

Looking back to see forward: multidirectional learning between the US Ryan White HIV/AIDS Program and the US President's Emergency Plan for AIDS Relief

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ABSTRACT

To end the HIV epidemic as a public health threat, there is urgent need to increase the frequency, depth and intentionality of bidirectional and mutually beneficial collaboration and coordination between the USA and global HIV/AIDS response. The US Health Resources and Services Administration (HRSA) is uniquely positioned to showcase bidirectional learning between high-income and low-income and middle-income countries (LMICs) in the fight against HIV. For 30 years, HRSA has successfully administered the Ryan White HIV/AIDS Program (RWHAP), the largest federal programme designed specifically for people with HIV in the USA. Further, HRSA has developed and delivered innovative, cost-effective, impactful HIV programmes in over 30 countries as an implementing agency for the US President's Emergency Plan for AIDS Relief (PEPFAR). When PEPFAR was authorised in 2003, HRSA rapidly developed systems and infrastructures to deliver life-saving treatment, initiated workforce development programmes to mitigate health worker shortages, and laid the path for transitioning PEPFAR activities from US-based organisations to sustainable, country-led entities. As global programmes matured, lessons learnt within LMICs gradually began strengthening health services in the USA. To fully optimise synergies between RWHAP and PEPFAR, there is a critical need to build on successful initiatives, harness innovation and technology, and inculcate the spirit of multidirectional learning into global health. HRSA is promoting bidirectional learning between domestic and international HIV programming through documenting, sharing and implementing strategies, lessons learnt, best practices and effective models of care to accelerate achievement of HIV epidemic control and support country-led, sustained responses to public health threats.

INTRODUCTION

The HIV/AIDS pandemic has been one of the world's most serious health and development challenges.¹ Through biomedical and

SUMMARY BOX

- ⇒ The US Health Resources and Services Administration (HRSA) has led successful HIV programming for decades in the USA and internationally through the Ryan White HIV/AIDS Program (RWHAP) and the US President's Emergency Plan for AIDS Relief (PEPFAR).
- ⇒ To optimise synergies between RWHAP and PEPFAR, HRSA is promoting bidirectional learning between domestic and international HIV programming through documenting, sharing and implementing strategies, lessons learnt, best practices and effective models of care in the global HIV/AIDS response.
- ⇒ HRSA programmes promoting bidirectional learning include the Skills Sharing Programme, which was specifically designed to transfer skills and lessons learnt between service delivery providers at RWHAP clinics and PEPFAR-supported sites, as well as the Strengthening Interprofessional Education to Improve HIV Care Across Africa which supports a web of multidirectional learning networks across the globe.
- ⇒ HRSA is promoting bidirectional learning between RWHAP and PEPFAR through forums for sharing and collaboration, use of implementation science and optimising strategic health initiatives. These activities leverage lessons learnt related to building on what works, harnessing technology and innovation, and inculcating the spirit of multidirectional learning into global health.

scientific advances and a coordinated global HIV/AIDS response, substantive progress has been made towards ending AIDS as a public health threat by 2030. This progress is due, in part, to efforts made by the USA government to help ensure that vulnerable communities, both domestically and internationally, have access to life-saving HIV services.

The Ending the HIV Epidemic in the US initiative coordinated by the Department of Health and Human Services (HHS) is leveraging scientific advances in HIV prevention, diagnosis, treatment and outbreak response to accelerate the domestic response to HIV.² The HHS Health Resources and Services Administration (HRSA) administers the Ryan White HIV/AIDS Program (RWHAP), the largest federal programme designed for people with HIV. It delivers a comprehensive system of high-quality HIV clinical care and supportive services for the majority of people with HIV in the USA, with 88% of clients reaching viral suppression.³⁻⁷

To help address the global HIV/AIDS epidemic, HRSA is an implementing agency for the US President's Emergency Plan for AIDS Relief (PEPFAR), the largest commitment by any nation to address a single disease in history. Saving over 25 million lives and preventing millions of HIV infections, PEPFAR has strengthened health systems, bolstering partner countries' abilities to confront health challenges and enhance global health security.^{8,9} HRSA has supported PEPFAR in over 30 countries, developing and delivering innovative, cost-effective, impactful programmes focused on integrated health service delivery, health workforce development, quality management and sustainable community-led health programmes.

