The emergence of antiretroviral (ARV) drugs in the mid-1990s and their improved accessibility in developing countries since the United Nations 2001 Declaration of Commitment on HIV/AIDS (Joint U.N. Programme on HIV/AIDS [UNAIDS] 2001) has greatly transformed the management of HIV treatment. Between 2004 and 2008, the number of people living with HIV (PLHIV) receiving treatment in sub-Saharan Africa increased 30-fold to reach nearly 3 million. In Kenya, where an estimated 1.4 million people are living with HIV, access to treatment has increased significantly. By the end of 2008, there were approximately 243,000 PLHIV in Kenya with access to ARV treatment (World Health Organization [WHO], U.N. Children’s Fund [UNICEF], and UNAIDS 2009). Of those, funding by the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) was providing treatment to 166,400 people, including at least 15,521 children (U.S. Agency for International Development n.d.).

As access to HIV treatment expands, ensuring the continuity of treatment has grown as a concern. Continuity 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, predictable events (seasonal flooding), and unforeseeable events (droughts) present significant logistic and strategic challenges to ensuring 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 and human resources, and instability of existing program continuity. Ensuring an adequate drug supply, integrating HIV treatment into other humanitarian assistance efforts, and providing the
necessary ongoing monitoring and follow-up for those who may remain displaced are critical issues that must also be addressed (Culbert et al. 2007).

Despite these complications, WHO, along with UNAIDS, the Office of the U.N. High Commissioner for Refugees, UNICEF, and Médecins Sans Frontières (MSF), has called antiretroviral therapy (ART) in these settings an “inalienable human right and a public health necessity” (WHO 2006, 1). These agencies have called for inclusion of ART delivery during short- and long-term emergencies in national operational and strategic plans. To facilitate this process, a common delivery framework should be developed in conjunction with multilateral agencies, nongovernmental organizations (NGOs), donors, and other partners.

**Natural and Manmade Disasters**

Extreme weather and climate events (drought and floods) account for major natural disasters and emergencies in Kenya. Vulnerability to natural disasters in Kenya is exacerbated by poor socioeconomic conditions. Nearly half (46 percent) of the country’s population lives below the poverty line of U.S.$1 per day. The areas most prone to natural disasters also suffer the poorest socioeconomic conditions. Child malnutrition rates in the northeast of the country persist, with national acute malnutrition rates ranging from 15 percent to 30 percent, coupled with low immunization rates. Even though Kenya is a net producer of food, more than 50 percent of the population remains chronically food-insecure (Ministry of State for Special Programmes [MOSSP] and Ministry of State for Provincial Administration and Internal Security 2008).

Kenya is also confronted by complex manmade emergencies resulting from politically instigated conflicts in neighboring Somalia and Sudan. An estimated 270,000 refugees, mainly of Somali and Sudanese origin, live in the Dadaab and Kakuma camps in northern Kenya (MOSSP and Ministry of State for Provincial Administration and Internal Security 2008). Instability resulting from Kenya’s own internal political turmoil, as witnessed by the events following the disputed general presidential election of December 2007, is of increasing concern.

In December 2007, Kenya’s general election pitted candidates who had previously cooperated and served in the same government against one another. For the first time in Kenya’s history, the election results also had the potential to unseat an incumbent president after just one term in office. Voter turnout was phenomenal, and voting was largely peaceful. When the 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 the results. Violence erupted, especially 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, and vice versa. The violent conflicts were at their worst in the first two weeks of 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. The regions most affected by this violence were Rift Valley, Nairobi, Central, and Nyanza provinces (see map).

Official government communication estimated that 663,921 people were displaced by the post-election violence. 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. On August 14, 2010, the Government of
Kenya reported that it had spent about U.S.$38.5 million for the resettlement of internally displaced persons (IDPs) and would require a further U.S.$18.7 million to complete the resettlement program (MOSSP 2010). Initially, the population displacement was considered a short-term problem that would abate following the signing of the peace accord, but the problem persists in some parts of the country.

