

**Prevention in Countries with Low Prevalence-  
Extending Lessons from Senegal to Niger**

**From the Princeton University Policy Task Force on Sustainable Development**

**Michelle Hemmat**

**May 5, 2003**

**Abstract- AIDS Prevention in Countries with Low Prevalence  
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This paper provides recommendations for preventing the spread of HIV/AIDS in Niger, a West African country that currently experiences a low incidence of the epidemic. It also analyzes HIV/AIDS programs in Senegal, another West African country whose government acted immediately and was able to maintain one of the lowest rates of infection in sub-Saharan Africa. Since Niger and Senegal have many similar characteristics affecting the manner in which HIV/AIDS is spread, many of the lessons learned from activities in Senegal can be extended to Niger.

The following is a summary of the policy recommendations for Niger:

1. Provide a multi-sector government response
2. Strengthen the health sector
3. Involve and coordinate with non-governmental organizations and community groups in prevention and mitigation activities
4. Increase surveillance of HIV/AIDS, STI, and risk behaviors
5. Provide STD education targeting people in areas with high prevalence rates, youth, young girls, sex workers and likely sex worker clients
6. Encourage participation of people living with HIV/AIDS in planning and implementing programs
7. Ensure a safe blood supply
8. Ensure Access to condoms
9. Provide protection, treatment, and care for people living with HIV/AIDS

# **Prevention in Countries with Low Prevalence**

## **Extending Lessons from Senegal to Niger**

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### **Introduction**

Since the discovery of HIV/AIDS in 1981, the infection has spread throughout the world and become a major barrier to development.<sup>1</sup> By 2002, an estimated 42 million people were living with HIV/AIDS.<sup>2</sup> The majority of these infected people reside in developing countries.<sup>3</sup> Africa is by far the most affected region, with 29.4 million people living with HIV/AIDS in 2002. As a result, in many African countries, development indicators such as life expectancy, child mortality, literacy and food production have become significantly worse. In severely affected nations, economic growth and political stability are also threatened.

Despite recent improvements in therapies for HIV/AIDS, the infection still has no cure and its spread can only be halted through the prevention of new infections. Intervention in the early stages of the epidemic is essential in preventing the infection from gaining a solid grip on the population.

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<sup>1</sup> Dr. James Chin (1998). *HIV/AIDS Primers*. Retrieved March 2003 from [www.cdc.com/s1.htm](http://www.cdc.com/s1.htm)

<sup>2</sup> UNAIDS/ WHO (2002) *AIDS Epidemic Update*. Retrieved March 2003 from <http://www.unaids.org/worldaidsday/2002/press/Epiupdate.html>

<sup>3</sup>Noah Feinstein and Becky Prentice (2001) *Gender and AIDS Almanac* Retrieved March 2003 from <http://www.unaids.org/gender/docs/Gender%20Package/GenderandAIDSAlmanac.pdf>

This paper provides recommendations for preventing the spread of HIV/AIDS in Niger, a West African country that currently experiences a low incidence of the epidemic. The government of Niger has not yet implemented effective AIDS prevention programs. Because of this, there is a potential for the epidemic to explode. Niger is a country that already faces widespread poverty and famine. Rapid spread of the AIDS epidemic could destroy the fragile beginnings of development within the country.

This paper also analyzes HIV/AIDS programs in Senegal, a West African country whose government acted immediately and continuously to maintain one of the lowest rates of infection in sub-Saharan Africa. Since Niger and Senegal have many similar characteristics effecting the manner in which HIV/AIDS is spread, many of the lessons learned from activities in Senegal can be extended to Niger.

## **A Comparison of Niger and Senegal**

Niger and Senegal are both highly underdeveloped and impoverished countries. Senegal however, has slightly better indicators of well being and survival than Niger. For example, the gross national income per capita in Senegal is \$500<sup>4</sup> while in Niger it is

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<sup>4</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

\$190<sup>5</sup>. Another example is literacy rates, which are approximately 35% in Senegal<sup>6</sup> and 14% in Niger<sup>7</sup>.

The HIV infection appeared in the two countries in the late 1980s and both countries have maintained relatively low prevalence rates since then. The 2001 prevalence rate in Senegal is 0.5%<sup>8</sup> and in Niger is 0.87%.<sup>9</sup> In Senegal, low prevalence rates can most likely be attributed to successful prevention programs. Prevention programs in Niger however, have been weak and ineffective, and the maintenance of low rates has probably been due to other factors.

Several unique factors have contributed to Senegal's success in fighting the epidemic. The most important is probably the strong tradition of government and community action in the health sector. Reproductive and child healthcare are priorities in Senegalese society and family planning and prenatal care programs are also expanding. Both the government and individuals in Senegal spend a higher percentage of their income on health expenses than in Niger. The legalization of prostitution is another factor enabling the establishment of effective prevention programs, since prostitutes can more easily be accessed and incorporated in programs. Furthermore the presence of world-renowned HIV/AIDS scientists within Senegal has drawn attention to the epidemic.

