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The Impact of Disaster on HIV in Haiti and Priority Areas Related to the Haitian Crisis

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In recognition of the public health crisis in Haiti, the *Journal of the Association of Nurses in AIDS Care (JANAC)* plans to publish a themed issue on natural disaster, trauma, and HIV in Haiti. The issue will be published in early 2011. Haiti's current crisis is exacerbated by a history of poverty and political instability and some effort is warranted to contextualize the crisis and to focus on priorities for HIV prevention and care. This commentary provides background information and a discussion of areas that affect HIV-infected Haitians in the present environment.

Background

The HIV prevention community is largely familiar with Haiti's history of high prevalence of HIV. However, health workers and others might not be aware of Haiti's robust scientific and clinical response to the epidemic or the particular character of the Haitian epidemic, which is complicated by high rates of co-infection with malaria, tuberculosis (TB), and several neglected tropical diseases (NTDs)(Beau de Rochars et al. 2004; Hotez, Bottazzi, Franco-Paredes, Ault,

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& Periago, 2008; Pape, 2004; Streit & Lafontant, 2008). These infections compound the challenge of HIV prevention and treatment in ways rarely seen by researchers and practitioners in developed countries. The Haitian Study Group on Kaposi's Sarcoma and Opportunistic Infections (GHESKIO), for example, has been instrumental in Haiti's public health efforts against HIV in urban areas. In fact, GHESKIO's development in Haiti has paralleled U.S. institutions with regard to HIV primary care and research, having been founded after detection of Kaposi's sarcoma and the unusual opportunistic diseases that first signaled the epidemic.

In 1983, Dr. Jean Pape and co-authors (1983) published an influential report on the first cases of AIDS in Haiti and observed the same risk factors that had been identified in U.S. populations: TB, blood transfusions, sex work, sexually transmitted infections (STI), and unprotected same-sex activity. Pape, a Cornell-trained and internationally recognized infectious disease expert, founded GHESKIO in 1982 and continues today as its director. The structural, community-based activities of GHESKIO have been at the forefront of strategies to prevent and reduce the impact of HIV. For example, interventions by the organization's NIAID-trained deputy director, Dr. Marie-Marcelle Deschamps, have succeeded in reducing mother-to-child HIV transmission from 30% to 10% among female patients at GHESKIO clinics. These indigenous efforts can provide a model for HIV prevention in developing countries with similarities to Haiti.

The HIV Epidemic in Haiti

Outside of sub-Saharan Africa, the Caribbean region has the highest adult HIV prevalence rate in the world, and Haiti has the highest adult HIV prevalence rate among all Caribbean countries. Most persons living with HIV (PLWH) in the Caribbean live on the island of Hispaniola, which is occupied by Haiti and the Dominican Republic. Haiti is the poorest country in the region and has an adult HIV prevalence rate (2.2%) twice the level of the Dominican Republic (1.1%) (Cohen, 2006; Joint United Nations Programme on HIV/AIDS [UNAIDS], 2008). Although HIV prevalence in Haiti has decreased approximately 40% since 2000, incidence patterns suggest that the decline is due to regulation of blood transfusions and high mortality rates from HIV rather than successful behavior change strategies (Gaillard et al., 2006).

During the first 15 years of the epidemic, the rate of HIV disease progression for PLWH in Haiti was nearly twice as high as that found in developed countries. Coexisting problems such as poor nutrition, high prevalence of community-acquired infections (e.g., respiratory tract infections and acute diarrhea), and high rates of active TB were key factors behind the increase (Cayemittes, Placide, Barrere, Mariko, & Severe, 2001; Deschamps, Fitzgerald, Pape, & Johnson, 2000). Haiti has one of the highest rates of TB infection in the world (500 cases per 100,000 persons). This co-morbidity complicates disease control because PLWH are efficient transmitters and recipients of TB, which, in turn, adversely affect HIV disease progression (Hempstone, Diop-Sidibe, Ahanda, Lauredent, & Heerey, 2004).

