HIV TREATMENT IN COMPLEX EMERGENCIES

AIDSTAR-One
AIDS SUPPORT AND TECHNICAL ASSISTANCE RESOURCES

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CONTENTS

ACRONYMS

ART	antiretroviral therapy
ARV	antiretroviral
DRC	Democratic Republic of Congo
GHESKIO	Haitian Group for the Study of Kaposi's Sarcoma and Opportunistic Infections
IDP	internally displaced person
MOH	Ministry of Health
MOSSP	Ministry of State for Special Programmes
MSF	Médecins Sans Frontières
NGO	nongovernmental organization
NNRTI	non-nucleoside reverse transcriptase inhibitor
NUMAT	Northern Uganda Malaria, AIDS and Tuberculosis
PLHIV	people living with HIV
PMTCT	prevention of mother-to-child transmission
SACS	Southern African HIV Clinicians Society
SCMS	Supply Chain Management System
TASO	The AIDS Support Organization
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
WHO	World Health Organization

INTRODUCTION

The emergence of antiretroviral therapy (ART) in the mid-1990s and improved accessibility to treatment in resource-limited settings has greatly transformed the management of HIV. In 2009, there was a 33 percent increase in the number of people living with HIV (PLHIV) who were receiving treatment in sub-Saharan Africa; by the end of the year, 37 percent of patients in the region needing treatment were receiving it (Joint United Nations Programme on HIV/AIDS [UNAIDS] 2010b).

As access to ART expands in resource-limited settings, ensuring continuity of treatment has become a growing concern. Uninterrupted treatment for HIV is critical to both the health of the individual patient and to the effectiveness of the treatment regimen for the population at large. Complex emergencies, such as short-term unrest, long-term displacement, and predictable events (seasonal flooding) or unforeseeable events (droughts), present significant logistic and strategic challenges to assuring the continuous availability of HIV treatment. Provision of HIV treatment in both the short- and long-term is complicated by migration and resultant displacement, limited (or absent) health care infrastructure, limited (or absent) human resources, and instability of existing treatment programs. Ensuring an adequate drug supply, integrating HIV treatment with other humanitarian assistance efforts, and providing the necessary ongoing monitoring and follow-up for those who may remain displaced are critical issues that must be addressed (Culbert et al. 2007). Though these challenges exist, the World Health Organization (WHO), along with UNAIDS, the United Nations High Commissioner for Refugees (UNHCR), the United Nations Children's Fund (UNICEF), and Médecins Sans Frontières (MSF), has stated that ART access in these settings is an "inalienable human right and a public health necessity" (WHO 2006). These agencies have called for inclusion of the delivery of ART during short-term and long-term emergencies in country operational and national strategic plans. To facilitate this process, a common delivery framework should be developed in collaboration with multilateral agencies, nongovernmental organizations (NGOs), donors, and other partners.

Through several case studies, this report reviews HIV treatment programming during complex emergencies that are both short- and long-term in nature and the result of both natural and man-made disasters. The goal of the report is to identify steps that can be taken before, during, and after an emergency to help ensure the continuity of HIV treatment. (Note that more in-depth case studies on the crises in Kenya and Uganda can be found on the AIDSTAR-One website: *Emergency Planning for ART During Post-Election Violence in Kenya*, and *Emergency Planning for HIV Treatment Access in Conflict and Post-Conflict Settings: The Case of Northern Uganda*).

BACKGROUND—HIV TREATMENT IN AN EMERGENCY

WHAT CONSTITUTES AN EMERGENCY?

The nature of emergencies varies widely. They can be acute, such as the 2008 post-election violence in Kenya, or long-lasting, like the ongoing ethnic conflicts in the Democratic Republic of the Congo (DRC). Emergencies can be the result of a foreseeable event, like the seasonal flooding in Mozambique, or they can follow unexpected events, such as the devastating earthquake in Haiti in 2009.

In many cases, emergencies result from a combination of events, characterized by an acute crisis followed by a residual impact that lasts for a prolonged period after the acute phase resolves. According to the Inter-Agency Standing Committee, these types of emergencies are known as complex emergencies. A complex emergency is "a humanitarian crisis where a significant breakdown of authority has resulted from internal or external conflict, requiring an international response that extends beyond the mandate of one single agency" (UNAIDS 2010a, 10). In addition to the destruction caused by the emergency event itself, emergencies of all types can lead to the displacement of thousands of people, both within the country and across borders. For example, the 2011 drought in Somalia sent hundreds of thousands of refugees across the border into Kenya in search of water, food, and health care. Cross-border migration places significant and unexpected demand on the receiving country and causes tensions between the countries and among the populations as resources, frequently limited to begin with, are stretched even thinner. Even if displaced persons remain within their country of origin, responding to their needs by shifting supply chains and providing medicines, basic supplies,

> **Key Definitions**
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> *Refugee:* A person who flees his or her own country and enters another in order to avoid conflict; persecution based on race, religion, nationality, or membership of a particular social group; or to avoid a natural disaster. An *economic refugee* is one who leaves his or her own country to seek better economic opportunities in another.
>
> *Internally displaced person (IDP):* A person who has been forced to flee his or her home suddenly or unexpectedly due to armed conflict, internal strife, systematic violations of human rights, or natural disasters, and who is still within the territory of his or her home country.
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> *Undocumented migrant:* A person who moves to a country other than his or her own without the required legal permissions or documentation.
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> *Asylum seeker:* A person who has applied for asylum in a country other than his or her own and who is awaiting a decision on his or her case.
>
> Adapted from Southern African HIV Clinicians Society (SACS) and UNHCR 2007.

shelter, security, and human resources can put significant demands on even the most robust health care systems.

All of these scenarios present significant logistic and strategic challenges to assuring the continuous availability of HIV treatment.

EXISTING RECOMMENDATIONS AND GUIDELINES

A number of organizations have issued recommendations for treatment of HIV in emergency settings. SACS, in partnership with UNHCR, published clinical guidelines specifically for ART among displaced populations. The SACS/UNHCR guidelines attempt to dispel some common misconceptions about ART for displaced people (e.g., that providing ART for displaced people will bring a flood of refugees across borders) and provide treatment guidelines for displaced populations. The treatment guidelines are meant to provide detailed, supplemental guidance to support a country's own national treatment guidelines (SACS and UNHCR 2007).

MSF-Holland provided clinical support for one of the few ongoing HIV treatment programs in the conflict areas of the DRC. Based on their efforts in Bukavu, DRC, MSF-Holland issued guidelines for creating contingency plans for HIV treatment in emergency settings (Culbert et al. 2007). They recommend focusing on and planning for the following:

- Strengthening patient adherence education

- Building human resource capacity such that any medical staff can fill a human resource gap

- Pre-establishing communication networks between health staff and patients

- Developing emergency drug stocks for patients and "washout" drug stock

- Dividing drug stocks and storing drugs discreetly to protect them from looting or vandalism

- Decentralizing care

- Establishing partnerships with neighboring HIV treatment facilities

- Creating patient information cards and duplicate medical records stored away from the primary treatment site

- Integrating treatment with government services to "help ensure access to authorities and supply chains," offering the program a better chance of receiving needed support and security in the event of an acute emergency (Culbert et al. 2007, Preparing for Instability: The Importance of Contingency Planning).

