AIDS in Alabama:

THE FIRST 1,000 DAYS

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AIDS IN ALABAMA: THE FIRST 1000 DAYS

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INT R OD U CT ION

The intent of this review is to provide a perspective on the epidemic of Acquired Immunodeficiency Syndrome (AIDS) in Alabama and its recent impact on the practice of medicine and public health in this state. Slightly more than 1,000 days have passed since the first Alabama resident was diagnosed with AIDS in 1982. Rapid advancement of knowledge concerning this syndrome and its cause has occurred since that time. A few of the pieces of the yet incomplete puzzle of AIDS have been found because Alabama residents with AIDS, their families, their physicians, and state public health workers have joined in the pursuit of the knowledge needed for control of this epidemic. This review is dedicated to those Alabama residents whose lives have been and will be taken by this epidemic.

Signal Events in AIDS/HT LV-III Recognition in Alabama

In mid-1982 the Centers for Disease Control (CDC) received three reports of Pneumocystis carinii pneumonia occurring in men with hemophilia A without other underlying disease (1). Two of these three patients had died by mid-1982. In September, 1982 Diane Rowley, M.D., a medical epidemiologist with the CDC, was assigned to the Jefferson County Alabama Department of Health. During her first week in Jefferson County, Dr. Rowley received the report of a 55-year-old Jefferson County resident with hemophilia who was found to have Pneumocystis carinii pneumonia. Over the next several months, Dr. Rowley developed close rapport with this patient, his wife and family, as well as his physicians at a time when he represented only the second living person with hemophilia and AIDS.

Detailed study of this patient's immune system was performed by his physicians at the University of Alabama at Birmingham and published in March of 1983 (2). In conjunction with Dr. Man-Chiu Poon and the local staff of a hemophilia clinic, Dr. Rowley assisted in the study of the relationship between lymphocyte parameters and the amount of anti-hemophilic factor hemophilia clinic patients had received. This was important early work supporting the now established relationship of blood product usage and human T-lymphotropic virus-type III (HT LV-III) infection.

Throughout this patient's illness and until his death in 1983, Dr. Rowley maintained close ties with him and his family making numerous home visits. After his death Dr. Rowley discussed in an article, which appeared in the Birmingham Post Herald, on August 23, 1983, the

contribution he had made to medical knowledge about AIDS at that time. A team from the Centers for Disease Control in Atlanta came to Birmingham to obtain post-mortem specimens. None of this would have been possible without the understanding and cooperation of this patient, his wife, and family.
In September, 1982 the designation of AIDS was given to the syndrome previously known as KSOI (Kaposi's Sarcoma/Opportunistic Infection). Beginning in November, 1982 and for the next several months physicians in Jefferson County were caring for three Alabama residents with an unusual form of infection. Two of these three men were homosexual and the other was an intravenous drug user. All three men had disseminated infection due to Histoplasma capsulatum and had evidence of depressed cellular immunity consistent with the diagnosis of AIDS. A report of these cases was published by Dr. James Bonner and associates. (3) At the time it accompanied several similar reports by physicians in other areas of the United States endemic for histoplasma infection as a result the spectrum of opportunistic infections which may complicate AIDS was expanded. Later the CDC offered a revision of the case definition of AIDS which now includes disseminated histoplasmosis. (4)

In March, 1983, because of information that the development of AIDS appeared to be related to the receipt of blood products, voluntary deferral of donations by members of then-recognized high-risk groups (homosexual men, intravenous drug abusers, Haitians, or persons visiting Haiti) was encouraged. By mid-1983, of 2157 patients with AIDS reported to the CDC 64 (3%) had no recognized risk factor for AIDS. Eighteen of these individuals had received blood components within five years before the onset of illness and were designated as having transfusion-associated AIDS (TA-AIDS).

