



**ICAP**  
Global. Health. Action.  
COLUMBIA UNIVERSITY  
Mailman School of Public Health

# SWAZILAND

2009 – 2015



RAPID SCALE-UP AND DECENTRALIZATION  
OF HIV CARE AND TREATMENT SERVICES

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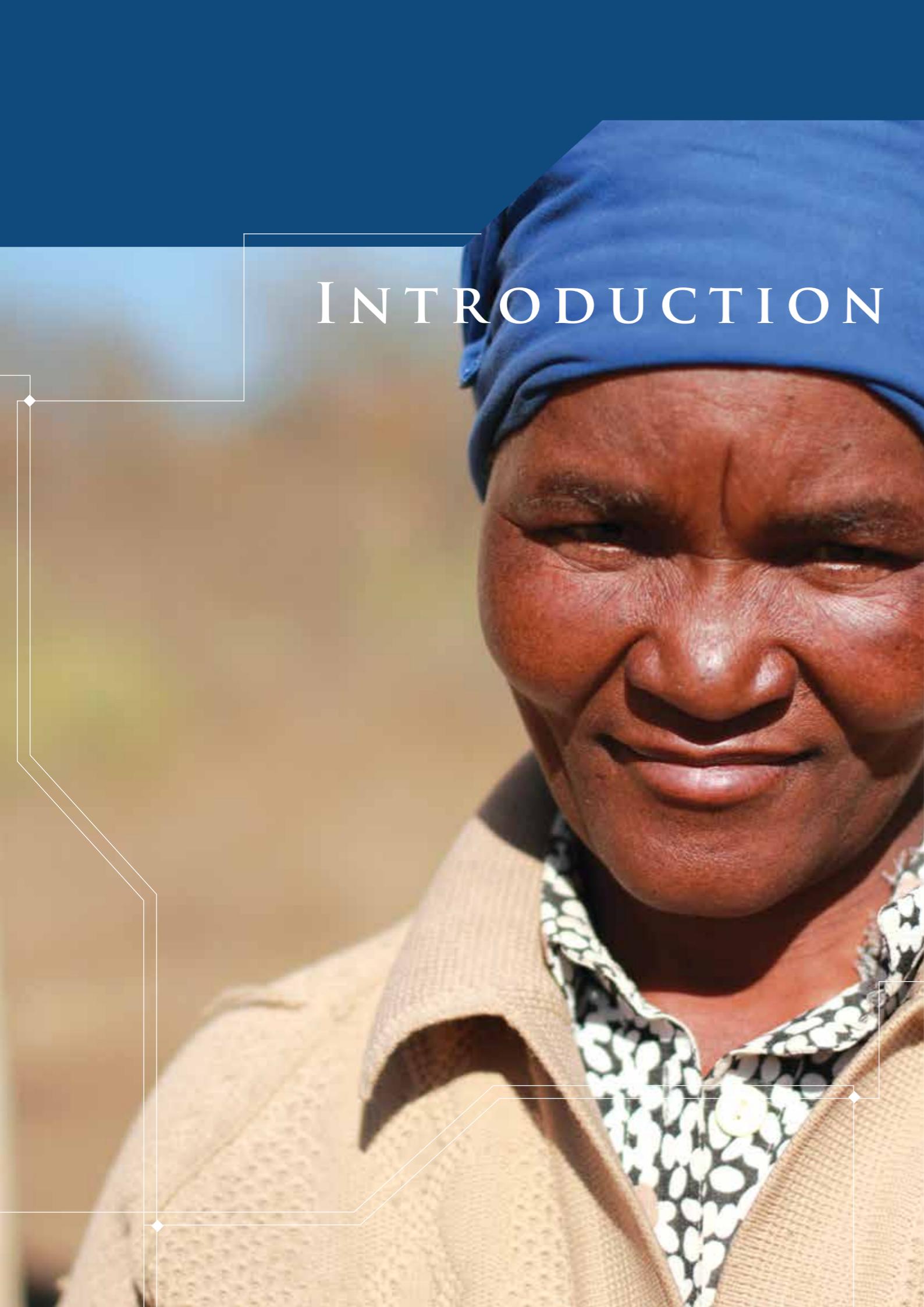
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# INTRODUCTION

## THE HIV RESPONSE IN SWAZILAND

The Government of the Kingdom of Swaziland is committed to the scale-up and decentralization of HIV care and treatment services as a strategy to reach all those in need and advance the impact of Swaziland's response to HIV. Swaziland, with a population of 1.25 million people, is facing the world's most severe HIV epidemic with 31 percent of adults aged 18 to 49 years old living with HIV. HIV incidence is 80 percent higher among women than men, and 41 percent of pregnant women test HIV-positive.<sup>1</sup> The tuberculosis (TB) case rate is also among the highest in the world at 1,349 per 100,000 population.<sup>2</sup>

Over the past decade, with support from the President's Emergency Plan for AIDS Relief (PEPFAR) and implementing partners, the Government of the Kingdom of Swaziland has implemented a highly effective national HIV/AIDS program. In 2012, Swaziland achieved the 80 percent benchmark for universal antiretroviral therapy (ART) coverage based on prevailing World Health Organization (WHO) guidelines, an historic achievement. High quality HIV care and treatment services are now widely accessible at primary health care facilities and community health structures, and remarkable innovation in HIV programming, championed by the Ministry of Health (MOH) and the Swaziland National AIDS Program (SNAP), has energized the overall national health system.◆

## PEPFAR SUPPORT

PEPFAR has supported Swaziland's HIV response since 2005. This support has enabled the government to establish its HIV response and over the ensuing years to scale-up services with an emphasis on sustainability and national ownership. PEPFAR's ongoing partnership with the Government of the Kingdom of Swaziland, and its vision of an AIDS-free generation, are focused on achieving sustained control of the HIV epidemic by rapidly expanding prevention, care, and treatment interventions that have demonstrated high impact.

Today, thousands of people living with HIV in Swaziland are leading healthy and productive lives as a result of PEPFAR investment and the national commitment to confronting the HIV epidemic. From October 2009 to June 2015, PEPFAR supported Swaziland's decentralization strategy through funding for the *Rapid Scale-Up of HIV/AIDS Care and Treatment Services in the Kingdom Swaziland*. The *Rapid*

*Scale-Up* project's design and implementation was guided by the objectives of the National Health Sector Strategic Plan and the extended National Strategic Framework on HIV/AIDS, as well as by PEPFAR's Partnership Framework with the Government of the Kingdom of Swaziland and its focus on evidence-driven investment.

Overall, this support has enabled successful decentralization and scale-up of HIV services by the MOH. In 2009, 47 health facilities in Swaziland offered HIV care and treatment services and 41,000 people living with HIV were receiving ART (59 percent of those eligible). By the end of the Rapid Scale-Up project in June 2015, **147** health facilities are offering HIV care and treatment, and more than **125,000** patients are receiving ART. Swaziland is now poised to increase ART initiation by 30 percent per year as the 2014 Swaziland Integrated HIV Management Guidelines are implemented.◆

<sup>1</sup> Swaziland HIV Incidence Measurement Survey (SHIMS), 2011

<sup>2</sup> WHO Global Tuberculosis Report (Swaziland Country Profile), 2013

## ICAP'S ROLE

**U**nder the *Rapid Scale-Up* project, ICAP at Columbia University has been PEPFAR's lead technical assistance partner for HIV care and treatment in Swaziland. ICAP has supported the successful scale-up and decentralization of services in three of the country's four regions (Hhohho, Lubombo, and Manzini), which have a total population of approximately 800,000 people, 64 percent of the country's population. Of the 125,000 patients currently on ART, 91,000 (73 percent) receive care at ICAP-supported sites.

ICAP's key contributions to this effort have included:

- High-level assistance to the MOH, based on national strategic frameworks and the latest global standards in HIV care and treatment;
- Championing and supporting task-shifting initiatives that release the untapped potential of nurses and expert clients;
- Strategic, accountable partnerships with Regional Health Management Teams for program implementation, capacity building, and transition of management;
- Extensive clinical training and continuous, clinic-based mentorship of health care workers;
- Enabling ownership by health facility and supervisory teams of performance indicators and quality improvement processes;
- Working with the MOH and SNAP to improve the collection, reporting, and dissemination of data and to promote the systematic use of program data for decision making;
- Implementation science studies, integrated with the scale-up of services, and the use of research outputs to inform policy and planning.

PEPFAR's focus on building capacity has been vital to the success of the decentralization and scale-up strategy. ICAP has provided technical assistance to the MOH and supported large-scale transfer of skills to health care workers, while building organizational capacity at national, regional, health facility, and community levels. From the policy table to the counseling and examination rooms at health facilities, ICAP has been working hand-in-hand with health authorities, practitioners, administrators, and community representatives and civil society leaders to continuously improve services and to enable government entities and local implementing partners to lead these efforts moving forward. ♦

*"The achievement of universal ART coverage would not have been possible without support from PEPFAR through ICAP, whose experienced health professionals worked diligently with the ART Program. ICAP proved to be the catalyst for the innovative implementation strategies that have made Swaziland one of the successful countries in ensuring access to and retention on ART."*

**Dr. Velephi Okello, Deputy Director of Clinical Services, Ministry of Health, Swaziland**

## PARTNERSHIP & COLLABORATION

**T**hroughout the *Rapid Scale-Up* project, ICAP worked closely with the following key stakeholders in Swaziland's HIV response to support the decentralization strategy and build the capacity to sustain high quality services.