What is Washout Drug Stock?

"Patients on a regimen containing non-nucleoside reverse transcriptase inhibitors (NNRTIs) can be supplied with a seven-day 'washout' course of whichever two nucleoside reverse transcriptase inhibitor drugs they usually take [i.e., zidovudine and lamivudine, tenofovir and lamivudine or emtricitabine] which they should take after their regular ART is finished. This will reduce the likelihood of NNRTI resistance during the period of effective NNRTI monotherapy brought about by its long half-life."

Source: Culbert et al. 2007, Preparing for Instability: The Importance of Contingency Planning.

In 2010, the University of KwaZulu-Natal's Health Economics and HIV/AIDS Research Division published a set of key recommendations on planning for and mitigating the impact of HIV treatment interruptions in Southern Africa. Their findings were based on interviews and research following three different emergency situations: the 2008 floods in Mozambique, recent political and economic unrest in Zimbabwe, and a public health sector strike that occurred in South Africa in 2007. Although the effectiveness of the various interventions focused on in the paper are yet to be determined, the researchers identified several key practices they believed would help improve HIV treatment continuity in future emergencies. Specifically, the researchers recommend strengthening patient ART adherence education; training clinicians to manage treatment interruptions and keeping them informed of possible service delivery interruptions; recruiting all partners, including private sector clinicians, NGOs, and donors, in preparation for and delivery of treatment during emergencies; planning for provision of holistic care for HIV treatment patients; and recognizing and planning for the role population migration plays in many crises.

KEY CHALLENGES DURING COMPLEX EMERGENCIES

Though recommendations for management and continuity of HIV treatment in emergency settings vary in detail from one issuing organization to another, most address challenges and issues arising in the key areas of communication, access, capacity, and supply chain.

Communication: During an emergency, regular communication channels may become unreliable. Telephone service may be cut, or electricity needed to power phones may become unavailable. Direct communication channels—for example, when clinic staff (such as community health workers) regularly check in with patients to ensure they remember appointments, refill prescriptions, or take medications—may also not be able to function as planned. Shifting populations, or restricted mobility resulting from external disruptions such as violence or a natural disaster like flooding or fire, may make door-to-door communication impossible. Similarly, communication among staff, between facilities, or from coordinating mechanisms to field-based partners might be impacted by the emergency situation.

Access to care: Patients' access to their usual health care facility or pharmacy may be curtailed, or entirely eliminated, by the circumstances of the emergency situation. Violence or natural disasters and their aftermath can make travel of even short distances too dangerous. Additionally, transportation that patients rely on to reach their facility may become unavailable or unreliable. Routes may become impassable, petrol for cars and buses may be unavailable, or taxi or bus drivers may be unable to report to work as a result of the emergency.

Capacity: Transportation workers are not the only professionals likely to be impacted by an emergency situation. Health care workers are likely to live in the same areas as their patients, close to the facility where they work. The violence or natural disaster that makes it challenging for a patient to reach a health care facility will therefore likely impact the facility staff as well. Further, in some countries, health care workers are assigned to posts that may be in an area where they are an ethnic or tribal minority. When an emergency situation arises around tensions between ethnic or tribal groups, the health care worker may be unable to report to his or her post even though patients are able to reach it.

This strain on human resources for health diminishes the health system's capacity to provide standard patient care at the facility level. This becomes especially problematic in emergency

situations, when a clinic or health care facility may be called on to provide services beyond what is typically offered. Patients may present with traumatic injuries or with other infectious complications such as diarrhea. Patients taking ART may present with no record of their medications, having fled their homes without their medical records. This complicates their treatment, and it requires more than the usual amount of staff time for a standard treatment patient appointment. Further, facilities may find they are facing unpredictable fluctuations in patient load as displaced populations move to avoid violence or natural disaster, or toward water, food, and shelter.

Supply chain: In addition to the impact on patients and health care workers, an outbreak of violence or a natural disaster is likely to impact the local supply chain of medications and other essentials for patient care.

Shipments of antiretrovirals (ARVs) may not arrive on time, if at all. This is especially problematic in the case of medications that require steady temperature control or refrigeration. Rational distribution of supplies also becomes difficult with shifting demand and limited communication. For example, during isolated pockets of ethnic violence, a facility in one area might have a plethora of a particular drug but a shortage of others, and no way to know whether more supplies are in transit or what the neighboring facility might have available or be in need of.

It is not only the supply chain for medications that can be disrupted, of course. Essential medical supplies, food, and water usually become scarce or unavailable when the supply chain is disrupted by an emergency.

The following pages examine these challenges in the context of recent emergency situations in select countries. This report highlights any preparations in place prior to the emergency event, the immediate impact of the event on patients and the larger health care system, and the longer-term outcomes for the country. By identifying the challenges faced and solutions identified in these countries, common threads can be identified to help HIV program planners develop contingency plans to mitigate the impact of future emergencies.

PROFILES

POST-ELECTION VIOLENCE IN KENYA IN 2008: SHORT-TERM, UNEXPECTED EMERGENCY

Background: When Kenya's presidential election results were announced on December 28, 2007, the main opposition party contested the results on grounds of irregularities, including the delayed tallying and announcement of election results. Violence erupted primarily in regions that were strongholds of the main opposition party. The violent conflicts became ethnically based when people from the tribe of the contested president-elect, who had been living within the opposition party's strongholds, were driven away. Violence peaked in January 2008, with killings and destruction of property. The violence eased after the signing of a peace accord between the main protagonist parties on February 28, 2008, and the formation of a coalition government.

Official government communication estimated that 663,921 people were displaced by the post-December 2007 election violence. Kenya's National AIDS Control Council estimated that some 15,000 of the people displaced by the post-election violence were living with HIV, about half of whom required ART (Regional Centre for Quality Healthcare 2009). Over half of those displaced (350,000) sought refuge in 118 camps in different parts of the country, 313,921 were integrated into existing communities, and 640 families fled into neighboring Uganda. Initially, the population displacement was considered a short-term problem that would abate following the signing of the peace accord, but displacement persists in some parts of the country at the time of this study.

Assessment and recommendations: The post-election violence impacted the HIV treatment program in Kenya in several key ways, and patient access to HIV treatment was limited for a number of reasons:

- The safety and security of clinics, health care workers, and patients could not be ensured.

- Many of the people displaced fled without their medications or medical records.

- Much of the immediate disaster response addressed basic services such as shelter and sanitation, but not ART.

- Health care workers who traveled to a clinic located in a community of a different ethnic group than their own faced heightened security risks.

