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**County of Los Angeles • Department of Health Services**  
**Public Health**  
**Acute Communicable Disease Control**  
**Special Studies Report 2000**

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**PEDIATRIC HIV DISEASE**  
**PEDIATRIC SPECTRUM OF DISEASE (PSD)**

In March 1988, the Los Angeles County (LAC) Department of Health Services began conducting active surveillance for children HIV-exposed and infected under the age of 13 years as part of the Centers for Disease Control's national PSD research project. Case ascertainment included all children who had died with an AIDS or HIV diagnosis and all who were still alive and in medical care.

As of December 31, 2000, with active case surveillance at the 10 major LAC pediatric referral centers, a total of 1,627 HIV exposed and infected children had been reported to PSD. This number includes 1,422 LAC resident children and 205 nonresident children receiving care in LAC (including those who had died). PSD collects information at baseline, when the child is initially evaluated for HIV and then every 6 months for the life of the child. Children who reach adolescence are followed until they are transferred to an adult AIDS clinic. Excluding those who have died or are lost to follow-up, 297 HIV-infected children and adolescents and 46 children of indeterminate status are under HIV care in LAC.

#### **CDC CLASSIFICATION**

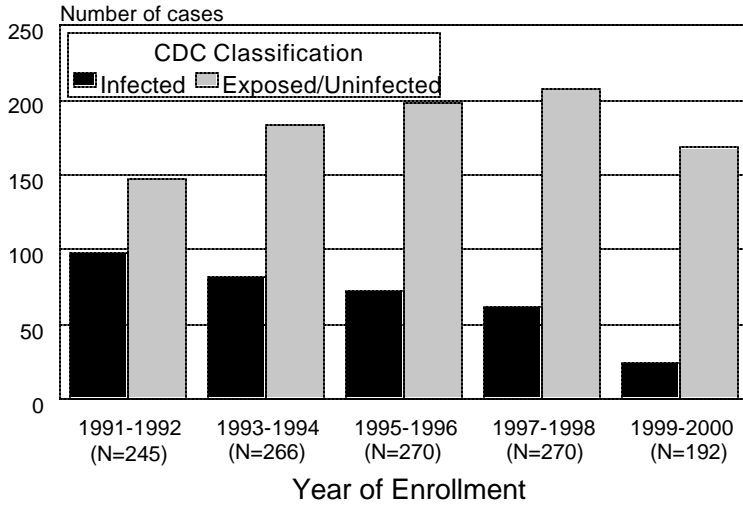
Of the total 1,627 children reported to PSD through December 31, 2000, 593 were HIV-infected, 936 were perinatally exposed but uninfected, and 98 were exposed and of indeterminate HIV status due to the persistence of maternal HIV antibody. Of the 593 HIV-infected children, 309 or 52% had an AIDS-defining condition and met the CDC classification criteria for AIDS. Of these, 25 were diagnosed with an AIDS defining illness after 12 years of age. An additional 24 infected children 13 years or older met the adult AIDS definition with a CD4 lymphocyte count <400 $\mu$ L. In 2000, 80 HIV-exposed or infected children were reported to PSD of whom 6% had an AIDS diagnosis at last medical contact, an additional 10% were infected but without AIDS, 44% were of indeterminate status, and 40% were uninfected. Of the 13 infected children reported in 2000, 11 were identified after birth and 10 after 2 years of age. Four were non-LAC residents at the time of their HIV diagnosis. The proportion of infected children has decreased from 40% of the total children reported in 1991-1992 to 13% in 1999-2000 (Figure 1).

#### **MODE OF TRANSMISSION**

Among the 691 HIV-infected children and adolescents, including 98 children with indeterminate HIV status, 515 (75%) had perinatally acquired (PA) infection from an HIV-infected mother, 125 children (18%) were infected from a contaminated blood transfusion, and 39 (6%) were children with hemophilia or a coagulation disorder, and 12(1%) other or unknown transmission including two children who were infected due to breast feeding. Among the PA group, 22% had a mother who was an intravenous drug user (IDU), 11% had a mother who had sex with an IDU, 25% had a mother who had sex with an HIV+ or high-risk male, 4% had a mother infected through a blood transfusion, and 37% had a mother whose risk factor for HIV infection could not be identified. Sexual abuse is suspected as a risk factor for 4 children and confirmed for 1 child.

