Task Shifting/Sharing for HIV Services in 26 PEPFAR-supported Countries: A Qualitative Assessment

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RESEARCH AND EVALUATION REPORT

Task Shifting/Sharing for HIV Services in 26 PEPFAR-supported Countries: A Qualitative Assessment

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Acknowledgments

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ABBREVIATIONS

ART	Antiretroviral therapy
ARV	Antiretroviral
ASSIST	USAID Applying Science to Strengthen and Improve Systems Project
CBO	Community-based organization
CHV	Community health volunteer
CHW	Community health worker
CHEW	Community health extension worker
CO	Clinical officer
HEW	Health extension worker
HIV	Human immunodeficiency virus
HRH	Human resources for health
HSA	Health service assistant (Malawi)
HTC	HIV testing and counseling
IP	Implementing partner
NGO	Non-governmental organization
LMIC	Low- and middle-income country
MAT	Medical Association of Tanzania
MCH	Maternal and child health
MOH	Ministry of Health
MNCH	Maternal, neonatal and child health
MSH	Management Sciences for Health
MSM	Men who have sex with men
NACO	National AIDS Control Organization (India)
NGO	Non-governmental organization
NIMART	Nurse-initiated and managed antiretroviral therapy
OHA	Office of HIV/AIDS
PEPFAR	United States President's Emergency Plan for AIDS Relief
PHC	Primary health center (Nigeria)
PLHIV	People living with HIV/AIDS
PMTCT	Prevention of mother-to-child transmission
PNG	Papua New Guinea
POPSM	President's Office of Public Services Management (Tanzania)
UHC	Universal health coverage
UNAIDS	Joint United Nations Programme on HIV/AIDS
URC	University Research Co., LLC
USAID	United States Agency for International Development
VHW	Village health worker
WISN	Workload Indicators of Staffing Needs
WHO	World Health Organization

EXECUTIVE SUMMARY

Introduction

Task shifting and sharing have been employed as strategies for addressing ongoing human resources for health shortages in low- and middle-income countries. Task shifting refers to moving tasks from a higher or more specialized cadre to a lower level cadre. Task sharing refers to team-based service delivery in which different cadres work together but perform different functions. Task shifting has been endorsed and has been long supported by the World Health Organization and PEPFAR and has been shown to be effective in increasing HIV service utilization and programmatic sustainability. Countries have integrated task shifting into their HIV programming in different ways. This assessment sought to explore the current status of task shifting policy development and implementation across PEPFAR priority countries with the aim of informing future PEPFAR investment in human resources and HIV service delivery models.

Methodology

Using an exploratory qualitative design, researchers conducted semi-structured interviews across 26 countries with 67 respondents with key insights into human resources for HIV services. Two countries, Nigeria and Tanzania, were identified by USAID Office of HIV/AIDS for more in-depth examination; two weeks of field work was conducted in each country.

Results

Most countries had a task shifting or sharing policy or guideline, varying from an order permitting nurses to deliver certain services to a more comprehensive document including all HIV services and cadres. As of 2018 when data for this assessment were collected, seven of the 26 countries studied had no task shifting/sharing policy (Botswana, Cambodia, Eswatini, India, Papua New Guinea (PNG), Vietnam, and Zambia). Sixteen had policies that specifically addressed HIV services; two had general task shifting policies that did not specifically address HIV services; and one had developed task shifting guidelines but had not yet officially endorsed them.

Facility-based HIV services: Testing was predominantly done by nurses with support by community health workers (CHWs) and/or other lay workers in six countries. ART initiation was almost exclusively facility-based. In five countries, only doctors could initiate; in three other countries, lower level cadres could initiate under doctor supervision. Pharmacist shortages were a barrier to ART initiation, forcing countries to rely on lower level staff. Adherence counseling was most often conducted by lay cadres.

Community-based HIV services: Testing provided by lay workers, most often supported by external donors, provided screening tests and referred patients to the facility for a confirmation test. Alternatively, community-based testing was provided by facility-based outreach teams. Community-based cadres and patient groups were engaged in ART distribution.

Enabling factors for developing and implementing policies include a great need to provide services in the face of ongoing human resources crises Generation of data quantifying human resource deficits and showing potential cost savings from task shifting spurred governments to adopt task shifting policies in some cases. Broadly, interviewees agreed that task shifting and task sharing policy is needed to address chronic health workforce shortages because the policy supports lower-level cadres who were already taking on tasks previously not in their purview. Political support and key stakeholder engagement were key to completing policies and moving to implementation. Communication from central government to other levels of health system also facilitated implementation. Finally, external pressures and advocacy, supported by evidence, encouraged governments to integrate task shifting.

Barriers to task shifting included weak and complicated bureaucratic structures which made it difficult to align all systems involved in transferring tasks from one cadre to another. Lack of support from governments and professional associations to engage lower level cadres in providing HIV services was a key obstacle to both policy development and implementation. Finally, limited financial investment in task shifting on behalf of both donors and governments impaired task shifting efforts.

Limitations

Two major limitations of the study should be noted. First, it was not possible for the researchers to differentiate respondents' answers based on informal task-sharing/shifting versus formally endorsed task shifting. That is, when respondents indicated that task-shifting was indeed occurring in the country, their responses were recorded as affirmative even if task sharing was not an explicit policy of the government at the time. Secondly, the 26 countries assessed may not be entirely representative of the 63 countries in which PEPFAR is operating. It should also be noted that respondents for the assessment were primarily USAID representatives who may not have had complete knowledge of activities undertaken by other donors.

Conclusions

Task shifting and sharing are effective strategies for addressing pressing and persistent human resources challenges in HIV and other health areas and support implementation of differentiated service delivery. However, task shifting/sharing is a complex strategy to fully implement and must be tailored to individual countries based on HRH needs, health system structure, and the nature of the HIV epidemic.

I.INTRODUCTION

Shortages and maldistribution of health workers in low- and middle-income countries (LMICs) hinders patient access to quality HIV services. The World Health Organization (WHO) recommends 23 doctors, nurses, and midwives per 10,000 population (WHO 2018); however, only four of 31 countries included in this review achieve this level (Botswana, Dominican Republic, India, and Namibia), and 15 have less than half the recommended number (see **Figure 1**).

Shifting tasks to lower level cadres or sharing tasks across cadres has been utilized formally and informally in an effort to mitigate the impact of the health worker crisis. Task shifting refers to transitioning tasks from a higher-level cadre to a less specialized or lower-level cadre that is capable of delivering the service. Task sharing, in contrast, is more of a team approach to service delivery in which different cadres perform specific tasks in the provision of care.

There is a long history of international assistance for training to improve human resources for health (HRH) skills to accommodate task-shifting/sharing (Pedersen 1985). In 2008, the WHO released guidelines on task shifting for the rational distribution of HRH and delineated HIV clinical tasks by cadre (WHO 2008). Task shifting was also included as a strategy in the President's Emergency Plan for AIDS Relief (PEPFAR) 2015 HRH Plan (PEPFAR 2015). Task shifting efforts have been shown to contribute to improved quality and increased HIV service utilization (Morris, Chapula et al. 2009, Kredo, Adeniyi et al. 2014) and can enhance ART program sustainability in the face of ongoing physician shortages (Zukumumpa, Bennett et al. 2017). Engaging lay cadres in HIV service delivery can free professional health workers to deliver more complex services (Kironde, Berger et al. 2018). Furthermore, engaging non-physicians in the administration and monitoring of treatment for opportunistic infections can result in higher treatment completion rates (Onyedinachi, Eghaghara et al. 2018).

Nurse-initiated and managed antiretroviral therapy (NIMART) is a well-received strategy for shifting tasks and has been shown to be effective at increasing access to treatment (Nyasulu, Muchiri et al. 2013, Mdala, Wabomba et al. 2018) and comparable in effectiveness and safety to physician-initiated care (Shumbusho, Van Griensven et al. 2009, Fairall, Bachmann et al. 2012, Grimsrud, Kaplan et al. 2014). Further, nurses feel empowered by their expanded role, have greater job satisfaction, and feel their relationships

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DEFINITIONS

Task Shifting

"Moving tasks from one cadre to another – usually from more to less specialized cadres (e.g., moving ART prescription from doctors to clinical officers (COs) or nurses."
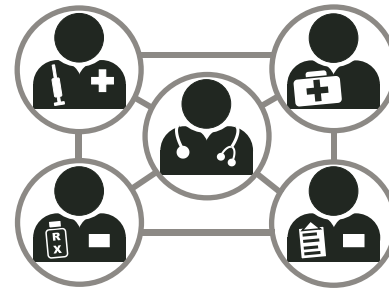
Task Sharing

"A "team-based approach" where "medical care [is] provided to a patient by a set group (team) of different health professional with different roles that maximize the skills and abilities of each team member". For example, COs and nurses may initiate ART and monitor the stable patients while doctors manage patients with complex opportunistic infections."