- Transportation became problematic, both for patients and for health care workers.

- Many health care facilities were understaffed before the election due to end-of-year holidays and travel.

- Lastly, the violence caused an influx of new patients (e.g., HIV clinics experienced an influx of trauma patients, though they were not part of the normal clientele) as health care facilities became a place of relative safety and refuge in their community.

Lack of food and poor hygienic conditions within some of the camps established for the IDPs presented special challenges for PLHIV, many of whom were on medications that need to be taken after eating, or whose weakened immune system put them at special risk of waterborne illness. Complicating these factors was the fact that a fear of stigmatization led some PLHIV to reject some of the outreach efforts targeting them.

One fortuitous aspect of the post-election scenario for ART patients was the fact that the violence coincided with the end-of-year holiday season. At this time, the Ministry of Health (MOH) supplies extra drugs and encourages health care providers to provide patients with an extra supply of medication to cover the holiday season. A shortage of medicine and other supplies for managing acute illnesses and injuries unrelated to HIV treatment and care was, however, experienced in some health facilities, indicating that the supply chain was not secure during the violence.

Neither comprehensive disaster management frameworks nor strategies guided by appropriate policies and legislative provisions were in place in Kenya at the time of the 2007 presidential elections. Because there was no high-level response plan or policy in place for HIV treatment in emergencies, governmental response was largely reactive and ad hoc.

Despite slow initial response from the Government of Kenya and MOH, implementing partners developed real-time contingency responses to the crisis, including retesting patients in some areas to verify HIV status, providing medicine based on patients' verbal history of medicines taken, and provision of post-exposure prophylaxis for persons reporting rape experiences. In many cases, implementing partners did coordinate with local government facilities to improve the response.

Since the emergency, the Government of Kenya has undertaken a number of steps to ensure preparedness in case of future emergencies. The Ministry of State for Special Programmes (MOSSP) has worked to develop a national disaster response plan with integral HIV responses and has created a map of national resources for disaster response. A steering committee, including all national-level agencies engaged in HIV treatment and disaster response, has been formed with the goals of reviewing current disaster response mechanisms that are adaptable for HIV response in emergency situations, training local organizations on Inter-Agency Standing Committee guidelines and the MOSSP's national disaster preparedness plan, and ensuring the integration and implementation of HIV services within the MOSSP's disaster responses. Finally, guidelines on the management of HIV patients in disaster situations are being added to the National AIDS and STI Control Program's *Guidelines for Antiretroviral Therapy in Kenya.*

Additional steps for strengthening Kenya's management of ART in emergency settings include formally engaging key implementing partners in planning and implementing emergency plans. Working with implementing partners would maximize leverage of their institutional knowledge and local networks to allow the government to greatly expand its reach without redundancy or excessive investment. UNAIDS also recommended an education campaign for patients on ART about the medications they take and about the opportunity to receive treatment from any government facility when the need arises. It would be beneficial to formalize this education, possibly through a standardized campaign, to empower individual patients in times of uncertainty.

For more information on the impact of the conflict in Kenya on HIV treatment, see www.aidstar-one.com/focus_areas/treatment/resources/case_study_series/emergency_planning_for_art_kenya.

CONFLICT IN NORTHERN UGANDA: LONG-TERM, ONGOING UNREST

Background: Like many countries in sub-Saharan Africa, Uganda has faced a number of complex emergencies. But none have been as long-lasting and destructive as the civil war in northern Uganda that began in the mid-1980s, peaked in 2002 to 2004, and finally quelled in 2006. As violence became a recurrent theme in the lives of northern Ugandans, so did HIV. Most recent data suggest that HIV prevalence in northern Uganda is 8.2 percent, while nationwide prevalence is 6.7 percent (Mermin et al. 2008; Ugandan MOH 2009). Today, the north remains a post-conflict region facing many challenges in HIV service provision, including ensuring access to treatment for transient, displaced populations.

As violence escalated throughout the north, the national government began to institute policies to provide safer living conditions for inhabitants of the region. Under the "protected villages" policy, people living in affected areas were forced to leave their homes and move into IDP camps. At the height of the conflict, each IDP camp was home to between 2,000 and 60,000 individuals. Despite the dire need for HIV services and the presence of NGOs, HIV services in the IDP camps were severely limited. In the majority of camps, the only HIV service offered to residents was information, education, and communication focused on the ABC (*a*bstinence, *b*e faithful, use *c*ondoms) strategy and prevention of sexually transmitted infections. Condoms were available in a number of camps. HIV testing and counseling services for adults and children were primarily available at higher-level clinics and hospitals located in or near camps. Lower-level clinics that may have been more accessible to camp residents rarely provided HIV testing (International Organization for Migration 2006). Treatment for opportunistic infections (primarily co-trimoxazole and tuberculosis treatment) was available at most health facilities, while drugs for the prevention of mother-to-child transmission (PMTCT; nevirapine or zidovudine) were available at 38 percent of health facilities. Women were encouraged to give birth at the higher-level clinics or hospitals. Triple-drug ART only became available at select higher-level clinics and hospitals located near IDP camps in late 2005 to 2006. Because drug supply was limited, sites offering ART were quickly overwhelmed with patients, and waiting lists were common (International Organization for Migration 2006).

With the signing of the Cessation of Hostilities Agreement, relative peace was restored to northern Uganda in 2006. By the end of 2009, 1.4 million of the 1.8 million IDPs had either returned home or established alternative residences outside of the camps. For individuals living with HIV, returning home presented a number of challenges. For those who left the camps in 2008 to 2009, treatment availability was extremely limited in outlying villages. The lower-level health facilities that were nearest to the villages had not been prepared to manage HIV treatment. Loss to follow-up was difficult to assess during this period, but HIV program managers interviewed believe that it was extremely high (Northern Uganda Malaria, AIDS and Tuberculosis [NUMAT] program representative, 2010). Stockouts of ART and opportunistic infection prophylaxis were frequent. In addition, all districts faced shortages of health care workers; according to a study of human resources for health in northern Uganda, most districts are staffed at or below 50 percent of their needs (Kyobutungi 2008).

Policy and programmatic interventions: Several policy initiatives have been created in Uganda to provide guidance during conflict and post-conflict periods. Uganda is one of the few African nations to establish a policy framework to address internal displacement. Ratified in 2004, the policy framework provides protections to IDPs and outlines a human rights approach to internal

displacement and resettlement. Though health care is discussed in this document, there is no mention of access to HIV services.

An IDP Resettlement Plan was developed in 2005. This plan sets forth a stepwise approach to preparing IDPs for return to their villages and for rebuilding infrastructure including police, prisons, schools, and health care infrastructure.

The Peace, Recovery and Development Plan for northern Uganda was developed in 2007. Formal implementation was delayed due to funding deficits until 2009. The overarching goal of the plan is to reduce disparities in development between the north and the south. Six hundred million U.S. dollars (donated by international aid agencies) has been dedicated to this effort. As is the case with the IDP policy and the IDP resettlement plan, HIV care and treatment is minimally addressed.