While the goal of ending the HIV epidemic as a public health threat is within reach, many countries, including the USA, are not on track to meet HIV epidemic control targets. To help address this, PEPFAR has committed to increasing the frequency, depth and intentionality of bidirectional and mutually beneficial collaboration and coordination within the global-domestic US HIV/AIDS response.⁹ With over 30 years of experience administering RWHAP and 20 years supporting PEPFAR implementation, HRSA is uniquely poised to showcase lessons learnt from global health reciprocal innovations (GHRI) between high-income countries (HICs) and low-income and middle-income countries (LMICs) in the fight against HIV.^{10,11}

LOOKING BACK: HARNESSING RWHAP EXPERTISE TO RAPIDLY ESTABLISH AND SCALE-UP PEPFAR

When PEPFAR was authorised in 2003,¹² millions of people in LMICs were dying annually due to little or no access to life-saving antiretroviral medications. Building on experience administering equitable healthcare to the highest-need communities in the USA, HRSA rapidly established emergency HIV services in 15 countries (table 1, row 1).^{12,13} Known as the Track 1.0 Care and Treatment Programme, the foundational elements of the RWHAP played a key role in the establishment of PEPFAR initiatives to ameliorate HIV-related morbidity and mortality and the accompanying burden on individuals, families and health systems. Treatment algorithms, best practices and lessons learnt from the RWHAP were used to accelerate development of tailored national

treatment guidelines and clinical standards of care while US training materials were modified to rapidly build capacity of health workers. Human resources supporting the RWHAP, transitioned to apply their expertise globally and RWHAP continuous quality improvement techniques were used to increase the effectiveness of PEPFAR programmes. Additionally, the technical assistance framework used to strengthen RWHAP service organisations was adapted to bolster capacity of host governments and local partners, laying the path for transitioning PEPFAR programmes to sustainable, country-led programmes (table 1, row 2).^{13,14}

Given the emergency nature of the PEPFAR programme, the initial focus was on rapidly developing the systems and infrastructures to deliver life-saving treatment. There were, however, byproducts that were positive outcomes to US domestic HIV services. For example, the Medical and Nursing Education Partnership Initiatives (MEPI/NEPI), developed to address health workers shortages in LMICs, created a robust community of practice among 60 medical schools in sub-Saharan Africa and 26 in the USA and Europe which strengthened health education and research in HICs simultaneously (table 1, row 3) as international consortia implemented pioneering, multi-countries studies, and US tertiary education institutions for global health programmes.¹⁵⁻¹⁸ Additionally, the US Food and Drug Administration pathway of approval for the use of highly efficacious combination HIV antiretroviral medication in the US took into consideration international guidance and the robust portfolio of evidence from PEPFAR-supported countries. Further, the PEPFAR Capacity Building and Strengthening Framework¹⁹ was adapted to articulate the RWHAP health systems strengthening efforts from a public health perspective, demonstrating community-level benefits and impacts on direct patient outcomes to successfully ensure continued funding. As an additional example, the Friendship Bench, a problem-based psychological intervention to address common mental health disorders developed in Zimbabwe, has been scaled-up across sub-Saharan Africa and the USA (refer to box 1 for additional examples.)

