that has not yet been codified outside the mind of an individual or individuals that possess it. At times it can be difficult to transmit as opposed to codified, explicit knowledge (Shultz, 2002, p. 565).

Explicit Knowledge

Explicit knowledge has been codified and can be expressed in symbols and communicated with other people (Shultz, 2002, p. 565).

Individual Knowledge

Individual knowledge can be defined simply as knowledge possessed by an individual person. This knowledge is most often tacit, unless the individual translates their knowledge into coded form, thus becoming explicit knowledge.

Group Knowledge

Group knowledge is collective knowledge of individuals that is relied upon as truth. While group knowledge is shared, it remains contained within a community of practice, a subunit, or other group or team of individuals who share tasks, or common or related functions. Further, "it is not the aggregation or multiplication of individual interpretations, but the synthesis [of those interpretations] which leads to group knowledge" (Hatch, 2009). Group knowledge can result in tacit knowledge and explicit knowledge.

The collective knowledge on best practice within an organization can be shared across among health workers outside of the organization working in similar practice. This act of knowledge sharing forms a "[Community of Practice](#)," and can improve the practice of individuals and result in improved health outcomes for country populations.

5 Components for Managing Knowledge in Global Health Programs

People are information makers and users. The information we possess, can become useful knowledge. Public health workers in low-resource settings have the ability to share best practices on how to best use resources to improve the public health status of

the populations they serve. Public health programs can use knowledge to improve a range of organizational performance characteristics by being more “intelligent acting” (Gupta, Iyer, Aronson, p. 18, 2000).

I suggest these five components of managing knowledge be employed in public health programs in low-resource settings:

Identify Knowledge

Wise investments in public health program knowledge initiatives capture the right knowledge that is defined by, and relevant to the organization. It is important to first develop a working definition of knowledge for the organization, while understanding that it is about imbuing data and information with decision- and action relevant meaning (Fahey, Prusak, 1998, p. 269).

In this step, public health organizations can identify sources of knowledge and knowledge transfer targets. Kamara, Anumba, and Carrillo express information for knowledge source and transfer reside within humans, software, and paper (Fig. 3, 2002).

Create Knowledge

Well planned knowledge structures use information to create knowledge.

Referred to as “[knowledge creation](#),” it is the formation of new ideas through

interactions (transfer) between explicit and tacit knowledge in individual human minds. As defined by [Ikujiro Nonaka](#), it consists of socialization (tacit to tacit), externalization (tacit to explicit), combination (explicit to explicit), and internalization (explicit to tacit).

Distribute Knowledge

Distribution of knowledge among members of a group should affect group performance. Rulke and Galaskiewicz define distribution of knowledge in terms of who has what types of information (p. 613, 2000).

Groups that have knowledge broadly distributed across group members will outperform groups that have unique knowledge concentrated in different group members.

In public health programs, various health workers in low-resource settings possess general knowledge in their respective practice. As a group, they will perform better when they exchange their lessons learned. The group will outperform a group of specialists with nonoverlapping or unique information (Rulke, Galaskiewicz, p. 612, 2000).

Enable Adoption of Knowledge

People form intentions to adopt a behavior or technology based on their beliefs about the consequences of adoption and their evaluation of these consequences (Sussman, Siegal, p. 40, 2003). Perceived usefulness is a fundamental predictor of user adoption.

Health workers are more likely to adopt knowledge if they find their information source to be credible and the action of information sharing is useful in their daily work.

Developing Simple a Knowledge Management Strategy

The Information and Knowledge Management area of the Pan American Health Organization designed and implemented a basic four-step KM approach for practitioners (Liebowitz, Schieber, Andreadis, 2010):

Step 1. Identify the desired results

- Who is involved?
- What is the result?
- When does it happen?
- Where?
- Why?
- How is the result to be achieved?

Step 2. Assess the current process, and identify the gaps

- What is working well, and why?
- What isn't work (gaps)?

Step 3. Determine if the principles of KM can close the gaps

- Developing knowledge: Has the right knowledge been identified and captured so it can be reused?
- Sharing knowledge: Is the right knowledge being made available to those who need it, when they need it?
- Applying knowledge: Is the right knowledge being used consistently, in the right way?

Step 4. Develop and implement a KM Strategy

- Engaging the right people
- Streamlining and enabling work processes
- Enabling technologies

This approach can be applied widely among public health programs in low-resource settings. It does not require a database or electronic technology, rather consensus among members of an organization or social setting.

Challenges to Knowledge Management

If knowledge management is not practiced and encouraged in a top down approach, literature has shown that it will a) not exist, or b) not be sustained.

Effective knowledge sharing and learning require cultural change within an organization, new management practices, senior management commitment and technological support (Gupta, Iyer, Aronson, p. 19, 2000).

