# E. Summary Report: Treating HIV/AIDS

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## Medical Perspectives

The HIV epidemic, as it enters its 25th year of global devastation, has demonstrated that no one is safe regardless of his/her age, gender, sex, ethnicity or color. By the time this epidemic runs its course, if it ever does, it will be looked upon as an annihilating scourge that dwarfs everything from the past. In fact, occasional comparisons to the black plague of the 14th century are nothing but wishful thinking. By the time it takes you to read this paragraph, almost 14 seconds, AIDS will turn a child into an orphan. To date, HIV has orphaned more than 13.2 million children worldwide. With 14,000 persons acquiring HIV each day, it is estimated that 40 million adults and children are currently living with HIV and, despite our efforts, almost 3.5 million succumb to this virus each year. The worst hit areas are sub-Saharan Africa and southeast Asia.

On June 5, 1981, five cases of unusual pneumonia called PCP (pneumocystis carinii) in gay men at the University of California at Los Angeles (UCLA) were reported in *Morbidity and Mortality Weekly Report* from the Centers for Disease Control and Prevention (CDC). Shortly thereafter, reports of similarly immunocompromised men and women, as well as blood transfusion recipients from other cities and countries, followed. In 1982, the term AIDS was given to this condition but the HIV virus was not isolated until 1983. In 1985, the US Food and Drug Administration (FDA) approved the first commercially available HIV antibody test. AZT (Zidovudin) the first drug to be FDA-approved for the treatment of HIV did not become available until 1987.

Currently, the world is affected by two types of HIV: HIV1, which is the most common worldwide; and HIV2, which is found mostly in sub-saharan Africa. Risk factors of HIV include men having sex with men (MSM), illicit drug use, unprotected heterosexual sex, blood or blood product transfusion, being born to HIV-infected mothers, and working in healthcare settings.

The HIV lifecycle is complicated and requires infection of certain human cells and incorporation of the virus's RNA (genetic code) into the human cell's DNA. The DNA transforms these cells into viral factories from which new viruses are released into the blood stream where new cells become infected. The most important target is the T4-lymphocyte, or CD4-helper cells, which provide the earliest warning to the immune system when invaded by microbes. With time, the CD4 lymphocyte cell count decreases as the reservoirs are depleted and the immune system is weakened leading to AIDS and its complications.

Although we have not won the war against HIV yet, we did win some battles along the way. One very important advancement is the significant decrease in mother-to-child HIV transmission (from 30% to 0.3%) by treating those mothers and their newborns with antiretrovirals.

HIV-infected individuals remain asymptomatic for many years (usually nine years) until significant immune deficiency leads to complications. However, about 5% of HIV-infected individuals will never progress to AIDS due to inherited resistance to HIV and those are labeled over the years as non-progressors, while a small percentage of patients will progress very rapidly and within two years of infection develop full blown AIDS and opportunistic complications. Several causes for death have been reported but those are changing as patients with HIV are living longer with healthier immune systems, in fact the significant reduction in HIV-related mortality, which was reported to

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be around 90% in the late 1980's, to less than the 5% in developed countries in recent years, represents another battle the human race has won in the war against HIV.

The CDC has developed several clinical criteria, such as viral and fungal infections as well as malignancies, and laboratory (CD4 count of 200 cell/cm3 or less) criteria to define AIDS. Complete physical and laboratory evaluation will help stage the patient and detect any complications. Appropriate vaccines and antibiotics can protect AIDS patients from certain infections and should be used when indicated. There are several issues that complicate the care for HIV-infected individuals, mental health, drug and alcohol, homelessness, partner and family notification, availability and affordability of medical care and finally treatment adherence.

## HIV TREATMENT

Although use of antiretrovirals (ARV) has increased worldwide, the need remains great. It is estimated that only 8% of the 4 million infected people in Africa are actually receiving ARV.

Advances in treating the HIV virus were achieved by better understanding this virus's replication cycle and the way it affects the human cells. Drugs that target different stages and steps in viral replications have been developed and are best used in combinations to prevent the emergence of resistance. Combinations of three drugs or more, which is now considered to be the standard of care, are called highly active antiretrovirals (HAART) and commonly known as the HIV cocktail. In the United States, only 36% of the 480,000 HIV-infected individuals who are eligible to receive HAART are actually receiving them.

About 27 drugs have been approved by the FDA to date; several more drugs are in different stages of clinical trials. Initiating treatment with these regimens depends on clinical and laboratory criteria with the help of the frequently updated HIV treatment guidelines by the DHHS (Department of Health and Human Services) and the IDSA (Infectious Disease Society of America).

In terms of prevention, obviously reducing risky exposures via sex and drug use remain the cornerstone since attempts to develop protective vaccines have been disappointing. However, a therapeutic vaccine which may help in treating HIV-infected patients seems more possible based on several clinical trials to date.

Workshop attendees learned about the impact that HIV/AIDS has in the Arab-American community and heard the perspective of national and international speakers in their quest to fight the disease and diminish its impact on families and communities. ACCESS also released a report outlining the discussions and outcomes of the June 2005 HIV/AIDS Health Forum. This report was available to workshop attendees. We will continue this dialogue locally, nationally, internationally especially due to our affiliation with WHO-EMRO.