(Tsui, Denison et al. 2017)

Country	Population (millions) (2016)[a]	HIV prevalence Age 15-49 (2016)[a]	Physician density per 1000 population[b] (year)	Nurse/Midwife density per 1000 population[b] (year)	Estimated ART coverage (all ages) (2016)[a]	Policy/Guidelines (Year)
						psupported community health agents (pending review and finalization)
India	132.4	0.2%	0.758 (2016)	2.098 (2016)	49%	No policy
Kenya	48.5	5%	0.204 (2014)	1.582 (2014)	69%	Kenya Task Sharing Policy (2017-2030): guides management of task sharing among health workforce, including government, private, and faith-based institutions, across all health areas
						Kenya Task Sharing Guidelines (2017-2030): enables implementation of the Task Sharing Policy
Lesotho	2.2	23.9	0.047 (2003)	0.591 (2003)	67%	National Guidelines on the Use of Antiretroviral Therapy for HIV Prevention and Treatment (2016): operational and service delivery guidelines
Malawi	18.1	9.9%	0.081 (2009)	0.336 (2009)	66%	Guidelines for the Management of Task Shifting to Health Surveillance Assistants (2014): not specific to HIV
Mozambique	28.8	12.7%	0.055 (2013)	0.401 (2013)	48%	Note 9/CNTARV-DNAM/2011 (2011): expands provision of diagnosis and ART initiation to basic and mid-level nurses and clinical officers
Namibia	2.5	12.3%	0.372 (2007)	2.76 (2003)	77%	National Strategic Framework for HIV/AIDS Response in Namibia 2017/18-2021/22 (2017): includes task shifting as a key intervention for addressing limited HRH capacity and scaling up differentiated service delivery models to increase access to ART services
						National ART Guidelines (2016): outlines differentiated models of care such as reduced appointments for stable patients, multi-month dispensing, fast track pill pick up, community-based ART delivery
Nigeria	185.9	2.8%	0.376 (2009)	1.489 (2008)	31%	National Strategic Plan (2010-2015): HRH is a priority area, with task shifting as a key activity to increase access to services
						Task-Shifting and Task-Sharing Policy for Essential Health Care Services in Nigeria (2014): to promote rational distribution of existing HRH resources; across RMNCH, HIV, TB, and malaria; does not include testing, only treatment and prevention
						National HRH Strategic Plan (2015-2019): task shifting/sharing are key activities

Table 3: Facility- and community-based services by cadre (document review and interview data), 2018

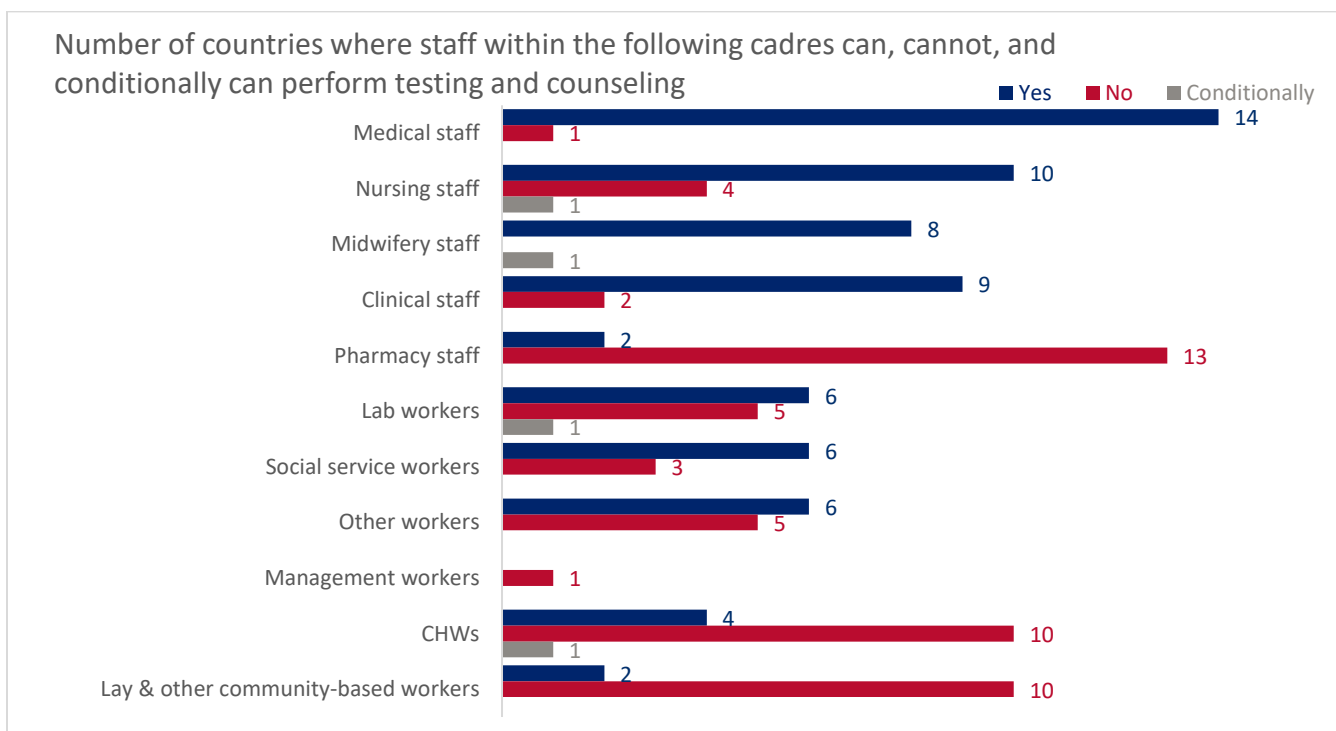|	Testing & Counseling	ART Initiation	ART Refills & Distribution	Adherence Counseling
Angola	Physicians Nurses, if no physician available	Physicians Nurses, if no physician available	Physicians Nurses CHWs	Peer navigators Lay counselors
	No community-based services provided.	No community-based services provided.	No community-based services provided.	Peer navigators Lay counselors
Botswana	Physicians Nurses	Physicians Nurses	Physicians Nurses	CHWs
	CHWs	Being rolled out mid-2018.	Community-based and multi-month distribution under discussion.	CHWs
Burma	Physicians	Physicians	Physicians Nurses where no physician is available	Physicians Nurses Lab techs Peer counselors
	Physician with lab tech NGOs	No community-based services provided.	No community-based services provided.	PLHIV
Burundi	Physicians Nurses	Physicians Nurses	Nurses	PLHIV networks Expert Patients
	No community-based services provided.	No community-based services provided.	No community-based services provided.	PLHIV networks Expert Patients
Cambodia	Nurses	Physicians	Physicians Pharmacist	Counselor
	Outreach workers (screening test only, reactive patients are referred to the facility for confirmation)	No community-based services provided.	No community-based services provided.	NGO staff
Cameroon	Physicians Nurses Midwives Nurse Aids CHWs***	Nurses Midwives Nurse Aids (first line only)	Pharmacists Nurses Midwives Nurse Aids CHWs	At every point of contact Physicians Nurses Midwives Nurse Aids
	Mobile health teams consisting of trained health workers	No community-based services provided.	Community agents via CBOs (dispensing)	CHWs
Cote d'Ivoire	Physicians	Physicians	Nurses	

	Testing & Counseling	ART Initiation	ART Refills & Distribution	Adherence Counseling
	Public health officers & technicians Nutritionist & dieticians Physiotherapists & Occupational Therapists HIV counsellors Psychologists Medical Social Workers CHVs & support staff Individuals & Families			Public health officers & technicians Nutritionist & dieticians Physiotherapists & Occupational Therapists HIV counsellors Psychologists Medical Social Workers CHVs & support staff Individuals & Families
				Lay counselors
Lesotho	Physicians Nurse clinicians Registered nurses Trained nursing assistants Laboratory technician	Physician Nurse clinicians Registered nurse midwives Registered nurses Trained nursing assistants*	Physician Nurse clinicians Registered nurse midwives Registered nurses Trained nursing assistants* Pharmacists* Pharmacy technicians* Expert patients*	All points of contact
	VHWs	No community-based services provided.	Community ART Groups (distribution)	VHWs
Malawi	Can be offered by all clinical cadres HIV TAC Counselors Health Diagnostic Assistants (PEPFAR supported)	Physicians Registered Nurses Medical Assistants Clinical officers Nurse Midwives/ technicians	Pharmacists Pharmacy Technicians Pharmacy Assistants Health Service Assistants (HSAs)	At all points of contact
	Mobile teams of clinical or nursing officers and counselors	No community-based services provided.	No community-based services provided.	Expert clients Mentor mothers Peer educators Defaulter tracers
Mozambique	Auxiliary staff (lay counselor)	Physicians Clinical Officers Nurses Medical Technicians	Physicians Nurses	Lay counselors
		No community-based services provided.	No community-based services provided.	Lay counselors
Namibia	Doctors Nurses	Doctors* Nurses*	Doctors Nurses Pharmacists Pharmacist Assistants	Social Workers Peer educators Expert patients CHWs
	Nurses* (part of outreach team)	Nurses* (part of outreach team)	HEW Community ARV Groups	Nurses Health assistants Pharmacist

	Testing & Counseling	ART Initiation	ART Refills & Distribution	Adherence Counseling
				Pharmacist assistants Expert Patients HEWs TB Field promoters
Nigeria	Nurses CHEWs CHOs Laboratory scientists Lay health workers	Physicians Nurses	Pharmacists Pharmacist technicians Pharmacist assistants (pre-package, but not distribute)	Physicians Nurses CHWs PLWHAs
	Community outreach staff PLHIV Social welfare officers	No community-based services provided.	ART Groups (distribution)	CHWs PLWHAs
Papua New Guinea	Clinical officers Nurses Medical Assistants CHWs	Clinical officers Nurses CHWs	Clinical officers Nurses CHWs	All points of contact
		No community-based services provided.	No community-based services provided.	Peers Counselors
Rwanda	Physicians Nurses	Physicians Nurses*	Physicians Nurses*	Physicians Nurses
	CHWs	No community-based services provided.	No community-based services provided.	CHWs
South Africa		Nurse Midwife		
Eswatini	Physicians Nurses	Physicians Nurses	Pharmacists	Expert Clients HTC Counselors CHWs
	Lay cadres	No community-based services provided.	Patient cohort groups (distribution)	Expert Clients HTC Counselors CHWs
Tanzania	Medical Officers Assistant Medical Officers Clinical officers Clinical assistants Nurses Assistant nursing officer Laboratory scientist Laboratory technologist Assistant laboratory technologist Medical attendant Dental officers Dental assistants	Medical officers Assistant medical officers Clinical officers Assistant medical officers Clinical assistants Nurses Assistant nursing officer Pharmacists Pharmaceutical assistant	Medical officers Clinical officers Clinical assistants Assistant medical officers Nurses Assistant nursing officer Assistant laboratory technologist Medical attendant Pharmaceutical assistant	Medical officers Assistant Medical officers Clinical officers Clinical assistants Nurses Nursing officers Pharmacists Nutritionists Social workers

