



AIDS Plagues New Millennium

Global HIV/AIDS Epidemic Leaves No Room for Complacency

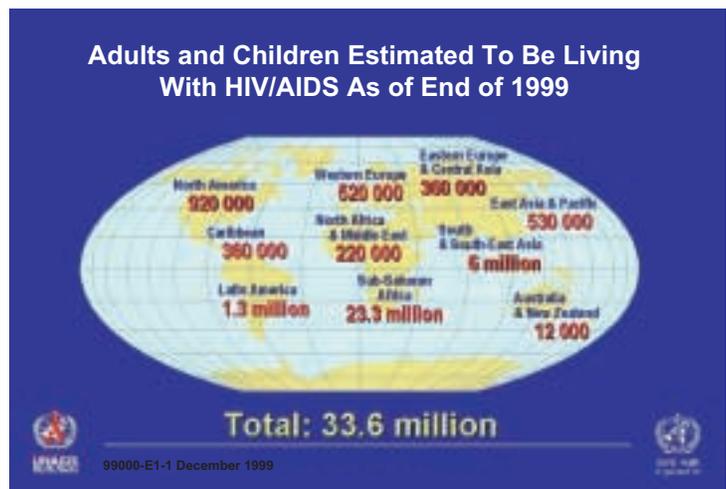
by Peter Piot, Executive Director, UNAIDS, Geneva

The global epidemic of HIV and AIDS is not losing momentum. As the 21st century dawns, tens of millions of men, women and children worldwide face a future dominated by this fatal disease. In fact, newly released estimates reveal that in 1999 alone some 5.6 million adults and children worldwide became infected with the human immunodeficiency virus (HIV)

that causes AIDS. Altogether, since the epidemic began, the number of people infected has reached the 50 million mark. More than 16 million of them have died and some 33.6 million, including 1.2 million children, are now living with HIV/AIDS. (See map.) Around half of all those who acquire HIV are under 25 and typically die of AIDS before their 35th birth-

day, often leaving young children behind. Already, the epidemic's legacy includes 11.2 million AIDS orphans—young people who lost their mothers to the disease before turning 15.

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Nutrition Is One Key to HIV Prevention and Support

by Kantha Arunachalan, Ph.D., and Ranjit Chandra, M.D., Janeway Child Health Centre, St. John's, Newfoundland, Canada

The good news is that science-based, multidimensional nutritional support can help manage HIV complications, improve quality of life and prolong the survival of AIDS patients. This is because malnutrition is a major feature of HIV/AIDS. HIV-related malnutrition results in multiple nutrient deficiencies, weight loss, physical wasting and severe changes in body composition. As the relentlessly progressive, and ultimately fatal, disease advances, the nutritional well-being of AIDS patients is challenged by symptoms such as malabsorption, diarrhea, oral/oesophageal problems, nausea/vomiting, and infections and malignancies which may decrease longevity and increase morbidity.



Physician examines an HIV-infected child.

Nutrient Deficiencies Complicate HIV

Despite much research, the onset and nature of earlier nutritional alterations in the HIV infection spectrum are relatively un-

known. That said, the two main identified types of nutritional problems in AIDS patients are small-bowel injury accompanied by nutrient malabsorption, and the metabolic or "wasting" effects of systemic disease.

Unintentional weight loss, a primary nutritional concern, is observed in over 90 percent of AIDS patients and is attributed to reduced caloric and inadequate vitamin and mineral intake, and increased metabolic demands associated with opportunistic infections, fever and diarrhea. Protein energy malnutrition (PEM), and vitamin E and A deficiencies are also common complications of HIV. In 1995, 67 percent of all HIV-positive patients and 87 percent of all patients with full-blown AIDS had

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CECheck-Up

In two brief decades AIDS has emerged as the leading cause of death in Africa and fourth among all causes of death worldwide, states the 1999 annual World Health Report. Sixteen million people have already succumbed to AIDS, and over 30 million more stand to suffer and die by the end of this century, according to UNAIDS. These staggering facts are the focus of the first issue of the *Global Monitor* in the new millennium. The issue addresses the challenge of AIDS around the globe as well as the potential for prevention — perhaps the most promising strategy to combat HIV/AIDS.

In the lead article, Peter Piot of UNAIDS provides a glimpse of AIDS and its grim manifestations around the globe, especially the burden on developing countries. Drs. Arunachalan and Chandra of the Janeway Centre in Newfoundland address an often forgotten issue: the importance and promise of nutrition in HIV/AIDS support and prevention.

Presented by authors Carael and Makinwa of UNAIDS, the *Insider's View* describes the consequences of AIDS in sub-Saharan Africa, pointing to the complexities of prevention within this socio-cultural milieu. The centerfold is devoted to an examination of AIDS across continents — North America, Asia and Europe. Authors Dean-Gaitor et al (CDC/USA), Sluzhynska (Ukraine) and Singh (India) illustrate the similarities and contrasts of the disease's targets and the governmental and nongovernmental efforts afoot in these regions. Dr. Richard Keenlyside of CDC in Atlanta tackles the policy challenges facing the United States and other nations, and outlines cogent strategies for industrialized and developing countries.

CECHE itself reports on its new activities in the District of Columbia on substance abuse prevention and plans for future media projects. The fight for tobacco control continues in the Czech Republic in CECHÉ's new World Bank-supported project, with the Internet at its service. And we aim in the new year to build upon our meager AIDS prevention efforts in Ukraine with renewed vigor and commitment.

