

RWANDA

ICAP SUPPORT FOR THE MINISTRY OF HEALTH IN THE RAPID SCALE-UP OF HIV PREVENTION, CARE, AND TREATMENT



ICAP

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Mailman School of Public Health



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New mothers take part in a training and vaccination session with a nurse at a clinic in Kigali.

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We gratefully acknowledge ICAP staff in New York and Rwanda, whose dedication and collective work have made our support in Rwanda a great success.

ADDRESSING THE GLOBAL HIV EPIDEMIC

Globally, 34 million people are living with HIV,¹ and 7,000 are newly infected each day.² As of 2011, HIV has infected more than 60 million people and caused at least 30 million deaths.

In the face of such overwhelming figures, it is easy to lose sight of the remarkable strides that have been made in the response to HIV over the past decade. Millions of people living with HIV have built better futures for themselves, their families, and their communities as a result of innovative, effective HIV prevention, care, and treatment programs.

A Global Response

At the end of 2010, roughly 6.65 million people in low- and middle-income countries were receiving antiretroviral treatment (ART),³ almost a 22-fold increase since 2001 and an achievement that many considered impossible 10 years earlier. Over the same period, the rate of new HIV infections in 22 of the most severely affected countries dropped by more than 26 percent.⁴

A key reason for this dramatic turnaround has been the initiation of the United States President's Emergency Plan for AIDS Relief (PEPFAR), which was launched in 2003. Now after its eighth anniversary, it is notable in its size, scale, and impact on increasing access to HIV prevention, care and treatment and has proven one of the most successful large-scale global public health undertakings. By September 2011, the US government had directly supported ART for 50% of the global response—more than 3.9 million men, women, and children worldwide, and more than 13 million of those in HIV care and support services.⁵

Understanding how this progress was achieved can help inform health and development efforts around the world.

Key Partner

In 2002, in response to the United Nations Secretary General's Call to Action, the Mailman School of Public Health at Columbia University helped to establish the MTCT-Plus Initiative to address the HIV treatment and care needs of impoverished communities around the world. This initiative,

funded first by a coalition of private foundations and subsequently expanded with funding from the United States Agency for International Development (USAID), supported provision of comprehensive and specialized care, including ART, to HIV-infected women, their partners, and their children identified in prevention of mother-to-child transmission (PMTCT) programs. Mailman's experience implementing the MTCT-Plus Initiative helped to inform the model and approaches later adopted by ICAP.

Columbia University's role in implementing PEPFAR began in 2003, when it received funding from the Global AIDS Program of the Centers for Disease Control and Prevention (CDC) under the University Technical Assistance Projects (UTAP) to support the development of important components of national HIV programs, including treatment protocols and training. In 2004, ICAP was awarded a new cooperative agreement from CDC under the PEPFAR framework to provide comprehensive HIV care and treatment in five countries: Kenya, Mozambique, Rwanda, South Africa, and Tanzania, with programming in Côte d'Ivoire, Ethiopia, and Nigeria subsequently added. This initiative, the Multicountry Columbia Antiretroviral Program (MCAP), has rapidly expanded programs for HIV care and ART by promoting early diagnosis of HIV infection, maintaining the health of those living with HIV, and preventing further transmission of HIV within the community. MCAP programming, in addition to being focused on rapidly scaling up care and treatment in partnership with host-country governments, also has emphasized the full continuum of HIV-related services, continued capacity building and health systems strengthening, and transition of operations to host governments and local nongovernmental organizations.

Today a global leader in HIV service delivery, human capacity development, and systems strengthening, ICAP has supported work at more than 2,000 facilities across 21 countries. More than one million people have accessed HIV services through ICAP-supported programs, and approximately one patient in 10 receiving PEPFAR-funded ART in sub-Saharan Africa is obtaining it at an ICAP-supported health facility.

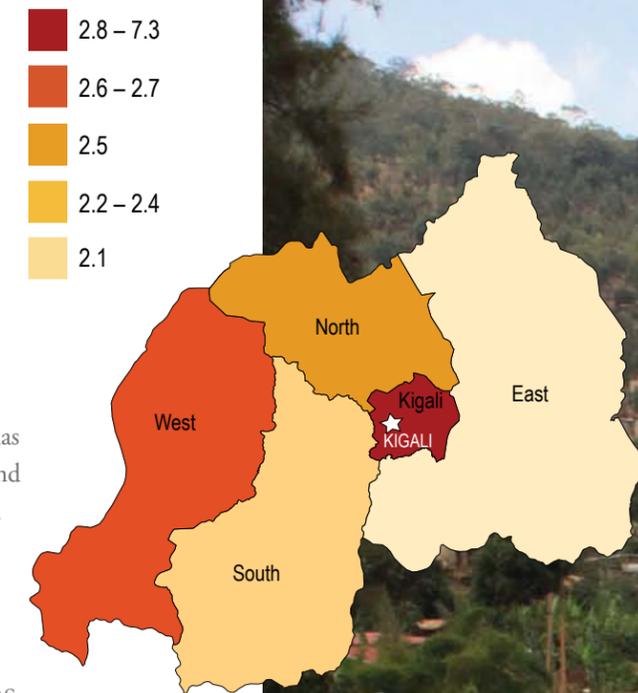
ICAP operations are grounded in the belief that HIV services should be universally accessible and that people in resource-poor areas can adhere to life-saving treatment regimens. ICAP works with ministries of health, local organizations, and people living with HIV to develop sustainable, locally appropriate HIV prevention, care, and treatment programs that are integrated with national AIDS control programs. ICAP's comprehensive model consists of:

- **A family-focused approach** to HIV prevention, care, and treatment services.
- **Support for multidisciplinary teams** of health care providers
- **A continuum of clinical and supportive services** to meet patient and family needs at every stage of HIV disease
- **Programs to promote retention and adherence** to HIV care and treatment
- **Empowerment** of patients and their families
- **Linkages** to community resources
- **High-quality services**, with carefully set standards of care and methodologies for program evaluation, operations research, and program improvement

HIV in Rwanda

An estimated 3.1% of the adult population of Rwanda is infected with HIV (3.6% of adult women and 2.3% of adult males), with the highest rates found among women age 35 to 39 years (6.9%).⁶ Urban settings have higher prevalence (up to 7.3%) than rural settings (2.2%). The 1994 genocide, when more than 800,000 Rwandans were killed, and regional unrest that followed caused displacement and instability, and concomitant sexual violence increased risk for acquisition of HIV infection. In addition, the conflict severely damaged the health infrastructure and resulted in massive loss of the health workforce.