	Testing & Counseling	ART Initiation	ART Refills & Distribution	Adherence Counseling
	Environmental health officers Assistant environmental health officers			
	CHWs Social Welfare Assistants	CHWs	CHWs Social Welfare Assistants	Social Welfare Assistant
Uganda	Doctors Clinical officers Nurses Midwives Trained nursing assistants Pharmacists Pharmacy technicians Dispensers Storekeepers Laboratory technicians Laboratory Assistants Lay providers/CDOs/CBOs/ CSOs working with PLHIV Health information assistants Data clerk	Doctors Clinical officers Nurses	Nurses Midwives Trained nursing assistants Pharmacists Lay providers/CDOs/CBOs/ CSOs working with PLHIV Health information assistants Data clerk	Doctors Clinical officers Nurses Midwives Trained nursing assistants Pharmacists Pharmacy technicians Dispensers Storekeepers Laboratory technicians Laboratory Assistants Lay providers/CDOs/CBOs/ CSOs working with PLHIV Health information assistants Data clerk
	Outreach teams (nurses, counselors)	No community-based services	Community Drug Distribution Points Community Client Led ART Delivery	Expert clients CHEWs
Vietnam	Physicians	Physicians	Physicians	
	No community-based services provided.	No community-based services provided.	No community-based services provided.	CSOs
Zambia	T: Health Professionals C: Lay counselors	Physicians Clinical Officers Nurse Prescribers (not country-wide)	Pharmacists	Adherence Support Workers Lay Counselors
	No community-based services provided.	No community-based services provided.	No community-based services provided.	Adherence Support Workers Lay Counselors
Zimbabwe	Physicians Clinical Officers RGNs Primary Care Nurses (PCNs) Nurse Aid* Primary Counsellors (PCs) Clinic-based Microscopist Environmental Health Technicians (EHTs)	Physicians Clinical Officers RGNs PCNs	RGN PCN Nurse Aids CHWs Expert Clients CBO Members Selected Community Members	RGN PCN Nurse Aid PC CHWs Expert Clients CBO Members Selected Community Members

	Testing & Counseling	ART Initiation	ART Refills & Distribution	Adherence Counseling
	CHWs* Expert Clients* CBO Members* Selected Community Members*			
	Mobile teams of nurses, data clerks, driver/admin.	Mobile teams of nurses, data clerks, driver/admin.	CHWs (distribution) Expert Clients (distribution) CBO members (distribution) Selected community members (distribution)	CHWs Expert Clients CBO Members Selected Community Members
Facility-based	Community-based	T=testing; C=counseling		
*task can be performed with adequate training; **task performed under physician supervision; ***tasks to be delegated				

Figure 2: HIV testing by cadre, 2018

Number of countries where staff within the following cadres can, cannot, and conditionally can perform testing and counseling

■ Yes   ■ No   ■ Conditionally

- Medical staff: Yes 14, No 1
- Nursing staff: Yes 10, No 4, Conditionally 1
- Midwifery staff: Yes 8, Conditionally 1
- Clinical staff: Yes 9, No 2
- Pharmacy staff: Yes 2, No 13
- Lab workers: Yes 6, No 5, Conditionally 1
- Social service workers: Yes 6, No 3
- Other workers: Yes 6, No 5
- Management workers: No 1
- CHWs: Yes 4, No 10, Conditionally 1
- Lay & other community-based workers: Yes 2, No 10

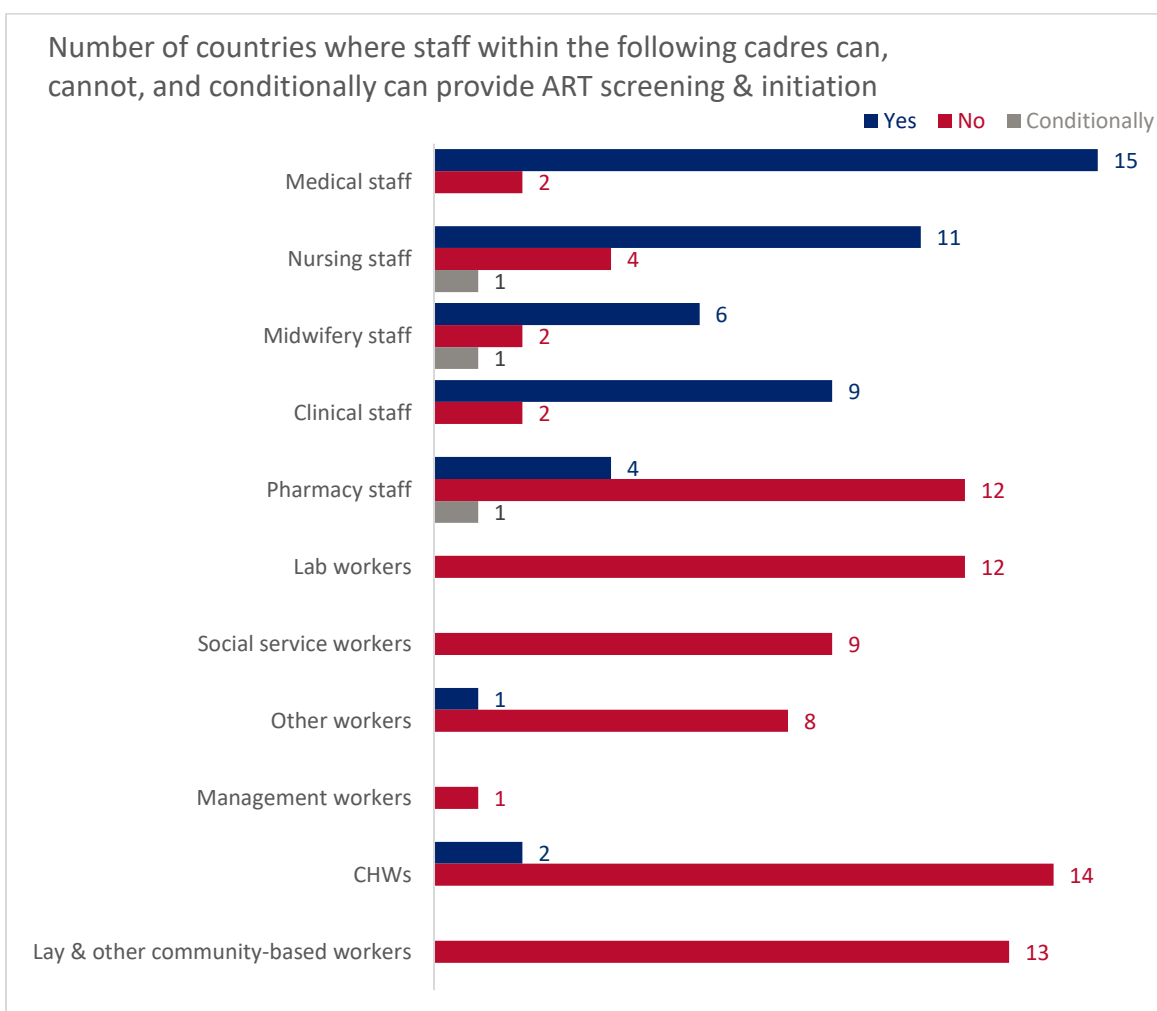Task Shifting/Sharing for HIV Services

Community-based services: Community-based HIV testing was offered in one of two ways. It was carried out by CHWs (formal cadre supported by the government) or other lay workers (supported by IPs or other organizations), often as a screening test. A reactive test prompted referral to the facility for confirmation. In India, lay providers had to undergo National AIDS Control Organization (NACO) training to provide community-based testing. In Ethiopia, government-supported urban Health Extension Workers (HEWs), who were trained as nurses, were able to provide testing services. However, rural HEWs who did not have the same level of training, were not permitted to test. Lesotho had been able to not only transition community-based testing to village health workers (VHWs), but this cadre has been trained in point of care DNA PCR testing, further reducing the burden on nurses and laboratory technicians. Alternatively, mobile outreach teams of facility-based staff conducted testing (Burma, Cambodia, Cameroon, Malawi, Namibia, Uganda, Zimbabwe). In Malawi, this approach to community-based testing was not widespread. In Zimbabwe, USAID supported roving teams of nurses, data clerks, and driver/administrative staff persons to provide community-based testing, ART initiation, tracking, and follow-up in selected geographies with the intention of scaling up pending funding. When working with key populations in Rwanda, community-based testing was recommended, but referrals to the facility were needed for initiation.

ART Initiation

Facility-based services: In most countries, ART initiation was only provided at healthcare facilities (**Figure 3**). ART initiation was restricted to physicians in five countries (Burma, Cambodia, DR, Haiti, Vietnam). In three countries, lower cadres (nurses) could initiate under physician supervision (Cote d'Ivoire, Ethiopia, Kenya). In Ghana, any professional health care workers trained as prescribers could initiate; maternal and newborn health nurses also unofficially were allowed to initiate in the context of prevention of mother-to-child transmission (PMTCT). In Lesotho, Namibia, and Rwanda, selected cadres were permitted to initiate, but individuals within those cadres had to undergo in-service training first.

Community-based services: ART initiation was still predominantly facility-based in all participating countries. Botswana had plans to begin community-based initiation in 2018, but it had not been rolled out at the time of data collection.

Figure 3: ART initiation by cadre, 2018

Number of countries where staff within the following cadres can, cannot, and conditionally can provide ART screening & initiation

