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Meeting the Health Information Needs of Health Workers: What Have We Learned?

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Commentary

Meeting the Health Information Needs of Health Workers: What Have We Learned?

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The information challenges facing health workers worldwide include lack of routine systems for seeking and sharing information, lack of high-quality and current health information, and lack of locally relevant materials and tools. This issue of Journal of Health Communication presents three studies of health information needs in India, Senegal, and Malawi that demonstrate these information challenges, provide additional insight, and describe innovative strategies to improve knowledge and information sharing. Results confirm that health workers' information needs differ on the basis of the level of the health system in which a health worker is located, regardless of country or cultural context. Data also reveal that communication channels tailored to health workers' needs and preferences are vital for improving information access and knowledge sharing. Meetings remain the way that most health workers communicate with each other, although technical working groups, professional associations, and networks also play strong roles in information and knowledge sharing. Study findings also confirm health workers' need for up-to-date, simple information in formats useful for policy development, program management, and service delivery. It is important to note that data demonstrate a persistent need for a variety of information types—from research syntheses, to job aids, to case studies—and suggest the need to invest in multifaceted knowledge management systems and approaches that take advantage of expanding technology, especially mobile phones; support existing professional and social networks; and are tailored to

Margaret D'Adamo and Madeleine Short Fabic represent the U.S. Agency for International Development management team for the Knowledge for Health Project. They worked with Saori Ohkubo to determine common lessons learned from the three research studies. These two coauthors also identified implications of those lessons learned and future challenges. Saori Ohkubo is a monitoring and evaluation officer at the Knowledge for Health Project. She helped determine the lessons learned from the three studies.

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the varying needs of health professionals across health systems. These common lessons can be universally applied to expand health workers' access to reliable, practical, evidence-based information.

Research has demonstrated that the information challenges facing health workers in developing countries are similar worldwide. These challenges include lack of routine systems for seeking and sharing information, lack of high-quality and current information on relevant health issues, and lack of locally relevant materials and tools (Godlee & Pakenham-Walsh, 2004; Pakenham-Walsh & Bukachi, 2009). Without such basic information, the provision of quality services by health workers, the effective management of programs, and the use of evidence to formulate health policy all suffer. This information deficit contributes to poor health outcomes, including increased morbidity and mortality.

The three studies of health information needs in India, Senegal, and Malawi presented in this issue of the *Journal of Health Communication* validate these information challenges and describe innovative strategies to improve knowledge and information sharing. The study findings derive from analyses of data from a combined total of 146 key informant interviews and 21 focus group discussions conducted with national and state-level health officials, nongovernmental organizational staff, donors, and health workers based in facilities and at the community level in these countries. The results provide important new evidence about health workers' needs for and sources of information, communication channels used to share information, and barriers to accessing and using health information. They also point to ways existing networks, technologies, and tools could facilitate better knowledge and information sharing, and point to a lack of comprehensive strategic planning at the national level for knowledge management in the health sector.

Coming at a time when shrinking resources mean the health sector must look for greater efficiencies, these studies highlight the crucial role that knowledge sharing plays in the effective functioning of health systems and services. This is one reason that the U. S. Government's Global Health Initiative supports innovations that promote knowledge sharing as an element of health system strengthening: A functional health system is one in which a trained health worker is in the right place, with the right skills, equipment, supplies, and knowledge to deliver the services people need.

Likewise, meeting the targets of the Millennium Development Goals—which include reducing child mortality, improving maternal health, and providing access to reproductive health services and HIV/AIDS prevention and treatment services—will require a focus on strengthening knowledge, information, and data sharing at all levels of each country's health system, especially efforts to build the skills of front-line and community-based providers. To make sure that young people, women, poor people, and people living in rural areas understand HIV transmission and feel empowered to protect themselves (the goal articulated in Millennium Development Goal 6), it is imperative that the providers who serve them are also empowered with the knowledge they need to share correct, reliable information with their clients.