*-Sushma Palmer, D.Sc.,
Chairman*

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... Complacency

1999 saw 2.6 million AIDS deaths — a record number despite antiretroviral therapy, which postponed the onset of the disease and related deaths in developed countries. Even if prevention programmes could manage to cut the number of new HIV infections to zero, so many millions of people are already infected that AIDS deaths would continue mounting for years. Nevertheless, at this stage of the epidemic, it is important that the yearly increase in AIDS mortality not be taken as evidence that prevention programmes have failed.

The World's Splintered Epidemics

HIV remains a challenge in industrialized countries, which continue to see around 75,000 new infections a year. There is worrying evidence that safe sexual behavior is being eroded among gay men in some Western countries, perhaps because of complacency now that life-prolonging antiretrovirals are available. Any complacency is misplaced, however, as AIDS remains fatal. Furthermore, recent data suggest that the decline in deaths is tapering off.

The world's steepest epidemic curve in 1999 was recorded in the newly independent states of the former Soviet Union, where HIV infections — due largely to unsafe drug-injection practices — doubled between 1997 and 1999. In Moscow, for example, three times as many cases were reported in the first nine months of 1999 as in all previous years combined. Injection drug use seems to be increasingly common among unemployed young people and even schoolchildren. An outreach programme for drug injectors in St. Petersburg reported that clients under age 14 increased 20-fold between 1997 and early 1999. Injection drug use is also responsible for most AIDS cases in some Middle Eastern countries, though totals remain relatively low.

Some Latin American countries have joined the ranks of those providing antiretroviral drugs to people infected with HIV, the costs being offset in part by savings in hospitalization and medical care. Prevention needs are foremost in the Caribbean basin, however, which has some of the worst HIV epidemics outside Africa: HIV prevalences of 3.2 percent have been recorded in Guyanan blood donors and of 6 percent in pregnant Haitian women.

The picture is mixed in the Asia/Pacific region, where more than 1.4 million people became infected in 1999. In some countries drug injection is on the rise and condom use is uncommon, including among clients of prostitutes and men who have

sex with men. In other countries, such as the Philippines, HIV infection appears to be contained even among traditionally high-risk groups such as sex workers; in a 1997 study nearly three-quarters reported using a condom with their most recent client. The future of the continent's epidemic will of course be dominated by the two giants, China and India, the latter already holding an estimated 4 million infected inhabitants.

Still the global AIDS epicentre, sub-Saharan Africa saw 3.8 million new infections in 1999, most of them in the southern part of the continent. New evidence shows clearly for the first time that African women infected with HIV outnumber men by around 2 million. (Infected men outnumber women everywhere else in the world.) Part of the reason is the early age of female infection. African girls aged 15 to 19 have HIV prevalence rates five to six times higher than boys their own age, a vulnerability created by cross-generational sex with older, infected men and the efficiency of male-to-female sexual transmission. Africa also has a firm lead in mother-to-child transmission of the virus, despite new evidence that HIV infection ultimately reduces a woman's fertility by about 20 percent. In 1999, an estimated 570,000 children under 15 were infected worldwide; more than 90 percent of them were babies born to HIV-positive mothers, and almost nine-tenths of these were in Africa.

AIDS' Global Impact and Challenge

With an epidemic of this scale, every new infection and death intensifies the ripple effect, impacting families, communities, households and, increasingly, businesses and economies. In fact, AIDS has emerged as the single greatest threat to development in Africa. Life expectancy at birth in southern Africa, which climbed from 44 in the early 1950s to 59 in the early 1990s, is expected to drop back to 45 sometime between 2005 and 2010. According to a survey of commercial farms in Kenya, illness and death have already replaced old-age retirement as the leading reason why employees leave service.

While 95 percent of the AIDS epidemic is concentrated in developing countries, the news is not uniformly grim. Nations such as Senegal, Thailand and Uganda, which have stabilized or reduced their HIV infection rates, are proof that poorer countries are not helpless in the face of this epidemic. Sound prevention programmes work. The challenge is to multiply these successes around the globe. Otherwise, the already vast gap in AIDS between developed and developing countries will become even larger in the next century. §



AIDS Underlines Need for Action in Sub-Saharan Africa

by Michel Carael, Leader, Prevention Team, and Bunmi Makinwa, Communications Adviser, UNAIDS, Geneva



Out of an estimated 34 million people currently living with HIV or AIDS worldwide, more than 23 million live in sub-Saharan Africa (SSA). More than half of the infected adults are women, and as many as 3 million African children have been infected through mother-to-infant transmission.

Eastern and Southern Africa harbor about two-thirds of SSA's HIV infections, and AIDS has become the leading cause of adult death there, reducing life expectancy by more than 15 years. Hardest hit by HIV-related deaths are those aged 25 to 34 years — usually a group with low mortality and high economic productivity.

With such staggering adult mortality, concern is growing about how to care for millions of AIDS orphans. In fact, AIDS mortality threatens to reverse the progress made in children's health over the past decades. As the graph below shows, AIDS will more than double child mortality in Botswana, Kenya, Zambia and Zimbabwe by 2010.

Mapping Regional Differences

In Western and Central Africa (with the exception of Côte d'Ivoire and Burkina Faso), HIV prevalence is stable at levels below 5 percent in most cities, with lower rates in rural areas. In Senegal, HIV prevalence in major cities is around 1 percent among women attending antenatal clinics due to increased condom use and other behavioural changes.