REFLECTING ON TODAY: BEGINNING TO LEVERAGE BIDIRECTIONAL RELATIONSHIPS

As PEPFAR programmes matured, lessons learnt from LMICs gradually began impacting health services in the USA with more intentionality. One example is the HRSA Skill Sharing Programme, a bilateral expert exchange programme designed not only to translate clinical successes in the USA to PEPFAR-supported facilities, but also to enable RWHAP providers to apply global best practices to the US healthcare landscape.²⁰ (table 1, row 4). Another example is the HRSA-funded Strengthening Interprofessional Education to Improve HIV Care Across Africa (STRIPE HIV) which supports multidirectional learning networks across sub-Saharan Africa to implement GHRI (table 1, row 5).^{21,22} A hallmark of

Table 1 Case examples of reciprocal innovation in global health between the US Ryan White HIV/AIDS Program (RWHAP) and the US President's Emergency Plan for AIDS Relief (PEPFAR)

Row	Project	Overview	Outcomes and bidirectional impact
1	Rapid Expansion of Antiretroviral Programmes to HIV Infected Persons in Selected Countries in Africa and the Caribbean under the President's Emergency Plan for AIDS Relief (Track 1.0 Care and Treatment Programme) ¹²⁻¹⁴	PEPFAR was authorised in 2003. During the first 5-year phase of PEPFAR, HRSA rapidly distributed funds to 4 US-based academic institutions to introduce urgently needed HIV care and treatment services in 15 focus countries to ameliorate HIV-related morbidity and mortality and the accompanying burden on individuals, families and health systems.	Treatment algorithms, best practices and lessons learnt from the RWHAP accelerated development of tailored national treatment guidelines and clinical standards of care across PEPFAR-supported countries. Domestic training materials and models from the RWHAP were modified to rapidly build capacity of health workers through in-service training. Human resources supporting the RWHAP transitioned to apply their expertise globally and the RWHAP continuous quality improvement techniques increased the effectiveness of PEPFAR programmes laying the foundation for subsequent PEPFAR programmes, creating an enabling environment for achievement of epidemic control.
2	Clinical Assessment for Systems Strengthening (CIASS) Framework ¹³⁻¹⁴	Ministries of health and community-based organisations within PEPFAR-supported countries utilised the CIASS framework, a participatory technical assistance process, to identify strengths and technical assistance needs to foster sustainable health systems strengthening. During CIASS implementation, an assessment team works with local partners to jointly identify an organisation's administrative, fiscal and technical strengths as well as opportunities for improvement.	The CIASS Framework was adapted from the Primary Care Assessment Tool used to strengthen domestic RWHAP service organisations. The CIASS framework supported 62 local organisations in the development of capacity-building plans to support sustainable, quality HIV care and treatment programmes, laying the path for transitioning PEPFAR programmes from US-based organisations to host governments and indigenous local partners.
3	Medical and Nursing Education partnership initiatives (MEPI/NEPI) ¹⁵⁻¹⁸	Medical and nursing schools across sub-Saharan African countries engaged in a pioneering workforce capacity building collaborative to produce more and better health workers, strengthen locally relevant research, promote retention of the graduates and ensure sustainability. MEPI/NEPI used innovative educational approaches to transform teaching and learning environments including reviewing and revising curricula, applying contemporary pedagogic approaches, establishing new medical educational units, exploring novel information and communication technologies, bolstering research capacity and fostering partnerships between governments and teaching and research institutions.	MEPI/NEPI increased the number of medical and nursing school graduates, strengthened curricula, expanded and enhanced faculty, expanded the use of clinical skills laboratories and community and rural training sites, strengthened computer and telecommunications capacity, increased e-learning, and bolstered research capacity and productivity. MEPI and NEPI created a robust community of practice in medical education and research with strong South-South, North-South, and South-North partnerships among 60 medical schools in sub-Saharan Africa and 26 in America and Europe. It led to the formation of the African Forum for Research and Education in Africa (AFREhealth) to scale up MEPI and NEPI successes and to further African leadership in responsive health professions education, training, research and service delivery. While the initial intent of MEPI/NEPI was to fill a critical human resources gap in PEPFAR implementing countries, the collaborative nature of the initiative among academic institutions also strengthened health education and research in the HICs through innovative multicountries studies and broadening the depth of experience of global health programmes.