A number of program interventions have been successful at increasing access to care during the conflict and post-conflict periods in northern Uganda. NUMAT has been providing comprehensive HIV services in the region since 2006. NUMAT's primary goals are to increase access to and utilization of quality HIV, tuberculosis, and malaria treatment services. A focal point of the program during IDP resettlement was assisting with re-establishment of health care infrastructure in home communities. There are currently 7,101 adults and children accessing NUMAT-supported treatment. The majority of these clients are former IDPs.

A critical component of NUMAT's access strategy is the involvement of PLHIV. In 2006, NUMAT collaborated with the International HIV/AIDS Alliance to train more than 100 HIV-positive volunteers as network support agents. Network support agents help link PLHIV to facility-based care and treatment services, work to improve health literary, advocate for stigma reduction, promote adherence to both care and treatment, lead support groups throughout their assigned communities, and use a mobile approach to enhance outreach. Their efforts have led to over 35,000 referrals to a variety of HIV services, including HIV treatment in 2008.

The AIDS Support Organization (TASO) began working in northern Uganda in 2005. Efforts were initially directed toward providing HIV counseling to IDP residents in camps based in Gulu. In line with their overall mission, TASO's goals were to provide peer-led social support and reduce stigma toward PLHIV. Once resettlement began in 2006, TASO shifted its focus to helping PLHIV access care in their home communities. TASO also began to trace patients who left the camps to access treatment in their home communities. TASO also provides home-based counseling and testing, treatment adherence counseling, and like NUMAT, uses a mobile approach to enhance outreach.

For more information on the impact of the conflict in Uganda on HIV treatment, see www.aidstar-one.com/focus_areas/treatment/resources/case_study_series/treatment_access_uganda.

RELIGIOUS AND ETHNIC CONFLICT IN NIGERIA: LONG-TERM, UNFORESEEABLE CONFLICT

Background: Nigeria is Africa's most populous nation and is home to the world's third largest population of PLHIV. As of 2009, just over 300,000 people were accessing ART in Nigeria, which the WHO estimated represented about 22 percent of the people in need of it (WHO, UNICEF, and UNAIDS 2009).

Nigeria's population is also ethnically and religiously diverse. This diversity has led to tensions over perceived (and actual) inequalities in access to resources and opportunities. Conflicts arising from these tensions complicate preventing HIV, reaching those at risk, and increasing access to ART.

One example of conflict impacting HIV treatment in Nigeria can be found in central Nigeria, in the states of Plateau and Bauchi. These "middle belt" states have been disrupted by ongoing conflict between the majority Christian groups, who consider themselves "indigenous" to the area, and Muslim groups, who are considered by the Christians to be "settlers" and therefore less entitled to certain rights, including property ownership and governmental representation (Internal Displacement Monitoring Centre and Norwegian Refugee Council 2010). As a result of clashes between these two groups, the area has a large population of IDPs.

There are 23 IDP camps in Plateau state alone, and an even greater number of "resettlement villages," which feature more permanent housing, typically constructed and funded by the federal and local governments, and that are intended for longer-term or permanent resettlement of the population. Estimates on the number of IDPs in the area vary, from a few thousand up to 18,000 (Internal Displacement Monitoring Centre and Norwegian Refugee Council 2010). None of the camps or resettlement villages provide any integrated treatment services for HIV, and few offer related services such as HIV prevention education or PMTCT. Access to treatment for IDPs who wish to travel outside of the camps is severely limited due to the threat of violence outside the camps, a poor or non-existent transportation system, an unreliable supply chain, and a scarcity of health workers.

Assessment and Recommendations: Currently, Nigeria has no government-level strategy for addressing HIV treatment needs during an emergency situation, even in chronically crisis-ridden states. ART providers may attempt to develop strategies to prevent HIV service interruptions during emergencies, but these improvised tactics cannot meet the needs of all displaced PLHIV. With UNICEF support, Nigeria has begun collaborating with the National Agency for Control of HIV/AIDS and the National Emergency Management Agency to identify emergency-related challenges to HIV service delivery and strategies to meet these challenges. The first consultative meeting with stakeholders to discuss these issues occurred in mid-2010. This consultation, largely a capacity building event, focused on ensuring that participating stakeholders understand the issues and the need to integrate an HIV response within the emergency response. This effort is expected to eventually inform the development of a framework to guide planning and response to HIV in emergency situations.

Sporadic, unpredictable outbreaks of unrest that occur over a protracted period of time, as in Nigeria, present particular challenges. In Nigeria, unrest tends to be relatively localized and short-lived, resulting from tension between particular communities. Planning of response efforts before the outbreak of a new incidence of unrest, as well as coordination of those efforts between local governments and any NGOs in the area by the national government and/or its key implementation partners during and after such an outbreak, could greatly reduce the negative impact of these events on patients who require access to ART. One example might be the enactment of a policy that would allow patients to keep a buffer stock of essential medications at home, so that they have additional supplies available if they are unable to keep their regular monthly appointment because of unrest. Use of patient health passports might also be valuable in areas of ongoing, unpredictable unrest, because patients will be able to carry records of their treatment with them if they are forced to quickly leave the area.

CONFLICT IN THE DEMOCRATIC REPUBLIC OF THE CONGO: LONG-TERM, ONGOING CONFLICT

Background: The DRC remains in a post-conflict situation following three civil wars and ongoing unrest between 1993 and 2003. Intermittent conflict continues in several eastern provinces, and new clashes are occurring in the west. These conflicts have displaced over two million Congolese, have led to widespread human rights violations, and have disrupted DRC's already limited health care infrastructure (U.S. Agency for International Development 2010; U.S. Department of State 2008). Using the 2010 WHO guidelines, approximately 15 to 20 percent of adults in need of ART were receiving it in the DRC by the end of 2009 (UNAIDS 2010b).

Assessment and recommendations: The international aid organization MSF offers a potential model for the provision of HIV treatment in settings of ongoing conflict such as that found in the DRC. In 2005, the organization initiated an HIV treatment program in the Pool region, an area of the DRC heavily impacted by the country's unrest. The program focused on ensuring continuity of treatment at MSF facilities, rather than trying to address the HIV epidemic in the country at large. The program was centered on provider-initiated testing and counseling for high-risk patients or patients with possible medical indicators of HIV at all MSF facilities (not just HIV clinics), and on the integration of HIV care and treatment with other MSF activities.

Similar programs were initiated in a total of 12 countries. Data collected by MSF noted that patient outcomes in its programs in post-conflict regions were comparable to those in other more stable resource-limited settings. MSF's key recommendations for ensuring the success of these programs include designing programs to be resilient to disruption through contingency planning for both staff and patients, focusing on patient adherence through education and motivation, establishing emergency drug stocks and educating patients on strategies for managing forced treatment interruptions, and taking precautions to ensure the physical security of drug stocks (O'Brien et al. 2009, 2010).