In contrast, in Eastern and Southern African countries such as Zimbabwe, Botswana and Zambia, national levels of HIV infection among adults have surpassed 20 percent — with the proportion of HIV-infected adults between 25 and 30 percent

in 1990 in Uganda's urban areas. In 1997, these infection rates declined to 15 percent, with especially strong decreases noted among young people aged 15 to 19 due primarily to a two-year age delay in initial sexual intercourse, a decrease in the number of sexual partners and an increase in condom usage. While sexual behaviour patterns play a critical role in these regional differences, the high prevalence in the East and South can also be explained by the large-scale presence of other sexually transmitted diseases (STDs), the fact that males are rarely circumcised, and the tendency for females' first intercourse to occur at a relatively young age.

Working With Young Women

Recent studies show that many more women are infected with HIV than men, some at frighteningly young ages. In Kisumu, Kenya and Ndola, Zambia, research reveals that 3 to 4 percent of boys aged 15 to 19 are infected with HIV compared to 23 and 15 percent of Kenyan and Zambian girls of similar age. On average, in South and East Africa, eight times more teenage girls than boys are infected, and in some populations more than 20 percent of girls in their late teens carry the virus.

As a result, many prevention programmes now try to reach young women before they become sexually active. In Uganda and Senegal, evidence indicates that delaying sexual debut even a few years significantly reduces HIV prevalence among young people. Indeed, older girls may have less difficulties "demanding" safer sex; they may also be more physiologically mature and therefore less susceptible to HIV.

Studies in Tanzania, Zambia and South Africa have shown that 10 to 20 percent of young unmarried women have sexual relations with partners more than 10 years their senior. Cultural attitudes that encourage such sexual relationships increase the likelihood that a young woman will encounter an HIV-infected partner. Vigorous efforts are therefore needed to disabuse men of the notion that young partners are more desirable, and to en-

courage them to use condoms with all partners, regardless of age.

Changing such sexual mixing is difficult because younger women are often dependent upon older men for financial support. Two viable approaches, however, are "demand reduction" (making sex with teenage girls socially unacceptable), and providing girls with skills and opportunities that reduce dependence on men.

Shattering Denial and Complacency

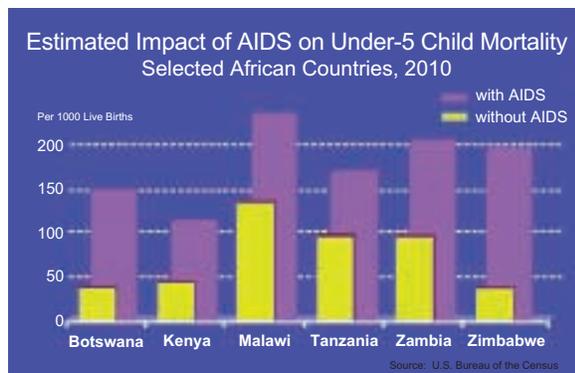
The HIV epidemic will continue unabated unless social and official attitudes change. Explicit political commitment and community dialogue are crucial to confronting the silence, stigma and shame that too often surround HIV/AIDS and prevent action from being taken.

In several countries, exclusive focus on prevention through fear (without changing social attitudes) meant that AIDS remained "invisible" — and infected people remained in hiding — for many years. In Eastern and Southern Africa, this invisibility made it difficult to convince the public that the threat of AIDS was real and that widespread behaviour change was necessary.

Moving Ahead

Armed with better understanding of the complex mix of factors in Africa's HIV epidemic, combined behavioural, social and biomedical interventions are now taking precedence. Priorities include increasing condom use and widening access to HIV/STD and family planning services that are "friendly" to young people — with improved access to confidential voluntary counselling a key element to reduce stigma.

The most effective HIV prevention programmes, such as those in Uganda, Senegal and Thailand, also reveal that a favourable environment is an important catalyst for social and cultural change. Creating such an environment requires coordinated action within multiple sectors of society — not just healthcare entities — to mobilise business, development agencies, labour organizations, education and religious groups. It also requires the support of political leaders, community organizations and advocacy groups. Despite the tragic burden of the AIDS epidemic in the region, however, such mobilisation is just beginning. §



AIDS Targets African Americans

by Hazel Dean-Gaitor, MPH, Pascale M. Wortley, M.D., MPH, Division of HIV/AIDS Prevention, CDC, Atlanta, Georgia

HIV/AIDS may be the second leading cause of death for young and middle-aged Americans, but African Americans are its increasingly disproportionate target, their health and well-being threatened and their human potential severely compromised by the disease. In fact, despite declines in AIDS deaths among all U.S. racial/ethnic groups between 1995 and 1998, AIDS mortality remains nearly 10 times higher among black than among white Americans.

Approximately 37 percent of all reported U.S. AIDS cases have occurred among African Americans — 251,408 of the 688,200 documented through December 1998 by the Centers for Disease Control and Prevention (CDC). Today, 240,000 to 325,000 African Americans are infected with HIV, and more than 118,000 are living with AIDS. Younger people are particularly at risk, as research indicates that half of all new HIV infections in the United States are among people under 25. In 1998, for example, AIDS was the leading cause of death for African-American men aged 25 to 44 and the third leading cause of death for black women in the same age group.