Legend: ■ Yes ■ No ■ Conditionally

- Medical staff: Yes 15, No 2
- Nursing staff: Yes 11, No 4, Conditionally 1
- Midwifery staff: Yes 6, No 2, Conditionally 1
- Clinical staff: Yes 9, No 2
- Pharmacy staff: Yes 4, No 12, Conditionally 1
- Lab workers: No 12
- Social service workers: No 9
- Other workers: Yes 1, No 8
- Management workers: No 1
- CHWs: Yes 2, No 14
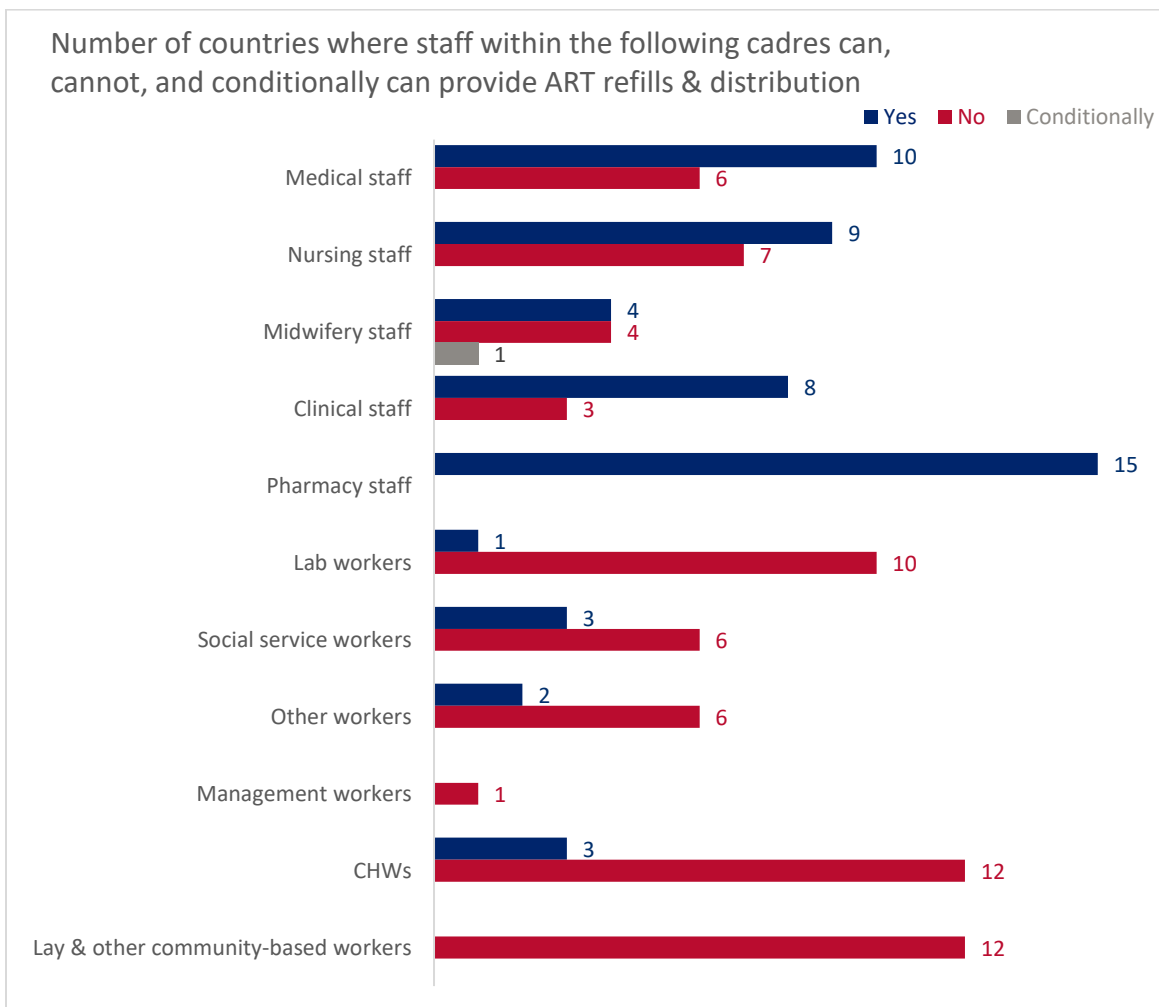- Lay & other community-based workers: No 13

ART Distribution

Facility-based services: Across countries, there were challenges with ART distribution due to shortages of pharmacy staff (**Figure 4**). For example, in Malawi, pharmacy had the highest degree of vacancy with 79% vacancy rate among pharmacy technicians who operated at district hospitals. According to the policy, there was supposed to be at least two pharmacy assistants at health centers. In many cases there was only one and in some cases, there was no pharmacy assistant. In those cases, health surveillance assistants (HSAs) were trained as drug clerks operating under the supervision of the nurse-in-charge. This had the adverse consequence of stressing the supervisory system.

Community-based services: ART distribution was transferred to community-based lay cadres in some countries, often with the support of international donors. Our respondent from Botswana noted that while ART distribution by government-supported CHWs was allowed, it had not been rolled out. In Ethiopia and Mozambique, similar discussions around community-based ART distribution were ongoing, but not implemented at the time of data collection. Focus on using lay cadres (e.g., PLHIV groups) for community-based distribution was also questioned, most notably in Burma where an IP respondent pointed to the need to establish supply chain, supervision, and performance management systems when drawing on these lay cadres for

distribution. The informant noted that using existing government cadres may be more efficient. In Ghana, the differentiated model of care guidelines focused on multi-month prescribing. However, prescribing and distribution were restricted to clinicians and pharmacists respectively, leaving little room for shifting tasks to lower level cadres or the community level.

Figure 4: ART distribution by cadre, 2018

Number of countries where staff within the following cadres can, cannot, and conditionally can provide ART refills & distribution

Legend: ■ Yes ■ No ■ Conditionally

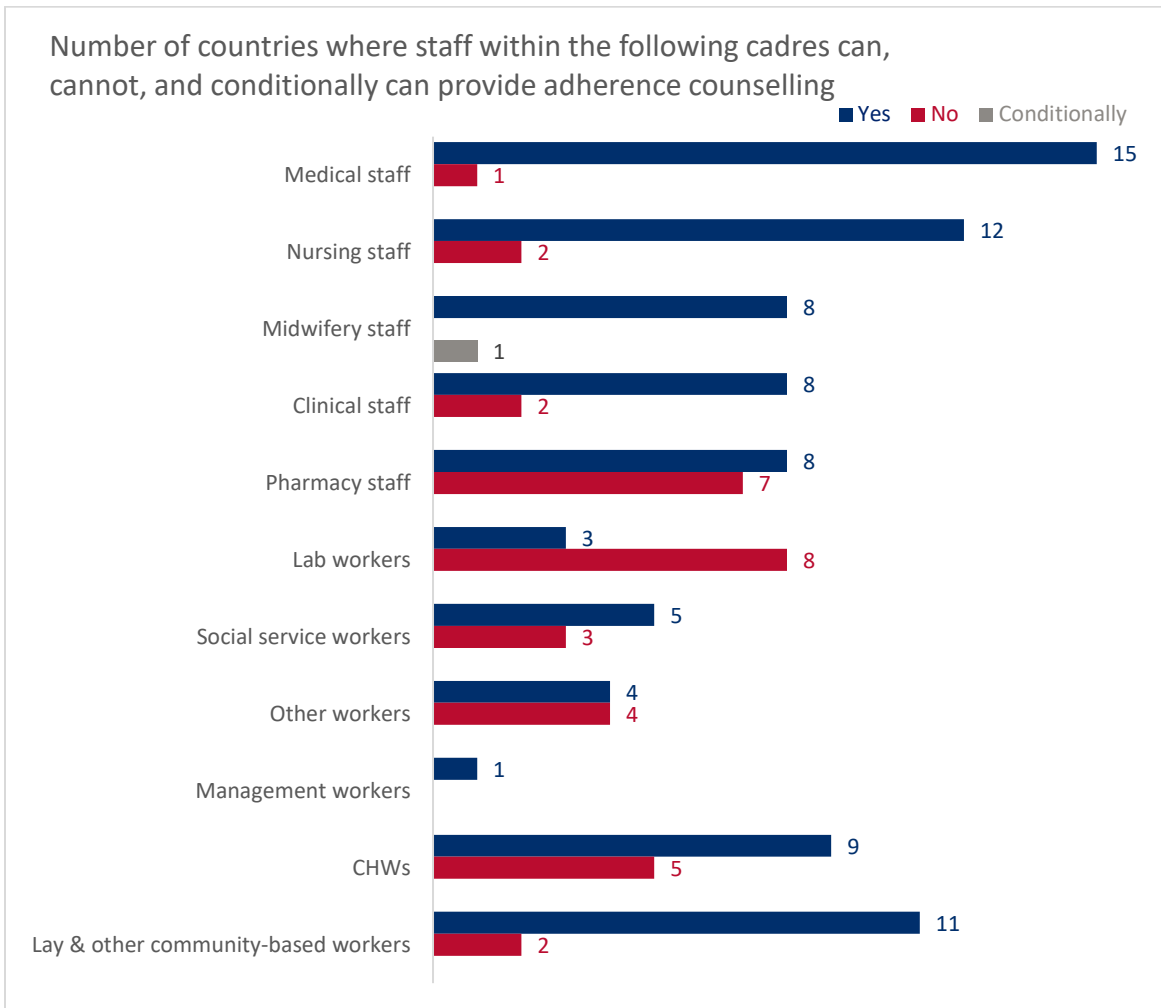| Cadre	Yes	No	Conditionally
Medical staff	10	6	
Nursing staff	9	7	
Midwifery staff	4	4	1
Clinical staff	8	3	
Pharmacy staff	15		
Lab workers	1	10	
Social service workers	3	6	
Other workers	2	6	
Management workers		1	
CHWs	3	12	
Lay & other community-based workers		12	

Adherence Counseling

Facility-based services: For all countries included in this assessment, facility-based adherence counselling was most frequently delivered by lay providers (e.g., expert patients, peer mothers, PLHIV group members), though some interview respondents specified that counseling was offered in some form at every point of contact (**Figure 5**).

Community-based services: Community-based adherence counseling services were provided via lay cadres in most countries. These lay providers were often not supported by the government, rather they were employed by IPs and other NGOs or were volunteers. In Angola, government-supported community counselors provided malaria, diarrhea, and respiratory illness services, but did not provide HIV services, though discussions on expanding their roles to include HIV had been ongoing for the last two years.

Figure 5: Adherence counseling by cadre, 2018

Number of countries where staff within the following cadres can, cannot, and conditionally can provide adherence counselling

■ Yes ■ No ■ Conditionally

Cadre	Yes	No	Conditionally
Medical staff	15	1	
Nursing staff	12	2	
Midwifery staff	8		1
Clinical staff	8	2	
Pharmacy staff	8	7	
Lab workers	3	8	
Social service workers	5	3	
Other workers	4	4	
Management workers	1		
CHWs	9	5	
Lay & other community-based workers	11	2	

3. Enabling factors for task shifting

Figure 6 graphically depicts the enabling factors (green) and barriers (red) to developing task shifting policies and operational guidelines and following through on implementation. Several key factors that supported both the development and implementation of task shifting policies were identified, including pressing need, political support, engagement of key stakeholders, and advocacy and pressure from external actors.

Pressing HRH shortages and the mal-distribution of physicians presented a great ***need*** to shift tasks in many countries to attempt to meet unmet demand. In the face of these HRH shortages, informal task shifting had been ongoing prior to the establishment of policies or despite the lack of endorsed policies. In Malawi, there was a recognized need to change their approach to service delivery to ensure access and coverage, fostering an adaptive policy environment. Malawi's movement toward test and start meant that HIV testing and initiation services needed to be provided every day rather than one day a week, requiring more health workers across cadres and shifting testing down to HSAs and other lay cadres. Similarly, in Kenya, most counties operated with fewer than the minimum required nurses but had an abundance of lay workers who could, per our interview respondent, readily be trained to offer tests. Counties had been adding these community-level workers into their budgets. In Lesotho, the health system was driven by nurses who provided the bulk of health care services; as a result, NIMART had been standard practice of care since the 1990s. Further efforts were being made to facilitate nurse management of complicated cases, particularly those HIV patients who need to switch from first- to second-line ART treatment. In determining if a change in a patient's treatment was indicated, the nurse submitted a package to a committee comprised of doctors, nurses, laboratory technicians, and other experts for review and recommendation; the nurse was then authorized to change treatment plans without the patient needing to see a doctor. Previously, there had been a single committee at the national level, causing delays in committee review and recommendations. There has been a recent decentralization of these committees to the district level as expertise has been developed, further enabling nurses to provide quality and timely care.

