

Doctor tells Congress: Ten million Africans are infected with AIDS

Dr. William A. Haseltine delivered the explosive testimony which we excerpt here, at a Special Hearing on Funding for AIDS chaired by Sen. Lowell Weicker (R-Conn.), before the Labor, Health and Human Services, Education Subcommittee of the U.S. Congress, on Sept. 26. Dr. Haseltine heads the Laboratory of Biochemical Pharmacology at the Dana-Farber Cancer Institute, Harvard Medical School.

... From our current vantage point, it seems as if this disease appeared in our midst as some unwanted guest, suddenly and without warning. In this country alone, well over 1 million people are now carriers of this virus, and to the best of our knowledge, most of these people will remain carriers for life. About 100,000 of those people infected with the virus in the United States are women. The prospect in some areas of the world is bleaker still. Infection in many European countries is almost on a par with that of the United States. In Central Africa, within the so-called AIDS belt—over 10 million people are now infected, accounting for almost one-tenth of the entire population. These people also are likely to life-long carriers of the disease as well.

... How did this unwanted specter appear so rapidly? We now know that a spread of the disease in the United States and Europe was preceded by a massive spread of disease in Central Africa. As best as we can tell, the disease began about 20 years ago. By now, one-tenth of the adult population of Central Africa is infected—half of them being women. We also know that a virus, very similar to the virus that causes AIDS in humans, is found in wild colonies of green monkeys inhabiting Central Africa. In the green monkey, the virus does not seem to cause serious illness, or if it does, the symptoms come on so slowly that the monkey dies of natural causes before the virus works its damage. However, as is often the case with viruses that jump the species barrier, this virus is much more damaging to the new host species, in this case humans, than to the species of origin. The virus seeks out different types of immune cells in humans as compared to monkeys. Humans also live much longer than do monkeys and for this reason what in a monkey population might be a tolerable rate of progressive brain disease is intolerable to us.

As best as we can peer into the past, it appears that sometime within the past 20 to 30 years, a monkey virus crossed the species barrier into humankind. Thereafter, it has spread with alarming speed throughout the African and now the world population.

Drug use and AIDS

... Transmission of the virus by the sharing of needles by persons who use intravenous drugs, most notably cocaine and heroin, is increasing, and is one of the most troubling aspects of the epidemic. Needle sharing is a common practice amongst drug abusers. The virus is readily transmitted by use of shared needles. The spread of the virus through the drug abuse population, estimated to be more than one million people in the United States, is occurring with extraordinary rapidity. Recent surveys show that within the Manhattan/Newark area, between 60% and 80% of all drug abusers are now infected with the AIDS virus. The fraction of the population infected decreases with increasing distance from a metropolitan center. Thus, in Jersey City, the rate of infection is between 40% and 50% and in Atlantic City, between 5% and 15%. The rate of infection varies around the country, from 12%-20% in Boston, 15% in San Francisco, and less than 5% in Phoenix. Infection of drug abuse populations is rampant in many European cities as well.

The spread of the disease

... In retrospect, we know from studies of preserved blood samples that the very first infections occurred no earlier than 1976. Significant increase in the number of infected people within the United States did not begin until about 1978. The first cases of this disease were recognized by 1980. The latent period for this disease is typically longer than two years. The rapid recognition of this disease is testimony to the high quality of our health care delivery system. Early diagnosis and detection of the disease in the United States is in sharp contrast to the situation as it occurred in Central Africa. The first indication that the disease was present in Africa came from physicians in Brussels and Paris who reported that wealthy people with full-blown symptoms of AIDS

were appearing in their hospitals for treatment. In late 1983, an international team of physicians traveled to Central Africa to investigate whether AIDS was present in that region. In early 1984, they reported the startling finding that within a single week they had diagnoses 35 new cases of AIDS at a single hospital in Kinshasa—the first 35 cases of AIDS ever diagnosed in Africa. Evidently, the disease had been raging in Central Africa for up to 10 years before the first African diagnoses were made. To be sure of a diagnosis of AIDS in a country of high infectious disease is not straightforward. People who have AIDS were evidently diagnosed as dying from infections characteristic of weakened immunity. Nonetheless, the lesson is clear. A major new disease that now threatens the health of the entire world, raged uncontrolled and unchecked in Africa for at least 10 years. It is only prudent to consider the establishment of modern well-equipped, well-staffed scientific sentinel post in Africa to monitor future disease outbreaks, particularly as I shall argue later that AIDS is but one of a series of diseases that we can expect to spring from this continent in the future. . . .