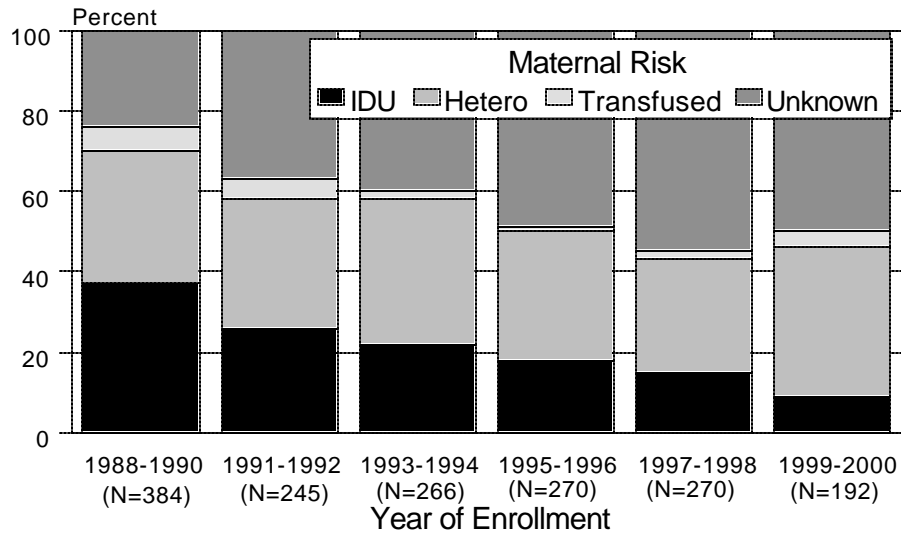
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**Special Studies Report 2000**

Figure 1: CDC Classification and Year of Child's Enrollment  
 Los Angeles County 1/91-12/00



Source: DHS, Pediatric Spectrum of HIV Disease Study

Figure 2. Maternal HIV Risk of Children with Perinatally Acquired  
 HIV Exposure by Year of Child's Enrollment  
 Los Angeles County, 3/98 - 12/00



Source: DHS, Pediatric Spectrum of HIV Disease Study

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**Special Studies Report 2000**

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The proportion of perinatally exposed children whose mother's risk factor for HIV was IDU has decreased from 37% in 1988-90 to 9% in 2000 (Figure 2). Correspondingly, the number of children infected due to an HIV-infected mother with unknown risk has increased each year from 24% in 1988-90, to 50% in 1999-2000.

## **DEMOGRAPHICS**

Among the 691 HIV-infected and indeterminate children and adolescents reported, 34% were Black, 42% Hispanic, 20% White, 3% Asian, and 1% other/unknown. Of the 80 HIV-exposed and infected children reported in 2000, 38% were Black, 53% Hispanic, 7% White, and 2% other/unknown.

The distribution of HIV-infected and indeterminate children by gender shows slightly more males than females (52% vs. 48%), due to the disproportionate number of transfusion-associated and hemophilic cases among males.

Most children (73%) had a biologic parent as their primary caretaker at the latest medical contact: 20% lived with another relative or were in foster care, 3% with adoptive parents, and 5% in other or unknown living arrangements. The PA group was more likely to be living in foster care or with another relative than the transfused and hemophiliacs (23% vs. 5%, and 3% respectively). Within the PA group, the Hispanics were the least likely to be in foster care or living with another relative (14% vs. 32% for Blacks and 30% for Whites).

## **CASE FATALITY AND SURVIVAL**

The cumulative fatality rate for AIDS cases was 64% (198/309). Fourteen or 4% of the children not meeting the AIDS case definition have died. The mean age at AIDS diagnosis for the PA cases was 29 months (median 14.0 months) compared to the mean age at AIDS diagnosis of 89 months for the transfused cases (median 89 months), and 160 months for the hemophiliacs (median 143 months).

Among the 343 HIV-infected and indeterminate children still alive and followed by PSD, 16% were less than 2 years of age, 31% were between 2-7 years, 27% were 8-12 years, and 26% were 13 years or greater.

## **PRENATAL ZDV AND PERINATAL TRANSMISSION**

Beginning in 1994, zidovudine (ZDV) use during pregnancy, labor, and delivery became a recognized means to prevent perinatal HIV transmission. Of the 611 infants born in 1995-2000 to HIV-infected women and reported to PSD, 449 (73%) of their mothers received ZDV during pregnancy; 492(81%) received prenatal care. Similarly, 451 (74%) received ZDV during labor and delivery. In 2000, 93% received prenatal care, 89% received antiretrovirals either during pregnancy or labor and delivery, and 73% of the mothers received both. Compared to the 20-25% transmission

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rate observed before 1994, the overall rate of transmission for all children born in 1995-00 and reported to PSD was 10%. The C-section rate in LAC among children reported to PSD has increased from 20-30% before 1999 to 51% in 2000.

### **UNIVERSAL OFFERING OF PRENATAL HIV TESTING AND COUNSELING**

As of January 1, 1996, all prenatal providers are legally required to offer HIV testing and counseling and document the offering in the patient's medical record. Statistics from six health centers who report directly to Acute Communicable Disease Control (ACDC) showed a 75% acceptance rate for 2000. Three HIV-positive women were identified in 2000. ACDC continues to evaluate risk assessment data on pregnant women who test HIV positive. Eighty-two women since 1989 have been identified in LAC clinics; 58 (71%) reported risk assessment information to ACDC. Thirty (52%) of these women could not identify any known risk factor for HIV infection. Women identified as HIV positive are referred to tertiary care centers to receive specialized care for themselves and their unborn infants.

### **REFERENCE**

1. Centers for Disease Control. Appendix: Revised Surveillance Case Definition for HIV Infections. MMWR December 10, 1999/4 (RR-13); 29-31.