- The Ministry of Health
- Swaziland National AIDS Program (SNAP)
- The National Emergency Response Council on HIV and AIDS (NERCHA)
- The PEPFAR team in Swaziland
- Regional Health Management Teams

- All three branches of the Uniformed Services: Royal Swaziland Police, His Majesty's Correctional Facilities, Umbutfo Swaziland Defence Force
- The Swaziland Nursing Council, as well as Swazi nursing schools at the University of Swaziland, Swaziland Christian University, Good Shepherd College of Nursing, Southern African Nazarene University
- Local and international non-governmental organizations (NGOs), including: World Vision, Cabrini Ministries, Nazarene Compassionate Ministries, Family Life Association of Swaziland (FLAS)
- Affected populations and the Swaziland National Network of People Living with HIV and AIDS (SWANNEPHA) ♦



# RAPID SCALE-UP OF HIV CARE: HOW IT WAS ACHIEVED

ICAP linkages staff en route to a patient homestead in rural Swaziland.  
Photo | Jake Price

## ACCESS TO HIV CARE AND TREATMENT SERVICES

### Decentralization to Primary Health Care Facilities

Through the *Rapid Scale-Up* project, ICAP supported the decentralization of HIV care and treatment services from ‘mother’ health facilities (mainly hospitals) to primary health care facilities, known as ‘baby’ clinics, which are often located more closely in the communities where patients live. Thus, decentralization was based on the ‘cluster’ structure within Swaziland’s health system, in which each cluster comprises one ‘mother’ and five to fifteen ‘babies’.

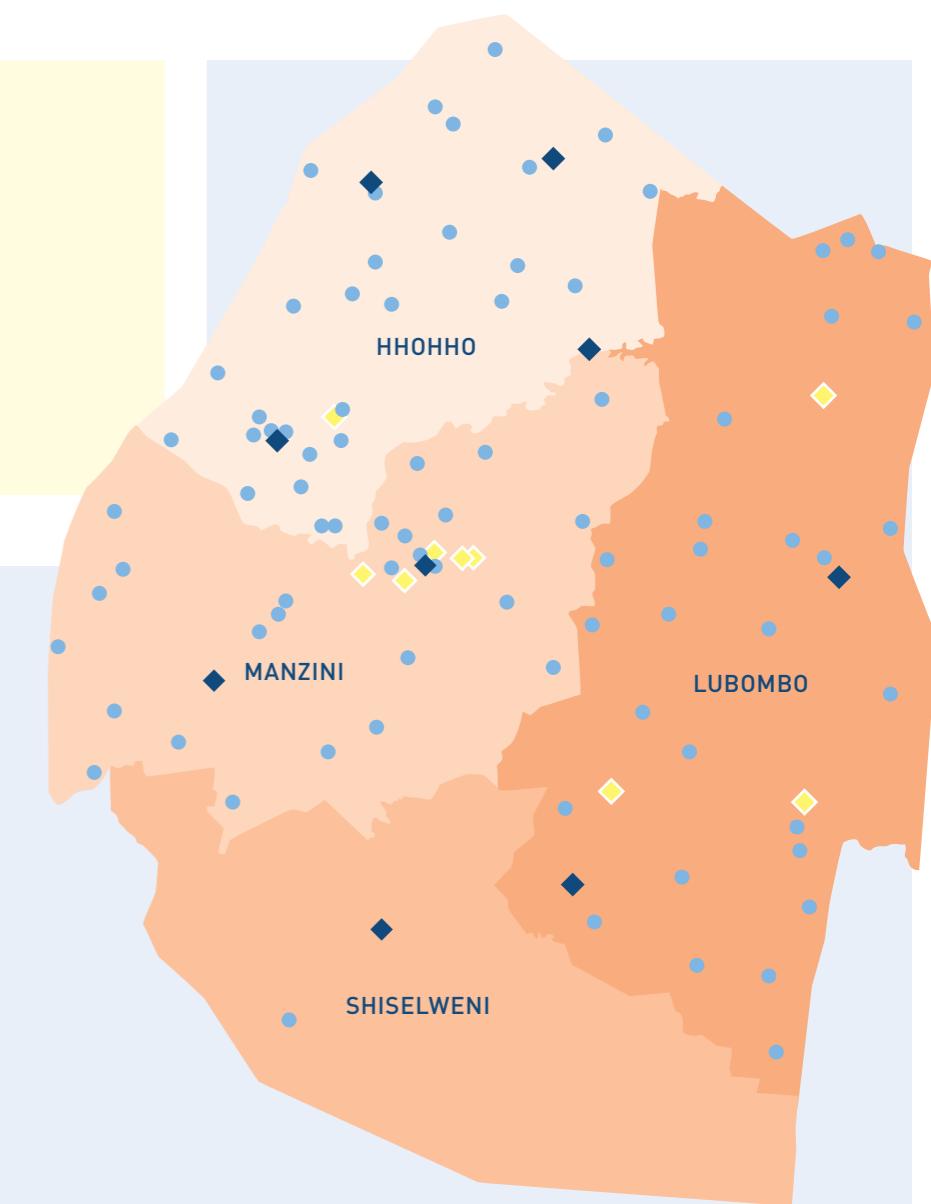
The number of ICAP-supported sites providing HIV care and treatment services has grown steadily since 2009 (Table 1). Of the 112 health facilities currently supported by ICAP, 101 are ‘baby’ sites while the rest are ‘mother’ sites (Figure 1). The nine to one ratio of ‘baby’ to ‘mother’ sites illustrates the transformative increase in access to HIV care and treatment services achieved through decentralization. In 2014, 64 percent of ART initiations at ICAP-supported sites occurred at ‘baby’ health facilities.◆

TABLE 1  
Number of ICAP-Supported ART Sites

SEPTEMBER 2009	47
SEPTEMBER 2010	48
SEPTEMBER 2011	59
SEPTEMBER 2012	62
SEPTEMBER 2013	86
SEPTEMBER 2014	112

FIGURE 1  
'Mother and Baby' Clusters of  
ICAP-Supported Health Facilities, 2015

- ◆ ‘Mother’ Facility
- ‘Baby’ Facility
- ◆ ICAP-Supported Stand Alone Facility





## Infrastructure Improvements

ICAP has supported renovations to create the space, patient flow, and privacy required to provide HIV care and treatment services and improve infection control safeguards. Upgrading health facilities has also improved the experience of patients and their families, thereby increasing the demand for services as well as promoting enrollment and retention in care. Since 2009, ICAP has supported major renovations at ten health facilities, the installation of eight mobile (pre-fabricated) units, minor repairs at 28 facilities, and built filing systems for patient records at 19 facilities. Technical assistance for assessment, planning, and monitoring of renovation projects has been coordinated with the Ministry of Works and Infrastructure and with other PEPFAR partners in Swaziland. ♦

TABLE 2

Proportion of ICAP-Supported ART Patients Remaining in Care after 12 Months:

Oct 2011 – Sept 2012 82%  
Oct 2012 – Sept 2013 86%  
Oct 2013 – Sept 2014 91%

### MODEL OF CARE

*ICAP has worked with the MOH to roll out a model of HIV care that emphasizes:*

- *A family-focused approach to HIV prevention, care, and treatment*
- *Multidisciplinary teams of health providers working together to deliver comprehensive care*
- *Continuity of care for patients and their families through every stage of HIV disease*
- *Quality services with rigorous standards of care and data-driven methodologies for quality improvement*
- *Integration of HIV services with related services such as TB and antenatal care*
- *Community linkages to increase demand for services, improve retention and adherence, and combat stigma*

## Pre-ART Care

Upon diagnosis of HIV infection, an important first step is to link the newly-diagnosed individual to HIV care or pre-ART care, which includes three core interventions with established impact on HIV-related mortality and morbidity: regular CD4 monitoring and clinical staging to ensure timely ART initiation once eligible, cotrimoxazole prophylaxis

to prevent opportunistic illnesses, and tuberculosis (TB) screening (see Page 10). ICAP has supported the MOH to roll out a system for linkage to and retention in pre-ART care that includes standard operating procedures, pre-ART registers, training for health care workers in linkages and integrated management of adult illnesses, and patient tracking tools to improve timely ART initiation. ♦

TABLE 3

Cumulative Numbers of Adult and Children Ever Initiated on ART at ICAP-Supported Health Facilities

	2009	2010	2011	2012	2013	2014
<b>Adults</b>	2,159	12,651	21,195	30,650	42,608	55,741
<b>Children</b>	199	1,174	2,055	2,886	3,764	4,573
<b>Total</b>	<b>2,358</b>	<b>13,825</b>	<b>23,250</b>	<b>33,536</b>	<b>46,372</b>	<b>60,314</b>
<b>% Adults</b>	92%	92%	91%	91%	92%	92%
<b>% Children</b>	8%	8%	9%	9%	8%	8%

## ART for Adults and Children

During each year of the *Rapid Scale-Up* project, as additional health facilities were equipped and capacitated to provide ART, thousands of people living with HIV have gained access to treatment. Since 2009, the number of adults and children ever initiated on ART in the three ICAP-supported regions has increased 25-fold: the number of adults ever initiated on ART at ICAP-supported facilities increased from 2,159 in 2009 to 55,741 in 2014 (Table 3 and Figure 2), and the number of children ever initiated on ART rose from 199 to 4,573 during the same period (Table 3 and Figure 3). Children have consistently accounted for at least eight percent of patients initiating ART, in line with PEPFAR targets for pediatric enrollment.

