EXPANSION OF THE
CDC SURVEILLANCE DEFINITION FOR AIDS

SUSAN HASSIG, DrPH

The Centers for Disease Control (CDC) and
the Council of State and Territorial
Epidemiologists (CSTE) recently met and
adopted a new and expanded version of the
surveillance definition for AIDS (1). The
revision was developed to meet a number of
objectives:

1) to track more effectively the severe
morbidity associated with infection
with human immunodeficiency virus
(HIV);

2) to simplify the reporting of AIDS
cases;

3) to increase the sensitivity and
specificity of the case definition
through greater diagnostic applica-
tion of laboratory evidence of HIV
infection and

4) to maintain consistency with current
diagnostic practice, which in some
cases includes presumptive diagnosis
of an AIDS-related disease.

The two older definitions of AIDS were
developed early in the epidemic and
reflected the level of knowledge at the time
of their generation. The first AIDS
definition was developed prior to knowledge
of the viral etiology of the syndrome, and
required that individuals meet strict
diagnostic and exclusionary criteria (e.g. no
history of steroid or chemotherapy prior
to diagnosis) (2). The second definition
(developed in 1985) retained the diagnostic
and exclusionary criteria, but expanded the
list of "acceptable" diseases or conditions in
the presence of serologic evidence of HIV
infection (3).

The most recent version, effective
September 1, 1987, changes all three facets
of the previous definitions. First, it
removes the exclusion criteria regarding
previous therapies and malignancies if there
is laboratory evidence of HIV infection.
Second, it allows for presumptive (without
tissue confirmation) diagnosis of many
diseases with evidence of HIV infection.
Lastly, it again expands the list of diseases
and conditions considered to be AIDS-
indicative.

The new definition affects both children
and adults, but there are some differences in
its application to these two groups. First,
multiple or recurrent serious bacterial
infections and lymphoid interstitial pneu-
monitis/pulmonary lymphoid hyperplasia are
accepted as indicative of AIDS in children
but not in adults. Secondly, for children <15
months of age, whose infection is believed to be due to perinatal transmission from their infected mother, the methodology for documenting HIV infection has become more stringent. This is due to the persistence of passively acquired maternal antibody beyond the immediate perinatal period.

The list of AIDS-indicative diseases has been expanded to include the following, when the patient has laboratory evidence of HIV infection and the diseases are diagnosed in a definitive manner:

1) candidiasis of the trachea, bronchus or lungs;
2) Kaposi's sarcoma in persons over age 60;
3) disseminated infection with Mycobacterium tuberculosis;
4) recurrent _Salmonella_ (non-typhoid) septicemia;
5) HIV wasting syndrome ("slim disease"); and
6) HIV encephalopathy ("HIV dementia").

The last two conditions have fairly complex definitions which can be summarized briefly as follows:

HIV wasting syndrome - profound involuntary weight loss of >10% of baseline body weight plus either chronic diarrhea or chronic weakness and fever for more than 30 days. The fever and/or diarrhea may not be attributable to any other illness or condition (e.g. cancer, TB, giardiasis, etc.).

HIV encephalopathy - clinical findings of disabling cognitive and/or motor dysfunction interfering with occupation or activities of daily living, including but not limited to change in mental status, loss of memory, changes in personality, etc. Again, other illnesses or conditions which could cause the condition must be ruled out through cerebrospinal fluid exam, CT scan, MR imaging, autopsy.

The CDC has developed guidelines for the presumptive diagnosis of a number of familiar AIDS-indicative diseases. The diseases which may be diagnosed without tissue confirmation (with evidence of HIV infection) are:

1) esophageal candidiasis;
2) cytomegalovirus retinitis;
3) disseminated mycobacteriosis;
4) Kaposi's sarcoma;
5) lymphoid interstitial pneumonitis;
6) Pneumocystic carinii pneumonia; and
7) toxoplasmosis of the brain.

The details of the suggested presumptive criteria can be found in the MMWR Supplement of August 14, 1987, or can be obtained by contacting AIDS Surveillance personnel at the State Health Department.