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<sup>5</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

<sup>6</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Senegal*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

<sup>7</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

<sup>8</sup> Elizabeth Pisani (1999). *Acting Early to Prevent AIDS: the Case of Senegal*. Retrieved April 2003 from <http://www.unaids.org/publications/documents/epidemiology/determinants/una99e34.pdf>

<sup>9</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

## **Senegal- a Case of Successful Prevention Policy**

Senegal is one of the few countries in the world where the government provided top political support for AIDS prevention activities immediately after the discovery of its first HIV cases in 1986. This facilitated participation from many different sectors of the government and signaled appreciation to other groups involved in HIV/AIDS prevention activities. It also ensured that prevention programs received a relatively large share of national and international donor resources. The attitude of Senegal's government contrasted with that of many African governments whom ignored the epidemic during the first decade of its outbreak. The Kenyan government, which also discovered its first AIDS case in 1986, did not break its silence and declare the epidemic a national disaster until 1999.<sup>10</sup>

Shortly after the discovery of the first AIDS cases in Senegal, the Senegalese government began to enact education, prevention, and mitigation campaigns by partnering with religious and community leaders, non-governmental organizations and private companies. By 1987, the Senegalese government had set up a system to screen blood units for transfusion in all ten regions of the country. In 1996 the government enacted its first parliamentary meeting on HIV/AIDS which included non-governmental organizations and people living with HIV/AIDS. In 2000 the Senegalese government became one of the first countries to negotiate price reductions of approximately 90% on antiretroviral drugs from several pharmaceutical companies.

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<sup>10</sup> Quist-Arcton, Ofeibe (2001). *Praise for AIDS Success but the Struggle Continues*. Retrieved March 2003 from <http://allafrica.com/stories/200107090178.html>

Senegalese religious leaders, who have a large influence over a highly devout population, also became involved in prevention activities early on. In 1989, Jamra, a conservative Muslim organization, began discussing HIV/AIDS prevention with the members of the national AIDS program. Jamra also helped to initiate dialogue between other religious leaders and public health officials. The government attempted to solicit the input of religious leaders by supporting a survey of Moslem and Christian leaders. The survey revealed that the religious leaders felt uninformed about the epidemic and sought more information in order to disseminate it to their followers. The survey also revealed the particular stances that the leaders held towards prevention. For example, religious leaders were reluctant to support condom use among unmarried individuals but were willing to support it among married couples when one partner is infected. In response to the survey the government introduced training sessions for religious leaders and brochures for them to give to their followers. Soon, religious leaders were speaking about AIDS regularly in their sermons as well as appearing on the TV and radio with messages about the epidemic. In March of 1995, 260 Islamic leaders held a conference on AIDS. At the conference they declared that AIDS was not caused by a divine retribution. They also supported the rights of HIV positive individuals and asserted that everyone should have access to information on sexually transmitted infections such as AIDS. In January 1996 Christian leaders also held a conference on AIDS, establishing their support for AIDS prevention activities.

Community groups in Senegal also became active in HIV/AIDS prevention activities relatively early on. By 1995, 200 non-governmental organizations were participating in prevention activities, as were 400 women's groups. An umbrella NGO

provided support for these groups and acted as a liaison between them and the national program.

Sexual education became a large component of the prevention strategy of the Senegalese government. By 1992, the government had instituted sexual education as part of the curriculum in primary and secondary schools. Youth groups were also created to educate youth who weren't in school. In addition, religious and community organizations encouraged parents to provide information on sexual risks and support for safe sexual behavior to their children.

The Senegalese government was also relatively successful in promoting condom use and sexual healthcare among prostitutes. Prostitution is legal in Senegal and registered sex workers are required to regularly visit health services. Health centers encouraged sex workers to use condoms with clients and create sex worker support groups that provide information on HIV/AIDS. The support group members engaged in outreach among non-registered sex workers.

The government also strengthened the provision of STI services for the general population by creating a national STI control program and integrating STI care into primary care services. In order to accomplish this, the health sector undertook a massive training of healthcare workers in STI management.<sup>11</sup>

World-renowned HIV/AIDS scientists in Senegal have contributed to prevention efforts by drawing government and international attention to the epidemic and directly participating in government programs. Professor Souleymane Mboup, who is famous for his work on documenting HIV2, is in charge of the country's National AIDS Programme.

