

BIPAI

2012-2013 ANNUAL REPORT
PIONEERS IN HEALTHCARE

Baylor International Pediatric AIDS Initiative
Headquarters





Teen Club leaders celebrate the opening of Africa's first adolescent-only HIV clinic in Gaborone, Botswana. Meeting the needs of this rapidly growing and vulnerable population presents new challenges.

More than 4,000 teens participate in clubs in Botswana, Lesotho, Malawi, Swaziland, Tanzania and Uganda.

From one targeted research study on oral manifestations of HIV/AIDS in Constanta, Romania in 1997, BIPAI now operates in 10 countries, helping children with HIV/AIDS, malaria, tuberculosis, malnutrition, sickle cell disease, cancer and hepatitis.

Our Vision

A healthy and fulfilled life for every HIV infected or affected child and his family.

Our Mission

To provide high-quality, high-impact, highly ethical pediatric and family-centered health care, health professional training and clinical research, focused on HIV/AIDS, tuberculosis, malaria, malnutrition and other conditions impacting the health and well-being of children and families worldwide.

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Letter from the President

Dear Friends,

Like pioneers of all kinds, the first children to receive antiretroviral medicines in their country experience outstanding highs and tragic lows. Luckily for those of us involved in pediatric HIV care, life-saving medicines have truly been a miracle drug, either restoring health so a child may play and go to school like his peers, or prevent her from ever experiencing the devastating effects of full blown AIDS.

We are thankful to have taken part in this quiet revolution. But now our work is changing. As the children in our care grow into teens, they struggle through the same growing pains as their peers to reach adulthood. The life-saving drugs that protected them from AIDS in childhood do not protect them from the everyday tragedies that affect teens everywhere: accidents, despair, pregnancy, dropping out of school, drug use and other risky behaviors.

Recognizing that prescriptions for pills aren't enough, we opened the first teen clinic on the African continent dedicated exclusively to the unique needs of HIV+ teens. The Phatsimong clinic is just one example of our network's dedication to continuing to deliver comprehensive care as children's needs change to adolescent needs.

We deeply hope each of our children arrives at the doors of adulthood safe and whole. Regrettably, one of our child pioneers, Janie Queen, did not make it. At age 3, Janie became one of the first children in the world to test the efficacy of adult ARV formulations. A delightful and energetic girl, Janie grew into a lovely and accomplished young teen. This past fall we received news that Janie, age 20, died in a car accident. She was driving to her job to earn money for college, where she was about halfway to earning her nursing degree.

We mourn the loss of Janie and recognize her pioneering contributions to the work BIPAI accomplished in its early years. Janie paved the way for children the world over to follow her into health and a bright future.

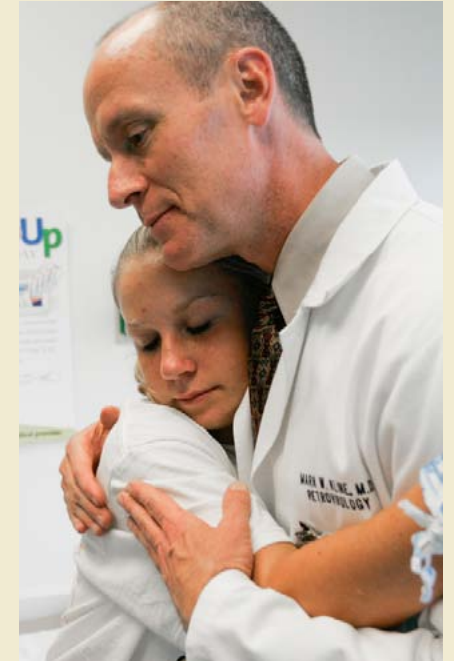
Very best wishes,

Mark W. Kline, M.D.