The proportion of AIDS cases among African Americans has been steadily increasing since the mid 1980s, and in 1998 more African Americans were reported with AIDS than any other racial/ethnic group in the United States. (See graph.) In fact, nearly half (45%) of the 48,269 U.S. AIDS cases reported in 1998 were among African Americans. Meanwhile, almost two-thirds of all women reported with AIDS that year were African American, and African-American children represented 62 percent of all reported pediatric AIDS cases. Overall, this amounted to a 1998 AIDS incidence rate of 66.4 per 100,000 among African Americans — more than twice the rate for Hispanics and eight times the rate for Caucasians.

Men who have sex with men represented the largest proportion (41%) of African-American men diagnosed with AIDS in 1998. The second most common exposure category was injection drug use (35%); and heterosexual exposure accounted for 17 percent of cases. For African-American women diagnosed with AIDS in 1998, heterosexual contact accounted for the majority of cases (61%), while injection drug use comprised 26 percent.

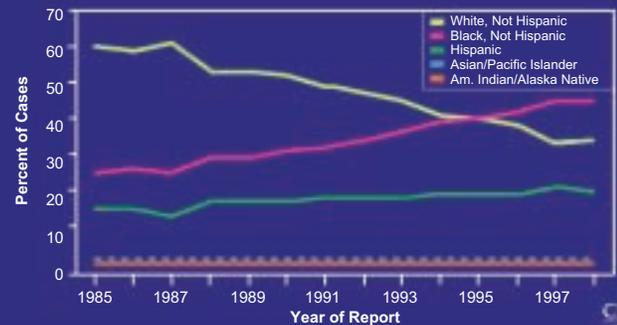
Contributing Factors, Intervention and Prevention

The relative importance of factors thought to contribute to the disproportionate impact of the AIDS epidemic in the African-American community is unclear. While race is not itself a risk factor for HIV infection, it may be a marker for socioeconomic factors; nevertheless, racial disparities remain even after taking socioeconomic status into account. Other likely contributors are high rates of sexually transmitted diseases (which facilitate the transmission of HIV) and a higher frequency of sexual risk behaviors, including lower rates of condom use and higher rates of partner change, than in other racial groups. Social and economic factors such as poverty, underemployment and poor access to health care also increase the challenge of HIV prevention in this community.

Currently, several studies are underway to enhance the impact of prevention among African Americans. They are being conducted among HIV-positive and 13- to 25-year-old men who have sex with men, HIV-positive intravenous drug users, and young men being released from prison.

Meanwhile, several intervention studies aimed at reducing behavioral risk in the African-American population have already been conducted at CDC. The Women and Infants project, for example, was a community-level initiative targeting low-income, inner-city women ages 15 to 34 which focused on clarifying factors influencing behavior changes regarding condom and contraceptive use and the development and delivery of prevention interventions. Results indicate that, when compared with women in other communities, women in the intervention communities were significantly more likely to talk with their main sexual partner about condoms or to encourage condom usage. After the intervention, fewer women in these communities said they had never used condoms with their main partner.

Proportion of AIDS Cases By Race/Ethnicity and Year of Report, 1985-1998, United States



Despite such encouraging results, the number of studies with follow-up assessments to demonstrate sustained

levels of risk reduction is limited. Determining how to extend effective interventions more widely to at-risk populations is critical — but continuing to increase the number of such interventions remains key.

Strong partnerships with African-American leaders and institutions are also necessary, and CDC has allied with national minority organizations such as 100 Black Men of America, the National Council of Negro Women, and the National Minority AIDS Council. Such partnerships were strengthened in 1998 when African-American leaders and the Congressional Black Caucus obtained \$156 million for HIV prevention and care under the Clinton administration's "Initiative to Eliminate Racial and Ethnic Disparities in Health by the year 2010." CDC will use its share of funds to target African Americans through: state and local health departments; community-based organizations; faith-based, minority and correctional facilities initiatives; mother-to-child transmission reduction efforts; capacity-building and technical assistance; and the Know Your (HIV) Status campaign. CDC's goal: to provide the greatest possible assistance and reduce the disproportionate effect of AIDS in African-American communities. §

HIV/AIDS Trend Causes

by Sandra Sluzhynska, M.D., Ph.D., Re

In the late '80s, as the United States and Central Europe were broadcasting the Soviet leaders denied the existence of drug abuse and prostitution, and ignored the AIDS epidemic.

The collapse of the former Soviet Union did not help matters. Many governments incapacitated while the overall risk to sexual health in the region continued to high unemployment, poor lifestyle choices, insufficient health education, the limited access to HIV diagnostics and treatment to make Ukraine the leading country. The system has been unable to cope with the rapid, deadly spread of the virus.

The first 81 cases of HIV were recorded in Ukraine in 1987. Since that time, according to sero-monitoring data. Less than 60 percent of these cases were reported. Most alarming, however, is that total infection figures may be significantly higher than international experts.

Drug injection appears to be the main culprit, accounting for 78 percent of cases when sex was the primary method of transmission. Despite the change in infection rates, 40 children in Ukraine were living with AIDS; 385 adults and 25 children.

Meanwhile, for the first time in five years, Ukraine has witnessed a reduction in the number of reported cases, such as Odessa and Dnipropetrovsk, and in relatively injective drug users have been the most visible, however: a 23-percent drop in cases.

Many epidemiologists believe such reductions are a mirage — attributable to AIDS legislation, which made testing voluntary and has, most experts agree, led to the growth of HIV infection among blood donors, STD-infected individuals and the rest do not belong to any risk groups — as cause for alarm. The increasing number of cases that the virus may be spreading among the general drug-free public.