Countries with no official policy or guidelines could still have ***political support*** for task shifting. In Zimbabwe, the heavily burdened nursing cadre was not able to perform all the necessary tests, so the primary counselor role was expanded in 2014/2015 to include testing, following training and certification, resulting in primary counselors providing the majority of testing services. In Zambia, where there was no unified policy or guideline on task shifting and no obvious political will to generate such documents, there were other manifestations of support for task shifting. The government endorsed PEPFAR's nurse prescriber program in which nurses were trained to initiate ART.

Active ***engagement with key stakeholders*** was also essential for finalizing policy or guidelines on task shifting. In Eswatini, development of the task shifting framework in 2013/2014 was done in consultation with and supported by key stakeholders, though it has not been formally endorsed by the government. Similarly, in Nigeria, ongoing involvement with professional associations and others was required to gain support for the task shifting policy. As Nigeria is a federal system, the state governments can adapt and adopt the federal policy, which will also require engagement with state-level stakeholders.

Effective ***communication*** from the central ministry of health to facilities and systems of accountability were cited as the key reason Rwanda had successfully implemented the 2009 policy shifting HIV tasks from doctors to nurses. Building HIV care into pre-service training for doctors and nurses has resulted in a skilled workforce. However, the conversations on task shifting for HIV ended with nurses.

Figure 6: Enablers and barriers to task shifting
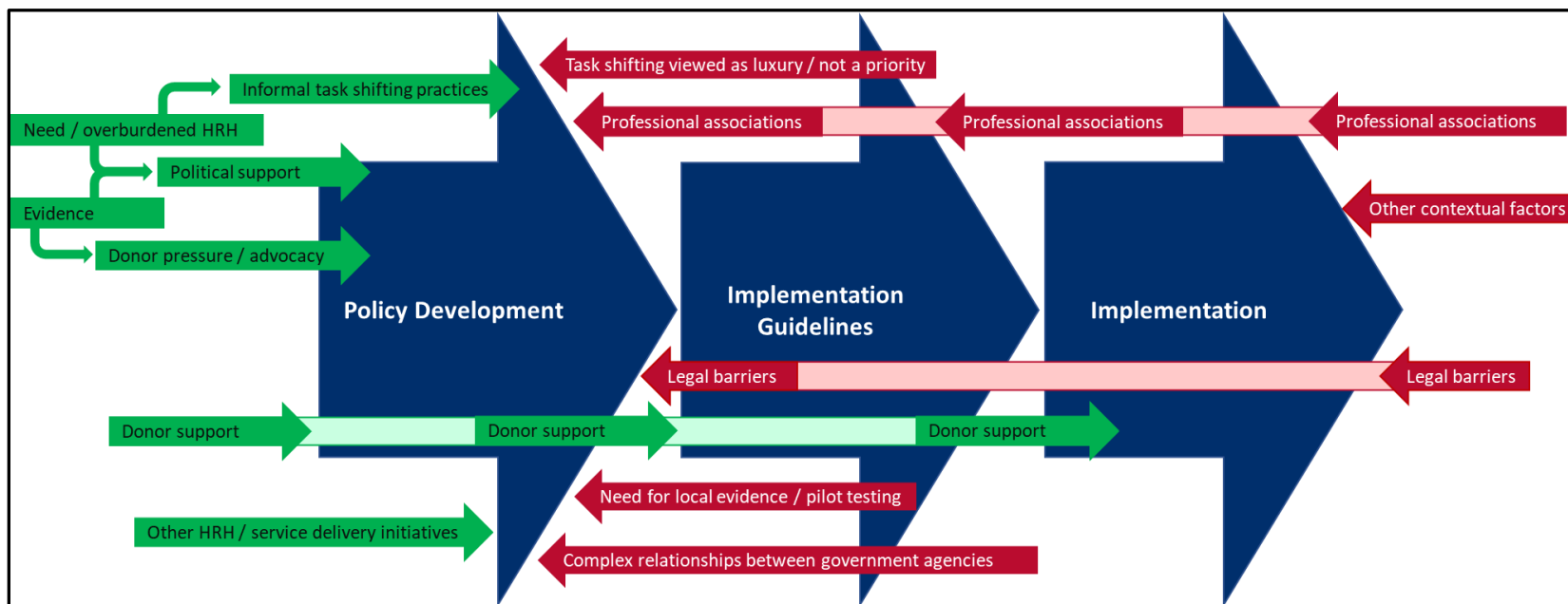
Green = enabling factors; red = barriers; blue = stages of task shifting

External pressures and advocacy from donors, specifically PEPFAR, prompted action in several countries. In 2016, the USG listed task-shifting as a condition of a one-time assistance commodities grant to Ghana worth US$23.7 million, which prompted the government of Ghana to develop task-shifting guidelines. In other instances, donors have advocated for policies and guidelines on task shifting, including supporting their development and operationalization. For example, in the DR, PEPFAR advocated for task shifting guidelines so they could incorporate the government-endorsed task shifting strategy into PEPFAR programs. However, it took approximately 2 years of discussion and advocacy to develop a policy which had yet to be operationalized. PEPFAR supported the process of making the plan operational. Similarly, in Cote d'Ivoire, PEPFAR supported an IP to provide technical assistance to the MOH in developing the 2015 task shifting directive. In Burundi, IPs funded by the USG, Global Fund, and Civil service organizations (CSOs), supported the implementation of shifting ART initiation to nurses by providing training, supervision, and other assistance to the nursing cadre. Similarly, in Kenya, where professional associations/guilds resisted task shifting across health areas for decades, funding and advocacy supported by PEPFAR resulted in a task shifting policy that was finalized in March 2017.

Related to advocacy was the use of *evidence* to support the need for task shifting. Generating data to better understand HRH shortages and mal-distribution was viewed as key for the Government of Namibia to approve and begin implementation of NIMART, as per our interview respondent. The WHO's Workforce Indicators of Staffing Needs (WISN) method revealed notable doctor and pharmacist shortages (WISN ratio 0.34 and 0.22, respectively) and inequitable distribution between health centers and clinics, with no clear correlation between facility patient workload and its staffing (Ministry of Health and Social Services 2015). Subsequent analyses of data from one region in Namibia found that task sharing of HIV services between doctors and nurses would result in a nearly 5 million Namibian dollar savings in salaries (McQuide and Titus 2016). Per our interview respondent, this cost analysis was a motivating factor for the government to move toward NIMART, which was undergoing phased implementation at the time of data collection.

4. Barriers to task shifting

Key to effective task shifting were leadership and governance; however, **weak and complicated bureaucracies** impaired policy and guideline development and operationalization. Some countries had legal barriers to transferring responsibilities for ART initiation or provision of pediatric care from physicians to nurses. Complex relationships between ministries also functioned as a barrier. In Eswatini, coordination between the Ministry of Health and the Ministry of Public Service which oversaw HRH job descriptions was required to expand job responsibilities to include the provision of HIV services, but the Ministry of Public Service, per the interview respondent, did not understand how to change job scopes just for HIV. In Botswana, the conflict between health areas was a barrier to successfully integrating community-level services, which would include shifting HIV services to the community. In 2016, PEPFAR, in collaboration with the Botswana MOH, began preparing guidance on community interventions and task shifting. Per one interview respondent, the government staff in charge of MNCH, which had housed most of the community-based work, felt threatened and pushed back against the move to integrate community HIV services, delaying progress. The result of these complex government structures has also impaired operationalization of task shifting policies, as was the case in Cameroon and Nigeria.

Ineffective planning by the government could hamper effective utilization of HRH. In Namibia, the tertiary education system began training the new pharmacist technician cadre, graduating its first class in 2018. The health system, however, did not have room for this new cadre that was positioned between pharmacists and pharmacist assistants. This forced those hired by the public system to work as pharmacist assistants, a position for which they were over-qualified, or join the private sector, which, according to our respondent, provided about 20% of all health services in the country. In Angola, test and start was officially released in December 2017, but had been unofficially rolled out earlier in 2017. Guidance had been written and trainings were being conducted, but the law mandating physician-led service provision was viewed as hampering implementation.

Lack of political support for task shifting also limited policy development. In Uganda, task shifting and sharing had been ongoing without official policy or political support. According to one IP respondent, a 2014 study identifying existing task shifting/sharing practices and implications for policy was conducted but the then Director General did not support the approach. She had interpreted task shifting as engaging unqualified cadres to deliver services and because of this continued to be resistant to task shifting activities since becoming the Minister of Health. However, she has endorsed building a CHEW cadre to deliver some HIV tasks and other services. Task shifting was, however, endorsed in the 2016 guidelines on the prevention and treatment of HIV which described the range of services each cadre could provide. In Ethiopia, task shifting was not included as an intervention to address the HRH gap,

as there was greater interest in and support for pre-service training, increasing the number of graduating students, and improving quality. As per our interview respondent, in Ethiopia, task shifting was perceived as a luxury activity. More blatant expressions of lack of political support can be seen in countries where there were legal restrictions against nurses or other lower level cadres providing some HIV services (Burma, Cambodia, Vietnam, and the Dominican Republic).

Linked to this was opposition from *professional associations*. In the Dominican Republic, while there were no legal restrictions on nurses providing HIV services, the medical association opposed nurses doing HIV testing due to fear or anxiety that nurses would take work from the doctors; similarly, the laboratory association may have perceived that if testing was expanded, labs may lose power, control, and resources. In Lesotho, the medical association opposed task shifting for VMMC out of fear they would lose income; older men preferred to seek VMMC services in the private sector where doctors charged for the service while younger males accessed the public sector for the procedure. In an effort to increase access through task shifting to nurses, PEPFAR incentivized doctors working in the private sector by reimbursing them for procedures. In Angola, the nurse association was against task shifting because there were no legal protections for nurses.

