

Strengthening the Capacity to Scale-Up HIV Prevention, Care, and Treatment Programs in South Sudan under PEPFAR

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 - Number and proportion of HIV-positive pregnant women who received ART
 - Number of HEI tested with HIV PCR DNA test
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List of Acronyms

ART	Antiretroviral therapy
CCM	Country Coordination Mechanism
CDC	Centers for Diseases Control and Prevention
CSO	Civil society organization
DSD	Differentiated service delivery
EAC	Enhanced adherence counseling
ECHO	Extension for Community Healthcare Outcomes
EID	Early infant diagnosis
GF	Global Fund to Fight AIDS, Tuberculosis, and Malaria
HTS	HIV testing services
M&E	Monitoring and evaluation
MMD	Multimonth dispensing
MOH	Ministry of Health
PEPFAR	President's Emergency Plan for AIDS Relief (PEPFAR)
PHCC	Primary health care centers
PHCU	Primary health care units
PMTCT	Prevention of mother-to-child transmission
SOP	Standard operating procedures
SSAC	South Sudan AIDS Commission
TA	Technical assistance
TA-ISD	Technical assistance for improvement in service delivery
TB	Tuberculosis
TPT	TB preventive treatment
TWG	Technical working group
USAID	The United States Agency for International Development
VL	Viral load
WHO	World Health Organization

Introduction

This report provides a high-level summary of the purpose and achievements of the five-year CDC-funded Strengthening the Capacity to Scale-Up HIV Prevention, Care, and Treatment Programs in South Sudan under PEPFAR project. A brief background of ICAP at Columbia University and ICAP in South Sudan is presented followed by key achievements, areas of success, challenges encountered and addressed, and lastly lessons learned.

It has been a privilege to partner with the United States Centers for Disease Control and Prevention (CDC) and the Republic of South Sudan Ministry of Health (MOH) to systematically improve HIV service delivery throughout the duration of this award. Achievements can be measured by the numbers but also by the growth in partnerships, lessons learned, and numerous success stories. Ultimately, program success should be measured by the impact it has had on the lives of clients and families as beneficiaries of this work. Finally, we are indebted to the frontline health workers—doctors, nurses, pharmacists, laboratorians, monitoring and evaluation (M&E) staff, peer educators, counselors, volunteers, and community outreach volunteers—who all played essential roles in the success of this program and without whom this work would not be possible.

ICAP Global Background

History: ICAP was founded in 2003 at the Columbia University Mailman School of Public Health and delivers transformative solutions to strengthen health systems in over 30 countries.

Global Mission: ICAP ensures the wellness of families and communities by strengthening health systems around the world.

Goal: ICAP has worked since 2003 with one central goal: to improve the health of families and communities.

Focus Areas: HIV/AIDS, tuberculosis (TB), maternal and child health, malaria, noncommunicable diseases, health systems, human resources for health, and quality improvement

Approach: ICAP touches every part of the health system wherever it works, addressing challenges in health governance, human resources, health financing, infrastructure, laboratory services, supply chain and pharmacy services, clinical services, and health information.

ICAP supports the following:

- Large-scale, evidence-based health programs
 - Taking evidence to action
- High-quality **education and training** programs
 - Human resources development is central to ICAP's approach to health systems strengthening.
- Design and implement epidemiological, clinical, and implementation science **research**
 - Situated at a **world-renowned university**, ICAP is at the forefront of research to improve the delivery of HIV and TB prevention, care, and treatment services.
- Surveys, data systems and impact **measurement**

ICAP Global by the Numbers: As a result of ICAP's support,

- 37.6 million people have been tested for HIV, including 9.34 million pregnant women;
- 2.54 million people have received HIV care at ICAP-supported health facilities;
- 5.15 million people living with HIV have been screened for TB;
- more than 194,000 health workers have been trained;
- 6,484 health facilities have been maintained and improved; and
- 2,156 laboratories have been maintained and improved.

ICAP in South Sudan

Overview

ICAP began working in South Sudan in December 2012, one year after the country gained its independence from Sudan. With support from the CDC through the President's Emergency Plan for AIDS Relief (PEPFAR), ICAP began working with the Republic of South Sudan MOH and the South Sudan AIDS Commission (SSAC), providing technical assistance (TA) to strengthen HIV program management at the national level with the goal of improving HIV programming and expanding HIV services across the country. HIV services were developed and scaled up concurrent with the birth of a new nation following years of protracted civil war.