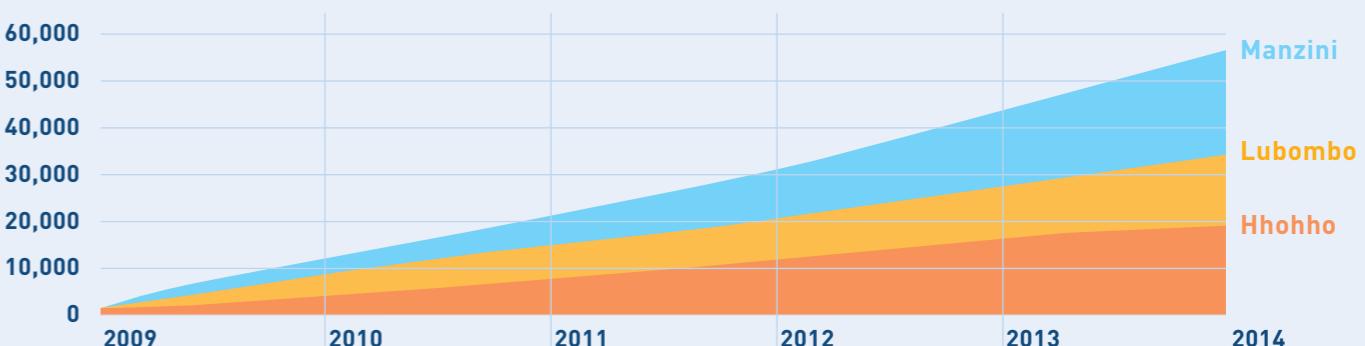
The retention rate for patients initiated on ART in Swaziland is high in comparison to findings from studies of several cohorts in sub-Saharan Africa, with the trend in retention continuing to improve over time. As shown in Table 2, during the year to October 2013, 91 percent of ART patients at ICAP-supported sites remained in care one year after they were initiated on ART. Furthermore, the Swaziland HIV Incidence Measurement Study (SHIMS), which included a random sample of the population, found 85 percent viral suppression among patients who indicated that they were on ART,<sup>3</sup> illustrating the population-level HIV prevention impact that was achieved through decentralization of care and treatment services. ♦

<sup>3</sup> SHIMS, 2011

FIGURE 2

Cumulative Number of Adults Initiating ART at ICAP-Supported Sites

From 2009 to 2014 over 55,000 adults were initiated on ART at ICAP-supported health facilities.



**FIGURE 3****Cumulative Number of Children Initiating ART at ICAP-Supported Sites**

From 2009 to 2014 more than 4,500 pediatric patients were initiated on ART at ICAP-supported health facilities.

**Innovations to Support Stable ART Patients**

Looking to the next phase of treatment expansion, the *Yiba Yincenye* (“Be a part of it”) pilot project developed by ICAP in collaboration with the MOH, has demonstrated the feasibility of establishing innovative methods for facilitating continued engagement for stable ART patients. Stable ART patients are screened for both clinical and psychosocial eligibility prior to enrollment in *Yiba Yincenye*. Four hundred patients at the pilot sites have registered for expedited drug pick-up, one innovation that allows patients to collect ART medication at their local health facility every three months and only attend a medical assessment every six months. With support from community-based organizations, another innovation was the establishment of

community treatment groups. These groups, consisting of up to six patients, enable one member to collect ART refills from the health facility for the whole group on a monthly basis. Forty treatment groups have been established to date. Both of these approaches serve to streamline follow-up for stable patients on ART, as well to decrease the burden on busy nurses and other staff at the health facilities, so they can focus on initiation of ART for new patients and management of complex cases. This will be important as Swaziland implements its new treatment guidelines, which will lead to nearly twice as many people living with HIV becoming eligible for ART. ♦

**Adherence and Psychosocial Support**

To garner the benefits of HIV care and treatment requires ensuring that patients remain in care and are enabled to adhere to treatment. To achieve this, ICAP has supported the integration of adherence and psychosocial support into the continuum of HIV care. With the scale-up of effective adherence and psychosocial support interventions, the MOH has established retention in care as the norm for most patients.

Facility-based HIV expert clients (see page 17) draw on their own experiences to counsel patients before they begin treatment, providing practical guidance on ART adherence and helping to dispel fears. By helping patients to understand the importance of keeping appointments, expert clients have played an important role in creating a culture of shared responsibility for retention in care. Through sub-awards to Cabrini Ministries, Nazarene Compassionate Ministries, and World Vision under the Community Linkages Program, ICAP also supports expert clients based in the community. Additionally, 5,000 rural health motivators (community appointed health educators) have been trained by ICAP to support linkage of HIV patients to services.

Consequently, expert clients, rural health motivators, community health workers, and NGO volunteers all contribute to the same task and track patient retention data together. These networks at the community level can be called upon by health facility staff countrywide to help missing patients to return to care and minimize rates of loss to follow-up. ♦

*“When ART retention figures for Swaziland are presented internationally, people even question whether they are too good to be true. Adherence and psychosocial support is critical. Everybody works towards the same goal of retaining patients on ART, and the whole community benefits.”*

**Ms. Nosipho Storer, adherence & psychosocial support and linkages advisor, ICAP**

## TB/HIV Integrated Care

Swaziland's dual TB and HIV epidemics are inextricably linked. An estimated 77 percent of TB patients have HIV co-infection and more than a quarter of deaths in people living with HIV are TB-related.<sup>4</sup> ICAP's support for scale-up and decentralization of HIV-related services has included measures to identify TB disease and prevent TB in people living with HIV, to improve outcomes in TB/HIV co-infected patients through early initiation of ART, and to institute infection control safeguards.

- **Intensified TB case finding** is a high priority for the MOH. All HIV patients at ICAP-supported sites are screened for TB at every visit using a checklist of symptoms, and those who screen positive are linked immediately to TB diagnostic and treatment services. ICAP support to institute routine TB screening is

illustrated by Figure 4 with data indicating that 99 percent of all HIV patients were screened for TB.

- **Isoniazid preventive therapy (IPT)** was introduced recently in 2014 for HIV patients who do not have TB. IPT was implemented and rapidly scaled up to half of the ICAP-supported sites. A nine-fold increase in IPT provision occurred with an increase in the number of patients initiated on IPT from 1,379 in 2014 to **12,661** patients in one year.
- **TB infection prevention and control** have been enhanced through renovation of health facilities to improve ventilation and patient flow. Crucially, this has included attention to infection control procedures at health facilities within prisons, where inmates are at particularly high risk of TB. ♦

<sup>4</sup> WHO Global Tuberculosis Report (Swaziland Country Profile), 2013

## Integration of HIV Care with Other Health Services

### • Maternal and Child Health Care

ICAP has long supported the integration of prevention of mother-to-child transmission (PMTCT) of HIV with routine maternal, newborn, and child health care in Swaziland and, since 2013, has assisted the MOH with implementation of the PMTCT Option B+ strategy.

### • Non-Communicable Disease Management

Screening and treatment referral for non-communicable diseases, particularly diabetes, hypertension, and cervical cancer, have now been integrated with HIV care in Swaziland. ICAP has supported training and mentorship, developed job aids, and procured medical equipment to enable health facilities to provide these services. Chronic care models developed for HIV services have also been adapted to improve non-communicable disease management in the country.

### • Positive Health, Dignity, and Prevention

A package of Positive Health, Dignity, and Prevention services is now being rolled out in Swaziland, as part of HIV care. The package includes: couples HIV testing; condoms; family planning counseling and methods; screening for and treatment of sexually transmitted infections; and alcohol abuse counseling.