Practitioners can overcome knowledge management challenges by becoming aware of its common pitfalls. In Fahey and Prusak's The Eleven Deadliest Sins of Knowledge Management, they emphasize management's role and necessary commitment to be vigilant in identifying erroneous knowledge management errors (p. 275, 1998).

Adoption of Knowledge Management Practices

The Diffusion of Innovation Theory suggests the rate of adoption is the relative speed with which an innovation is adopted by members of a social system (Rogers, 1962).

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption (Rogers, 1962).

If the practice of knowledge management, treated as innovation, is increasingly encouraged by global funding agencies and adopted by public health managers, then its level of adoption among health practitioners in low-resource settings will increase and improve the public health status of country populations.

Global Health Agencies Encourage Knowledge Management

Global health agencies have made increasing efforts to explicitly incorporate knowledge management into the programs and projects they support.

The World Health Organization (WHO) developed the “Knowledge Systems in Health (KSH)” initiative. It is a country-focused analytical process that aims to develop a country’s understanding about its use of knowledge in health. A nation KSH workshop was held in Prague, Czech Republic in February 2007 to develop knowledge management in the Biennial Collaborative Agreement for as part of leadership, governance and the evidence base of health systems objective.

The United States Agency for International Development (USAID), states that its “strength is derived from our rich field experience and extensive knowledge of development issues.” USAID created the “Knowledge Management Program” to connect people with what and who they need to know in order to accomplish USAID’s mission.

USAID and WHO partnered to electronically support communities of practice via the [Implementing Best Practices \(IBP\) Knowledge Gateway](#) web site. IBP offers a web-based platform that gives members the ability to exchange and discuss issues and development in public health. It utilizes online discussion boards, email announcements (listservs) and online libraries.

Internet Technologies that Support Knowledge Management in Public Health

A number of technologies exist to support knowledge management activities for public health programs. Some technologies are used widely among public health practitioners, and the use of others are relatively new due to availability, adoption and adaptation.

Listservs

Listservs serve as a vehicle to deliver a broadcast email message to multiple email addresses. Often serving as online communities of practice, listservs engage people of a common practice, often to share best practices and lessons learned.

A [study](#) by USAID's Capacity Project, explored the extent to which critical care and advanced practice nurses' participation constituted a community of practice and how nurses used electronic media to communicate with one another. The study found that knowledge sharing reinforced identity of the nursing practice.

Digital Libraries

Digital libraries have helped fill the knowledge gap between developed and developing countries. This information communication technology creates organized collections of information with search functions.

Digital libraries will compensate for the failure of traditional distribution mechanisms to address local needs. (Witten, Loots, Trujillo, Bainbridge, p. 1, 2001). They provide targeted information in priority health areas.

Social Networking Sites

Social networking sites are becoming a global phenomenon. These sites integrate email, instant messaging, document posting, discussion boards, video uploads, photo uploads, and link sharing for users of common interest and/or practice.

If one takes a look at the [Vincos map](#), one could argue that African countries are lagging behind in the world, in terms of membership on social networking websites. Only 14 out of 50 African countries seem to have members on social networks. But the reality is quite different. Egypt alone has about [800,000 members on Facebook](#) and according to the [Opera mobile report](#), it has a high growth in accessing social networks through mobile phones (Kreutz, 2009).

Mobile Web

The wide dissemination of mobile phones embodies the potential that an increasing number of people would soon be in the position to access the web through their phones (Kreutz, 2009). So far web2.0 applications can be partially accessed on mobile and smart phones.

Although knowledge is critical for development, few developing countries are participating in the information revolution. Just as industrialization and globalization have increased the gulf between the haves and have-nots, so information and communications technology is creating a chasm between the knows and know-nots (Witten, Loots, Trujillo, Bainbridge, p. 1, 2001).

Even where the Internet exists in developing countries, it is usually extremely expensive to use. There is a push for countries to “leapfrog” and catch up with more developed countries, but there is little evidence that this is occurring or likely to occur (Cook, Missen, Petrakova, p.2).

I suggest organizations in low-resource settings be aware of information communication technologies that are available to them and use what is feasible and within their means to work towards knowledge exchange among member groups of similar practice – even if the technology used is a cork board with notes affixed in the middle of town, or regularly scheduled in-person meetings.

Conclusion

Knowledge exchange among group members of common health practice will result in improved practice and improved health status of populations served.

When health managers adopt knowledge management as a necessity to improve health outcomes, they will prioritize knowledge exchange and utilize existing human and technological resources to better serve local populations.

Managing knowledge with the intent to improve a population's health status takes commitment and vigilance. It can be successfully achieved and sustained through "low-tech" means. The human component of knowledge management is its most important aspect for improved knowledge to occur.

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