Continued

Table 1 Continued

Row	Project	Overview	Outcomes and bidirectional impact
4	Skills Sharing Programme (SSP) (2022) ²²	A bidirectional learning initiative between RWHAP clinics and PEPFAR-supported sites based on an innovative hybrid approach that capitalises on in-person as well as remote learning opportunities, including peer-to-peer learning sessions and internet-based chat groups for technical support (ie, WhatsApp). During the pilot, US-based clinicians and their Ugandan peers jointly addressed issues related to client retention and strengthening HIV service delivery. Intensified site level quality improvement initiatives were jointly implemented, in collaboration with the National Quality Improvement Collaborative, targeting districts with low levels of viral suppression and high rates of mother-to-child transmission.	The SSP pilot project included 15 clinical sites in three districts of Uganda. Participating facilities demonstrated improvements in viral load turn-around time, viral load suppression, retention in care, optimising treatment regimes, paediatric pill swallowing, stigma reduction, integration of psychosocial services, and implementation and consistency of quality improvement activities. Further, SSP created the opportunity for RWHAP providers to gain first-hand appreciation for the effectiveness of various task shifting, peer support, community support, and tailor service delivery models utilised in PEPFAR-supported clinics for reaching vulnerable members of the community. SSP has expanded to Jamaica with plans to implement the programme in additional countries.
5	Strengthening Interprofessional Education to Improve HIV Care Across Africa (STRIPE HIV) ^{23 24}	Building on the MEPI and NEPI, STRIPE HIV uses a reimagined model for interprofessional training and mentorship of health workers that emphasises multidisciplinary, team-based learning and continuous service quality improvement. The programme goal is to ensure that preservice medical and nursing students and early career professionals are prepared to translate lessons and learnings from the classroom to high-burden clinical settings and are equipped to provide high-quality services. This large-scale initiative focuses on helping ensure that the next generation of health workers is a competent, multiprofessional workforce in an optimal position to have a transformative and sustainable impact to respond to HIV, COVID-19 and other health issues strengthening feedback loops between these institutions and their graduates.	Over the first 3 years of the programme, 80 partner institutions in 14 countries participated in STRIPE HIV training events, reaching over 12 000 learners from medical, nursing, laboratory, pharmacy, and other health professions. STRIPE has fostered improvements in HIV knowledge, confidence in clinical care practice, proficiency with quality improvement tools, understanding of and respect for other professions' roles, and intentions to share interprofessional skills and lessons learnt with peers. Programme sustainability is demonstrated by the leadership of AFREhealth in programme design, implementation and administration. STRIPE HIV has leveraged the expertise from various HRSA internal bureaus and offices to enhance programme activities including the HIV/AIDS Bureau, the Bureau of Health Workforce and the Bureau of Primary Healthcare. The structured QI approaches have proven effective, efficient, and sustainable to address PEPFAR HIV service gaps and to enhance bi-directional learning across multiple countries.
6	Global-Domestic HIV Bi-Directional Learning Forum	Launched in 2022, this intra-agency collaborative partnership between the White House Office of National AIDS Policy, the State Department's Office of the US Global AIDS Coordinator, and the Department of Health and Human Services brought together federal personnel in the US and across the globe who work in the field of HIV. The Forum builds on past federal shared learning activities from 2019, more than 130 HHS employees met at the National Institutes for Health for a day-long exchange of knowledge, experience and expertise among operating divisions implementing HIV programmes across the US and internationally.	Participants reflected on lessons learnt and best practices to augment collaboration between domestic and global HIV programmes and explore opportunities for reciprocal innovations. As a result of the collaborative, a full-day virtual Global-Domestic HIV Bi-directional Learning Forum for 200 federal staff implementing US domestic and global HIV/AIDS programmes was held in January 2023 and a follow-on webinar in June 2023. Commitment for this effort continues and future efforts will include quarterly webinars on domestics and global topics, topic-specific time-limited discussions, participation in relevant future national and international conferences, and promotion of bidirectional learning.