Over the last eight years, ICAP has continued to provide TA to the MOH to systematically improve HIV service access and quality, including standardizing the HIV package of care and using strategic information for informed decision-making. Emphasis has been placed on ensuring South Sudan's efforts align with global best practices and the evolving science of HIV care and treatment. Program implementation has evolved considerably over the past eight years, with incremental improvement in service delivery models, which are increasingly patient centered, driven by data, and in line with achievement of UNAIDS 95-95-95 goals. Since 2012, ICAP has supported a nationwide assessment of all antiretroviral therapy (ART) sites; the development and updating of national guidelines, policies, and tools; and health care worker training on HIV and TB/HIV management. It has also worked with state health authorities to support clinical supervision and TA to facilities providing ART services.

In 2015, ICAP, funded by PEPFAR through the CDC, began the HIV service scale-up grant to expand comprehensive, family-focused HIV care and treatment programs and increase access to ART for adults and children. The aim of the project has been to develop and expand a strong continuum of care for people living with HIV; the use of data to inform evidence-based programs; and the development of new strategies, policies, and tools for use at national and facility levels.

ICAP began the five-year scale-up project by providing direct service delivery support to 14 ART facilities in the Equatoria region and TA for improvement in service delivery (TA-ISD) at four facilities in the Lakes and Western Bahr el Ghazal states. Over the past five years, working in close collaboration with the Republic of South Sudan MOH, the CDC, and other key stakeholders, ICAP has expanded its reach and scope of work in all aspects of HIV care and treatment. Most recently, ICAP has collaborated closely with the CDC to develop and respond to the COVID-19 pandemic alongside ongoing support to the PEPFAR aim of achieving HIV epidemic control.



Current ICAP-Supported Work

Currently, ICAP supports 20 comprehensive HIV service facilities in Central Equatoria, Eastern Equatoria, Western Equatoria, Lakes, and Western Bahr el Ghazal states. In these ART facilities, ICAP has hired more than 114 full-time staff, including clinicians, counselors, data clerks, and laboratory professionals. In addition, ICAP provides stipends to more than 100 volunteers providing critical services, including HIV testing services (HTS) counselors, peer adherence supporters, and mother mentors. ICAP has engaged more than 330 community outreach volunteers through local civil society organizations to extend HIV services to the community and improve the continuum of care.

In addition to the main ART sites, ICAP also supports 26 satellite sites with the goal of decentralization of HIV services and improving access to HIV services as close to communities as possible. These satellite sites are comprised of primary health care centers (PHCC) and primary health care units (PHCU). These sites

provide targeted HIV testing, ART refill services, and client tracing services. Playing a critical role in scale-up of services and retention in care, these satellite sites work hand in hand with ART sites in a hub-and-spoke mode (Figure 1). In support of this, ICAP provides stipends to HTS counselors, community outreach volunteers, and clinicians at the satellite sites. To build sustainability, all ICAP-hired site-level staff are South Sudanese, able to be absorbed by the government and to continue uninterrupted service anytime ICAP scales down or ceases support. ICAP believes that these measures are key to sustaining services and the considerable gains made to date through this project. Going forward, with additional funding through CDC, ICAP will be expanding its HIV care and treatment program, including laboratory program support in five states where the HIV prevalence is highest over the next five years.

Figure 2 provides a visual display of ICAP-supported sites across South Sudan.