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<sup>11</sup> Elizabeth Pisani (1999). *Acting Early to Prevent AIDS: the Case of Senegal*. Retrieved April 2003 from <http://www.unaids.org/publications/documents/epidemiology/determinants/una99e34.pdf>



He also co-ordinates the Convention of Research between Senegal and Harvard University and works with the African AIDS Research Network.<sup>12</sup>

It is difficult to assess whether the spread of HIV/AIDS is reduced in a country as a result of prevention activities as it is impossible to know how the epidemic would have spread in the absence of these activities. However, several changes in Senegalese society indicate that prevention activities have had a relatively large impact on infection rates. These include an increase in the levels of knowledge concerning the epidemic among the population, a lower median age for first time sexual intercourse among women, a dramatic increase in condom use, and lower rates of sexually transmitted diseases.<sup>13</sup>

It is also apparent that prevention programs in Senegal have been more successful in lowering the contraction rates among males than among females. While the number of infected males has not even doubled in the last fourteen years, the number of infected females has quadrupled.<sup>14</sup> This is most likely a result of inequalities between the genders as well as a consequence of biological factors. Because of women's lower economic and social status, they often have less control over their sexual encounters. Economic dependence can make it difficult for women to discuss safe sex with their partners even when these partners are their husbands. An estimated 60-80% of all infected women in Africa have had sex only with their husbands.<sup>15</sup> Inequalities in education can also contribute to an imbalance of power between genders. In Senegal 10% fewer females

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<sup>12</sup>The British Council (2002) *An HIV/AIDS Success Story*. Retrieved April 2003 from <http://www.learnenglish.org.uk/magazine/aids.html>

<sup>13</sup> Elizabeth Pisani (1999). *Acting Early to Prevent AIDS: the Case of Senegal*. Retrieved April 2003 from <http://www.unaids.org/publications/documents/epidemiology/determinants/una99e34.pdf>

<sup>14</sup> Abdou, Faye (2002). *Health-Senegal: More Women Living with HIV/AIDS*. Retrieved April 2003 from [www.unifem.undp.org/newsroom/clippings/021213\\_1PS.html](http://www.unifem.undp.org/newsroom/clippings/021213_1PS.html)

<sup>15</sup> UNAIDS. *Gender and HIV/AIDS: Taking stock of research and programmes*. Geneva: Joint United Nations Programme on HIV/AIDS, 1999.

attend primary school than males.<sup>16</sup> Biological factors such as a greater number of copies of the virus in semen than in vaginal fluids as well as the larger surface area of the vagina and anus than the penis, also contributes to the higher rates of contraction of the virus among females.<sup>17</sup> Infection rates for women are increased even more when they experience tearing of tissue during intercourse. Tissue tearing occurs during anal sex forced sex and if the female is especially young. Therefore, the early age of first sexual encounter as well as the existence of sexual violence may also be contributing factors to the high rates of the epidemic among females.

## **HIV/AIDS Prevention in Niger**

### **Current HIV/AIDS Prevalence**

The first AIDS cases were reported in Niger in 1987. Since then, the infection has evolved from 293 reported cases from 1987-1990 to a total of 5,598 reported cases by 2000.<sup>18</sup> A study conducted by Care International in 2002 found the AIDS prevalence rate to be 0.8% on average with 2.08% prevalence in urban areas and 0.64% in rural areas.<sup>19</sup>

The HIV/AIDS prevalence rates in Niger are relatively low compared to countries in South Africa such as Botswana, which has a rate of 35.8% among adults<sup>20</sup>, or even

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<sup>16</sup> UNICEF (2002) *Girls Education in Senegal*. Retrieved April 2003 from [www.unicef.org/programme/girlseducation/action/ed\\_profiles/senegalfinal.pdf](http://www.unicef.org/programme/girlseducation/action/ed_profiles/senegalfinal.pdf)

<sup>17</sup> UNAIDS. *Gender and HIV/AIDS: Taking stock of research and programmes*. Geneva: Joint United Nations Programme on HIV/AIDS, 1999.

<sup>18</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

<sup>19</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

<sup>20</sup> CIA (2002) *The World Fact Book 2002*. Retrieved February 2003 from <http://www.cia.gov/cia/publications/factbook/geos/bc.html>

countries in West Africa, such as Cote d' Ivoire, which has a rate of 10.76%.<sup>21</sup> Factors which have led to slow development in Niger, such as harsh climate, poor infrastructure, and low access to trading routes, may have also buffered the region against the spread of the virus. However, living conditions and norms in Niger such as poverty, certain socio-cultural practices, and gender inequalities, force many people to adopt behaviors that favor the spread of HIV.