The change in the definition was effective immediately upon its release. The CDC and CST&E have also recommended application of the definition retrospectively to patients who did not previously meet the diagnostic criteria. As of October 31, Louisiana has had 67 cases of AIDS reported who meet only the new case definition (4). These cases constitute approximately 11% of the total reported case load in the State. We encourage the reporting of any cases (historical or current) which fulfill the new criteria. Further information regarding case reporting (and report forms
themselves) are available by contacting:

AIDS Surveillance
Epidemiology Section
P.O. Box 60630
Room 615
New Orleans, Louisiana 70160

Phone:
(504) 568-5005
or
Line 621-5005

REFERENCES:


3. CDC. Revision of the case definition of Acquired Immune Deficiency Syndrome (AIDS) - United States. MMWR 1985;34:373-375.


LOUISIANA AIDS UPDATE

<table>
<thead>
<tr>
<th>CASES</th>
<th>DEATHS</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987 (thru 10/31/87)</td>
<td>190</td>
<td>72</td>
</tr>
<tr>
<td>TOTAL, ALL YEARS.</td>
<td>620</td>
<td>405</td>
</tr>
</tbody>
</table>
CRITERIA FOR PATIENT ELIGIBILITY FOR FEDERALLY FUNDED AZIDOTHYMIDINE (AZT)

Department of Health and Human Resources (DHHR) has been awarded a federal grant in the amount of $301,076 for the purchase of azidothymidine which has been found in some cases to prolong the life of persons with AIDS. The state does not guarantee funding beyond that of this grant. DHHR will use these federal dollars for AZT funding on a first come first serve basis. This medication will be available to persons who meet the following criteria:

1) The patient must have been diagnosed with AIDS or Advanced AIDS Related Complex (ARC).

2) The patient must be ineligible for any non-placebo controlled AZT study. Eligibility for current studies may be determined by calling (504) 584-3605, the number of LSU-Tulane AIDS treatment and Evaluation Unit in New Orleans.

3) The patient must be willing to be followed as felt necessary by his/her physician. Poor patient compliance can be a reason for discontinuing medication.

4) The patient's financial status is within the definition of 200% of the federal poverty level as follows:
   - 1 person household - $900/mo.
   - 2 person household - $1233/mo.
   - 3 person household - $1530/mo.
   - 4 person household - $1867/mo.

5) The patient must have no other financial means for access to AZT.

Comment:

Physicians who wish to refer patients for AZT must be sure that their patient meets the above criteria.

If you wish to call for additional information the Epidemiology Section number is (504) 568-5005.
AIDS AND MOSQUITOES

Recently, much concern has surrounded the possible role of mosquitoes in the transmission of the human immunodeficiency virus (HIV), the virus that causes AIDS. In this article, we clarify the mechanisms by which mosquitoes can transmit viral agents, and examine available published data pertinent to such transmission.

Arthropod vectors can transmit pathogens biologically or mechanically. In biological transmission, the arthropod is essential for the growth or development of the pathogen. Such transmission can be categorized as:

1) "cyclo-propagative," where the organisms undergo cyclical changes and multiply in the arthropod vector (e.g., Plasmodium species which cause malaria);

2) "cyclo-developmental," where the organisms undergo cyclical changes in the arthropod, but do not multiply (e.g., Wuchereria bancrofti, the agent of bancroftian filariasis); and

3) "propagative," where the organisms multiply without cyclical changes (e.g., arthropod-borne viruses, such as western encephalitis virus).

Specifically, for mosquito-transmitted viral diseases, the virus must enter the mosquito and propagate. Virus is then disseminated in the mosquito and subsequently concentrates in the salivary gland. Infection of the human host results at the time of feeding from introduction of virus-containing mosquito saliva. Studies involving both natural feeding and intrathoracic inoculation of extreme concentrations (1,000 to 1 million times human infection levels) of HIV into mosquitoes have shown that HIV does not propagate in mosquitoes (personal communication, Thomas Monath, M.D., Division of Vector-borne Viral Diseases, Centers for Disease Control). Therefore, the possibility of biological transmission of HIV is extremely remote. This is not unexpected, since most viruses that infect humans (e.g., measles, mumps, rubella, hepatitis B virus, cytomegalovirus, and Epstein-Barr virus) have not been demonstrated to be biologically transmitted through mosquitoes.