Alabama residents, physicians, and public health workers were asked to assist in investigating this association. One of the 18 persons with TA-AIDS was an Alabama man diagnosed in May, 1983 after having received blood products during cardiac surgery in August 1981. The donor survey performed in Alabama in association with this case was one of only seven such investigations completed at the time of publication of the CDC report. (5) In each of the seven investigations at least one donor belonging to a high risk group was identified. A subsequent follow-up report from the CDC which included results of viral cultures from asymptomatic donors solidified the evidence for persistent human T-cell lymphotropic virus III (HTLV-III) infection in asymptomatic persons and gave credence to the emerging theory of persistent HTLV-III viral carriage. (6)

Occurrence of AIDS Cases in Alabama (1982-Present)

In its July, 1983 meeting the Alabama State Committee of Public Health designated AIDS a notifiable disease. Figure 1 is a histogram showing the temporal occurrence of AIDS cases among Alabama residents. A report presented at the International Conference on Acquired Immunodeficiency Syndrome in Atlanta in April, 1985 (7) described the doubling time of AIDS cases in areas such as Alabama as being approximately eleven months. During 1985 the doubling time of AIDS cases in Alabama was 7 1/2 months. (Fig. 2)
These two figures also illustrate the proportion of Alabama residents with AIDS who are residents of Jefferson County, the most populous county in the state(1980 census: 688,500). A number of persons with AIDS who are residents of other states have received medical care in Alabama.

Further description of the risk factors for AIDS among some Alabama residents may be taken from the Jefferson County data. Table 1 shows that most persons with AIDS in Jefferson County have had homosexuality /bisexuality as a risk factor, while one man had hemophilia A and one had used IV drugs. One patient had no established risk factor for development of AIDS. These proportions are consistent with the National Surveillance Data which show that 73% of adults with AIDS are homosexual or bisexual men, 17% are intravenous drug users, 1% have hemophilia and 6% have no identified risk factor. Through the last 1,000 days in Alabama there have been no children identified with AIDS. Table 1 also lists the conditions which were present which met the criteria for the diagnosis of AIDS. Ten of the persons with AIDS had pneumonia due to Pneumocystis carinii. Multiple types of infections were common. Hospital care for these Jefferson County residents was provided by five different county hospitals with no single hospital caring for more than five of the patients.

Through the first 1,000 days of the AIDS epidemic in Alabama there have been 34 reported cases. Table 2 shows that these persons' ages ranged from 19 to 63 years, with a median age of34 years. The estimated number of years of potential life lost in Alabama due to the AIDS epidemic stands at 730 years. The mortality rate for reported AIDS cases in Alabama is 62%, slightly but not significantly higher than the 51% mortality rate nationwide. The mean survival after the date of report for Alabama residents with AIDS has been six months.

Serologic Testing for Antibody to HT LV-III
In early 1985 enzyme immunoassay (EIA or ELISA) tests were made commercially available and are capable of detecting antibody to protein components of the human T lymphotropic virus III. This test was first used by area blood collection agencies in April of 1985. Shortly

thereafter the Alabama Department of Public Health instituted alternate testing sites (ATS) at five health departments throughout the state - Jefferson County, Madison County (Huntsville), Tuscaloosa County, Montgomery County and Mobile County. Each ATS was equipped to provide counseling, EIA testing, and confirmation of positive EIA results using Western Blot electrophoresis. Persons who may desire to have this antibody determination performed must first speak with a trained counselor and acknowledge that they have been made aware of the risks and limitations of this type of testing. Pre-test counseling and post-test counseling are required even though the person may have negative antibody results. All positive antibody results by the EIA method are confirmed by Western Blot electrophoresis. The required counseling is directed toward life-style behavior modification to either reduce the risk of transmitting HTLV-III or the risk of acquiring the infection. Table 3 shows the rate of seropositivity by month at the Jefferson County Department of Health's ATS from June through October, 1985. These data are the results in high-risk individuals who are identified as having had homosexual contact or intravenous drug use.

The overall positivity is 18.2% and although Table 3 illustrates a trend toward decreasing positivity there is in fact no significant difference by month. Persons with antibody to HTLV-III are offered physician examination at the Jefferson County Department of Health. Table 4 illustrates that of 19 HTLV-III antibody positive persons examined only two (11%) were symptomatic and found to have illnesses consistent with the AIDS-related complex (ARC). Three asymptomatic persons had enlargement of the lymph nodes in two or more noncontigous areas (lymph node syndrome). Fourteen (74%) HTLV-III antibody positive persons were completely asymptomatic and had normal physical examinations. These observed proportions are in keeping with the reported distribution of ARC and the asymptomatic state in other cohorts of HT LV-III-infected high risk groups. (8)
The Alabama Department of Public Health ATS Program directed that a clerk would receive telephone calls from the public concerning the testing program. Figure 3 shows the number of calls received by the Jefferson County Department of Health HTLV Program clerk between June and November 10, 1985. Since no counseling is carried out over telephone each of these increasing number of calls represents a possible educational opportunity for the HTLV-III counselor.

