Pediatric HIV Admissions Decline Is Slowing

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FROM THE PEDIATRIC HOSPITAL MEDICINE 2010 MEETING

MINNEAPOLIS – Pediatric HIV admissions continue to decline, but less so than previously reported and mostly in older children, according to an analysis of two national data sets.

Researchers analyzed the Kids' Inpatient Database (KID) and Nationwide Inpatient Sample (NIS) from 2003 through 2007 for HIV trends across the years including hospitalization rates, changes in length of stay (LOS), and costs. The NIS data are annual; KID data are triennial.

Pediatric admissions for HIV as a primary diagnosis declined from 2003 by 32% in the 2006 KID and by 47% in the 2007 NIS. The decrease in admissions for HIV as the principal diagnosis plus secondary conditions, also known as the all-listed diagnosis, was lower at 23% for the 2006 KID and 38% for the 2007 NIS, Dr. Daniel Rauch reported in a poster presentation at the meeting.

"We've been very successful in identifying kids with HIV and preventing transmission, so that we're seeing an overall reduction in HIV in the United States," he said. "The decreased admission volume is also partly due to successful management of HIV by multidisciplinary outpatient teams, which may serve as a model for chronic disease management. The outcome is that less and less children are being hospitalized."

In New York City, just five infants were born with HIV last year, noted Dr. Rauch of Mount Sinai School of Medicine and associate director of pediatrics at Elmhurst Hospital Center, both in New York.

The pace of the decline is slower than previously reported. A similar analysis of

Meningococcal Vaccine Cleared For Ages 2-10

The approval of the quadrivalent meningococcal conjugate vaccine manufactured by Novartis has been expanded to include children aged 2-10 years, but does not yet include infants.

The Food and Drug Administration approved the use of the vaccine for preventing invasive meningococcal disease caused by *Neisseria meningitidis* serogroups A, C, Y, and W-135 in children aged 2-10 years of age, according to a statement issued by Novartis. The company markets the vaccine (Meningococcal [Groups A, C, Y and W-135] Oligosaccharide Diphtheria CRM $_{197}$ Conjugate Vaccine) as Menveo. It was approved in 2010 for use in adolescents and adults aged 11-55 years.

Novartis' application for approval included children down to age 2 months. But the statement said that the FDA had not included this age group in the approval because of concerns raised that the company believes are of a "procedural nature," and that the company plans to resubmit the application for approval with more clinical data on children 2 months to 2 years within a few months.

Approval for children aged 2-10 years was based on data in a phase III study of 5,297 children in that age group comparing the safety and immunogenicity against the four serogroups contained in the vaccine with those in the other meningococcal vaccine licensed in the United States, according to Novartis. The company said it has agreed to conduct postmarketing studies.

The other meningococcal conjugate vaccine approved in the United States is Menactra, manufactured by Sanofi Pasteur, which is also approved for immunizing people aged 2-55 years against invasive meningococcal disease caused by the four serogroups contained in the vaccine, the same included in Menveo.

In the European Union, where Menveo is known as Meningococcal Group A, C, W135 and Y Conjugate Vaccine, Novartis plans to submit data to support the use of the vaccine in children aged 0-10 years in the first half of 2011, according to the statement. In Canada, the application for use in children 2-10 years has been submitted.

–Elizabeth Mechcatie

NIS data documented a 71% decline in hospital use by HIV-infected children from 1994 to 2003, during the advent of highly active antiretroviral therapy (Pediatrics 2007;120:e236-43).

This decrease was more marked among infants and children younger than 5 years (94% for boys, 92% for girls), compared with adolescents (47% decrease for boys, 23% increase for girls aged 15-18 years).

By contrast, the current KID data show decreased admissions were more from children older than 4 years, Dr. Rauch said. In this age group, admissions for HIV as a primary diagnosis and as an all-listed diagnosis were 24% and 33%, compared with 17% and 15%, respectively, among children younger than 5.

The previously observed decrease in male admissions also has reversed and the male/female ratio now approaches 50%. Boys represented 38% of primary diagnoses in both the 2003 KID and NIS data sets, compared with 44% in the 2006 KID and 2007 NIS, said Dr. Rauch, who could offer no explanation for the finding.

"We have to stay vigilant," he said. "We can't let it get away from us."

For all years, HIV children are hospitalized overwhelmingly in teaching hospitals (more than 81%) and in metropolitan areas (more than 98%).

"The potential downfall there is that they're only presenting to a few centers now, so the overall skill set of taking care of a child that is HIV positive and is sick is being lost from the general community and only remains in a couple of centers," he said at the meeting, which was sponsored by the Society of Hospital Medicine, the American Academy of Pediatrics, and the Academic Pediatric Association.

Length of hospital stay for HIV as a primary diagnosis varied from 10.8 days in the 2003 NIS to 6.6 days in the 2005 NIS to 12.2 days in the 2007 NIS.

The average cost per admission increased from $15,015 in the 2003 KID to $20,936 in 2006 and from $18,493 in the 2003 NIS to $20,832 in the 2007 NIS. The lowest cost for admission was $13,448 in the 2005 NIS.

Cost per day increased from $1,706 in 2003 to $1,869 in 2006 in the KID data set, but stayed stable in the NIS data set at $1,712 in the 2003 vs. $1,707 in 2007.

Dr. Rauch reports serving as a consultant with Baxter. ■