In a scenario such as the current one in the DRC, in which the health system and other key infrastructure is severely degraded after years of war, and the basic needs of the general population are largely unmet, the challenges of providing ART—even under non-emergency conditions—can seem overwhelming. However, MSF's experience suggests that strategic planning and targeted interventions can have a significant positive impact. The government of the DRC has developed strategies to prevent and treat HIV, but the strategies do not specifically address HIV services in emergency situations. For example, HIV services are virtually non-existent in IDP camps in the DRC. Working with key implementing partners to establish program structures and strategies for maintaining HIV treatment during periods of unrest could leverage their capacity and help ensure a basic level of care even in the most challenging settings.

HAITI AFTER THE 2009 EARTHQUAKE: ACUTE AND ONGOING INSTABILITY

Background: By almost any measure, Haiti faces a daunting spectrum of challenges. In addition to long-standing political unrest and economic instability, Haiti has been plagued by seasonal natural emergencies such as flooding, hurricanes, and tropical cyclones. Even in 2012, the country is still reeling from the magnitude 7.0 earthquake that hit Port-au-Prince in January 2010. The impact of

this natural disaster was devastating. More than 222,570 people were killed, 300,000 were injured, and more than one million were left homeless (Centers for Disease Control and Prevention 2011b).

For PLHIV, the earthquake and its aftermath posed significant challenges to accessing care and ART. Treatment interruption in the period immediately following the earthquake was widespread. According to the Pulitzer Center on Crisis Reporting, "The Haitian government estimated that 24,000 Haitians were accessing ARVs before the earthquake; by mid-summer [2010], according to UNAIDS, fewer than 40 percent [of those] had access. Hundreds of HIV positive people currently live in tent cities for internally displaced persons, where their weakened immunity, and the unrelenting heat and rain, make them more vulnerable to diseases" (2011).

Neither patients nor health care workers were able to reach treatment centers in the period following the earthquake; health care that was available was focused on treating acute injuries and preventing the outbreak of communicable diseases. Despite these efforts, the first outbreak of cholera in a century started in October 2010; by October 2011, 470,000 cases of cholera had been reported in Haiti, with 6,631 reported deaths (Centers for Disease Control and Prevention 2011a).

Many patients were left without their ARVs with the loss of their homes, and drug stocks were limited throughout the country while the airports and port in Port-au-Prince were closed (UNICEF 2010).

Assessment and recommendations: The Supply Chain Management System (SCMS) project offers one model for how best to resume services after such an emergency. The earthquake severely damaged the facility that housed the Program on Essential Medicine and Supplies—Haiti's central medical store—leaving the program incapable of receiving, processing, and distributing 33 sea freight containers of medical aid that was sitting in the port waiting to be processed. SCMS staff in Haiti interviewed facility staff, observed the functions that remained operative at the warehouse after the earthquake, and reviewed relevant documents. The SCMS team and staff agreed on three top priorities for allowing the program to effectively operate in the post-earthquake conditions: 1) regain control of inventory management; 2) establish control of commodity donations; and 3) relocate nonessential commodities (SCMS 2010). SCMS staff, working with the local government, rapidly identified the key problems impeding these three priority activities and created tailored responses to alleviate those problems.

The Haitian Group for the Study of Kaposi's Sarcoma and Opportunistic Infections (GHESKIO) also worked closely with the Government of Haiti and other key partners to resume treatment of HIV patients immediately following the earthquake. Almost 7,000 refugees were living at GHESKIO's campus in Port-au-Prince following the event. Nevertheless, the program was able to continue operations; incredibly, treatment services resumed for its cohort of patients 24 hours later. In addition, the program offered basic health care, sanitation, and food support to refugees and helped to quickly resettle them. Today, the project provides counseling, HIV testing, ART, reproductive health services, nutritional supplements, and PMTCT to over 140,000 children and adults, as well as tuberculosis care and treatment (Weill Cornell Medical College 2010).

SCMS and GHESKIO are examples of key responses that ensured their ability to quickly regain footing and impact following the massive and unpredictable earthquake. First, the two programs used their established relationships with local government to integrate their response into the larger relief effort, rather than creating new, unintegrated systems. Second, both groups showed creativity and flexibility in their response, which allowed the teams to respond quickly and effectively. SCMS reorganized and repurposed their facilities to allow for quick and easy distribution of newly essential basic supplies. GHESKIO adapted their standard HIV and tuberculosis programs to respond to the

needs of refugees, including many with HIV, for acute injury care, clean water, sufficient food, and shelter. This ability to communicate and work with government and partners allowed the programs to leverage their ability to respond effectively in the face of enormous challenges.

In a situation like Haiti's, in which every aspect of a functioning society is abruptly and nearly completely incapacitated, ensuring continuity of HIV treatment may not be prioritized. However, there are several steps that can be taken before such an emergency occurs that can help mitigate its impact on ART access. Giving patients a buffer stock of their medications to keep at home, so that there is a longer "grace period" in which to resume regular operations before patients run short of their drugs, is one option. Along with this additional supply, patients should be educated on techniques for minimizing the risk of resistance if they do run out of their medication.

SEASONAL FLOODING IN MOZAMBIQUE: SHORT-TERM, PREDICTABLE SERVICE INTERRUPTION

Background: Seasonal flooding is an ongoing problem in Mozambique. In 2008, more than 100,000 people living in the Zambezi basin in Mozambique were displaced by seasonal river flooding. According to the WHO, 171,000 patients were accessing ART as of 2009 (WHO, UNICEF, and UNAIDS 2009). Those living in the Zambezi basin were forced to resettle in areas away from their homes, where they had limited access to basic health services and to their regular ART treatment centers.

Assessment and recommendations: As in previous years, in 2008, the emergency response by the Government of Mozambique and its partners focused largely on the pressing and immediate concerns of the displacement of large numbers of people, concurrent with the disruption or total breakdown of health infrastructure. Issues arising from overcrowding and poor sanitation in the temporary IDP camps were of paramount concern. Prevention and control of waterborne diseases, such as cholera, were a priority issue for the Government of Mozambique.

However, displacement also results in significant interruption of HIV treatment and loss to follow-up of ART patients. In 2008, an attempt was made by the Government of Mozambique and its partner NGOs to establish a system to mitigate this loss. Elements of the Government of Mozambique's plan for ensuring continuity of treatment of ART patients includes training outreach workers to provide ART where needed, providing patients with a two- to three-month supply of ART prior to the flooding, and "spatial mapping…to identify where people who need antiretroviral medication [are] located" (Veenstra et al. 2010).

Nevertheless, treatment interruptions occurred. For example, in January 2008 MSF-Mozambique reported 60 of its ART patients had failed to return to its clinic in Mutarara, which is located in a flood-affected area. Eventually, 40 of the patients either returned to the MSF facility or were traced elsewhere; the remaining 20 patients were lost to follow-up (Veenstra et al. 2010). A weak cross-referral system undercut much of the Government of Mozambique's efforts at ensuring continuity of treatment.