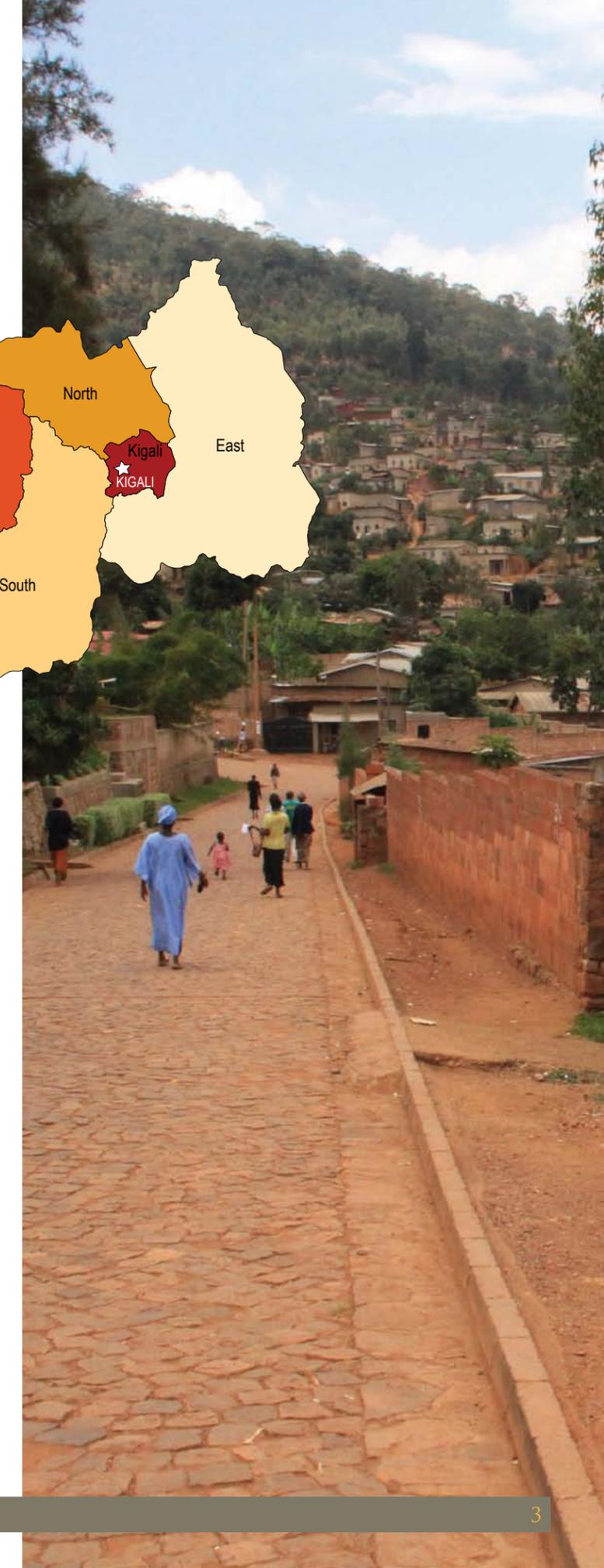
HIV Prevalence (%),
Ages 15–49, 2010



Since 1994, the government of Rwanda has made great strides in setting up policies and infrastructure to respond to the epidemic. The government's response is considered a model for its strong management, effective leadership, and positive results on the ground. In 2000, the government of Rwanda restructured the National AIDS Control Program (PNLS), into two new organizations: the National Program for the Fight against AIDS (CNLS) and the Center for Research and Treatment on AIDS (TRAC, now with a wider portfolio, known as TRAC *Plus*).⁷ CNLS, through implementation of the National Multisector HIV and AIDS Policy and the HIV/AIDS National Strategic Plan, ensures a multisectoral response to the AIDS epidemic. TRAC became responsible for technical oversight for the implementation of the national HIV program.

Also in 2000, the Ministry of Health recognized the necessity for increased service usage and equity among those in need, and began to decentralize the public health care system. At that time challenges included acute shortages of health providers, limited district-level capacity, narrow geographic coverage (in particular for specialized services), and poor clinical and laboratory infrastructure (especially in rural areas). The goal of decentralization was to better coordinate services within districts, and to devolve responsibility for resource management, facility supervision, and quality assurance to health districts and their health zones.

At that time HIV treatment access was limited by the high cost of antiretroviral drugs. Most international donors focused on HIV prevention efforts, with many arguing that HIV treatment with antiretroviral therapy (ART) was neither cost-effective nor practical in resource-limited settings.



ICAP IN RWANDA

The first activities of Columbia University's Mailman School of Public Health in Rwanda took place in 2002, through the MTCT-Plus Initiative—in partnership with TRAC *Plus* and Kicukiro Health Center in Kigali. MTCT-Plus became one of Rwanda's first comprehensive HIV treatment programs, and helped demonstrate that treatment was possible.

With UTAP funding in Rwanda, ICAP developed a collaboration with the Ministry of Health and TRAC *Plus*, the National Reference Laboratory (NRL), and the national teaching hospitals to implement a range of HIV clinical service programs and program evaluations that would support the scale-up of HIV services, with a focus on adult and pediatric care and treatment, TB/HIV integration, and laboratory support. ICAP, in close collaboration with CDC, provided critical technical support for the World Bank-led MAP ART program, the first large scale decentralized treatment program in Rwanda. With the MTCT-Plus Initiative and UTAP program funding, ICAP became one of the main clinical partners of the Ministry of Health's standardized approach to HIV service delivery provision and scale-up.

Once MCAP was funded in 2004, its activities in Rwanda were well integrated with already existing UTAP activities. MCAP's goal was to rapidly expand access to comprehensive HIV prevention, care, and support services, including ART, at 58 health facilities in two provinces—Kigali and West Province—while building the technical and managerial capacity of the Rwandan Ministry of Health to fully manage HIV services.

Since 2003, ICAP in Rwanda has supported nearly one third of Rwandans living with HIV who are enrolled in care and treatment.

Start-Up and Scale-Up

The initial objectives of MCAP in Rwanda were to work with TRAC *Plus* and subsequently the Decentralization and Integration unit within the Ministry of Health⁸ (MOH/DI) to initiate ART for people living with HIV as quickly as possible at health facilities in Kigali and West Province, in order to immediately improve health and save lives. To achieve this, ICAP



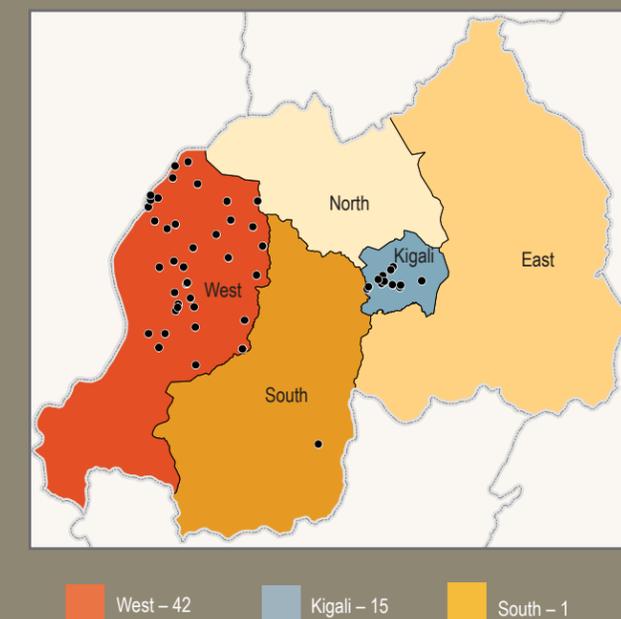
A nurse conducts a training session.

“The ICAP team played a key role in controlling the HIV epidemic in Rwanda, a country that achieved universal coverage of ART and significant reduction of mortality and morbidity, building hope for life.”

—Dr Sabin Nsanzimana, Director, HIV and Bloodborne Diseases Division, Rwanda Biomedical Center/Institute of HIV/AIDS Disease Prevention and Control

ICAP-Supported Facilities in Rwanda

As of September 30, 2011, ICAP was supporting 58 facilities in Rwanda.



