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Kenneth Robin, esq.
2204 Union Street
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August 4, 1986

Dear Mr. Robin,

I, Mark Whiteside, M.D. hereby declare that although I do not endorse California Proposition 64, I do feel obligated to express my opinion about the role of environmental factors in transmission of the Acquired Immunodeficiency Syndrome (AIDS). I personally believe that AIDS is an environmental (probably insect-transmitted) disease in the tropics with secondary transmission by other blood mechanisms; i.e. transfusion, contaminated needles, and sexual practice that leads to breaks in skin or mucosa. The role of environmental factors, e.g. blood-sucking insects, sores rubbing together in crowded places, etc. has been unfortunately neglected. These issues have great significance for prevention and control of AIDS.

1. AIDS is becoming a world-wide disease, with an increase in Africa, the Caribbean, South America (e.g. Brazil), and among persons with a risk factor for blood contamination in the United States and Europe. The national figures on the breakdown of AIDS by "risk group" are not applicable to the State of Florida. The percentage of "unknowns," or no-identifiable risk (NIR) AIDS ranges from 22% of cases in Florida to 30% of cases in Miami to 50% of cases in Belle Glade, Florida. In this subtropical environment we are seeing men and women, heterosexuals, without the usual risk factors associated with AIDS. It is my opinion that most of the NIR-AIDS is not explained by sexual contact with members of high risk groups.
- 2.

3. The coming debate is over how much disease (AIDS) will be transferred between men and women. Heterosexual transmission of AIDS has been uncommon in the United States, accounting for 1-2% of cases. There are approximately 300 female "heterosexual contact" AIDS and 200 female NIR-AIDS in the U.S. Most of the female and infant AIDS is concentrated in poor Blacks and Hispanics on the East and Southern Coasts of the U.S. We don't know if AIDS can be transmitted from women to men. Although heterosexual spread of AIDS needs further investigation, I don't think it explains the pattern of AIDS in the tropics (e.g. the equal sex ratio in Central Africa).

AIDS corresponds to the insect belt in many parts of the world. Before modern-day AIDS, the region of greatest density of Kaposi's sarcoma (a tumor associated with AIDS) was on the border of Zaire and Uganda. Such tropical tumors as Kaposi's sarcoma and Burkitt's lymphoma were always linked to environmental conditions of climate, rainfall, and altitude. 2 The distribution of these tumors correlated with malaria and the insect-borne virus (arbovirus) infections. Even more recent studies show a correlation of antibodies to HTLV-III/LAV (HIV) and antibodies to malaria. 3,4

5. Today AIDS is increasing in men and women in Central Africa with some spread to both East and West Africa. Potential cofactors in African AIDS include malaria infection, parasites, malnutrition, genetic factors, poor sanitation, and hepatitis B. Many scientists accept hepatitis B (serum hepatitis) as a model of transmission of AIDS. Several studies suggest insect transmission (mosquitoes, bedbugs) of Hepatitis B in the tropics. 5-6 A significant percentage (15-22%) of AIDS in Africa is found in children. 7 How can this possibly be called a sexually transmitted disease?

6. The introduction of AIDS into the Caribbean in the late seventies corresponded with epidemics of mosquito-transmitted virus infections. For example, Dengue Type 1 (mosquito virus) was introduced for the first time in 1977, causing hundreds of thousands of people to get sick and in 1981-82 several hundred people died from Dengue Hemorrhagic Fever. There is every indication that AIDS has a broad base in the Caribbean, from Cuba on over to Puerto Rico. AIDS was never limited to Haiti, although Haiti happens to be the poorest country in the Caribbean.

7. Several years ago we began to see Haitian patients at Jackson Memorial Hospital in Miami with unusual tropical diseases. Many people had never heard of these unusual parasitic infections, but they are all described in textbooks of Tropical Medicine. Studies showed Haitians were heterosexual, with relatively few lifetime sexual partners, and no obvious means of acquisition of AIDS. We noticed that most of the Haitians we interviewed came from poor conditions in their own country to poor conditions in the United States. We visited the homes of our patients in Little Haiti (in Miami) and documented serious public health problems, e.g. inadequate housing, overcrowding, open waste, and high mosquito and rat populations. We conducted our first environmental survey in Miami and brought this technique with us to Belle Glade.

8. Belle Glade is the best example of the tropical pattern of AIDS in the U.S. Belle Glade has the highest rate of AIDS in the U.S. (2.5/1000 population). Over one-half of the AIDS in Belle Glade is in men and women born in the U.S. (20%) or the Caribbean (30%) who do not fit into the usual risk groups. The final striking observation is that nearly all persons with AIDS and persons with tuberculosis lived in the central economically depressed (slum) sections of Belle Glade. 8 An untreatable sexually-transmitted disease (like Herpes) does not confine itself to a single poor neighborhood.

There are more than 50 confirmed AIDS in Belle Glade, but because of lack of diagnostic facilities and few autopsies in the past, AIDS is assumed to be under-reported by a factor of 3:1.

We will know what the "iceberg" is in Belle Glade since we are keeping track of persons with AIDS, ARC (AIDS-related illness or complex), and sick HTLV-III/LAV antibody positive individuals. Independent surveys (by CDC and Institute of Tropical Medicine)

9. have documented a 9-11% seroprevalence of antibodies to HTLV-III/LAV among a largely heterosexual control population living in one of two central depressed neighborhoods in Belle Glade. The majority (60-70%) of these antibody positive individuals do not have an identifiable "risk factor" for AIDS. 9 Results of studies in Belle Glade will affect all communities in South Florida and hopefully will be used to help prevent the disease.

Poor people in the tropics suffer from multiple infections. We hypothesize that repeated exposures to certain insect-borne viruses (which might be found in one in a few thousand mosquitoes) are one of the things that lead to a weakening of the body's defenses over time. Tuberculosis, which is more common in poor environments, is

10. associated with milder degrees of immunosuppression (weakened immunity). When the cellular immune apparatus is broken beyond repair, certain opportunistic infections and cancers come along which are called AIDS. I am often asked, "What proof do you have of this theory?" I don't claim to have proof, but the pattern of AIDS in the tropics strongly implicates an environmental factor, and preliminary data supports this observation. The majority of AIDS patients we have tested in South Florida have antibodies in their blood to viruses known to be carried by insects. For example, many of our patients have antibodies to Maguari, a Bunyamwera serogroup arbovirus (insect virus) endemic to the Caribbean and South America and not previously reported in the U.S. 11 Most people understand that AIDS is blood-to-blood contact, and that blood-sucking insects are a logical means of transfer of blood-borne agents, especially in the tropics.

We can turn the question around and ask you, "What proof do you have that AIDS is primarily a sexual disease in the tropics?" I understand the popular (or prevailing) viewpoint about AIDS is that there is (bidirectional) heterosexual transmission of the disease, that is somehow more common in the tropics. However, it is my opinion that studies implicating heterosexual transmission of AIDS in the tropics (e.g. Africa, Caribbean) were seriously flawed by overwhelming bias, inadequate controls, and lack of prospective data. Until better studies are carried out and more is known, the conviction that AIDS is due to sexual habits ("promiscuity") among poor people in the tropics or in South Florida seems to me a narrow and quite prejudiced attitude.

- 11.
12. Most scientists think AIDS is caused by a single agent, the retrovirus named Human Immune Deficiency Virus (HIV, formerly HTLV-III/LAV). It should be pointed out that this virus has not been proved to be the cause of AIDS. Ultimately reduction of the incidence of AIDS must result from the prevention of HIV infection. In the test

ont. tube HIV must be "switched on" or activated to enter cells and cause disease. The insect-borne viruses (arboviruses) we are studying as cofactors in AIDS are known to activate retroviruses in animals. 12 I think AIDS results from interaction of more than one virus agent.

13. Veterinarians have known for a long time that the closest relatives to HIV in animals can be carried on the mouthparts of blood-sucking insects. Animal retroviruses including Bovine Leukemia (in cows) and Equine Infectious Anemia (in horses) are transmitted "mechanically" by insects in conditions of crowding, an abundance of insects, and when the animals have a high level of the virus in their bloodstream. 13,14 Although you don't hear much about it, a number of researchers from around the world are just beginning to examine the role of insect transmission of the human retrovirus, HIV. A report was recently published in Lancet (British journal) showing survival of the "AIDS-virus" (HIV) in the common bedbug. 15

14. Since I work in the highest risk areas of the nation I am painfully aware of the relentless course of this epidemic. For several years we have counseled people about sexually-transmitted diseases and environmental health risks. Our programs in Miami and Key West for gay men emphasize safe sexual practice. We warn heterosexuals to be more careful (when in doubt either don't do it or use a condom). Intravenous drug users should know there is only one solution - STOP! Blood products have already been made safer by testing for antibodies to HIV. However, in some of our poorest neighborhoods, we would not be doing a proper job unless we counseled about environmental hazards; e.g. fixing things at home or asking for help, protective clothing in the field, ridding the home and yard of refuse and containers of water that breed urban mosquitoes, etc.

15. It is crucial to recognize the importance of environmental factors, because that is the first step to begin to control them. We have documented a parallel distribution of AIDS and tuberculosis in several "poverty pockets" of South Florida, e.g. neighborhoods in Belle Glade, Delray Beach, and Little Haiti. Our best chance to slow the progression of these epidemics is by prevention and public education. I believe part of prevention relates directly to classic public health measures: providing adequate housing, sanitation, control of insect and rat populations, etc. During a public health emergency we must take action even before all the questions have been answered. Public health is no longer the top priority in the United States. We must make it the top priority.

16. I declare under penalty of perjury that the foregoing is what I believe to be true and if called upon as witness I could testify competently thereto.

Sincerely,
Mark E. Whiteside M.D.
Mark E. Whiteside, M.D.
Caroline L. MacLeod
Caroline L. MacLeod, M.D.
M.P.H. & T.M.

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My name is Mark Whiteside. I am a medical doctor (M.D.) with training in internal medicine, infectious diseases, and tropical medicine. My partner Caroline MacLeod and I practice medicine at the Institute of Tropical Medicine in Miami. I teach community medicine and public health at Southeastern Medical College and Florida International University. The Institute of Tropical Medicine is a private, nonprofit institution and consists of travelers' clinic, and clinical services for tropical and parasitic diseases and AIDS. I have been involved in clinical work and research on AIDS for over 4 years, have seen hundreds of patients with AIDS and related illnesses and thousands of persons at risk for AIDS. For the past 2 years I have been employed as a consulting physician with the Palm Beach County Health Department to operate the Tropical Disease Clinic in Belle Glade and Delray Beach. We work with the Dade County Health Department as a test center and referral source. For several years we have run a quarterly AIDS screening clinic in Key West, Florida. Both Dr. MacLeod and I have published several scientific papers on AIDS (see C.V.) and the Institute is considered a major community resource for information and educational programs.

Mark Whiteside, M.D.

Mark Whiteside M.D.

OFFICIAL ABSTRACT FORM

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Each abstract should be submitted as an original on this form (the box for the abstract is drawn with an ink that will not appear when it is photographically reproduced) with 6 copies, 1 stamped self-addressed postcard to acknowledge receipt by the Secretary-Treasurer, 1 stamped self-addressed envelope (for notification from the Program Committee), and one 3 x 5 card for each author (with that author's initials and last name plus the title of the abstract to facilitate making the index for the meeting program). Dot matrix printing is difficult to read after reproduction, and is not acceptable. Please be sure to indicate the type of presentation preferred, the person who will present (with an asterisk), and the category and sponsor. Extra copies of this form are available on request from the Secretary-Treasurer.

CASE-CONTROL STUDY OF THE ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS) IN BELLE GLADE, FLORIDA. M.E. Whiteside* C.L. MacLeod, M.DeMedina, T. Schwan Institute of Tropical Medicine, Miami, Fl. Hepatology Laboratory, University of Miami, Fl. YARU-Yale University, New Haven, CT.