In some countries weak professional associations did not create barriers to task shifting, but also did not advocate for the workers they represented. In Ghana, professional associations were not strong enough to advocate either for or against task shifting. In Mozambique, in 2011, the MOH issued guidance on transitioning HIV service provision to nurses. At the time, there was not a strong nursing association leaving frontline nurses (who account for approximately 50% of the entire health workforce in the country) with no one to advocate for salary increases or to evaluate the impact of these additional tasks on workload and quality. One respondent cited an unpublished study which found that MCH nurses spend up to 8 minutes longer with HIV-positive pregnant woman than with HIV-negative pregnant women, however, the impact on their workload has not been thoroughly evaluated.

Rapidly *translating evidence* generated from one setting to another country was also presented as a challenge. In India, the government mandated that every model or guideline had to be piloted and tested by the National Research Institute prior to adoption. The perception was that models proven successful in other countries had to be validated in India. Models and guidelines tested in African settings with generalized epidemics did not readily translate to Southeast Asian settings, such as Burma, where HIV was concentrated among key marginalized populations. However, as noted above with respect to Namibia, generating context-specific evidence of the benefit of task shifting/sharing can provide decision makers with the information they need to appropriately transfer tasks for cost savings.

Limited *financial resources* also presented a barrier to policy or guideline development, roll-out, and sustainability. A theme across interviews was the negative implication of flat or reduced budgets from international donors, including USAID and the Global Fund to provide technical assistance on policy development and implementation and to directly support HRH. The CDC in Kenya proposed supporting the roll-out and implementation of the 2017 task shifting policy but did not have the resources to do so, creating a "wait and see" perspective on the future of task shifting and HRH for HIV in general. In Papua New Guinea, not only was PEPFAR starting to transition out, the MOH's budget had been reduced, creating a crisis in the way health services were delivered across health areas. In Eswatini, task shifting implied adding health workers, requiring more financial resources to cover salaries. In Cote d'Ivoire, the government did not have the financial resources to support the diverse CHWs supported by PEPFAR or the Global Fund, creating an unsustainable system. Similarly, in Cambodia, the HIV response was almost exclusively funded by PEPFAR and the Global Fund and was vertically implemented. With the pending reduction of external donor funding, the government agreed to cover salaries of

contract health workers who had been supported by donors. But the verticality of the program required extensive integration into other functions of the health systems (e.g., policy, financing).

Despite having policies, implementation can be delayed due to contextual factors. In Kenya, after decades of discussion on task shifting for several health areas, a policy on task shifting for HIV was finalized in March 2017. However, implementation of this policy was delayed due to the 2017 elections, immediately followed by health worker strikes (doctors and nurses). It was noted that the process of sensitization and implementation would be a years-long effort but would yield positive impacts.

C. Case Study: Nigeria

1. Background

In Nigeria, the prevalence of HIV among people aged 15-49 is 2.8%. Data from 2018 indicated that 38% of people living with HIV know their status and 87% of those who know their status are on ART. In 2016, 82% of those on ART were virally suppressed. ART coverage among all ages was 33% (UNAIDS 2018).

With 18.65 doctors, nurses, and midwives per 10,000 population (less than the WHO recommended 23), Nigeria faces extreme HRH shortages due to challenges in training and retention, exacerbated by excessive emigration of nurses (Salami, Dada et al. 2016). Additionally, ongoing strikes among and conflicts between professional health worker groups have entrenched tensions across the health system. In April/May 2018 the Nigerian Medical Association threatened to strike if the Federal Government conceded to any of the demands being made by the already striking health workers under the Joint Health Sector Union (Otokpa 2018). This crisis has been described as continuing to deteriorate under weak leadership and governance that is incapable of managing a well-compensated, rationally distributed, cohesive workforce (Adeloye, David et al. 2017).

In response to this ongoing HRH crisis, in 2009 Nigeria began on a path of decentralizing HIV services with the aim of increasing access to and coverage of care in the face of an overstretched health system and high patient-to-doctor ratios. Service delivery was expanded to secondary facilities and later primary health centers (PHCs) in which lower level cadres provided the majority of services. Medications were brought to lower level facilities, using the hub and spoke approach (General Hospitals as hub, PHCs as spokes). The 2014 Task-Shifting and Task-Sharing Policy for Essential Health Care Services, which covers reproductive, maternal and newborn health, tuberculosis, malaria, and HIV, aimed to formalize existing service delivery practices. Task shifting has been applied to reproductive health (Akeju, Vidler et al. 2016).

In HIV, task shifting and sharing have been ongoing informally, but the 2014 policy formalized, though did not provide the legal protections, for lower-level cadres to provide increasing HIV services. Evidence points to both negative and positive impacts of task shifting and sharing. One study found that shifting tasks to Nigerian nurses has negatively impacted nurse job satisfaction and added stress to their work (Iwu and Holzemer 2014). At the community level, two models of community-based HIV service delivery were recently compared in which task sharing between health professionals and community lay workers among 14 of the 32 highest burden local government authorities in the country. Both models provided, among other services, HIV testing and counseling, but one referred patients to the facility for ART initiation and the other provided community-based ART initiation. Both approaches were effective in identifying PLHIV, but the model with community-based ART initiation was more effective in transitioning PLHIV onto treatment than the facility-based initiation model (Oladele, Badejo et al. 2018).

2. Services provided by cadres

The Nigerian health system consists of 3 levels: PHC, secondary, tertiary. Most rural populations have access to PHC staffed only by CHEWs. As a result, task shifting had been happening in Nigeria for a long time prior to the policy, including in MNCH and family planning, which have reportedly had greater success in shifting tasks[1].

IP respondents noted that testing was the key HIV service that could be transitioned to lower-level cadres, including at the community level. A government respondent suggested that patient-initiated testing should be conducted at the PHC and not at higher level facilities. Previously, testing was only done by lab scientists but now nurses, CHEWs, CHOs, and lay health care workers offer testing. Community-based testing could be provided by community outreach persons, a cadre below CHEWs, trained PLHIV (predominantly among key populations), or social welfare officers, all of whom were supported by IPs and under supervision from health care workers. IPs either directly engaged with CSOs, building their capacity to train and manage lay health care workers or they worked with facilities who supervise lay health care workers. Per one respondent, PMTCT efforts focused on using traditional birth attendants working with lay counselors to get women enrolled and tested. For patients with a reactive test, lay health care workers provided a link to the facility. Nigeria had a policy on self-testing but had not been rolled-out at the time of data collection. It was expected that self-testing would be effective as "many people are still scared to know their status and there is belief that the current prevalence rate is incorrect" (IP respondent).

Pre-screening for ART and ART initiation were only provided at the facility. In keeping with the 2014 policy, lab technicians were the lowest level cadre that could perform pre-screening. One IP noted that ART eligibility screening required a higher level cadre because clinical evaluation and CD4 counts had to be performed. ART initiation was only performed by a doctor as treatment could have side effects. Nurses and midwives trained by IPs as HIV/AIDS counselors could do test and start. According to one IP, PMTCT patients were initiated on ART by nurses while the general population was initiated by medical personnel, but sometimes lower cadres, too. Within facilities, pre-medication counseling was provided by mentor mothers, an initiative that pre-dated the task sharing policy.

CHEWs and nurses could distribute ART refills. An IP respondent said implementation of the differentiated care model was strong, and efforts were being made on less cumbersome models. APIN was working on putting some patients on the 'fast track' in which they would see the doctor once every 6 months and receive drugs every 2 appointments. Lower cadres, including PLHIV, also dispensed medications. At the community level, pharmacist did symptom screening, and community ART groups distributed ART.

The policy around the roll of pharmacists was a "bit silent" according to one IP respondent. Another said tasks were shifted down to the lowest level pharmacy staff trained (pharmacists, technician, assistant). Efforts were being made to determine if PLHIV could dispense pre-packaged drugs under pharmacist supervision. Orderlies had also begun to pack drugs which they could not do prior to the policy. A government respondent said ideally pharmacy technicians would dispense drugs. If no pharmacy technician was present, a nurse could dispense. The respondent continued on that if no nurse was available, the facility would utilize a CHEW. At the community level, a USG respondent said the policy was helping support

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[1] One IP developed a road map for implementing the policy for MNCH in the two states where they are working. The plan has 3 areas of focus: advocacy, training, and monitoring and evaluation. Advocacy focused on building awareness among stakeholders to support the policy. The IP produced a policy brief, policy dialogues, and has fostered discussions around task shifting and key tasks to shift. They had trained nurses and midwives on specific MNCH areas and held joint supervision visits and have a supervision team set up.

differentiated models of care, offering an example of private community pharmacies embedded in the community where people could receive their refills and basic clinical assessments (vitals).

Nurses and CHEWs performed adherence counseling but patients with complications were referred to a doctor. Adherence counseling was performed by lay people, PLHIV, or mentor mothers; all of these groups were formed and supervised by IPs. Interestingly, a government respondent said adherence counseling has to happen at the facility level.

Respondents indicated that switching a patient's treatment plan and managing patients with co-morbidity were prohibited from task shifting and had to be performed by a doctor.

3. Enabling factors for task shifting

Enabling (green) and hindering (red) factors to task shifting in Nigeria are displayed in **Figure 7** below. Nigeria's federal system afforded state governments authority over implementation of national level policies. ***Political will*** at state and facility levels aided implementation per a USG respondent who continued on to report that once state government officials or facility staff understood task shifting, it was easier to get staff to work. Heads of hospitals who participated in prior PEPFAR trainings were also seen as more likely to buy into task shifting as a strategy, and some facilities had standard operating procedures. Related was ***advocacy*** for task shifting at the state level. USAID and IPs targeted governors for high level commitment. Once the governors bought in, the governor entrusted the commissioner to implement the policy, a strategy that reportedly worked well in Lagos and elsewhere.

Professional associations had a role in moving the task shifting agenda forward. One IP respondent said professional associations had some issues but over time have largely bought in, while another said these associations understood the value of the strategy and had not posed a problem. It was also noted that the CHEW association was pushing for task shifting in both MNCH and HIV. Lower level cadres had increasing interest in taking on more responsibility in the delivery of HIV services, specifically CHEWs who spend more time in the facility, Junior CHEWs who spend more time in community, and CHOs who perform more administrative duties. Per one IP, because of the "sheer number of lower cadre workers" being able to use their time on useful activities positively affected implementation.