The second mode of transmission, mechanical transmission, can occur with viral agents and results when the arthropod is a carrier. Transmission of the pathogen generally occurs through contamination of its mouth parts or regurgitation of blood into the new host. This type of transmission could theoretically result if a mosquito bit an HIV-infected person and then subsequently bit an uninfected person. When considering this type of transmission for HIV, several important factors need to be taken into consideration. These include the volume of infected blood required to result in transmission, mosquito feeding habits, and available epidemiologic data substantiating this hypothesis. Each of these factors will be separately addressed.

First, in examining the volume of blood required for transmission, currently available data for health-care workers are applicable (1-5). These studies indicate that

* SOURCE:
the likelihood of HIV transmission resulting from a needle-stick or non-percutaneous mucous membrane exposure is extremely small, supporting the fact that substantial volume of blood is required before transmission will occur. The amount of blood contaminating the mouth parts of mosquitoes is likely to be less than the amount of blood resulting from exposure to a contaminated needle, as seen in the hospital setting. Also in the healthcare setting, hepatitis B virus (HBV) has been demonstrated to be more likely to be transmitted through needle-stick injury than HIV, indicating that exposure to a smaller volume of blood will transmit HBV. Hepatitis B surface antigen (HBsAg) has been demonstrated in wild-caught African mosquitoes (6), yet there has been no evidence of transmission of HBV by mosquitoes. In one study, mosquitoes were allowed to feed on chimpanzees infected with HBV (7). The feeding was interrupted and the mosquitoes were allowed to complete their feeding on non-infected susceptible chimpanzees. Although homogenates of mosquitoes showed the presence of HBsAg, the exposed chimpanzees remained uninfected, suggesting no risk of mosquito-related mechanical transmission of HBV. Since mechanical transmission has not been demonstrated for HBV, it is even less likely that such transmission would occur with HIV due to the larger volume of blood required.

The second point to consider is the feeding habits of the mosquito. Mosquitoes do no regurgitate blood consumed from a previous host, and they have relatively small mouth parts, allowing for less blood contamination. Both characteristics reduce the likelihood of mechanical transmission. In addition, mosquitoes are theoretically more likely to complete a blood meal because they induce a painless bite, unlike a biting fly, so they generally do not need to seek a subsequent host to complete an interrupted blood meal.

The third important point is the current available information on the epidemiology of HIV infection. Several epidemiologic observations do not support mosquito transmission of HIV. First, in the United States, HIV infection has occurred in persons with known risk factors for acquiring infection and has not occurred randomly, as would be expected if arthropods were transmitting HIV. Studies in Belle Glade, Florida, which has a very high incidence of AIDS and where mosquito transmission has been postulated, have shown that the AIDS cases reported from that region are related to intravenous drug abuse or heterosexual transmission, and not due to mosquito transmission (8–10). Second, in Africa, AIDS is largely a disease of sexually active young adults living in urban areas; the seroprevalence is much lower in rural areas. A recent study in Zaire has demonstrated a seroprevalence for HIV antibody of 0.8% in healthy members of rural villages, where mosquito transmission of disease is likely to occur (11). In contrast, studies have demonstrated HIV antibody seroprevalence rates ranging from 27% to 88% for high-risk groups in urban African areas (12). Also, older African children (those not at risk for perinatal HIV transmission) do not appear to be at risk for acquiring HIV. This demographic pattern in Africa is quite different than that for malaria, a known vector-borne disease (13–15). Finally, household studies of HIV transmission have demonstrated that persons living with someone with AIDS or someone infected with HIV are not at increased risk of acquiring infection (16–18), which would be expected if mosquitoes or other arthropods were important for transmission.

