Jelena Mirkovic, Jessica Rhee, Aparna Kollpara, Jina Kim
ART ACCESS Group: Homework 3

Due to lack of resources in the public health sector vast majority of people cannot obtain care and treatment. Community-based organizations are emerging as a complement to public health efforts in providing ART. A survey by Sidaction (UNAIDS, 2005) shows that many African communities are already providing antiretroviral therapy on a significant scale, and not only that but facilitating access to treatment through advocacy, education, voluntary counseling and testing, providing home based care, bulk purchasing of medicines and mental support. Therefore, they provide psychosocial assistance and education not commonly offered in public health services, which is a key to success of ART. They are also focused on helping groups of people who tend to be left out from the public sector healthcare, such as poor, orphans and women gain access to treatment.

Community organized Home Based Care does not require extensive and costly infrastructure such as hospitals and clinics and simultaneously is a possible solution to issues like treatment adherence and access to healthcare by individuals who may be too sick to attend a hospital/clinic (Wilson, 2005). This approach also allows for patients to receive regular attention by healthcare workers and have their treatment programs supervised.

Just as the public sector, the community-based organizations are facing a lack of resources (financial, stuff) in order to provide adequate healthcare.

It could be of great help to identify ways to provide community-based organizations with technical and infrastructural assistance to improve treatment quality and coverage. We propose collaborating with community health programs to help them use staff more effectively and communicate their efforts with each other.

Text-Messaging & Mobile Phone Networks

Mobile phone technology has become widespread, even in developing parts of the world. Simpler and more prevalent than computers, mobile phones would be a potential way to communicate with patients in the home-based care system. Then health care workers would not have to travel long distances to perform routine check-ups, freeing up their time for more managerial activities. During our discussion last week, we thought this idea would be an interesting technological solution to the shortage of human manpower shortage.

Other countries are already utilizing cell phone networks to inform and mobilize citizens. For example, one of the companies in "India's Business Alliance"—organized for the fight against tuberculosis—plans to use its 5-million-phone network to text-message users information about TB and treatment (Zahorka et. al. 2004). Colombia is also initiating a study to evaluate whether daily text messages to remind ART patients about taking their medicines will improve adherence. This pilot project in Baranquilla, Colombia hopes that these automated SMS messages will alleviate the burden of time and money on health services (Villanueva).

We propose incorporating the cell phone in Lusaka into the home-based care system. Patients would receive a text-message each month that asks them to answer several questions about their health and dial in the responses to a certain hotline. If a patient's replies merit an in-person visit, the health care worker would do so. Text-messages would be a form of triage, allowing already over-burdened health care workers to expend their efforts most efficiently. Depending on the results of the Colombia project, text messages could also be used more frequently to promote adherence.

There are also some concerns to address with this approach. The cell phone can be used as a monitoring tool, but patients may not be able to afford to send text messages unless the service is free. We would need to work with network

ART Patients as Advocates & Health Care Providers

People affected by HIV are receiving a grater role in providing healthcare and designing and implementing national programs (The International HIV/AIDS Alliance, 2002). They can be strong advocates and participate in the process of education, planning, management and even providing treatment themselves. They can combine the acquired technical knowledge with the first-hand experience with the disease to ensure that the treatment services are credible, relevant, and people with HIV-friendly. An involving person with HIV/AIDS does not only increase numbers and quality of providers of healthcare, but also strongly benefits the individuals themselves.
 For example, at the Salvation Army's Chikankata Health Services (The International HIV/AIDS Alliance,

2002). involvement in the care and prevention teams had helped people with HIV to identify opportunistic infections at an early stage and seek medical attention as soon as they became sick.

A strategy to involve people living with HIV/AIDS in community-based organization/NGO work on treatment specific can be developed. This can include informing PHLA about possibilities for being involved in activities and recruit them as employees with clearly defined roles and some form of compensation such as free treatment for opportunistic infections.

It would be interesting to find out what the level of involvement of PLHA in providing healthcare in Zambia is, if there is an incentive and strategy to increase this involvement?