### • Palliative Care

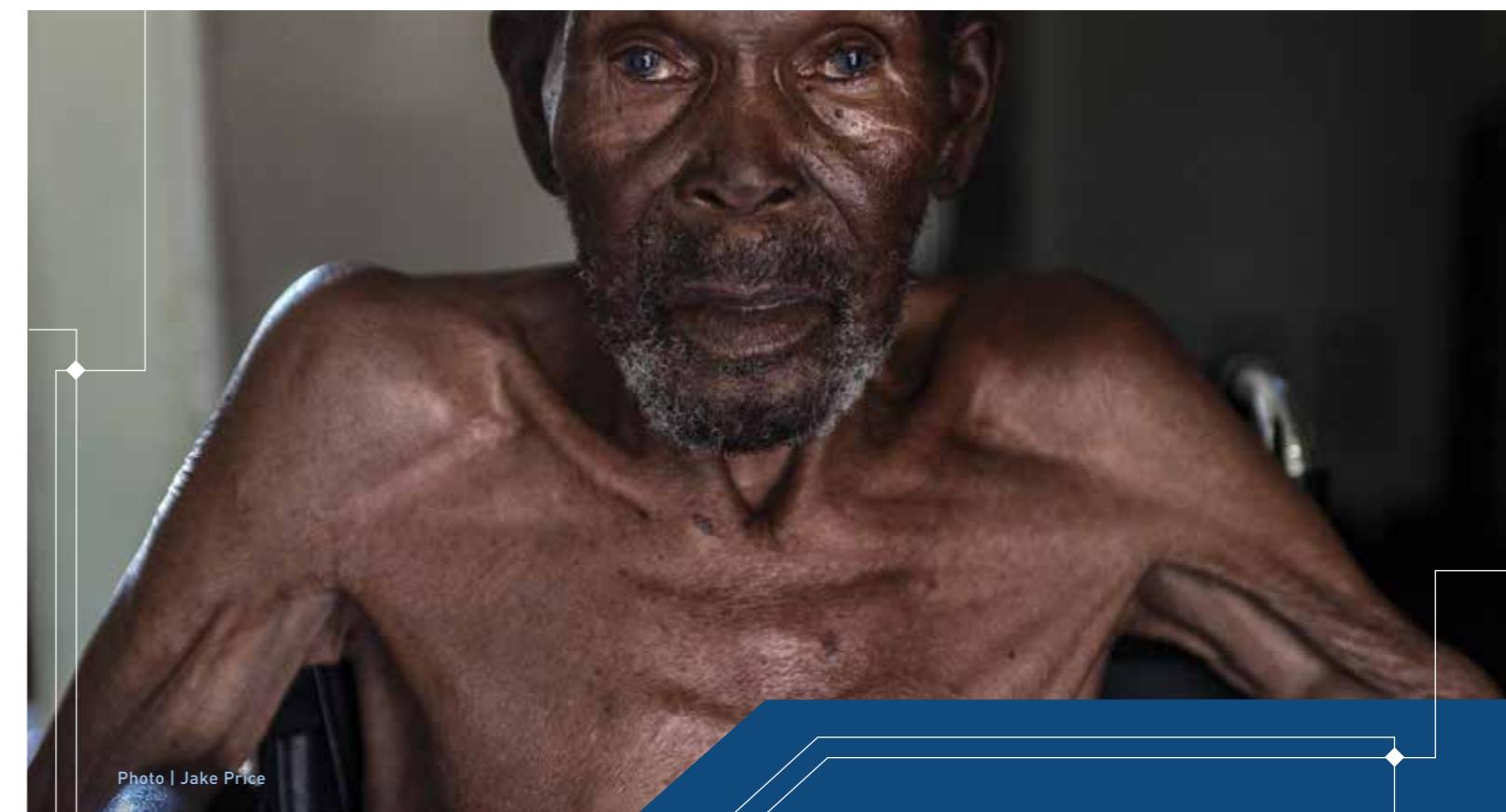
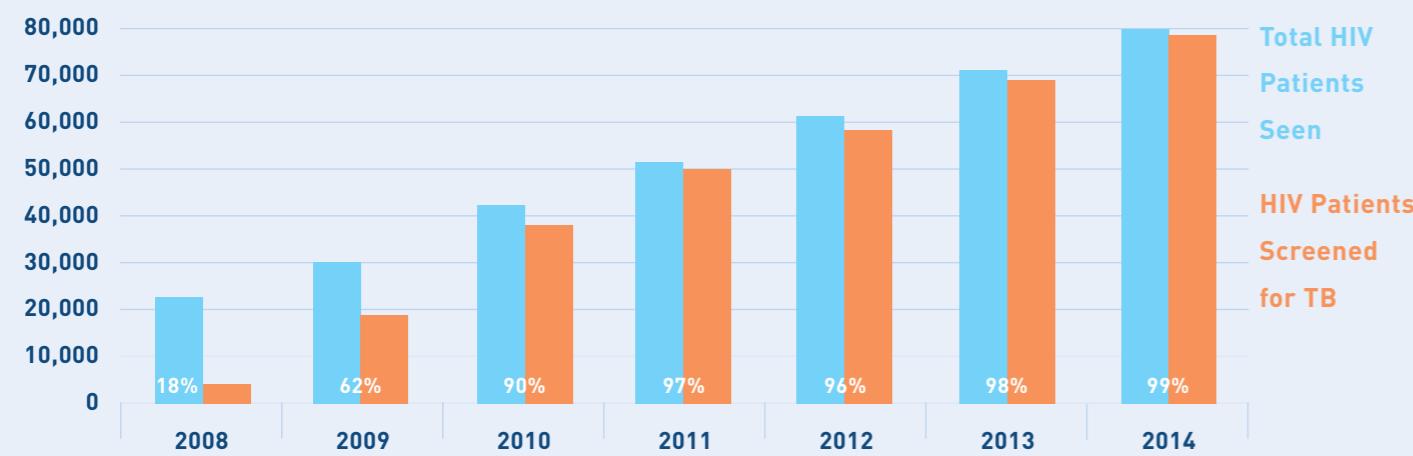
During the *Rapid Scale-Up* project ICAP advocated successfully for the use of the HIV service platform to deliver palliative care for people in pain from cancer and other advanced diseases. Whereas liquid morphine was not even available in the country prior to 2013, Swaziland now has health care workers trained to assess pain and prescribe liquid morphine to alleviate pain. A total of 741 patients have been enrolled in palliative care to date, 625 of whom have received morphine for pain management. A majority of palliative care patients are women suffering from cervical cancer, and 39 percent of palliative care patients are living with HIV. ♦

FIGURE 4

Proportion of HIV Patients Screened for TB at ICAP-Supported Sites

TB/HIV care has been strengthened through routine TB screening of HIV patients.

In 2014, 99% of HIV patients at ICAP-supported sites were screened for TB.



## Reaching Those That Are Hard-to-Reach

In support of efforts to ensure that individuals at risk for HIV who are hard-to-reach have access to the services they need, ICAP has worked with the Swaziland Correctional Services, the Swaziland Defense Force, and the Royal Swaziland Police to expand HIV care and treatment to 13 uniformed services clinics.

TB prevalence among prisoners is twice the national average, and 35 percent of prison inmates are estimated to be HIV-positive. The expansion of TB/HIV services to the country's prisons has therefore been an important aspect of efforts to ensure equitable access. Keeping inmates healthy during incarceration and ensuring that those with HIV and/or TB are promptly linked to care upon release also benefits their communities, as well as the individuals themselves. ICAP has supported establishment of pre-ART

- Over 3,500 prison inmates have received voluntary HIV testing and counseling
- More than 400 inmates have been initiated on ART
- 73 expert clients have been trained within prisons



care and TB/HIV integrated services at all correctional facility clinics, and eight prisons are accredited ART sites. Expert clients from within the prison population have been trained as role models. They promote HIV testing and counseling, support inmates with ART adherence, and facilitate linkage to care upon release. ICAP has also provided technical assistance to the MOH and the Department of Corrections to develop and implement standard operating procedures for linkage of prisoners to care upon release.

ICAP has also supported HIV care and treatment services at one army and three police health facilities. HIV services were integrated gradually at these sites, beginning with cotrimoxazole prophylaxis and progressing to ART refills and, finally, to ART initiation by uniformed services health care workers.

Army and police health facilities currently provide the same level of HIV care as MOH clinics, and the military and police health leadership conducts semi-annual ART data reviews that inform continuous quality improvement efforts. ICAP has also worked with the Royal Swaziland Police on a strategic plan to address the health needs of police officers and their families. ◆

### HIV SERVICES FOR PATIENTS WITH MENTAL ILLNESS

*Psychiatric patients are at increased risk of HIV acquisition and transmission. Before 2013, however, in-patients at Swaziland's National Psychiatric Referral Hospital who were living with HIV had no access to HIV services. ICAP worked to build the hospital's capacity to provide HIV care and treatment.*

*Psychiatric nurses and other service providers at the facility were trained to initiate ART and manage HIV-positive patients. The hospital's laboratory and pharmacy were upgraded, and patient files now include both HIV and non-communicable disease parameters. The National Psychiatric Referral Hospital was accredited as an ART site in November 2013, and 28 in-patients have been initiated on ART to date.*

### Community Linkages

Clinic-based services for people living with HIV and their families are complemented by a range of initiatives that reach out to communities and stimulate discussion of HIV prevention, care, treatment, and support. ICAP has also made sub-awards to partners in the Community Linkages Program to improve linkage to care and adherence support at the community level. ICAP has supported the following activities:

**Provider-initiated HIV testing and counseling and same-day CD4 testing** have been offered at over 50 community events as a strategy to maximize the number of people living with HIV who know their status and are enrolled in care. HIV patients are encouraged to bring other family members for testing, while couples testing and counseling is a high priority to ensure that discordant couples are linked to HIV prevention services, including ART initiation by positive partners regardless of CD4 count.

**High school debates** have engaged students in discussion about HIV prevention, care, treatment, and support. ICAP has worked with the MOH, the Ministry of Education and a range of other PEPFAR partners to promote the debates, which are also used to increase HIV literacy, address stigma, and promote life skills that help young people live healthily. ICAP has supported training of 80 student facilitators as well as 99 teachers to lead school health clubs. Debates at 64 participating schools have reached 20,000 students.

**Community dialogues** have been used to increase ART literacy and to combat the stigma and misconceptions that may deter families affected by HIV from seeking and remaining in care. To date, 75 community members have been trained by ICAP as dialogue facilitators and over 110 community dialogue events have been hosted. Dialogues are family-oriented events whose discussion themes and messages are based on research findings and program data. HIV testing and counselling is also offered, along with same day CD4 testing to promote timely ART initiation by those who are eligible. ◆

## CONTINUOUS QUALITY IMPROVEMENT

Achievement of high quality services, a fundamental priority of any health program, requires continuous quality improvement (QI) systems that facilitate rapid and effective responses to challenges. During HIV program decentralization efforts, goals for patient enrollment and retention in HIV care and treatment have been achieved through unceasing focus on quality.

ICAP's approach to quality improvement is data-driven and grounded in the HIV Continuum of Care (Figure 7). Careful attention is paid to every step in the continuum because the failure of just one results in overall system failure, placing efforts to achieve optimal treatment outcomes and prevent new HIV infections in jeopardy. For example, the number

of ART initiations depends on HIV testing, enrollment in care, and eligibility assessment.

ICAP has worked closely with Swaziland's Regional Health Management Teams to institutionalize continuous quality improvement processes and to forge a working culture in which these processes are owned and driven by multidisciplinary teams of health care providers and regional supervisors. Teams use clinic data routinely to: analyze quality and coverage within the continuum of care; identify weaknesses and bottlenecks; inform quality improvement activities; and review progress. Technical assistance to improve the completeness and accuracy of the program data that drives quality improvement has been an integral aspect of ICAP's capacity building support.◆

### Improving Timely ART Initiation

In 2012, ICAP worked in collaboration with the MOH to identify the root causes for inability to initiate ART among patients and to design effective quality improvement plans. A national task team analyzed data for the number of patients eligible for ART, patients on ART, and patients retained at six and 12 months. The root causes of delayed ART initiation were examined and the team prioritized 30 large-volume sites for intervention.

Measures to improve performance were discussed for relevance and feasibility, and three were prioritized for implementation:

- Assessing all patients using the WHO clinical stage checklist, regardless of CD4+ count availability;
- Identifying treatment-eligible patients who had yet to initiate ART and ensuring that they were contacted by telephone by clinic staff; and

- Measures to improve entry of CD4+ count results from laboratories on patient charts, so that those eligible for ART could be identified easily by their providers.

Staff from the 30 priority sites were trained on the interventions, and a multidisciplinary quality improvement team was established at each site prior to implementation. Progress was then reviewed during the following weeks and months, using a prospective cohort of patients from each site.