President, Baylor College of Medicine International Pediatric AIDS Initiative

Physician-in-Chief, Texas Children's Hospital

J.S. Abercrombie Professor and Chairman Department of Pediatrics, Baylor College of Medicine



*In Memoriam
Janie Queen
Child Pioneer*

Then and Now: Finding the Best Solutions for Every Country, Every Age

When BIPAI launched its first effort in Romania in 1996, it was to answer the desperate need for medical treatment for children with HIV/AIDS.

BIPAI's success lies in a belief that parents everywhere want the best for their children and that even the poorest communities have the capacity to improve the lives of children. BIPAI offers these communities medical care and treatment, education for medical professionals and research that leads to continuing improvement and deeper understanding.

Today, BIPAI is a recognized leader in providing world-class medical care and treatment in resource limited settings around the world.

Accomplishments for 2012-2013 include:

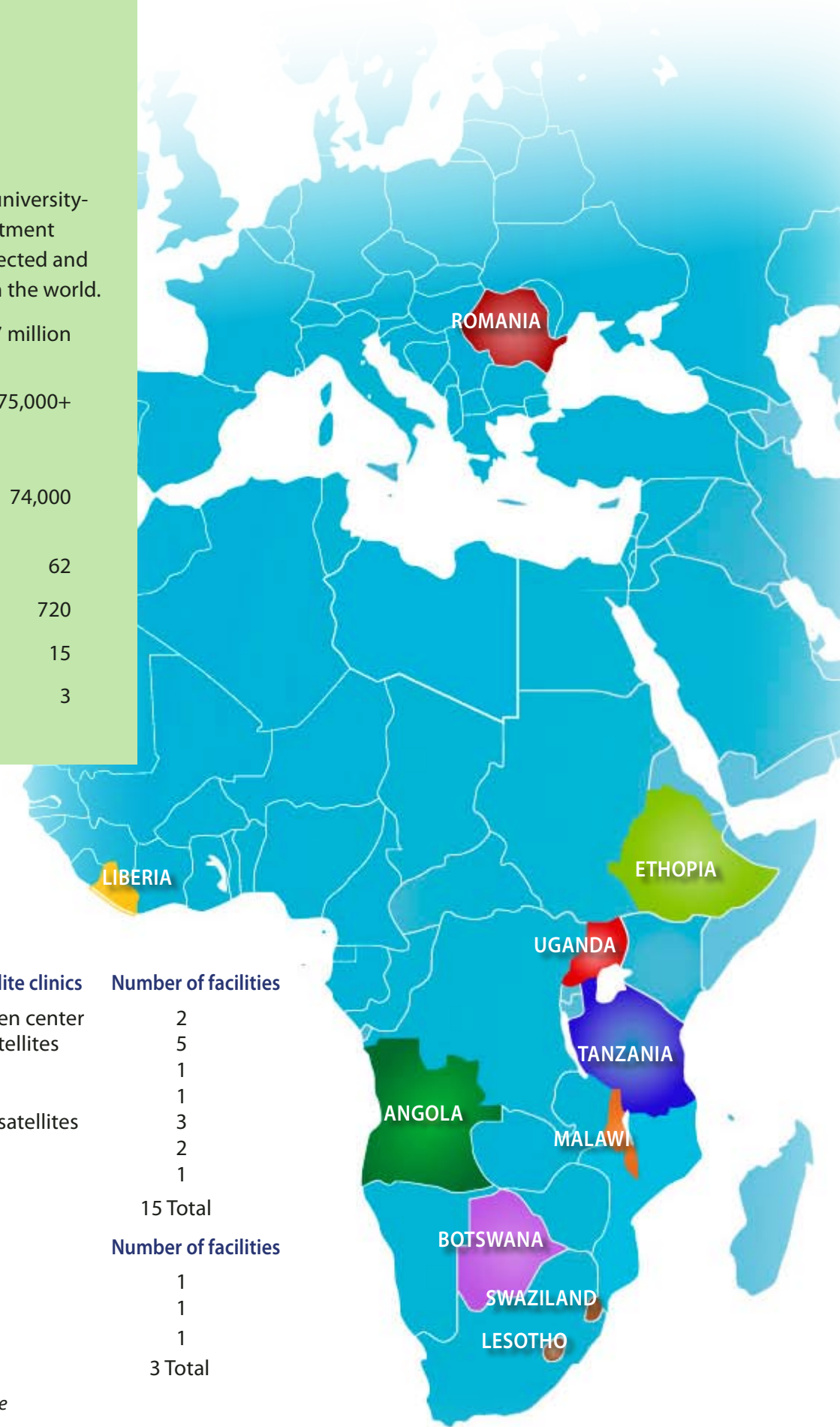
- Marked 15 years in Romania and 10 years on the African continent
- Opened first adolescent center for HIV positive teens in Botswana
- Opened two more satellite clinics in Lesotho
- 11 teens from Swaziland were invited to attend the AIDS 2012: XIX International AIDS Conference – the only African youth to attend the conference
- Decreased mortality in women giving birth by 50%+ in a pilot program in northern Uganda
- Screened 40,000 newborns for sickle cell trait and disease in Angola over two years
- Established facilities maintenance program to keep centers and clinics in top operating condition



