

Perinatal Transmission

The most common route of HIV infection in young children is perinatal transmission—transmission of HIV from an infected mother to her child during pregnancy, labor, and delivery, or breastfeeding (CDC, 2014). Reduced perinatal transmission following provision of antiretroviral (ARV) medication to HIV-positive pregnant women and their newborns was first demonstrated in early 1994 (Connor et al., 1994). Shortly afterward, the U.S. Public Health Service developed recommendations calling for voluntary HIV testing of all pregnant women and ARV therapy for HIV-positive pregnant women and their newborns (CDC, 1994). Implementation of these recommendations has drastically reduced rates of perinatal transmission in the U.S. (Mofenson, Taylor, Rogers, and Campsmith, 2006).

In August 2003, the Illinois Perinatal HIV Prevention Act ([Public Act 93-0566](#)) (The Act) was signed into law (it was amended and strengthened in 2006). The Act mandates that all pregnant women in Illinois be provided HIV counseling and offered HIV testing as early in their pregnancy as possible. If a woman does not have a documented maternal HIV test when presenting for labor and delivery, she should be counseled, offered an HIV test, and the results of testing documented (Illinois Department of Healthcare and Family Services, 2014).

The Act mandates that health care providers report all preliminary HIV-positive pregnant women and HIV-exposed newborns to a 24-hour perinatal HIV hotline (AIDS Foundation of Chicago, AIDS Legal Council of Chicago, Children's Memorial Hospital, and Pediatrics AIDS Chicago, 2006). The Illinois 24/7 Perinatal HIV Hotline (1-800-439-4079), maintained by IDPH, serves as a statewide resource for up-to-date treatment recommendations for providers and links mothers and their infants to care and enhanced case management services both during and after pregnancy.

In 2013, 150,832 women gave birth in Illinois with 108 women known to be HIV positive at time of delivery. 6,405 pregnant women (4.2%) presented to labor and delivery with undocumented HIV status and 99.6% or 6,378 received a rapid HIV test. As a

result of testing women with undocumented HIV status, 12 additional HIV positive pregnant women were identified.

Despite current legal, clinical, and social interventions, Illinois continues to have a few cases of mother-to-child HIV transmission annually. Data from the Perinatal HIV Hotline indicates consistent trends of pregnant women not disclosing known HIV positive status to medical providers, which has contributed to late entry into care and/or delayed interventions. In an effort to identify and address missed opportunities associated with perinatal HIV exposure and transmission, Illinois has participated in the Fetal and Infant Mortality (FIMR)-HIV Review process since 2009 (FIMR/HIV Prevention Methodology National Resource Center).

The Illinois FIMR-HIV Case Review Team reviewed 90 HIV cases from 2009–2014. Of the reviewed cases, 74% of women received limited or no prenatal care. Provision of prenatal care is crucial in order to get to zero cases of perinatal transmission in Illinois. Seventy-seven percent of women reviewed during the FIMR-HIV process had a history of one or more of the following challenges during or after pregnancy: substance abuse (72%); mental illness, including depression (49%); homelessness (28%); incarceration (23%); and domestic violence (25%). Interventions that address these factors can also reduce rates of perinatal transmission.

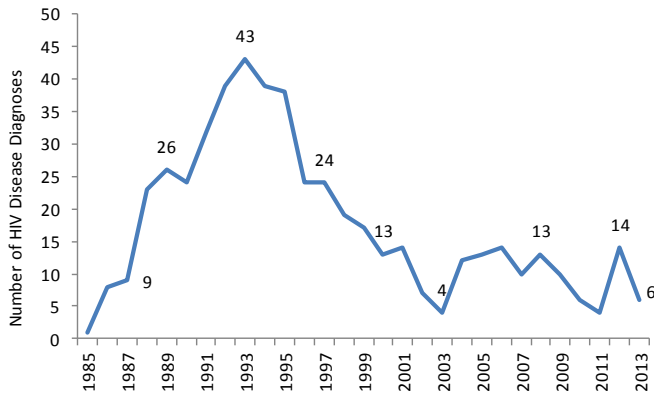
HIV Disease Diagnoses

The first perinatal HIV diagnosis was reported to IDPH in 1985. Since then, 506 perinatally transmitted HIV cases have been reported in Illinois through the end of 2013. The number of perinatal diagnoses peaked in 1993 when 43 perinatal cases were reported. By 1996, with use of ARV therapy for HIV-positive pregnant mothers and their newborns, perinatal cases began to decline.

Of the 9,002 persons in Illinois newly diagnosed with HIV disease diagnosis from 2009–2013, 7,047 had an identified transmission risk category. Among these, 40 cases were identified as being due to perinatal exposure. Complete country of birth information

was available for 35 of the 40 identified perinatal cases of which 13 cases (37%) were foreign-born. In addition to the identified cases of perinatal transmission, 25 cases among children aged <13 years with no identified transmission risk category were reported during this time period.

Figure 1. HIV Disease Diagnoses due to Perinatal Transmission by Year of Diagnosis, Illinois, 1985–2013



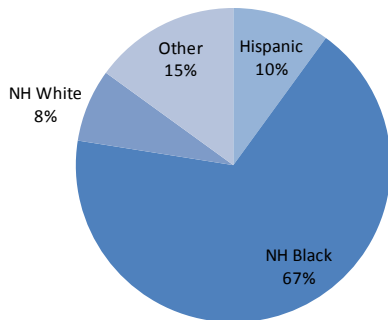
Note: Among children <13 years of age at diagnosis, 76 children diagnosed from 1985–2013 had no transmission risk category reported.