In May, 1985 a support organization for Persons With AIDS (PWA), their friends and families was formed in Jefferson County and incorporated as a nonprofit organization known as Birmingham AIDS Outreach. This organization has spearheaded the promotion of safer sex guidelines

among the local gay community and has representation on the Jefferson County Department of Health's AIDS Task Force. With initial sponsorship from the Jefferson County Department of Health, Birmingham AIDS Outreach has established an AIDS/HTLV-III information telephone line staffed by trained volunteers. The AIDS Task Force, meeting regularly since May, 1985, is made up of professionals from the community whose daily work is increasingly affected by AIDS, HTLV-III infection and issues raised by the epidemic. Projects of the Task Force in the first few months of its existence have included identification of area physicians who will accept referrals of persons with HTLV-III infection and related conditions, a survey of area nursing homes for the placement of persons affected by HTLV-III, and the provision of speakers for public as well as professional groups.

Discussion

Acquired immunodeficiency syndrome, while already a major health problem in certain communities, is gathering importance in Alabama. The cumulative rate of AIDS in Alabama (8.5 cases/million population) is dwarfed by the rates of 284/million and 132/million of New York State and California respectively. Oklahoma (8.7/million), Indiana (9.4/million), and Michigan (10.5/million) join Alabama as states which may experience the second wave of the epidemic during the next 4-5 years. Dr. James Curran, Director of CDC's AIDS Program has recommended that communities with the same rate of seropositivity among high risk groups as was present in San Francisco four years ago (25%) should be taking all available steps to prevent the transmission of HTLV-III to persons who remain uninfected. Spread of infection through the nation's blood supply would seem to be no longer an issue following the institution of highly sensitive screening of these products as well as the treatment of other blood products in ways which will inactivate HTLV-III.

This review has emphasized that most persons with AIDS in Alabama are members of the same high-risk groups which are represented in the national figures. Therefore recommendations for safer sexual practices must be vigorously promoted within our state. A recent report from San Francisco (9) indicates that gay and bisexual men in that community have modified their behavior in order to lessen the risk of transmitting or being infected with HTLV-III. For states such as Alabama it must be hoped that the epidemic levels of AIDS present in San Francisco will not be required before high-risk men adopt safer sexual lifestyles. In this regard, data from the Jefferson County ATS Screening Program is encouraging in that rates of seropositivity have not risen during the past five months. It must be cautioned however that this group of high-risk individuals is self-selected for testing and the infection rate observed may not represent the true prevalence of HTLV-III infection among high-risk persons in Jefferson County or in Alabama.

This review has not dealt extensively with the issues of HT antibody testing apart from the results presented. One of these issues involves persons who may be identified as HTLV-III antibody positive at health care provider sites where experienced counseling, and protection of these individuals' confidentiality, is not available. Physicians in their offices or in hospitals are not accustomed to asking their patient's permission to obtain any type of serologic test. The current commercially available HT LV-III antibody tests are designed to be overly sensitive so that no one with true infection will be missed. The 1985 experience of the American Red Cross shows that over 90% of persons whom they identify as HTLV-III antibody-positive are not found to be repeatedly positive and/or do not have confirmatory Western Blot electrophoresis tests. (10) Thus one would expect indiscriminate EIA testing in a general hospital population to yield a large number of false positive results which would lead to extensive unnecessary concerns for the patients, physicians, hospital staffs, and others. On the other hand a high-risk individual who is admitted for health care not related to HTLV-III infection could be found to have a positive test and this could provide an opportunity to emphasize to that individual his/her risk for transmission of infection. However this information should be presented by an experienced counselor and it is doubtful that the confidentiality of that patient's test result could be maintained in a general hospital setting. Although these issues and others will remain in the forefront, HTLV-III tests will continue to be used in general hospital settings. I believe the appropriate public health response should be to provide trained counselors to deal with each individual instance to the betterment of the mental health of those involved as well as the provision of information which will ultimately lead to the control of spread of HTLV-III.

At the current rate of increase the yearly number of new AIDS cases among Alabama residents will surpass the yearly number of new tuberculosis cases in late 1988 (approximately 500/year).

The first 1,000 days of AIDS in Alabama has enabled the state's residents, health care professionals, and public health workers to play a small role in the recognition and description of this apparent global epidemic. It is now time to thoughtfully consider our future approaches to the problem

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Table 1.