By June 2013, the proportion of eligible patients who had initiated ART was 81 percent, up from 63 percent in July 2012. Based on this success, the same quality improvement actions were rolled out to all ICAP-supported health facilities.◆



### Improving Pediatric ART Initiation and Retention

HIV disease progresses more rapidly in children than in adults, with a 50 percent mortality rate at two years in untreated infants. Promptly linking HIV-infected infants to care is therefore crucial. However, in 2014 pediatric continuum of care data in Swaziland showed that, of 146 babies under two years old with positive DNA PCR test results, only 100 (68 percent) had been initiated on ART. An immediate effort was initiated to track the 46 missing infants with 35 returned to care and initiated on treatment, two whose caregivers declined to return to care, and nine children who, unfortunately, had died.

To achieve a sustained improvement in pediatric ART initiation and retention rates, the MOH formed a multidisciplinary quality improvement team, which was supported by clinical and strategic information specialists from ICAP to put in place measures to prevent delay in ART initiation for HIV-positive infants. The issues uncovered

through scrutiny of the continuum data included: non-use of appointment registers; incomplete reporting of ART initiations; failure to follow up with HIV-positive infants; and non-availability of test results at health facilities.

A national quality improvement action was instigated to ensure that, henceforth, all HIV-positive infants would be initiated on ART in a timely manner and retained in care. This included the following measures:

- A tracking tool to monitor every DNA PCR positive infant;
- Cellphone airtime for health care workers to use for patient tracking;
- Mentoring nurses to review laboratory data and counsel parents who refuse ART for their children; and
- Refresher training for expert clients on appointment protocols for children.◆

## TASK-SHIFTING AND TASK-SHARING

### Nurse ART Initiation in Swaziland

Swaziland faces severe health workforce shortages, with 1.5 medical doctors and 14.5 nurses per 10,000 people.<sup>5</sup> The primary health care facilities where people access services are largely dependent on nurses. Consequently, the successful decentralization of HIV care and treatment services depended on enabling nurses to provide such services.

In 2011, ICAP promoted and supported a pilot initiative, Nurse ART Initiation in Swaziland (NARTIS). Nurses at 15 primary health care facilities were trained and mentored to initiate and manage ART patients, including children. The NARTIS pilot provided a successful proof of concept, demonstrating that the quality of HIV care and treatment provided by nurses was similar to that provided by physicians. Subsequently, NARTIS became a critical enabler of decentralization of ART from ‘mother’ to ‘baby’ health facilities (Figure 5).

<sup>5</sup> Africa Health Workforce Observatory  
[www.hrh-observatory.afro.who.int/en/country-monitoring](http://www.hrh-observatory.afro.who.int/en/country-monitoring)

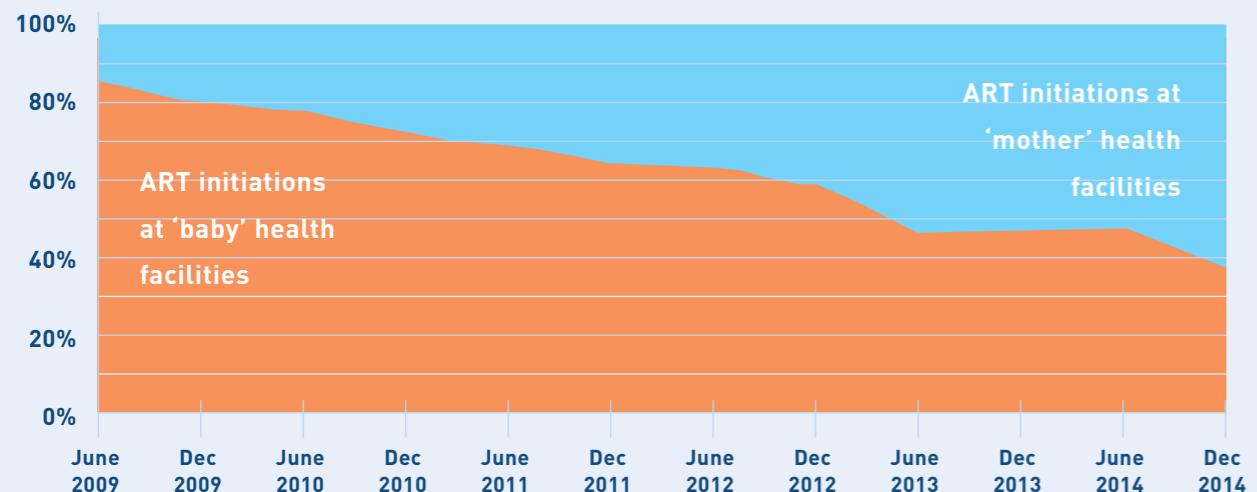
Over 400 nurses have now been NARTIS-certified as providers of pre-ART and ART care, and nurses routinely assess ART eligibility, initiate patients on ART, and manage non-complicated cases. For the current phase of NARTIS task-shifting, ICAP is working with the MOH to expand the curriculum and roll out in-service nursing training in viral load monitoring, management of experienced ART patients, and TB/HIV integrated care.

In order to sustain the role of nurses with an expanded scope of practice, ICAP has worked with a range of stakeholders to build the capacity of nursing education and nursing leadership institutions, including Swaziland’s three nursing schools. Fifteen high-volume health facilities now function as preceptorship sites for nurses, and support was provided to the Swaziland Nursing Council to create a continued professional development database. ♦

FIGURE 5

#### Decentralization of ART Initiation from ‘Mother’ to ‘Baby’ Health Facilities

In 2009, 85% of ICAP-supported patients who initiated ART did so at a ‘mother’ health facility. NARTIS heralded a paradigm shift in ART service delivery and, by the end of 2014, 64% of new ART initiations were taking place at ‘baby’ health facilities where services are provided by nurses.



*“NARTIS has ensured that the majority of people living with HIV in Swaziland, who live in rural settings, have timely access to ART close to their homes. The task-shifting approach contributed to the achievement of epidemic control under the former ART eligibility criteria, and it helped to normalize initiation and retention on ART.”*

Dr. Peter Preko, PEPFAR Swaziland / Centers for Disease Control and Prevention

### HIV Expert Clients

The national HIV Expert Client Program was established by the MOH in 2007 and has since grown significantly in size and scope. Expert clients have become a valued cadre within Swaziland’s national health system, and 165 expert clients currently work as part of multidisciplinary health care teams throughout the country. ICAP has supported the expert client program from its outset, introducing the concept, as well as establishing the program, providing funding support, and training expert clients.

Expert clients’ role is to support other pre-ART and ART patients. Expert clients based at health facilities have assumed responsibility for counseling, linkage, and adherence monitoring services, enabling nurses to focus on clinical services. At the community level, meanwhile, expert clients trace patients who miss appointments or who have been lost to care and provide the support that these patients need to return to care. In this way, expert clients have been fundamental to the high rates of adherence and retention in care achieved during decentralization. The model has now been widely adopted in Swaziland, including by the Department of Correctional Services, and the MOH has strengthened TB and malaria services using the expert client approach. ♦

*“People in this community know now that even if you have HIV, “kuyaphileka,” life goes on. That is what they say they have learned from us expert clients. I am healthy and fit and I can speak to anyone about my life. It’s not easy to face HIV, but people feel better when they are counselled by someone who knows what they are going through and they ask for us by name at the clinic.”*

Mr. Jabulani Maseko,  
 Expert Client, Sigangeni Clinic



## TRAINING AND MENTORSHIP

The three-fold increase in the number of facilities providing HIV care and treatment services within five years required extensive clinical training, reinforced by on-site mentorship of health care workers. ICAP has supported the MOH with large scale in-service training and continuous mentorship to ensure that

multidisciplinary health facility teams are equipped with: (a) up-to-date knowledge of treatment guidelines and management practices; (b) skills and competencies in clinical diagnosis, treatment, and referral; and (c) the ability to review clinical data related to coverage and quality of services. ♦

**TABLE 4**  
Number of Training Sessions Provided to Practicing Health Care Workers  
Who Deliver HIV Care and Treatment Services\*

	<b>Physicians</b>	<b>Nurses</b>	<b>Other health care providerst</b>	<b>Other non-clinical staff‡</b>
<b>ART initiation and management</b>	308	3,433	2,323	166
<b>HIV care and support</b>	176	3,916	4,326	925
<b>Community health</b>		58	319	720
<b>Mental health care</b>	11	35	1	
<b>Non-communicable disease care</b>	12	96	21	28
<b>Palliative care</b>	111	561	173	6
<b>TB/HIV integrated care</b>	82	801	449	99
<b>Health system strengthening</b>	228	3,144	1,623	273
<b>Strategic information</b>	275	2,032	1,889	172
<b>Totals</b>	<b>1,203</b>	<b>14,076</b>	<b>11,124</b>	<b>2,389</b>

\* Aggregate number accounts for one health care worker attending multiple trainings.

† Expert clients, counsellors, rural health motivators, pharmacists, physiotherapists, phlebotomists

‡ Monitoring and evaluation officers, data clerks, social workers, uniformed services personnel

### In-Service Training

During each year of the *Rapid Scale-Up* project, thousands of health care workers were trained in all aspects of HIV care and treatment (Table 4). ICAP supported SNAP, the MOH Training Unit, and Regional Health Management Teams with training needs assessment, curriculum development,

planning, and delivery of in-service training. National and regional MOH master trainers were also trained to deliver HIV care and treatment curricula; for example, ICAP has trained 41 MOH central and regional trainers to deliver the NARTIS curriculum and mentor NARTIS-certified nurses. ♦



Photo | Jake Price

### Regional Mentoring Teams

As a strategy to build capacity within health facility teams and assure the quality of decentralized HIV care and treatment services, the MOH has established Regional Mentoring Teams. The teams assist health facility teams to address clinical challenges, provide technical updates, review quality of care data, and consolidate lessons learned within each cluster and region. Each Regional Mentoring Team includes:

- Clinic supervisors and hospital matrons from ‘mother’ health facilities, who have been trained in advanced HIV care, clinical mentorship, systems mentorship, supportive supervision, and provision of technical assistance to ‘baby’ clinics; and
- Four full time mentors: a clinical advisor (physician), a nurse advisor, an adherence and psychosocial support nurse, and a data officer, who are supported by ICAP through a human resource partnership with NERCHA. These sites are visited once per quarter. ♦
- Tier 1 facilities are new or struggling sites that require most support. They receive two visits per month from the Regional Mentoring Team.
- Tier 2 facilities are maturing sites, visited once per month.
- Tier 3 facilities are mature sites with seasoned personnel and consistently high performance indicators (at present, mainly the ‘mother’ hospitals themselves).