In summary, HIV has not been demonstrated to propagate in the mosquito host, and no available data support biological transmission. Second, mechanical transmission is not supported by the volume of blood required to cause infection, the feeding habits of mosquitoes, or the
currently available epidemiologic data. For further information, contact the AIDS Surveillance Program in the Epidemiology Section at (504) 568-5005.

REFERENCE:


*PREVENTING FOOD OUTBREAKS FROM Poultry*

Reports from the United States Department of Agriculture have recently stated that nearly 40 percent of the United States poultry supply is contaminated with salmonella. For public health purposes, one should assume that 100 percent of the poultry is contaminated with salmonella bacteria. The following public health controls are suggested to prevent foodborne disease outbreaks associated with poultry.

Temperature is the first and best control. All poultry products must be stored at 45°F or colder. This does not kill the bacteria but slows its growth. If the poultry is frozen, thaw slowly under refrigeration or cold running water. It may also be thawed as part of a continuous cooking process in an oven. In cooking poultry products, heat all parts to at least 165°F to kill live bacteria. If the poultry product is to be kept hot, it must be kept at 140°F or more which prevents new bacterial growth.

Efforts must be made not to contaminate other food products with bacteria from poultry products (especially food that will not be further cooked). Proper washing and sanitizing of all surfaces coming in contact with poultry such as cutting boards, knives and counter tops (the sanitizer can be a one half ounce of chlorine bleach in one gallon of water) should be done before processing any other food items. Care should be taken not to store raw poultry products in close proximity to ready-to-eat foods, such as salads.

Special precautions should be taken with leftovers. When cooling poultry, rapidly cool to below 45°F from the hot storage temperature of over 140°F. Then when reheating, rapidly reheat the poultry to 165°F to kill all new salmonella cells.

These general temperature controls together with common sanitary precautions will provide safe poultry products and prevent the possibility of a foodborne disease outbreak.

*SOURCE:
 David Stull, C.P.S., M.P.A., Bureau of Community Sanitation
 Missouri Department of Health, Missouri Epidemiologist, Vol, IX, No. 3 May/June, 1987*
## SELECTED REPORTABLE DISEASES

(By Place of Residence)

<table>
<thead>
<tr>
<th>STATE AND PARISH TOTALS</th>
<th>MEASLES</th>
<th>RUBEOLA</th>
<th>Mumps</th>
<th>Pertussis</th>
<th>Tetanus</th>
<th>AESCERCHEMOTOM</th>
<th>HEPATITIS A</th>
<th>UNIDENTIFIED</th>
<th>HEPATITIS B</th>
<th>LEGIONELLOSIS</th>
<th>MALARIA</th>
<th>Meningococcal Infections</th>
<th>Tuberculosis: Pulmonary</th>
<th>Typhoid Fever</th>
<th>Other Salmonellosis</th>
<th>Rubella, Congenital Syndrome</th>
<th>Syphilis, Primary and Secondary</th>
<th>Rabies in Animals</th>
<th>(Parish Totals Cumulative 1987)</th>
</tr>
</thead>
<tbody>
<tr>
<td>REPORTED MORBIDITY SEPTEMBER, 1987</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL TO DATE 1986</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>15</td>
<td>6</td>
<td>75</td>
<td>105</td>
<td>192</td>
<td>3</td>
<td>15</td>
<td>17</td>
<td>78</td>
<td>308</td>
<td>1</td>
<td>216</td>
<td>5</td>
<td>14187</td>
<td>677</td>
<td>18</td>
</tr>
<tr>
<td>TOTAL TO DATE 1987</td>
<td>0</td>
<td>0</td>
<td>368</td>
<td>42</td>
<td>0</td>
<td>60</td>
<td>114</td>
<td>381</td>
<td>3</td>
<td>0</td>
<td>21</td>
<td>326</td>
<td>185</td>
<td>0</td>
<td>714</td>
<td>0</td>
<td>11572</td>
<td>550</td>
<td>12</td>
</tr>
<tr>
<td>TOTAL THIS MONTH</td>
<td>0</td>
<td>0</td>
<td>156</td>
<td>12</td>
<td>0</td>
<td>71</td>
<td>17</td>
<td>42</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>114</td>
<td>20</td>
<td>0</td>
<td>154</td>
<td>0</td>
<td>1184</td>
<td>73</td>
<td>5</td>
</tr>
</tbody>
</table>