Map Sources: ICAP URS <http://mericap.columbia.edu> as of 30 Sep 2011; MEASURE DHS (Demographic and Health Surveys); ESRI; Center for International Earth Science Information Network (CIESIN), Columbia University; and Centro Internacional de Agricultura Tropical (CIAT), 2005. Gridded Population of the World Version 3 (GPW3); National Boundaries. Palisades, NY: Socioeconomic Data and Applications Center (SEDAC), Columbia University. Available at: <http://sedac.ciesin.columbia.edu/gpw/>

enhanced infrastructure and medical equipment in health facilities, and developed and rolled out a package that offered a continuum of HIV clinical and support services to patients and their families at every stage of HIV disease. In addition to facilitating rapid scale-up of such HIV services, ICAP has placed a strong emphasis on human capacity development, supporting national level HIV trainings and conducting practical trainings for teams of health providers in each ICAP-supported health facility.

Support for HIV Service Integration and Quality Improvement

Soon after receiving funding for care and treatment, ICAP was awarded funds to support additional services to complement ART programming, including services for prevention of mother-to-child transmission (PMTCT), TB/HIV integration, and HIV care and treatment for children. In 2006, ICAP

opened regional offices in Gisenyi and Kibuye in the West Province, enabling ICAP staff to better provide clinical mentorship, targeted support to district health teams and facility multidisciplinary teams, HIV service integration and improved quality of care. Partnerships were initiated with nongovernmental organizations to expand access to HIV services for key populations particularly at risk for HIV infection.

Transition to Full Country Ownership

Beginning in 2009, ICAP expanded its capacity building efforts and deepened its focus on sustainability and country ownership for HIV programs. ICAP began to intensify efforts to prepare the MOH/DI unit, district health teams, and the three nongovernmental organizations coordinating the national peer educators program to incrementally assume greater technical and management roles in supporting health facilities.

“Never before was this level of funding given to a government by a USG partner in Rwanda. The partnership was completely in line with what became the PEPFAR II vision for transitioning ownership for HIV programs to the country level.”

— Valerie Koscelnik, ICAP Senior Implementation Director



A patient (center) discusses drug options with nurses.

HOW WAS IT DONE?

ICAP’s core principles and experience with the MTCT-Plus Initiative in implementation of comprehensive, family-focused HIV care and treatment programs in resource-limited settings, were adapted and applied beyond demonstration projects to the wider Rwandan HIV prevention, care, and treatment program, and were instrumental in the success of ICAP’s activities in Rwanda.

Partnerships

CDC Atlanta, CDC Rwanda, and ICAP strongly felt from its inception that the MCAP program should implement its activities through a partnership with the government of Rwanda that would build its capacity to truly lead the national HIV program. ICAP made TRAC *Plus* the largest subrecipient of MCAP funding. This level of partnership with a country government was unprecedented at the time and demonstrated a vote of confidence by ICAP and CDC in national structures.

In 2006, with implementation of its decentralization policy, ICAP established subagreements with the MOH/DI unit and government health facilities, which further promoted mutual accountability between partners while facilitating the rapid scale-up of HIV services.

A key emphasis of ICAP’s partnership with the Ministry of Health has been participation in TRAC *Plus* technical working groups, including those for adult care and treatment, TB/HIV, pediatric HIV, and key populations. These groups brought representatives from the Ministry of Health together with HIV experts from donor agencies and PEPFAR-funded implementing partners to develop, revise, and validate HIV program models, policies, service delivery guidelines, and tools. The technical working groups ensure that implementing partner activities are complementary and consistent with national HIV program priorities and engage partners in developing the guidelines and tools that are integral in scaling up at the national level. Participating in technical working groups also allowed participants to share experiences and lessons learned. Regular meetings organized with TRAC *Plus*, CNLS, and MOH/DI health authorities and other national programs also

Key ICAP Partners In Rwanda

- Trac *Plus*
- National Program for the Fight Against AIDS (CNLS)
- Ministry of Health Decentralization and Integration (MOH/DI) Unit
- National Reference Laboratory
- Rwandan National Police
- Ministry of Internal Affairs
- Centre Hospitalier Universitaire de Kigali (CHUK) and Centre Hospitalier Universitaire de Butare (CHUB)
- Ndera Neuropsychiatric Referral Hospital
- Rwandan Network of People Living with HIV/AIDS (RRP+)
- Association Rwandaise pour le Bien Être Familial (ARBEF) and Bamporeze
- AVEGA Clinic
- Carrefour Clinic, Rugarama Health Center, and Kabusunzu Health Center
- Umbrella of Persons with Disabilities in the Fight against HIV and AIDS (UPHLS) and Handicap International (HI)

“I will never forget the time we distributed the funds to the district hospitals. We were scared. Until ICAP came in, district hospitals had no experience in financial management, and the budgets they managed continued to grow quickly, as they kept adding on more facilities, but it paid off!”

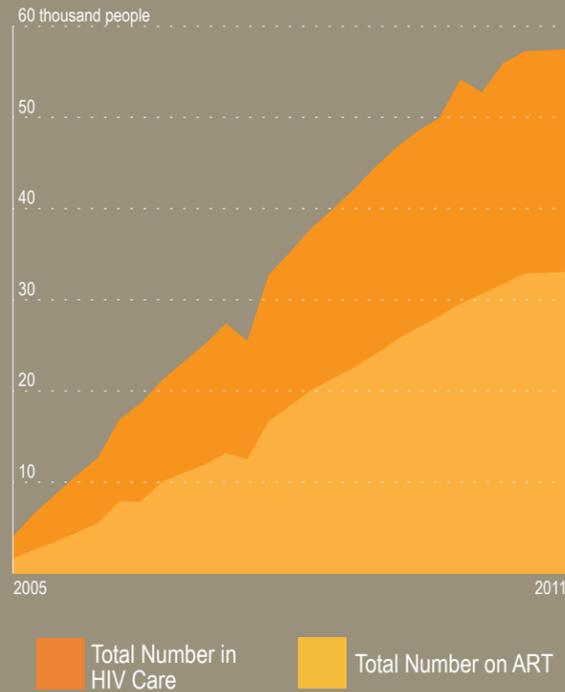
— Dr. Anita Assimwe, Director General, Rwanda Biomedical Center/Institute of HIV/AIDS Disease Prevention and Control (RBC/IHDPC)

help ICAP ensure that its programming continually responds to local needs.

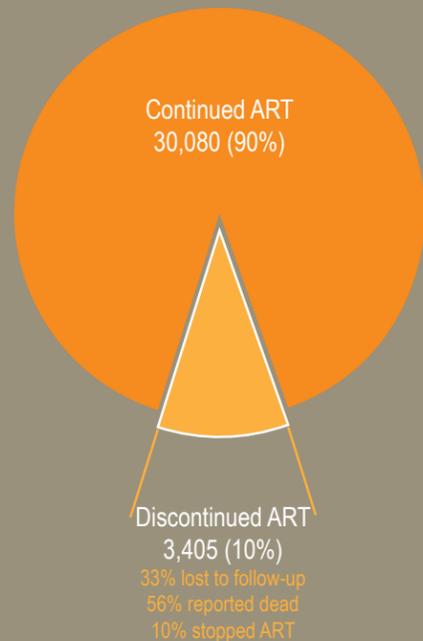
At service delivery level, ICAP has fostered active involvement of district health teams and facility multidisciplinary teams in order to build their capacity. Through ongoing clinical mentorship and the support of participatory continuous quality improvement tools, known as Clinical Systems Mentorship, ICAP mentored facilities to initiate care provided by a team of providers—doctors as well as nurses, social workers, pharmacists, and lab technicians—all contributing to the delivery of quality, family-focused care.

