ICAP GLOBAL. HEALTH. ACTION. Columbia University Mailman School of Public Health

Technical Brief
**DATA USE**


# Using Data to Drive Action

## The Challenge

Large amounts of data are collected on the HIV epidemic and the programmatic response, including via routine monitoring, population-based surveys, and surveillance of key populations, HIV drug resistance, and mortality. These data are, however, infrequently utilized fully to guide programmatic and policy decisions. In most countries, a variety of data systems exist that use different formats, are managed by different entities, and have limited interoperability. This prevents program managers and policymakers from triangulating data from multiple sources to gain a complete picture of service delivery gaps and challenges. Within health facilities, providers and managers tend to view data collection and reporting as burdensome obligations rather than opportunities to gain insight into service delivery successes and challenges.

To reach HIV epidemic control, a culture of **using data to trigger action** is needed at all levels of the health system. Whether delivering services at a rural health clinic, overseeing district-level health planning, or tracking the HIV response nationally, health care workers, managers, and community stakeholders should be supported to appreciate the value of high-quality data. They should be empowered to compile and interpret reports confidently and to use data consistently and effectively to improve services.

## Technical Approach

ICAP supports governments, national HIV programs, and other stakeholders to strengthen the collection and use of data at all levels of the health system—from data collected at health facilities and within communities to the data aggregated at subnational and national levels (see Figure 1). By collecting, interpreting, triangulating, and using high-quality data from all available sources, health workers and managers are able to improve both the quality and impact of HIV programs.

With ICAP support, staff at each health system level receive **tailored training and ongoing mentorship** to enable them to use high-quality data effectively. Ministries of health are supported to lead in-depth **performance review meetings and data interpretation workshops** to evaluate performance and inform future strategies.

**Innovative, user-friendly tools facilitate data-driven decision-making.** For example, ICAP supports the development of online dashboards and data visualization platforms that provide managers with essential data to inform the decisions and actions that are necessary to achieve program targets.

To continuously drive progress toward HIV epidemic control, ICAP supports data to be **used systematically to drive "plan-do-study-act" cycles** of program improvement that enable health workers and managers to:

- **Pinpoint gaps in service quality and coverage** so resources can be targeted appropriately
- **Implement quality improvement processes** to identify impactful and replicable change ideas
- **Innovate in response to challenges** and determine whether or not innovations are working
- **Develop more effective service delivery models** for HIV testing, treatment, and prevention