Although Haiti's current HIV prevalence represents significant progress, analyses by subgroup and geographic region reveal higher rates (Cayemittes et al., 2007; Gaillard et al., 2006). Difficulties in further progress have been attributed, in part, to gaps in access to the multi-level psychosocial and harm reduction interventions that are needed to support an ongoing biomedical scale-up in antiretroviral treatment (ART). This pattern is not unique to Haiti and has been the focus of initiatives by the National Institutes of Health to provide ART in developing countries. The lack of infrastructure for alcohol and drug use risk reduction is notable in HIV-seroprevalent, resource-poor countries like Haiti. For example, although alcohol use has been implicated in the high rate of intimate partner violence in Haiti (Gage & Hutchinson, 2006), its use, coincident with risky sexual behaviors, has been understudied at both the individual and social levels and remains untargeted in prevention efforts.

The Context of the HIV Epidemic in Haiti

Contextual or structural factors have been identified as significant drivers of the HIV epidemic and other infectious disease problems (Parker, Easton, & Charles, 2000). HIV rates in Haiti and the higher morbidity of Haitian PLWH have been linked to a number of these factors, all of which are expected to deteriorate in the aftermath of the earthquake.

Haiti is at the bottom of the United Nations (U.N.) human development rankings. Most adults are unemployed and more than 70% live in U.N.-defined extreme poverty. Safe drinking water and sanitation facilities are lacking for most people. Furthermore, inadequate shelter and food insecurity can be observed in 40% of Haitian households (Gage & Hutchinson, 2006). Gender disparity is a formidable barrier, marked by recent sharp increases in sexual violence against women and gang rape (Dévieux et al., 2009). Not surprisingly, elevated HIV rates are reported for young women ages 13–24 (1.4 per 100,000) compared to men of the same age (0.6 per 100,000; United Nations Children's Fund [UNICEF], 2007). Adult STI prevalence is above 10% in Haiti, and heterosexual transmission accounts for more than 90% of HIV cases (Hempstone et al., 2004).

Poverty contributes to early sexual debut among Haitian girls and encourages multiple sex partners and partnerships with older men to meet basic survival needs (Institut Haïtien de l'Enfance [IHE], 2003). At least one third of couples have acknowledged that they never or rarely discuss sex with partners (Hempstone et al., 2004). Social norms have, in general, promoted sexual concurrency among Haitian men and women. Commercial sex is legal and an observable pattern of "end of the month" prostitution has been described, typically in women who are unable to pay rent or buy basic supplies (Charles, 2008). Furthermore, childhood abuse among a majority sample of Haitian adults has been linked to trauma-related symptoms (Martsolf, 2004), a finding that has implications for HIV risk among survivors (Lichtenstein, 2005).

Haiti exemplifies a low-income population stressed by a long history of infectious diseases (i.e., TB, STIs, and NTDs) even before the advent of HIV. The admixture of these conditions with a turbulent history of political instability, violent conflict, and natural disaster presents a new reality to be faced by the citizens and political leaders of Haiti as well as by the broader global public health community. Haiti has the lowest life expectancy and highest infant, child, and maternal mortality rates in the region (UNICEF, 2007). And, despite major advances in the past decade, treatment for PLWH in Haiti is still among the lowest in the Western Hemisphere (President's Emergency Plan for AIDS Relief, 2008).

The earthquake of January 12, 2010 followed several natural disasters in a short period of time. In 2008, Haiti experienced four hurricanes within a 30-day period: Fay, Gustav, Hanna, and Ike. In addition to the deaths of more than 800 people from these hurricanes, some of Haiti's cities became uninhabitable and crops were largely decimated. Preceding this series of events, in 2004, tropical storm Jeanne caused massive flooding, displaced populations, and led to the deaths of as many as 3,000 people. Social life was disrupted to the point that the U.S. military and U.N. peacekeepers were needed to help restore and maintain order.

HIV-related stigma is one of the most significant barriers to HIV prevention in Haiti, and perhaps the most challenging to overcome. Stigma keeps many PLWH from gaining access to prevention services, testing, treatment, and care. Improved access to HIV services under post-disaster conditions will require true implementation of state-of-the-art, structural, biopsychosocial, and multi-level interventions. Aiello, Simanek, and Galea (2008) found that multi-level analyses can clarify the converging pathways of individual- and neighborhood-level sources of psychosocial stress when explaining HIV risk. Latkin, Curry, Hua, and Davey (2007) documented direct associations between social or neighborhood disorder, mental

distress, substance use, and sexual risk behaviors, but little multi-level psychosocial research along these lines has taken place in Haiti. The following priority areas will set the context and offer guidance in meeting the new realities of providing HIV prevention and care services in the wake of trauma.