Planning for continuity of HIV treatment in areas that experience recurring natural disasters, such as seasonal flooding, has some advantages over those responding to unforeseen events, such as the 2010 Haiti earthquake. Although neither the exact timing nor the severity of a recurring disaster can be predicted, the eventuality of the event can be expected with relative confidence. Past experience is invaluable in planning for the next recurrence, and the shared impact of previous events can help motivate the population, the government, and its partners to collaborate and plan effectively.

This is not to minimize the potential severity of the impact of a recurring disaster. Unlike disruptions caused by violence, which may impact some treatment centers while leaving others untouched and accessible, natural disasters like flooding tend to completely disrupt services in the affected area. As the events in Mozambique highlight, even a contingency plan developed in advance of a disaster and based on past experience will fail if it is incomplete. Despite significant efforts to ameliorate the problem, Mozambique lost a large number of its HIV treatment patients to follow-up because of insufficient cross-referral practices. Future plans should build on the efforts undertaken in 2008 with a robust patient cross-referral system.

POST-ELECTION VIOLENCE IN CÔTE D'IVOIRE: SHORT-TERM, PREDICTABLE UNREST

Background: Political violence broke out in Côte d'Ivoire following a failure to resolve its disputed 2010 election results. Supporters of incumbent President Laurent Gbagbo and challenger Alassane Ouattara battled for control of the country, resulting in the deaths of thousands of civilians (Nossiter 2011). According to the Internal Displacement Monitoring Centre, "UNHCR estimates the number of remaining IDPs in June 2010 at 519,100. However, available statistics on the number of remaining IDPs only refer to the West and no data is available on the some 300,000 to 440,000 who had been displaced to Abidjan" (Internal Displacement Monitoring Centre 2010). Among those displaced were some of the more than 70,000 Ivoirians on ART (UNAIDS 2011).

Assessment and recommendations: Despite this upheaval, interruption to ART access was limited through several efforts. Côte d'Ivoire uses a warehouse tracking system that carefully monitors drug availability across the country. Once a year, there is a national-level quantification survey done to confirm these levels. Using this data, the MOH and its partners knew that they had a buffer stock of approximately three- to four-months' supply available in-country.

Further, the central medical stores had changed its regular "pull" distribution system (in which local distributors pull medications and commodities from the central warehouse) to a "push" system, in which the central medical stores sent supplies, unsolicited, to the regular distributors, who provided ART to patients. This decision was made in anticipation of unrest following the election.

Additionally, just prior to the outbreak of violence, the National HIV Treatment Program changed its guidelines so that patients could receive a two- to three-month supply of ARVs at each clinic visit, instead of just one month's worth. Health workers reported seeing most HIV patients arriving in IDP camps with their ARVs, limiting the number of patients with treatment interruptions.

Finally, in anticipation of the outbreak of violence, the U.S. Government, through the Office of the Global AIDS Coordinator, began pushing its Mission in Côte d'Ivoire to develop a contingency plan should violence erupt. Working with the National AIDS Program and the MOH, U.S. President's Emergency Plan for AIDS Relief representatives devised a three-prong strategy for ensuring continuity of treatment and care:

1. In peaceful areas, with limited to no violence, services (and reporting strategies) were to be continued as normal.

2. In peaceful areas receiving displaced patients, counseling and testing, post-exposure prophylaxis, and provider-initiated testing and counseling for patients exhibiting signs of HIV were to be continued. PMTCT services, focusing on ART, were to be offered, but the complete PMTCT package (including support activities such as community sensitization, etc.) were to be put on

hold. Abbreviated reporting tools were created for these areas, but these were not widely implemented.

3. In areas of unrest the intention had been to work with faith-based organizations operating in these areas. However, even they were attacked and destroyed in the violence making activities extremely limited. MSF was able to continue some operations, and the MOH worked with MSF to the extent possible to continue services. The MOH worked with its clinical partners to get telephone updates on continuity of services every two weeks in these areas. There was also an attempt to use these partners to transport drugs to areas in need, but most were not able to serve in this capacity because they did not have access to the necessary transportation vehicles.

The events in Côte d'Ivoire offer an important example of the complexities of ensuring treatment in the event of an emergency. The Government of Côte d'Ivoire and its partners anticipated the possibility of violence following its presidential elections, largely because of the country's political history. Nevertheless, the U.S. President's Emergency Plan for AIDS Relief found it difficult to convince the local government of the urgency of the emergency planning efforts in the period immediately leading up to the elections. Efforts to establish a contingency plan for HIV treatment should begin well in advance of any particular emergency, so that the details of any given situation do not politicize the essential public health response.

Additionally, although Côte d'Ivoire has a commodities tracking system, it lacks a robust patient referral and tracking system. Patients in Côte d'Ivoire do not carry health passports, although some may have their prescription forms; this creates a challenge in a situation when a patient is displaced, because the provider does not know the patient's current regimen. Further, loss to follow-up remains a significant problem as facilities have no way to track patients who did not return following the violence. Policies to alleviate these issues should be considered and implemented as part of standard contingency planning.

RECOMMENDATIONS

Advanced planning is critical to successfully maintaining continuity of treatment in the event of both unforeseen and predictable emergencies. Based on the lessons learned from the case studies presented here, this section outlines several steps that can be implemented to minimize disruption in communication, patient access, health system capacity, and supply chains that routinely stem from complex emergencies.

POLICY AND PLANNING CONSIDERATIONS

There are a number of steps that should be taken to ensure that a country's policy environment is structured to enable continuity of HIV treatment in cases of emergency.

First, HIV programming should be included as an integral aspect of disaster management plans, structures, and processes. The government agency or agencies responsible for HIV treatment should work closely with those tasked with overseeing disaster planning (or responding retroactively, if emergency planning is not consistently done). This collaboration will ensure that the requisite technical understanding of HIV treatment among emergency response planners exists, and will inform national HIV treatment policies so that they can be structured to complement disaster plans. For example, having an understanding of where IDPs escaping seasonal flooding will be directed by emergency response planners allows HIV treatment policymakers and their partners to plan for things like drug stockpiling, patient tracking and referral, and human resources redistribution.

This collaboration should not take place just among government agencies but should also engage key implementing partners. The UNAIDS after-action report following the post-election violence in Kenya suggested that "HIV coordination mechanisms should be functional at the field level, not only at the national level" (UNAIDS 2008, 21). Working with implementing partners maximizes leverage of their institutional knowledge and local networks to allow the government to greatly expand its reach without redundancy or excessive investment.

According to UNAIDS, the roles and responsibilities of key actors should be determined prior to emergencies and made known to all relevant stakeholders (UNAIDS 2010a). Informal networks within some agencies and among stakeholders at the local level should be formalized and exploited to facilitate rapid, effective response in the case of emergency.