Statistics may be sketchy, but there is enough information to confirm that the resources with which to reckon. §

India Could Become “AIDS Capital” of the World

by Bir Singh, M.D., Coordinator, AIDS Education & Training Cell, and Additional Professor, Centre for Community Medicine, All India Institute of Medical Sciences, New Delhi

In little more than a decade, HIV/AIDS has emerged as one of the most serious public health problems in India. First diagnosed in 1986, the disease spread rapidly in the areas adjoining the three epicenters of Mumbai, Chennai and Manipur. By 1997, the states of Maharashtra, Tamil Nadu and Manipur together accounted for more than 75 per cent of all AIDS cases and 66 per cent of all HIV infections in India — with Maharashtra alone accounting for about half of these cases and infections. Today, HIV is prevalent in almost all of India’s 32 states and union territories.

Because of patchy surveillance and the absence of epidemiological data in major parts of the country, there is a wide gap between reported and

estimated figures of HIV infections and full-blown cases of AIDS. Currently, officially reported cases of HIV number only in the thousands, and as of 31 August 1999, 8,438 cases of AIDS had been reported in the country. But of the 3,520,179 persons screened to date for HIV, 88,064 have been found to be seropositive — an infection rate of 25.02

per 1,000 tested persons. No surprise, then, that experts are projecting that India will become the “AIDS Capital of the World” during this millennium.

Transmission Pathways and Combating The Virus

Heterosexual contact is the main method of HIV transmission in India, accounting for the overwhelming percentage of reported cases. Other transmission routes include blood transfusions and intravenous drug use. (See graph.) About 89 per cent of reported cases are among the sexually active and economically productive age group of 15 to 49 years, and one in four reported cases is a woman. In fact, since the mid 1990s, women are increasingly attending antenatal clinics, sero-converting to HIV positive, and adding to the risk of perinatal transmission. Meanwhile more people outside of urban areas are becoming infected as migration in search of employment increases the spread of the disease.

Low literacy among potentially high-risk groups, gender disparity and the prevalence of sexually transmitted diseases (STDs) and respiratory tract infections exacerbate the problem. In fact, nearly 60 per cent of HIV/AIDS cases in India are reported to have opportunistic tuberculosis infection. To boot, myths and misconceptions about HIV and AIDS are widely prevalent — even among health professionals and para-professionals. Coupled with the social stigma attached to sexually transmitted infections, these “untruths” foster further miseducation and mushrooming.

Realizing the seriousness of the situation, the Indian government launched the National AIDS Control Programme (NACP) in 1987. NACP monitors HIV trends, funds state and local entities, and trains physicians. A National AIDS Committee, National AIDS Control Board and National AIDS Control Organization (NACO) oversee and implement NACP and help forge multisectoral collaborations, while State AIDS Control Societies carry out the programme at the state and union territory levels.

Blood safety is also being tackled through mandatory licensing of all blood banks and mandatory testing of blood for HIV, syphilis, malaria and hepatitis. Infection through blood transfusion has dropped appreciably — about 4.5 percent — over the last two to three years, and, steps to strengthen India’s STD Control Programme should further reduce HIV prevalence.

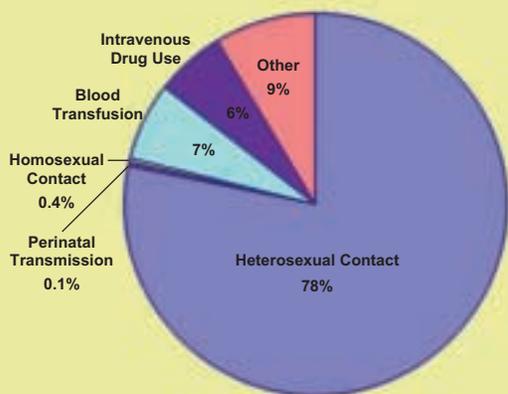
In addition, multiple efforts are underway to enhance public awareness of HIV/AIDS and mobilise community support. Particularly notable are such innovative initiatives as: “University Talk AIDS” for student youth; the National AIDS Helpline; a School AIDS Education Programme; and a National Counselling Training Programme, which includes a model HIV counselling centre to provide pre- and post-tests, follow-up, and general and family counselling to government hospital customers. Coupled with intensive radio, television, print media and folk theatre campaigns, such measures have heightened awareness in high-risk groups and the general population between 25 and 40 per cent. Currently, awareness levels are an average of 60 to 65 per cent in urban areas and 35 to 40 per cent in rural areas.

Nevertheless, HIV infection is spreading at an alarming rate, and prevention and care programs are critically overloaded. In response, the Indian government is drafting a National AIDS Prevention and Control Policy to expand the NACP, enlarging the base of stakeholders at the government and nonprofit levels with the goal of arresting the epidemic in the next five years.

Among the government’s other key measures are: a National Blood Policy to ensure safe and accessible blood transfusion services for all; feasibility studies for short-term AZT treatment of HIV-infected pregnant mothers; and new “decentralized” public education programmes to strengthen state-level and grassroots capacity for HIV/AIDS prevention and care.