## **Factors causing of the spread of HIV/AIDS in Niger**

### **Poverty**

Niger is desperately poor, with 63% of its population living below the absolute poverty level and a gross national income at \$190 per capita<sup>22</sup>. Poverty propels people to seek income generation through high-risk means such as prostitution, immigration or internal migration to high risk areas. Men often leave their homes during the dry season to find work in other countries such as Nigeria, Ghana, Benin, and Cote d' Ivoire.<sup>23</sup> These migrants risk contracting AIDS during their stay and unwittingly introducing the virus to their families after returning home. Some men also spend years away from their homes working in markets or in manual labor in order to send money to their families. Most of them are young, single, uneducated, and sexually active and thus at a high risk of contracting the disease.<sup>24</sup>

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<sup>21</sup> CIA (2002) *The World Fact Book 2002*. Retrieved February 2003 from <http://www.cia.gov/cia/publications/factbook/geos/iv.html>

<sup>22</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

<sup>23</sup> Friends of Niger (2001) *Niger AIDS Bike Ride*. Retrieved February 2003 from <http://www.friendsofniger.org/AIDSBikeRide2002/description.html>

<sup>24</sup> Friends of Niger (2001) *Niger AIDS Bike Ride*. Retrieved February 2003 from <http://www.friendsofniger.org/AIDSBikeRide2002/description.html>

Many girls and women living in situations of poverty will exchange sex for money from older men or will enter the sex trade in order to support themselves or their families. The sex workers tend to avoid health services because of the prejudices and hostilities of the health care workers and the expenses involved. Sex workers are often highly mobile as it allows them to become less visible and thus avoid stigmatization caused by their participation in the sex trade. This same mobility can create greater opportunities for the spread of HIV/AIDS throughout Niger<sup>25</sup>

### **Gender Inequality**

As described previously, gender power imbalance due to income inequality, inequalities in education and biological susceptibilities can lead to higher levels of infection in women which will increase the levels of infection in the overall population. In Niger women make up two thirds of the population living below the absolute poverty level.<sup>26</sup> Primary school enrollment among females is only 30% while among males is 39%.

### **Socio-Cultural Practices**

Practices such as early marriage, which can lead to girls having sex at younger ages, and female circumcision, which may be carried out with dirty instruments, could lead to higher infection rates. Religious beliefs that oppose preventative measures such as condom use and sexual education may also lead to higher infection rates. Furthermore gender taboos which assume girls are sexually inactive may prevent them from seeking

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<sup>25</sup> Sani Aliou, Mahazou Mahaman, Ibrahim Adamou and Fadima Soumana (2002) *Niger- Sex Workers at the Market*. Retrieved April 2003 from <http://www.med.vu.nl/hcc/artikelen/aliou.htm>

<sup>26</sup> <sup>26</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

information on HIV/AIDS in order not to appear promiscuous. Since women are also discouraged from learning about their own genitals or reproductive processes, they may not realize if they have contracted a STD or may be ashamed to seek treatment for it.<sup>27</sup>

### **Past Government Prevention Activities**

The government of Niger responded quickly to the discovery of the HIV/AIDS in the country and in the following two years, designed and implemented three plans addressing the epidemic. The plans covered the years 1987 to 1989, 1990 to 1992, and 1994 to 1998.<sup>28</sup> The government placed these plans however, under the jurisdiction of a single government sector, the department of health. This limited the planning and scope of prevention and mitigation activities as the program received no assistance from other government sectors. Furthermore the department of health did not coordinate its activities with those of non-governmental organizations. A government paper described past prevention efforts as “slow, weak, uncoordinated, and at best only marginally effective.”<sup>29</sup> Even within the Ministry of Health, AIDS prevention and mitigation activities were overly centralized and program directors kept them separate from the general service delivery system.

Because of the poor performance of the government response to the epidemic, external funding has been mainly provided to non-governmental organizations. The lack of a central source of funds caused a fragmentation of prevention and mitigation efforts

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<sup>27</sup> Noah Feinstein and Becky Prentice (2001) *Gender and AIDS Almanac* Retrieved March 2003 from <http://www.unaids.org/gender/docs/Gender%20Package/GenderandAIDSAlmanac.pdf>

<sup>28</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

<sup>29</sup> Afrol News (2002) *Niger Recognized Failure in Fight Against HIV/AIDS*. Retrieved April 2003 from [http://www.afrol.com/netscape\\_index.htm](http://www.afrol.com/netscape_index.htm)

and a lack of coordination between them. This lack of coordination has hindered monitoring and evaluation of the programs.

### **Current Government Program**

On May 24, 2002 the Government adopted the National Strategic Framework for the Fight Against STIs/HIV/AIDS. The plan will cover the period from 2002-2006 and will focus on scaling up prevention activities, treatment activities, as well as mitigation of the impact of HIV/AIDS on communities. It will be formed through an analysis of the epidemiology of the diseases, the causes of their spread and an evaluation of past initiatives. The plan also attempts to expand its organization and implementation to a multi-sector approach with the involvement of partners at many different levels of government and society.

### **Policy Recommendations for HIV/AIDS Prevention**

#### **1. Multi Sector Government Response**

The incorporation of a multi-sector response in the 2002-2006 prevention plan, is essential for a successful prevention campaign. Single sector programs cannot carry out intervention activities in as many areas of society and are unable to mobilize as many resources for prevention and mitigation plans. Along with the health sector, sectors such as education, employment, transportation, and can identify their domains and capacities for HIV/AIDS mitigation and develop programs and budgets accordingly. In Niger, the ministries of transport and education are in the advanced stages of designing and

implementing HIV/AIDS work programs. The ministry of social development and defense are also beginning the process of designing programs.