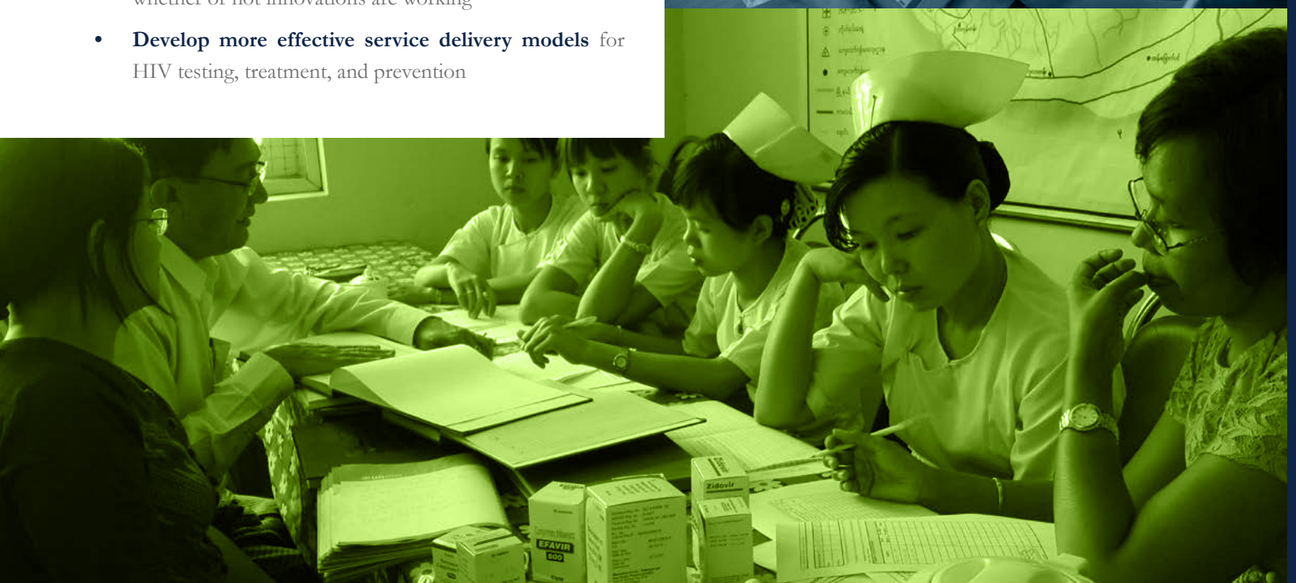
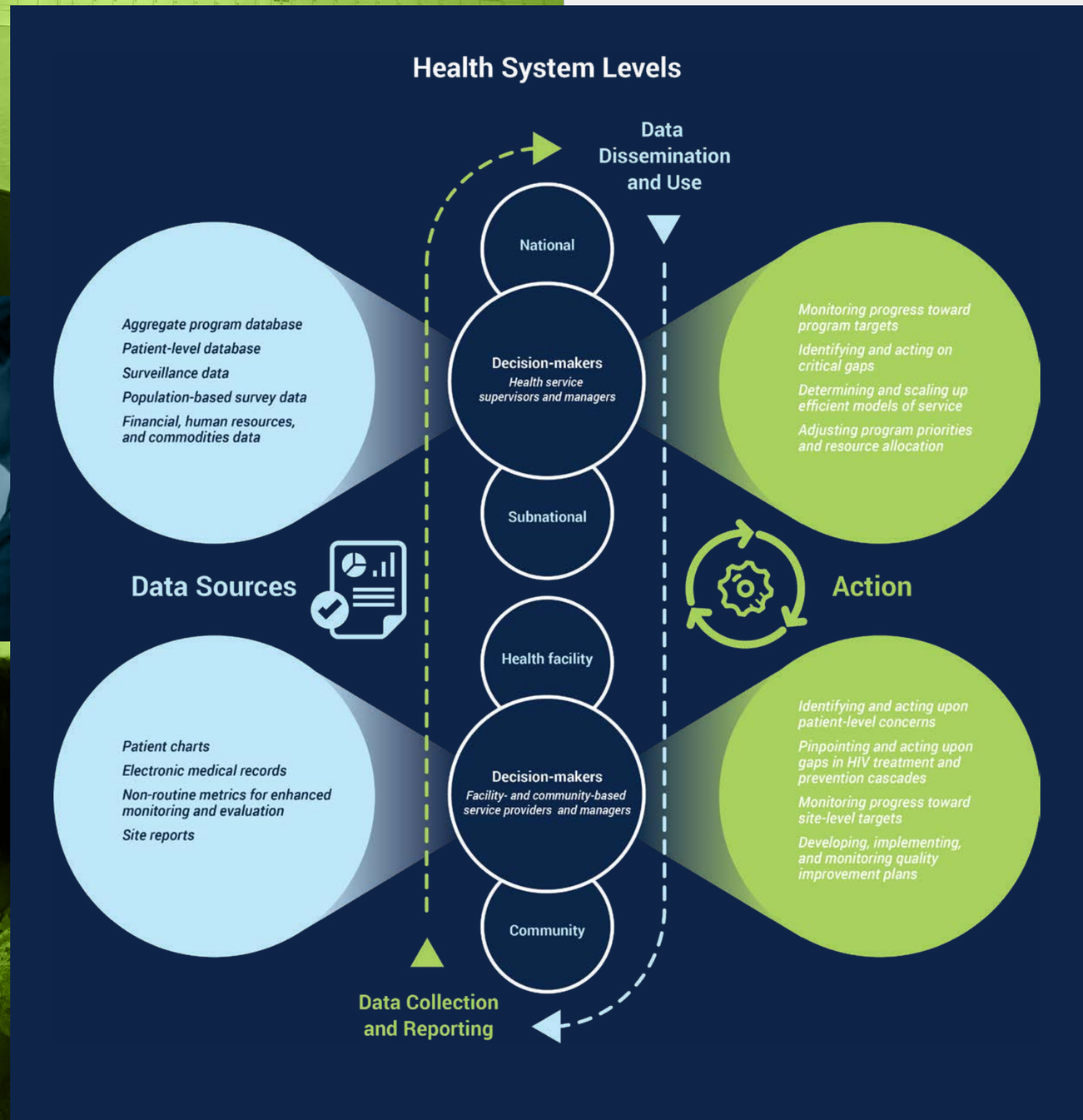