Already NACO is tapping private-sector networks, and State AIDS Cells are directly funding nongovernmental organizations (NGOs). These steps and NACO’s recent NGO projects to establish “Best Practice” interventions for street children, migrant labour and youth counselling could be trailblazers in the government’s efforts to control the AIDS epidemic in India. §

Probable Source of HIV Infection in India in Reported Cases as of 31 August 1999



Source: National AIDS Control Organisation, Govt. of India

Reason for Alarm in Ukraine

Regional Salus Foundation, Lviv, Ukraine

The dangers of HIV and AIDS far and wide, all was quiet behind the Iron Curtain. Before the spread of injective drug use and other telltale symptoms of the brewing

governmental and social structures supporting health care became increasingly to rise. Today, sharp reductions in preventive care services have coupled with rampant spread of infectious and sexually transmitted diseases (STDs), and country for HIV infection in Eastern Europe. In short, the economically depressed

rate, the rate of HIV infection has skyrocketed, rising to 46,609 cases in June 1999, reported, and more than three-fourths of them are among people ages 15 to 29. higher — with more than 200,000 people carrying the virus, according to

all reported HIV cases in 1999, compared to less than 30 percent before 1995, infection source, the consequences remain fatally clear. By July 1999, 1,032 adults had died from it; and scores more are expected to perish.

tion in the number of HIV-infection cases — both in regions with the highest rely low-infected areas, such as Rivne and Zakarpattia. The decreases among since 1997.

not to improvements in the country’s epidemiological situation, but to 1998 meant fewer tests — and therefore fewer identified cases. Experts point to the pregnant women — of whom only one-fourth are intravenous drug users and percentage of sexual transmission of HIV is also cause for concern, indicating

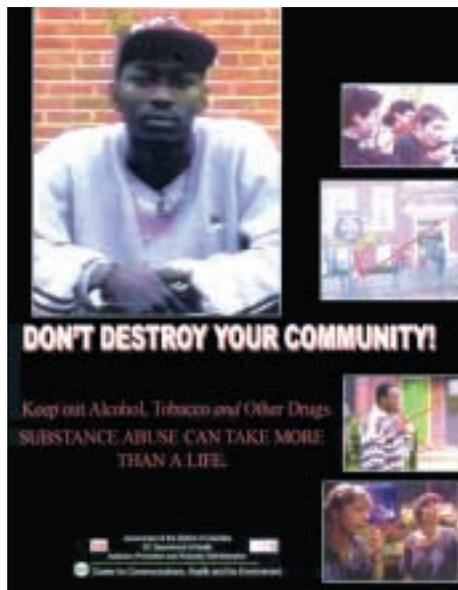
HIV and AIDS are forces to be reckoned with in a country that has very little

Community Outreach Program Targets Youth and Substance Abuse Prevention

More than half of the District of Columbia's youth are at risk for substance abuse related to environmental deprivation, including parental neglect, sub-standard housing and poor role models. As many as 25,000 drug-addicted mothers may live in the District, creating a large population of at-risk youth, especially concentrated in the Stanton-Douglas Dwellings Housing Complex in Ward 8, the poorest ward in the nation's capital.

A recent grant from the DC Department of Health's Addiction Prevention and Recovery Administration (APRA) enabled CECHE and partners APRA's *Project Reachout* and DCTV Public Access Cable Television to "take a step in the right direction" and launch a multimedia substance abuse prevention and outreach program targeted to youth and families in Ward 8. This program marks the beginning of a series of targeted interventions that CECHE plans in this ward, Washington, DC's most underserved area.

Based on focus group testing of concepts with youth and heads of household at Stanton-Douglas Dwellings, the partners engaged youth to develop a series of three



A compilation of winning concepts from the poster contest held by APRA's Project Reachout. This poster with its positive messages is targeted for display throughout DC's Ward 8 in the Stanton-Douglas Dwellings Housing Complex and area schools.

public service announcements (PSAs) on prevention of drug, tobacco and alcohol abuse — all geared to make the housing complex a clean and healthy community. All PSAs are set to be distributed to area schools and youth intervention programs throughout Ward 8 and will be broadcast on DCTV Public Access Cable Television. In addition, a special public service advertisement was developed for placement in local newspapers, and a poster contest held by *Project Reachout* produced winning concepts that formed the basis of posters for display throughout Stanton-Douglas Dwellings and at Green, Turner, Malcolm X and Garfield elementary schools, and other Ward 8 schools and communities. CECHE also plans to invite DC Metro to display the posters on area buses.

The final PSAs and posters will be audience-tested to evaluate their impact on participant knowledge, attitudes and behaviors toward alcohol, drug and tobacco use. CECHE will disseminate the project results on its website to a national and international audience of scientists, educators and health professionals. §

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... Nutrition

nutritional deficiencies, according to Dr. Frederick O. Cope, head of Cancer and AIDS Patient Support in the Ross Products Division of Abbott Laboratories.

Poor Nutrition Threatens Immunity

Deficient caloric and protein intake compromise the immune system, especially the cell-mediated immunity requiring T-lymphocyte participation since HIV attacks T-cells in its quest to reproduce, spread and destroy the body's immune system. Malnutrition itself is associated with a reduction in absolute numbers of circulating T-lymphocytes and T-helper cells, both of which correlate with the progression of PEM-associated HIV infection. Conversely, studies suggest that refeeding individuals with PEM leads to rapid normalization of immune status, suggesting that nutritional supplementation could benefit, or even reverse, the declines in immune function observed during HIV/AIDS. Similarly, Dr. Marianna K. Baum reported at the April 1995 First Interna-

tional Conference on Nutrition and HIV Infection that vitamin B12 loss correlated with CD4 T-cell loss and disease progression, whereas B12 supplementation in deficient patients correlated with CD4 T-cell stabilization.

