Full Committee Hearing Notice - Solutions to the problem of Health Care Transmission of HIV/AIDS in Africa
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Witness:
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Testimony:
Mr Chairman, distinguished Members of the Committee, the World Health Organization (WHO) appreciates the opportunity to brief the Committee on the prevention of HIV through safe health care practices in Africa and appreciates the interest of the Committee in this important public health issue.
Senator Sessions and Members of the Committee, I am Dr Yvan Hutin from the World Health Organization in Geneva, Switzerland. WHO is an international organization - the technical specialized agency for health of the United Nations system– which currently has 192 Member States. The United States has been a member of WHO since it was founded in 1948. As a clinician, I have experience in the care of individuals with HIV infection and viral hepatitis. As an epidemiologist, I served in the Epidemic Intelligence Service of the United States Centers for Disease Control and Prevention. I am now Project Leader of the WHO-based Safe Injection Global Network (SIGN) which is an international coalition of stakeholders working together to make injections safe. In addition to my statement, I have provided the Committee copies of two reports entitled "The cost effectiveness of national policies for the safe and appropriate use of injections" and "Progress towards the safe and appropriate use of injections worldwide, 2000-2001" and I request that these two reports be made a part of the record.
A number of health care procedures may lead to the transmission of HIV. These include (1) transfusion of infected blood, (2) unsafe injections and (3) other skin-piercing procedures performed in the absence of universal precautions. Thus, safe health care services should offer to their users (1) selection and testing of blood donors, and when applicable, viral inactivation of human material for therapeutic use, (2) safe and appropriate use of injections and (3) procedures conducted according to universal precautions.
In Africa, for a population of 0.6 billion (10% of the world), only 2.4 million blood units are collected annually against an estimated need of six million units. About one-third of blood is donated by family replacement or paid donors considered at high risk for HIV transmission, considering the incidence and prevalence of HIV in Africa. In addition, 50% of collected blood is not tested either for HIV, HBV, HCV or syphilis. The high efficiency of transmission of HIV through transfusion of infected blood (>90%) leads to a substantial burden of infection among transfused patients. For the remainder of this statement, I will focus primarily on the issue of unsafe health care injections which I have been asked by the Committee to address.
WHO estimates that in developing and transitional countries, 16 billion health care injections are administered each year (an average of 3.4 injections per person, per year). This high figure, along with evaluation reports indicating inappropriate use of injections, suggests that injections are overused to administer medications. Causes of this overuse

may include a preference for injections among patients. However, the most important cause is a desire by health care providers to satisfy what is believed to be a preference for injections among clients. In fact, research suggests that most patients are open to use of oral medications.

In addition to being overused, injections may also be administered by unsafe procedures and cause infections. A safe injection should not harm the patient, the health care worker or the community. However, injections may harm the patient when injection devices are reused in the absence of sterilization. Injections may harm the health care workers when dirty needles are not collected in safety boxes. Injections may harm the community at large when health care facilities are surrounded by sharp health care waste –mostly dirty syringes and needles. Reuse of injection devices in the absence of sterilization is the problem of greatest concern that we have to address as it leads to the largest burden of disease. A mathematical model developed by WHO suggests that in 2000, in developing and transitional countries, reuse of injection devices accounted for an estimated 22 million new infections with the hepatitis B virus (a third of the total), two million new infections with the hepatitis C virus (40% of the total) and 260 000 new HIV infections (5% of the total). These infections acquired in 2000 alone are expected to lead to an estimated nine million years of life lost (adjusted for disability) between 2000 and 2030.

There has been a recent controversy over the role that unsafe health care injections play in the transmission of HIV infection in sub-Saharan Africa. While WHO estimates that, worldwide, about 5% of all HIV infections are transmitted through unsafe health care injections, this estimate is only 2.5% for sub-Saharan Africa. Although there is uncertainty around these figures, WHO and our sister program, UNAIDS, believe that they are in the right order of magnitude and that the vast majority of HIV infections in sub-Saharan Africa are transmitted via unsafe sexual practices.

This public health issue may appear daunting. Yet, evidence indicates that the death and disability associated with unsafe injections are highly preventable. First, interventions conducted to improve communication between patients and doctors and interventions to improve prescriptions through monitoring of providers have proven effective in decreasing injection overuse. Second, interventions to ensure injection device security (i.e., make single-use syringes available reliably in each health care facility) are effective in preventing reuse of injection devices. Some of the poorest countries in the world have actually achieved substantial progress through ensuring that all injectable medications are made available with sufficient quantities of single-use syringes and needles.

In addition to being highly effective, policies and plans for the safe and appropriate use of injections are a sound investment in health. In the scientific paper that I presented to the Committee as part of my statement, WHO has estimated that interventions implemented in 2000 for the safe and appropriate use of injections would have cost $102 per year of life saved (adjusted for disability). This cost is under the threshold of one year of average per capita income in developing countries used by the WHO Commission on Macroeconomics and Health as a criterion for an intervention to be considered very cost-effective. Thus, implementation of safe and appropriate use of injections as part of HIV prevention and care programmes is highly desirable and can be accomplished with only a modest shift in the assignment of resources for two reasons:

Injection safety is not a costly intervention. The scientific paper on the cost effectiveness that I submitted to the committee as part of my statement includes estimates of what it would cost to ensure injection safety in each of the world's regions;

The large majority of HIV infections worldwide are caused by unsafe sexual practices, thus the emphasis of HIV prevention programmes must remain on preventing sexual transmission.

Among prevention opportunities, single-use injection devices with reuse-prevention features deserve a special mention. These have been also referred to as auto-disable or auto-destruct syringes. These syringes that inactivate themselves after one use through plunger blocking, plunger breaking or needle retraction are now the norm in immunization services and are becoming the norm in other international donor and lender-supported services (e.g., family planning and tuberculosis treatment). In addition, promising new single-use syringes with reuse-prevention features have now been developed for general curative services. These devices now require field evaluation to define their future role in public health.

Since the establishment of the Safe Injection Global Network (SIGN) at WHO in 1999, great progress has been made towards the safe and appropriate use of injection worldwide. In the progress report that I have attached as part of my statement, you will see that the government of the United States has supported WHO's effort in this area through the Centers for Disease Control and Prevention (CDC), the United States Agency of International Development (USAID) and the United States National Vaccine Program Office (NVPO). Additional support will be needed in the future to prevent death and disability through key interventions at country level.

Four key interventions are needed for injection safety:

Increasing the awareness of the population regarding the risk of HIV and other infections associated with unsafe injections;

Making sure there are sufficient quantities of single-use injection devices and safety boxes in every health care facility where injections are administered;

Ensuring that all donors and lenders who support the supply of injectable substances in developing and transitional countries also support the provision of injection devices with reuse-prevention features and safety boxes;

Managing the waste associated with dirty syringes and needles in a safe and appropriate way.

Four key interventions are needed for blood transfusion safety:

Establishment of a nationally-coordinated blood transfusion service;

Collection of blood only from voluntary non-remunerated blood donors from low-risk populations;

Testing of all donated blood, including screening for transfusion-transmissible infections, blood grouping and compatibility testing;

Reduction in unnecessary transfusions through the effective clinical use of blood, including the use of simple alternatives to transfusion.

WHO appreciates the opportunity to brief the Committee on this important issue. I thank you for your attention and I will be happy to answer questions you may have on this subject.