Medical Students as Health Care Workers

Encouraging medical school students to volunteer as primary health care workers at local health care facilities. Initially, we can build a network of volunteers (e.g. UNZA medical students) that might be interested in working at a health care center for ART patients. We can work with the university to establish a volunteer program for students who are interested in devoting their free time to assist ART patients. These volunteers can also assist with home based care or other health care delivery functions. The volunteer program might be successful if it is mandated by the government or UNZA.
The church system can be used to promulgate the importance of volunteerism to assist people infected and affected by HIV/AIDS. Church leaders can instill a sense of community to encourage volunteerism among churchgoers who will thereby assist people living with HIV/AIDS (PLWHAs).
It must be noted that medical students will have very little incentive to volunteer as primary health care workers if they can find paid work elsewhere. Another option is to provide a stipend for medical students who do contribute their time to work at health care centers.

Home-Based Care Database
Home-based healthcare requires that data on each patient be recorded accurately and effectively without risk of loss due to accidents on the road or lack of organization. One method proposed includes using PDAs as health-data recorders and having data wirelessly transmitted to a database run by the clinic or group operating the home-based care system (Peter Mack, MIT). This database should also be carefully constructed to be free of errors that could lead to fatal data loss, and should be quick and easy to use if a healthcare worker needs to access data on the history of a particular patient. Consolidating patient data in this way would also make studies of the population easier, such as measuring efficacy of certain treatment programs, disease prevalence in the community, demographic patterns, etc. An electronic database is best due to the fact that paper data can be easily lost and cannot be accessed as quickly as through a computer, and does not lend itself to studies as easily. With an electronic database system it would be easier for a healthcare worker to examine trends or recent history of a patient to adjust treatment plans and deliver healthcare that is best suited for the patient and time-effective for the caregiver.

It would be interesting to find out what kind of technical capabilities these community-based organizations have currently. What is the system they use to keep track of their patients? Activities? Spending? Do they have computer access or is documentation paper based? The public sector seems to have a sophisticated information system developed. What is preventing community-based organizations to acquire similar capabilities?

With a centralized information system it would be easier for community-based organizations to network- exchange information and experience, and to develop funding, treatment and staff training strategies. This would also provide better integration with NGOs and governmental agencies. There are many community-based healthcare centers in Lusaka area, such as Lusaka Family Health Trust, Bwafwano Community Organization, and Churches Health Association of Zambia. We might be able to help these communities develop a good information system.

In our future work, we propose learning more about the current infrastructure for AIDS treatment through communication with UNZA students, MIT individuals working in Zambia, and individuals already involved in community-based care. This information will guide the nature of our final plan of action. We will focus our efforts—either on creating a technical database or alleviating staff shortages—depending on what is more feasible and needed in Zambia.

ART in Zambia Questions:

How big of a problem is ART adherence in Zambia?

Is there a central monitoring entity/location (nationally, locally) in Zambia?

Is there a centralized database of HIV patients' information?

How involved is the government with home-based care?

Do Zambians trust the local or national government? What about NGOs?

What services do HBC programs generally provide (i.e., treatment for opportunistic infections) and how often?

How involved are HIV patients on ART with the HBC programs? How can we motivate them to be more involved?

What would you identify as the biggest problems with ART access?

Do patients pay for treatment at all?

What is the mobile cell network coverage like in rural vs. urban areas?

How many people have cell phones in Lusaka vs. rural areas?

List of community-based organizations in Zambia?

Are they providing ART?

What are their technical capabilities in keeping track of patients, activities and spending?

What is the level of communication between community-base organizations and government?

What is the level of communication between community-based organizations in Zambia?

What is the level of involvement of PLHA in providing healthcare in Zambia?

Is there an incentive to involve PLHA in providing healthcare?

Is there a strategy developed for doing this?

Works Cited

Zahorka M, Merkle R, Bodiang CK. *Current Issues in Tuberculosis Control.* Swiss Centre for International Health 2004.

Villanueva, Alvaro. *Can Cell Phones Message Service Increase Adherence in HIV/AIDS Patients on Therapy?* Harvard School of Public Health.

"Expanding access to HIV treatment through community-based organizations." UNAIDS, July, 2005.

"Improving access to HIV/AIDS-related treatment." The International HIV/AIDS Alliance, June, 2002.

EC.S11 Engineering Capacity in Community-Based Healthcare
Fall 2005