The Crisis for Public Health

At the time of the 2007 presidential elections, there was no comprehensive disaster management framework or strategies guided by appropriate policies and legislative provisions in place in Kenya. Neither of the two key national AIDS response coordinating agencies, the National AIDS Control Council (NACC) and the National AIDS/STD Control Programme (NASCOP), had a contingency plan for HIV service provision in times of emergency prior to the 2007 election crisis. The key governmental organization in Nairobi, the Nairobi City Council, was also operating without a contingency plan for HIV treatment when violence broke out.

A review by UNAIDS shortly after the post-election violence reported that the international guidelines for HIV services during an emergency developed by the Inter-Agency Standing Committee Task Force on HIV were unfamiliar to both NACC and NASCOP (UNAIDS 2008). Discussions with the Disaster Response Centre, in the Office of the Prime Minister, also confirmed that while humanitarian responses to crises resulting from floods and drought were well coordinated, contingency planning for the provision of HIV treatment and other services during such emergencies was rarely implemented.

To understand how this manmade disaster affected HIV treatment, care, and support services, the authors of this case study conducted in-depth interviews with representatives of relevant government ministries and different cadres of staff within HIV prevention, treatment, care, and support programs in Kenya. Additional information was gathered from a review of documents on Kenya’s disaster management structures, as well as a review of published materials on the effects of post-election violence on HIV services. As such, the findings should be taken as a sample of experiences and impressions of local stakeholders, and not as a comprehensive review of all aspects of the response to the post-election violence.

The key questions addressed include the following:

- What is the level of disaster preparedness and management in Kenya? To what extent do current disaster management plans and frameworks address HIV prevention and treatment needs?
- How did the 2007 post-election violence affect the provision of HIV treatment, care, and support services? How were the challenges addressed?
- Was any contingency planning done to mitigate the effects of election-related violence on HIV treatment, care, and support services? If so, how were the plans developed? Were there contingency plan templates available?
• What lessons were learned on planning for HIV treatment, care, and support in emergency situations? How have these lessons been used to provide guidance for the future?

Impact on HIV Treatment Services

The post-election violence impacted HIV treatment in Kenya in several key ways, including disrupting HIV treatment access, stretching health care worker capacity, exacerbating hygiene and food supply concerns, and creating shortages of medicine and other supplies for acute illnesses and injuries.

Disruption to HIV treatment access: NACC 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 2008). The post-election violence significantly disrupted the provision of HIV treatment, care, and support services in several areas. In Kibera, Nairobi, the Riruta Health Centre, a district-level health facility with inpatient services, had to close because of a lack of security for both staff and patients. Relatives of patients admitted at the health facility were asked to take the patients back home for one week, during which the facility remained closed. In Rift Valley Province, the Academic Model for Providing Access to Healthcare (AMPATH), a large HIV treatment program, could not provide its full range of services at the peak of the violence in the first two weeks of January 2008.

Further affecting treatment access was the interruption in transportation caused by the violence. At the height of the violence in the first week of January 2008, public transport services were largely unavailable. Roads were sporadically and unpredictably barricaded by armed protestors in some regions such as Rift Valley Province. In these circumstances, neither patients, health care workers, nor medical supplies could reach the health facilities.

Increased workload for health care workers: Several factors coincided during the post-election violence that contributed to the significant increase in workload for health care workers. First, violence coincided with end-of-year festivities, when many Kenyans travel to visit family and friends. Many health care facilities were already understaffed as a result.

Second, the violence itself caused an influx of new patients. At Riruta Health Center, health care workers reported an upsurge in the number of patients with soft-tissue injuries during the acute

displaced by the violence only came as a second thought after the provision of other basic services.

The spontaneity of the violence meant that most of the displaced PLHIV did not carry their ARV medicine with them. Even fewer carried treatment documents that detailed their HIV status or treatment history. Health care workers interviewed in Nairobi and Eldoret indicated this lack of medical history was a major impediment to their efforts to provide basic services in the early phases of the violence, when a large number of patients presented for treatment but were unable to verify the medication they had been on or their HIV status. Health care workers indicated that they provided treatment for these patients based on patient self-report of their medication, sometimes relying on visual identification based on the size, shape, and color of a pill.

In addition, when the violence began, many displaced PLHIV did not know how to access treatment in their new location. The immediate disaster response to the violence sought to provide shelter, security, and water and sanitation, primarily in camps established for IDPs. NASCOP and NACC observed that attention to the plight of PLHIV
phase of the violence. This was true even at HIV clinics that would not normally see trauma patients, because health care facilities became a place of relative safety and refuge within communities.