## LEADERSHIP, OWNERSHIP, AND STEWARDSHIP

Enhancing national ownership and leadership has been a fundamental objective of ICAP's support to the MOH and SNAP under the *Rapid Scale-Up* project. In its role as the MOH's lead partner for HIV care and treatment since 2009, ICAP has provided comprehensive technical

support to develop and revise key national policies and guidelines and the training curricula, standard operating procedures, and job aids required to roll out high impact interventions and improve models of care. Examples of these are listed below. ♦

### National Technical Working Groups

Technical Working Groups are the fora through which MOH brings together stakeholders and technical experts to support policy making and programming. ICAP has contributed up-to-date technical expertise to the development or revision of many policies, guidelines, and implementation tools, including the 2014 Swaziland Integrated HIV Management Guidelines. Numerous Technical Working Groups and sub-groups have been coordinated by ICAP, including those focusing on: adult HIV care and treatment; pediatric HIV care and treatment; PMTCT; referral and linkages; HIV prevention; Positive Health, Dignity, and Prevention; palliative care; strategic information; monitoring and evaluation; epidemiology; health management information systems; research; community-based programming; and infrastructure upgrading. ♦

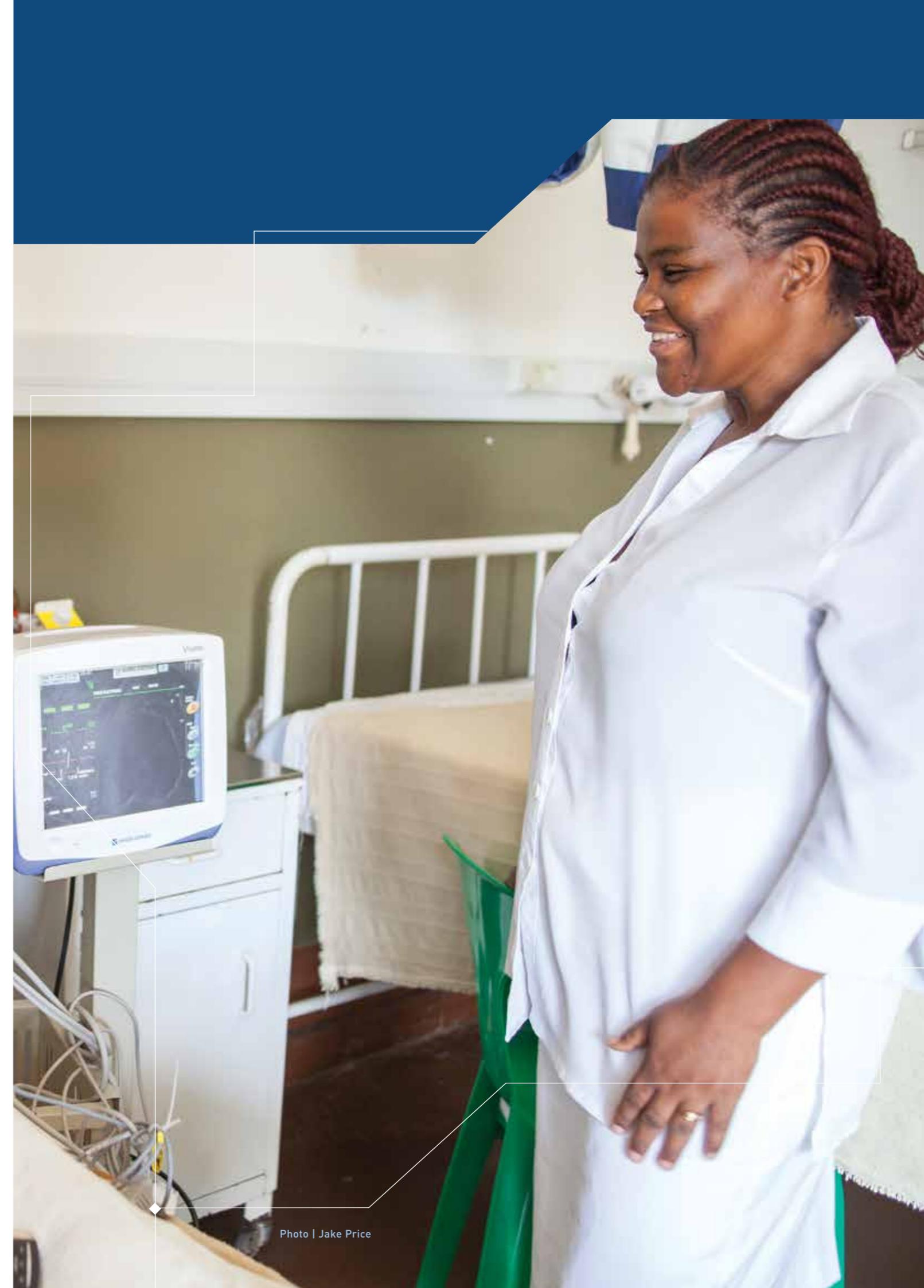
#### NATIONAL GUIDELINES, CURRICULA, AND PROGRAM MANAGEMENT TOOLS

- *2014 Swaziland Integrated HIV Management Guidelines*
- *Curriculum for nurse ART initiation in Swaziland*
- *Manual for HIV palliative care*
- *Guidelines for non-communicable disease/HIV clinical practice*
- *Standard operating procedures on linkages and retention and clinical mentorship*
- *Numerous job aids, such as PMTCT Option B+ flipcharts and community ART tracking tools*

### Building the Capacity of Regional Health Management Teams

ICAP has provided extensive capacity building support to the Regional Health Management Teams, with two objectives: to assist the MOH to achieve coverage and quality targets; and to transfer the knowledge, skills, and competencies needed to sustain and build upon achievements to date.

Capacity building plans have been developed and monitored jointly between each team and ICAP. Over the course of the *Rapid Scale-Up* project, these teams have assumed leadership of planning and program management. Incrementally, and based on verifiable increases in capacity, key functions such as site supervision and 'mother-to-baby' mentorship have been transitioned fully to the Regional Health Management Teams. ♦



## Health System Strengthening

A health systems approach to the decentralization of HIV care and treatment has maximized the impact of the *Rapid Scale-Up* project across all health areas. ICAP has supported the MOH with a wide range of health system strengthening activities, including: renovation of health facilities; training and mentoring of health care workers; task shifting and task sharing initiatives; development of quality improvement processes; improved monitoring and evaluation systems; integration of HIV and related services; new models of chronic care; and innovative, multidisciplinary approaches to health service delivery. PEPFAR's support for

## Monitoring and Evaluation Systems

The systems and tools to collect and disseminate data and the skills to analyze and use data for decision making at all levels are prerequisites for a well-functioning national HIV program. Monitoring and evaluation (M&E) support at all levels of the health system has therefore been an integral aspect of ICAP support under the *Rapid Scale-Up* project.

- *National level:* Annual decentralization planning has utilized research findings and program data to prioritize interventions and populations. ICAP has worked closely with the MOH Strategic Information Department and with SNAP to put M&E systems in place and build capacity to use the outputs of those systems to improve the coverage and quality of HIV care and treatment services.
- *Regional level:* Each Regional Mentoring Team includes a data officer who is responsible for building site teams' capacity in data collection and use, and for ensuring that M&E priorities are addressed by the Regional Health Management Team.
- *Health facility level:* Together with the MOH, ICAP has trained hundreds of health care workers in M&E principles and skills. This training enables health facility multidisciplinary teams to own their achievements and quality improvement actions in a meaningful way.

decentralization under the *Rapid Scale-Up* project enabled the MOH to fill critical health workforce gaps. An average of 90 staff members per year have been seconded through NERCHA to central MOH units, SNAP, and Regional Health Management Teams, providing additional expertise and systems capacity that was required to increase coverage and assure quality. A clinical systems mentorship advisor, an expert client coordinator, and a strategic information specialist have been seconded to central MOH; a clinical advisor, a nurse advisor, and an adherence and psychosocial support officer have been seconded in each region; and expert clients have been seconded to health facilities. ♦

National semi-annual ART data reviews (NASAR) and regional semi-annual ART data reviews (RESAR) are important mechanisms through which program data are reviewed and applied. NASAR brings together MOH staff, implementing partners, and other stakeholders, while at regional level all ART sites participate in analyzing program results and designing quality improvement actions. Over time, the MOH Strategic Information Department has assumed leadership of data presentation and discussion of corrective measures at NASAR and RESAR meetings. ♦

### M&E TOOLS

*ICAP has supported the MOH and worked with other PEPFAR partners to develop or adapt a wide range of M&E tools, including:*

- *The ART patient management record database*
- *The client management information system ART module*
- *The national ART data review framework*
- *Standard operating procedures for data management*
- *The national routine data quality assessment tool*
- *HIV appointment, pre-ART, and ART registers, linked to chronic care files*
- *Palliative care registers and reporting tools*
- *M&E tools for tracking linkage and retention*