One additional policy consideration that can help ensure access to treatment in times of emergency is decentralization of care. Decentralization helps improve access to treatment in an emergency for two reasons. First, making treatment available at a number of facilities helps ensure that there are multiple locations where a patient can find treatment if his or her home facility becomes too difficult to travel to or is no longer able to provide treatment. Second, if the supplies for treatment are dispersed to a number of smaller facilities, it makes it less likely that a single facility will become the target of a looting or robbery attempt, because it will have a more limited supply of valuable ARVs on hand. And, in the event that such theft does take place, patients are still able to access ARVs located at another facility in a decentralized treatment model.

Any standing policies related to management of IDPs should prioritize the needs of PLHIV. This is particularly true in high-prevalence settings, where disruption in ART not only results in higher morbidity and mortality, but also increased risk of HIV transmission. HIV care and treatment planning should also be built into resettlement plans for IDPs after a conflict or emergency subsides. These plans must include budgets and funding so that contingency initiatives can actually be implemented.

Finally, every country should have a patient follow-up plan that is developed by the national treatment coordinators and implemented by treatment providers. This tracking system should feature unique identification numbers for patients and would function in both emergency and non-emergency settings to help minimize inaccurate reports of loss to follow-up and identify true instances of its occurrence.

ADDRESSING COMMUNICATION CHALLENGES

There are a number of steps that a health care facility might take prior to an emergency to make communication easier during a period of unrest.

Whatever a health care facility's standard operating plan for communication with patients may be, it is essential to have a secondary plan in place in case of emergency. That secondary plan must be familiar to both staff and patients.

For example, if the standard communication plan is for facility staff to contact patients by phone to remind them of upcoming appointments or prescription refills, a secondary plan might assign responsibility to that staff member to contact each individual patient in person. Alternatively, a community volunteer from a local PLHIV-support group might be engaged to do the same in order to avoid possible issues of stigma and to leverage previously established local relationships.

Such a plan should include provisions for how the decision will be made to shift from the standard operating procedure to the emergency procedure, how staff will be informed of that decision, which staff are responsible for contacting which patients, what staff should do if they are unable to contact a particular patient or if they find the patient needs additional care, how the need for prescription refills will be handled if the patient is unable to travel to the clinic or health care center, and what the criteria for returning to the standard operating plan will be. This secondary plan should be made clear to both staff and to patients. Table 1 gives an example of both a standard and back-up communication plan.

Table 1. Sample Patient Communication Plans and Potential Alternatives

Standard Communication Plan	Alternative Plan	Key Considerations
Staff contact patients by phone or SMS text message to provide adherence counseling, assure treatment adherence, remind patients of upcoming appointments, etc.	Establish a network of community volunteers from people living with HIV groups who can be utilized in a time of emergency to conduct counseling in person.	- Are patients amenable to home visits? - If patients are unable to get to the clinic, will community counselors be able to reach patients at home? - How will counselors be supported by staff?

Standard Communication Plan	Alternative Plan	Key Considerations
Community volunteers travel in rural areas to check in with patients to assure adherence and address concerns.	Collect patient phone contact information and develop a phone tree for communication in case of curtailed travel.	• If patients do not have a phone, what is the alternative? • If phones stop working, what is the alternative? • How will supervisors ensure volunteers are able to reach all patients? • How will volunteers be assisted with troubleshooting?
Alternative plans.	Use newspaper and radio announcements to communicate with patients dispersed into neighboring districts or regions.	• How will alternative sources for treatment and care for patients be identified?

One basic aspect of communication, that is an essential underpinning to all other strategies, is patient education. Patients are the keystone to ensuring treatment continuity. In a time of upheaval, patients must understand both the definition and importance of treatment adherence if they are going to be active participants in the effort to maintain treatment. Patient education can also focus on familiarizing patients with their own regimen, so that they can describe it to others if necessary. Alternatively, it might focus on emphasizing the importance of always carrying a patient treatment card with them.

UNAIDS recommends an education campaign for patients on ART that covers both information about the medications they take and a review of their opportunities to receive treatment, both in their regular residence as well as contingency sources. Implementing partners interviewed to inform the Kenya and Uganda assessments in this report stressed the importance of counseling their patients on the importance of keeping their medical records with them in times of emergency. It would be beneficial to formalize this education, possibly through a standardized campaign, to empower individual patients in times of uncertainty. Patients should be provided with a personal copy of their clinical records that details their regimen and any recent laboratory results so that the transition to new treatment sites can be easily facilitated. Patients can be key partners in advocating and managing their own treatment in times of emergency. The more patients understand about their own treatment, the more capable they will be of contributing to its continuity.

Communication campaigns should not be limited only to those already enrolled in HIV treatment programs. Sensitization campaigns using media and increasing widespread HIV education should be initiated, especially in IDP camps in situations of long-term displacement, to ensure that those patients in need of treatment services are willing and able to seek them out.

A last key aspect of planning for communication in times of emergency is to plan for communication between government agencies, aid groups, and health care facilities (for an example, see Côte d'Ivoire's letter from the Director General of the MOH with emergency instructions for HIV treatment at www.aidstar-one.com/complexemergencies). Such a communication plan is essential to ensure that health care facilities are aware of the situation in the areas around them and allows for the maximum leveraging of resources, including medications, other medical supplies, food, water, and staff. Ideally, a communication strategy will be laid out at a national level by the appropriate ministry.

In lieu of a formal emergency communication plan for treatment, however, an individual health care facility can help itself and its neighboring facilities prepare by developing its own emergency communication plan. For example, a small committee for facility emergency planning should be established. The committee should be responsible for identifying a contact person at neighboring health care facilities, local or district government, and locally active aid agencies. These external contacts should be people who will be informed about the status of their own organization and their surrounding area in the case of emergency. Together, the facility committee and the partners they have identified should establish a communication plan for times of emergency. Establishing these personal relationships prior to an emergency will greatly facilitate communication in times of emergency; indeed, informal networks are frequently the most effective tool for identifying opportunities for sharing needed resources. Table 2 shows a sample emergency planning committee.

Table 2. Sample Emergency Planning Committee Structure

Facility Committee Members	Partner Organizations and Members	Key Communication Plan Elements
• Facility managing director • Nurse in charge • Pharmacy representative • Community volunteer liaison.	• Facility managing directors of the two closest neighboring facilities • Local representatives of the Red Cross/Red Crescent and Médecins Sans Frontières • District health officer.	• Establishment of roles and responsibilities in the case of emergency • Phone tree and alternative plan • Agreement on sharing of information, resources • Agreement on post-emergency plans for patient and resource tracking.

ADDRESSING BARRIERS TO ACCESS

Communicating with patients is one potential challenge in an emergency; ensuring that they can still access care and treatment services is another. The scenarios that might curtail a patient's access to treatment can vary. Just as with communication, planning for a contingency access model is essential to ensuring the maximum possible continuity of treatment.