At community level, to facilitate greater community involvement on enrollment and retention in care, ICAP partnered with the Rwandan Network of People Living with HIV/AIDS (RRP+) and its member associations to mobilize peer educa-

Cumulative Number of HIV-Infected Individuals Enrolled in ICAP-Supported HIV Care and Treatment



ART Retention in Rwanda



OPPOSITE A doctor conducts a consultation about the health of a baby at the ICAP supported children's unit in Kigali Teaching Hospital.

tors to raise awareness and change community attitudes and norms about HIV, to promote service uptake, to facilitate effective patient follow-up, and to ensure that services meet patient needs. As demand for HIV care services increased, facility nurses and social workers have come to rely on peer educators alleviate health providers' work load.

Integration

Co-location of services previously provided separately has been an important strategy for ICAP in Rwanda. These integrated, patient-centered services are more easily accessed and facilitate provision of comprehensive care. Integration also reduces the number of referrals for which patients need to travel and can reduce loss to follow-up. Integration of HIV services—including pediatric services or PMTCT, TB, and family planning services as well as specialized health services for key populations at increased HIV risk—became ICAP's strategy to maximize enrollment and retention in care and treatment. To support facility-level service integration, ICAP worked with TRAC *Plus* to update patient registers, training curricula, and standards of care to ensure consistency within the newly integrated services.

Innovations

The many ICAP initiatives that have critically impacted the national HIV program were made possible by a close working relationship with the Ministry of Health and CDC. This three-way partnership—rooted in trust, openness, and flexibility—set the stage for innovation. ICAP has been highly valued for these partnerships and for its willingness to tackle and resolve emerging challenges.

As a result of CDC's interest in exploring new approaches, ICAP's continual reflection on missed opportunities for patient enrollment and retention, and the Ministry of Health's framework for building consensus and validating and institutionalizing innovations, it has been possible to test new HIV care models.

“ICAP showed us and other partners that we could rapidly scale up HIV care and treatment without changing [TRAC Plus or CNLS] administrative structures.”

—Dr Anita Assimwe, Director General, RBC/IHDPC

ICAP Innovations in Rwanda

- Introduction of early infant diagnosis at PMTCT facilities, with trainings on dry blood spot technology
- Creation of one-stop service models for TB/HIV coinfecting patients and introduction of a TB screening tool in HIV services
- Peer health educator program to link families and communities with health facilities, to reduce loss to follow-up and to improve adherence to care and treatment
- Increasing the role of nurses in provision of ART
- Delivery of HIV care and treatment services within the prison system

ICAP's approach to introducing and scaling up new models of care has been effective. The design of new interventions with TRAC *Plus* is followed by a pilot at ICAP-supported facilities, an evaluation of the intervention, and the presentation of findings to TRAC *Plus* and its partners, often within the technical working group. Based on the evidence and the discussion, ICAP refines the intervention model and presents it to the Ministry of Health for validation and national scale-up by all implementing partners.

“[MCAP’ success] was not achieved just by pumping money into the program. ICAP, the Ministry of Health, and CDC worked together to create an environment conducive to improved service provision.”

—Dr Fernando Morales, Senior Clinical Services Advisor, CDC Rwanda

WHAT WAS ACHIEVED?

Rwanda’s highly successful effort to scale up care and treatment is a model for other countries in the region and beyond. ICAP has been a key partner in this effort. During the MCAP program, ICAP scaled up HIV services from 11 health facilities to more than 58 in two provinces, enhancing infrastructure, strengthening human resources and systems capacities, and implementing and evaluating new HIV care models.

Locally Appropriate HIV Care and Treatment Services Established and Expanded

ICAP understood that high quality HIV services would be unsustainable without accompanying improvements to the broader health system within which HIV services were provided.

ICAP worked with CDC and TRAC *Plus* to select and prepare facilities to provide HIV care and treatment services in Kigali and the West Province. Following facility assessments, renovations were carried out and medical and laboratory equipment and drugs were procured. ICAP and TRAC *Plus* first focused on referral facilities that already had HIV services and where capacity existed to quickly absorb a high volume of new patients. ICAP introduced new case finding approaches to care (e.g., provider-initiated counseling and testing in multiple entry points) and counseling and testing family members.

A Comprehensive Model of Care

Eventually, at all 58 health facilities, ICAP rolled out its family-focused, comprehensive HIV prevention, care, and treatment model, which recognizes that HIV affects individuals as well as families and communities. In the eight years since this model was introduced and scaled up:

- 560,138 patients were provided HIV counseling and testing (initiated by both clients and by providers) and received the test results.
- 57,488 patients enrolled in HIV care.
- 33,485 patients initiated antiretroviral therapy, 3,508 (10%) of them children.

Quality Services for Children with HIV

When ICAP initiated its pediatric HIV program in 2005, UNAIDS estimated that fewer than 10% of the 25,000 HIV-infected children in Rwanda were on ART. Only two facilities—the Centre Hospitalier Universitaire de Kigali (CHUK) and the Centre Hospitalier Universitaire de Butare (CHUB)—provided HIV care and treatment services to children. The Ministry of Health asked ICAP to develop and implement a pediatric HIV care model that could be replicated in district hospitals and health centers nationwide.

Testing a New HIV Care Package for Children and Their Families

Working with CHUK and CHUB health officials, ICAP and TRAC *Plus* formed pediatric care teams and trained them on pediatric HIV care. Services were reorganized to ensure smooth patient flow. Provider-initiated counseling and testing

Alphonsine

Forty-nine year old Alphonsine and her five children live in Karongi District in Western Province.

In 1987, when she was a young married woman of 26, she learned she was HIV infected at a clinic in Kigali. Her husband died of HIV in 2001. Alphonsine was poor and with children to care for, she and could not afford the trip to Kigali for treatment or the cost of antiretroviral medication. She quickly became ill.

But in 2004, things changed and free care and treatment was becoming available outside of Kigali, even in remote Karongi District. Alphonsine was able to enroll in care and initiate ART at Rubengera Health Center, where ICAP supported a facility renovation and the newly available HIV care and treatment services.

In 2006, when the peer educator program was launched by ICAP and RRP+ at Rubengera Health Center, Alphonsine became one of its first peer educators, sharing her experience of living positively with HIV with her family and her community. All five of her children were tested for HIV and found to be negative. Alphonsine now owns land and is healthy enough to cultivate it, can feed her children and pay their school fees.

Elvis

Elvis had a high fever when he arrived at CHUK Maternal Health Center in January 2010. He was quickly admitted to inpatient care with pneumonia. Then six years old, he weighed only 24 pounds.