Nutrition Can Alleviate Mother-to-Infant Transmission

Not surprisingly, the importance of nutrition in HIV acquisition, progression and response to therapy is magnified during pregnancy — with the risk of mother-to-infant transmission of HIV ranging from 15 to 35 percent in various populations. The potential for vertical transmission of HIV is a wild card in this equation, and may be influenced by nutrition. A 1994 study by Semba et al, for example, suggests that the correction of vitamin A and E deficiencies, which impair T and B cell functions and lead to increased viral load and decreased maternal antibody protection, may reduce the rate of vertical transmission among HIV-positive pregnant women. And diarrheal morbidity appears reduced with vitamin A supplementation

in HIV-infected children, reported Coutsooudis et al in 1995. Other micronutrient deficiencies, including vitamin E, B6, B12, riboflavin, copper and zinc, may contribute to an increase in vertical HIV transmission.

Mother-to-infant transmission may also occur postnatally due to breast feeding, with the rate of transmission among HIV-infected woman as high as 26 percent. The breast milk of HIV-infected mothers is known to contain proviral HIV and free virus, as well as protective factors such as HIV-specific IgA, IgM antibodies and a glycoprotein that inhibits HIV binding to CD4 T-cells. So, despite a 25 to 30 percent chance of transmission, in developing countries, where formula feeding puts infants at high risk for other infections, the World Health Organization recommends breast feeding by HIV-infected mothers. In industrialized countries and populations where a safe infant formula can be ensured, however, that should be the preferred alternative. With nutritional support, early antiviral therapy, cesarean section and formula feeding, the rate of mother-to-infant transmission can be as low as 2 percent.

Czech Network To Use Internet for Tobacco Control

July 1, 1999 marked the launch of CECHE's World Bank-funded, Internet-based demonstration program in the Czech Republic. Taking place over 18 months, the program will extend the capacity of Czech health professionals, nongovernmental organizations (NGOs) and public health groups to reach the public, schools, policy-makers, businesses and homes with the latest information and approaches to curtail or prevent tobacco use — which is rising among women and children and has become the number one killer



CECHE partner Ruben Israel provides hands-on training in information technology and electronic networking at Prague workshop.

in Central and Eastern Europe. The project goal is to create a model health-promotion program for possible replication in Hungary, Poland, Bulgaria and other parts of the region.

The first in a series of planned program workshops — “Targeting Improvement of Internet Communications Skills” — was held in Prague in October 1999. CECHE partner Ruben Israel of GLOBALink conducted hands-on training in information technology and electronic networking and has already set up a *list-serve* in Czech on GLOBALink for this project. Czech media, led by *Vecernic Praha*, and Czech radio featured highlights from the workshop.

Upcoming events include a visit by Czech partners to U.S. partner institutions to acquire hands-on experience in policy advocacy and reform. More workshops, Internet surveys, a web page and a conference are forthcoming over the next year. An elec-

tronic network of Czech health professionals and NGOs — also to come — promises to be an effective tool for promoting reform and action on many health issues, especially on tobacco use. To foster such a network, IKEM's Dr. Rudolf Poledne and NIPH's Dr. Hana Sovinova will train health professionals from over 30 Czech District Hygiene Stations, as well as other tobacco-control professionals and NGOs, in applying contemporary information technology for public policy advocacy and tobacco control. As part of the program, CECHE will also establish the Czech Heart and Stroke Association (CHSA), the first grassroots membership organization dedicated to smoking and cardiovascular disease prevention. Patterned after and assisted by the American Heart Association, the CHSA will engage in health promotion and tobacco control in the Czech Republic. Meanwhile, other CECHE partners will collaborate in training the Czechs in policy reform (Washington, DC-based Campaign for Tobacco-Free Kids and the Advocacy Institute), assisting the Czechs with Internet communications (Geneva-based UICC-GLOBALink), and providing general support and counsel (the Cardiovascular Research Institute of the University of California, San Francisco). §

Nutritional Support For HIV Management

Nutritional support should be an integral part of managing AIDS patients, most authorities acknowledge, because it has beneficial effects on the clinical course and immunologic status of critically ill patients.

The primary goal in nutrition therapy is maintenance of weight to promote homeostasis and enhance the body's immune response. A complete nutritional assessment of the energy, protein and micronutrient requirements of AIDS patients is the first step in achieving this goal. Also fundamental are appetite stimulants as needed to control wasting, medium chain triglyceride-rich diets to correct fat malabsorption, and easily digested foods to nourish HIV patients with oral and oesophageal complications.

HIV infection superimposes a state of chronic stress on a highly anabolic tissue-building phase of life. Nutrition therapy for HIV-infected children, therefore, should not only include micro- and macronutrients and vitamins, but may also require cytokine therapy and hormonal supple-

ments to prevent growth dysregulation, nervous system disorders and pubertal delay. Except in developing countries, it is also recommended that HIV-infected infants be bottle-fed (not breast fed) using a milk-based calorie-rich formula with polycose (a glucose polymer), medium chain triglyceride or vegetable oil (safflower or corn oil). Adequate nutrition can also help alleviate side effects associated with the antiviral drugs, immune modulators and opportunistic infection preventors used to delay the progression of HIV.