BIPAI at a glance

BIPAI is the largest university-based care and treatment program for HIV-infected and -affected children in the world.

Budget	\$46.7 million
Patients in care	175,000+
Health professionals trained	74,000
Active research projects	62
Local employees	720
Centers & clinics	15
Offices	3



List of centers and satellite clinics	Number of facilities
Botswana, COE and teen center	2
Lesotho, COE and 4 satellites	5
Malawi, COE	1
Romania, COE	1
Swaziland, COE and 2 satellites	3
Tanzania, 2 COEs	2
Uganda, COE	1
	15 Total
Offices	Number of facilities
Angola	1
Ethiopia	1
Liberia	1
	3 Total

COE = Center of Excellence



Trained healthcare workers offer educational sessions for young mothers, helping to encourage HIV testing and reducing stigma and misinformation.

Testing & Prevention

Preventing mother to child transmission

Preventing mother to child transmission (PMTCT) is the hallmark of all worldwide efforts to stop AIDS. However, PMTCT requires a constellation of complex services:

- Testing so that a woman knows her status
- Education that emphasizes how prevention takes place
- Family planning to prevent unwanted pregnancies and to make safe sex possible
- Specific prenatal, labor and delivery, and postpartum care that encourages adherence to drug regimens during pregnancy and appropriate medication for the baby after birth

BIPAI further stops HIV from moving into the next generation through know-your-status and testing events, public education, expert mother and community health worker programs and circumcision efforts.

In Malawi and Lesotho, HIV-positive mothers are now given ARVs for life in order to stop the virus as recommended by the World Health Organization (WHO). BIPAI-Malawi contributed

to this effort by researching what worked and what didn't and making an alternative recommendation that simplified ARV administration and adoption for these mothers. Called Plan B+, the program immediately resulted in fewer deaths of pregnant women and a rapid uptake of ARV treatment in rural settings.

In Swaziland, BIPAI clinicians noticed that women taking the ARV effavirine experienced a troubling number of unwanted pregnancies when using Jadelle, an implant contraceptive popular there. A retrospective study resulted in international recommendations to help prevent unwanted pregnancies.



Introduction of high-quality obstetric care helped reduce maternal mortality 22% in one year in Uganda.

Saving Mothers, Giving Life

Uganda reports 438 deaths out of every 100,000 live births. To reduce that number to 130 per 100,000 by 2015, BIPAI Uganda, in a public-private partnership piloted a program in three rural districts. The goal: To reduce maternal and infant mortality by 50% in 12 months.

BIPAI Uganda needed to increase access to and use of high-quality obstetric care and care for well and sick newborns in the first 24 hours after birth.

The first step in improving access required identifying pregnant women even if they did not come into a health care facility for prenatal care. Village health facilities were provided with basic obstetrical equipment and 250 workers were trained in mother-friendly childbirth techniques and to recognize childbirth emergencies sooner. A robust measurement and evaluation system was developed to accurately track improvements and opportunities for change.