Common Lessons

Health Information Needs and Sources

Results from the three studies confirm that the information needs of health workers differ based on the level of the health system in which a health worker is located,

regardless of country or cultural context. The studies clearly demonstrate, for example, that at the community level, health workers need timely, practical, and contextually specific information that supports service delivery and health promotion. At the district level, needs are typically related to management and supervision, and include the need for information on program planning and implementation, including budgeting, supply chain management, and human resources. At the global and national levels, health information needs are linked to leadership and governance roles, with an explicit need for evidence-based data to set guidelines and policies.

Although these results are not surprising, we believe they reinforce an obvious though often ignored truth—health cadres need communication materials specifically tailored to them. In settings where producing separate materials segmented by audience is not possible, index materials should aim to have a section highlighting key points in a way accessible to a range of readers.

At the global and national levels of all three countries, study participants reported using a range of health information sources. Many expressed difficulty accessing comprehensive country-specific data and confusion about which sources were the most accurate. Even health workers with Internet access experienced information barriers, particularly related to difficulty identifying the best or most relevant sources. Meanwhile, those working at the district and community levels experience a near total lack of access to current, useful information. The limited information that is available to them is often outdated, unreliable, incomplete, inappropriately packaged, and not action oriented. On the basis of the experiences described by study participants, we believe that comprehensive, accurate, tailored information must be provided, and strategies to improve the skills of health workers at various levels to access information and evaluate its quality must be developed and implemented.

Communication Channels

Data across all three countries show that health workers access and share knowledge and information through a variety of tailored communication channels. Meetings are still the way that most health workers—at all levels of the health system—communicate with each other, whether it is supervisor to staff, colleague to colleague, or coworker to coworker. Communication happens not only through routine staff meetings, but also at meetings of professional associations and through the many technical working groups that are supported by donors and ministries of health.

It is unfortunate that information flows tend to be top down, one-way, and follow the same path as supervision, regardless of the communication channel used. In Senegal, health workers understand this hierarchical information flow well and routinely follow it. Still, a top-down flow is not adequate to ensure that health workers have access to information relevant to their jobs, and ultimately may inhibit a culture of knowledge sharing. For example, data reveal that although study participants described a preference for oral communication, many also lamented the overreliance on oral communication channels for information sharing, particularly for important information that can be easily forgotten without reinforcement. To illustrate, new health guidance is usually only communicated by supervisors to staff in meetings and is often poorly incorporated into actual service delivery. We believe that one specific recommendation stemming from the data is to share important information, such as treatment guidance, in a systematic way and in a manner that makes it absorbable to enable health workers to integrate it into their existing work. Verbal discussions

should be backed up with presentations and appropriate tools or print materials that reinforce the information.

At national and regional levels in all three countries, health workers also described their desire for and their value of centralized repositories for storing, organizing, and accessing health data, information and knowledge, including service delivery and supply chain data, policies, guidance, manuals, tools, and reports. In short, there needs to be more consideration given to creating centralized websites that complement the type of service delivery or monitoring and evaluation data available in national health information systems. We also believe that although web or physical repositories could serve as crucial information sources at the national level, they would likely not be easily accessible to workers at the community level, where challenges to accessing and using information and communication technologies are widespread.

It is interesting that the needs assessments uniformly indicated that technical working groups, professional associations, and networks can play a key role in supporting information and knowledge sharing, particularly at the national level—in part because they allow for the development of trusting relationships across institutions. This is consistent with considerable research on the “social capital” inherent in networks (Kawachi, Subramanian, & Kim, 2008). For example, professional networks often play a crucial role in knowledge exchange among private-sector providers who do not receive the standard in-service trainings that some public-sector providers do. Associations and networks oftentimes do not, however, have the financial or human resources to organize frequent, regular meetings or to publish or print materials for their members. To be most effective, we believe that professional associations and networks need capacity building and support, especially in developing appropriate, routine ways to exchange and share knowledge.