No definitive studies yet exist to demonstrate the full effectiveness of nutrition support in changing the course of AIDS, and much remains to be researched before nutrition can be assigned its proper priority in the treatment and preventive care of the disease. Despite many gray areas, however, one thing is clear: Aggressive nutritional therapies, if given before or soon after patients become malnourished, can prolong their survival and comfort level. Given the disease's complex nature, a multidisciplinary approach is essential, and a physician, a dietitian and a nurse are critical team members for optimal nutrition management. §

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Alliances, Awareness and Resources Needed to Thwart AIDS

by Richard A. Keenlyside, MD.MS., Associate Director for Global Health, National Center for HIV, STD & TB Prevention, CDC, Atlanta, Georgia

At the dawn of the new millennium, AIDS remains the single greatest threat to economic, social and human development around the globe. More than 15 million adults and children have already lost their lives to the disease, and UNAIDS estimates that, today, nearly 34 million people are living with HIV.

Remarkable progress has been made in the past two decades, however, thanks to efforts by public health and development agencies, such as the U.S. Centers for Disease Control and Prevention (CDC), UNAIDS and the World Bank, the private sector, non-government organizations and individuals. In fact, prevention programs have greatly reduced HIV rates in the United States and are beginning to stabilize rates in Brazil and Senegal; major epidemics in Thailand and Uganda have also begun to subside. Community-level successes already exist and pilot projects for preventing mother-to-child transmission of HIV are being launched in several countries. Furthermore, the first HIV vaccine efficacy trial in the United States was followed in March 1999 by the first such trial in a developing country, Thailand.

Yet, there is no cure for AIDS, and the epidemic tide has yet to turn. Stemming HIV/AIDS and its devastating impact on countries, households, communities and economies demands political leadership and unprecedented alliances at the local, national and global level — among governments, the private voluntary sector, corporations, media and religious organizations, community-based groups and networks of infected individuals. Such alliances must be directed, CDC experience tells us, to comprehensive programs with sustained, expanded prevention efforts at the core. Both biomedical interventions to thwart the virus and influencing the masses in diverse populations to adopt and maintain safe behaviors are key to success.

Simultaneously, national and global policies must encompass two strategies and several components:

1. Surveillance at the local level

In the United States, the AIDS epidemic comprises diverse, multiple sub-epidemics that vary by region and community. The foundation of all CDC's HIV prevention programs is to empower and equip those closest to the problem to solve it. Understanding local epidemics, identifying the hotspots and factors driving HIV spread, and providing access to HIV pre-

vention tools such as condoms are essential. Surveillance — and evaluation — can ensure that major programs, interventions, and services are effective. Surveillance in the former Soviet Union, for example, permitted United Nations (UN) agencies, bilateral partners, *Médecins sans Frontières*, the Open Society Institute, and local nongovernmental organizations to initiate a rapid response system in the Russian Federation.

2. Development and implementation of comprehensive action plans

A comprehensive implementation plan must tailor the response to the epidemic to maximize a country's resources, emphasizing communities at greatest risk, such as young men who have sex with men, and strengthening preventive and treatment programs. Education in risk-reduction for individuals, groups and the community, and providing the skills and support necessary for reducing risks are essential.

Fostering Strategic Partnerships, Mobilizing Resources

Twenty years into the epidemic, it is sobering to note that AIDS is expanding three times faster than the funding to control it. Even countries with relatively low HIV prevalence are experiencing significant health care costs because of HIV/AIDS. AIDS-related costs, including absenteeism, insurance, recruiting and retraining costs are compromising businesses. Globally, the macroeconomic impact of AIDS mirrors what the disease does on a family and individual level — draining resources from education, agriculture and other development efforts to pay the rising costs of AIDS. By 2005, for example, AIDS treatment costs are expected to account for more than one-third of Ethiopia's government health budget, more than half of Kenya's government health spending, and nearly two-thirds of government health spending in Zimbabwe.

Alliances among the government, non-profit and private sectors could, to a certain extent, alleviate these costs and help mount more effective campaigns. Partnerships can secure lower prices in developing countries for necessary drugs and devices such as the female condom and HIV-related drugs for pilot projects. Traditionally, the health sector has been left with sole responsibility for dealing with the AIDS epidemic; but, involving other societal sec-



AIDS orphans are an increasing fact of life in sub-Saharan Africa.

tors — the military, for example, where infection rates run as high as 60 percent — can access and educate a large population subgroup at little extra cost.

Raising Public and Political Awareness

Increasing education and prevention programs to reduce HIV transmission is critical. Political commitment must insure access to preventive and treatment services, including voluntary counseling and testing. One important dimension is to give AIDS “a human face,” and both political leadership and mass media have a critical role to play in this public information/education effort.

In India, home to at least 4 million HIV-infected persons, Prime Minister Vajpayee's 1998 address to Parliament and the press resulted in a vigorous national response to AIDS, including a working partnership between the government, the UN system, and bilateral agencies and donors. In South Africa, President Nelson Mandela and others have broken the wall of silence, launching a partnership to advocate an expanded global AIDS response.

Winning the War

Ultimately, control of AIDS, as with other infectious diseases, may hinge on development of a safe, effective and affordable vaccine — and efforts to produce such a vaccine must remain a top priority. Development of female control methods also deserves more attention. In addition, translation of research into effective HIV prevention programs requires capacity-building of organizations and training of health care professionals.

Infected individuals and AIDS-related nonprofits have been at the forefront since the epidemic began. Alongside these traditional partners, workers in other relevant fields such as women's and human rights, child welfare and poverty alleviation can play a critical role in bringing this 20th-century global plague under control. §