Next, transportation vouchers were given to high-risk pregnant mothers so go to a hospital during labor and delivery.

If we are doing our job of identifying pregnant women who are HIV positive, treating them and managing their infant accordingly, we should be preventing close to 100% of cases of pediatric HIV. -

Dr. Mark Kline

Many of these mothers live a 3-hour walk to the nearest health facility with obstetrical services, so transportation was critical.

Overall, maternal mortality declined 22% across all 4 districts, even though the number of deliveries increased at health facilities from 42% to 76% in one year. Plus, 30% more mothers and babies received prophylaxis ARVs.

The pilot phase of Saving Mothers, Giving Life ended and will be refined and expanded in the coming year.



Former patient Teodora Narcis marries her childhood sweetheart in Constanta, Romania. After graduating from college, Narcis went to work in the same clinic where she received services as a child.

Care & Treatment

Helping teens transition into adults

As BIPAI's children were saved from early death and grew into adolescents, new challenges and needs became apparent. The first Teen Club was established in Botswana with 5 members, and delivered critical support to adolescents transitioning into adulthood.

BIPAI's 10 year anniversary in Botswana dovetailed with another celebration; the opening of the Baylor- Bristol-Myers Squibb Phatsimong Adolescent Center. Phatsimong means "place to shine" in Setswana, the primary local language of Botswana. The facility is thought to be the only one of its kind on the continent.

The center encourages young people with HIV to pursue productive careers, start families, contribute to their communities, and realize their dreams by offering extra support in managing their

chronic illness, career counseling, job skills training, family planning, education, and one-on-one and group counseling.

BIPAI's holistic approach to helping adolescents has garnered international attention. In fact, a group of 6 teens from Swaziland attended the AIDS 2012: XIX International AIDS Conference in Washington, D.C., the only teens to be invited to that event.

Combating tuberculosis

Where there are systems weakened by HIV there is tuberculosis. To improve TB diagnosis rates, BIPAI implemented a new program in 2012 to expand screening and identification of households with TB and set up sputum induction facilities.

Village health workers and other trained individuals visit homes of those diagnosed with TB to identify and refer children who are symptomatic.

Sputum induction improves disease identification and encourages a more rapid launch of treatment. Children with TB are receiving treatment at all BIPAI Lesotho sites. Those with HIV-infection receive comprehensive care for both infections. Those without HIV infection are referred back to local clinics once they complete TB treatment.

BIPAI offers comprehensive care to children with HIV and TB at its facilities. Treating both infections at one location improves medication adherence and increases the likelihood that the TB will be cured.



Better diagnosis and treatment of TB supports an entire family's health.

Moving services into the countryside

Once BIPAI established centers of excellence in major urban areas, the need to take care into less populated areas became apparent. Depending on each country's terrain and population distribution, such outreach may take the form of satellite clinics run by BIPAI, home visits or flying or driving doctors out to clinics run by that country's Ministry of Health.

BIPAI-Lesotho, which has a 23.3% HIV prevalence

rate, officially opened four new satellite clinics in 2012-2013, in order to bring its services closer to people living in its difficult-to-traverse mountainous counties.

Regardless of the type of outreach, BIPAI's mission remains the same. To bring world-class care and treatment and training for medical professionals to the people who need it most.

A Basotho man thanks Dr. Paul Klotman, Baylor College of Medicine president and CEO.



Lamberto Andreotti, CEO, Bristol Myers Squibb, officially opens a new satellite clinic in Mokhotlong, Lesotho, bringing HIV care to the remote countryside.

