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### EVALUATION OF PEPFAR'S CONTRIBUTION (2012–2017) TO RWANDA'S HUMAN RESOURCES FOR HEALTH PROGRAM

A persistent shortage of health care workers in Rwanda is a key barrier to meeting the nation's health needs. As one strategy to address this challenge, Rwanda's Human Resources for Health (HRH) Program was conceived to strengthen health professional education and thereby increase the number of high-quality health professionals in the country. The \$99.5 million HRH Program (2011–2019) was funded largely by the Government of Rwanda, the Global Fund to Fight AIDS, Tuberculosis and Malaria; and the U.S. government's initiative to support the global response to HIV, known as the President's Emergency Plan for AIDS Relief (PEPFAR). PEPFAR contributed funds from 2012 to 2017, amounting to 60 percent of the total. The Program, which was designed, managed, and implemented by the Rwanda Ministry of Health (MOH), partnered U.S. medical, nursing, dental, and public health educational institutions with the University of Rwanda College of Medicine and Health Sciences. HRH Program activities centered on a twinning program that paired Rwandan and U.S. faculty and health professionals, the creation of new specialty training programs and curricula, and infrastructure investments in teaching hospitals and learning environments.

In 2018, the U.S. Centers for Disease Control and Prevention and the U.S. State Department's Office of the U.S. Global AIDS Coordinator asked the National Academies to evaluate PEPFAR-supported HRH Program activities in relation to programmatic priorities, outputs, and outcomes, and examine, to the extent feasible, the impact of PEPFAR funding for the Program on HRH outcomes and on patient- or population-level HIV-related outcomes.

#### EVALUATION APPROACH

To meet this charge, an ad hoc committee convened by the National Academies employed a retrospective, mixed-methods design to understand how the Program was implemented and what effects were pro-

duced; to examine the contextual factors that may have enhanced, moderated, or otherwise influenced outcomes; and evaluate the plausible contribution of the Program to HRH and HIV-related outcomes. Eighty-seven interviews were conducted with Program administrators, U.S. institution faculty, professional associations and councils, University of Rwanda faculty, students, and administrators, health care workers, and other stakeholders. Secondary quantitative data collection and analysis used publicly available HRH and HIV data and data provided by the University of Rwanda and the MOH.

It was not possible to isolate and attribute effects on HIV care to the Program, given the absence of a prospective evaluation design and the time frame of this evaluation, which was too short to reasonably expect investments in the capacity building represented by the HRH Program to result in large changes in HIV-specific, population-level outcomes.

#### CONCLUSIONS

PEPFAR's investment in the HRH Program represented an opportunity for an HIV-focused external donor to invest in broad systems change by strengthening Rwandan health professional education institutions to produce a workforce of sufficient quantity and quality to meet the needs of the Rwandan population, including people living with HIV (PLHIV).

With respect to the Program's goal to expand the quantity and quality of the health workforce in Rwanda, it achieved many successes. Exposure to high-quality teaching from faculty recruited through partnerships with U.S. institutions laid the groundwork for trainees to provide high-quality care, take on leadership roles, and train the next generation of health professionals. The Program improved the overall quality of professional preparation as a result of institutional capacity outcomes, such as new programs and new

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or upgraded curricula, and increased the quantity and quality of different cadres of health professionals, especially in nursing, midwifery, and some medical specialties. It also increased trainees’ research capacity, motivation as they entered the health workforce, and professional development opportunities. An improved relationship over time between the MOH and Ministry of Education, as well as the strengthening of professional associations and professional councils, are results that could provide momentum to sustain and continue building institutional capacity. Analysis of available data suggests that improved quality of care links Program activities to a contribution to improved overall health outcomes and HIV-related outcomes.

The complexity of the HRH Program and the system it aimed to strengthen meant several challenges accompanied these successes. Challenges with respect to the ambitious goals of increasing institutional capacity for health professional education included operational issues, variable implementation of the twinning approach that paired University of Rwanda and external faculty, insufficient design and clarity of communication around the mechanisms intended to achieve the Program’s vision, and inadequate planning for the complexity of structural changes necessary to achieve and sustain improvements in health professional education. There was also a tension between the perceived need for greater specialized care and the perceived need for more primary care.