Figure 1. Satellite hub-and-spoke model

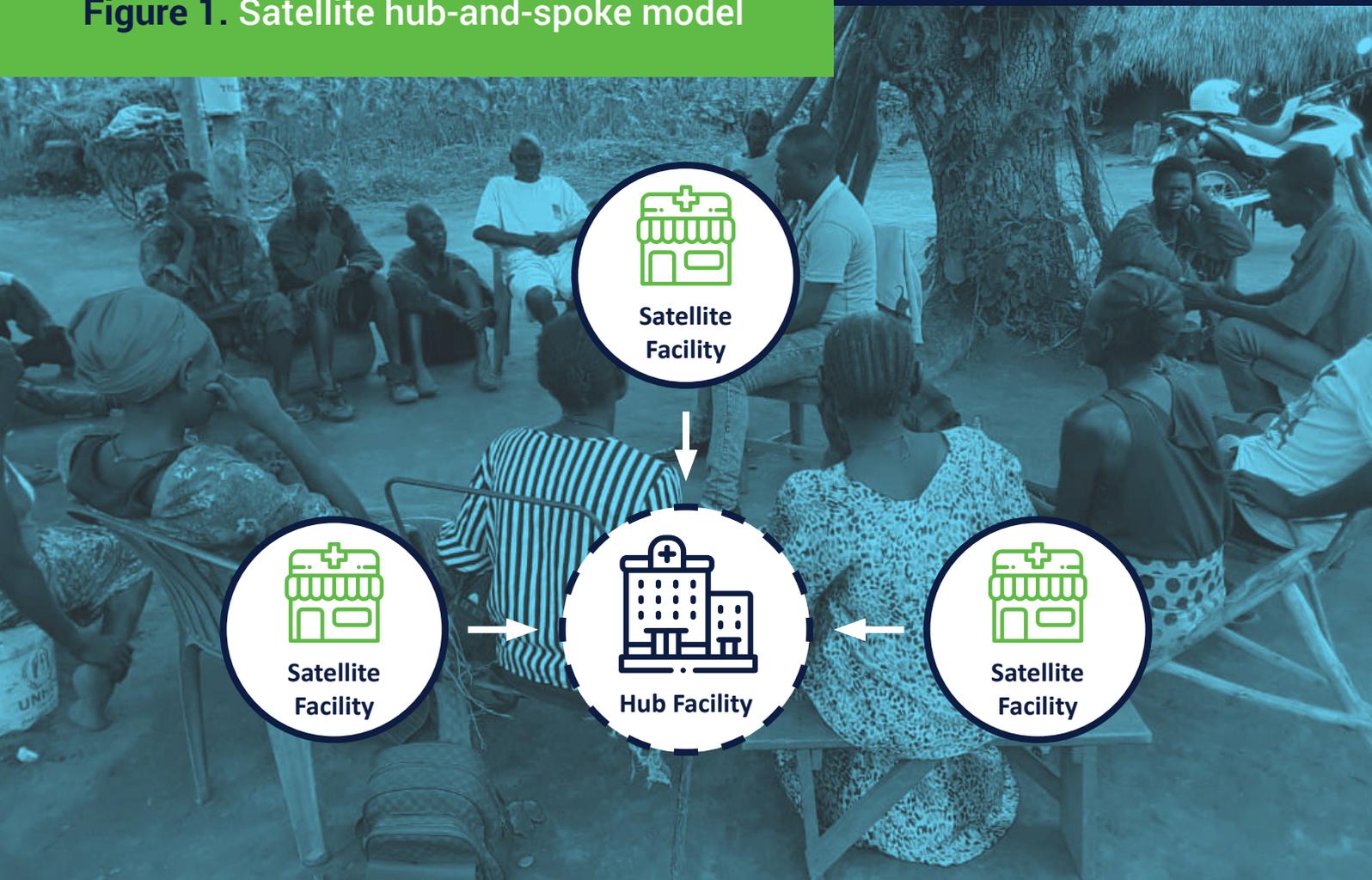


Figure 2. Distribution of ICAP-supported facilities throughout South Sudan



ICAP's South Sudan Areas of Support

In collaboration with the national and state ministries of health, ICAP South Sudan is implementing the following services and activities in a total of five states and 20 facilities:

- HTS including index testing for sexual partners and biological children
- HIV care and treatment including same-day ART initiation, multimonth dispensing (MMD), treatment optimization, pediatric care, and retention in care
- Prevention of mother-to-child transmission (PMTCT) services, including early infant diagnosis (EID)
- TB/HIV collaborative activities including TB preventive treatment (TPT)
- Viral load services for HIV treatment monitoring, including enhanced adherence counseling services
- Community HIV care to improve retention in care and extend the continuum of care down to the community, including ART refill

Project ECHO (Extension for Community Healthcare Outcomes), a video mentoring approach using the Zoom application, was introduced February 2018 to train and mentor facilities across South Sudan. The hub for the ECHO program is the Juba Teaching Hospital, and there are 11 facilities (known as spokes) in various parts of the country that connect on a regular basis with Juba Teaching Hospital for education, tele-mentoring, case management review, and collegial support.