Expansion

BIPAI, Texas Children's Center for Vaccine Development and the School of Tropical Medicine at Baylor College of Medicine have partnered to create new medical training and patient care programs in Mexico and Colombia in Latin America, Papua New Guinea in Asia and Liberia in Africa. Efforts include:

- Continued site development and program development in Papua New Guinea for a program focused on mothers and children's health.
- Established maternal health services and pediatric training for medical professionals in Freetown,

Liberia. Liberia currently has no surgical specialists, no anesthesiologists and no psychologists. BIPAI hopes to place 1 OB/GYN and 1 pediatrician to train local doctors at the new University of Liberia School of Medicine pediatrics residency program.

- Early development for vaccine research programs in Mexico City and Colombia. Research will focus on neglected tropical diseases such as Chagas' disease and hookworm.

Education

The shortage of medical professionals who know how to treat and manage the complex health care needs is a recurring problem in the countries where BIPAI operates. To counter this issue, BIPAI devotes considerable resources to the professional development of each country's health workforce. To date, BIPAI has trained 74,000 physicians, nurses, pharmacists, dietitians and social workers across its network countries.

BIPAI also manages the Global Health Corps, a team of 41 physicians with specialties in pediatrics, immunology, obstetrics, gynecology and tropical medicine. These doctors work as teachers and mentors, as well as healers, in countries where few subspecialists are available. The Corps help build each country's capacity to better care for its women and children with life-saving expertise.

Parental and community education also figures prominently into BIPAI's education efforts. Such efforts help combat poor access to public transportation in rural areas with sparsely distributed health facilities. In Tanzania, such education improves the uptake of child HIV interventions and child health in general by empowering women to be valuable sources of information in their communities.

In Angola, a BIPAI program to educate local health professionals is improving the basics of sickle cell diagnosis and

care. Such education directly improves the lives of the 10,000 Angolan children born each year with sickle cell anemia.

Side-by-side mentoring and small group sessions remain a staple of BIPAI's professional education. Such hands-on training in the high-volume setting of its centers and clinics helps build a professional's confidence and comfort in providing HIV care, especially with difficult tasks such as disclosing status to the newly diagnosed.

Other countries and organizations seek out BIPAI for its intensive, well-rounded education for health care professionals working in pediatrics in resource limited settings.

Helping Babies Breathe

It is known that babies born to HIV-positive mothers experience higher rates of asphyxia at birth. To combat that problem, in 2011 BIPAI-Lesotho piloted the program Helping Babies Breathe developed by the American Academy of Pediatrics for resource-limited settings.

The program prepares local health professionals for neonatal resuscitation in a 2-day train-the-trainer course. BIPAI then assessed the trainees' knowledge and skills of basic neonatal resuscitation before the course and immediately after, 3 months and 9 months after.

Trainees knowledge of and confidence in resuscitation techniques improved dramatically following the course and 3 months later. However, 77% of trainees reported difficulty in scheduling a training session back home.

Helping Babies Breathe was extended to Botswana, Malawi and Swaziland in 2012-2013. Study results from those countries will be presented at the American Academy of Pediatrics in the fall of 2013.



25% to 78% of trainees reported needing to resuscitate a neonate at least weekly at their workplace, depending on the country.





Sustainability

From the beginning, BIPAI built its programs to be sustainable for the long term.

Education plays the biggest role in program sustainability, with BIPAI expanding local medical professionals' knowledge of pediatric medical conditions, particularly HIV/AIDS and the conditions that often accompany it, such as malnutrition, malaria, tuberculosis and more. Read more about our education programs on p. XX.

BIPAI also addresses sustainability by recruiting, training and retaining high-caliber local health professionals, finance and administrative staff, and monitoring and evaluation staff.

Creation of facilities maintenance program

In 2012-2013, BIPAI established a facilities maintenance program to keep its centers of excellence and satellite clinics operating according to original specifications. Creation of this program was found to be necessary given that BIPAI operates in countries where facilities maintenance requires acquisition of parts, and sometimes skilled labor, from other countries. By consolidating requisition and installation activities, the Houston office can buy in bulk when possible, maintain buildings in top condition and continue providing the buildings and machines that make it possible for BIPAI to perform its work.