While important lessons can be drawn from the Program’s successes and its challenges, without a clearly defined and funded monitoring and evaluation plan at the initiation of the Program, there was a missed opportunity to systematically learn both how to strengthen HRH capacity and how governments, other stakeholders, and external donors could together balance disease-specific priorities and broader health system needs.

### **IMPLICATIONS FOR HIV AND HRH PROGRAMMING**

As Rwanda and other countries make laudable progress toward controlling the epidemic and improving treatment coverage, more PLHIV are living longer, with health needs that lie at the intersections of managing HIV and its complications over time, managing comorbid conditions, and attending to quality of

life. Comprehensive support for the needs of PLHIV is increasingly dependent on the strength of the entire health system.

To advance its HIV-specific mission, it is in PEPFAR’s interest to support comprehensive health system strengthening through long-term strategies that are well coordinated with other donor and government investments. To be most effective, these strategies would not be designed around a specific disease, although it is reasonable for disease-specific funders to expect that their investments in broader efforts will have effects that contribute, albeit not exclusively, to disease-focused outcomes. Investments can optimize and monitor disease-specific effects without interfering with broader systems effects. Such investments have the greatest potential to yield sustainable results.

### **RECOMMENDATIONS**

The report’s six recommendations build on successes from this Program, reflect lessons learned from its challenges, and recognize the inherent complexity of HRH (see Recommendations on page 5). The recommendations, when viewed together as an integrated approach, offer a framework for future efforts that could strengthen the health workforce and the provision of services for PLHIV, thus seeking to make the balancing act between disease specificity and systems strengthening more achievable and measurable. They are intended to inform a broad and diverse range of actors who collectively would seek to design, implement, and evaluate efforts to strengthen health systems and HRH. This might include, governments, funders, health professional training institutions, professional societies, patient advocacy groups, and other civil society organizations.

The future of strengthening HRH in resource-limited settings, in ways that also yield improvements in health care outcomes for PLHIV, requires a reimagining of how partnerships are formed, how investments are made, and how the effects of those investments are documented. The impact of such investments is likely to be greater and more lasting if program investments are longer, multisectoral, and designed with more explicit attention to understanding and meeting health workforce needs in light of the evolving needs of PLHIV and how their needs intersect with broader health systems needs.

## **KEY FINDINGS: SUCCESSES AND CHALLENGES**

### **Vision and Design**

#### *Successes*

- Concurrence among interview participants on a high-level vision and intent that aligned with broader health-sector goals
- Program management led by the Government of Rwanda, in line with emerging global principles for donor assistance

#### *Challenges*

- Lack of clarity around the mechanisms and pathway for the vision and intent of achieving a world-class health care system
- Tension between the perceived needs for and prioritization of specialized vs. primary care providers
- Insufficient planning and funding to systematically learn from the Program by establishing rigorous monitoring, evaluation, and learning
- Insufficient time for operational management, both at the outset of implementation and continuously, as unexpected circumstances arose

### **Faculty Twinning**

#### *Successes*

- Approached as a reciprocal partnership with U.S. institution faculty who had experience in the region and/or were from the region
- Increased skills in management of academic curricula and programs

#### *Challenges*

- No incentives/compensation for University of Rwanda faculty participation; unclear communication about roles and expectations; and competing priorities for University of Rwanda faculty
- Some unsuitable or unqualified U.S. institution faculty who did not meet experience requirements or technical needs
- Insufficient transfer of teaching skills from U.S. institution faculty to Rwandan faculty
- Insufficient resources and unclear expectations among Rwandan actors and U.S. institutions affected processes related to issuing contracts, recruitment, and onboarding

### **Institutional Capacity for Health Professional Education**

#### *Successes*

- Exposure of trainees to high-quality teaching methodologies, new or updated curricula, and evidence-based medicine
- Increased motivation, confidence, and professionalism among trainees
- Increased research skills and competencies at University of Rwanda, with some continued research collaboration after U.S. Institution faculty left
- Well-developed and institutionalized Master of Science in Nursing program