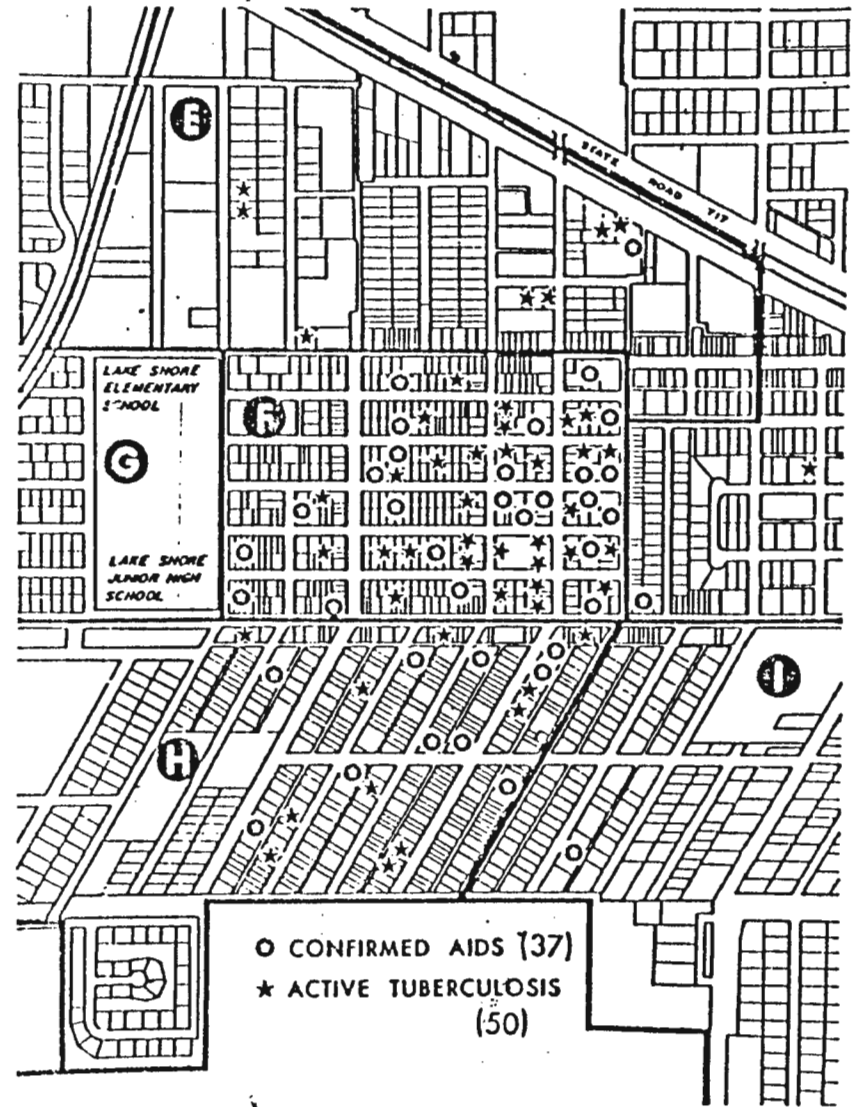
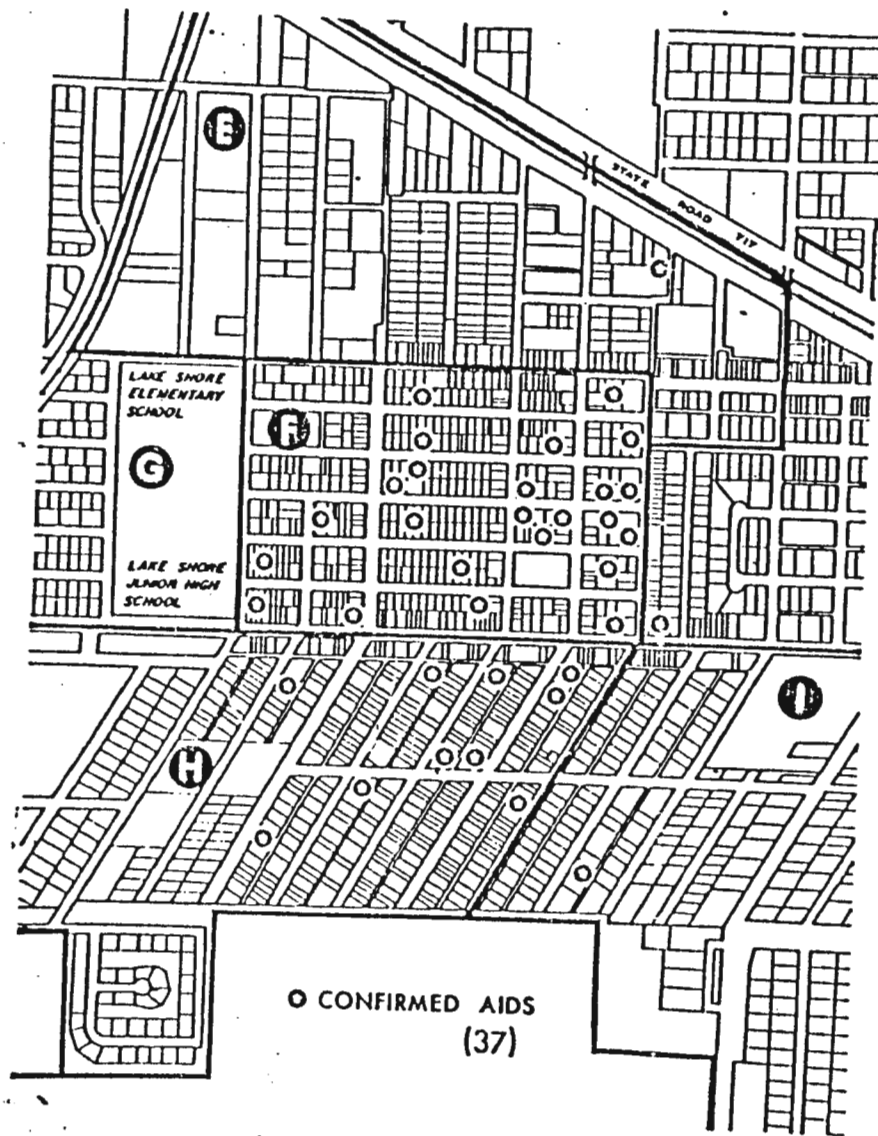
Belle Glade is an isolated, agricultural community of 20,000 people in Palm Beach County, Florida with the highest per capita rate of AIDS in the United States. Due to limited diagnostic facilities and few autopsies the actual number of cases of AIDS is estimated to be 2-3 times the official figure of 50 (2.5/1000 population). Patients with AIDS included 16 (32%) intravenous drug users, 6 (12%) homosexual/bisexual men, 1 (2%) pediatric, 15 (30%) Caribbean-born and 10 (20%) U.S.-born no-identifiable risk (NIR), and 2 (4%) heterosexual contact AIDS. The U.S.-born NIR group had a male:female ratio of 7:3, average age 35, and all had AIDS manifested by multiple opportunistic infections. Independent surveys document a high (9-11%) seroprevalence of antibodies to HTLV-III/LAV by ELISA in a largely heterosexual control population with residence in the economically depressed central neighborhoods of Belle Glade. Fifteen of 16 (94%) AIDS patients compared to 15/100 (15%) neighborhood controls had antibodies by indirect immunofluorescence (IFA) to Maguari, a Bunyamwera serogroup arbovirus endemic to the Caribbean and South America ($p < .001$). Maguari shows in-vitro recombination and immunologic enhancement of infection with other Bunyamwera viruses. Arboviruses activate animal retroviruses. Antibody to Maguari is a marker of mosquito-born disease and a risk factor for AIDS in Belle Glade.

Please indicate the type of presentation preferred;

☐ Either, poster preferred; ☐ Either, no preference; ☒ Either, oral presentation preferred. Although these choices cannot be guaranteed, every effort will be made to accommodate them wherever possible. Please indicate the area most relevant to this abstract: Filariasis, Schistosomiasis, Other Helminths, Molecular Biology, Entomology, Clinical Tropical Medicine, Tropical Veterinary Medicine, Epidemiology, Diarrheal Disease, Leprosy, Malaria, Amebiasis, Giardiasis, Leishmaniasis, Trypanosomiasis, Pneumocystis, Other Protozoa, or other...

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April 1985 Belle Glade





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May 20, 1986

Kenneth Castro, M.D.
AIDS Program
Centers for Disease Control
1600 Clifton Road
Atlanta, Georgia

Dear Dr. Castro,

We reviewed the May 13, 1986 MMWR draft entitled "Acquired Immunodeficiency Syndrome (AIDS) in Western Palm Beach County, Florida." This document is unscientific and a gross misrepresentation of the pattern of AIDS in the Glades Area. The conclusion that AIDS can be explained in this region by the classic "risk factors" with an increase in (bidirectional) heterosexual transmission is not supported by available data. It is outrageous that such sweeping conclusions are drawn when the studies are incomplete and the possible role of environmental factors have not been examined. This clumsy attempt to blame the AIDS epidemic in the tropical setting on "sex and dirty needles" with environmental factors neatly side-stepped is particularly unfortunate when Belle Glade is perhaps the best "barometer" of the changing pattern of AIDS in South Florida. The following point-by-point critique of this MMWR document explains why we believe it should not be published in the present form.

The article addresses Western Palm Beach County, but certainly the vast majority of AIDS cases (even those listed with current residence in South Bay or Pahokee) in the Glades Area lived in or had an important link to Belle Glade. What are the facts? Independent surveys (by the CDC and the Institute of Tropical Medicine in Miami) document a 9-11% seroprevalence of antibodies to HTLV-III/LAV among a largely heterosexual control population from one of two central depressed (Southwest) neighborhoods of Belle Glade. 1 Over 50% of "official" AIDS and 60-70% of HTLV-III/LAV antibody positive individuals do not have an identifiable "risk factor." 1,2 Considering that the Southwest neighborhoods contain approximately 40% of Belle Glade's 20,000

population at least one in ten has been "exposed" and one in 200 already has AIDS. These rates are indeed comparable to those observed in Central Africa.

The "official" figures cited in the MMWR draft do not accurately reflect the true numbers of sick individuals in Belle Glade or the changing pattern of disease in this community with an increasing percentage in the "no-identifiable risk" (NIR) category. Lack of diagnostic facilities (e.g. bronchoscopy, endoscopy) and few autopsies in this isolated, rural community have meant that AIDS is underreported by a factor of at least 3:1. The Tropical Disease Clinic operated by the Palm Beach County Health Department maintains a list of over two hundred persons with AIDS, presumptive AIDS (most of whom are already dead), ARC, and HTLV-III/LAV antibody positive (sick) individuals. Clinicians including ourselves caring for these individuals realize that the majority of new cases of AIDS are no-identifiable risk (NIR) men and women born either in the Caribbean or the Southeastern United States. A physician who recently visited the Tropical Disease Clinic asked, "Don't you have any patients who are in one of the usual risk groups?"

On page 1 of the MMWR draft it states that "an additional 4 AIDS cases, initially placed in this (NIR) category, were reclassified as transfusion-associated or heterosexual contacts of intravenous drug users, based on further information." CDC officials reclassified these individuals without consulting the primary care physicians and by using second-hand or undocumented sources of information. A male who (questionably) had sexual contact with a female drug user was considered to be "at risk" in this study. 1 Finding evidence of sexual contact in a few cases may mean nothing more than shared environmental exposures.

The CDC Table of AIDS by Patient Characteristics and Sex would indicate that 20% of AIDS occurred among persons born in Haiti. Our own records indicate that 30% of AIDS now occurs among persons born in the Caribbean. 3 The majority of these individuals do not have identifiable risk factors for AIDS. The CDC, however, continues to overlook the problem of AIDS among Caribbean immigrants to South Florida. The federal investigators do not evaluate AIDS among Haitians in Belle Glade, apparently satisfied by their own limited data suggesting AIDS is spread by heterosexual means (or "promiscuity") in this group. 4 How, we ask, do they explain that 16% of AIDS in Florida occurs in individuals born in the Caribbean or that the rate of AIDS among Haitians living in Miami is four times the rate of Haitians living in New York City? 5

Newly diagnosed cases of AIDS and ARC increasingly follow the "tropical pattern" of men and women without the usual pre-existing "risk factors." They represent nearly all age groups with a growing number of persons in the 50-60 year-old age group. Although not yet diagnosed with AIDS, several children with severe "failure to thrive" syndromes and multiple infections are being followed prospectively in the Tropical Disease Clinic. Although the age and sex distribution reported in the MMWR do not reflect the current trends, the predominance of adult male cases actually support an environmental exposure (e.g. more field work, mechanical injuries, fishing on canals, etc.) and argue against heterosexual transmission since female-to-male AIDS is unproven and has rarely been reported in the United States. The lack of AIDS in children is unconvincing as an argument against environmental spread of AIDS since we believe AIDS is a disease of repeated exposures over time (enhancement), and one would expect as seen with insect-borne viruses (e.g. yellow fever) a gradually increasing incidence of antibodies with age. 6

It is puzzling why CDC finds it difficult to accept NIR-AIDS since they readily accept Hepatitis B (Serum Hepatitis) as a model for transmission. In the tropics Hepatitis B is a disease of the general population living in environmentally poor, overcrowded conditions. Several studies implicate insect transmission of Hepatitis B in this setting. 7 It is only as the standard of living improves that Hepatitis B becomes a disease of "risk groups" with transmission by parenteral or indirect parenteral means, e.g. shared needles, direct introduction, sexual practice that leads to breaks in skin or mucosa. It is apparent that investigators from CDC have spent little time reviewing modes of transmission of Hepatitis B in the tropics or the known modes of transmission of animal retroviruses. Mechanical transmission by large blood-sucking insects is a major means of spread of bovine leukemia virus and equine infectious anemia ("swamp fever") in conditions of crowding and abundant insect populations. 8,9 These retroviruses are rarely sexually transmitted from male to female animal.

No-identifiable risk (NIR) and female "heterosexual contact" AIDS as well as infant cases are concentrated in black and Hispanic (often Puerto Rican) populations living in poor environmental conditions along the Southern and East Coast of the United States. 10 There has been a notable absence of female heterosexual contact AIDS in regions of high incidence of homosexual/bisexual men, e.g. San Francisco, California, and Key West, Florida. All reported

cases of AIDS from Belle Glade, Florida had long-term residence in the slums of the Southwest neighborhoods (see Map, April, 1985). We repeat our premise that untreatable sexually-transmitted diseases do not confine themselves to geographical regions or a single poor neighborhood. There is no mention in this report of the concurrent epidemic of tuberculosis limited to the same poor neighborhoods of Belle Glade.