RISK FACTORS, TYPES OF INFECTIONS, AND INSTITUTIONAL* CARE OF 13 RESIDENTS WITH AIDS JEFFERSON COUNTY, ALABAMA

OCTOBER 1982 - OCTOBER 1985.

Risk Factort	Condition(s)4
H/B	MAI, CMV
H/B	PCP, MAI, HSV
H/B	KS
H/B	Candida
H/B	PCP
H/B	PCP, MAI
H/B	PCP, Histoplasma, HSV, CMV
H/B	PCP
H/B	PCP, Candida
H/B	PCP, Cryptococcus
HEM	PCP, MAI
IV	PCP, Cryptococcus, Candida
NONE	PCP

*Hospital care provided in five different county hospitals

tKey: H/B - Homosexual or bisexual man; HEM-hemophilia; IV-intravenous drug use

SMAI -Mycobacterium avium-intracellulare; PCP -Pneumocystis carinii pneumonia; KS-Kaposi sarcoma; HSV--Herpes simplex virus; CMV -cytomegalovirus

Table 2.

**YEARS OF POTENTIAL LIFE LOST (YPLL)
BEFORE AGE 71 YEARS
AMONG ALABAMA RESIDENTS DUE TO AIDS
(THROUGH OCTOBER, 1985)**

Age (Yr) Range	Mean	Median	YPLL	No. Deaths	Mortality*
19-63	36.2	34	730	21	62%

*34 Cases reported.

Table 3.

**HTLY-III ANTIBODY SEROREACTIVITY
RATE BY MONTH AT
JEFFERSON COUNTY DEPARTMENT OF HEALTH
SCREENING SITE, 1985
(HIGH-RISK PERSONS)**

	June	July	Aug	Sep	Oct
No. Positive	3	9	3	6	6
No. Tested	16	31	25	31	45
(Percent)	(19)	(29)	(12)	(19)	(13)

p >0.1, Chi square (4 df)

Table 4.

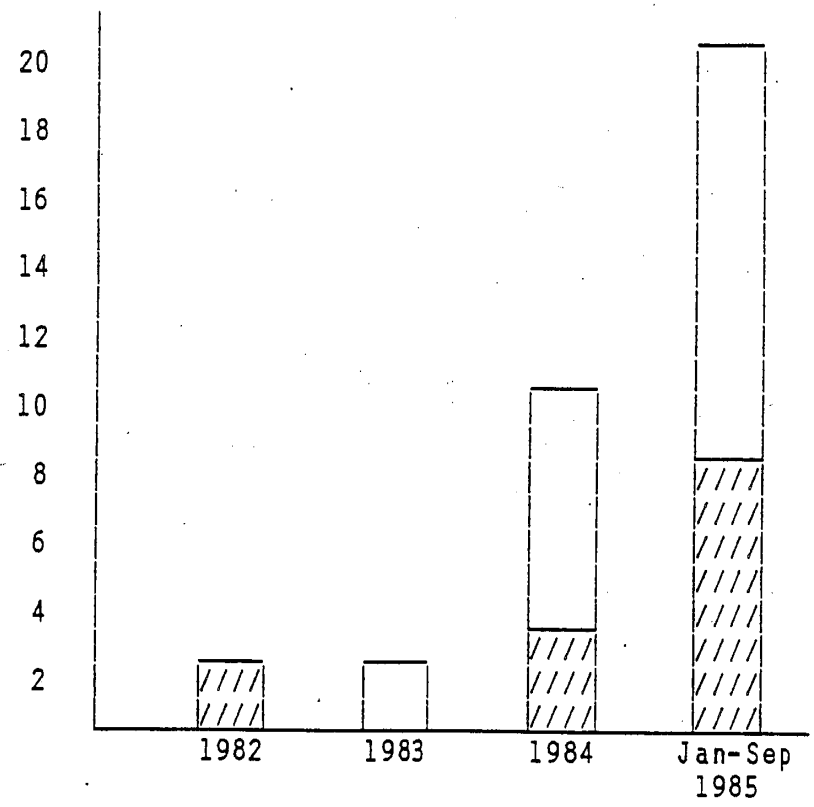
CLINICAL STATUS OF PERSONS WITH ANTIBODY* TO HTLV-III AT VISIT TO PHYSICIAN, JEFFERSON COUNTY DEPARTMENT OF HEALTH JUNEOCTOBER, 1985

	No. (s)
Symptomatic, Abnormal physical exam	2 (11)
Asymptomatic, Lymph node syndrome	3 (16)
Asymptomatic, Normal physical exam	14 (74)
Total	19*

*Two (2) positive ELISA tests and positive Western blot electrophoresis on same serum specimen.