Finally, health care workers who were on duty had great difficulty reaching their facilities. At Riruta, less than half of the facility’s 17 regular health care staff were able to come to the facility and provide services. These were health care workers who lived nearby and belonged to the main ethnic groups surrounding the facility, and therefore did not face special security threats based on their ethnic background. But for health care workers traveling a greater distance, or traveling to a clinic located in a community of a different ethnic group than their own, the challenges were greater.

These challenges affected both general health care workers and HIV specialists. Indeed, because of the staffing shortages, many health care workers took on additional roles that they would not ordinarily fill.

**Exacerbated hygiene and food supply concerns:** Lack of food and poor hygienic conditions within some of the camps established for IDPs presented special challenges for PLHIV, many of whom were on medications that had to be taken after eating. Additionally, patients with HIV may be at higher risk for opportunistic infections posed by poor sanitation and lack of clean water.

**Concerns about stigma:** Complicating these factors was that fear of stigmatization led some PLHIV to reject some of the outreach efforts targeting them. Patients were concerned that being seen accepting assistance from organizations known to provide HIV-related services would reveal their status. For example, publicizing that a mobile treatment center would be in a particular location on a particular date not only informed those in need of treatment but also the general public, so accessing that treatment center would be an announcement to the community of a person’s status (Regional Centre for Quality Healthcare 2008).

**A shortage of medicine for acute illnesses:** An important concern in emergency situations for patients on ART is supply chain security. In the case of Kenya’s post-election violence, there were no widespread problems with ARV shortages reported from local health facilities. The violence coincided with the end-of-year holiday season, when the Ministry of Health supplies extra drugs and encourages health care providers to give patients an extra supply of medication to cover the holiday season. Thus, even though displaced patients on ARV treatment might not have carried their medication with them, they could obtain medicine from other health facilities. 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.

**The Response to the Disaster**

**The government response:** Because there was no high-level response plan or policy in place for HIV treatment in an emergency, the governmental response was largely reactive and ad hoc. In February 2008, after the election, NACC worked with several U.N. agencies and civil society organizations to form the Task Force on HIV and AIDS Emergency Response (TAFOHER). TAFOHER was tasked with developing workplans encompassing health responses to the violence and with coordinating the multi-sectoral response in the initial period of the crisis. TAFOHER prioritized access to and continuation of ART, services for victims of sexual and gender-based violence, and the provision of post-exposure prophylaxis (PEP), including training of health care workers. However, a review of the implementation of the plan found
coordination to be weak, with the HIV emergency response being “everyone’s business but no one’s responsibility” (UNAIDS 2008).

The Nairobi City Council also provided services during the post-election violence in Nairobi. They provided mobile medical services within Nairobi’s IDP camps, but the services did not include HIV care or treatment, focusing instead on acute injuries and trauma counseling. Working jointly with NGOs, the Nairobi City Council ensured access to PEP for rape victims at these camps by providing health care workers and PEP kits from its medical stores. Before the crisis, most health care workers within Nairobi City Council’s clinics had been trained to deliver PEP, enabling effective services.

**NGOs, universities, and implementing partners:** Despite slow initial response from the Government of Kenya and the Ministry of Health, implementing partners developed real-time contingency responses to the crisis, including retesting patients in some areas to verify HIV status, providing treatment based on patients’ verbal history of medicines taken, and supplying PEP for persons reporting that they had been raped. In many cases, implementing partners coordinated with local government facilities to improve the response. Exceptional emergency responses were noted among some large HIV treatment programs located within the areas most affected by the violence. In Rift Valley Province, AMPATH, a collaborative initiative of Moi University, Moi University Teaching Hospital, and Indiana University, with significant funding and support from PEPFAR, undertook innovative measures to prevent treatment interruption among their clients. At the time of the violence, AMPATH served an HIV patient population of nearly 70,000, with a strong HIV treatment and care program covering 49 sites. This program covered government health care facilities across western Kenya and included strong community outreach activities within these areas. The program also maintained a regularly updated electronic database on all its clients.