**FIGURE 1**
**The Data Use Cascade**




# Impact Story

## Daily *Data for Action* Meetings Drive Progress Toward 95-95-95 Goals in Mozambique

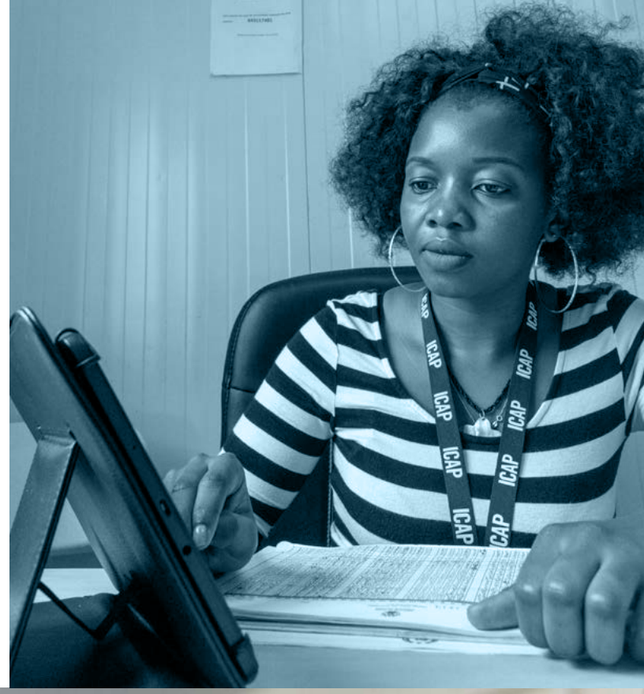
First thing every morning at the Urban Health Center in Nacala-Porto, the chief medical officer, nurses, and other health staff from the antiretroviral therapy (ART) and maternal and child health units get together to review the previous day's performance and to strategize for the upcoming day. Dr. João Ferrão, the facility's chief medical officer, leads the team in reviewing the number of clients tested for HIV, as well as the number initiated on ART, the number retained in care, and the number who received viral load tests. Since early 2018, they have worked—with support from ICAP through the U.S. President's Emergency Plan for AIDS Relief (PEFPAR) and the Centers for Disease Control and Prevention (CDC)—to meet a short list of daily targets that are laser-focused on achieving the UNAIDS 95-95-95 goals for epidemic control.