### Parishes

- **ACADIA**: 1<br>
- **ALLEN**: 1<br>
- **ASSUMPTION**: 1<br>
- **AVAILLLES**: 3<br>
- **BEAUPRASSE**: 2<br>
- **BOSSIER**: 1<br>
- **CADDO**: 4<br>
- **CALCASIEU**: 2<br>
- **CAMERON**: 1<br>
- **CAPIATRIEU**: 1<br>
- **CLAIROLNE**: 5<br>
- **CONCORDIA**: 1<br>
- **DESOTO**: 1<br>
- **EAST BATON ROUGE**: 1<br>
- **EAST CARROLL**: 1<br>
- **EAST FELICIANA**: 1<br>
- **EVANGLEINE**: 1<br>
- **FALCON**: 2<br>
- **GRANT**: 1<br>
- **IBERTA**: 1<br>
- **LOURVILLE**: 1<br>
- **JACKSON**: 2<br>
- **JEFFERSON**: 4<br>
- **JEFFERSON DAVI**: 1<br>
- **LAFAYETTE**: 1<br>
- **LAPORCHI**: 7<br>
- **LASALLE**: 1<br>
- **LINCOLN**: 1<br>
- **LIVINGSTON**: 1<br>
- **MAIDSON**: 1<br>
- **MOREHOUSE**: 1<br>
- **PITCHECHES**: 1<br>
- **ORLEANS**: 1<br>
- **OUACHITA**: 3<br>
- **PULPAROMES**: 1<br>
- **POINTE COUPE**: 1<br>
- **RPSIDES**: 2<br>
- **RED RIVER**: 1<br>
- **RICHOLAND**: 1<br>
- **SAJINE**: 1<br>
- **ST. BERNARD**: 1<br>
- **ST. CHARLES**: 1<br>
- **ST. HELENA**: 1<br>
- **ST. JAMES**: 2<br>
- **ST. JOHN**: 1<br>
- **ST. LANDY**: 1<br>
- **ST. MARTIN**: 1<br>
- **ST. MARY**: 1<br>
- **ST. TAMPARY**: 1<br>
- **TANGIPARDA**: 1<br>
- **TENSAS**: 1<br>
- **TERRIENNE**: 1<br>
- **UNION**: 2<br>
- **VERJHILL**: 1<br>
- **VERNON**: 1<br>
- **WASHINGTON**: 1<br>
- **WEST BATON ROUGE**: 2<br>
- **WEST FELICIANA**: 2<br>
- **WINN**: 3

### Notes

- From January 1, 1987 - September 30, 1987, the following cases were also reported:
  - 2: Measles, 1: Brucellosis, 1: Cholera, 5: Leptospirosis, 9: Rubeola, 3: Tularemia

* Includes Rubella, Congenital Syndrome.