## 2. **Strengthen the Health Sector**

Although all sectors can contribute to curbing the epidemic, the health sector bears the primary responsibility for care and treatment and has an important role in prevention. As the government and civil society progress in their efforts against the pandemic the health centers will be utilized to a greater extent for testing, prevention, treatment and surveillance. Currently Niger has a relatively poor healthcare infrastructure. The ratio of health staff to the population demonstrates this:

- 1 doctor for 32,432 people<sup>30</sup>
- 1 pharmacist for 20,000 people<sup>31</sup>
- 1 mid-wife for 6,393 women of child-bearing age<sup>32</sup>
- 1 nurse for 4,488 people<sup>33</sup>

Between 1994 and 2000 the government earmarked an average of 6% of its budget for healthcare. This percentage is low compared to the 10% recommended by the World Health Organization<sup>34</sup> and the 13% that are earmarked in Senegal.<sup>35</sup>

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<sup>30</sup> The Government of Niger (2002) *Poverty Reduction Strategy*. Retrieved March 2003 from <http://www.imf.org/External/NP/prsp/2002/ner/01/010102.pdf>

<sup>31</sup> World Vision Niger (2002) *HIV/AIDS Strategy*. Retrieved March 2003

<sup>32</sup> The Government of Niger (2002) *Poverty Reduction Strategy*. Retrieved March 2003 from <http://www.imf.org/External/NP/prsp/2002/ner/01/010102.pdf>

<sup>33</sup> The Government of Niger (2002) *Poverty Reduction Strategy*. Retrieved March 2003 from <http://www.imf.org/External/NP/prsp/2002/ner/01/010102.pdf>

<sup>34</sup> The Government of Niger (2002) *Poverty Reduction Strategy*. Retrieved March 2003 from <http://www.imf.org/External/NP/prsp/2002/ner/01/010102.pdf>

<sup>35</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Senegal*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

Health care infrastructure particularly needs to be strengthened in rural areas. While skilled physicians attend 65% of births in urban areas, they attend only 9% in rural areas.<sup>36</sup>

Even in the areas where health care facilities do exist, most of the population resorts first to traditional healers and mobile medicine vendors in the case of disease.<sup>37</sup> The government or non-governmental organizations could educate the traditional healers and medicine vendors and solicit their involvement in the planning and executing of prevention activities.

### **3. Involvement and coordination with Non-governmental Organizations and Community Groups in Prevention and Mitigation Activities**

Because of their proximity to the community, local non-governmental organizations and community groups are better able to assess local social and cultural factors effecting the spread rate of the epidemic. The government should encourage community groups as well as non-governmental organizations to plan prevention and mitigation activities at local levels as well as promote greater coordination and cross support between these interventions and government activities. The government has already undertaken considerable work to inventory, categorize, and assess the capacity of non-governmental organizations with AIDS activities and those that have potential and interest to do so.

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<sup>36</sup> The Government of Niger (2002) *Poverty Reduction Strategy*. Retrieved March 2003 from <http://www.imf.org/External/NP/prsp/2002/ner/01/010102.pdf>

<sup>37</sup> Sani Aliou, Mahazou Mahaman, Ibrahim Adamou and Fadima Soumana (2002) *Niger- Sex Workers at the Market*. Retrieved April 2003 from <http://www.med.vu.nl/hcc/artikelen/aliou.htm>



Because Niger, like Senegal, is a highly religious country, religious leaders have a particularly large influence over the population and have the potential to contribute significantly to prevention efforts. Muslim leaders have begun to discuss the epidemic and have attended workshops held by the National AIDS Council. They have acknowledged the gravity of the problem and have requested that the government give their preachers better access to the state media in order for them to disseminate prevention messages.<sup>38</sup>

In order to best assist religious leaders in prevention activities. The government could assess how the religious leaders feel that they can best contribute. They could comply with the requests of religious leaders and give them spots on national television and radio stations to talk about HIV/AIDS. They could also assist local religious leaders to create pamphlets or other educational materials to give to their followers.

#### **4. Increase Surveillance of Epidemic**

The AIDS epidemic in Niger cannot be as efficiently and cost effectively addressed unless policy makers and planning groups understand the range of the epidemic and well as the risk behaviors contributing to the epidemic. HIV/AIDS, STI, and risk behavior surveillance can all provide important information for prevention and mitigation efforts. It can also raise public awareness on the impact of the epidemic. Furthermore this surveillance is also necessary for monitoring and evaluating the effects

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<sup>38</sup> International Partnership Against AIDS (2001) *Monthly Bulletin on HIV/AIDS* Retrieved February 2003 from <http://www.ei-ie.org/educ/aids/TMP994062442.htm>

of prevention activities on populations. Evaluation is essential for refining existing programs or creating new ones.