The reference to the CDC/Fort Collins arbovirus survey on page 4 of the MMWR draft indicates that the Atlanta group has decided not to investigate vector transmission of AIDS or our hypothesis that repeated exposures to Bunyamwera serogroup arboviruses lead to immunosuppression and activation of retroviruses such as HTLV-III/LAV. This paragraph omits the following critical information: (1) It was only at our urging and direction that antibodies to these arboviruses were tested, (2) Antibodies to arboviruses were measured by plaque-reduction neutralization; while antibodies to HTLV-III/LAV were measured by ELISA and Western Blot procedures. It is well-known that most patients with AIDS lack neutralizing antibodies to HTLV-III/LAV! (3) The survey showed a remarkably high (42%) seroprevalence of antibodies to one of these arboviruses in the HTLV-III negative control group, and (4) Seventeen percent (vs. fifteen percent in our own survey) showed antibodies to Maguari, a Bunyamwera serogroup virus endemic to the Caribbean and South America and not previously reported in the United States. 11

Our own data using indirect immunofluorescence (IFA), a serologic test comparable to ELISA for HTLV-III (see Table 1), has shown a highly significant association between antibody to Maguari and AIDS. 12 There was an inverse correlation between neutralizing antibodies to Bunyamwera arboviruses (Tensaw, Maguari) and antibodies to HTLV-III, supporting our hypothesis of subneutralizing (but enhancing) concentrations of antibody to the arbovirus in persons with AIDS. The CDC has steadfastly refused to test AIDS patients for arboviruses by other serologic methods, including the IFA technique we have used for several years. It would be a miracle if the CDC found a link between AIDS and insect vectors considering their close-mindedness and refusal to seriously study the subject.

One of the fundamental problems of the ongoing CDC/Florida HRS cross-sectional study of AIDS in Belle Glade is that it assumes HTLV-III/LAV is the only "cause" of AIDS and it focuses on sexual transmission of AIDS to the virtual exclusion of environmental factors. It has been noted that many people have antibodies to HTLV-III/LAV but with no evidence of immune dysfunction and conversely some AIDS patients have no evidence

of HTLV-III/LAV infection. Bidirectional heterosexual contact has not been proven to be the primary mode of transmission of AIDS in tropical regions (e.g. Africa, Caribbean). We already know that the majority of NIR-AIDS in South Florida are not explained by this mechanism. This report implies that only when CDC interviews patients is the data valid, whereas in fact even early (now deceased) NIR cases of AIDS in Belle Glade were independently interviewed by ourselves, public health physicians, and epidemiologists.

There is intense national and international scrutiny of the ongoing studies of AIDS in Belle Glade, and we believe the lessons learned have major public health significance not only in South Florida, but for other communities world-wide. The MMWR is a greatly respected format for dissemination of accurate information. Unfortunately there is no mechanism for rebuttal. We never thought it would be necessary to debate with public health officials the importance of the environment in relation to health and illness. We should have prevention and control of AIDS as our primary goal. If we wait to act until all causes and all modes of transmission of AIDS are proven, then millions will continue to be infected or die from the disease. It will be a sad day for public health in South Florida if this document is published in the same tone as presented in the draft of May 13, 1986.

Sincerely,

Caroline L. MacLeod

Caroline L. MacLeod
M.D., M.P.H. & T.M.

Mark E. Whiteside M.D.

Mark E. Whiteside, M.D.

cc: James Howell
Jim Curran
John Bennett
Walter Dowdle
Charles Calisher
Carl Brumbeck
Roberta Fox

Positive Serologies to Three Arboviruses and HTLV-III Antibody:
Results of Fifty AIDS Patients in South Florida and Fifty Matched
Healthy Controls.

	<u>Cases</u>		<u>Controls</u>		Chi-Square	<u>p</u>	Ratio
	<u>N</u>	<u>(%)</u>	<u>N</u>	<u>(%)</u>			
<u>Arbovirus Antibody</u>							
Dengue	20	(40)	5	(10)	13.07	<.001	*
Tensaw	33	(66)	12	(24)	12.89	<.001	6
Maguari	44	(88)	17	(34)	23.31	<.001	28
At least one Arbovirus	46	(92)	22	(44)	22.04	<.001	*
<u>HTLV-III Antibody</u>							
HTLV-III	45	(90)	17	(35)	24.30	<.001	29
HTLV-III and Dengue	20	(40)	1	(2)	17.05	<.001	*
HTLV-III and Tensaw	27	(54)	7	(14)	15.04	<.001	11
HTLV-III and Maguari	39	(78)	9	(18)	27.27	<.001	32
HTLV-III and at least one Arbovirus	42	(84)	11	(22)	29.03	<.001	*

* Value approaches infinity

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MEDICAL MAILBOX

by Cory SerVaas M.D.

Men's lives are chains of chances, but chance fights ever on the side of the prudent.—Euripides

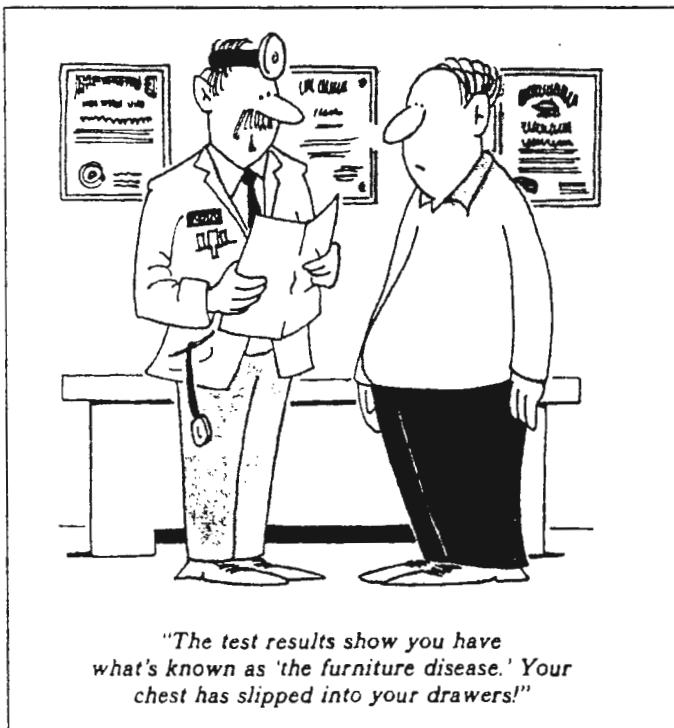
Help Prevent the Spread of AIDS

There is a great deal of controversy in the scientific community concerning what should be done about the spread of AIDS.

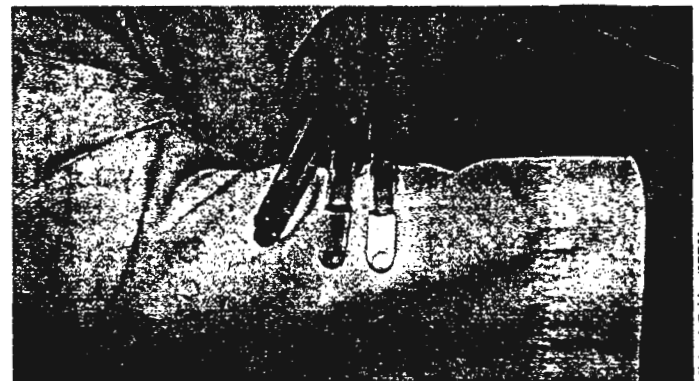
Since it is a fatal and communicable disease, we believe it is only fair to let you know exactly your options in lessening your risk.

Naturally you won't indulge in promiscuous or deviant sexual practices. You won't use illegal drugs with or without needles. To help prevent the spread of AIDS you might caution all young people that there are an estimated 1 million in the U.S. who have been infected with the virus and are contagious. It is believed that they will be carriers for life. We can only guesstimate how many will die from AIDS. An estimated 100,000 females have become carriers. All of the AIDS specialists I interviewed were in agreement that AIDS carriers should not become pregnant because the risk of bearing an AIDS baby is too great.

Dr. Myron Essex, a Harvard School of Public Health professor, speaks out about the safety of our blood supply. He reports that if he needed elective surgery, he would pre-donate his blood so that he wouldn't take the chance of acquiring AIDS from a blood transfusion. He believes the public should not be told that our blood supply is safe when, in his opinion, even though it is a great deal more safe than before the antibody screening test was developed, it is still a risk.



All donated blood is screened for the AIDS antibody. But it takes anywhere from two weeks to eight weeks for the antibody to appear in the blood after an AIDS infection. This means that a virus-infected person selling blood plasma twice weekly could have sold blood 1 to 16 times before the antibody could have been discovered in his blood. The person selling blood plasma is asked to sign an affidavit that he is not a homosexual or an IV drug abuser. He is paid ten dollars, and he may sell his blood plasma as



Michael Grider/ISBII

We visited the Indiana State Board of Health to observe the test for AIDS antibodies. It is so simple, no one should wonder whether or not he or she has AIDS-positive blood.

Microbiologist Ronald Sanderson explains that the clear solution in the tube on the right indicates no AIDS antibody present, while the yellow color of the tubes on the left means AIDS antibodies were present in the blood serum being tested. The test is done free. Blood can be drawn anywhere in the state, centrifuged, and the serum mailed in to the State Board of Health. The serum can arrive with only a code number so that there is complete confidentiality. The result is reported by number only to the party mailing in the serum.

It is important that those at high risk know that they need not present themselves to blood plasma centers as donors to find out whether or not they are AIDS positive. About 15 to 20 percent of the blood tested here has been running positive—a large percentage of those being tested are from the high-risk categories.

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Dr. Mark White side - AIDS - his pattern
environmental - Based on his
in environmentally, poor conditions.

often as twice a week because his packed blood cells are returned to his body.

Then his blood plasma will be screened for hepatitis, venereal diseases, and the AIDS antibody. His blood will not be screened for the AIDS virus itself because there are only a few labs in the country where the AIDS virus is cultured. Names and social-security numbers of persons who have given blood infected with AIDS, hepatitis or venereal diseases are available to the plasma centers that accept new blood plasma donors.

The bottom line is, if you can, go to a hospital that will permit you to pre-donate your own blood or obtain blood from a relative before you go in for surgery. A pregnant woman debating about whether or not she wants a C-section or where to have it might consider the possible risk of a blood transfusion.

A boy scout in Arizona prompted an innovative blood-donor program when he compiled a list of blood donors for his eagle scout project. His church has since taken steps to compile a computerized list of members who might be blood donors in case another member needs blood during surgery.

In investigating AIDS we learned that 85 percent of home-care hemophiliacs are now infected with the AIDS virus. These unfortunate persons are at great risk because they are so dependent on donors.

Many hemophiliacs were infected before the test for AIDS antibody screening became available at blood banks. This test was put into practice soon after FDA approval on March 4, 1985.

Married hemophiliacs have a particular problem. A mother wrote to us about her hemophilic son, who had recently married. We asked the Centers for Disease Control how to advise a young, newly married hemophiliac who wished to have a family. In these cases, said the CDC, the wife should be tested for AIDS. If she isn't AIDS positive, the couple should be taught about "safe sex," i.e., use of a condom during sexual intercourse. Then after four months, she should be tested again. If at that time the AIDS antibody is still not present, and if they are determined to chance having a child, they should limit intercourse without use of the condom to the period when she is ovulating (about 12 to 13 days after the last menstrual period begins), which is the time she is most likely to conceive. They should use protection at other times.

It is known that semen does carry the AIDS virus, so there is a "Russian roulette" chance that she could get AIDS. The chances are great (it is estimated that it could be as high as 60 to 70 percent) that the baby will have AIDS if the mother has the antibodies. She should not nurse the baby, for AIDS can be passed in the mother's milk.

You might ask, "Why not have artificial insemination?" There have been four babies in Australia born with AIDS because the sperm donor had AIDS. Artificial insemination is not a safe alternative.

Dr. William Haseltine of Harvard Medical School testified before a Senate subcommittee that more than 10 million natives in Central Africa were infected with the AIDS virus. Because in Africa AIDS is as prevalent in women as it is in men, even experts disagree about how it is spread. Some believe insects carry it in Africa. If you are going to Central Africa or the habitats of gays and drug abusers during the mosquito season, take plenty of insect repellent just in case. In Florida the Institute of Tropical Medicine

workers feel strongly that mosquitoes can transmit AIDS because in Belle Glade, Florida, numerous cases are being reported that are not in the high-risk category.

In researching AIDS, we listened to those who say, "Don't panic," but we heard many reputable scientists say, "Complacency is the worst possible reaction to this potential world plague."

Good News about Oat Bran

Dear Dr. SerVaas:

Thank you for the information on oat bran as it affects diabetes. My eight-year-old son, Rob, got juvenile diabetes at age 5½. He presently takes 25 units of Humulin® N (NPH) and 9 units of regular Humulin® insulin each day—divided into a morning shot and an evening shot. Though Rob is big for his age (size-12 jeans and size-14 shirt), we were dismayed when his morning blood-sugar count was regularly running between 250 and 350, meaning he would need his insulin dosage increased again, of course.

The day I heard your broadcast, I went out and bought Quaker Oat Bran at the grocery store. (Thank you for encouraging Quaker to make it so readily available!)