In addition, building the capacity of a single organization to improve information sharing, whether it is the national Ministry of Health or a local nongovernmental organization, may not ensure that health workers at the bottom of the information flow chain will get the information they need to do a better job. Ministries of Health often lack the staff to package and share key information. Many do not have a national knowledge sharing system (web portal or functional health information system) in place. National government web sites, when they do exist, are not maintained or up to date. We believe that building on existing decentralized structures already in place at the district or local level is crucial to moving information beyond the capital city and organizational headquarters in a more timely, cost effective, and sustainable way.

Moreover, as donors, ministries, and their local partners struggle with how to improve health workers' access to and use of information, we believe that success will be achieved by integrating innovations that leverage existing communications styles in social and professional networks. We should also build on the potential offered by new technologies for improving traditional modes of two-way communication and for creating new modes of communication, such as mobile phones, text messaging, use of mobile devices to browse documents, search phone-based databases, and collect data through phone-based forms. As with health information, communication channels must be built, strengthened, and used on the basis of the context in which a health professional is working.

Additional Barriers to Information and Knowledge Sharing

One of the key barriers to improved and strengthened information sharing identified by the three studies is a weak culture of knowledge seeking and sharing in the workplace. Most

organizations in the public and private sectors do not systematically promote or nurture such an environment. At the individual level, health workers do not always identify the need—or receive support—to share their own experiential knowledge, even though they may be the first to identify an emerging problem or have ideas on how to improve services. They are often unaware that such knowledge is a key element for building and scaling up successful programs and practices. As a result of these and other factors, information, experience, and expertise are not actively shared, sought, or received. We believe that actions must be taken to support a culture of knowledge sharing, and that structural, attitudinal, and behavioral changes must occur in order to make this cultural shift. Recent interventions to support knowledge sharing have shown promise. Arming community health workers with mobile phone and text messaging services in a demonstration project in Malawi, for example, has shown dramatic improvements in two-way communication and knowledge sharing (Bema, Campbell, Jumbe, & Perry, 2011).

Another barrier to knowledge exchange is severe understaffing, coupled with a lack of time. Most health workers interviewed in these surveys reported feeling overworked, without enough time or energy to share experiential knowledge. National-level health workers identified their busy schedules as a main reason for not sharing. Some workers did not have the time or adequate incentives to contribute to even required reports that feed into national health information systems. Partly because of these reasons, health workers at all levels of the health system lack timely information. Community health workers are particularly disadvantaged, as they are often the last to receive evidence-based information, despite being the first to interact with a patient or client. We believe that particular attention must be paid in knowledge management strategies to the information needs of health workers at the community level.

One primary barrier to information flow typically occurs just below the district level, where written directives typically give way to oral communication either in person or via phone, verbal content that can be subject to misinterpretation and poor recall. This is especially critical because the primary information source for most health workers is the person just above them in the health hierarchy. At the regional and community levels, there is often too little information, and it is typically shared in ways that make it hard to act on or remember. As mentioned earlier, we believe that oral communication must be bolstered with presentations and appropriate tools or print materials that reinforce key points and provide an opportunity for users to access more detailed information.

Value and Role of Information and Communication Technologies

Internet access is reportedly much more available and reliable at the national level than at the district and community levels in all of the countries surveyed. Mobile phone ownership, in contrast, is the norm—even at the community level. Community-based health workers in many of the study areas already use low-cost mobile phones to share and exchange essential information, such as reports of emergencies and contraceptive stockouts. However, while many health providers have personal mobile phones, they are hesitant to use them for work because of the cost of calling and texting.

Emerging technologies, such as Internet and mobile phones, will continue to become increasingly accessible in many developing countries, suggesting that technology could provide new avenues for knowledge and information sharing. Although the expansion of information and communication technologies in such countries presents new opportunities for information sharing among health workers,

we believe that without enhanced training and expanded infrastructure, information still may not reach the groups who need it most, including community-level health workers, even when they do have access to mobile technology.