Indigenization of local boards

When BIPAI first enters a country, it creates a local legal entity that operates according to that country's laws and international accounting and ethical standards. Upon opening a center of excellence the board is made up of BIPAI administrators, but gradually, local medical and business professionals move into positions of board responsibility. This has happened in Lesotho, Malawi, Romania, Swaziland and Uganda.

Research

Studying what works

BIPAI's research efforts have grown to be as rich and varied as the cultures in which it operates. From a single study on oral manifestations of children with HIV/AIDS in Constanta, Romania in 1997, BIPAI today has 62 active investigations across its network.

Research provides ongoing data to use for program management and quality improvement as well as data for reports required by funders and stakeholders. This research focuses primarily on:

- Provision of care and treatment for children and families infected or affected by HIV/AIDS
- Training of health care professionals about HIV/AIDS and the often concurrent infections of tuberculosis, malaria, malnutrition and other diseases
- Operational research in the field of HIV/AIDS

- The links between PMTCT and care and treatment
- Effects of access to early counseling, testing and treatment of children, especially in hospital settings
- Effectiveness outreach programs, satellite clinics, maternal health programs

Its findings lead to many evidence-based advances in our knowledge of how best to prevent and treat pediatric HIV/AIDS and related health conditions.



Research

Published research from 2012-2013 includes:

Network

- *Mortality and clinical outcomes in HIV-infected children on antiretroviral therapy in Malawi, Lesotho, and Swaziland.* Kabue MM, Buck WC, Wanless SR, Cox CM, McCollum ED, Caviness AC, Ahmed S, Kim MH, Thahane L, Devlin A, Kochelani D, Kazembe PN, Calles NR, Mizwa MB, Schutze GE, Kline MW. *Pediatrics*. 2012 Sep;130(3):e591-9. doi: 10.1542/peds.2011-1187.
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Lesotho

- *False-negative post-18-month confirmatory HIV tests in HIV DNA PCR-positive children: a retrospective analysis.* Garcia-Prats AJ, Draper HR, Sanders JE, Agrawal AK, Mohapi EQ, Schutze GE. *AIDS*. 2012 Sep 24;26(15):1927-34.

Malawi

- *Risk factors for mortality in Malawian children with human immunodeficiency virus and tuberculosis co-infection.* Buck WC, Olson D, Kabue MM, Ahmed S, Nchama LK, Munthali A, Hosseinipour MC, Kazembe PN. *Int J Tuberc Lung Dis* 17(11):1389-1395.
- *Strategies developed and implemented by women's groups to improve mother and infant health and reduce mortality in rural Malawi.* Rosato M, Malamba F, Kunyenge B, Phiri T, Mwansambo C, Kazembe P, Costello A, Lewycka S. *Int Health*. 2012 Sep;4(3):176-84.
- *Effect of women's groups and volunteer peer counselling on rates of mortality, morbidity, and health behaviours in mothers and children in rural Malawi (MaiMwana): a factorial, cluster-randomised controlled trial.* Lewycka S, Mwansambo C, Rosato M, Kazembe P, Phiri T, Mganga A, Chapota H, Malamba F, Kainja E, Newell ML, Greco G, Pulkki-Brännström AM, Skordis-Worrall J, Vergnano S, Osrin D, Costello A. *Lancet*. 2013 May 18;381(9879):1721-35.

- *Routine inpatient provider-initiated HIV testing in Malawi, compared with client-initiated community-based testing, identifies younger children at higher risk of early mortality.* Preidis GA, McCollum ED, Kamiyango W, Garbino A, Hosseinipour MC, Kazembe PN, Schutze GE, Kline MW. *J Acquir Immune Defic Syndr*. 2013 May 1;63(1):e16-22.
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Uganda

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Glossary

AIDS	Acquired immunodeficiency syndrome
ARV	Antiretroviral
BIPAI	Baylor College of Medicine International Pediatric AIDS Initiative
HIV	Human immunodeficiency virus
PMTCT	Prevention of mother-to-child transmission
TB	Tuberculosis



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