## RESEARCH

As HIV care and treatment services have been scaled up in Swaziland, it has become important to garner evidence about programmatic progress and gaps, HIV prevalence and incidence, and the health impact of specific interventions. Meanwhile, new scientific discoveries have given rise to further questions about how to utilize such interventions to enhance service delivery, and overcome barriers to access and retention. Working in partnership

with the MOH, U.S. Government agencies, and other stakeholders, ICAP has supported a broad research agenda and helped to develop fundamental research infrastructure in Swaziland. During the conduct of research activities, and under concerted capacity building initiatives, nearly 300 health professionals from Swaziland have been trained in study design, study implementation, and application of findings. ♦

### Health Research Training Program (H RTP)

This program was launched by the MOH in 2013 with ICAP support, in order to build public sector capacity in the design, conduct, and analysis of health research and in the use of research data to inform policy and management decisions. The program consists of a one-year training for fellows that involves didactic instruction, hands-on training, and one-to-one mentorship by experienced researchers. It equips participating fellows with knowledge and skills in all aspects of health research, including protocol development, study implementation, good clinical practice, data analysis, and scientific writing. By bringing groups of health researchers together, the program is fostering a community of practice through which research is designed, managed, and disseminated—consequently, in the long term, helping to continue Swaziland's health research agenda. ♦

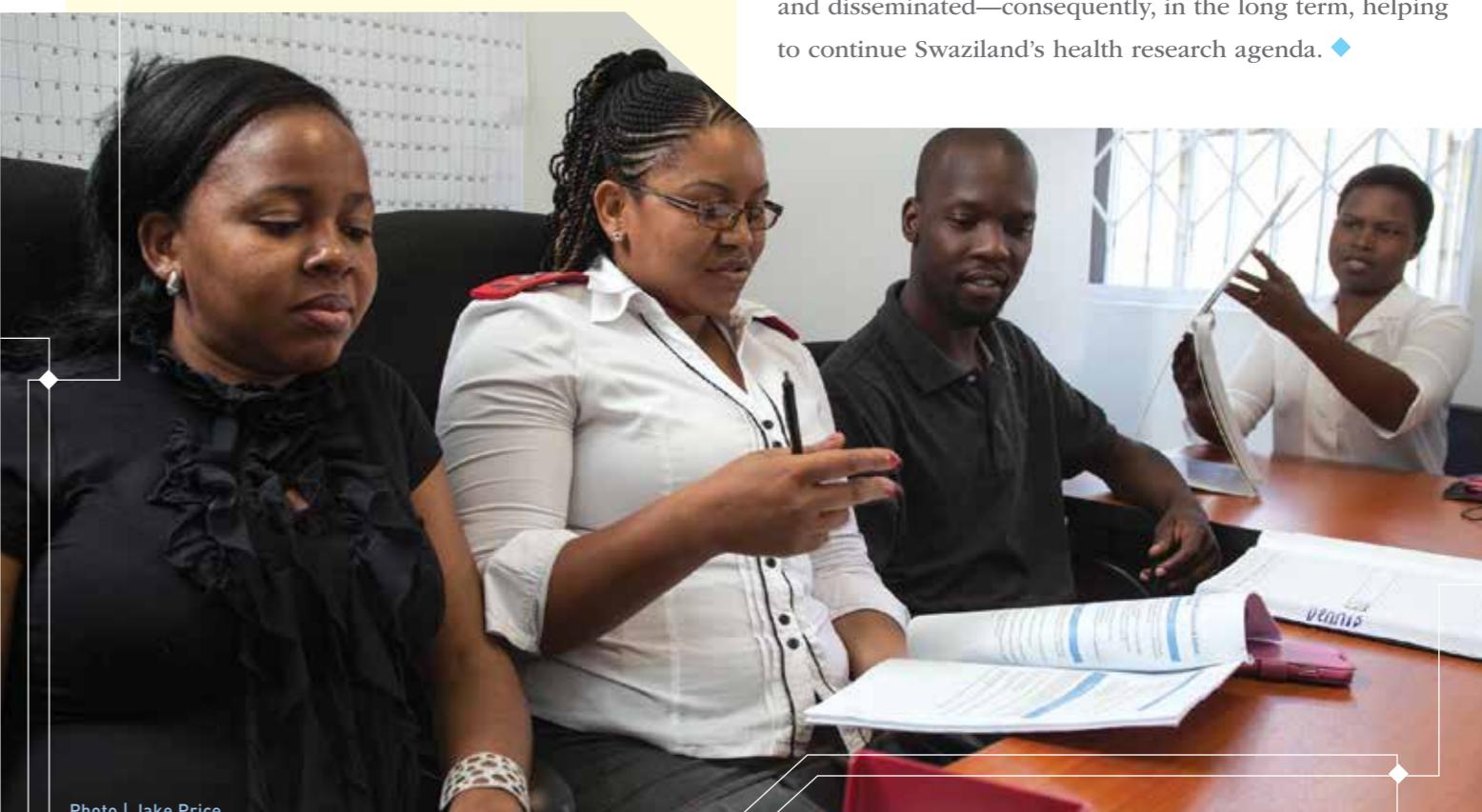


Photo | Jake Price

The screenshot shows the homepage of the SHIMS website. At the top, there are logos for USAID, PEPFAR, and ICAP. Below the header, there are links for About, Methodology, Key Findings, Data Access, and Publications & Resources. A large image on the left shows surveyors in a rural setting. To the right is a map of Swaziland with district names: Lubombo, Manzini, Mbabane, Nelspruit, Nhlangano, Olomu, Shiselweni, and Tembeleka. Below the map is a section titled "SHIMS Data" which provides information about the public access dataset.

## Swaziland HIV Incidence Measurement Survey (SHIMS)

This national, population-based, multi-phase study was designed to evaluate the impact of HIV prevention and treatment services in Swaziland. The first phase was conducted by the MOH in 2011 with extensive technical support from the Centers for Disease Control and Prevention (CDC) and ICAP. More than 18,000 adults from nearly 14,000 households were enrolled across the country. Key measures of the national HIV program were collected, including prevalence, incidence, viral and CD4 count. A landmark achievement, SHIMS was the first national measurement of directly-observed HIV incidence in Swaziland and in the world.

The 2011 adult HIV incidence rate of 2.38 percent was established as a baseline against which the impact of

the national HIV program may be assessed in the future. SHIMS data were used to develop the extended National Strategic Framework on HIV/AIDS (2014-2018) and the 2014 Swaziland Integrated HIV Management Guidelines, as well as to inform PEPFAR's evaluation of its Partnership Framework in Swaziland.

Beginning in early 2012, SHIMS results have been presented widely to national and international stakeholders, including two national dissemination meetings and various international conferences. Report writing workshops and dataset information sessions have increased knowledge and access to SHIMS data. A SHIMS website has also facilitated public access to datasets, (online at [SHIMS.ICAP.Columbia.edu](http://SHIMS.ICAP.Columbia.edu)). ◆

*"SHIMS has established an unequivocal baseline incidence rate against which to judge the effectiveness of such strategies for an entire national population."*

**Jason Reed, co-principal investigator, SHIMS & epidemiologist, Centers for Disease Control and Prevention**

### Evaluation of Swaziland's Hub-and-Spoke Model for Decentralizing Access to Antiretroviral Therapy Services

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**Background:** In 2007, Swaziland initiated a hub-and-spoke model for decentralizing antiretroviral therapy (ART) access. Decentraliza-

**ICAP collaborated with the MOH and CDC on the first national evaluation of the decentralization approach to scaling up ART. Findings were published in JAIDS in May 2015.**

## Research and Evaluation Activities

Other significant research activities have included the Swaziland National ART Program Evaluation (SNAP-E), the first evaluation of ART outcomes in adults and children. This study was published (Figure 6) and lessons learned have been presented nationally and internationally.

Program evaluations have been conducted of pre-service and in-service HIV curricula, the NARTIS program, and PMTCT models of care. A formative assessment of the potential to leverage the HIV platform in Swaziland to manage non-communicable diseases, conducted in 2010, was published in 2012. ◆

## THE WAY FORWARD

The scale-up and decentralization of HIV care and treatment in Swaziland over the past decade has been a momentous achievement, lauded by many around the world. Moving forward, the challenge involves how to maintain momentum, sustain impact, continue to reduce HIV-related mortality and morbidity, and how to begin to reverse the trajectory of the epidemic in the country.

Enrolling, supporting, and retaining eligible patients on ART remain critical priorities. Many in Swaziland who are living with HIV are still not aware of their HIV status, including 50 percent of men and 32 percent of women living with HIV.<sup>6</sup> Further expansion of ART access is still necessary in order to reduce population level viral load beyond the 'tipping point' for treatment as an effective prevention strategy and to set Swaziland on the path to achieving an AIDS-free generation. Pediatric HIV care requires further strengthening with efforts to improve follow-up of HIV exposed infants and linkage to family-friendly services. Thousands of experienced, stable ART patients need integrated care, including management of TB/HIV and co-morbid non-communicable diseases, that enables them to maintain their health and wellbeing. Innovations are needed to ensure that key populations—men who have sex with men, sex workers, people who inject drugs and migrant workers—gain equitable access to HIV services.