Provider-initiated counseling and testing is routine for all children who are seen at CHUK. Elvis’ HIV test returned positive and his CD4 cell count was 1. Providers also conducted a TB diagnosis test, which was negative. At that point, Elvis’ parents and two brothers received HIV counseling and testing; the parents were both found to be positive while his brothers’ results were negative. Elvis was initiated on ART and cotrimoxazole prophylaxis. CHUK also enrolled Elvis in a nutritional support program and monitored his progress during monthly visits. Elvis’ parents received psychosocial support and became active members of a support group for parents of HIV-infected children. Before arriving at CHUK, Elvis had never been to school. With individual donations, his parents bought him a school uniform and materials and enrolled him in school after his health improved. In April 2011, Elvis’ CD4 cell count was 333 and he weighed 40 pounds.



was introduced at for inpatients and outpatients to ensure that all children were tested for HIV. Children testing positive were enrolled in care. Pediatric teams were trained on record keeping and use of tools and other job aids as well as on standards of care tools, to monitor quality of care.

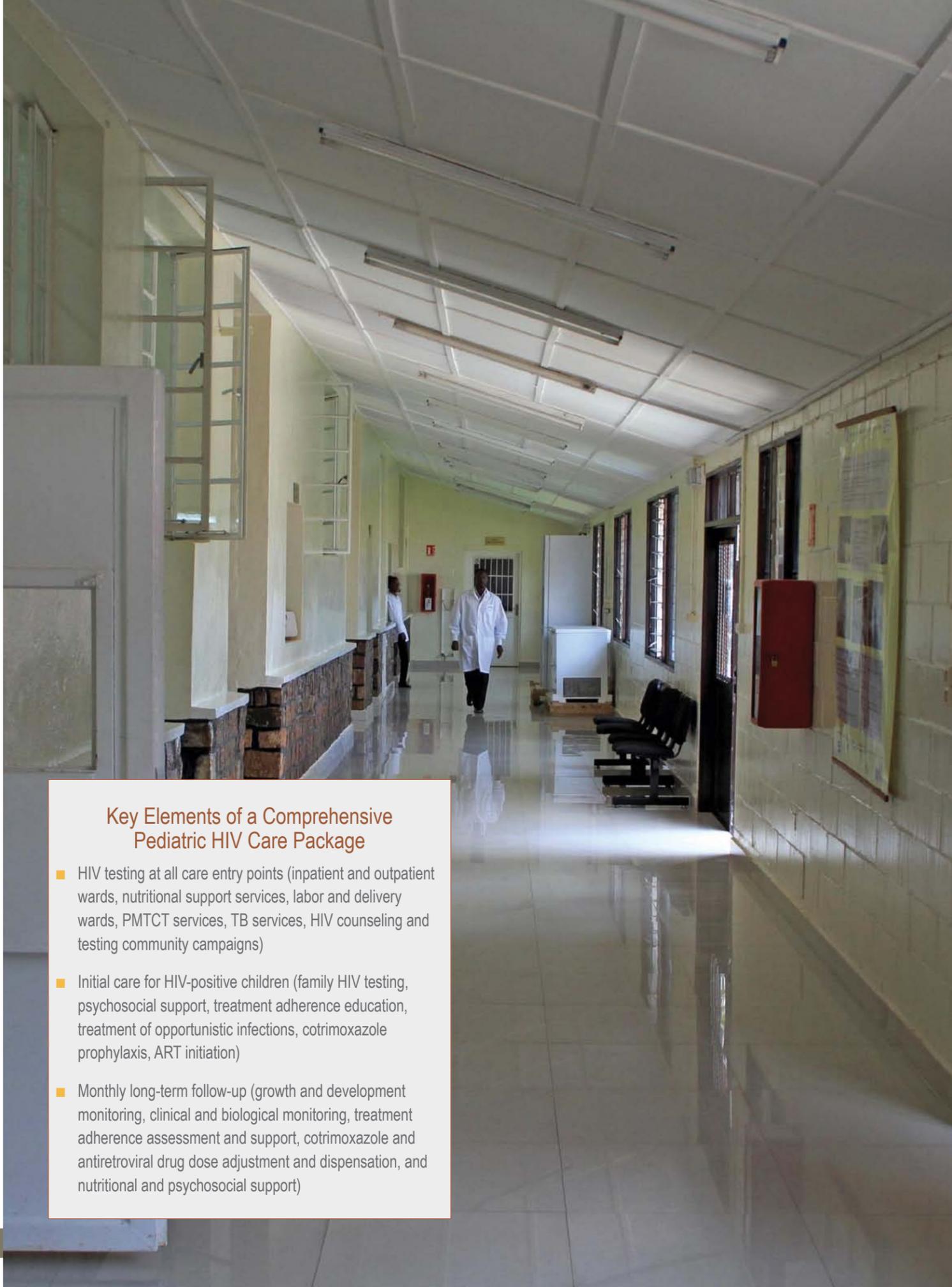
To improve pediatric retention in care and treatment, ICAP has worked with health care provider teams to establish support groups for parents and caretakers and for children—one group facilitated by HIV-positive adolescents. Within 12 months of introducing provider-initiated counseling and testing in pediatric services at CHUK and CHUB, the percentage of children tested for HIV increased from 55% to 100% at these facilities. To date, 688 HIV-infected children have been enrolled in HIV care at these clinics through ICAP support, and 502 have initiated ART.

Scaling Up Pediatric HIV Services

The positive results achieved at CHUK and CHUB motivated TRAC *Plus* to implement the pediatric HIV care package in district hospitals and health centers more broadly. Guidelines for pediatric HIV services were developed with support from ICAP and were introduced in health facilities nationwide. Teams of health care providers traveled from to the pediatric HIV model centers to see firsthand how services were organized so as to better support HIV-infected children and their families. After practical trainings and with follow-up on-site mentorship provided by ICAP regional staff, trained providers gained the skills and confidence to care for HIV-infected children in their own clinics.

These investments resulted in real improvements in the identification of HIV-infected children and in the care, treatment, and support provided to them and their families.

- By 2011, 129,991 children aged 0–14 years were provided HIV testing and counseling and received their test results, versus 841 in 2007.
- The cumulative number of children aged 0–14 years ever on antiretroviral therapy increased from 237 in 2005 to more than 3,500 by 2011.



Key Elements of a Comprehensive Pediatric HIV Care Package

- HIV testing at all care entry points (inpatient and outpatient wards, nutritional support services, labor and delivery wards, PMTCT services, TB services, HIV counseling and testing community campaigns)
- Initial care for HIV-positive children (family HIV testing, psychosocial support, treatment adherence education, treatment of opportunistic infections, cotrimoxazole prophylaxis, ART initiation)
- Monthly long-term follow-up (growth and development monitoring, clinical and biological monitoring, treatment adherence assessment and support, cotrimoxazole and antiretroviral drug dose adjustment and dispensation, and nutritional and psychosocial support)

The recently refurbished laboratory building at the Kigali Teaching Hospital. The building renovation was supported by ICAP.

From 2006 to 2011, the number of ICAP-supported PMTCT facilities grew from 11 to 32. More than 91,000 pregnant women received HIV counseling and testing for PMTCT and their test results during their antenatal visits; 3,133 pregnant women testing positive received a complete course of antiretroviral prophylaxis in the antenatal clinic; and 2,537 HIV-exposed infants received antiretroviral prophylaxis in a maternity setting.

Implementing the new PMTCT protocols and achieving these numbers was far from simple and required a drastic shift in the way services were being delivered.