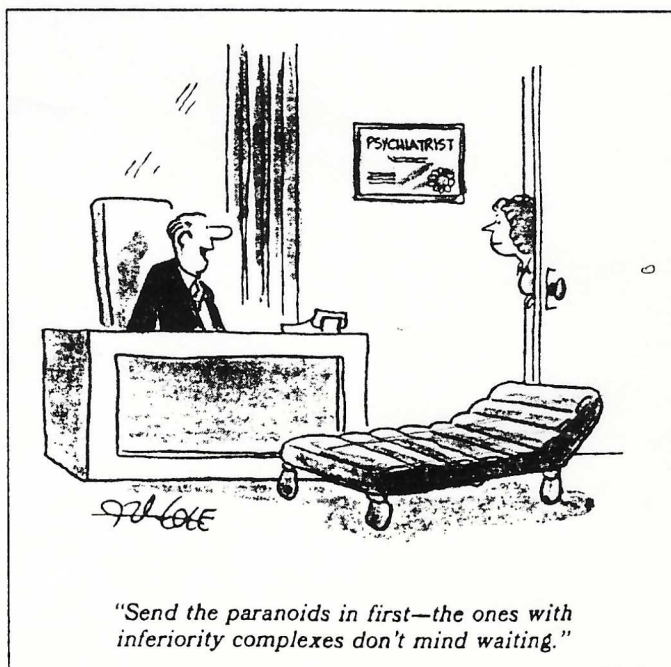
The next morning after Rob ate his first oat bran, his count was 100! The second day—90. Today—100. (He confessed on the way to school that he was so excited about the good blood-sugar readings that he sneaked three pieces of candy last night after he was supposed to be asleep.)

Ginny Vaughan
Memphis, Tennessee



Juvenile diabetic Rob Vaughan's blood sugar count went down after eating oat bran.

60-100
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200
AIDS
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Sandra
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"Send the paranoids in first—the ones with inferiority complexes don't mind waiting."

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Confronting AIDS

*Directions
for Public Health,
Health Care,
and Research*

Institute of Medicine
National Academy of Sciences

NATIONAL ACADEMY PRESS
Washington, D.C. 1986

been shown experimentally to inactivate HIV. These hepatitis B vaccines have therefore been convincingly demonstrated to be safe with regard to HIV transmission.

An unusual case of apparent transmission from a child to his mother has been reported (Centers for Disease Control, 1986a). The child was born with congenital abnormalities and became infected with HIV as a result of a blood transfusion. The child required extensive hospital and home medical care, and the mother acted as nurse but did not adopt routine procedures—such as the wearing of gloves—appropriate to health care providers in such a situation. She was frequently and extensively exposed to bloody fecal material from the infant. This strongly suggests that the route of transmission would have been parenteral, with infection resulting from percutaneous exposure through microscopic (or unrecalled macroscopic) breaks in her skin.

Maternal-Infant Transmission

Transmission of HIV from an infected mother to her infant probably occurs during pregnancy and/or delivery rather than postnatally, although the issue of transmission through breast-feeding is yet to be resolved. Some investigators suspect that HIV is transmitted *in utero*, because the time to development of AIDS in some infants is relatively short. Recently a series of cases has been reported in which HIV-infected infants were described who exhibited a distinctive dysmorphic appearance, which supports the possibility of early *in utero* transmission (Marion et al., 1986). Sprecher and co-workers (1986) have reported HIV transmission as early as the fifteenth week of gestation. Transmission *in utero* would preclude, at least for those cases, the possibility of providing immunoprophylaxis to infants at high risk if effective means became available in the future. It is also important to determine precisely when (and how) transmission can occur in order to assess the usefulness of procedures such as caesarean delivery (Chido et al., 1986; Lifson and Rogers, 1986).

One case of HIV transmission to an infant via breast milk has recently been reported, suggesting the possibility that the virus could be transmitted orally to infants through breast-feeding (Ziegler et al., 1985). This issue would be of special importance in the developing countries of central Africa, where breast-feeding is otherwise extremely desirable.

The rate of maternal-infant transmission is unknown. In one study of 20 infants born to infected mothers who had already delivered 1 infant with AIDS, 13 infants (65 percent) had evidence of HIV infection several months after birth (Scott et al., 1985). This study may overestimate the average risk of transmission for all infected pregnant women, however, because the women were known to have previously transmitted the virus.

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AIDS-associated virus yields data to intensifying scientific study

The number of cases of acquired immunodeficiency syndrome (AIDS) continues to rise.

By early fall, more than 14,400 cases had been reported to the Centers for Disease Control in Atlanta. The agency predicts that—by midsummer 1986—there will be an additional 12,000 cases.

James W. Curran, MD, chief of the center's AIDS branch, and his associates estimate that as many as a million Americans are now infected with human T-cell lymphotropic virus type III (HTLV-III), the virus generally held to be the primary cause of AIDS (*Science* 1985;229:1352-1357). In many reports, the AIDS virus is also called the lymphadenopathy-associated virus (LAV), the name proposed by the French group headed by Luc Montagnier, MD, who originally isolated this virus.

For his part, Robert C. Gallo, MD, chief of the Laboratory of Tumor Cell Biology at the National Cancer Institute (National Institutes of Health, Bethesda, Md) and the American discoverer of the AIDS virus, worries that the virus doesn't just cause what the Centers for Disease Control calls AIDS. "There are other diseases the virus is associated with," he told a seminar at the National Institutes of Health recently.

Gallo cites the lymphadenopathy syndrome and the appearance of opportunistic infections early in the course of illness. And, he says: "There are diseases the virus is probably influencing in an indirect way." (He mentioned, without discussing details, such possibilities as B-cell lymphomas, Hodgkin's disease, one case of a rare form of pancreatic cancer, and the development of dementia prior to the appearance of AIDS.)

"Tissues can be infected and biologic consequences seen before the immune suppression characteristics of AIDS are noticed," he says. "I don't think anyone infected with this virus is necessarily going to be free of long-term consequences."

At the same time, there is increasing public concern about the chances of contracting AIDS through exposure to those who already have the disease. In New York City, for example, parents have been worried about the possible risk to their children at school of exposure to a child with AIDS. A similar concern was raised last summer when a boy in Indiana was refused permission to attend school because he was diagnosed with AIDS. On the other

hand, in Swansea, Mass, a 12-year-old hemophiliac youngster with AIDS was allowed to attend school. While the decision did not meet with the unanimous approval of parents, the school authorities were praised for their action.

Fairfax County, Va, in suburban Washington, DC, took an opposite stand. Its officials have ruled that children with AIDS should be excluded from attending school. In Montgomery County, Md, the school system has decided, temporarily at any rate, that any person with AIDS, student or teacher, will not be allowed to attend school. A spokesman for the county's school system says: "Until we know how the disease is transmitted, we will take the cautious, conservative route."

The National Education Association has recommended that school districts decide on a case-by-case basis whether schoolchildren with AIDS should be allowed to attend regular classes. One worry that the parents in New York expressed was the possibility of the virus being transmitted from the child with AIDS to schoolmates through a skin break or other minor injury from play. "Extremely unlikely," comments Anthony S. Fauci, MD, director of the National Institute of Allergy and Infectious Diseases (which also is at the National Institutes of Health). At the same time, he admits that one cannot say it is impossible.

The American Academy of Pediatrics also has recommendations:

- Because no children are known to have contracted AIDS in schools or day-care centers, most children and adolescents with AIDS should be allowed to attend school in an unrestricted manner with the approval of their physician.

- Some children with AIDS may pose a risk to others. If they lack control of body secretions, are prone to biting others, or have open skin sores, children with AIDS should be placed in more restricted school settings.

- School districts should identify persons, including the student's physician, who can determine at any given time whether a child poses a risk to others. If so, the child should be removed from school and the case reviewed.

- The number of school personnel aware that a

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child has AIDS should be kept to the minimum necessary to assure proper care of the child and to detect situations where the potential for transmission may increase.

- All schools, regardless of whether there are pupils with AIDS in attendance, should adopt routine procedures for handling blood or body fluids or items touched by them, including sanitary napkins.

- Pupils with AIDS may be at increased risk of such infections as chickenpox, measles, tuberculosis, herpes simplex virus, and cytomegalovirus. Therefore, they should be excused from taking otherwise compulsory vaccinations and protected from children with infection.

- Screening all schoolchildren for AIDS should not be undertaken.

On epidemiologic grounds, says Gerald V. Quinnan, MD, chief, Division of Virology, in the Food and Drug Administration's Office of Drugs and Biologics (Rockville, Md), skin breaks do not "appear to be a significant mode of transmission."

Part of this concern is the result of increasing information about the disease, made possible by the identification of the virus and development of tests for the presence of antibody to it. For instance, the Centers for Disease Control has published a warning about risk for acquiring the disease through heterosexual contact with a member of one of the known risk groups for AIDS or from a patient with AIDS.

So far, there have been 133 such cases, of which 118 were women and 15 were men. The majority were intravenous drug abusers.

Again, in a study from the Walter Reed Army Institute of Research, Washington, DC, 15 of 41 patients had apparently become infected through heterosexual contact (*JAMA* 1985;254:2094-2096). Nine of the patients were men and all had multiple heterosexual contact, most of them with prostitutes. One man was a Haitian immigrant. Of the five women who had AIDS, three were spouses of patients with AIDS. The fourth had sexual contact with a bisexual male and the fifth with a known IV drug user.

Although the transmission of AIDS through heterosexual contact has been established for some time, reports such as these led the Centers for Disease Control to issue a warning about risk of acquiring AIDS this way.

And, although it is now known that blood used for transfusion is being screened for antibody to the virus, there have been cases where persons have been tested and found to be negative for the antibody and yet positive for the virus. The blood from such persons would therefore not be identified by the present antibody screening test and could normally be available for transfusion.

Along with these reports have come studies from the laboratory that involve the virus itself, most of which seem to have had an unsettling effect on the public mind. The virus has been isolated from an

ever-increasing variety of human tissues and fluids, including the brain and saliva and most recently human lacrimal fluid. (See table on page 2867.)

The report that the virus could be present in human tears prompted the Centers for Disease Control to issue recommendations for preventing possible transmission of the virus, such as sterilizing (with 3% hydrogen peroxide for five to ten minutes) those instruments or contact lenses that have been in contact with tears (*JAMA* [LEADS FROM THE MMWR] 1985;254:1429).

Events such as these have led some people to assume that the disease is spreading and that the virus can be acquired simply by casual association with infected persons or from contact with everyday articles widely used by the public. A metropolitan newspaper quoted an unidentified physician who averred that he had given up using the public telephones in areas of the city known to be frequented by homosexual persons to avoid possibly exposing himself to the virus.

Because blood products such as factor VIII are known to carry the virus, it is not surprising that the virus can exist outside the body, notes Quinnan. Adds Fauci: "There is always a certain amount of time that the virus is in the circulation before it infects another cell and replicates itself—the free virion stage."

Quinnan points out that it is possible to stabilize the virus for laboratory studies and to maintain it in the freezer at -70°C for three or four months: "But in order to maintain the viability of the virus outside the body for long periods, you need to keep it in a supportive environment. It doesn't seem to tolerate adverse conditions well. On the other hand, if the virus is in plasma and stored in a refrigerator, then apparently it will survive. We know the virus survives lyophilization, for instance, since it is present in factor VIII, a lyophilized product."

However, a recent report from the Pasteur Institute in Paris by the investigators who originally isolated the lymphadenopathy virus suggests that AIDS virus might be pretty tough (*Lancet* 1985;I:721-722). The French study finds that virus survives ten days at room temperature even when dried out in a petri dish.

In earlier studies of AIDS virus inactivation, the same group has studied the effects of various chemical disinfectants on inactivating the virus. They have found that a five-minute treatment with 25% ethanol or 1% glutaraldehyde is sufficient to disinfect medical instruments, while 0.2% sodium hypochlorite is adequate for cleaning floors and benches (*Lancet* 1984;II:899-901).

Likewise, at the University of California, San Francisco, Jay Levy, MD, and his associates have looked into the effect of wet and dry heat on factor VIII. They found that heating the lyophilized product for 72 hours at 68°C (155°F), or the liquid product for ten hours at 60°C (140°F), will eliminate infectious AIDS-related virus if there are not more than

10^6 infectious particles/mL present in the plasma (*Lancet* 1985;I:1456-1457).

There is also evidence that the virus can replicate in tissues other than T-4 lymphocytes. These are the cells from which the virus can be most readily isolated and where the virus does its damage. For instance, Ferenc Gyorkey, MD, and his associates at Baylor College of Medicine in Houston report finding AIDS virus in the macrophages of two patients with prodromal signs of AIDS (*Lancet* 1985;I:106). What findings such as this mean in terms of the risk of transmitting the disease more readily from one person to another isn't clear, however.

So far, the epidemiologic evidence suggests that the disease hasn't yet spread widely in the general population. Studies of health care workers and family members of persons with AIDS suggest that most persons are unlikely to acquire infection through casual contact. In fact, contends Fauci: "The mechanisms by which the disease is transmitted are very clear. One is sexual, predominantly homosexual contact in this country. This accounts for almost three quarters of the reported cases. The next largest group is intravenous drug abusers, who account for 17% of cases."

Prior to the use of the present screening test for antibody in blood intended for transfusion, 2% of AIDS cases were related to blood transfusions, and about 1% were among persons with hemophilia. "Now, we should be seeing fewer and fewer cases among those getting blood and also among hemophiliacs," Fauci predicts.

"Another route by which the disease can be transmitted is from mother to child," Fauci says. Centers for Disease Control officials report that, as of last month, there have been 191 cases of AIDS among children 12 years of age or under; 143 were infected either prenatally or perinatally via their mothers; 26 were linked to the use of blood transfusions or blood products and an additional ten cases were among those with hemophilia or other coagulation disorders; 12 cases could not be categorized.

"About 1% of cases of AIDS in the United States involve heterosexual transmission," Fauci says. He points out that this has occurred through drug abusers who have passed the virus on to sexual partners. There are also some cases that were likely the result of heterosexual promiscuity, particularly with prostitutes, Fauci contends.