Continued

Table 1 Continued

Row	Project	Overview	Outcomes and bidirectional impact
7	HRSA Global Health Forum	<p>The HRSA Global Health Forum is a virtual webinar series on emerging health issues and promising practices to foster a bidirectional community among federal staff with domestic and international subject matter experts and improve the exchange of information to address a range of global health challenges. The first webinar, which was led by the HRSA Maternal and Child Health Bureau, the HRSA Office of Women's Health, the WHO and the US Agency for International Development; focused on access to high-quality maternal care and explored respectful maternity care principles, inequities, and equalities. The second webinar was led by HRSA's Office of Global Health in collaboration with the HRSA Border Health Workgroup, HHS Office of Global Affairs and the Pan American Health Organisation. The webinar covered lessons learnt during the COVID-19 pandemic to improve health outcomes in primary care.</p>	<p>The forum examines HRSA domestic and global health programmes, emphasising a bidirectional focus on healthcare strategy to ensure information exchange and improved health programming. Implementers and programme recipients shared their stories and field experiences. A bidirectional workgroup within the HRSA Office of Global Health has been established. This Forum envisions purposeful engagement and partnership with the Global-Domestic HIV Bi-Directional Learning Forum to ensure intra-agency synergy, efficiencies and whole-of-government impact in bidirectional learning efforts.</p>
8	International Delegations and Learning Tours	<p>International delegations and tours are short-term visits between domestic and global professionals interested in learning more about the US healthcare interests, systems and goals. During these visits, HRSA exchanges information and gives foreign visitors a firsthand accounting and aims to further cultivate relationships between US and international leaders to enhance bidirectionality on a variety of issues and topics.</p> <p>HRSA recently hosted international learning tours focusing on GHRI with France and the Philippines. These opportunities provided an open forum for robust, two-way exchange on key areas including workforce training, telehealth utilisation, quality management, as well as equitable access to care to help inform programme development and strengthen health systems. It has also afforded the opportunity for country delegations to visit HRSA-supported health facilities for firsthand appreciation of tailored approaches to care in underserved communities.</p>	<p>In 2023, HRSA hosted a French delegation of 25 health insurance executives and providers from Mutualité Française coordinated by Counsellor Benoit SEVCIK, Embassy of France. HRSA was the only Departmental agency in the French Mutualité's US study tour to meet to explore our national telehealth, digital health, health equity, behavioural health, and workforce training. HRSA Bureaus and Offices engaged in a bilateral exchange to discuss HRSA-funded investments to improve health outcomes and enhance health systems strengthening. In August 2023, HRSA and USAID hosted a collaborative-study tour to showcase effective quality improvement programmes to the Republic of the Philippines Department of Health representatives as they work to achieve a national quality plan and strategy. During this engagement, representatives will visit US federally qualified healthcare centres, academic hospitals, and other sites to receive first-hand learning on US quality-improvement initiatives.</p>
9	Communications Platform	<p>A shared communications platform will be developed to disseminate updates on key topics addressing ongoing gaps and community inequities, such as mental health screenings by lay counsellors; needs of ageing populations; increased use of telemedicine to address interruption of care and telementoring for team-based care approaches; practices of integrated health services for people living with HIV (screenings, hypertension, etc); expansion and rapid scale-up of pre-exposure prophylaxis; addressing stigma and discrimination among others.</p>	<p>The intended outcome and impact will include timely sharing of interventions, projects and partnerships describing bidirectional improvements, standardised measures and dashboards to support the achievement of UNAIDS, WHO and other global health goals.</p>

Continued

Table 1 Continued

Row	Project	Overview	Outcomes and bidirectional impact
10	Learning Sessions for Routine Programme Management	Initiated in 2023 during routine programme management site visits to countries to discuss performance as well as impact and strategic planning, learning sessions are established to continue discussions about opportunities for sharing lessons learnt, best practices and common challenges across communities to improve access and quality of integrated healthcare services for vulnerable communities globally. This is done through multidimensional sharing of high-impact innovations with key global measures to close the gap on health inequities. The first learning session was held in May 2023 with the University of Washington/I-TECH team in India funded by HRSA under PEPFAR. The session included former staff from recipients of Ryan White and provided overviews of HRSA projects such as SSP (see box 2).	The intended outcome and impact will include embedding of intentional reciprocal innovation within routine programming with greater, timely impact on reaching common goals and missions (eg, agency, state/local, federal, national, communities, global). Coordination of the collaborative efforts will occur through HRSA and its partners.

