

Full Committee Hearing Notice - Solutions to the problem of Health Care Transmission of HIV/AIDS in Africa

Bill Number: Oversight

Hearing Date: July 31, 2003 - 10:00 AM

Witness:

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Testimony:

Good morning. Thank you for inviting me to testify on the important topic of the transmission of HIV/AIDS during medical care.

USAID and other U.S. Government partners recognize that HIV and other infections do occur in medical settings. Clearly, potential transmission is greatest in countries that have a high burden of disease and poor quality of medical services. The higher the general HIV prevalence, the greater the risk of transmission through all modalities. Risks of transmission by medical procedure will depend on local practices and is widely variable. Utility and cost-effectiveness of any intervention depends on not just the direct costs but system needs and how common the problem is.

Injection safety and medical best practices can play an important role in preventing unintentional spread of certain blood-borne diseases, including HIV, during medical care. I welcome the attention this committee is giving to this mode of HIV transmission.

Not every contaminated injection transmits HIV. In the U.S. the post-exposure transmission rate is 3 in 1,000 needle stick injuries for health care workers. In comparison, hepatitis is much more infectious. The extent of HIV transmission through other routes in a medical setting in Africa is not nearly as well documented. I am sure later testimony will give more detail, and we all look forward to the analysis coordinated by Department of HHS on the relative contribution of medical setting transmission. Proper safety procedures can reduce HIV transmission through transfusion of blood products and contaminated needles. However, addressing healthcare safety in much of the developing world is a complex endeavor that requires much more than simply providing supplies. It includes education and behavior change among providers and patients, careful supply chain management, addressing poor distribution systems, improving the ability to forecast supply needs, curtailing the inappropriate use of supplies by providers, and enhancing existing waste management practices which are often of poor quality.

USAID is the primary implementation arm of the U.S. Government in foreign aid and development and works in close partnership with HHS on health-related matters. I would like to describe USAID's work in the areas of injection safety, blood safety, safe delivery practices, and quality assurance.

USAID has a long history of strengthening health systems and improving the quality and safety of health care in developing countries, in cooperation with our U.S. Government and nongovernmental partners. USAID's programs in child survival, maternal health, infectious diseases, and HIV/AIDS have improved the safety of medical practices through technological innovations, clinical training, policy guidance in best practices and appropriate protocols, and strengthened management and logistics systems. Most of these

interventions are currently funded out of our non-AIDS child survival budget but contribute to the prevention of HIV in medical settings.

Injection Safety

Over 16 billion injections are given every year in developing countries for immunizations, therapeutic purposes, transfusion of blood and blood products, vitamin treatments, and injectable contraceptives. These injections, if contaminated with infected blood, can transmit hepatitis B, hepatitis C, and HIV.

While there is significant variation between countries, the World Health Organization (WHO) estimates that in sub-Saharan Africa approximately 18% of injections are given with reused syringes or needles that have not been sterilized. However, unsafe medical injections are believed to occur most frequently in South Asia, the Eastern Mediterranean, and the Western Pacific Regions. Together, these account for 88% of all injections administered with reused unsterilized equipment.

USAID has been a global leader in support of immunization safety as part of comprehensive routine immunization programs in developing countries since the early 1980s and remains committed to injection safety. Raising the focus on immunization safety is a top priority for USAID global health programs. USAID has provided leadership to change country policies and procedures to improve medical practices; promote behavior change by recognizing the role of unsafe medical practices; create a research agenda to identify risk factors in poorly covered areas; reduce unnecessary injections; and further work in technical development.

USAID has worked with its partners to document the extent of unsafe injection practices and the cost-effectiveness of interventions to improve the safety of injections in the developing world. USAID's efforts in this area led to the development of the World Health Organization's Safe Injection Global Network (SIGN). USAID has provided technical assistance to SIGN to establish injection standards that are not only scientifically sound, but which also are designed to change the behavior of health care providers.

In addition, USAID through the Program for Appropriate Technologies for Health (PATH), has developed and introduced single-use injection devices, and is currently developing and introducing systems for safely disposing of contaminated needles. Uniject, a new smaller single-use device, will reduce costs, medical waste, and the risk of unintentional needle sticks. USAID is supporting research to expand the number of injections that can be given with Uniject. USAID currently "bundles" Depo-Provera with a single use syringe and a safety box to improve the safety of disposal.