"From what we know about the situation in the country of Zaire, it appears that heterosexual transmission is the dominant mode of transmission there," Fauci adds. "When you look at those who have AIDS in that country, they are usually persons who have had a large number of heterosexual partners, usually including prostitutes. It is this that has led to the concern in the United States that, if there is going to be heterosexual spread, it's likely to occur in those who are highly sexually active, including interactions with prostitutes."

To date, the human T-cell lymphotropic virus type III that has been associated with acquired immunodeficiency syndrome has been isolated from:

Peripheral blood	Bone marrow
Lymph nodes	Cell-free plasma
Brain tissue	Saliva
Cerebrospinal fluid	Semen
Tears	

Finally, about 6% of the adult cases of AIDS and as noted before, about 6% of the cases in children occur in persons who do not fall into any of the known risk groups. There are 851 adults who either recently immigrated to the United States or whose medical histories are incomplete or unknown. Since 1981, when the disease was first identified, the proportion of cases of the total reported that do not fit the known risk groups has not changed significantly. But, as the total number of AIDS cases has risen, so also have the numbers of this subgroup. They now total 1,042.

Fauci stresses that "there's no evidence whatever that AIDS is transmitted through casual contact or through nonblood and blood product contact. It has not been transmitted by sneezing, coughing, touching, or otherwise socially interacting with someone who has AIDS. This is true despite the fact that the virus has been found in the saliva of patients with AIDS."

Are some persons more likely to get AIDS than others and, once exposed, what are their chances of becoming infected? According to Fauci: "There's indirect evidence to suggest that, when a person is frequently exposed to someone who is virus-positive, then there's a greater chance of that person getting infected. But that's not been definitely proven."

Similarly, Quinnan notes that nothing is known about the factor or factors that determine whether an infected person will get the disease. "It's the \$64,000 question, isn't it?" he asks. "But the natural history of the disease is not fully known."

Discussing the question of co-factors in the disease, Quinnan said that it has been suggested that persons who experience multiple infections, for instance intestinal parasites or cytomegalovirus or Epstein-Barr virus, might be predisposed. "But despite the fact that such infections tend to be prevalent in homosexual men and in particular those with AIDS, there is no basis for saying that any are co-factors in this disease," he says.

Commenting on the fact that HTLV-III has been found in a variety of tissues and human secretions such as tears, Malcolm Martin, MD, chief, Laboratory of Molecular Microbiology, in the infectious diseases institute, said: "One must separate the reports of all these isolates from different body fluids and tissues from what the public health and epidemiologic data

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tell about the way the virus is spread. What's important is the way the virus is spread 99.9% of the time; not how it's spread 0.1% of the time.

"I can't guarantee that the virus could not be spread through contact with tears. Certainly, I wouldn't like to have tears with virus in it rubbed into an open wound on my arm. But that's not a very likely event. You have to separate theoretically possible, hypothetical methods by which the virus might be spread from what the epidemiologic data are telling us about how it is in fact spread."

Martin notes that the AIDS virus, if it gets into almost any cell, human or nonhuman, will replicate. The big problem is getting it into the cell. To do this, the AIDS virus, in common with many classes of virus, although not all, has to interact with a specific component of the cell called the receptor.

In the case of the AIDS virus, the nature of this receptor is unknown. At the moment, it is thought to be a protein on the cell surface, known as the T-4 molecule. There is evidence that, if this is the case, it probably also works in conjunction with another protein.

At the same time, Martin remains skeptical about the evidence that, in nature, HTLV-III can replicate in cells other than lymphocytes. "Despite the fact that the virus has been identified in brain tissues, for example, you can argue that there are plenty of lymphocytes in the brain.

"Now, we do know we can introduce the genome of the virus into brain cells, indeed into a variety of human and animal cells," Martin said. "We have stripped off the viral coat and put the genetic information into these cells.

"In these circumstances, it will go through a round of replication, make all the viral proteins, and will assemble them into infectious virus. But this is not the way the virus replicates in nature.

"The virus doesn't strip off its jacket and infect a cell in its shirtsleeves. It has to get into the cell through the receptor mechanism we mentioned. So the ability of cells besides lymphocytes to support the replication of HTLV-III, in the natural state of affairs, hasn't to my mind been rigorously proved, although I'm certainly not closing my mind to it."

On the other hand, Levy says he has isolated virus directly from brain biopsies with no sign of lymphocytic infiltrates.

After the HTLV-III virus has fully assembled itself and budded off the host cell, how long can it survive as it circulates in the body? Nobody knows for sure, it seems.

"Our information about this virus is limited to the very artificial situation involved in growing the virus in tissue culture," says Martin. But he points to two new pieces of information, albeit limited to in vitro systems, that deal with the question: How long does the virus hang around?

He cites a study by Levy and his associates showing that the virus can exist in a restricted state (*Science* 1985;229:1400-1402). "Levy has observed that if you work with a system where, after infection, the expression of the viral genome is restricted, then virus persists and there is a low level of continuous viral production but without cell killing," Martin says.

Normally, in HTLV-III in vitro infections, the cells will die in anywhere from five to 20 days, depending on how much virus they are infected with. This could mimic the clinical situation, where it is known that some persons have remained HTLV-III antibody-positive for long periods, yet have not developed disease.

The other study comes from Martin's laboratory. It was done in association with Thomas Folks, PhD, and others.

Here, they have found cells that survive infection with HTLV-III. "These cells managed to survive out of the ashes of the infection. They weren't killed and they didn't produce virus, at least in any way that could be measured," Martin says.

"However, they could be induced to produce virus by treating them with chemicals such as the halogenated pyrimidines. This might mimic the clinical situation in which some factor or factors could trigger the development of disease; for instance, other viral infections, ionizing radiation, exposure to chemicals, or other agents that affect the immune system."

These findings could be a model of the spectrum of HTLV-III infection and viral persistence, Martin suggests. The scenario he postulates is as follows: At one end is the full-blown condition where virus replicates continuously and the lymphocytes are killed, resulting in the absolute deficiency of T-4 cells seen in patients with full-blown AIDS.

At the other end of the spectrum is the situation where a person gets infected with the virus but the virus remains unexpressed. The person remains asymptomatic for long periods, but the virus could be triggered into action under circumstances such as an infection that would induce lymphocytes to proliferate.

Then, in the middle, is the example represented by Levy's findings, where virus manages to replicate, albeit in some restricted state, dribbling out of some cells.

"What this means," Martin says, "is that there's a real problem in trying to handle those who are antibody-positive. It's like a time bomb. Even though it may not be very likely that virus is easily triggered into replication, although of course we don't know this, it's better not to have the time bomb there at all."

Martin notes that infection with HTLV-III is not like influenza or polio or hepatitis viruses, where infection is a sort of hit-and-run phenomenon. "If you

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eliminate such viruses, there's no trace of them any more. But HTLV-III is a virus that makes a copy of its genome and inserts that copy of its viral RNA in the form of DNA into the chromosome of the infected cell. That imprint of the viral genetic information is going to be in that cell for ever and ever. It's not going to go away."

Although it has not yet been possible to determine how much HTLV-III is needed to cause an infection (the sort of information that has been obtained for many other viruses), the evidence, says Martin, is that the amount may be quite large. In other words, HTLV-III is probably not very contagious.

Nor is it very readily isolated. Since the original isolation of the lymphadenopathy virus by Montagnier and his associates at the Pasteur Institute and of HTLV-III by Gallo and his group at the National Institutes of Health, the AIDS virus has been isolated by many laboratories. Gallo estimates that there are now around 200 isolates of the virus.

"But isolating AIDS virus is not a trivial pursuit," says Martin. "You've got to work at it. It's hard to do."

Martin points out that the majority of lymphocytes in a patient with AIDS don't carry the virus: "If we ask what proportion of the lymphocytes in a patient with AIDS are actually carrying the virus, it turns out to be an incredibly small number—one cell in 50,000 to maybe one cell in 500,000. The majority of cells, even in somebody with AIDS, are not carrying virus; there's not a lot of virus circulating in those with the disease."

How virus in such low amounts can cause such profound disease remains a mystery. Martin notes that "we don't have any good data about what's going on early in the disease when somebody first gets infected with the virus."

Noting "the prolonged interval between infection and overt disease; it can be several years," Martin adds: "We do know that, by the time a person gets clinically evident disease, it's hard to show infected cells with the virus [in them]. But how this [infection] manages to eventually cause such profound disease in the absence of detectable virus is not understood."

Martin notes that "a lot of us working in this field suspect that the virus isn't highly contagious. We think there are a lot of defective particles. We know from epidemiologic evidence that multiple contacts are needed to make a 'hit'; that is, to induce antibody. I suspect that either the virus isn't terribly contagious or that there are multiple defective forms of the virus and it takes a lot of virus to get a fully infectious agent."

"In contrast to other retroviruses, such as HTLV-I and HTLV-II, this virus is very heterogeneous in genomic structure; its five or six genes are very unstable. The data from our laboratory and others suggest that there isn't a single virus entity isolated

from a given person. The same person can harbor multiple forms of the virus."

There are three major genes present in all retroviruses. One specifies the envelope proteins, one specifies the structural proteins, and the polymerase gene (among others) specifies the all-important reverse transcriptase that enables the virus to make a DNA copy of itself.

Besides these, there are other genes unique to the AIDS virus. These have been studied by Martin and his associates, as well as by others such as Gallo who have found that, if any one of these genes is defective (not just the three major genes), the virus can't replicate.

However, as Martin points out, there's a process called *complementation* that has been known for a long time in virology. This permits inactive genes present in one virus to be replaced by active genes that may be present in another virus. The two viruses come together and produce infectious virus. This works (providing a cell is infected with complementary defective viruses) so that a functioning whole can be produced from two parts, one or both nonfunctioning.

Martin says there is now evidence from viral isolation (from patients) that defective forms of the virus do occur. "The question is," he says, "does this phenomenon of complementation of defective particles explain what appear to be the relatively inefficient replicative properties of the virus, which in turn seem to reduce the amount of contagious virus?"

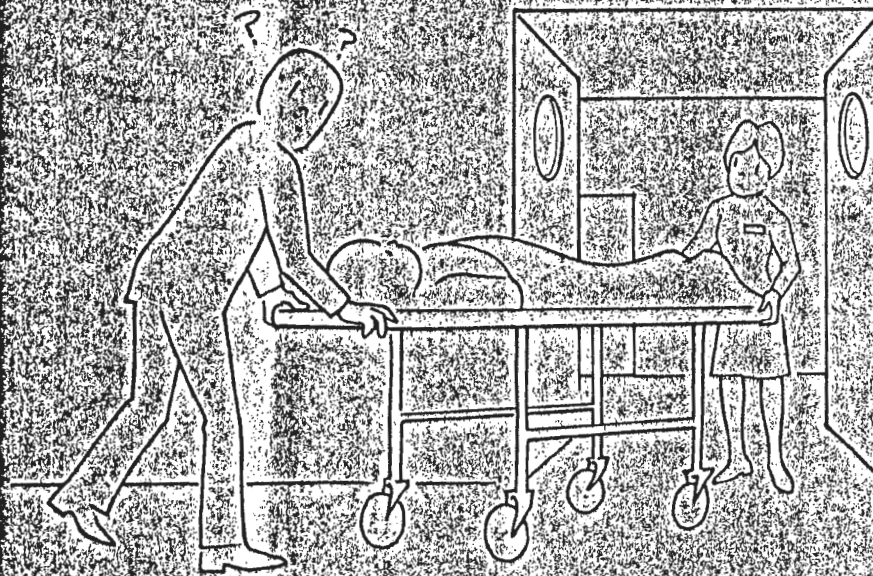
Besides complementation, there is another process called *recombination* whereby viruses can recover full function. Here, the genetic information between two viruses is swapped permanently. The functioning genes from each of the two defective viruses come together to make one fully functioning virus with no gene defects.

When that happens, Martin says, "you recover the wild-type state and the virus will go on replicating without having to go through the complementation stage. We think this is the sort of thing that may be going on in the case of HTLV-III. It may also go some way toward explaining the epidemiologic picture, where the evidence is that it takes a lot of exposure to the virus to get disease."

"I think there must be a rather high proportion of defective forms of this virus because of the relative inefficiency of the whole system. It's not like contagious viruses, such as influenza or poliomyelitis, which can spread like wildfire among susceptible populations. It's relatively hard to acquire the disease naturally. It's the only bright part of the whole picture. This of course doesn't mean that one couldn't get the disease from a single sexual encounter with someone who has AIDS or by receiving a single unit of blood that has the virus in it. Indeed, we know that one can get infected in this way. But outside of that, you have to work hard at it."—by CHARLES MARWICK

Why you should

BE INFORMED ABOUT AIDS



Information for health-care personnel
and other care providers

MORE SAFEGUARDS for health-care and lab workers

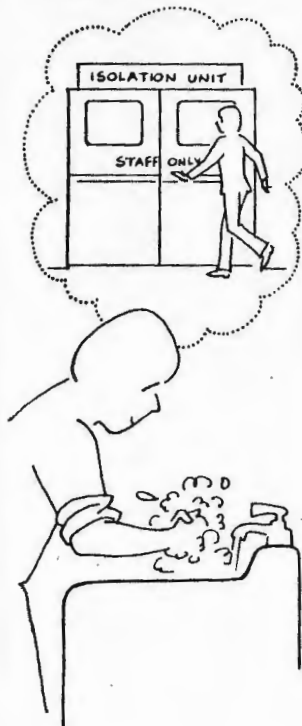
WEAR PROTECTIVE CLOTHING

If your job might expose you to an AIDS patient's blood, secretions, wastes, etc. Depending on the type of work you're doing, you may need gloves, gowns, masks, eye coverings or other protective apparel.