AMPATH management met on the fifth day of the crisis to plan how to ensure access to services for patients who had been displaced or could not access the health facilities. The program broadcasted announcements through television and radio urging patients lacking their drugs to seek treatment from the nearest health facility. In the announcements, hotline mobile telephone numbers were given to call for advice on where to obtain medicine or PEP for rape victims, or to report medication side effects. Another method used to reach patients with information on where they could get help was through the network of PLHIV.

The advice to patients to seek treatment from any health facility within their reach was reinforced by the Ministry of Health’s similar announcement a few days later. This strategy helped most patients maintain treatment, even though few monitoring data were maintained at the time of the crisis to demonstrate this impact. AMPATH-supported sites reported an increased number of non-program clients seeking HIV treatment and care. The violence interrupted treatment adherence especially among pediatric patients, but services overall were restored within two months, and patients returned to treatment (Vreeman et al. 2009).

Unlike AMPATH, MSF (an international, independent organization for medical humanitarian aid) had an emergency plan in place before the crisis began. The development of the plan was informed by MSF’s experience in conflict situations in other countries and in anticipation of violence, given previous election tension in Kenya. MSF’s contingency plan included the following measures:
• Establishment of clear lines of communication between the program’s various clinics, community members, staff, and headquarters

• Active solicitation of information from the government and other NGOs

• Regular assessment of the security situation during the crisis to determine which clinics and services could operate

• Provision of a toll-free mobile phone line for patients to obtain advice about their treatment (O’Brien et al. 2010; Reid et al. 2008).

Just as the public health sector was prepared for the year-end holiday season, MSF’s program benefited from purchase of extra stocks of ARVs and other drugs and provision of an extra supply of ARVs to patients to carry over the holiday season and election period.

Even with its contingency plans, MSF faced challenges, including a huge influx of patients with acute injuries paired with a shortage of health care providers. There were also the other challenges, which included patients on HIV treatment who lacked their medical records and clients lost to follow-up due to a breakdown of the program’s monitoring system.

The MOSSP was created in May 2008 after the formation of the coalition government following the contested election. The two primary objectives of the MOSSP are to address the plight of those affected by the December 2007 post-election violence and to devise strategic policies and programs for disaster management in Kenya.

Since its formation, the MOSSP has worked to formulate a national disaster response plan with integral HIV responses, formulate a draft disaster management policy and disaster response plan, and create a map of national resources for disaster response.

Disaster response plans and policy: The MOSSP’s Disaster Response Plan mandates that essential therapies for chronic disease—which includes HIV—be provided continuously in times of emergency. This plan was developed after the December 2007 post-election crisis and has not yet been implemented in times of a disaster or crisis. It is not clear how familiar local public and private organizations are with the Disaster Response Plan.

To complement the Disaster Response Plan, the Draft National Policy for Disaster Management in Kenya, published in February 2009, outlines a disaster management framework with legislative provisions (MOSSP 2009). The policy proposes establishing an institutional framework for management of disasters, the National Disaster Management Agency, to serve as the secretariat for the national disaster management system coordinated by the MOSSP.

At the time this case study was written, NACC was in the process of forming the National Steering Committee for HIV Response in Emergency. This committee will review current disaster response mechanisms that are adaptable for HIV response in emergency situations and will develop a workplan.
to orient local organizations to the Inter-Agency Standing Committee’s guidelines for HIV response in humanitarian settings and to the national disaster preparedness plan developed by MOSSP.

**Mapping of national resources for disaster response:** The MOSSP has formulated the Disaster Response Center, a national database that inventories resources and capacities available in all national, private, NGOs, community-based organizations, and other types of institutions. The purpose of the database is to allow for faster mobilization of resources and to avoid duplication of efforts in response to different kinds of disasters, including HIV. Populating this database has been problematic, however. The permanent secretary of the MOSSP, who chairs the Disaster Response Center, expressed concerns about the database because some organizations, especially in the private sector, were reluctant to share information about their resources with the government.