### **HIV/AIDS Surveillance**

HIV/AIDS surveillance is a useful indicator of the burden of AIDS morbidity on the healthcare system and is thus essential for short term planning of healthcare at local and national levels. Information generated by HIV/AIDS surveillance can also be used for identifying the demographic and geographic characteristics of those infected. It can thus provide some limited information on the relative importance of the different risks that the different groups are exposed to. However, HIV/AIDS surveillance is a limited indicator for future trends of the epidemic. It can provide information on transmission patterns from five to ten years previous but it is not as accurate in providing information on recent infections.

Surveillance of HIV/AIDS infections in Niger has been small in number, sporadic and nonsystematic. From 1994 to 1996, there was only one reported sentinel surveillance site for pregnant women and no sites from 1996 to 2001. There have only been two reported sites for sentinel surveillance in high-risk populations, with one existing between 1994 and 1996 and the other between 1997 and 1999.<sup>39</sup> Furthermore, a survey conducted among Nigerian females in 2000 revealed that only 1% had been tested for HIV/AIDS.<sup>40</sup>

The most cost-effective way to collect HIV/AIDS prevalence data for the general population may be to test blood samples from women attending ante-natal clinics. This can occur when hospital staffs collect anonymous specimens of blood left over from the

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<sup>39</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

tests that are performed as part of routine care for pregnant women. Hospital staff choose pregnant women seeking antenatal care HIV surveillance because they provide easy access to left-over blood samples, and because they are more representative of the general population than other types of patients.<sup>41</sup> However, in order to effectively use this data to estimate prevalence among the general population, information must be collected through population studies to determine the different utilization rates for antenatal care among different groups of society.

### **Sexually Transmitted Infection Surveillance**

Since STI infections increase the rates of HIV infection, STI surveillance can help to assess the risk of HIV spread. Furthermore, because measures for preventing STI transmission and HIV transmission are the same except that STIs manifest symptoms more quickly after infection than does HIV, STI surveillance can also assist in early monitoring of the impact of HIV/AIDS prevention.

There is also lack of STI surveillance in Niger. There is no reported data for STI syndromes from 1990-2001.<sup>42</sup>

### **Risk Behavior Surveillance**

Risk behavior surveillance provides the most direct information on the causes of transmission and the effectiveness of prevention policy. Because of this, surveillance of behaviors such as extramarital sex and unprotected sex must be an integral part of overall surveillance of the epidemic.

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<sup>40</sup> UNAIDS National AIDS Programmes (2002) *HIV/AIDS Surveys Indicator Database* Retrieved March 2003 from <http://www.measuredhs.com/hivdata/start.cfm>

<sup>41</sup> UNAIDS (2002) *REPORT on the global HIV/AIDS epidemic* Retrieved March 2003 from [http://www.unaids.org/epidemic\\_update/report/Epi\\_report\\_chap\\_reliability.htm](http://www.unaids.org/epidemic_update/report/Epi_report_chap_reliability.htm)

<sup>42</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

There is also limited risk behavior surveillance in Niger. There is no reported data for factors such as median age at first sexual experience, condom use among youth, number of men engaging in commercial sex, and condom use during commercial sex. There is some reported data, however, for factors such as higher risk sex among adults in the last year, or condom use in higher risk sex in the last year.

### **Collaboration Between Different Surveillance Projects**

Different NGOs have conducted surveillance projects in different areas in Niger and will continue to do so in the future. Collaboration and information exchange between these NGOs and the government of Niger should be strengthened in order to insure that each group has access to all possible data in order to be better informed for decision making.

## **5. Education**

Nigerians cannot change their behavior to avoid contracting HIV/AIDS unless they have a basic understanding of the disease and its causes. The education campaigns with the most rapid effects are those that target the populations most likely to be infected by the disease and which address the misconceptions of HIV/AIDS among these populations. In the past, education campaigns in Niger were not adequately tailored to high-risk populations and thus were inconsequential in changing behavior.<sup>43</sup> Education campaigns should be designed so as to communicate best to youth, especially females, sex workers, and the people most likely to use sex worker services.