“Initially nurses were allowed to dispense only nevirapine. Zidovudine was dispensed by physicians at ART facilities, which in most cases were not co-located with PMTCT facilities. Only ART clinics could request CD4 tests and only laboratory technicians could take blood samples. There was limited access to CD4 machines, and many facilities experienced delays in getting women tested. Opportunities for initiating HIV-infected pregnant women on antiretroviral prophylaxis were missed. Poor record keeping limited the follow-up of pregnant women,” noted Fatima Tsouris, ICAP’s associate director for PMTCT.

ICAP began training nurses on dry blood spot sample collection at the same time that it initiated PMTCT services. Because it made an extra district lab visit unnecessary, this reduced the number of diagnostic testing visits required of a patient. ICAP established a sample system for transportation and for feedback of results between health facilities and the National Reference Laboratory in Kigali, which greatly reduced time for return of results.

ICAP worked with multidisciplinary teams to ensure that a facility staff member accompanied HIV-positive women from PMTCT to the nearest ART clinic. Initially, ICAP coordinated with district teams to send a “roving physician” to provide services for PMTCT and antiretroviral therapy at facilities that lacked their own physician. Ongoing advocacy efforts on the part of ICAP and other implementing partners have led the Ministry of Health to revise its HIV guidelines, allowing nurses to prescribe antiretroviral therapy and monitor patients enrolled in treatment.



An administrative staff worker in the records division of the clinic in Kigali. The clinic's HIV/AIDS program is supported by ICAP, which helped to computerize record-keeping.

A Formal Letter of Invitation from Health Facilities to Support Partner Disclosure of HIV

“Even after receiving post-test counseling, HIV-infected pregnant women resisted disclosing their HIV status,” noted Dr Gilbert Tene, ICAP’s pediatric HIV/AIDS care and treatment advisor.

Beginning in 2008, as part of the antenatal package of services offered at PMTCT facilities, ICAP-supported facilities introduced formal letters to partners of all pregnant women inviting them to come to the antenatal clinic to receive information about healthy pregnancies. During the prenatal visit, a trained nurse would initiate couples counseling and testing; provide results and post-test couples counseling on the same day; and encourage the couple to bring their children to the clinic for HIV testing. Partner testing quickly increased from 57% in 2007 to 87% in 2010.

Nurses providing PMTCT services were trained to perform phlebotomy for samples for CD4 testing so that HIV-positive pregnant women had access to same-day CD4 testing. ICAP and TRAC *Plus* also developed PMTCT registers to document longitudinal HIV care of pregnant women and children up to 18 months. Once PMTCT services were operational, ICAP provided facility mentorship and implemented standards of care to enhance the quality of PMTCT services and boost staff skills and confidence to provide these services.

TB/HIV Integration: A Smart Investment That Saves Lives

Tuberculosis remains the leading cause of death for people with HIV in Rwanda, and early detection and treatment of co-infected individuals saves lives. Early in 2005, after the Ministry of Health and ICAP organized a meeting to review strategies for a coordinated, comprehensive approach to HIV and TB, the first national TB/HIV integration policy was drafted and endorsed. Since then, ICAP has assisted the

National TB Control Program (PNLT) and TRAC *Plus* to roll out the new policy and to integrate TB and HIV programs at all levels, leading to one of the most successful models of TB/HIV integration in Africa.

As an active member of the TB/HIV integration technical working group, ICAP helped revise HIV and TB technical manuals and training modules to reflect the new integration guidelines and developed TB/HIV monitoring and evaluation tools.

In partnership with the PNLT and TRAC *Plus*, ICAP also led the design of an innovative one-stop model for TB/HIV integration at TB treatment units and introduced a TB screening tool for ART clinics. At facility level, ICAP facilitated the integration of TB and HIV by:

- Increasing TB screening at ART clinics, using a standardized, five-question checklist at enrollment and every six months thereafter. HIV care patients confirmed to have active TB were accompanied to a TB clinic for treatment.
- Assisting PNLT in developing and introducing a minimum package for TB infection control at facilities
- Enhancing district-level laboratory capacity to conduct rapid and accurate TB diagnosis

ICAP’s experience in Rwanda demonstrated that it is possible to achieve rapid scale-up of services for TB/HIV co-infection. At the time of this writing:

- 29 TB detection and treatment centers in Kigali and West Province have a functioning one-stop TB service for TB patients with HIV.
- 3,668 new patients with unknown HIV status at enrollment into TB care were tested for HIV while in care at the TB clinic.
- 48 HIV care and treatment clinics routinely screened HIV-infected patients for TB.
- More than 30,000 new patients were screened for active TB at initial enrollment into HIV care.

The One-Stop Model for TB/HIV Integration, One of the First of its Kind in Africa

The one-stop services model and the TB screening tool were first piloted at two ICAP-supported health facilities. The model demonstrated that providing TB and HIV services ensured better coordination of care and reduced the number of appointments that patients had to make with health care providers. This service delivery model also limited contact between TB patients during the early, infectious period of TB treatment, with patients at the ART clinic.

In 2007, the success of the TB/HIV integration program led the Ministry of Health to endorse the one-stop services model and the standardized, five-question TB symptom checklist for implementation nationally.

Reaching Populations with Low HIV Service Utilization

Increasing access to HIV care and treatment for the entire population means that testing interventions must meet the needs of the general population and groups who have low HIV service utilization, among them prison inmates, men who have sex with men, and other populations.

Prisoners

HIV prevalence has historically been high in Rwandan prisons. From 2007, ICAP collaborated with TRAC *Plus* and the Ministry of Internal Affairs to launch one of the first prison-based HIV programs in Africa, providing comprehensive HIV care and treatment services to those incarcerated at Gisenyi and Kigali Central prisons. Since then more than 1,135 adult inmates have received HIV care, and 548 have received ART at the two prisons. The government of Rwanda has since scaled up comprehensive HIV care and treatment services in all 12 of Rwanda’s prisons. While 2006 data indicated that 17% of inmates were HIV positive, by 2010 this percentage was reduced to 6%.

In 2009, ICAP collaborated with the Rwandan Ministry of Internal Affairs to extend the the Peer Educators for Adherence,

Referral and Linkages (PEARL) program at the Kigali and Gisenyi prisons. ICAP organized peer educator trainings for inmates living with HIV, focusing on a range of HIV-related topics. The training was the first of its kind at a Rwandan prison.

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Patients in Mental Health Facilities

In 2008, Ndera Neuropsychiatric Hospital—with a 16% HIV prevalence among patients—became the first mental health facility to integrate HIV care with mental health services. With ICAP support, patients were provided with comprehensive HIV prevention, care, and treatment services co-located with mental health services. Service delivery guidelines and tools were developed for HIV related psychiatric morbidities. In addition mental health services have been integrated into HIV services in district hospitals in two provinces.

Survivors of Sexual and Gender-Based Violence

Beginning in 2010, ICAP expanded access to services for survivors of sexual and gender-based violence in the West Province, where such services had previously been almost nonexistent. In nine district hospitals HIV testing at the initial visit and at three months, postexposure HIV, prophylaxis for sexually transmitted infections, emergency contraception, medical care for injuries, psychological counseling, support for reporting to police, have been introduced.

In Kigali, ICAP's work focused on strengthening referral services and follow-up of women treated for sexual assaults at Kacyiru Police Hospital's *Isange* ("Feel Welcome") one-stop center, and on preparing the center to become a practical training facility for health care providers from district hospitals.