WASH HANDS THOROUGHLY

whenever you remove protective clothing and before you leave the room of a suspected or confirmed AIDS patient. If your hands touch potentially contaminated blood, wash them immediately.



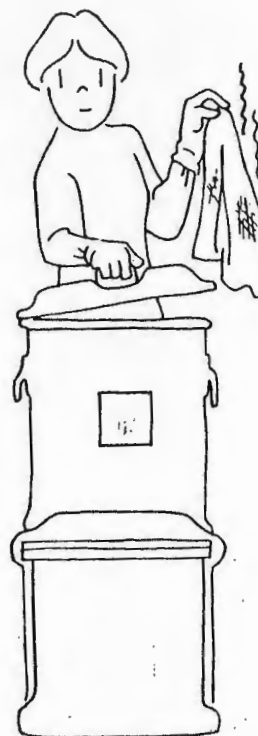
LABEL ALL SPECIMENS PROPERLY,

using a special warning, such as "Blood Precautions." If necessary, use a hospital-approved disinfectant to clean the outside of the container. Then, place the specimen in a leak-proof second container.



TAKE CARE OF CONTAMINATED ARTICLES

according to hospital policies for reprocessing or disposing of such items. Use specially designated plastic bags, labeling them in the same manner used for labeling specimens.



CLEAN UP ALL BLOOD SPILLS PROMPTLY,

using an approved disinfectant. Also, clean your work surface anytime it's contaminated by potentially infectious materials and after you've completed your work.



Recommendations for DENTAL PERSONNEL

Persons performing dental procedures or oral surgery should:

- Wear gloves, a mask and protective eyewear.
- Treat all instruments used in the mouth as potentially contaminated objects.

EYE-CARE PRACTITIONERS

To avoid possible exposure to the AIDS virus through an infected person's tears:

- Wash hands after each procedure and between patients.
- Wear disposable gloves – only if practical and convenient, or if you have cuts, scratches or lesions on your hands.



UNITED STATES DEPARTMENT OF EDUCATION
OFFICE OF THE UNDER SECRETARY

DEC 3 1986

MEMORANDUM

TO : Winnie Austermann
Office of the AIDS Coordinator

FROM : Jack Klenk *JK*
Director, Issues Analysis Staff

SUBJECT: Department of Education Comments on Draft Public
Health Service Plan to Prevent and Control AIDS

Thank you for this opportunity to comment on PHS's draft plan to prevent and control AIDS. In response to the request for "ruthlessly critical" comments, we summarize some of our thoughts in this memo, and also comment in detail in the margins of the draft itself (attached).

This Department's general views about sex education and AIDS

The Department of Education is concerned about our youth, and about the proper role of the schools. The Department thinks it is appropriate for schools to teach the facts to children at an appropriate age, and to teach the physical, psychological, and moral consequences of sexual activity. Whatever is taught should be the result of close consultation with parents; they need to know and approve of what's proposed to be taught. Third and fourth graders don't need to know everything about sex, let alone varieties of sexual practices. We don't want to terrify our children.

The Department believes that any plans for sex education for school age young people should incorporate these principles:

1. It should be based on parental involvement.
2. It should teach that children should not have sex.
3. It should encourage responsible sexual behavior--based on fidelity, commitment, and maturity, placing human sexuality within the context of family life.
4. It should not be neutral between heterosexual and homosexual sex. Homosexuals should not be persecuted--but heterosexual sex within marriage is what most Americans, our laws and our traditions consider the proper focus of human sexuality.
5. Sex education should neither fall into a false neutrality (a la values clarification) nor browbeating (a la values indoctrination). It should comport with the good sense of the American people--thus the necessity of parental and community involvement.

Comments on the Draft PHS Plan

- o The document has a fundamental (and pervasive) weakness: it generally avoids the core problem.

The goals (enumerated in section 2.0, and reflected throughout the plan) don't even mention that problem--namely, irresponsible sexual behavior. Throughout the draft, remarkably little attention is given to this, the main cause of the spread of AIDS. (Although youth are encouraged to say no to sex and drugs, this message is missing in, and undermined by, most of the plan.) For example, male and female prostitutes (and their clients) are told how to have safe sex, and AID-infected persons are told to use condoms and to "tell your partners of your test results." (Aside from the question of whether prostitutes--and their customers--can ever have truly "safe" sex, why does the draft not challenge such people to abstain from their encounters, and why does it not urge infected persons to abstain altogether from having sex with partners, whether or not their partners know of laboratory results? Those people need first of all to change their irresponsible behavior, which is--quite literally--lethal, and with the AIDS epidemic society has both cause and the right to tell them so. Only secondarily should society's message be how to avoid the consequences of their behavior. Similarly, the draft urges minorities: "If your sexual partner is or may be infected, always use a condom during sexual intercourse." In this case, shouldn't the report first warn, "If your partner is infected, avoid sex with him or her like the plague"?

The draft plan's general unwillingness to deal candidly with irresponsible behavior prevents it from providing the leadership the AIDS crisis requires, and severely limits the likely effectiveness of any policies that are based on the draft report.

- o Allied with its avoidance of the core problem, the report's dominant perspective deemphasizes moral considerations. (The section where youth are encouraged to say no to sex and drugs stands out as an exception.) One of our reviewers noted: "'Public health' orientation altogether dominant. Benefit of moral and ethical considerations. Resembles a dog care manual. Not guidance for people."

- o One of the three goals listed in section 2.0 is to "reduce inappropriate fear." The converse, however, is what should be stressed; that is, to increase "appropriate" fear. We are facing an epidemic among the sexually active U.S. population and extraordinary measures may be necessary--including changes in public attitudes about sexual behavior--if we are to limit this impending calamity.
- o In the section describing how AIDS infection is spread, why not add the most basic general precept--which appears now only in the discussion of "persons involved with infected persons"--that it may be spread "by unprotected exposure to blood, semen and urine."
- o It is not clear what is meant by the statement that "AIDS is not an excuse to discriminate"; clearly, it should be modified to comport with the position of the Department of Justice on this issue. The opinion provided by the Justice Department is that merely being an AIDS carrier does not necessarily make one handicapped and that one may take differential action based on fear of contagion, in the case of AIDS as in the case of other contagious diseases. It is important that the Federal government speak within one voice on this question.
- o Are we certain that condoms can prevent transmission in all instances? It may well substantially reduce risk, which is hardly the same thing. Condoms may well be advisable in many instances, but can we really look to them as a panacea?
- o Regarding test results and diagnosis, isn't there good reason to believe that local health authorities should be informed of AIDS test results? Have we focused on the most effective anti-contagion measures? What do they do with V-D, T.B. cases?

Please see attached marked-up draft for more detailed comments.

Attachment

ED Comments (see memo
also)

①

U. S. PUBLIC HEALTH SERVICE
PLAN TO PREVENT AND CONTROL
AIDS
THROUGH INFORMATION, EDUCATION
AND RISK REDUCTION

Draft

11-14-86

PHS PLAN TO PREVENT AND CONTROL AIDS THROUGH
INFORMATION, EDUCATION AND RISK REDUCTION

- 1.0 INTRODUCTION.....
- 2.0 GOALS.....
- 3.0 STRATEGIES.....
- 4.0 GETTING THE MESSAGE ACROSS.....

4.1 TARGET GROUP: THE PUBLIC

- 4.1.1 Health Status Goal
- 4.1.2 Behavioral Objectives
- 4.1.3 Programmatic Objective: Involve and Coordinate
Appropriate Groups in AIDS Prevention
—Activities
- 4.1.4 Programmatic Objective: Assure That the Public Is
Aware of and Has Ready Access to Accurate Infor-
mation About AIDS
—Activities
- 4.1.5 Programmatic Objective: Provide AIDS Public
Education Programs and Access to HTLV-III Counseling and
Testing Through All State and Local Health
Departments
—Activities
- 4.1.6 Programmatic Objective: Provide AIDS Educational
Programs Through All Schools and Other Appropriate
Agencies
—Activities

4.2 TARGET GROUP: PERSONS AT HIGH RISK FOR AIDS

- 4.2.1 Health Status Goal
- 4.2.2 Behavioral Objectives
- 4.2.3 Programmatic Objective: Provide Credible Sources
of AIDS Information to All High Risk Persons
—Activities
- 4.2.4 Programmatic Objective: Provide or Offer Effective
Referral for HTLV-III/LAV Counseling and Testing
Through Publicly Funded Sexually Transmitted
Disease Clinics, Drug Treatment Programs, and
Other Relevant Agencies
—Activities

4.3 TARGET GROUP: HEALTH CARE WORKERS**4.3.1 Behavioral Objectives****4.3.2 Programmatic Objective: Disseminate Up-To-Date
Information to All Health Care Workers
—Activities****5.0 EVALUATION.....****5.1 PUBLIC****5.2 HIGH RISK GROUPS****5.3 HEALTH CARE WORKERS****APPENDIX I "Messages"..... I-1****APPENDIX II "Accomplishments and Current
Activities".....II-1****APPENDIX III "Public Health Service Publications, Videotapes,
Posters on AIDS.....III-1**

PHS PLAN TO PREVENT AND CONTROL AIDS
THROUGH INFORMATION, EDUCATION, AND RISK REDUCTION*

1.0 INTRODUCTION

Since 1983, the U. S. Public Health Service (PHS) has made the prevention and control of AIDS its top priority. This plan outlines activities of the PHS and its constituent agencies (ADAMHA, CDC, FDA, HRSA, NIH) to prevent and control AIDS and infections with the AIDS virus through public information, health education and risk reduction activities.* The plan is also a strategic blueprint for future efforts to reduce transmission by these complementary activities.

*In this document, public information refers to programs that create awareness of the health problem/issue through activities designed to increase knowledge and change attitudes and beliefs which may be based on inadequate information; health education refers to programs at the community level or personal level which also addresses knowledge, attitudes and beliefs and also provide skills to act on new knowledge; risk reduction refers to programs which employ methods to change attitudes, knowledge, beliefs and skills, but also provide the incentives or mechanisms to facilitate behavior change (such as testing or counseling programs, screening blood donors for HTLV-III/LAV antibody, providing condoms, etc.)

Provision of condoms to unmarrieds $\equiv$ sex outside marriage. Sex w/ one partner only (generally means marriage) is best prevention of spread of AIDS. Dispensing condoms to unmarrieds spreads the condition which facilitates the spread of AIDS, namely multiple partner sex

?

The PHS has the leadership role in educating and informing the public about AIDS. Education and information are the only weapons society has now to stop the AIDS epidemic, and all elements of society must be involved: state and local governments, public and private institutions, and individuals from all walks of life.

Not so. A 3rd way is leadership by models toward the desired behavior which they model & expect others to follow. This modelling leads to the formation of virtues & habits.

From the beginning of the AIDS epidemic in 1981 guidelines were developed and disseminated to health professionals and the public as information became available. The 22 PHS guidelines on prevention of AIDS, issued between 1982 and mid-1986, have formed the bedrock of information and educational efforts to prevent this disease. These guidelines have withstood the test of time.

The PHS Plan for Prevention and Control of AIDS (1985), the report of the PHS Coolfont Conference (1986), and the Surgeon General's Report on AIDS all emphasized that information, education, and risk reduction efforts to encourage adoption of safer sex practices and to reduce behavior that puts people at risk for AIDS are currently the only methods available to prevent transmission of the AIDS virus. Without a vaccine or proven therapy, information and education are the only available prevention tools for the foreseeable future. Advice from the public, representatives of groups at risk, medical experts, educators and communicators has contributed greatly in developing and implementing the activities described below. Since 1983, the PHS has made the prevention and control of AIDS its top

priority. A total of \$123 million has been spent by the PHS through FY 1986 in carrying out information, education and risk reduction activities.

2.0 GOALS

- o To reduce transmission of the AIDS virus.
- o To reduce inappropriate fear.
- o To improve the clinical management of infected persons.

To reduce the irresponsible behavior that spreads AIDS

? increasing "Appropriate" fear is not undesirable. Such fear will decrease both inappropriate behavior and inappropriate anxiety.

3.0 STRATEGIES

- o Provide leadership for effective and comprehensive action.
- o Define target populations.
- o Define the messages.
- o Identify effective communication methods and techniques.
- o Work with public, private, and voluntary organizations at national, state, and local levels.
- o Implement national program.

DRAFT

APPENDIX I

MESSAGES

Information and education messages must be tailored specifically to the appropriate audiences. The intent of this section is to state the key messages that need to be understood by the indicated target groups; specific language may change depending on audience, locality and other variables. The three major groupings are public, people whose behavior puts them at high risk, and health care workers.

I. THE PUBLICA. GENERAL

- The most common cause of the spread of AIDS is irresponsible sexual behavior. Anyone who engages in such behavior endangers him(her)self, his(her) children, & other innocent victims. -- not to speak of causing enormous medical costs to taxpayers & the public. Society must show its disapproval for such behavior.*
- o The AIDS virus is spread from one infected person to another by sexual contact (penis/vagina, penis/rectum, mouth/rectum, mouth/genital) and by sharing needles or "works" used in injecting illicit drugs; and from infected women to their unborn or newly born babies.
 - o The AIDS virus is not spread by donating blood or by casual social contact (e.g., shaking hands, social kissing, coughing, sneezing, sharing swimming pools, bed linens, eating utensils, office equipment, being next to or served by an infected person.)