STRIPE-HIV is the robust platform for sharing innovation and lessons learnt through the African Forum for Research and Education in Health.²³ SSP, STRIPE-HIV and multiple other GHRI have used the Extension for Community Healthcare Outcomes (ECHO) video conference platform developed at the University of New Mexico for teaching community providers to deliver best-practice medical services to underserved populations.²⁴ Used by HRSA to support US health workforce training,^{25–28} ECHO allows for large-scale bidirectional telementoring and virtual sharing of lessons learnt, facilitating development of peer-to-peer interactions among national, regional and global experts for real-time virtual collaboration, engagement and experience-sharing among geographically dispersed, multidisciplinary teams.

Box 1 Use of routine programme activities to incorporate global health reciprocal innovation (GHRI) for sustainability—India example

As part of a recent programme management visit to HRSA-funded PEPFAR programme in India, a session was developed to request past, current and future opportunities for GHRI with the University of Washington International Training and Education Centre for Health local office. Shifting to local community-led organisations, including non-profit arms of former research institutes, will be key for the sustainability of equitable HIV country-led response. One example of sustainable GHRI in India was the use of psychology-trained lay counsellors for suicide prevention screenings and referrals developed in the US and tailored to key populations' needs in India. Lessons learnt from the adaptation of this programme in India were later used for South Asian communities in the US Avenues for sharing these types of lessons learnt can be through scientific conferences and a new communications platform ([table 1](#), row 9) for multidimensional sharing of GHRI.

HRSA, Health Resources and Services Administration; PEPFAR, President's Emergency Plan for AIDS Relief.

THE WAY FORWARD: OPTIMISING GHRI TO END THE HIV EPIDEMIC

As multiple PEPFAR-supported countries begin to reach and exceed the UNAIDS HIV epidemic control targets,^{29–30} other countries, including the USA, have considerable progress to make. To help close these gaps, HRSA developed a white paper in 2018 exploring areas for GHRI between RWHAP and PEPFAR.³¹ This laid the groundwork for increasing the frequency, depth and intentionality of bidirectional, mutually beneficial collaboration and coordination between global and US domestic initiatives through forums for sharing and collaboration, the use of implementation science (IS) and by optimising strategic health initiatives.

Forums for sharing and collaboration

HRSA is enhancing opportunities for disseminating best practices and lessons learnt from initiatives around the globe to actively promote reciprocal learning. This includes engagement in the Global-Domestic HIV Bi-Directional Learning Forum which brings together domestic and international federal personnel working in HIV policy, programming and research to reflect on lessons learnt and best practices ([table 1](#), row 6). The HRSA Global Health Forum is a webinar series on emerging health issues and promising practices to foster a bidirectional community among US federal personnel and subject matter experts ([table 1](#), row 7). Further, HRSA is committed to supporting future interagency engagements through provision of global-domestic subject matter expertise in technical meetings, holding topic-specific and time-limited discussions, and facilitating webinars. International learning tours represent another avenue which HRSA has leveraged as a dissemination channel for GHRI ([table 1](#), row 8). To further these efforts, a communication platform ([table 1](#), row 9) will be established to build collaboration and explore how

to mutually benefit from past experiences, lessons learnt, and the commitment and input of the HIV community to improve programmatic outcomes and maximise the use of federal resources. In addition to HIV, this will include other services addressing other health threats such as mental health services, treatment for substance use disorder, trauma-informed care, care for ageing populations and a focus on use of telemedicine to remove barriers to care.

Other key channels for dissemination of GHRI include scientific conferences. HRSA routinely uses the annual International AIDS Society (IAS) conference as a forum to showcase insights and innovations from global and domestic programmes. In July 2022, HHS cosponsored a satellite session at the IAS conference to advance GHRI on innovative HIV prevention and viral suppression initiatives. Further, the National Ryan White Conferences will routinely feature sessions and panel discussions highlighting PEPFAR programmes and opportunities for bidirectional learning.