To address stigma relating to sexual and gender-based violence, ICAP collaborated with the CNLS, and the national police, to support a national-level community campaign to encourage women and families to seek care and support services and report sexual assaults to the police and to Rwanda's Child Protection Services.

Men Who Have Sex with Men

Men who have sex with men have borne a disproportionate burden of HIV globally and remain a key population often not reached by appropriate HIV services. Stigma and discrimination often make these men reluctant to seek health services. In 2010, ICAP launched a program to provide focused and appropriate services at three health facilities in Kigali, as well as to increase uptake of HIV counseling and testing and care and treatment services. ICAP facilitated training to sensitize stakeholders to the psychosocial and clinical needs of this key population. A screening tool, job aids, and clinical training materials were also developed and introduced. Recent ICAP-supported outreach activities have resulted in increased service utilization by men who have sex with men.

People with Disabilities

In March 2011, in partnership with Handicap International and the Umbrella of Persons with Disabilities in the Fight against HIV and AIDS (UPHLS), an organization established by the Ministry of Health, ICAP initiated integration of HIV services for people with disabilities at three Kigali health centers. ICAP supported the revision of HIV training materials and standards of care tools and sensitized facility staff on caring for people with disabilities who are HIV infected.

Increasing Patient Access and Maximizing Retention in Care and Treatment

Peer Educators for Adherence, Referral and Linkages

In 2008, recognizing the challenges that health care providers face in rapidly enrolling and retaining patients in HIV care and treatment, ICAP collaborated with RRP+ to create the PEARL program, which mobilized and trained peer educators to provide psychosocial support to people living with HIV and to help patients adhere to treatment through education, referrals, and linkages to community organizations.

PEARL peer educators provided post-test counseling, offered guidance and support on the importance of adherence to





Members of the peer support group at the AVEGA clinic share a joke.

Marie

In 2005, after suffering a long period of poor health, Marie decided to go to the ICAP-supported Kicukiro Health Center for an HIV test. “When I received the news [that I was HIV positive], I fell and became unconscious for the whole day.” Marie started ART and through the local association of people living with HIV, Marie became a “champion patient” and then later a PEARL program peer educator.

“The PEARL program’s aim is to first refer family members for HIV testing and counseling. I started with my own family, including my two daughters and son—fortunately, none of them tested positive. I continue to counsel them how to avoid getting HIV. I have become confident and very proud to help my association and community. I am linking my community to the health center through referrals and home visits and am tracking patients who have missed their appointments. Few people in my association now miss appointments.”

treatment, conducted home visits to follow up on patients who had missed an appointment, referred pregnant women to antenatal care, referred HIV-exposed infants to clinics for early infant diagnosis of HIV, and provided support for monthly pediatric follow-up visits. During home visits, peer educators also offered TB screening to patients and family members.

The PEARL program has become an integral part of the health care system. Facility social workers supervise peer educators at the facility. Through a Lost-to-Follow-Up Tracking System (LFTS), peer educators and social workers follow up on patients enrolled in HIV care and discuss strategies to facilitate return of patients who have left care. Peer educators conduct home visits to follow up with patients who miss a clinic appointment. Through the PEARL program, peer educators have become team members at the facilities.

Care and Treatment Support Groups

As the PEARL program was being developed, ICAP and its partners realized that many patients with HIV were

“The MCAP project contributed significantly to building universal access and promoting holistic management of people living with HIV, showing that one can live with HIV without being sick.”

—Dr Mpundu Ribakare, Director, Care and Treatment Unit, Rwanda Biomedical Center/Institute of HIV/AIDS Disease Prevention and Control

not members of community associations of people with HIV. ICAP, with facility multidisciplinary teams, initiated facility-based support groups. These groups provide a forum for patients and family members to discuss challenges they encounter in adhering to care and in living positively with HIV. By July 2011, more than 246 support groups at ICAP-supported facilities were providing psychosocial sustenance to discordant and concordant couples and single people, widows, children and adolescents, prisoners, and patients displaced from Congo.

Improving and Sustaining Quality

ICAP, TRAC *Plus* and the MOH/DI unit have worked together with facility multidisciplinary teams and district health teams to improve the performance and effectiveness of the HIV health services. The participatory nature of ICAP’s approach for systems strengthening built ownership, as district and facility teams participated in and now lead quality improvement activities.

Clinical Systems Mentorship

Effective quality assurance tools must be provided when integrating or adding new HIV services, such as new clinical protocols for more-efficacious PMTCT regimen, or expanding the role of nurses. ICAP has developed Clinical Systems Mentorship (CSM) as a strategy for ensuring quality in HIV service delivery. Because CSM is grounded in continuous data-driven assessment, it explicitly targets service delivery

Applying the Standards Of Care Tool in Shyira District Hospital

At Shyira District Hospital, the methodology helped hospital staff identify and address problems with the effective integration of PMTCT services into antenatal services. The standards of care process revealed that only 58% of all HIV-infected women had CD4 testing done within the first month of diagnosis.

The team determined that uncoordinated schedules between antenatal services, CD4 blood draw, and CD4 blood sample processing at the lab contributed to the delay. Services were reorganized so that pregnant women could have samples for CD4 tests taken by nurses (during their first antenatal visit, rather than having to wait for laboratory technicians). A CD4 log book was introduced to provide better follow-up.

challenges, improving not only the competency and capacity of individual health providers, but also strengthening clinical teams, district health teams, and the overall health system.

Training and Ongoing Technical Assistance

When ICAP first initiated activities in Rwanda, health care providers with the skills to provide HIV services were in short supply, having only limited preservice training in HIV service delivery. “In 1998 only one doctor in Rwanda was providing ART,” notes Dr Assimwe of the RBC/IHDPC. Supporting provider in-service training became a priority from the start of ICAP’s work.

Consistent with its overall strategy, ICAP’s training strategy demonstrated its commitment to support central and district leadership. With support from ICAP, TRAC *Plus* organized regular national HIV care and treatment trainings of trainers in Kigali. These national trainings updated participants’ knowledge on various HIV technical areas, in accordance to national and WHO guidelines and protocols.

Equipped with their own pools of trainers, districts started to organize practical trainings of district-based providers, which were then followed by clinical mentorship co-facilitated



OPPOSITE The courtyard of Kigali Teaching Hospital's HIV/AIDS children unit. The unit was renovated with the support of ICAP funding.

by ICAP and district health teams to help providers gain confidence in implementing high-quality care. In coordination with the MOH/DI unit, ICAP also trained and mentored district health teams on HIV service management and delivery, such as strategic information, drug and reagent forecasting, financial and contract management systems.

Support for Task Shifting to Nurses

Due to limited staffing, many health facilities had to rely on a single doctor to initiate patients on ART during the initial years of ICAP in Rwanda. As a result, facilities could not meet patient needs, and many patients disengaged from care. ICAP and other implementing partners advocated with the Ministry of Health to expand nurses' roles and permit them to prescribe ART. In 2006, the Ministry of Health endorsed the new policy change and, soon after, participated in the launch of a nationwide nurse task-shifting initiative.

ICAP led workshops and on-site mentorship for nurses on delivering the multidrug antiretroviral regimen for PMTCT—for all eligible HIV-infected pregnant women. The workshops complemented ICAP's trainings and supportive supervision of nurses for the provision of comprehensive HIV care for mothers and newborns.