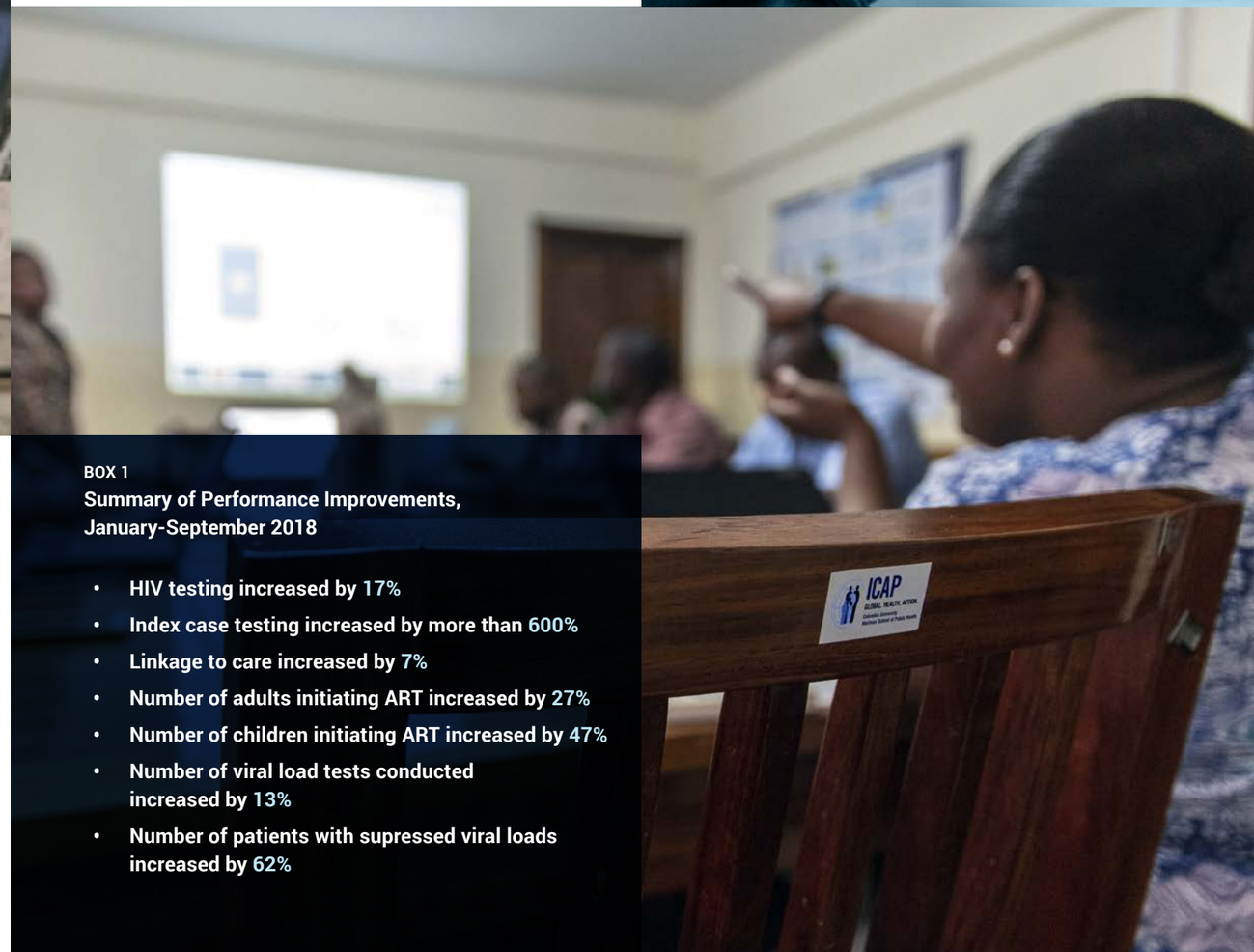
Dr. Ferrão ensures that data are tallied each day and that relevant staff meet to problem-solve when targets are missed. "Previously, we worked with only quarterly targets and results, which made it hard to identify issues," he explains. "Breaking things down into daily targets and tracking our results each day has really helped us improve our service quality and performance."

This enhanced model of site support, known as the ICAP Surge or I-Surge model, has resulted in dramatic performance improvements across the 35 high-volume ART sites that ICAP supports in Nampula Province (see Box 1). Health facility-level targets are proving to be powerful motivators. For example, the persistent challenge of ensuring that all HIV-exposed infants are reached with testing services has been overcome by giving each facility a feasible daily or weekly (rather than annual) target. In other words, a health team may be given the target of reaching two HIV-exposed infants each day, rather than the more distant target of reaching 730 HIV-exposed infants over the course of an entire year.