Use of IS

HRSA has developed an IS framework to support translation of data insights into real-world projects to maximise programme impact and achieve optimal health outcomes.⁴ To support dissemination of innovative initiatives, the RWHAP Best Practices Compilation, a centralised, online knowledge-sharing tool, was launched by HRSA in 2021.³² Further, as part of the RWHAP Special Projects of National Significance (SPNS) Programme, HRSA is using IS to evaluate the design, implementation, utilisation, cost and health-related outcomes of treatment strategies while promoting the dissemination and replication of successful interventions. This programme advances knowledge and skills in the delivery of health-care, support services and data integration to provide care to underserved populations in the US across an array of interventions. Many of the SPNS projects have been based on interventions implemented on a routine basis internationally through PEPFAR, including patient navigation interventions, active referrals and social networks testing.

Optimising strategic health initiatives

Health equity, community leadership and integrated service delivery are cross-cutting, strategic health initiatives that provide a foundation for HRSA-supported GHRI. One avenue towards optimising these strategic health initiatives has been through partnership with a consortium of Historically Black Colleges and Universities (box 2). With this partnership, HRSA is addressing health inequities by connecting vulnerable populations to care through differentiated care models as well as innovative workforce models such as task-shifting and use of community health workers.³³ Intentional efforts are underway to ensure these health equity lessons learnt are being adapted to support HIV programmes in a reciprocal manner. Additionally, HRSA programme management

Box 2 Promoting health equity and fighting HIV through reciprocal innovations in global health with US Historically Black Colleges and Universities (HBCU) through a Global Health Consortium (GHC)

As a novel approach to global health reciprocal innovation (GHRI), Health Resources and Services Administration (HRSA) has partnered with the medical schools of HBCUs to improve and expand HIV care and treatment in select US President's Emergency Plan for AIDS Relief (PEPFAR)-supported countries. Headed by Meharry Medical College, the HBCU GHC includes Howard University College of Medicine, Morehouse School of Medicine and Charles R. Drew University of Medicine and Science. Under PEPFAR, HRSA is funding the HBCU GHC to improve access to care of vulnerable populations (children, pregnant and breastfeeding women, adolescent girls and young women with HIV, key populations, and others). Innovative initiatives include after-hours service delivery, youth-friendly and male-friendly clinics, pop-up clinics, ride-hailing apps for transportation to medical appointments, monitored lists to reduce missed appointments, referrals to telemedicine to reduce disruption of service due to transport or childcare issues, and decongestion of clinics through multimonth dispensing or integrated services in one-stop shops. A youth-friendly module for HIV prevention and related gender-based services using ministry-approved training for community health workers was developed, and cohorts of eligible adolescent girls and young women at high risk for HIV are hired and placed in rural districts as part of economic empowerment. Not only is this partnership providing an opportunity for these HBCUs, their faculty and their students to make a significant and lasting impact to end the HIV epidemic; it is also playing a role in mitigating health disparities and promoting health equity within the USA by bridging funding gaps HBCUs have traditionally experienced.

and monitoring site visits with PEPFAR implementing partners include ways to incorporate GHRI into planned activities to increase impact globally (table 1, row 10).

LEARNING FROM THE PAST

HRSA is committed to advancing and integrating bidirectional learning and international collaboration towards ending the US HIV epidemic and the global AIDS pandemic as a public health threat by 2030. An integral part of these initiatives is documenting and sharing the lessons learnt, best practices and effective models of care in the global HIV/AIDS response in a timely manner. These include building on what works, harnessing technology and innovation, and inculcating the spirit of multi-directional learning into global health.