Finally, USAID and the Department of HHS have been lead partners in the effort which resulted in the Global Alliance for Vaccine and Immunizations (GAVI). Five-year commitments to immunize children in the world's poorest countries through the GAVI and The Vaccine Fund topped \$1 billion in July, bringing to 71 the total number of countries receiving support for health infrastructure, vaccines and supplies from The Vaccine Fund. The U.S. contribution to The Vaccine Fund, GAVI's financing arm, has increased annually, from \$48 million in Fiscal Year (FY) 2001 to \$53 million in FY 2002 and \$58 million in 2003 – resulting in a total U.S. contribution over the past three years of nearly \$160 million. GAVI is providing safe injection supplies to all of its participating countries as well as supporting the development of waste management

plans. GAVI has estimated commitments for support of \$332 million for immunization services over 5 years and \$77 million for injection safety over three years. USAID was the instigator at the last GAVI meeting for insisting on a review of how immunization system strengthening funds are being used.

Blood safety

Each year, countless lives are saved through necessary blood transfusions, but various limitations in how the blood is collected and tested put many people at risk of infection with HIV. Interventions to make the blood supply safer have led to a significant reduction in HIV transmission by blood transfusion in industrialized countries, and the U.S. Government through USAID and HHS is working to extend these practices to the developing world.

In Kenya, USAID played a leadership role by helping the national blood safety program address challenges to the blood supply, including problems of limited training and experience with blood transfusion science among health care personnel and the need for quality monitoring. HIV transmission through unsafe blood transfusions was reduced through the system put in place by USAID/Kenya following the 1998 Nairobi bombing. The new system, made up of 5 regional blood transfusion centers, trained staff, new equipment, policy guidelines, and donor recruitment activities, met its primary objective, preparedness for future disasters, by providing safe blood to the victims of the Thanksgiving Day terrorist attack in Mombasa. USAID continues to support the government of Kenya in developing its blood safety program and blood transfusion services.

Through the new Safe Blood for Africa project, USAID will help develop a blood collection and distribution center in Abuja, Nigeria to help combat the crisis of HIV transmission through blood transfusion in Nigeria. USAID will provide funding for staff, equipment, and review of operating systems and organizational structures. In Abuja, blood services are severely understaffed, underfunded and are far from meeting standards for blood collection and distribution set out by the WHO. Not only does the substantial probability exist for HIV infection from blood transfusion, but also, adequate stocks of blood for routine medical requirements are not available. USAID anticipates that this new project will significantly reduce the transmission of HIV through blood transfusion in the area and increase the safe blood supply in the Abuja Region. USAID support for this initiative will contribute to the long range goal of implementing a National Blood Policy and establishing a Nigerian National Blood Transfusion Service.

Major reasons for transfusion include severe anemia, malaria, or bleeding after childbirth. We believe that an underutilized method for reducing HIV transmission in this area is making changes in the rate of giving transfusions. We can substantially reduce the number of transfusions through changing transfusion criteria, reducing the need for transfusions by addressing delivery care and through our extensive malaria prevention and treatment programs.

Safe obstetrical delivery practices

USAID supports two levels of HIV prevention during obstetrical delivery care. The first level is focused interventions for the prevention of mother-to-child transmission, and the second is protecting medical workers from exposure by implementing proper sharps disposal and universal precautions.

The USAID-funded Maternal and Neonatal Health Program works in 10 countries in Africa on infection prevention practices for safe motherhood and newborn health. Similarly, the President's International Mother and Child HIV Prevention Initiative, co-managed by USAID and HHS, will address a number of these issues in 14 countries in Africa and the Caribbean. The initiative has already committed over \$70 million to unified strategic plans in the 14 countries and has been disbursing funds since May. In both programs, we work at the national level on policies and standards which are then reflected in curricula for pre-service and in-service training of health care workers, preparation of training sites, the development of job aids and supportive supervision systems. The program focuses on the prevention of mother-to-child transmission of HIV (P-MTCT) and safe motherhood service delivery. In addition, we emphasize several key infection prevention behaviors: injection safety, universal precautions, hand-washing, clean, safe delivery, avoiding of unnecessary medical procedures, proper sterilization of instruments, proper disposal of hazardous waste, and newborn umbilical cord care.

