

HAB HIV Performance Measures: Pediatrics

Pediatric Performance Measure: Diagnostic Testing to Exclude HIV Infection in Exposed Infants	
Percentage of exposed infants ¹ born to HIV-infected women who received recommended virologic diagnostic testing ² for exclusion of HIV infection in the measurement year	
Numerator:	Number of HIV-perinatally exposed infants who had at least two virologic diagnostic tests performed at appropriate time points ² by age of six months to definitively exclude HIV infection
Denominator:	Number of HIV-perinatally exposed infants who: <ul style="list-style-type: none"> • were 6-12 months of age at any point in the measurement year; and • who had a medical visit with a provider with prescribing privileges³ at least once in the measurement year
Patient Exclusions:	<ol style="list-style-type: none"> 1. Patients who were newly enrolled after six months of age 2. Patients diagnosed with HIV infection
Data Elements:	<ol style="list-style-type: none"> 1. Was the patient 6-12 months of age at any point in the measurement year? (Y/N) <ol style="list-style-type: none"> a. If yes, was the infant born to an HIV-infected woman? (Y/N) <ol style="list-style-type: none"> i. If yes, was the patient seen by a provider with prescribing privileges during the measurement year? (Y/N) <ol style="list-style-type: none"> 1. If yes, did the infant have documentation of receiving at least two virologic diagnostic tests at recommended time points² to definitively exclude HIV infection? (Y/N) <ol style="list-style-type: none"> a. If yes, list dates.
Data Sources:	<ul style="list-style-type: none"> • Electronic Medical Record/Electronic Health Record • CAREWare, Lab Tracker or other electronic data base • Medical record data abstraction by grantee of a sample of records • Billing records
National Goals, Targets, or Benchmarks for Comparison:	None available at this time
Outcome Measures for Consideration:	<ul style="list-style-type: none"> • Median age of diagnosis of HIV infection • Median age of exclusion of HIV infection • Rate of opportunistic infections among clinic population
Basis for Selection:	
HIV virologic testing should be performed at a minimum at ages 14-21 days, 1-2 months and 4-6 months.	
Antibiotic prophylaxis against PCP is recommended for infants with indeterminate HIV infection starting at 4-6 weeks of life or until they are determined to be uninfected. Diagnostic testing allows PCP prophylaxis to	

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be avoided or stopped if confirmed uninfected.⁴

US Public Health Guidelines:

“HIV infection should be diagnosed using HIV DNA PCR or RNA virologic assays. Maternal HIV antibody crosses the placenta and will be detectable in all HIV-exposed infants up to 18 months of age; therefore standard antibody tests should not be used for HIV diagnosis in newborns. HIV virologic testing should be performed at a minimum at ages 14–21 days, 1–2 months, and 4–6 months. Some experts also perform a virologic test at birth, especially if the woman has not had good virologic control during pregnancy or if adequate follow-up of the infant may not be assured. A positive HIV virologic test should be confirmed as soon as possible with a second HIV virologic test on a different specimen. Two positive HIV tests constitute a diagnosis of HIV infection.⁴

Definitive exclusion of HIV infection in nonbreastfed infants may be based on two negative virologic tests at ≥ 1 month and ≥ 4 months of age.⁴

References/Notes:

¹ For the purposes of this measure “infants” includes all patients 6-12 months of age.

² *Definitive* exclusion of HIV infection in a nonbreastfed infant is based on two or more negative virologic tests, with one obtained at age ≥ 1 month and one at ≥ 4 months.

³ A “provider with prescribing privileges” is a health care professional who is certified in his/her jurisdiction to prescribe medications.

⁴ Working Group on Antiretroviral Therapy and Medical Management of HIV-Infected Children. Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. May 24, 2010; pp 1-117. Available at <http://aidsinfo.nih.gov/ContentFiles/PediatricGuidelines.pdf>. Accessed December 20, 2009, pp. 111-113.

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Pediatric Performance Measure: Neonatal Zidovudine Prophylaxis	
Percentage of infants ¹ born to HIV-infected women who were prescribed ZDV prophylaxis ² for HIV within 12 hours of birth during the measurement year	
Numerator:	Number of infants born to HIV-infected women who were prescribed ZDV prophylaxis within 12 hours of birth during the measurement year
Denominator:	Number of infants who: <ul style="list-style-type: none"> • were born to HIV-infected women during the measurement year; and • had a visit with a provider with prescribing privileges³ in an HIV setting⁴ during the measurement year
Patient Exclusions:	None
Data Elements:	<ol style="list-style-type: none"> 1. Was the infant born to an HIV-infected woman during the measurement year? (Y/N) <ol style="list-style-type: none"> a. If yes, was the infant seen by a provider with prescribing privileges in an HIV setting during the measurement year? (Y/N) <ol style="list-style-type: none"> i. If yes, was ZDV prophylaxis prescribed within 12 hours of birth during the measurement year? (Y/N) <ol style="list-style-type: none"> 1. If yes, list the date.
Data Sources:	<ul style="list-style-type: none"> • Electronic Medical Record/Electronic Health Record • CAREWare, Lab Tracker or other electronic data base • Medical record data abstraction by grantee of a sample of records • Billing records
National Goals, Targets, or Benchmarks for Comparison:	None available at this time
Outcome Measures for Consideration:	<ul style="list-style-type: none"> • Rate of perinatal transmission
Basis for Selection:	
<p>PACTG 076 demonstrated that administration of ZDV to the pregnant woman and her infant could reduce the risk of perinatal transmission by nearly 70%. Perinatal HIV transmission can occur at low or undetectable HIV RNA levels. All HIV-exposed infants should receive postpartum antiretroviral drugs to reduce perinatal HIV transmission. ZDV should be initiated as close to birth as possible, preferably within 6-12 hours of delivery. The 6-week neonatal ZDV chemoprophylaxis regimen is recommend for all HIV-exposed infants.⁵</p> <p>The measure reflects important aspects of care that significantly impacts mortality. The measure has a strong evidence base supporting the use.</p>	

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US Public Health Guidelines:

“The 6-week neonatal component of the ZDV chemoprophylaxis regimen is recommended for all HIV-exposed neonates to reduce perinatal HIV transmission. ZDV should be initiated as close to the time of birth as possible, preferably within 6 to 12 hours of delivery.”⁵

References/Notes:

¹ “Infants” includes all patients aged 12 months and younger.