Achievements

ICAP's scale-up project contributed to expanding access to HIV testing, ART, TB/HIV, and PMTCT services to thousands of South Sundanese. The program also laid down the foundation for HIV programming through standardization and development of national normative guidelines, standard operating procedures (SOPs), and recording and reporting tools. The project also built capacity in HIV service delivery, coordination, supervision, and leadership at all levels of the health system through training and targeted mentorship. ICAP developed national program packages of care, pocket guides for special populations (including pediatric groups), and pregnant and breastfeeding women, among others. ICAP was a leading member of national technical working groups (TWGs) and task forces in all thematic areas. ICAP seconded staff to national TB program, supported TB clinicians, and data clerks to improve coordination of the HIV and TB programs at national, state, and facility levels.

Snapshot of the scale-up project **by the numbers:**

- **462,105** individuals received HIV testing services in ICAP-supported facilities from October 2016 through June 2020. Of these 17,632 individuals, were HIV positive (a yield of 4 percent). ICAP started supporting HTS from October 2016, which is one year after the scale-up project started.
- **67,492** pregnant women had a known HIV status at antenatal care since October 2017, for a coverage of 96 percent.
- **1,742** infants born to HIV-positive women had a virologic HIV test performed within 12 months of birth since October 2017, which translates to 62 percent coverage, considering the total HIV positive pregnant mothers reported in the same period (2,873).
- **8,019** new and relapsed TB cases had documented HIV status since October 2017, when ICAP started supporting TB/HIV services, for a coverage of 95 percent coverage among TB cases registered in the period.
- **22,613** adults and children were newly enrolled on ART from October 2015 through June 2020.
- **2,873** HIV-positive pregnant women received ART to reduce the risk of mother-to-child transmission during pregnancy, for 100 percent coverage of all new ANC attendants registered in the same reported period.
- **1,609** HIV-positive new and relapsed TB cases started or continued ART during TB treatment, for 91 percent coverage of HIV-positive TB cases reported in the same period.
- **4,482** ART clients were initiated on six-month TPT, and 70 percent of ART clients completed a full course of TPT.
- **15,240** adults and children were receiving ART in ICAP-supported facilities as of June 2020.
- **99 percent** of clients received three or more months of drugs during the last clinical contact or ARV refill visit as of June 2020, and of these 91 percent received drugs for six months.
- **7,024** ART patients had documented viral load results within the past 12 months. Of these, 5,793 (83 percent) were virally suppressed (VL < 1000 copies/ml).

Scale-Up Project System-Level Contributions and Achievements

Increased human resources for health (HRH) at all levels of the HIV response

- Seconded staff to MOH, HIV/AIDS department, Country Coordination Mechanism (CCM), and SSAC
- Supported more than 100 health care workers, 100 volunteers, and 330 community volunteers in the 20 supported facilities and communities
- Actively supported and participated in national and state HIV TWGs and task forces

Improved HRH capacity

- Trained more than 1,000 staff on new World Health Organization (WHO) HIV clinical recommendations and updates on a variety of topics, including care and treatment, TB/HIV services, VL services / enhanced adherence counseling, retention, recording, and reporting. These trained and mentored health workers and cadres can be the future leaders of HIV programs in South Sudan.
- ICAP's Project ECHO contributed to capacity building of staff working across the various states, including non-ICAP sites
- Engaged national and state experts during supportive site supervision
- ICAP designed and implemented community HIV programs for retention in care in 20 health facilities. Later this program was transitioned to a civil society organization (CSO) for sustainability and engagement of local partners. Later this program was transitioned to a civil society organization (CSO) for sustainability and further engagement of local partners.

Improved HIV service access and quality

- Conducted quarterly on-site clinical mentorship for accessible sites
- Conducted monthly remote site support for all inaccessible sites
- Procured and supplied medical equipment as needed
- ICAP was the lead clinical partner in the start-up VL program in South Sudan. ICAP participated in the development of tools and SOPs and implemented the VL program in Juba Teaching Hospital and Al Sabah Children's Hospital.