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<sup>43</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

## Current HIV/AIDS knowledge levels

The HIV/AIDS knowledge level among Nigerians remains low especially in rural areas. Table 5 shows that only 74% of the total population of female adults has heard of the disease. Furthermore, less than half of the female population understands that infected persons cannot be easily identified, the nature of transmission of the disease and common methods to protect themselves from contracting it. Interviews of sex workers in the Zinder and Maradi regions found that most of them denied being at risk of contracting HIV/AIDS, while some of them used amulets to protect themselves against infections.<sup>44</sup>

**Table 5: Survey of Knowledge of AIDS among Nigerian Females Conducted in 2000<sup>45</sup>**

Question	Percentage Answering Yes	Percentage in Urban Areas	Percentage in Rural Areas
Have heard of AIDS	74	95	70
Healthy looking person can have AIDS	23	50	17
AIDS cannot be transmitted by mosquitos	18	37	14
AIDS cannot be transmitted by supernatural means	36	64	31
There is no way to avoid AIDS	7	4	7
Identifies condoms as a means of protection against AIDS (prompted)	30	63	23
Identify having sex with only one faithful uninfected partner as a means of protection (prompted)	42	65	37
Identify avoiding penetrative sex as a means of protection (prompted)	42	65	37

<sup>44</sup> Sani Aliou, Mahazou Mahaman, Ibrahim Adamou and Fadima Soumana (2002) *Niger- Sex Workers at the Market*. Retrieved April 2003 from <http://www.med.vu.nl/hcc/artikelen/aliou.htm>

<sup>45</sup> UNAIDS National AIDS Programmes (2002) *HIV/AIDS Surveys Indicator Database* Retrieved March 2003 from <http://www.measuredhs.com/hivdata/start.cfm>

HIV can be transmitted from mother to child	43	76	36
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### **Target groups for education programs:**

#### **Populations in areas with high infection rates**

In order to allocate resources in the most efficient manner, HIV/AIDS education efforts should be first implemented in locations with the highest prevalence rates.

Education efforts could first target the Konni district in the Tahoua region, which has 5.5% HIV prevalence rates, the highest in the country. The Dosso, Tillabery, and Zinder regions have the next highest prevalence rates and should be targeted accordingly.<sup>46</sup>

Education could also be first implemented in urban areas since urban areas in Niger tend to have higher prevalence rates than the rural areas.<sup>47</sup>

#### **Youth and Young Females**

Education efforts that target youth would also be more effective, since prevalence rates tend to be higher among young adults. Table 3, which displays a breakdown of reported AIDS cases by age and sex shows that the greatest amount of HIV/AIDS cases occurs in the 25-29 and 35-39 year old age groups. Since we know case reporting provides information on transmission rates 5-10 years past, we can subtract 5-10 years from the ages of the reported cases to find the age in which the virus was transmitted. This would mean that the majority of infected individuals became infected between the ages of 15-34.

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<sup>46</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

<sup>47</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

Table 3: Reported AIDS Cases by Age and Sex in Niger<sup>48</sup>

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+	NS	All
AIDS Cases	70	7	9	128	191	1246	472	1661	230	659	75	161	51	628	5598

The higher rates of infection among females in Senegal indicates that prevention policy which does not specifically target females, will not prevent the epidemic from disproportionately spreading among them. In Niger, females tend to contract HIV at a younger age than males. While, the over all ratio for HIV positive males to HIV positive females is 1.85, among 15 to 19 year olds the ratio is 0.25<sup>49</sup> Thus education campaigns should specifically be addressed to younger females.

As we have seen in Senegal, prevention education for youth can be successfully implemented in the public school system, through certain media venues, in youth groups, and by encouraging parents to discuss HIV/AIDS with their children. These education activities may better reach girls if they are facilitated or taught by women. Media campaigns can also be targeted towards young adults and women.

### **Sex Workers**

Groups developing HIV/AIDS education programs should also target sex workers as they have by far the highest HIV/AIDS prevalence rates. A study in 1997 found 23.6% of sex workers to be infected in urban areas and a study in 1994 found 33.6% to be

<sup>48</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

<sup>49</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

infected outside of major urban areas.<sup>50</sup> One recent study in a gold mine in Niger found 90% of the prostitutes living around the mine to be HIV positive.<sup>51</sup> Support groups for prostitutes could educate prostitutes about the epidemic as well as help them access sexual health services and condoms. The populations that are obviously customers of sex workers could also be targeted. These would include groups of migrant workers who are separated from their families.

## **5. Encourage Participation of People Living with HIV/AIDS in Planning and Implementing Programs.**

People living with HIV can be the most effective campaigners and educators of the population. They are often the most aware of the risks and challenges associated with the epidemic. The personal experiences that they are able to share can instill the reality of the epidemic in the minds of people who are not directly touched by it. They can also be excellent counselors and care givers for other infected individuals as they best understand the needs of those individuals. Furthermore, public acknowledgement of infected people may help to reduce the stigma associated with the disease. In societies where prejudice against infected persons exists, individuals may not wish to receive HIV tests, as they would prefer not to know if they are HIV positive. Therefore reducing the stigma may increase knowledge of HIV prevalence and can also encourage dialogue about the epidemic.