At each health facility, data clerks use the electronic patient tracking system to produce daily lists so staff can make calls to remind clients of upcoming appointments, trace clients who have missed appointments, and follow up with clients eligible for viral load testing. In addition, ICAP-supported focal points lead comprehensive, weekly performance reviews, during which the team uses data, graphs, and tables to review progress, identify gaps in service, and design quality improvement actions.

To support and retain patients in care, ICAP-supported focal points work closely with community health workers, who use simple logbooks to track performance toward weekly targets. Focal points lead weekly data review meetings and provide community health workers with mentorship to optimize their efforts to identify and eliminate missed opportunities for progress toward the 95-95-95 goals.




**BOX 1**

**Summary of Performance Improvements, January-September 2018**

- HIV testing increased by 17%
- Index case testing increased by more than 600%
- Linkage to care increased by 7%
- Number of adults initiating ART increased by 27%
- Number of children initiating ART increased by 47%
- Number of viral load tests conducted increased by 13%
- Number of patients with supressed viral loads increased by 62%

## Considerations for Implementation

To achieve HIV epidemic control, decision-makers at all levels require timely access to reliable data, along with skills and tools to make full use of the data to improve programs, target resources, and achieve program goals.

**Monitoring and evaluation must be integral components of HIV programs.**

This means developing monitoring and evaluation activities as interventions are designed, not adding them as afterthoughts. Program development should include rapid assessments—at the facility, subnational, and national levels—of capacity in monitoring and evaluation and in data use for decision-making. Once strengths and weaknesses are identified, a strategy to strengthen data review processes and to foster a culture of using data to trigger action should be incorporated into program plans and management processes.

**Regular program review meetings and data for action workshops are vital.**

They should be conducted routinely at facility, subnational (e.g., district, province), and national levels. In Eswatini, for example, ICAP supported the Ministry of Health to revitalize and lead these activities at all levels. Conducting them routinely has improved the capacity of health workers and managers to use data to understand programmatic accomplishments and challenges, participate in targeted discussions, and make programmatic decisions. This best practice requires consistent funding for meetings, guidelines on data use for government and implementing partner staff at all levels, and tailored agendas, analyses, and presentations.

**User-friendly data use tools enable decision-makers to access and interpret relevant data when they need it.**

Standardized dashboards enable health facility staff to review and use their data without waiting for a formal program review meeting. For example, ICAP is currently developing scorecards in DHIS2 with data visualization features, such as dials and barometers, to help provincial and district managers rapidly identify which sites are underperforming so that corrective action can be taken.

**Comparison of results from multiple data sources gives decision-makers deeper insight into performance.**

For example, when population-based survey data are triangulated with health facility data on the number of individuals with HIV, program managers can identify sub-populations with higher levels of undiagnosed HIV infection and enhance interventions to reach these populations. Evaluating pediatric ART data together with population-based data has, for example, revealed that HIV testing programs in several countries are not reaching children under 15 years of age. Population-based data on HIV incidence can also be evaluated with facility-level program data to improve geospatial modeling of subnational HIV trends.


# ICAP Publications and Resources

## Data Use

Latest data from PHIA surveys.

Available at:
https://phia.icap.columbia.edu/

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Justman J., Mugurungi O., El-Sadr W. **HIV population surveys – Bringing precision to the global response.** N *ENGL J MED*. 2018; 378:1859-1861.

Available at:
http://icap.columbia.edu/ptb-precision

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Saito S., Chung H., Mahy M., et al. **Pediatric HIV treatment gaps in 7 east and southern African countries: Examination of modeled, survey, and routine program data.** *J Acquir Immune Defic Syndr*. 2018;78 Suppl 2:S134–S141.

Available at:
http://icap.columbia.edu/ptb-pediatric-hiv