**Updating guidelines for ART:** Recognizing the challenges faced by health care workers attending to patients on ARVs with no treatment history documentation during the post-election crisis, NASCOP plans to add a chapter to the *Guidelines for Antiretroviral Therapy in Kenya* to provide guidelines on management of patients in disaster situations. Proposals from some respondents to this case study for inclusion in the revised guidelines include:

- A list of facilities providing HIV care and their contact information
- Instructions to health care workers to provide patients with extra ARVs and co-trimoxazole when an emergency is anticipated
- Advise health care providers to keep medical records of patients even in emergency situations
- Advise patients to keep a health passport, or some similar record of their current ART regimen, on hand at all times, and especially in cases of emergency
- Advise health care providers to ask patients about any planned moves, and advise patients on alternative sources of care along with contact details

### SUMMARY OF CHANGES TO CONTINGENCY PLANS IN KENYA SINCE THE 2007 ELECTIONS

<table>
<thead>
<tr>
<th>Activity</th>
<th>Key Players</th>
<th>Key Outcomes/Goals</th>
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<tbody>
<tr>
<td>Creation of a ministry dedicated to disaster management.</td>
<td>MOSSP</td>
<td>• Development of a national disaster response plan with integral HIV responses&lt;br&gt;• Formulation of draft disaster management policy&lt;br&gt;• Mapping of national resources for disaster response.</td>
</tr>
<tr>
<td>Formation of national steering committee for HIV response in emergencies.</td>
<td>NACC, MOSSP, Stakeholders and partners</td>
<td>• Review current disaster response mechanisms that are adaptable for HIV response in emergency situations&lt;br&gt;• Train local organizations on Inter-Agency Standing Committee guidelines and MOSSP’s national disaster preparedness plan&lt;br&gt;• Link to disaster response within the MOSSP to ensure the integration and implementation of HIV services in disaster responses.</td>
</tr>
<tr>
<td>Plans to update guidelines for ART in Kenya.</td>
<td>NASCOP</td>
<td>• Add guidelines on management of HIV patients in disaster situations to the <em>Guidelines for Antiretroviral Therapy in Kenya</em>.</td>
</tr>
</tbody>
</table>
• Provision of summary medical information by health care workers seeing a patient temporarily to facilitate the patient’s reintegration into regular care

• Advise providers to listen carefully to patients’ description of drugs used in the absence of medical records to ensure treatment continuation

• An express policy statement that lack of medical history should not be a barrier to treatment access

• Ongoing education to patients that they can obtain treatment from any government health facility.

Recommendations

Kenya has long experience with emergencies, and some disaster preparedness and response systems have been developed to address these disasters. However, even though HIV has been declared a national disaster since 1999, disaster preparedness and management responses have not factored in HIV prevention, treatment, care, and support needs. This gap is partly explained by lack of familiarity with essential HIV responses in emergency settings within such key HIV response coordination agencies as NACC and NASCOP.

The experiences from the post-December 2007 general election emergency help highlight the importance of factoring HIV into disaster preparedness and response planning. The new disaster response plan developed by the MOSSP identifies essential HIV services. However, written contingency plans in and of themselves are insufficient and must be augmented by appropriate skills and capacities, resources, clear assignment of roles and responsibilities, and effective coordination mechanisms.

The UNAIDS review of the HIV response during Kenya’s post-December 2007 election crisis recommended a number of key changes to better prepare Kenya for crises in the future. Kenya has made a number of significant strides toward implementing these recommendations and should be commended for its effort. However, particular areas for further development exist, including:

• Continuing to work toward including HIV programming as an integral aspect of disaster management plans, structures, and processes. Situating NACC within the ministry tasked with overseeing disaster planning (MOSSP) was a significant strategic first step and calls for continued work on this integration by ensuring technical capacity strengthening of both emergency response specialists and HIV specialists.

• Formally engaging key implementing partners in planning and in implementing emergency plans. Ensuring that coordinating mechanisms function at all levels, from the national government down to the field. 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.

• The authors of this case study found extensive and strong informal networks within some agencies and among stakeholders at the local level. These networks should be formalized and exploited to facilitate rapid, effective response in the case of an emergency.

• Some implementing partners mentioned counseling patients on the importance of keeping their medical records with them in times of emergency. UNAIDS also recommended an education campaign for patients on ARV treatment about the medications they take and 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. Patients can be a key partner in advocating and managing their own treatment in times of emergency.

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