Budget cuts hamper research

. . . Scarcity of funding is another reason our best scientists have been reluctant to enter this arena. The broad base of support for the biomedical research has been perceived by most scientists to be eroding in recent years. We are fresh from the recent devastating attacks of the Office of Management and Budget that sought this year to reduce by one-quarter the total number of research grants in biomedicine. The total number of these grants was only partially restored after a long, debilitating, and bruising battle with the executive branch. Funding in biomedicine is now seen to be uncertain. Our very best scientists have had grants rejected for the first time in many years. In this climate, those scientists think it best to stick to those areas in which they have a proven track record. It is viewed as dangerous and unwise to move into what might be new and difficult scientific turf.

There exist more specific funding problems for the AIDS research as well. Despite the assertion by the administration that AIDS is the number-one health problem priority in the United States, support for AIDS research has been woefully inadequate, with the notable exceptions for epidemiological studies at the Center for Disease Control. The Administration claims to be spending \$96 million this year on AIDS research and proposes to spend \$120 million in the coming financial year, 1986. This would seem to be a lot of money, but closer inspection of these figures reveals that a good deal of what is called AIDS research money is really the same money given to these institutions as before AIDS was ever recognized as a problem. The exception to this has been a greatly increased funding of projects at the Center for Disease Control. Even this year, the proposed budget is not achieved by addition of new money to the budget, but rather by shuffling of already allocated monies. In some cases, particularly for the National

Cancer Institute, this new money is nothing more than taking the money from one pocket and putting it into another, a choice the director of the National Cancer Institute is free to make on his own. . . .

Why AIDS?

. . . An always we may ask the age-old question, why are we visited with this pestilence? One answer offers itself as we look back into the origin of our species, an answer anticipated by William McNeill in his classic work of the effect of disease on our species and our history, *Plagues and Peoples*. It is thought that mankind evolved over a period of several million years in Africa. Along with our species evolved our parasites, parasites that are adapted not only to us but to our primate relatives. Much of humankind has now left its historic home in the wet tropics of Africa. In our migrations, we have separated ourselves not only from our ancestral parasites, which remain for the most part bound irrevocably to the tropics, but also from our primate cousins. These parasites still flourish in the rich brew of tropical climate and primate speciation. We who have been separated from these parasites for tens of thousands of years are no longer resistant to the ravages of the diseases they may cause. Such has been the case for thousands of years. Recently the shape of the world has altered. Dakar in West Africa is now a six-hour plane ride from New York City. We are once again knit to our African heritage, once again in touch with those parasites that evolved with us, parasites that are still present in the primates of Africa. We peoples who have separated from Africa are now in a position of the American Indians when they first encountered the Europeans. We are no longer resistant to diseases widespread in the old world. To compound this problem, the African continent is itself in turmoil. The past 40 years have seen massive population migrations to urban centers, rerouting of waterways, and in some cases deterioration of health care systems as the result of political upheaval. The health status of many parts of Africa appears to be worse now than it was before World War II.

From this perspective, it is no coincidence that this latest scourge is of African origin. I count four major diseases that have emerged over the past 25 years from Africa: Marburg agent, Lassa Valley Fever, Ebola Fever, and now AIDS. This pattern of thought is not new to us who have been working with the human leukemia retroviruses. Here we see evidence for that; these leukemia viruses emerged from Africa along with the slave trade and European exploration. The lesson on African origins is one we should all heed. It reminds us in the words of John Donne that "No man is an island entire unto himself." These diseases remind us that the definition of others as "them" is folly. This may the worst epidemic to emerge from our ancestral past for many generations, but it is unlikely, given current conditions world wide, that it will be the last one. AIDS and the epidemics to come, demand our full attention. . . .