Value and Role of Face-to-Face Information Sharing and Information Intermediaries

Although data from the assessments show that well-established oral communication channels such as meetings are preferred by many health workers, information tends to degrade the further away it moves from the source. This is a significant and persistent problem that must be addressed in fresh ways. Community and facility-based health workers typically experience a delay in receiving up-to-date information, have poor access to the latest resources, and lack ongoing in-service training. Health program managers and supervisors therefore have a crucial role as intermediaries between lower and higher levels of the health system. We think that efforts to strengthen knowledge exchange should equip such intermediaries with the tools, training and support that will enable them to better support sharing of relevant and evidence-based information and knowledge across the health system.

Application of Common Lessons

The findings from these health information needs assessments confirm health workers' need for up-to-date, simple information in formats useful for policy development, program management, and service delivery. It is important to note that the data also clearly demonstrate a persistent need for a variety of information types—from research syntheses, to job aids, to case studies—and suggest the need to invest in a multifaceted knowledge management systems and approaches that take advantage of expanding information and communication technology and mobile systems, support existing professional and social networks, and are tailored to the varying needs of health professionals across health systems. These common lessons can be universally applied to improve and expand health workers' access to reliable, practical, evidence-based information.

Although results from these studies provide direction on areas to strengthen and ways to strengthen them, they leave us with several outstanding questions: How can we ensure not only that information reaches the health workers at the last mile, but that the experiential knowledge of those community-level workers gets shared throughout the health information network? How can we best harness emerging technologies to improve knowledge and information sharing, particularly in areas with weak information technology infrastructure and poor information literacy? And last, how can we best help supervisors at the district level bridge the national-community information divide and become better information and knowledge intermediaries?

Conclusion

Results from these studies on the information needs of health workers in developing countries are compelling and reveal many trends common across cultures. Current and planned programming at the country level, which is supported by USAID and other donors, is already using the data to address some of the identified health information needs and weaknesses. However, gaps in our programming remain.

The major gap to overcome related to knowledge and information management is not about information access, but information use. Regardless of how we answer

questions of information access, we—donors supporting public health, ministries of health, and the many other health stakeholders—must work with diligence and resolve to advocate for the development and implementation of knowledge management strategies that enable health workers to use the evidence-based information and knowledge available to them. Information timeliness, location, and ease of understanding will help alleviate the information use challenge. However, we will also need new and thoughtful approaches for how to make information more usable – how best to summarize, simplify, and adapt information for myriad, different health worker audiences.

USAID and the other U.S. government partners working to achieve the Global Health Initiative principals and goals will continue to grapple with this issue. In the near term, we will continue to work to make information more readily available at different levels of the health system, timelier, easier to understand, and more context-specific—essential steps towards making sure that information gets used. We will also continue to address the persistent information access challenges and explore the areas of innovation that the assessments pointed to as having potential for further impact.

In the context of these challenges, the lessons learned from these assessments provide the international health community with an important opportunity to adjust strategies that aim to increase access to and use of evidence-based information. USAID, which sees improved knowledge exchange and use of evidence as essential elements in achieving better health outcomes, encourages partners and programs to learn from these studies to design stronger health programs, integrate promising approaches for knowledge and information sharing among health professionals into existing projects, and improve service quality, build human resources, and strengthen health systems. We also encourage other donor agencies and governments around the world to apply the lessons learned from this research to freshly address persistent health information-sharing challenges.

Making knowledge management and learning key components of all health programming can ultimately help ensure that critical research and programmatic knowledge reaches health workers and program managers, deepens their knowledge, and improves their performance by enabling them to use, adapt and share information relevant to their jobs. With enhanced knowledge, health workers will be better positioned to deliver services and manage programs. Decision makers will be better positioned to develop policies that improve health outcomes. And the world community will be better positioned to meet the Millennium Development Goals.

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