Figure 7: Enabling and hindering factors to task shifting in Nigeria
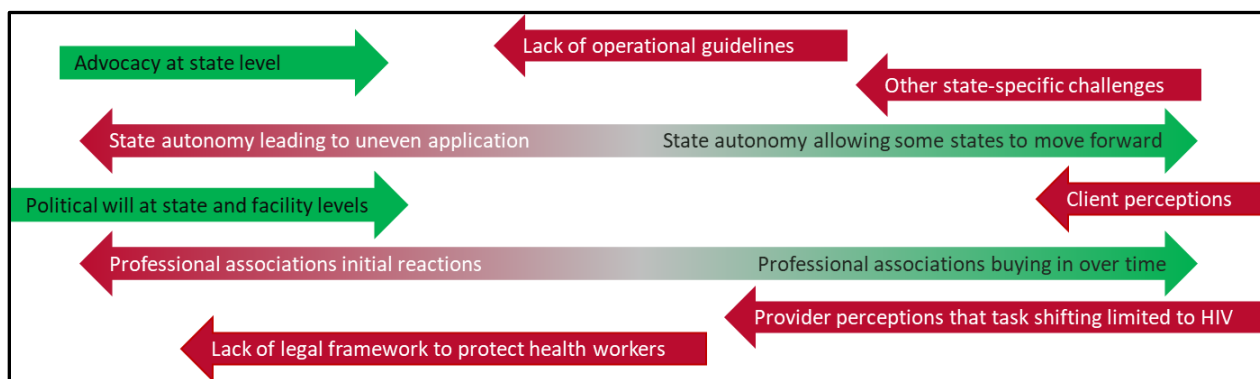
The mal-distribution of health care workers between rural and urban settings presented no other option than lower level cadres delivering services in rural areas. Per one USG respondent, there were a lot of health care workers in urban areas and few in rural areas which enabled rural facilities to quickly take advantage of task shifting and gain responsibilities and roles to provide better services.

4. Barriers to task shifting

The lack of *operational guidelines* on how to implement the task shifting policy has been a key barrier to full implementation. An IP respondent expressed that the Government of Nigeria released the policy but did not take the lead in implementation. There had been no standardized training or capacity building efforts. What capacity building has gone on has been dependent upon IPs but as not every state was supported by an IP there was uneven donor-driven implementation[2]. There was also no mechanism for measuring or evaluating implementation. One IP reported that there was a draft standard operating procedure related to the policy, but it was under review.

The absence of operational guidelines was also felt among frontline health care workers. One IP respondent spoke to four health care workers in Lagos and found that there was limited understanding of what was expected of them under task shifting. There was reportedly no campaign to advertise the policy. This challenge was particularly difficult in rural areas where task shifting was necessary to provide services, but there was no supervision, job aids, or recognition of health care workers taking on additional duties. An IP spoke about the need to get professional associations more involved, so they could support providers and the policy, but there was some resistance.

While some respondents expressed that *professional associations* were supportive of task shifting as noted above, respondents also spoke about lack of willingness of professional associations to support the policy, hindering implementation. One IP respondent termed this "professional protectionism". Doctors felt only they should provide certain services and that nurses should not perform tasks like dispensing drugs. The respondent expressed that doctors think it would "spoil the profession" and nurses would be going beyond their bounds. Relations between cadres have deteriorated with a recent strike in which everyone in the health sector went on strike against doctors, arguing about equality of benefits across cadres. Pathologists and laboratory scientists were going to court over who should run the laboratory in a teaching hospital. Some nurses have also reportedly pushed back against task shifting, saying ART initiation was not their job. A government respondent reported that lower level cadres have become overburdened and have challenged tasks being shifted to them.

State autonomy in Nigeria's federal system enabled some states to move forward with implementation of the national level policy[3], but also meant the policy was not universally applied. According to a USG respondent, health was listed as "concurrent" in the Nigerian constitution, meaning every state, under the leadership of governors and commissioners, had the authority to determine whether or not to implement federal policies. Teaching hospitals and federal health centers were expected to abide by federal policy, however, implementation was determined by hospital management. This is particularly relevant given that about 40% of HIV patients were covered by teaching hospitals, as per the USG respondent. This was reiterated by an IP respondent who described the policy as not compulsory. Initially the health commissioners were on board, however there had been turnover among commissioners which may change support.

In states where the national policy had not been "domesticated" there was no *legal framework* to protect health workers in the provision of services. Health workers may therefore have been less willing to take on new tasks. Similarly, there was the view that in highly structured facilities, like teaching hospitals, there was a higher risk of litigation against lower cadres due to the

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[2] An IP respondent said the policy is embedded in every project and those writing grants have been sensitized to include the policy as a way to help domesticate it.

[3] There was some disagreement among respondents about whether or how many states had "domesticated" the policy.

higher education level of the patient population. Related, it was noted that while diagnosing HIV was a straightforward task, there were clinical aspects of care that could not be passed to lower cadres. An IP respondent compared task shifting for HIV to that for MNCH in which "you can see clear quick wins, HIV is different, the field is more cautious about implementing it", noting that uptake of the policy for HIV has gone further in PMTCT than other HIV areas.

Another challenge to future implementation efforts was, according to a USG respondent, ***providers' perception*** that the task shifting policy was limited to HIV services[4]. While addressing HRH constraints in the provision of HIV care was the primary reason for the policy, it covered other health areas. Per our respondent, providers treat the policy as just for HIV and did not extend the task shifting beyond HIV. Ongoing efforts to integrate services, as opposed to standalone HIV clinics, and task shifting together had the potential to improve service delivery and access. However, given that there were a range of tasks being shifted, financial constraints required decision-makers to pick what they could implement.

While not widely mentioned, one government respondent said ***clients*** needed to be brought around to understand and accept that lower cadres can provide certain aspects of their care. The respondent reported that there were some client complaints about who provided care.

These challenges all took places in the context of ***other state-specific challenges***, including unclear supervisory systems, embargoes on hiring health care workers or delays in salary payments. The federal government provided money to states which reported human resource problems, but there were not strict rules on how the money was to be used. Respondents reported that in one hospital, a nurse told them she was owed 8 months' salary. Sometimes staff are more eager to go on campaigns, like immunizations, because there is guaranteed funding for these. Even when paid, salaries themselves are too low. Availability of commodities was dependent upon the IP; it was expected, per a government respondent, that with the scale-up of differentiated care, costs of supplies would increase.

D. Case Study: Tanzania

1. Background

In Tanzania, the prevalence of HIV among people aged 15-49 is 4.5%. Data from 2016 indicated that 67% of people living with HIV know their status and 88% of those who know their status are on ART. In 2017, 73% of those on ART are virally suppressed. ART coverage among all ages is 66% (UNAIDS 2018).

As is common in many LMICs, shortages of health workers has been a chronic problem in Tanzania since independence despite efforts from the national government and international partners (Heggenhougen, Vaughan et al. 1987). From necessity, there has been shifting of tasks usually assigned to medical doctors to other clinical and nursing cadres due to the absence of registered doctors in many of the country's health centers and dispensaries where most health care services are delivered. In the 1970s, there were four cadres of medical clinicians: Medical registrars (MD), Assistant Medical Officers (AMOs), Medical attendants, and medical practitioners (Gish 1973).

Part of the national government's health sector reforms in 1990 was decentralization, which was intended to improve retention of doctors at the district level. The reforms also increased the number of medical school graduates from fewer than 50 in 1990 to 350 in 2010. However, the

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[4] Jhpiego is currently implementing a three-year project to operationalize the task shifting and task sharing policy among CHEWs around the provision of MNCH services at PHC and in the community in 2 states.

policy was reported to have not improved retention of doctors, particularly in non-urban areas (Sirili, Frumence et al. 2018).

In 2006, more health system reforms were implemented, including a further "partial decentralization" (Munga, Songstad et al. 2009). Local government authorities (LGAs) are autonomous agencies with control over their own budgets with which they can allocate funds for health workers. However, after the reforms, a 2014 study reported that all districts in the country had fewer medical doctors than was mandated by the MOH (Sirili, Kiwara et al. 2014). This system disadvantaged lower income districts that were unable to allocate as much funding for hiring and retaining health workers.[5]

In June 2016, the Government of Tanzania announced a freeze on new hiring and pay increases for thousands of government workers, including those in the health and education sectors (Mtulya 2016). It was reported at the time that this was to address the problem of ghost workers (salaries continuing to be paid for workers who are not actually working) and workers who could prove they had the qualifications and competencies as per the position description (Mbashiru 2016). This delayed implementation plans by the government health and education sectors, and others, to add up to 45,000 new employees in the 2016-17 period (Mtulya 2016). In March of 2017, the Medical Association of Tanzania (MAT) stated that the hiring freeze had left almost 1,794 doctors in the country unemployed (Rweyemamu 2017).

As of 2018, the President's Office of Public Services Management (POPSM) allocates work permits to the MOH and the President's Office of Regional and Local Government (PORALG). The MOH and PORALG then use the work permits to announce vacancies, recruit, and manage health workers.

The WHO reports 2012 data of 0.031 physicians per thousand population, less than one thirtieth of the WHO recommended level of one per thousand. While no more recent measures are available, it is likely from the MAT data and the increase in Tanzania's estimated population from 49 million in 2012 to 55.5 million in 2018, that the ratio has not become more favorable (CIA 2018, WHO 2018). According to WHO's 2014 data, there was 0.416 nurses or midwives per 1000 population in 2014 or 14% of the recommended number. Neighboring Kenya has a ratio almost four times better (World Health Organization 2014).

The recruitment process for health workers faced challenges even before implementation of the hiring freeze. At least four ministries or government departments are involved in HRH employment decisions, complicating the process of obtaining approvals from all involved with multiple steps that took months or year to complete. In 2010, 4812 permits for health worker employment were utilized, mostly in the nursing sector, but only 63% of those hired reported to their assigned duty post. Furthermore, 13% of those who did report left their position shortly afterwards because of delays in entry of their information into the government payroll for a timely payment of salary (Ministry of Health 2014).

A 2012 study showed that despite the low ratio of health workers to patients, Tanzania's health care providers were found to have low productivity. About 44% of nurses and clinical staff were absent on any given day. When present, only about 57% of their time was spent productively (Manzi, Schellenberg et al. 2012).

Most recently, the MOH has stated it will adopt and incorporate the WHO guidelines for task-sharing in their Human Resources for Health and Social Welfare Strategic Plan for 2014-2019

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[5] Each local government authority functions as an autonomous agency with its own budget ceiling that determines hiring of health care workers. The central MOH has its own budget for hiring MOH health care workers and funding national hospitals and training institutions.