USAID funded the Program for Appropriate Technology in Health to test the feasibility of putting the drug oxytocin in Uniject pre-filled, auto-disposable injection devices. Oxytocin effectively reduces bleeding following birth, the biggest cause of maternal deaths. The use of the Uniject device to deliver oxytocin would make this life-saving intervention even safer for patients and providers.

USAID is also a partner in the White Ribbon Alliance, an international coalition that increases public awareness about the need to make pregnancy and childbirth safe for all women and newborns. The Alliance disseminates technical information on safe delivery practices, mobilizes communities, and calls attention to the needs of HIV positive mothers.

USAID has also supported the development of protocols for postpartum hemorrhage and delivery by caesarian section.

Quality assurance in medical care

Quality assurance can be defined as the development and promotion of cost-effective methods to strengthen health care services and systems. Examples of activities include accreditation of facilities and supervision of health workers. Applying the principles of quality assurance to our work in the health care sector is critical to ensuring that our programs are effective and do not cause risks to health care workers or their patients. USAID supports programs to introduce modern quality assurance practices into the health systems of developing countries. In Zambia, we developed a hospital accreditation program, which included criteria for blood transfusion, infection control, quality assurance activities, and incident reporting and analysis.

In Tanzania, our program supported a quality improvement collaboration in which Tanzanian hospitals learn from one another's experience in infection prevention and the use of universal precautions during procedures.

USAID has supported studies of how the stigma of HIV/AIDS affects health provider behavior in Rwanda. As a result, we have made recommendations for the use of post-exposure prophylaxis, protective equipment and other preventive measures.

In addition, USAID has supported infection prevention training programs in several countries around the world, including Malawi, Ghana, Kenya, Honduras, Guatemala,

Nepal, Indonesia, Haiti, Senegal, Uganda, Guinea, Bolivia, Mali, Burkina Faso, the Philippines, and the Ukraine. These courses include basics on disease transmission, hygiene, processing instruments, safe injection practices, gloves and other items (decontamination, cleaning, high-level disinfection, sterilization), and waste disposal (a universal precautions approach to protect both healthcare workers and clients/patients). The training on safe injection practices includes teaching about how to dispose of needles and syringes safely using locally available resources.

The Development of the HIV/AIDS Epidemic in Africa

In addition to discussing medical transmission of HIV, I was also asked to address the question of why the AIDS pandemic has affected Africa more severely than other regions, and why are there such disparities between regions in Africa. We can track the trends that differ between the regions but why the epidemic has followed such different patterns is much less clear.

Most West African countries continue to have relatively low prevalence levels.

Meanwhile, in the newer epidemics of southern Africa, the prevalence has exploded to nearly 40 percent of 15-49 year olds in several countries.

Although studies show a high rate of knowledge about HIV in Africa, there is a very low rate of knowledge on how to protect oneself from acquiring HIV infection.

New, very strong evidence shows an association of increased risk of HIV with not being circumcised. Circumcision varies geographically and by tribal group in Africa and is a possible contributing factor to the differences in the growth of the epidemic. Western Africa has very high rates of male circumcision and southern Africa has variable but generally low rates of circumcision. NIH is currently studying whether this is a true cause and effect association. Differing sexual practices as well as varying strains of HIV may also be contributing factors.

Certainly, behavior change response to the epidemic (the ABCs: Abstinence, Being Faithful, and correct and consistent Condom use) varies by country. Decreasing number of partners (being faithful) is beginning to look like the most important factor in turning around the epidemic. USAID will soon be publishing a baseline ABC study in six countries showing some of the contrasting behaviors.

Conclusion

In conclusion, I would like to emphasize that USAID is committed to HIV/AIDS prevention. We will continue to ensure that risky medical practices, risky sexual behaviors, and mother to child transmission are all addressed as part of the overall response to the HIV/AIDS pandemic. We look forward to partnering with the State Department and HHS in implementing the President's Emergency Plan for AIDS Relief as we have been in the President's International Mother and Child HIV Prevention initiative and continuing to achieve results in HIV/AIDS prevention, care, treatment, and support.

I would also like to assure the Committee that USAID, in partnership with HHS, will work to strengthen systems to improve the delivery of care, drug and commodity logistics, and clinical protocols in order to ensure the success of the prevention of mother-to-child transmission and the treatment envisioned in the President's initiative.

All of these improvements will directly impact and reduce HIV transmission in medical settings.

Thank you again for inviting me to speak on this important topic.