*Mean age 32.5, median 33, range 19-49 years.

Figure 1

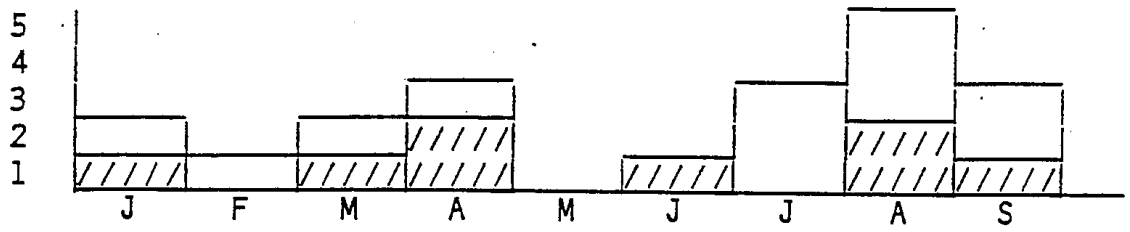


CASES OF AIDS AMONG ALABAMA RESIDENTS
BY YEAR

//// Jefferson County Residents

Source: Alabama Department of Public Health
Bureau of Epidemiology and Consultation

Figure 2

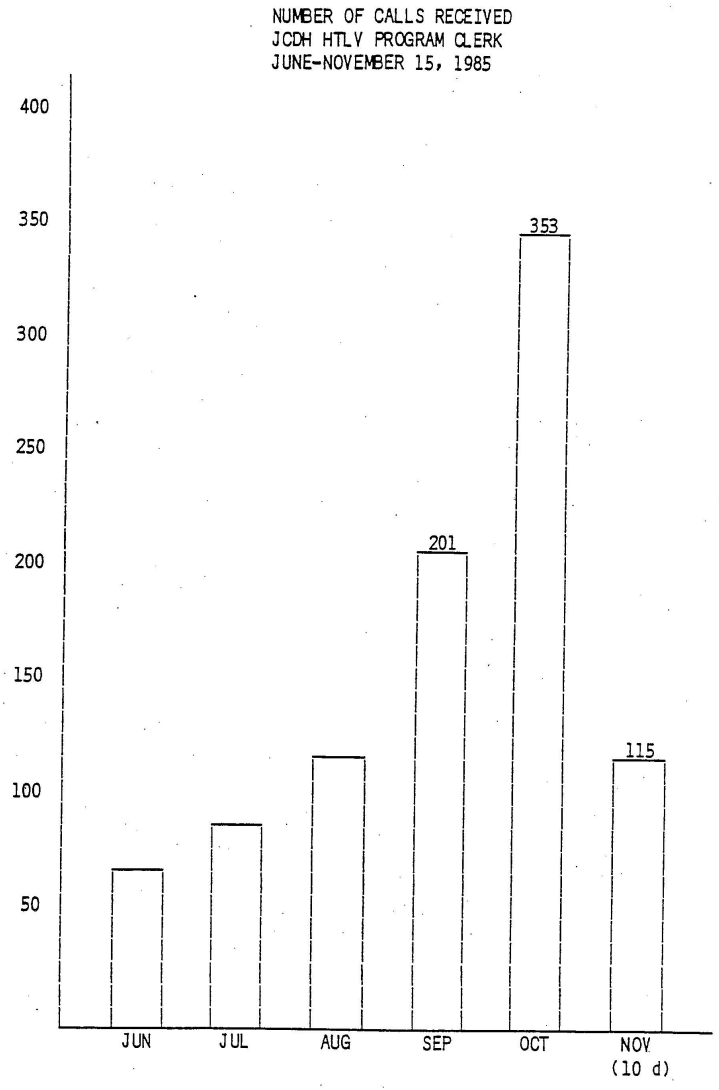


CASES OF AIDS AMONG ALABAMA RESIDENTS
JAN-SEP, 1985

////// Jefferson County Resident

Source: Alabama Department of Public Health
Bureau of Epidemiology and Consultation

Figure 3


NUMBER OF CALLS RECEIVED
JCDH HTLV PROGRAM CLERK
JUNE-NOVEMBER 15, 1985
400
350
300
250
200
150
100
50
353
201
115
JUN
JUL
AUG
SEP
OCT
NOV
(10 d)

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