Priority Areas

As guest editors of the forthcoming themed issue of *JANAC*, we will provide a forum for articles that review "lessons learned" from other natural disasters and that focus on Haiti to address sequelae of the earthquake and to advance the field of HIV care in resource-poor countries. Extensive work by Haitian scientists from GHESKIO and other indigenous institutions has already facilitated local HIV prevention efforts in Haiti, but more is needed to meet new challenges during the reconstruction period.

We have initiated the themed issue to provide the health community with focused information on trauma- and HIV-related concerns in Haiti, especially the interface between trauma, HIV, and service provision. We view the syndemic character of HIV, in which multiple epidemics, neglected psychosocial problems, and resource deprivations complicate prevention and treatment, to be an important aspect of this interface. The special character of countries in the tropics is that endemic infectious diseases blur the lines between acute and chronic illnesses and require astute cooperation between stakeholders to effect change. In the process of developing the special issue, we determined the need for information and action in the following priority areas.

Orphans

The sudden and widespread loss of parents from the earthquake and the longer-term prospect of being orphaned from HIV have compounded difficulties for vulnerable children. We expect to see recurrent psychosocial problems related to parental loss. This vulnerability will be exacerbated by reduced access to services, interventions, and care for orphaned children; increased HIV risks for orphaned children involved in survival behaviors; heightened interest in foreign adoptions, which can increase child abductions and trafficking; and bleak prospects for HIV orphans in Haiti.

Women and HIV

It is critically important to have programs that work for Haitian women. Gender inequality, high levels of sexual violence, biological vulnerability, and the gendering of poverty -- as noted in "end of month" prostitution -- all serve to increase HIV risk. Kershaw et al. (2006) concluded that HIV knowledge was essential to engage women in protective behaviors. Strategies and programs need to be implemented to address the multiple barriers to sexual empowerment among women in Haiti.

Trauma and HIV

We also need to explore lessons learned from political upheaval, war, and natural disasters and how these contribute to HIV risk, continuity of care, ART maintenance, and existential issues. Rape, domestic violence**,** and victimization of women are common after natural disasters. Trauma also has a significant and long-term impact on children, and homelessness affects many people regardless of age or gender. Interventions are urgently needed to reduce the impact of trauma and to moderate the potential for long-term symptoms of post-traumatic stress disorder for all vulnerable persons.

Stigma and HIV

While HIV is highly stigmatized in general, we expect to find a synergetic relationship between earthquake sequelae and stigma on HIV care delivery. Stigma has long been known to create barriers to HIV testing, partner notification, referrals, and care (Dévieux et al., 2009; Lichtenstein, Hook, & Sharma, 2005, Lichtenstein, 2003, Malow, Rosenberg, Dévieux, 2009). We are interested in how intersecting stigmas of gender, poverty, race/ethnicity, and HIV will be exhibited in the presence of disaster-related disability and death.

Comprehensive Clinical HIV Care

Providing access to HIV care in Haiti was not easy prior to the earthquake. As preliminary data emerge on HIV care in the context of emergency relief and medical services, we are concerned about clinical care provision for all PLWH, but especially for women and children, prisoners, and other chronically underserved people. The implementation of HIV prevention interventions is critical, as is education for health providers and the community at large.

Biology and Control of Tropical HIV

HIV interacts with other infectious diseases. In Haiti this is especially true for malaria, TB, and NTDs. We need to know how these co-infections affect HIV pathogenesis and public health and clinical/community services when natural disasters become a part of the social environment.

Conclusion

As our discussion shows, interventions to empower women, protect children, and educate the community about HIV are a tremendous challenge as Haitians seek to recover from the trauma of recent events. The themed issue will provide a timely focus on HIV prevention and care in Haiti as a means of forging a path to meet these urgent needs. Cooperation among practitioners, researchers, and policymakers will be vital to ensure that HIV prevention and care efforts are successful. Public efforts to dispel the myths about HIV, which lead to stigma, reduce the effect of prevention programs, and inhibit the uptake of testing and treatment services, are among the critically-needed strategies in Haiti. Effective integration of strategies that work in low-resource contexts should also be considered in models for the future. We have noted that scientific and clinical expertise already exists in Haitian organizations such as GHESKIO, and communities should be made aware of this expertise through funding for local outreach. The question for our themed issue is how this and other expertise should be identified and translated into HIV interventions that have sustainable effectiveness for a traumatized nation.

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