<sup>6</sup> SHIMS, 2011

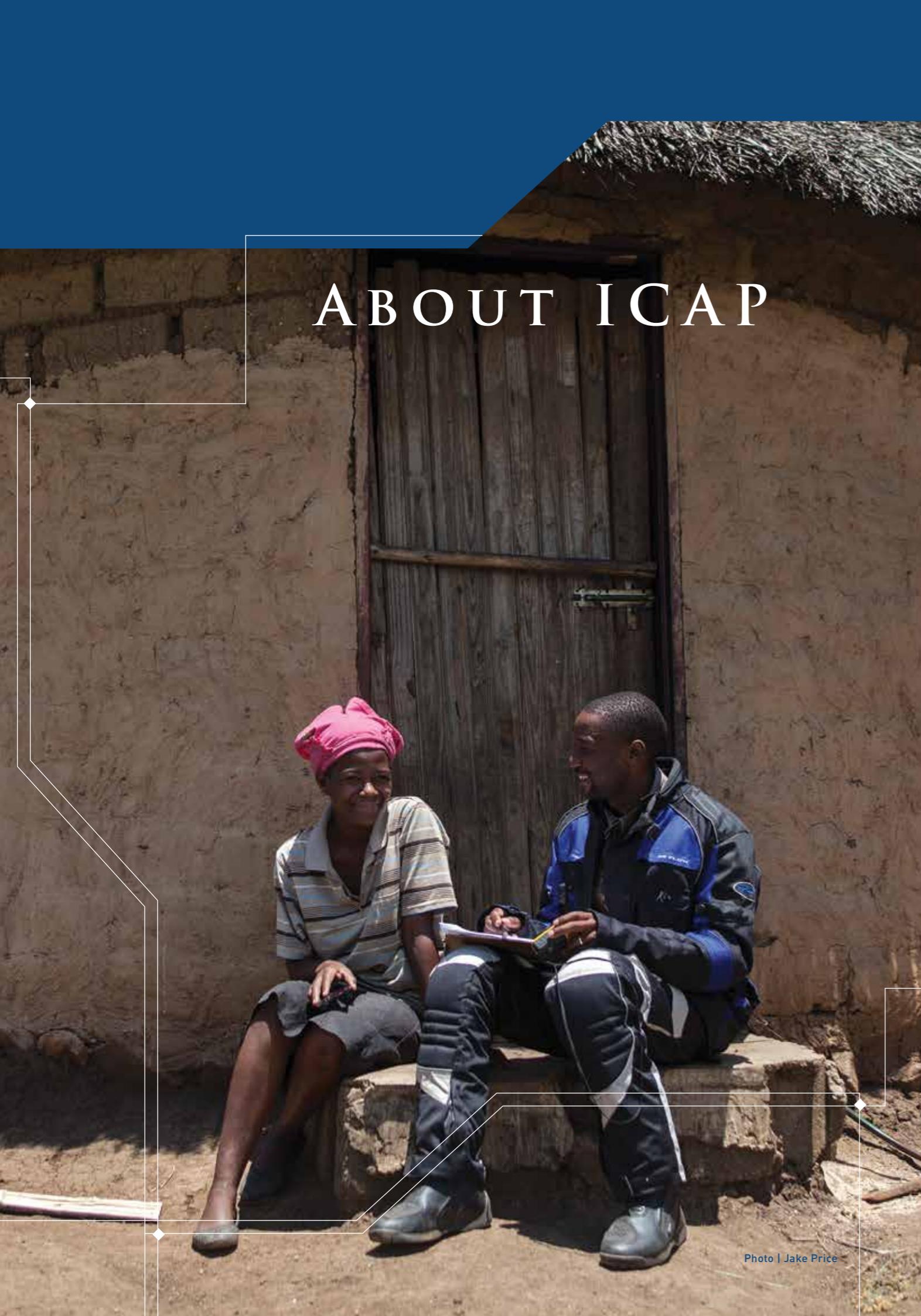
Lastly, efforts are needed to prevent transmission of HIV among youth and to enable adolescents to gain access to the services they need.

Technical support will be required as the MOH implements the 2014 Swaziland HIV Integrated Management Guidelines under which almost twice as many people living with HIV are eligible for treatment. Health facilities will require assistance to implement routine viral load monitoring, intensify ART adherence support, and roll out second- and third-line treatment regimens.

Lastly, the coming years provide an unprecedented opportunity to reverse the health and socio-economic impacts of the epidemic. During the next phase of Swaziland's scale-up of HIV prevention, care and treatment services, ICAP will continue to work alongside the MOH, SNAP, and other key stakeholders to:

- Support discovery, innovation, and the rollout of high impact interventions;
- Build capacity for full national leadership and stewardship of the HIV response; and
- Address evolving needs for technical support in the areas of HIV program implementation, systems strengthening, training and education, research, M&E, and resource mobilization. ◆

# ABOUT ICAP



## OUR MISSION

*ICAP ensures the wellbeing of families and communities by strengthening health systems around the world*

Founded in 2003, ICAP at Columbia University has become a lead PEPFAR implementing partner, supporting HIV prevention, care, and treatment programs and providing technical assistance in over 21 countries. Wherever ICAP works, its support blends wide-ranging technical expertise with extensive experience in HIV program development and implementation. Rigorous, results-oriented performance management approaches enable ICAP to respond flexibly and creatively as countries' technical support needs evolve.

ICAP has supported PEPFAR-funded HIV care and treatment in the Kingdom of Swaziland since 2005 as a technical assistance provider to the MOH, initially with a focus on scaling up PMTCT services through support from USAID. In October 2009 the CDC awarded ICAP funding to provide technical assistance for the *Rapid Scale-Up of HIV/AIDS Care and Treatment Services in the Kingdom of Swaziland under PEPFAR*. ♦

## GUIDING PRINCIPLES

ICAP's support for clinical service delivery, training, and research is guided by five core principles that aim to optimize impact:

### ACCESS

Ensuring equitable access for all, including poor, rural, and disenfranchised populations.

### ACCEPTABILITY

Engaging communities and shaping HIV services according to patients' needs.

### QUALITY

Assuring quality through training, mentoring, and quality improvement systems.

### COVERAGE

Maximizing the reach of programs to serve all those in need.

### EFFECTIVENESS

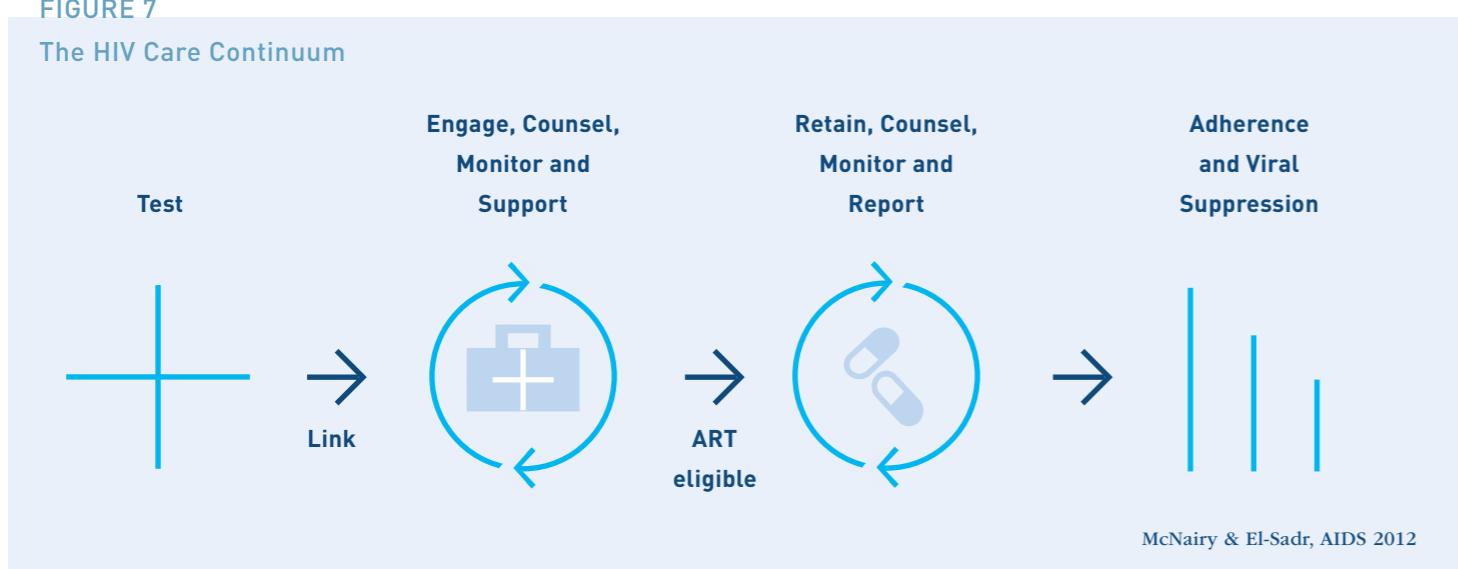
Employing evidence-based interventions, at scale, to achieve population-level impact.

## THE HIV CARE CONTINUUM

The HIV care continuum guides ICAP's approach to achieving quality and coverage (Figure 7). A continuum is the full spectrum of services that are needed to ensure quality care in a specific domain, in this case:

HIV testing; linkage of those found to be HIV-positive to HIV care; assessment for ART eligibility; timely ART initiation with adherence support; and retention in care for life. ♦

**FIGURE 7**  
The HIV Care Continuum



## THE ICAP TEAM

A seasoned team of ICAP staff in Swaziland delivers technical support to the MOH, SNAP, Regional Health Management Teams, hospitals and clinics, and community organizations. The ICAP platform comprises teams of clinical and nursing advisors, researchers, and specialists in capacity building, adherence and psychosocial support, monitoring and evaluation, and communications. ICAP's in-country leadership team has managed PEPFAR-supported HIV/AIDS initiatives both in Swaziland and elsewhere in sub-Saharan Africa.

A senior team based at Columbia University's Mailman School of Public Health supports ICAP's work in Swaziland, ensuring that cutting edge science, the latest global recommendations, and proven methodologies inform

activities on the ground. State-of-the-art information systems, decision-support tools, and online teaching and learning resources promote excellence across every ICAP platform.

Continuous on-the-ground support is complemented by the highest level of expertise in service delivery, guidelines development, education, research, and monitoring and evaluation, sourced from other countries where ICAP works. Ongoing program management support, country visits, and technical webinars have brought the full spectrum of ICAP's global experience to bear on the challenges of scaling up high quality HIV prevention, care and treatment services in Swaziland. ♦



Photo | Jake Price

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