²The 6-week ZDV prophylaxis regimen is recommended at gestational age-appropriate doses; ZDV should be dosed differently for premature infants <35 weeks than for infants ≥35 weeks as outlined by the Public Health Service Task Force.

³A “provider with prescribing privileges” is a health care professional who is certified in his/her jurisdiction to prescribe medications.

⁴An HIV care setting is one which received Ryan White HIV/AIDS Treatment Extension Act of 2009 funding to provide HIV care and has a quality management program in place to monitor the quality of care addressing gaps in quality of HIV care.

⁵Perinatal HIV Guidelines Working Group. Public Health Service Task Force Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV Transmission in the United States. May 24, 2010. Available at: <http://aidsinfo.nih.gov/contentfiles/PerinatalGL.pdf>. Accessed July 29, 2010.

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Pediatric Performance Measure: PCP Prophylaxis for HIV-Exposed Infants	
Percentage of eligible infants ¹ with HIV-exposure who were prescribed PCP prophylaxis in the measurement year	
Numerator:	Number of HIV-exposed infants who were prescribed PCP prophylaxis during the measurement year
Denominator:	Number of HIV-exposed infants: <ul style="list-style-type: none"> • in whom HIV infection has not been presumptively excluded² by 6 weeks of age; and • had a medical visit with a provider with prescribing privileges³ at least once in the measurement year
Patient Exclusions:	1. Patients who are diagnosed with HIV infection
Data Elements:	<ol style="list-style-type: none"> 1. Was the infant seen by a provider with prescribing privileges during the measurement year? (Y/N) <ol style="list-style-type: none"> a. Was the infant HIV-exposed (born to an HIV-infected woman)? (Y/N) <ol style="list-style-type: none"> i. If yes, was the infant \geq 6 weeks of age at any point during the measurement year? (Y/N) <ol style="list-style-type: none"> 1. If yes, was HIV presumptively excluded by six weeks of age? (Y/N) <ol style="list-style-type: none"> a. If no, was the infant prescribed PCP prophylaxis during the measurement year? (Y/N) <ol style="list-style-type: none"> i. If yes, list the date
Data Sources:	<ul style="list-style-type: none"> • Electronic Medical Record/Electronic Health Record • CAREWare, Lab Tracker or other electronic data base • Medical record data abstraction by grantee of a sample of records • Billing records
National Goals, Targets, or Benchmarks for Comparison:	None available at this time
Outcome Measures for Consideration:	<ul style="list-style-type: none"> • Rate of PCP in the clinic population • HIV-related mortality rates
Basis for Selection:	
“PCP remains a common AIDS-indicator disease among HIV-infected infants and children. The highest incidence of PCP in HIV-infected children is in the first year of life, with cases peaking at age 3–6 months. The single most important factor in susceptibility of HIV-infected children of all ages to PCP is the status of	

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cell mediated immunity of the host.”²

The measure reflects important aspect of care that significantly impacts survival and mortality. Data collection is currently feasible and measure has a strong evidence base supporting the use.

US Public Health Guidelines:

“Chemoprophylaxis is highly effective in preventing PCP. Criteria for its use are based on the patient’s age and CD4 count or percentage. Prophylaxis is recommended for all HIV-infected children aged >6 years who have CD4 counts <200 cells/mm³ or CD4 <15%, for children aged 1–5 years with CD4 counts of <500 cells/mm³ or CD4 <15%, and for all HIV-infected infants aged <12 months regardless of CD4 count or percentage. Infants born to HIV-infected mothers should be considered for prophylaxis beginning at 4–6 weeks of age. HIV-infected infants should be administered prophylaxis until 1 year of age, at which time they should be reassessed on the basis of the age-specific CD4 count or percentage thresholds mentioned above. Infants with indeterminate HIV infection status should receive prophylaxis until they are determined to be HIV-uninfected or presumptively uninfected with HIV. Prophylaxis is not recommended for infants who meet criteria for definitively or presumptively HIV-uninfected.”²

References/Notes:

¹ “Infants” includes all patients 12 months of age or younger.

²Centers for Disease Control and Prevention. Guidelines for the Prevention and Treatment of Opportunistic Infections Among HIV-Exposed and HIV-Infected Children. MMWR 2009;58(No. RR-11).

http://aidsinfo.nih.gov/contentfiles/Pediatric_OI.pdf Accessed January 29, 2010, pp. 45-48; 68-69. In nonbreast-feeding infants with no positive HIV virologic test results, presumptive exclusion of HIV infection can be based on two negative virologic test results: one obtained at >2 weeks and one obtained at >4 weeks of age...Definitive exclusion of HIV infection is based on two negative virologic test results: one obtained at >1 month of age and one obtained at >4 months of age...For both presumptive and definitive exclusion of infection, the child should have no other laboratory (e.g., no positive virologic test results) or clinical (e.g., no AIDS-defining conditions) evidence of HIV infection.

³A “provider with prescribing privileges” is a health care professional who is certified in his/her jurisdiction to prescribe medications.