Effective Systems for Strategic and Health Management Information

ICAP has provided technical assistance to TRAC *Plus* and support to district and facility teams to strengthen strategic information systems for data collection, management, analysis, and dissemination. ICAP has played a key role in developing monitoring and evaluation tools (e.g., patient registers for pre-ART, ART, PMTCT, early infant diagnosis,

“ICAP can take credit for increasing national awareness about data quality. Although there is still work to be done to strengthen data quality auditing tools, everybody is talking about the importance of data quality.”

—Dr Veronicah Mugisha, ICAP M&E Director, Rwanda

and voluntary and provider-initiated counseling and testing) that have subsequently been adopted by the Ministry of Health for national scale-up. Other follow-up tools such as the Mother-Infant Tracking System and the Lost to Follow-Up System Tracking for PEARL peer educators are also ICAP contributions to the national HIV program.

ICAP has also provided technical support for the development and enhancement of TRACnet, an aggregate database for tracking program indicators that accepts phone and Internet-based data entry. TRACnet is designed to meet the national program's need for a timely way to collect, store, and disseminate critical HIV program, patient, and drug information. This system connects facilities with districts, labs, and *Centrale d'Achat des Medicaments Essentiels, Consumables et Equipements Médicaux du Rwanda*; CAMERWA)—responsible for supply chain management—enabling them to collect and share program data.

As HIV care has expanded, the need for tools for health management information systems, and adequate supervision has increased. ICAP has provided a package of essential equipment and technical support to districts and health facilities to enhance their health management information systems. ICAP regional staff has worked closely with facility multidisciplinary teams and district health teams to introduce SOPs for data entry, data quality assurance, and confidentiality, and supported data audits. Facility and district health teams monitor trends in data quality, resulting in more accurate data for decision making.



Solar panels bring energy to remote health facilities.

Strengthening Health Systems

Infrastructure

ICAP has also focused on creating an environment for improved service provision. ICAP has conducted repairs of clinical, laboratory, and pharmacy structures and procured a package of medical and laboratory equipment and supplies and information technology equipment throughout Kigali and West Province. These infrastructural investments, adapted for each facility's needs, benefit all areas of service delivery—not solely areas relating to HIV.

Expanding and Strengthening the Laboratory Network

ICAP has assisted the national laboratory system to support family-focused HIV services. Since 2005, in coordination with the National Reference Laboratory, ICAP has renovated 56 district hospital and health center laboratories and provided essential equipment. ICAP has also expanded the lab sample-transportation system by linking district hospitals with FACSCounts for CD4 testing with satellite facilities and provided with a schedule for pick-up of samples, reducing delays in processing results and thus in enrolling eligible patients on ART.

ICAP also has assisted the National Reference Laboratory in Kigali to establish a transport system between it and facilities in West Province. This sample transportation system has ensured access to specialized laboratory services such as CD4 testing, HIV DNA PCR testing (using dry blood spot technology) for early infant diagnosis, and viral load testing. “Strengthening the lab network boosted the pediatric HIV and PMTCT programs,” notes former ICAP Rwanda country

director Dr Ruben Sahabo. “It permitted early infant HIV diagnosis of HIV and the rapid enrollment of children into care and treatment. It also allowed for the early diagnosis of pregnant women eligible for ART.”

Lack of electricity and other basic infrastructure had posed a major challenge for HIV programs. In 2006, ICAP implemented a solar electrification project at health centers in Rwanda and brought regular, uninterrupted supplies of electricity to 15 ICAP-supported HIV care and treatment facilities, mostly in West Province (see photo left). With the addition of solar power generators, health facilities with intermittent supplies of electricity, or no electricity at all, now have constant power for their critical needs.

Strengthening Commodity Management

ICAP has provided support to health facilities with application of quantification methodologies for drug procurement estimates and conducted facility needs assessment and mentorship visits to minimize risks of stockouts.

Setting the Stage for Transition

ICAP's technical assistance has always focused on local ownership and sustainability, as demonstrated by ICAP's significant direct funding to the Ministry of Health in 2004. With CDC and the Ministry of Health, ICAP implemented a detailed transition plan for transferring technical and managerial capacity for HIV program support to the MOH/DI unit and to the three nongovernmental organizations that coordinate the PEARL program. Accelerating in 2008, ICAP collaborated with the Ministry of Health to develop criteria and tools for assessing and graduating health facilities to the MOH/DI unit, particularly focusing on management, clinical mentorship, and monitoring and evaluation.

Through joint mentorship visits, establishment of district hospital mentorship teams, and tools standardization, ICAP strengthened the capacity of the MOH/DI unit, TRAC *Plus*, and district health teams to provide supportive supervision, and meet national and donor data reporting requirements.



THE NEXT CHAPTER

Lessons Learned 2004–2012

Strong support for TRAC *Plus* has built the foundation for a true partnership among the Ministry of Health, CDC, and ICAP, and ensured that ICAP activities were synergistic with the national HIV program.

- Establishment of subagreements with the MOH/DI unit and health facilities directly promoted accountability and local ownership, facilitating the successful scale-up of decentralized services
- Establishment of ICAP regional offices facilitated the government's decentralization efforts, enabling regional ICAP staff to provide support to the district and facility multidisciplinary teams
- Introduction of and integration of HIV services into other health services maximized enrollment and retention in HIV care. HIV services have become more easily accessed by patients and their families.
- Providing each facility with a comprehensive package—consisting of medical and laboratory equipment and supplies, trainings, and ongoing clinical mentorship—has benefited the broader health system.
- On-site mentorship and technical support strengthened clinical skills of providers following their didactic training in the classroom and helped them gain confidence to care for HIV-infected patients.
- Access to multicountry ICAP clinical and capacity building tools that could be adapted to Rwanda, as well as access to Columbia University's pool of HIV experts, contributed to rapid scale-up of HIV services.
- Mobilization of peer educators helped patients adhere to treatment, improves linkages with community support services, and helped reduce the work load of social workers and other health providers.
- Investing in essential strategic information resources leads to improved data quality and data use for decision making.



At the time of this photo, this child weighs a healthy 13 kilos, following his initial visit to the children's unit at the Kigali Teaching Hospital just a few months prior, when he weighed only 5 kilos. He received ARV treatment as part of ICAP's program to support children who are born with HIV.

Moving Forward in Rwanda

ICAP has had a lasting influence on the availability and quality of treatment expansion. The program has provided a new partnership model for building local government and health facility capacity.

Beyond 2012, ICAP's focus in Rwanda will be on consolidating the gains of the last eight years. ICAP looks forward to providing targeted technical assistance to the Ministry of Health as it identifies future needs.

ICAP will work with the Ministry of Health to enhance HIV-related technical programs with a focus on:

- Strengthening TB/HIV integration services
- Increasing access to pediatric care and treatment
- Developing, testing, and scaling up new models for delivering adolescent-friendly HIV services
- Providing continued assistance to laboratory networks to develop quality management systems
- Piloting and evaluating new approaches for increasing access to HIV care and treatment services for underserved and key populations will remain a priority.
- Finally, ICAP technical staff will work with the Ministry of Health to explore opportunities to adapt the HIV chronic care model to treat other chronic, noncommunicable diseases.



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