Improved HIV supply chain system and medicine availability

- Developed supply chain SOPs and tools
- Supported national-level quantification, facility commodity management, and pipeline follow-up with the central warehouse
- Supported the last-mile delivery of all antiretrovirals and other HIV commodities in supported sites

Improved the national and facility HIV M&E systems including data quality

- Pioneered and organized national HIV program planning and review meetings with facilities, states, partners, and MOH
- ICAP actively supported development of various national guidelines, SOPs, job aids, and M&E tools.
- Supported development and printing of national HIV recording and reporting tools
- Provided laptops, desktops, printers with cartridges, and modems to facilities to improve M&E system
- Conducted regular data quality assessments and built trust among stakeholders in ICAP-supported facilities data

Engaged community resource organization in HIV service delivery

- Pioneered and organized national adherence and retention strategy review meeting with partners, civil society organizations, networks, and PLHIV associations
- Subgranted, provided capacity building opportunities to National Empowerment of Positive Women United [NEPWU] and other networks and PLHIV associations to be able to receive PEPFAR funding and run HIV care and treatment program in the future. ICAP established a network of 333 community outreach volunteers around 20 facilities to improve retention.
- Conducted back-to-HIV-care campaign in six high-volume facilities through states, county authorities, networks, and PLHIV associations with 1,000 lost to follow-up returned to care and treatment in three months' time
- Engaged border authorities and established drug pick points across the border during COVID-19 lockdown

All the service key performance by the numbers as well as coverage data show that the scale-up project accomplished most indicators. The project has also immensely contributed to system-level changes and successes. ICAP will leverage on the successes gained so far and strive to address the challenges in the upcoming project.

Success Stories

Success Story One:

Piloting and Scale-Up of TPT Program in South Sudan

ICAP in South Sudan led piloting of TPT program in Juba Teaching Hospital HIV Clinic in April 2018. ICAP laid the groundwork for the pilot through developing various SOPs, job aids, and recording and reporting tools, including TPT register. ICAP provided focused trainings, and one clinician was trained as a site “TPT champion,” and other facility clinicians referred newly diagnosed PLHIV to this clinician for patient counseling on the benefits of TPT, review of TPT contraindications, TPT administration, and monitoring of drug-related adverse events. Additionally, ICAP applied a standardized MOH TB disease screening form for every PLHIV and introduced both a presumptive TB register for PLHIV screening positive and a dedicated TPT register to track initiation, continuation, and treatment course outcome for each patient. With these components in place, between April and October 2018, ICAP in South Sudan initiated a convenience sample of 54 PLHIV on six months of isoniazid (INH) for TPT. Among these, 48 (89 percent) completed treatment. The completion rate was high mainly due to the MMD (dispensed three to six months of ARVs at once) and harmonizing the TPT and ART appointments. Follow-up phone calls were made to ask if clients developed adverse effects or not and advice was provided accordingly. These results indicated that providing TPT to PLHIV as part of HIV care was feasible, acceptable to both patients and providers, and could be tracked for documented outcomes. In 2019, the MOH and PEPFAR team decided to scale up TPT program in South Sudan. All ICAP tools were adopted as national TPT program tools and ICAP provided one day training to all PEPFAR team and partners. To date more than 20 facilities provide TPT in the country. The scale-up was limited to 20 facilities due to shortage of INH 300 mg; otherwise all ART sites are ready to provide the service. Lessons learned from the pilot site were disseminated to other facilities by the cadre of TB/HIV field supervisors.

Success Story Two:

ICAP's Innovative Surge Strategy

In 2018 ICAP developed the surge approach following internal critical program data analysis on case identification and linkage to ART. ICAP team key principles were focus, replicate, and intensive granular site support. The surge approach comprised of an ICAP point of contact (POC) assigned to specific ICAP-supported facilities, daily monitoring of key performance indicators vis-à-vis facility-level program targets, sharing of daily achievements, experiences, challenges on WhatsApp to aid real-time discussions on effective strategies, management of challenges as they emerge, and feedback on key program issues and resolutions. ICAP developed tools to break down daily activities into discrete steps and decision trees. Weekly summary of daily monitoring (targets and activities) and monthly summary to make it easier to roll up data. POC enters data into a PowerPoint template, which helps them to identify performance gaps and identify resolutions. The surge approach resulted in increased ICAP staff involvement at facility level, identification of site-specific gaps, prompt institution of corrective measures on emerging challenges, greatly improved data management and tracking of program performance in relation to assigned targets, and improved strategic on-site mentorship visits to supported health facilities.