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<sup>50</sup> UNAIDS, UNICEF, and WHO (2002). *Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections- Niger*. Retrieved April 2003 from [http://www.who.int/emc-hiv/fact\\_sheets/All\\_countries.html](http://www.who.int/emc-hiv/fact_sheets/All_countries.html)

<sup>51</sup> Friends of Niger (2001) *Niger AIDS Bike Ride*. Retrieved February 2003 from <http://www.friendsofniger.org/AIDSBikeRide2002/description.html>



The United Nations Volunteers Project on Support to People Living with HIV/AIDS takes advantage of this important resource by recruiting, training and supporting people with living with HIV to help in prevention and mitigation efforts. The individuals recruited, give talks to various groups, help organize HIV/AIDS awareness and education campaigns, and provide pretest and post test counseling and psychological support for those infected and affected by the epidemic.<sup>52</sup> Groups designing prevention and mitigation activities in Niger could emulate this program by involving people living with HIV/AIDS in their activities as well as in the decision making processes.

## **6. Ensure a Safe Blood Supply**

Since the rates of transmission through blood donation are almost 100%, it is essential that health centers in Niger be capable of providing safe blood. In the past, the health centers have had difficulty in maintaining a pure blood supply, as there were ruptures in the supplies necessary for blood screening.<sup>53</sup> A safe blood supply can be created by testing blood donations and screening blood donors for those who engage in risk behavior.<sup>54</sup> In the past, health care workers in Niger have also failed to notify HIV positive donors of their status.<sup>55</sup> In order facilitate the notification of donors, health centers could have counselors on staff to counsel infected and affected persons and to assist in the screening.

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<sup>52</sup> UNV (2003). *UN Volunteers and HIV/AIDS*. Retrieved May 2003 from <http://www.unv.org/infobase/facts/fsaids.htm>

<sup>53</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

<sup>54</sup> WHO (2003). *Blood Safety*. Retrieved May 2003 from <http://www.who.int/hiv/topics/blood/safety/en/>

<sup>55</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

## **7. Ensure Access to Condoms**

Latex condoms, if used consistently and correctly, are highly effective in preventing transmission of HIV as well as other STDs. Condoms have often been in short supply in Niger.<sup>56</sup> When condoms are available they are primarily sold in pharmacies in public areas. This may discourage individuals from purchasing them since they must do so in public. Furthermore the pharmacies are usually not open at night and in locations where people would most need condoms.<sup>57</sup> In 1999 a Peace Corps volunteer arranged to have condom vending machines placed in nightspots that were commonly frequented by prostitutes. The success of this project seemed doubtful at the time, since vending machines of any type do not exist in Niger. The condom machines experienced high average sales however, and the owners of the nightspots which had the machines were able to profit off of them.<sup>58</sup>

## **8. Provide Protection, Treatment, and Care for People Living with HIV/AIDS.**

Protection, treatment, and care of infected individuals are important to reduce the stigma associated with the epidemic, to raise awareness, and to mitigate its impacts on society. Creating support groups for infected individuals will increase dialogue about the epidemic and in turn overall awareness. Treatment of infected individuals

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<sup>56</sup> The World Bank (2003). *Project Appraisal Document on a Proposed Grant in the Amount of SDR 18.2 Million to the Republic of Niger for a Multisectoral STI/HIV/AIDS Support Project*. Retrieved April 2003 from [www.worldbank.org](http://www.worldbank.org)

<sup>57</sup> J.R. Bullington (2001) *Fighting AIDS in a Gold Rush Camp*. Retrieved April 2003 from [http://www.unc.edu/depts/diplomat/archives\\_roll/2001\\_07-09/bullington\\_0801/bullington\\_p2.html](http://www.unc.edu/depts/diplomat/archives_roll/2001_07-09/bullington_0801/bullington_p2.html)

<sup>58</sup> J.R. Bullington (2001) *Fighting AIDS in a Gold Rush Camp*. Retrieved April 2003 from [http://www.unc.edu/depts/diplomat/archives\\_roll/2001\\_07-09/bullington\\_0801/bullington\\_p2.html](http://www.unc.edu/depts/diplomat/archives_roll/2001_07-09/bullington_0801/bullington_p2.html)

with antiretroviral drugs will reduce the effects of the illness and thus allow them to carry out their usual roles within the society. In the case of infected mothers, treatment can also prevent infection in children. Niger health centers currently do not have the training or drugs necessary to prevent mother to child transmission. Senegal has demonstrated that drugs can be acquired for patients at low costs through agreements with pharmaceutical companies.

## **Conclusion**

The Nigerian government's new HIV/AIDS program for 2002-2006 demonstrates a high level of political commitment, which is imperative for successful national prevention plans. From an analysis of the prevention programs in Senegal as well as the situation in Niger, this paper highlights five essential components for prevention plans in Niger that are also essential for prevention plans in any country attempting to prevent the spread of the epidemic:

1. All levels and groups of the government and society must participate in prevention efforts.
2. Program designers need to have an understanding of the distribution of the epidemic and the causes of its spread.
3. Projects should target high-risk groups first.
4. Projects should focus on raising awareness and knowledge levels among the population.
5. Once the population is educated about the epidemic, prevention services and products need to be made available for them to use.