- o To prevent infection in yourself and others:

-Limit sexual contact to one, mutually monogamous individual;
avoid prostitutes.

-If you have more than one sex partner, always use condoms.

-Do not use illegal IV drugs; do not share needles or "works."

-If you suspect you or your sex partner is infected:

Seek HTLV-III/LAV antibody testing to be sure of your
infection status; encourage your partners to be tested.

Always use condoms during sex, from start to finish.

Avoid sexual activity that may damage the condom or body
tissues.

Infected women should avoid pregnancy and breast feeding.

- o Know where to get more information about AIDS.

- o AIDS is not an excuse to discriminate.

- o AIDS is a national emergency requiring action from all.

*should be consistent w/ Justice
Department position.*

B. YOUTH. Preteens and teens need the same information as the
public in general, but the information presented should be

appropriate for their age. Youth who are at an age when sexual and

IV drug experimentation may begin are the next generation at risk.

Special emphasis should be placed on saying "no" to sex and drugs.

Parents, teachers, and school leaders also need information they can
use to reinforce the message.

*Youth also need to
be "formed" in
moral behavior, not
just informed about
sex mechanics & how
to avoid infection.*

*Very
important.
Sec. Bennett
opposes explicit
teaching of AIDS
in 3rd grade.*

*Excellent -- but make this
point much more prominent. Also
youth should be encouraged to
positive (not just the avoidance of negative)
behavior/morality, à la Sex Respect
sex-ed materials.*

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Special emphasis: o Say no to sex and drugs.

o If sexually active, use condoms.

o If abusing drugs, don't share needles or other "works."

—good

True, but... stated here, makes the 1st message ambivalent, & may contradict it.

C. SEXUALLY ACTIVE HETEROSEXUALS. Persons who are not in a long-term, mutually monogamous relationship with one continuing sexual partner (e.g., those who have multiple sexual partners, or sexual contact with prostitutes or with any persons whose behavior puts them at high risk) need to know that their sexual partners may expose them to infection.

Special emphasis: o Always use condoms during sex, from start to finish.

o Limit sexual contact to one, mutually monogamous individual; avoid prostitutes.

o Do not use IV drugs; do not share needles or "works."

encourage them to seek help/counseling/support to have the monogamous relationship

DRAFT

D. MINORITIES. Blacks and Hispanics are disproportionately infected with AIDS (40% of the cases). Many persons in those groups believe that AIDS affects only white, gay men. This attitude must be changed. Because IV drug-related transmission and consequent heterosexual and perinatal transmission account for a large proportion of AIDS cases in minorities, messages regarding these modes of transmission should be emphasized.

Special emphasis:

- o Minorities who practice high risk behavior are also at risk for AIDS.
- o If your sexual partner is or may be infected, always use a condom during sexual intercourse.
- o Persons who abuse IV drugs are at high risk for AIDS; if infected, they can infect their sexual partners.
- o Women who use IV drugs can transmit the AIDS virus to their babies.

*As with other groups,
limit sex to one, mutually
monogamous individual*

*This is absurd!
If so infected -
avoid!*

E. PERSONS INVOLVED WITH INFECTED PERSONS. Parents and other family members, friends, and persons who work with persons who have AIDS (e.g., social workers) need special information and reassurances that AIDS is not spread by casual contact.

) What about AIDS-related diseases (e.g., TB)

Special emphasis:

- o AIDS is not spread by casual contact.
- o People ill with AIDS deserve compassionate care.
- o Avoid unprotected exposure to blood, semen, and urine.

*spell out more
what the risks
are.*

DRAFT

These must not be the only goals! Leadership should also encourage responsible behavior & discourage irresponsible behavior.

F. OPINION LEADERS AND POLICY MAKERS. In order to allay unreasonable fear and to assure that adequate resources are available, PHS must ensure that consistent, accurate information is available to key opinion leaders and policy makers such as lawmakers, governors, mayors, religious leaders, teachers and other respected community leaders. These leaders have special opportunities to deal with questions that frequently arise in the public's mind, especially concerning unwarranted fear of casual contact, and the issues of confidentiality, discrimination and quarantine.

- Special emphasis:
- o AIDS is not spread by casual contact.
 - o Quarantine has no role in the management of AIDS.
 - o Test results and diagnosis of AIDS must be kept confidential.
 - o AIDS is not an excuse to discriminate.
 - o AIDS is a national emergency requiring action from all.

under any circumstances?

? must be consistent with Justice Dept.

The best way to reduce the spread of AIDS is to reduce irresponsible sexual behavior & encourage monogamous relationships

All these emphases are stated from a public health framework. ~~whereas~~ The list ignores the behavior that causes AIDS! This is not leadership.

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II. PERSONS AT HIGH RISK FOR AIDS

A. GAY AND BISEXUAL MEN. Sexually active gay and bisexual men continue to be at highest risk in the U.S. Gay organizations mobilized early and have accomplished much in educating their communities about AIDS. PHS efforts continue to be aimed not only at assisting these groups, but also in reaching those men who have not realized or acknowledged that even a single sexual experience with another man puts them at risk. In addition to messages aimed at the general public, individuals at risk require special information.

Special emphasis: o Seek voluntary antibody testing and counseling.

o Always use condoms during sexual activity, from start to finish.

o Limit sexual activity to one mutually monogamous partner.

o Avoid IV drug use; do not share needles or "works."

o Do not donate blood, sperm, tissues or organs.

o Know where to get more information and help.

o Know the symptoms of AIDS infection: night sweats, coughing, white discharge in mouth, loss of weight, fatigue.

o Know your sex partner; an infected person may not have symptoms, but can transmit the virus nevertheless.

Should gay groups be challenged to adopt this as their policy?

should be most prominent point

What is the overlap between homosexual & IV drug use? If there's a significant overlap, it should be addressed. ¹³ DRAFT

B. IV DRUG ABUSERS. Educating IV drug abusers (both occasional users and addicts) represents the greatest challenge. IV drug abuse is illegal, and addiction can be an obstacle to changing behavior. Because infected IV drug abusers can spread AIDS by heterosexual or homosexual contact; by sharing needles or syringes to inject illicit drugs; by donating blood, sperm, tissues or organs; or perinatally from mother to unborn child, reaching this target group is critical to interrupting transmission. Providing treatment for IV drug addiction itself and extending family planning services to infected women of child-bearing age are additional important elements of the prevention strategy aimed at this group.

- Special emphasis:
- o Do not use IV drugs.
 - o Do not share needles or "works."
 - o Do not donate blood, sperm, tissues or organs.
 - o Know the symptoms of AIDS infection:
 - night sweats, coughing, white discharge in mouth, loss of weight, fatigue.
 - o Know your sex partner; an infected person may not have symptoms, but can transmit the virus nevertheless.

o Get treatment for your drug use.

o Seek voluntary antibody testing.

o If you are infected, tell your sex partner and encourage him/her to seek testing and counseling.

o Use condoms during sexual activity.

o Know where to get information and help.

o Avoid pregnancy.

o Don't breastfeed.

IF infected, you owe
it to everyone to
abstain from sexual
contact

C. HEMOPHILIACS. People with hemophilia need specific information, if infected, to prevent transmission of the AIDS virus to others.

Hemophiliacs who have not been infected already are now at virtually no risk of being infected from the blood products they require.

Special emphasis: o Blood products are now virtually safe.

o Seek voluntary HTLV-III/LAV antibody testing.

o If you are infected; tell your sex partner.

o Use condoms during sexual activity from start to finish.

o If infected, you or your sex partner should avoid pregnancy.

o Don't donate blood, tissue, organs, or sperm.

what are
the risks?

"D" & "E" are very unsatisfactory! They give the wrong message. The precautions they advise should be secondary to the primary message. Society ^{DRAFT} must put pressure on such people to stop their antisocial behavior. (15)

D. MALE OR FEMALE PROSTITUTES (AND THEIR CLIENTS). Information and education on IV drug abuse are essential, as is education on safe sex and multiple partners. The use of condoms is an important prevention tool.

is this term accurate?
Is it ever "safe" to have sex with such a person, even with condoms?

what are the ~~other~~ risks, even with condoms?

- Special emphasis:
- o Always use condoms during sexual activity from start to finish.
 - o Do not donate blood, tissues, or organs or sperm.
 - o Do not abuse IV drugs, do not share needles or "works."
 - o Avoid pregnancy.
 - o Seek voluntary HTLV-III/LAV testing and counseling.

o Seek counseling to change behavior

E. PERSONS WITH LABORATORY EVIDENCE OF INFECTION. All these individuals need to understand recommendations to avoid transmission to others.

- Special emphasis:
- o Always use condoms during sexual activity.
 - o Tell your sex partner of your test results.
 - o Do not donate blood, sperm, organ or tissues.
 - o Avoid pregnancy.
 - o Do not breast feed.

o Seek counseling to avoid...

Other points re: D & E

1. Must we assume that prostitutes & infected people only need to learn how to avoid the consequences of their behavior?

2. Must we even ask to those groups, so as to avoid under-
mining info to other groups

F. SEX PARTNERS OF HIGH RISK PERSONS AND INFECTED PERSONS. Sex partners of bisexual men, IV drug abusers, infected hemophiliacs, prostitutes, and others at increased risk for AIDS need to recognize that they are at risk.

- Special Emphasis:
- o The AIDS virus spreads through sexual activity from one person to another.
 - o Always use condoms during sexual activity from start to finish.
 - o Seek HTLV-III/LAV antibody testing.
 - o Don't donate blood, tissues, organs or sperm.
 - o If infected, you or your partner should avoid pregnancy.
 - o Know where to get information and help.

III. HEALTH CARE WORKERS

People who provide health care services (physicians, nurses, laboratory workers, dentists, medical technicians, allied health professionals, housekeeping staffs, etc.) need up-to-date, carefully tailored information and education about AIDS, not because they are at especially high risk, but in order to be able to provide optimal therapy and care.

- Special emphasis:
- o Know the basic facts about AIDS (transmission, diagnosis, signs and symptoms, high risk behavior).

DRAFT

- o Know when to use and how to interpret the antibody test.
- o Hold test results and diagnosis in strict confidence.
- o Know how to manage AIDS patients clinically.
- o Know how to counsel persons about infection and where to refer high risk individuals and people with AIDS.
- o Stay up to date on research findings.
- o Know and follow appropriate infection control policies and techniques.
- o Avoid needlestick injuries.
- o Special isolation procedures or restrictions of visitors are not necessary.
- o Know where to get more information.

Gene Antonio
January 7, 1987

THE AIDS CRISIS

I. AIDS DEMENTIA

From the onset of the AIDS epidemic to the present, the public has been repeatedly misinformed that people don't die of AIDS, they die of other diseases they can't fight as a result of a weakened immune system. However, it has been well established for almost two years that the AIDS virus can and does kill directly by destroying cells in the brain. In his October 1986 Report, the Surgeon General has finally brought into focus the lethal ability of the AIDS virus to destroy brain tissue.

Revealing that the AIDS virus can directly cause brain disease is a positive step. Deaths from AIDS dementia have already occurred and are growing among persons who have never developed ARC or what Dr. Koop calls "classic AIDS." Such cases have not been included in the number of AIDS cases reported by the Centers for Disease Control (CDC).

The CDC now admits that dementia apart from immune deficiency may be a manifestation of AIDS virus infection. However, the many persons suffering solely from AIDS virus induced dementia still are not included in the total number of AIDS cases reported by the CDC.

In fact, both the terms HTLV-III and HIV are misleading because they obscure the profound effect of the virus itself on the central nervous system.

II. THE NATURE OF THE VIRUS

The crucial nature of the AIDS virus itself has generally been ignored. The AIDS virus is a lentivirus. As some of you know, lentiviruses are called slow virus infections because they frequently have a lengthy incubation period before symptoms develop. Apart from the new human form, only three types of lentivirus infections are known. They cause grave disease in sheep, horses and goats.

One hallmark of all lentivirus infections in animals is degenerative brain disease (encephalitis), apart from immune suppression. This has profound implications for the course of AIDS lentivirus infection in humans. Dr. Paul Volberging, head of AIDS services at San Francisco General Hospital states:

It is entirely reasonable to speculate that everyone who is seropositive (infected with the virus) will develop central nervous system complications. We are seeing an increasing number of signs of this on our ward. They take the form of varying degrees of dementia.

III. THE LONG-RANGE PROGNOSIS

The public is being told that the majority of those infected with the AIDS virus may never develop AIDS. However, AIDS lentivirus infection in humans most closely resembles maedi-visna lentivirus infection in sheep. Among sheep, maedi-visna infection results in a death rate of 100%. Dr. William Haseltine of Harvard has stated:

We must be prepared to anticipate that the vast majority of those infected with the AIDS virus will ultimately, over a period of five to ten years, develop life threatening illness.

After ten years, the prognosis is even worse. By comparing the progress of other slow-acting infections of the brain, scientists estimate that the incubation period of AIDS-induced brain disease could range from two to thirty years, with a mean of fifteen years.

Incidentally, among sheep, maedi-visna lentivirus kills by causing dementia and a deadly form of lung disease similar to the inflammation of lung tissue (chronic interstitial pneumonitis) occurring in humans infected with the AIDS virus, especially infants. Maedi infection is spread by coughing while the animals are in close contact.

The AIDS virus has been found in human lung secretions. Given the aerosol spread of maedi infection in sheep, there appears to be a serious potential for non-sexual spread of AIDS. In horses, the lentivirus which causes equine infectious anemia is spread among other means, by horseflies. It has now been found that bedbugs represent a potential means of AIDS spread among humans (Lancet 5 July 1986, p.45).