#### *Challenges*

- Variations by specialty in quality of trainee experience and exposure
- Emphasis on individual twinning did not translate to increased capacity at University of Rwanda to continually strengthen and grow academic programming
- Inability to institutionalize Master of Hospital and Healthcare Administration program

## **Health Worker Production**

### *Successes*

- Contributed to an increase in physician specialists, advanced practice nurses, nurses with upgraded skills, and midwives
- Some early progress was observed in recruiting those trained under the HRH Program into the faculty
- \$17.9 million in PEPFAR resources were used to procure health professional education equipment and distribute it to teaching hospitals located predominantly in Kigali

### *Challenges*

- Mixed results in retaining faculty at the University of Rwanda
- Did not directly address retention and rational distribution of newly trained physician specialists, advanced practice nurses, and nurses with upgraded skills
- Large unmet HRH needs remain in Rwanda in terms of both number of health workers and their distribution

## **Effects on HRH and Quality of Care**

### *Successes*

- Described as having a positive effect on the safety, effectiveness, timeliness, and accessibility of services for PLHIV and beyond
- Seen by those in both health professional education and health service delivery roles as contributing to improved quality of care for all Rwandans, including PLHIV, through direct and indirect pathways such as greater provider availability, improved skills for basic and HIV-specific care, and improved skills to address HIV-related complications

### *Challenges*

- Potential for health professional education and increased production of providers to improve quality of care was limited by systems factors, such as infrastructure, equipment, diagnostics, and geographic distribution of referral services
- Given prior gains from Rwanda's response to HIV, any specific HRH Program contribution to HIV outcomes would be relatively small and difficult to discern. Moreover, with HIV services integrated in the health system, disentangling the Program's impact on HIV outcomes is complicated
- Sustainability and institutionalization of the HRH Program were hampered by its design and implementation, and by changes in PEPFAR's funding priorities
- The HRH Program lacked sufficient time to act on the midterm review recommendation related to sustainability planning

# RECOMMENDATIONS

## PROGRAM CODESIGN

- **Recommendation:** Funders investing in strengthening human resources for health should support a codesign model through a process that engages representatives from diverse stakeholders as the designers, including funders, program administrators, implementers, regulatory bodies, and those who will use or benefit from the programmatic activities.

## COMPLEX SYSTEMS THINKING LENS

- **Recommendation:** Designers of programs to strengthen human resources for health should employ a complex systems thinking lens, including multisectoral approaches that mix top-down and bottom-up models with long-term flexible funding that can support both the immediate needs of a health system and longer-term issues, such as retention of health workers.

## PLANNING AND ADAPTIVE MANAGEMENT

- **Recommendation:** To maximize the effectiveness of investments in human resources for health, which inherently require change within a complex system, designers of programs to strengthen human resources for health should spend time before implementation to establish a shared vision, proposed mechanisms to achieve that vision, and an operational plan that takes an adaptive management approach.

## MODELS FOR IMPROVING HEALTH PROFESSIONAL EDUCATION

- **Recommendation:** Designers of programs to strengthen human resources for health should, on the basis of the vision and goals of the program, evaluate different models for improving health professional education that best fits the workforce needs to be met and the local structural and contextual considerations for human resource capacity building.
- **Recommendation:** Designers of programs to strengthen human resources for health who want to employ paired partnerships, or “twinning,” should identify clear objectives to drive design decisions and consider an integrated design, with twinning partnerships at both the institutional and individual levels that are based, to the extent available, on best practice guidelines.

## MONITORING, EVALUATION, AND LEARNING

- **Recommendation:** Designers of programs to strengthen human resources for health should craft and resource a robust and rigorous framework for monitoring, evaluation, and learning that fits the complex, interconnected, and often changing nature of health systems, and that balances costs and feasibility with transparency, accountability, and learning.

**Committee on the Evaluation of Strengthening Human Resources for Health Capacity in the Republic of Rwanda under the President's Emergency Plan for AIDS Relief (PEPFAR)**

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