** Includes 17 cases of Measles, 1: Amebic, 1: Brucellosis, 1: Cholera, 1: Leptospirosis, 1: Rubeola, 1: Tularemia.

*** Acquired outside United States unless otherwise stated.
<table>
<thead>
<tr>
<th>State and Parish Totals</th>
<th>Vaccine Preventable Diseases</th>
<th>Aseptic Meningitis</th>
<th>Hepatitis A and Undiagnosed Gastroenteritis</th>
<th>Hepatitis B</th>
<th>Legionnaires Disease</th>
<th>Malaria</th>
<th>Meningitis</th>
<th>Shigellosis</th>
<th>Tuberculosis, Pulmonary</th>
<th>Typhoid Fever</th>
<th>Other Salmonellosis</th>
<th>Underreporting or Severe Malnutrition and Anemia</th>
<th>Gonorrhea</th>
<th>Syphilis, Primary and Secondary</th>
<th>Rubella, Congenital Syphilis</th>
<th>Other (Parish Totals Cumulative 1987)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total to Date 1986</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>11</td>
<td>5</td>
<td>84</td>
<td>129</td>
<td>233</td>
<td>4</td>
<td>17</td>
<td>19</td>
<td>311</td>
<td>1</td>
<td>300</td>
<td>5</td>
<td>115,776</td>
</tr>
<tr>
<td>Total to Date 1987</td>
<td>0</td>
<td>0</td>
<td>180</td>
<td>0</td>
<td>124</td>
<td>419</td>
<td>4</td>
<td>23</td>
<td>1418</td>
<td>206</td>
<td>0</td>
<td>870</td>
<td>0</td>
<td>112,017</td>
<td>635</td>
<td>785</td>
</tr>
<tr>
<td>Total This Month</td>
<td>0</td>
<td>0</td>
<td>180</td>
<td>0</td>
<td>124</td>
<td>419</td>
<td>4</td>
<td>23</td>
<td>1418</td>
<td>206</td>
<td>0</td>
<td>870</td>
<td>0</td>
<td>112,017</td>
<td>635</td>
<td>785</td>
</tr>
</tbody>
</table>

**ACADIA** 2
**ALLYN** 60
**ASSUMPTION** 1
**AVOYELLES** 2
**BEAUREGARD** 1
**BIENVILLE** 2
**BOSSIER** 1
**CADDIS** 6
**CALCASIEU** 1
**CANEY** 3
**CAMERON** 1
**CATAHOULA** 2
**CLARK** 1
**CONCORDIA** 115
**DE SOTO** 1
**EAST BATON ROUGE** 8
**EAST CARROLL** 1
**EAST FELICIANA** 2
**EVANGELINE** 1
**FRANKLIN** 1
**GRANT** 1
**IBERIA** 2
**IIMERIL** 1
**JACKSON** 1
**JEFFERSON** 7
**JEFFERSON DAVIS** 5
**LAFAYETTE** 1
**LAPORTE** 1
**LASCAlLE** 1
**LINCOLN** 2
**LIVINGSTON** 1
**MADISON** 1
**MARION** 1
**MATHIS** 1
**ORLEANS** 2
**OUDIN** 2
**PARESINE** 1
**POINTE CROUPEE** 1
**RAPIDES** 1
**RED RIVER** 1
**RICHARDSON** 1
**SABINE** 1
**ST. BERNARD** 1
**ST. CHARLES** 1
**ST. ELISBETH** 1
**ST. JAMES** 1
**ST. JOHN** 1
**ST. LANDRY** 1
**ST. MARTIN** 1
**ST. MARY** 1
**ST. TAMMANY** 1
**TANGIPAHNA** 1
**TENAS** 1
**TERREBONNE** 3
**UNION** 1
**VERMILION** 1
**VENICE** 1
**WILBERFORCE** 1
**WEBSTER** 1
**WEST BATON ROUGE** 1
**WEST CARROLL** 1
**WEST PELICANNA** 1

**NETT** 2

---

From January 1, 1987 - October 31, 1987, the following cases were also reported:
- 2-Amebiasis
- 1-Brucellosis
- 5-Cholera
- 5-Leptospirosis
- 7-Reye Syndrome
- 3-Tularemia

*Includes Rubella, Congenital Syphilis.
**Includes 20 cases of Hepatitis A, Non B.
***Acquired outside United States unless otherwise stated.
This public document was published at a total cost of $2623. 7500 copies of this public document were published in this first printing at a cost of $1320. This document was published for the Office of Preventive and Public Health Services by the Office of Management and Finance, Printing Operations, Baton Rouge, Louisiana to inform physicians, hospitals, and the public of current Louisiana morbidity status under authority of R.S. 40:36. This material was printed in accordance with the standards for printing by state agencies established pursuant to R.S. 40:31.