Providing patients with a buffer stock of ARVs is one way to ensure that they will not run short of their medications if they are unable to reach the clinic during an emergency. Currently, many countries' national treatment guidelines specify the number of months' supply of ARVs a patient is allowed to pick up from their health facility at a particular visit. Most national ART guidelines typically recommend that patients return every one to three months. The goal of restricting the number of months' supply is to give health care workers an opportunity to interact regularly with the patient in order to monitor adherence, address concerns or side effects, and avoid resale of the medication. However, in an emergency, having such limited supplies of necessary medication at home means that patients will quickly run out if they are unable to travel to their health care facility for any reason. Alternatively, if they are displaced and forced to leave their home area, they may not have sufficient ARV supplies with them to sustain their drug regimen while they settle in a new location and identify a new health clinic for treatment.

Issuing patient treatment cards is another way to help ensure that treatment is not interrupted if patients are forced to leave the service area of their home facility. Patients should be encouraged to carry their treatment cards with them at all times, and the cards should be updated at each patient appointment so that the information on them is current.

In addition to a clinic's primary medical records for a patient, and that patient's own treatment card, it is recommended that a second, duplicate set of patient records be kept in a secure location away from the clinic. This lessens the risk that the destruction of the clinic would mean a catastrophic loss of patient data. One option for a secondary data storage site is one of the partner organizations identified by the facility emergency planning committee described in the "Addressing Communication Challenges" section. Keeping two full copies of patient records manually may not be feasible. One currently used alternative is the use of encrypted electronic records, which facilitate easy offsite backup. Additionally, the patient treatment cards, kept by the patients, can be used as an abbreviated copy of the patient's full records.

> **What is Buffer Drug Stock?**
>
> Typically, a buffer drug stock is an extra 15- to 30-day supply of ARVs given to a patient in case an unforeseen situation makes returning for his or her next scheduled ARV prescription refill impossible. It is recommended that patients be required to bring this extra drug stock with them to their regularly scheduled appointments so that "their quantity and expiration dates can be monitored."
>
> *Source: Culbert et al. 2007.*

One key step toward increasing access to HIV services in emergency settings is to ensure those services are available in camps established for IDPs. These services should include ART. Patients should not be required to travel outside of the camp and risk danger to access necessary health care. Trained health care stuff must be present in camp facilities, and buffer stock of ART should be available in case of disrupted drug supply.

The mental health of patients is often a neglected impediment to access during periods of unrest. Training health care workers stationed in conflict and post-conflict settings to recognize and address issues such as depression and post-traumatic stress disorder can be hugely beneficial to patients.

Additionally, support for PLHIV is often lacking in emergency settings, either because existing groups and programs were interrupted by the emergency or because they were not offered prior to the emergency arising. Formal support group structures help decrease stigma and address psychosocial issues.

ADDRESSING CAPACITY CHALLENGES

Many countries have a shortage of health care workers under the best conditions. In a time of emergency, when health care workers face the same security and transportation challenges that their patients do, that shortage can become even more pronounced.

Task shifting and staff cross-training are two key strategies for preparing staff at a health care facility for the demands placed on them by an emergency. Task shifting ensures that the greatest possible number of staff capable of conducting a procedure are trained to do so; if nurses are trained and allowed to prescribe ARVs, the clinic will not be reliant on a single doctor's ability to reach the facility for patients arriving in need of medication. Similarly, staff cross-training ensures that every staff member providing care and treatment to patients at a facility are kept abreast of standard HIV treatment procedures and policies, so that the presence of a staff "HIV expert" is not necessary to

be able to provide quality care and treatment. These efforts are especially important in more remote locations, where health facilities are frequently understaffed.

As mentioned previously, an emergency can place demands on a health care facility that it might not otherwise face. As discussed in the "Addressing Communication Challenges" section, the establishment of an emergency planning committee at the facility level can identify site-specific solutions to address the increased demands in the event of an emergency. The committee should work to establish a network of partners that facility staff can contact in the event of an emergency in order to share information on the local situation, patient load, and resource supplies. In addition to other treatment facilities, aid organizations, and government agencies, it is advisable that this network also include partners who provide non-HIV–focused care and support. These partners might serve as a place to refer patients who arrive with problems outside the purview of an HIV treatment facility or might be able to provide technical or material support if the emergency requires an HIV treatment facility to manage such patients in situ.

Finally, rewarding health care workers for their willingness to work in less desirable settings and conditions should be standard practice. Using incentives to entice health care workers to remain on duty in areas of unrest, or to return to these areas once stability has returned, should be considered.

ADDRESSING SUPPLY CHAIN CHALLENGES

One common impact of displaced populations is the challenge of maintaining adequate and appropriate supplies. If the supply chain cannot adapt, population movement can result in an overstock of supplies in areas that people have left, while areas that have had a recent influx of people are frequently understocked given the new levels of demand. This is especially true for HIV treatment medications, with long, complex, and typically carefully orchestrated and monitored supply chains. In such a situation, the networks described in the previous sections can be helpful if combined with policies that allow for timely redistribution of supplies between facilities or organizations, based on real-time demand.

Additionally, policies that allow for some flexibility in supply chain management, such as allowing for a timely build-up of stocks in areas known to serve as a catchment for people displaced by "predictable" events such as seasonal flooding or drought, are one possibility.

HIV treatment programming must be included as an integral aspect of disaster management plans, structures, and processes. Local networks and related policies can help ensure that available supplies are distributed rationally as long as they are available, but re-establishing the supply chain as seamlessly and quickly as possible is essential for long-term continuity of treatment.

Key supply chain partners in conjunction with ministries of health and service delivery partners should establish a contingency plan for communication channels and distribution of essential drugs and commodities in the case of disruption. These contingency plans must take into account transportation, commodity security, communication channels, storage, and tracking issues. Strategies for responding to dramatic shifts in the nature and volume of supplies being distributed through the supply chain should be in place as part of any emergency plan.

One unique element of an emergency response is the potential influx of additional supplies—not typically stored or procured by the facility—from donor organizations in cases of extreme humanitarian disasters. Many of these supplies may be necessary (such as trauma supplies), while others may have less immediate utility and can potentially complicate storage and inventory. Building

a supply chain contingency plan that anticipates these issues, including storage, transportation, and distribution, will help mitigate disruptions in ART services.

CONCLUSION

Emergencies, by their nature, are typically unpredictable and challenging to plan for. However, some basic preparation can lay the groundwork for the strongest possible response when an emergency arrives. Developing strong communication within and between organizations, as well as ensuring maximum access to treatment, fully leveraging the capacity of individual staff as well as partner organizations, and making the most of available supplies while ensuring the rapid resumption of the supply chain, are all key elements of sustaining continuity of treatment during periods of unrest. The responsibility for these preparations run from the highest levels of national government to the staff at the smallest local facilities—and ultimately, to the patients themselves.

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