



**100%
KID
FOCUSED**

Getting to Zero

Children's Hospital Oakland, 30 Years at Ground Zero of the HIV/AIDS Pandemic

December 1, 2011, marked World AIDS Day. The United Nations chose "Getting to Zero" as its theme. Zero infection, zero discrimination. Here at Children's Hospital & Research Center Oakland, getting to zero is more than a theme. It's a mission, and has been for three decades.

"We were pioneers," Program Director of the Pediatric HIV/AIDS Program Ann Petru, MD, frankly admits when asked about the early years of AIDS treatment here. When AIDS first appeared in California three decades ago, Dr. Petru had been at Children's four years, working in pediatric infectious diseases for only a year. By the time she saw her first case of AIDS at Children's in 1983, an epidemic was fully underway. Back then, treatment amounted to little more than diagnosis and death.

"There was no HIV test," she recalls. "No way to get critical information about an individual's T-cell numbers or viral loads. We were still figuring out that the disease could be transmitted to children and newborns." In one early case, Arthur Ammann, MD, traced pediatric infection to a local blood bank. His work helped prevent future transmissions, but it couldn't help dozens of already affected babies and children.

"Because of the work we've done at Children's Hospital Oakland," says Dr. Petru, "between 300 and 350 HIV-infected mothers have given birth to healthy, uninfected babies. That's a real achievement."

In 1986, Children's established a Pediatric HIV/AIDS Program with Dr. Petru as director.

Dr. Petru's team also sought treatments for mothers. In 1989, Children's Hospital Oakland received federal funding as part of the national Pediatric AIDS Clinical Trials Group. Many parents allowed their children to participate in these vital clinical

trials. Petru encouraged her HIV-infected patients to enter studies—including ones looking at new drugs for HIV and at childhood vaccine—with more than half of her patients eventually participating.

As a result of major groundbreaking studies, Children's patients received drugs like AZT and protease inhibitors, which drastically changed AIDS and its course in the population, including children infected with HIV/AIDS.

"In 1994, pregnant women who carried full-term babies had a 1-in-4 chance of passing the virus on to the child, while premature infants had a 1-in-2 chance of getting HIV," explains Dr. Petru. "However, when women were given AZT in the last six weeks of pregnancy and during labor, and their newborns given AZT for their first six weeks of life, the rate of infection decreased from 25 percent to 8 percent in full-term infants."

"When protease inhibitors came along in the mid '90s, transmission fell and remains now as low as 1 to 2 percent," says Dr. Petru. This means that, with a good drug regimen, up to 98 percent of children delivered by mothers with HIV are born without HIV. "In our clinic alone, where we meet with HIV-infected mothers to help them give birth to healthy babies, 300 to 350 consecutive women have not passed the virus to their babies," states Dr. Petru. "That's a real achievement."

If Children's first decade of HIV/AIDS was about facing disease and death, the second was about transmission prevention, and the third was about maintenance. Children and youth with HIV and AIDS learned to live with their condition, and Dr. Petru's program has been at their side. "This is no longer a fatal disease in children," she says. "But getting kids to follow their treatment regimen—



Ann Petru, MD, in 1991, sharing a hug and a laugh with a young patient having a blood transfusion.

medicative adherence—is the name of the game."

The work of Dr. Petru and her team has established a solid foundation for preventing new infections through birth. Today, their work continues to positively improve the lives of children living with the disease. Heading into its fourth decade of the AIDS epidemic, Children's Hospital, through the Pediatric Hospital Aids Program, continues to provide care for about 60 HIV/AIDS-infected children and teens, along with 20 to 30 pregnant, infected women annually, encouraging them to care for themselves and their unborn children.

"HIV/AIDS awareness has helped limit new infection rates," explains Dr. Petru. "However, to date there is still no vaccine and none on the horizon. We cannot become complacent. Further research needs to be done to develop new drugs, study new drug combinations, simplify the drug regimens—and thereby improve the lives of those living with disease."

We haven't gotten to zero yet, but Dr. Petru and her team are working towards that goal, one mother and one child at a time.