Source: Illinois Department of Public Health, June, 2014

Race/Ethnicity

The majority (67%) of perinatal cases reported from 2009–2013 were non-Hispanic (NH) black children, reflecting the higher HIV disease prevalence among NH black women in Illinois and immigration from areas of high HIV prevalence in Africa.

Figure 2. HIV Disease Diagnoses due to Perinatal Transmission by Race/Ethnicity, Illinois, 2009–2013

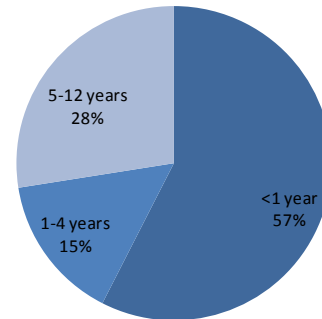


Source: Illinois Department of Public Health, June, 2014

Age

Among the 40 identified perinatal cases reported in Illinois from 2009–2013, 23 were diagnosed prior to one year of age and six children were diagnosed between 1–4 years. Eleven cases were diagnosed from ages 5–12 years.

Figure 3. HIV Disease Diagnoses due to Perinatal Transmission by Age at Diagnosis, Illinois, 2009–2013

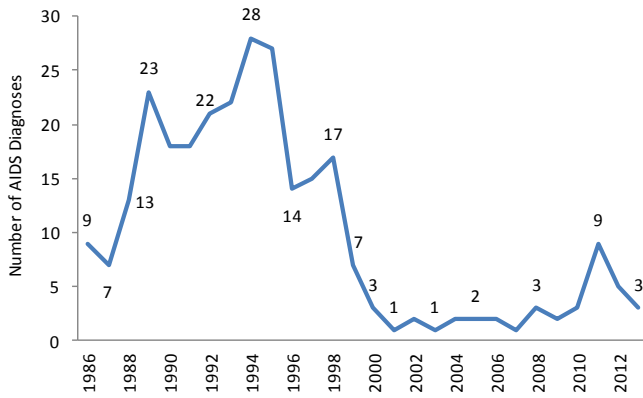


Source: Illinois Department of Public Health, June, 2014

AIDS Incidence

Prior to the advent of effective ARV treatment, prognosis for children infected with HIV was poor, with over 20% progressing to advanced stages of the disease or dying within the first year of life (Blanche et al., 1997). Although HIV-associated opportunistic infections (OIs) have declined in the era of effective ART, HIV-associated OIs and other related infections continue to occur in HIV-infected children (Siberry et al., 2013). In Illinois, from 2000–2013, 39 persons who acquired HIV via perinatal transmission progressed to AIDS with a range of 1–9 AIDS diagnoses annually.

Figure 4. AIDS Diagnoses among Persons Living with HIV Disease due to Perinatal Transmission by Year of Diagnosis, Illinois, 1986–2013

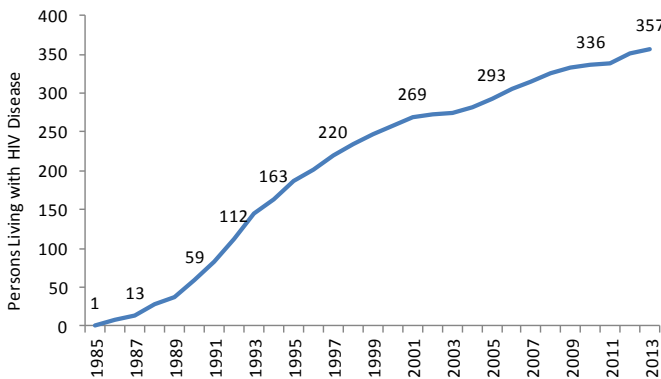


Source: Illinois Department of Public Health, June, 2014

Persons Living with HIV Disease

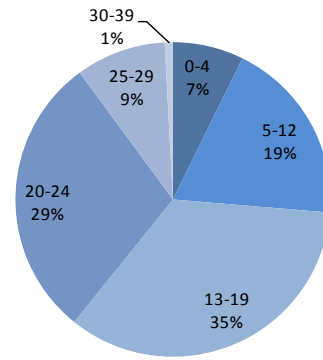
At the end of 2013, there were 357 persons living with HIV disease in Illinois that acquired the disease through perinatal exposure. All were currently aged <40 years with over half aged ≤19 years. Perinatally infected individuals face a number of challenges, both physical and social, including the need for lifelong treatment adherence, the potential for development of ARV drug resistance, and a variety of physiological complications due to long-term ARV use (Barlow-Mosha, Eckard, McComsey, and Musoke, 2013; Lala and Merchant, 2011).

Figure 5. Persons Living with HIV Disease due to Perinatal Transmission by Year, Illinois, 1985–2013



Source: Illinois Department of Public Health, June, 2014

Figure 6. Persons Living with HIV Disease due to Perinatal Transmission by Current Age, Illinois, 2013.



Source: Illinois Department of Public Health, June, 2014

Mortality

Despite the reduction in mortality with the advent of effective ART treatment, children with HIV have a mortality rate that is almost 30-fold higher than non-infected children (Brady et al., 2010). A long-term follow-up study of children living with HIV disease found a decrease in AIDS-defining opportunistic infections but increase in non-AIDS-defining infections causing death suggesting that ART may not fully reverse or prevent immune compromise among children (Brady et al., 2010).

Of the 506 perinatal cases reported in Illinois since the beginning of the epidemic, by the end of 2013, 149 were known to have died. From 2000–2013, 30 persons who acquired HIV perinatally died. Except for one person, all decedents were <13 years old at time of death.

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