



ELIZABETH GLASER PEDIATRIC AIDS FOUNDATION

## The Need for a Pediatric HIV/AIDS Vaccine

In 2006 nearly over 500,000 children contracted HIV, most as a result of mother-to-child transmission of the virus. Of the nearly 1,500 children infected every day, nearly half will die before age two because the disease progresses rapidly in babies and young children. As a result, children under 15 account for one in six AIDS-related deaths.

Efforts to prevent mother-to-child transmission (PMTCT) have dramatically reduced new cases of HIV in children living in the developed world. Unfortunately these preventive interventions are reaching fewer than 10% of women living with HIV in resource-limited countries. While working to reach more women with known interventions, it is essential to investigate novel strategies to protect infants from HIV. Slowing the spread of HIV in children requires prevention strategies that target all modes of mother-to-child transmission: during pregnancy, at the time of delivery and through breastfeeding.

The optimal way to make a lasting impact on the spread of HIV is through development of a preventive vaccine that will protect all individuals—including infants—from the virus. The infant population, especially a group that is exposed to HIV through breastfeeding, is uniquely positioned to benefit from vaccine research. For one, researchers are able to pinpoint the source and timing of HIV infection in infants. Testing an effective product among infants in areas with a high rate of mother-to-child transmission through breastfeeding would demonstrate results quickly. In addition, there is an existing health-care infrastructure in the developing world focused specifically on delivering vaccines to children during the first year of life. Vaccines have reduced many common childhood infections by up to 99% in the developed world and are probably the single most effective public health measure currently available.

A vaccine that protects against HIV transmission occurring through breastfeeding could set the stage for lifetime immunity. If the vaccine were successful, millions of children could be provided life-long protection, creating the first generation of HIV-free and HIV-protected individuals. Research and testing of candidate vaccines in this population will help guide and accelerate overall HIV vaccine development. These potential realities make investments in HIV vaccine research and trials geared toward infants and children essential.

Despite this, children have been largely excluded from HIV vaccine research. Of the more than 110 HIV vaccine trials that have been completed to date, very few included children in their design, and only 2% of previous studies have included children in their clinical trials. Of the multiple vaccine trials that are currently being or will soon be conducted, only one trial will involve children. This sobering statistic reflects a reluctance to make scientific inquiries in infants and young children without first demonstrating safety and potential efficacy in adults. If we continue to focus vaccine efforts on adults alone, however, we will fail to establish potential efficacy in infants and children.

To this end, The Elizabeth Glaser Pediatric AIDS Foundation has and continues to fund pediatric vaccine related research, with 41 grants totaling more than \$10 million dollars to date.

Pediatric vaccine research and development is a priority of the Foundation's research funding for the next 5 years. We expect to issue a request for applications for pediatric vaccine R&D in 2007.

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