After one month (end of March 2018), the case identification, yield, and new ART initiation increased compared to the previous months. Immediately the approach was adopted by PEPFAR, and it was recommended to be implemented by all implementing partners across all ART sites in South Sudan. The approach is now being used in other thematic areas such as retention.

Sustainability Efforts

ICAP has been working closely with the national and state ministries of health to improve program management capacity and ownership of the program. ICAP also worked to bring all actors of the HIV program through national program review and planning meetings, including facility directors, state director generals, national MOH departments, other implementing partners, UN agencies, and donors. This forum enabled government staff at all levels to exercise leadership and coordination roles. The forum also helped the facility to plan and implement its HIV program, which often sidelined as donor program in the previous years. ICAP also provided various trainings, as well as mentorship and supervision for HIV program staff at all levels, which improved HIV programming and service delivery capacity. ICAP trained hundreds of facility staff, engaged local partners to lead a community program with more than 300 volunteers, who will be frontline workers in the fight against HIV in South Sudan. ICAP worked to build capacity of national CSOs to be able to manage HIV programs in the absence of international organizations like ICAP.

All these activities will improve the sustainability of HIV services with minimum donor support. ICAP will continue these sustainability-focused interventions in the next grant, running from October 2021 through September 2025. The next project will cover 65 facilities in five high-HIV-burden states. ICAP will also implement the laboratory program in collaboration with National Public Health Laboratory (NPHL) to improve laboratory and blood transfusion services across the country.

Challenges, Efforts Made, and Lessons Learned

Despite the progress made in terms of service expansion and service quality improvements, much remains to be done. The South Sudan HIV program faces the following key challenges:

- Achievement of the three 95s is yet to be realized.
- Retention remains a challenge, with 25 percent of clients becoming lost to follow-up by the end of 2019. Most factors are related to contextual and structural barriers such as internal mobility and cross-border community movement.

- ART services are still limited to state capitals and major towns.

To address the retention challenge, ICAP implemented DSD, including MMD and community drug dispensation, service decentralization through satellite sites, daily tracking of clients to support retention efforts, community HIV service delivery program, supporting last-mile supply transportation, and remote technical support to field teams in cases of insecurity. ICAP also supported scale-up VL services to measure the countries progress toward the third 95.

ICAP managed to register commendable program success despite the challenging environment. The keys for the success were the ICAP team's excellence both at headquarters and South Sudan office, working closely with the MOH structure at all levels, and excellent working relationship with the PEPFAR team.

Acknowledgments

- Republic of South Sudan Ministry of Health, HIV Department, National TB Control Program
- United States Centers for Disease Control and Prevention / PEPFAR
- United States Agency for International Development (USAID)
- South Sudan AIDS Commission
- South Sudan State Ministries of Health
- PEPFAR implementing partners
- The Global Fund to Fight AIDS, Tuberculosis, and Malaria primary recipient / UNDP
- Civil society organizations, networks, and people-living-with-HIV associations
- United Nations agencies
- Health facilities

About ICAP

A global health leader since 2003, ICAP was founded at Columbia University with one overarching goal: to improve the health of families and communities. Together with its partners—ministries of health, large multilaterals, health care providers, and patients—ICAP strives for a world where health is available to all. To date, ICAP has addressed major public health challenges and the needs of local health systems through 6,000 sites across 30 countries.

For more information about ICAP, visit:
icap.columbia.edu

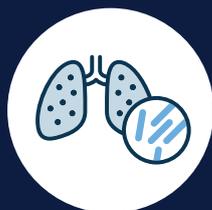
ICAP's Focus Areas

ICAP's primary focus is on HIV prevention, care, and treatment. We use lessons learned in this area to address other challenges such as malaria, tuberculosis, non-communicable diseases, and maternal and child health.

For more about these focus areas, visit:
icap.columbia.edu/our-focus-areas



HIV/AIDS



Tuberculosis



Maternal and Child Health



Malaria



Health Systems



Quality Improvement



Human Resources for Health



Non-Communicable Diseases



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