BUILDING ON WHAT WORKS

When the PEPFAR programme was initiated, the foundational elements of the RWHAP were critical in rapidly developing life-saving HIV programmes in international settings. US treatment algorithms, guidelines, frameworks, models of care and training materials accelerated the establishment of the emergency response. While it was quickly apparent that a 'plug and play' approach was inadequate, tailoring elements of the US HIV response

to the specific local context within PEPFAR-supported countries was successful in reducing the time, resources and burden required to scale up successful life-saving programmes.

Given the emergency nature of the response when PEPFAR commenced, the leveraging of lessons learnt from on-the-ground implementation was limited. However, as PEPFAR matured, sharing of lessons learnt and best practices increased, with the MEPI/NEPI programmes laying the groundwork for developing communities of practices. By building on the success of the MEPI/NEPI programmes, STRIPE-HIV and the African Forum for Research and Education in Health (AFREhealth) created a robust model for collaborative, evidence-informed sharing of best practices and lessons learnt that emphasised multidisciplinary, team-based learning and continuous quality improvement.^{22 23} While international communities of practice are now common within PEPFAR programmes, these critical initiatives were built incrementally from the success achieved and challenges overcome by the MEPI/NEPI programmes, the STRIPE-HIV initiative and AFREhealth, which demonstrates the importance and impact of building up on what works.

HARNESSING INNOVATION AND TECHNOLOGY

Innovation is a key ingredient in the promotion of GHRI with in the fight against HIV. The HRSA Skill Sharing Programme took a unique approach to bidirectional learning through international peer-to-peer collaborative problem-solving. By leveraging technological advances in communication, HRSA developed a programme in which remote mentoring successfully supplemented in-person site visits as an add-on approach to create synergies with existing on-the-ground programmes. During the pilot in Uganda, not only did health service delivery improve at the supported PEPFAR-supported sites, but also the RWHAP providers witnessed first-hand the effectiveness of various task shifting, peer support, community support and tailored service delivery models for reaching vulnerable members of their own communities in the USA.

The importance of harnessing innovation and technology is further exemplified by the unique opportunities presented by the COVID-19 pandemic to rapidly scale new training modalities and maximise the use of online learning platforms. As health professionals around the world struggled to address the challenges posed by COVID-19, virtual platforms were integral in leveraging lessons learnt from PEPFAR HIV service delivery in LMICs to support the US domestic response to the COVID-19 pandemic. The PEPFAR-supported efforts to fight HIV in LMICs were critical in the development of COVID-related contact tracing protocols, community outreach programmes and service delivery models to decongest clinics. For example, Jhpiego, a PEPFAR implementing partner specialising in global health, used decades of experience delivering community-based

services in LMICs to support the development of the Baltimore Health Corps Project to pilot an innovative community-health worker project during the height of the COVID-19 epidemic.³⁴ The innovative approaches used in the global fight against HIV hold promise for not only helping end the HIV epidemic in the USA and other HICs, but also for bolstering preparedness for outbreak response to future epidemics and health emergencies.

INCULCATING THE SPIRIT OF MULTIDIRECTIONAL LEARNING INTO GLOBAL HEALTH

Intentionality is critical in maximising GHRI. Over the past 20 years, there has been an evolution in the focus placed on bidirectional learning within the global-domestic US HIV/AIDS response. While there has been an increased shift towards these important initiatives, the utilisation of these efforts needs to be explored with more intentionality to advance GHRI. While efforts are underway, there is a clear need to expand the breadth and depth of tailored GHRI to fully optimise synergies between RWHAP and PEPFAR. GHRI must be deliberately incorporated into global health programmes to accelerate achievement of HIV epidemic control; ensure country-led, sustained responses to public health threats; and achieve WHO Sustainable Development Goals.

HRSA will continue to explore opportunities for programme and policy innovations that are applicable across borders, linking innovation with impact worldwide. Guided by lessons learnt and best practices from over 30 years of experience administering RWHAP and 20 years supporting PEPFAR implementation, HRSA will continue building on intentional efforts to promote GHRI in domestic and international HIV programming through documenting, sharing and implementing strategies, lessons learnt, best practices and effective models of care in the global HIV/AIDS response.

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