Lentiviruses mutate at a very high rate. According to Myron Essex of the Harvard School of Public Health:

The mutation rate and degree of genomic variation is known to be high for this virus; with other lentiviruses such as the equine infectious anemia agent and visna virus, antigenic drift can occur with a single infected animal.

Dr. Martin Malcom, chief of the Laboratory of Molecular Microbiology in the Infectious Diseases Institute notes:

The data from our laboratory and others suggest that there isn't a single virus entity isolated from a given person. The same person can harbor multiple forms of the virus.

The genetic variability of the AIDS virus is one of the major reasons why developing a vaccine is "like trying to hit a moving target."

According to Dr. Luc Montagnier of the Pasteur Institute:

The potential for genetic variation is perhaps the greatest danger in the future of the AIDS epidemic. It will make it difficult to design efficient vaccines protectice against all strains, and a further change of the virus in its tropism [ability to infect types of cells] and ways of transmission cannot be excluded.

The genetic variability of the AIDS virus does not lend itself to glib, absolutistic statements regarding the potential for non-sexual means of AIDS spread.

In addition the adoption of "safe sex" techniques are of unproven efficacy in preventing AIDS transmission. With the AIDS virus being exuded from almost every bodily orifice, pore and secretion (probably including sweat), prolonged sexual contact of any kind is potentially lethal.

If the CDC recommendations on avoiding contact with AIDS-tainted secretions are taken seriously, the only "safe" sex with an AIDS carrier would necessitate wearing surgical gowns and mask, rubber gloves and eye goggles.

IMPLICATIONS FOR PUBLIC HEALTH POLICY

I. Each infectious AIDS carrier has the potential for killing all of his or her present and future sexual partners. Encouraging the use of so-called "safe sex" techniques and barrier contraceptives permits widespread dissemination of the infection. Individuals suffering with AID dementia cannot be expected to act prudently. AIDS should at least be treated with health measures similar to those taken for syphilis and gonorrhea (contact tracing should be employed for antibody positive individuals) which are highly treatable and far less devastating than AIDS.

II. The insidious neurological impairment caused by the AIDS virus (e.g., impaired short-term memory, personality change, confusion) can and does have an adverse effect on job performance. Physicians, nurses, airline pilots and other professionals whose mental deterioration would endanger the lives of others must be screened and job performance evaluated at regular intervals. Federal and military hospitals should be the first to implement such testing.

The shock waves of the AIDS epidemic are just beginning to be felt throughout the Nation. Soon, very soon, the devastating social and economic repercussions will be seen and felt throughout all segments of society. The entire population will shudder as the anguished cries of the demented and dying rise in a ghastly crescendo. Unless drastic measures are taken to prevent the epidemic from spreading, AIDS may well become everyone's Final Epidemic.

B. ADDITIONAL INFORMATION NEEDED BY SCHOOL AND COLLEGE AGED:

o Add: Sex education for school age young people should incorporate these principles:

1. It should be based on parental involvement.
2. It should teach that children should not have sex.
3. It should encourage responsible sexual behavior--based on fidelity, commitment, and maturity, placing human sexuality within the context of family life.
4. It should not be neutral between heterosexual and homosexual sex. Homosexuals should not be persecuted--but heterosexual sex within marriage is what most Americans, our laws and our traditions consider the proper focus of human sexuality.
5. Sex education should neither fall into a false neutrality (a la values clarification) nor browbeating (a la values indoctrination). It should comport with the good sense of the American people--thus the necessity of parental and community involvement. Schools should stress the importance of conscience, morality, honesty, and ethics in sexual behavior.

THE WHITE HOUSE

WASHINGTON

January 8, 1987

MEMORANDUM FOR

FROM:

SUBJECT: AIDS

Issue: What further steps should be taken to prevent the spread of AIDS in America?

Background: The first known report of the AIDS virus was reported in May 1982 by the Center for Disease Control. The disease was identified in homosexual males and cases were reported by physicians in several major metropolitan areas in the United States.

The Center for Disease Control estimates that there are 1.5 million Americans who now carry the virus but display no symptoms. Other estimates range as high as 4 million carriers of the virus. No one knows for sure.

Official projection for the next five years are that 179,000 will die of the AIDS epidemic. These figures are based on the assumption that only those Americans presently infected will get AIDS by 1991.

More than 90 percent of victims of AIDS are from two main risk groups, male homosexuals and intravenous drug users. Heterosexual cases come primarily through prostitutes and their clients. However, by 1991, there will also be more than 3000 newborn infants with AIDS who will lead short, painful lives. Some individuals will contract AIDS through contaminated blood and a growing percentage of victims are getting AIDS from unknown sources.

Dr. William A. Haseltine, a leading AIDS researcher at the Harvard Medical School in Boston warns that, "the AIDS epidemic will produce an enormous and frightening effect on world health that public health officials may be relatively powerless to contain. We must be prepared to anticipate that the vast majority of those now infected will ultimately, over a period of five to ten years, develop life-threatening illness."

Up to ten million people worldwide now carry the AIDS virus and are potential victims. About 80 nations have reported cases. In Great Britain, the incidence of AIDS is doubling every year. In Africa, 50,000 people have died since the first appearance of AIDS in the late 70's, although the World Health Organization estimates that several hundred thousand have died and that as many as 5 million Africans now carry the virus.

As far as we know now, AIDS is always fatal. If a cure cannot be found soon -- and chances appear to be slim that one is imminent -- the death toll could be enormous.

Discussion: Since the AIDS virus has been identified, millions of dollars have been poured into research worldwide in order to try and find a cure for the disease. The 1987 Federal budget includes \$534 million for AIDS research and education. The medical consensus is that a means for arresting AIDS will come no sooner than five to ten years from now. Finding a cure is difficult because there are already three similar viruses that cause AIDS and the virus mutates frequently.

The Health Policy Working Group has reported three times to the Domestic Policy Council, including once to the President, and the Council approved the following policy statements:

- o deal with AIDS as a major public health threat;
- o mount a major effort that would focus on prevention and dissemination of information on AIDS;
- o encourage Federal agencies and State and local authorities to take all necessary steps to lessen the risk of the spread of the AIDS infection.

In his 1986 State of the Union Message, the President asked the Surgeon General to prepare a report to the American people on AIDS. That report was developed and submitted to the Council in October 1986. It has been widely distributed by HHS and other Federal agencies as well as private groups.

Dr. Windom, Assistant Secretary for Health, established an AIDS coordinating Council headed by Dr. Gary Noble that has met several times since October 1986 and is developing an information/education plan to prevent and control AIDS in the United States. As a result of the national debate that has been stirred by the Surgeon General's Report on AIDS and the discussion in the Federal Coordinating Council on AIDS, several policy issues have surfaced. Some of these issues are listed below.

Policy Issues

1. Is AIDS covered by the Control of Communicable Disease Act? (Sec. 264)
2. Should contact tracing of individuals with AIDS and carriers of the AIDS virus be conducted as is currently the case with other venereal diseases?
3. Should all carriers of AIDS be reported to public health officials and confidential records kept as is currently the case with other venereal diseases?
4. Should the blood supply be better protected by making it illegal for "at risk" persons to donate blood?
5. Should blood testing for AIDS and the AIDS antibody be required before a marriage license is issued?
6. Should a Federal order be issued closing down all known homosexual bath houses?
7. Should policy statements issued by HHS or other Federal agencies on sex education include the following concepts:
 - o instruction in sound healthful principles of sexual conduct;
 - o encouraging individuals to refrain from sexual intercourse outside of marriage;
 - o information on the greivous medical, personal, and social consequences of sexual promiscuity;
 - o a statement that homosexuality is an unhealthy, unsafe, and lethal sexual alternative;
 - o that condom use, while decreasing the risk of contracting AIDS, is not 100% safe, since there is at least a 10% failure rate in preventing conception.
 - o encourage chastity before and fidelity after marriage as the only 100% safe way of avoiding AIDS.
8. How will the health care system deal with the increased cost of caring for AIDS victims over the next decade and beyond?

1. Volital
2. Rationalize problems
3. not cool

Dole to keep Reedman in check

Wall st Journal

- ① abolish Bd of Dir
- ② D. J.
- ③ abolish grants to book-keeping centers

Garrick - 818/577-2110

THE WHITE HOUSE
WASHINGTON

next
staff
meeting
- Jan 5

Rt -

back-up Bob Finch
(h) 818/449-3448
o) 818/449-4812

Herb Klein

619/299-3131 (o)

619/755-3101 (h) San Diego

A meeting at HHS today
FOA ppl are bringing Bowen results of 14 Univ's
Kegan Admin grants - a compound that is a
cure for AIDS. 24 patients, very successful.

Klein says - PSB contacted see Bowen
meeting at noon - got him to the W.H.

Bos. week Dec. 29th - pg 74
Best of '86 - leaked - right hand
Viratex

THE WHITE HOUSE
WASHINGTON

developed compound. It's been 1 1/2 yrs
a series of studies

It is a ^{"hollywood"} ~~stuff~~ breakthrough - not only
cure but preventative.

When Rob talked to Bowen, Bowen went
up to speed.

THE BEST OF 1986



SPECIALIZING IN JAPANESE STOCKS, SILVERMAN WAS NO. 1 IN MUTUAL FUND RETURNS



HOMES IN BRIDGEPORT, CONN., APPRECIATED MOST

MAR

THE HOTTEST NYSE ISSUE

THREE OF HITE'S COMMODITY FUNDS

STOCKS

MARCADE GROUP "Best" is an unfamiliar word for the folks at the Marcade Group, a troubled Jersey City (N.J.) women's wear manufacturer that as of early December could lay claim to having the best-performing issue on the New York Stock Exchange. "Numero Uno," sighs the company's president, Herbert I. Wexler, "that's what the numbers say."

Until this year, the numbers haven't been quite so kind to Marcade. With sales hurt by intense overseas competition, the 39-year-old company has posted losses every year since 1982. Marcade stock, which fluctuated in the 2-to-4 range through the early 1980s, went for 56¢ at the end of 1985, and the company's 5,800 shareholders had little reason for optimism. In Marcade's dreary 1985 annual report, auditors noted that the company might not be able to survive because of its crushing debt burden.

But, as they say, it's always darkest before the dawn. In the first two fiscal quarters of 1986, Marcade—with 2,100 employees and 1985 sales of \$69 million—turned a profit by cutting costs, and it sold two subsidiaries for extra cash. Moreover, it has worked out a debt-restructuring plan with its lenders and an investor group, subject to shareholder approval, that would ensure its survival. Debt would be sliced from \$30 million to \$4 million, shareholder equity

would rise from a negative \$14.5 million to \$3.5 million, and Marcade would be left with \$10 million in working capital.

As a result of this good news, Marcade stock has zoomed more than 200% in recent months. True, it's still trading below its levels of two years ago, but Wexler is glad that his long-suffering shareholders finally have something to cheer about. "If we'd all bought a few hundred shares last year," he points out, "we could have made a bundle."

PHILIPPINE LONG DISTANCE When Ferdinand E. Marcos was overthrown as President of the Philippines, Filipinos rejoiced—and apparently made a lot of phone calls. One of the prime beneficiaries of that euphoria was Philippine Long Distance Telephone Co., whose shares rocketed 150% in three days. And that was no flash in the pan. The stock is now up almost 600% for the year, easily making it the best performer on the American Stock Exchange.

Philippine Long Distance, as its name modestly obscures, is the principal supplier of both long-distance and local telephone service in the Philippines. Earnings were penalized throughout the first half of the 1980s by high finance costs, and its stock sagged in 1985. PLDT shares that you could have picked up for \$188 a year ago would now cost \$1,300.

But profits have risen sharply, surging 171% over the year before. If they stay on that course in 1987, the stock would be selling at only three times

earnings despite its runup in price. Cheap—perhaps because an investment in PLDT is also a gamble on the future political stability of the Philippines.

Viratek With sales of \$2 million and a loss of \$2.8 million in 1985, Viratek Inc. hardly seems to be the stuff dream investments are made of. But Viratek, a 49%-owned subsidiary of ICN Pharmaceuticals Inc., is the best-performing over-the-counter stock of 1986. At 80½¢ as of Dec. 4, shares of this Costa Mesa (Calif.) company have catapulted 650% above their yearend 1985 level.

The cause of all the excitement is the hope that a Viratek-developed drug, ribavirin, may prevent the onset of AIDS in people who have been exposed to the AIDS virus. So far, the Food & Drug Administration has approved ribavirin for hospital use in aerosol form against a serious respiratory infection unrelated to AIDS.

But clinical trials are nearing completion that will demonstrate ribavirin's effect on 350 people who have been exposed to the AIDS virus. Studies are also planned by the Public Health Service and the National Cancer Institute. There's no assurance the findings will be positive. But if they are, ribavirin may be the long-awaited anti-AIDS drug. And if it is, sales of ribavirin could top \$2 billion a year, according to one analyst. If it isn't, the AIDS nightmare will continue, and the dream of Viratek shareholders will end.

CIGARETTE M... tives, 1986... walking into... cos were th... group, rising... year's winne... dogs, tobacco... hold their ow... on the outco... health lawsu... against the ir... thus far been... make defeatin...

On the dow... remain a distin... drought in the... the tobacco c... But prices are... because of ch... system, and co... widen their m... niques that re... co per cigaret...

ROBERT PREC Prechter how... stock market... owes it all to R... who died the y... born. Prechter... The Elliot Wa... his idol. Elliot... price patterns h... time, and those... try of the mar...