(Ministry of Health 2014). PEPFAR has supported several initiatives to help the MOH set policy and develop the health workforce for more extensive and effective task-sharing to expand and maintain HIV services.

Task sharing has been going on in Tanzania for decades due to the chronic HRH shortages, but was not officially recognized by the MOH. Therefore, training on additional tasks for lower level cadres was not supported by the MOH and not incorporated into pre-service curricula. Additionally, the 2008 WHO guidelines on task shifting was seen by Tanzanians as "not for them" as they had already been sharing tasks informally for many years.

2. Services provided by cadres

Across health services, it was noted that informal shifting of responsibilities had been happening for some time; tasks were assigned by facility in-charges to staff persons based on competence, experience, and need, regardless of government policy. The MOH conducted a baseline assessment among 172 health facilities and 484 nurses to determine the services that nurses were providing; the assessment revealed that while nurses did have existing responsibilities they also had capacity to take on ART initiation tasks. NIMART provided a "framework to be able to support these nurses in a regulated manner" (NGO respondent). As one respondent noted, given that nurses make up 60-62% of Tanzania's health workforce and provide approximately 80% of all services, the hope is that with "this task shifting policy for [nurses] expanded role, we'll see significant increases in the number of people getting tested and staying on treatment" (NGO respondent).

Key informants expressed the perception that HIV tasks should only be shifted to nurses who had undergone necessary training, received supervision, and were deemed qualified. While NIMART included clear training requirements and donor funds had been allocated, at the time of data collection training had not yet been rolled out, but was scheduled to begin in April 2018 with nurses in 12 districts with the aim of spreading to other high-prevalence districts.

The Tanzania Nursing Initiative (TNI) Program is a USAID-supported program that provides technical assistance through comprehensive, integrated, and volunteer-driven partnerships and initiatives that help LMICs build institutional and human resource capacity to help develop a foundation for delivering high-quality, inclusive HIV health services across the country. The program predated the task sharing policy. An informant involved in the program stated it became apparent that certificate-level nurses "had a significant role to play [as] a lot of key HIV services at the dispensary and health center level are by a certificate or diploma level nurse" and efforts were made to adjust the curriculum to include all HIV competencies in advance of the policy's release. Approximately 80 nurses across all of the nursing schools had been oriented to the curriculum with the intention that they would "inform others at their schools". The curriculum was revised based on findings from an evaluation of gaps in HIV service since the task sharing policy was implemented and how nursing schools were responding to the changes in the curriculum.

As indicated in **Table 3**, the policy indicates CHWs can provide some HIV services; however, per key informants, no government-supported CHWs were working in the HIV space at the community level. CHVs (community health volunteers) are a cadre supported through PEPFAR funding via IPs and assigned to work in HIV service delivery. This was initiated to build a community-based cadre to deliver HIV services, but the cadre has not been formally recognized by the government. It was noted that this CHV cadre had been trained following the medical attendant curriculum which focused on services such as cleaning the mortuary hygiene and environmental control. These did not seem as relevant to community-based service delivery. Efforts were made to correct this by developing a 9-month CHW curriculum which was set to be rolled out in 2018. The government set educational requirements for their CHWs, which were

stricter than those requirements used by IPs. Respondents in this assessment stated that CHWs should be capacitated to provide HIV testing and ART distribution, but professional associations needed to approve this shifting of tasks. Social Welfare Officers, employed by the government and supported by an IP, provide psychosocial support, identify patient problems, and offer referrals at the community level. This cadre was not new but was not widely recognized. The IP was working on establishing a social worker professional council and a NIMART-like handbook, and standardizing the social work certificate and diploma curricula. Social Work Assistants, as per the task sharing guidelines, can provide some HIV services at the dispensary level around referral, adherence support, and ART dispensing.

3. Enabling factors for task shifting

Enabling (green) and hindering (red) factors to task shifting in Tanzania are presented in **Figure 8** below.

It was acknowledged that *informal task shifting* had been ongoing in the absence of policies and guidelines due to the limited number of health care workers outside of urban settings. The 2016 policy was viewed as formalizing existing practices. One respondent noted that some MOH staff were not well versed in the realities of service delivery at the more rural and remote dispensaries and health centers where the need for task sharing was more obvious. Engagement of stakeholders was seen as facilitating implementation. Ongoing *advocacy* to address gaps in services and raise awareness of the potential for nurses to provide HIV services resulted in curriculum changes and approvals of NIMART and the national guidelines on management of HIV/AIDS. It was recognized that continued advocacy and engagement would be required for full implementation.

While the Government of Tanzania was not perceived as leading the process of implementing task sharing, respondents viewed the *government as supportive* and engaged from its initiation and implementation. It facilitated changes to policies driven by the Global Fund, the US Government, and other donors. At the national level, there was recognition of the benefits of formalizing the informal task shifting that had been taking place. At the council level, efforts were being made to tie task sharing to council comprehensive task plans in which councils could build in task sharing and potentially any costs associated with training and professional development into each facility's budget.

Donor support was also key for movement toward implementation. An IP supported the review of supportive supervision practices to ensure task sharing was integrated into documents as Council Health Management Teams have the mandate to supervise facilities where task sharing has been done, which will promote quality HIV services provided by nurses and other cadres. At the time of data collection, Management Sciences for Health (MSH) was working on job descriptions for health workers at all levels of the health system, expanding their scopes of work. Once these job descriptions are completed and approved by the MOH, the legal authority would provide protections for health workers in the provision of these services. The process had been described as "smooth" due to MSH's capabilities.

Figure 8: Enabling and hindering factors for task shifting in Tanzania
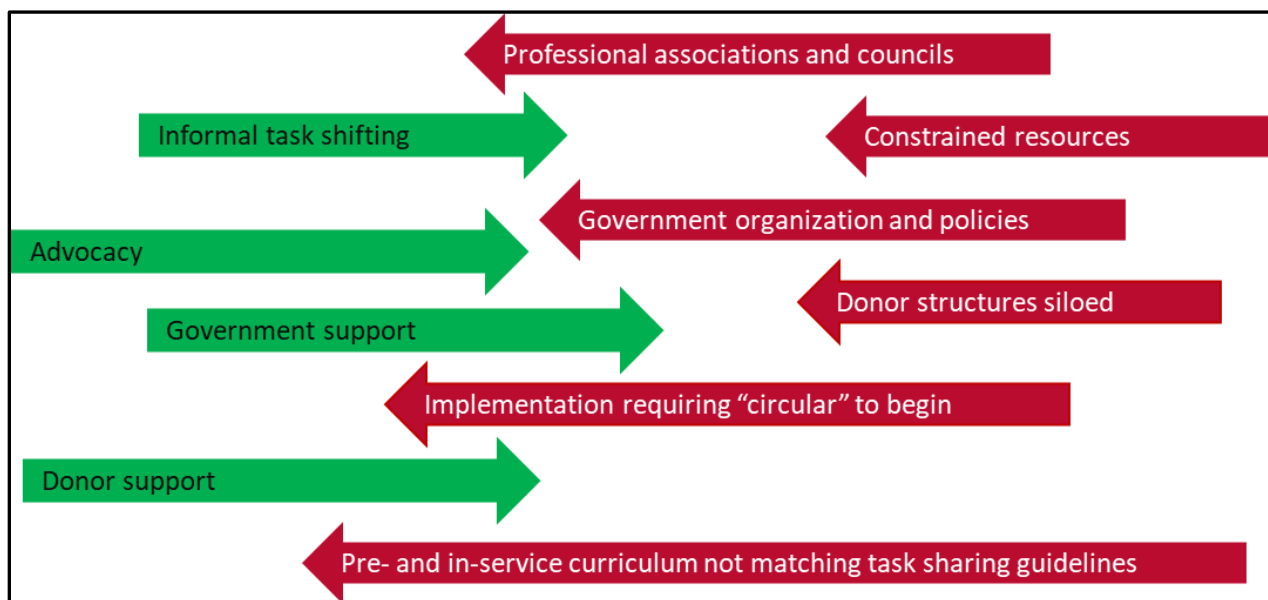
4. Barriers to task shifting

Government organization and policies were seen as contributing to challenges in preparing policies and guidelines and their delayed implementation. The hiring freeze on government workers has been a clear obstacle which, in the words of one respondent, "makes the health worker shortage even more profound" and also "makes the need for task sharing even more acute" (USG). Another respondent reporting that the vacancy rate was approximately 56%[6] due to the hiring freeze (IP). The hiring freeze has also resulted in "an over-capacity because we have trained so many nurses and doctors, many more than we can absorb" (IP).

In spite of the Government of Tanzania's support for the task shifting efforts made by donors, there was recognition that due to ***constrained resources*** additional human resources would be hired once the hiring freeze is lifted. Additionally, the Government of Tanzania did not have the capacity to lead the implementation. However, before IPs or others could move forward with implementation, the Tanzanian government must prepare and approve job descriptions (currently being done with support from MSH) and other related processes such as the Open Performance Review and Appraisal System (OPRAS). This would ensure that health workers were both evaluated and compensated for these additional tasks. However, because health care providers offer comprehensive services, not just HIV care, their job descriptions needed to be adjusted with other health areas in mind, requiring consultation and collaboration with maternal, neonatal and child health (MNCH), non-communicable disease (NCD), and infectious disease health groups. Such consultation takes time, but it was expressed that it will result in comprehensive health workforce development.

Similarly, ***pre- and in-service training*** curriculum did not match with the tasks shared under the guidelines and needed to be revised. As one IP commented, "in the guidelines, medical attendants are supposed to supply and dispense medicines, but it is not included in their training, so they need to do additional training before they can take on those tasks." The same respondent expressed that focusing on in-service training and continuing professional

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[6] This statement was most likely referencing the HRH country profile of December 2017 document, which was not approved for public release as of August 2018 because it was is still undergoing validation by the National Bureau of Statistics. The vacancy rate most quoted is from the HRH country profile 2014, which stood at 51%.

development would more rapidly promote implementation of task sharing, as opposed to starting with pre-service training due to the hiring freeze. As the MOH's Department of Human Resources Development has been reduced, the MOH has been exploring building capacity using virtual learning platforms, including building capacity for health workers to upgrade from, for example, a Medical Assistant to a Clinical Officer. In collaboration with MSH, the MOH has been assessing capacity and interest among health workers for a distance education course on competencies for tasks to be shared among health workers. The virtual learning platform would be developed by MSH but management would be transferred to the MOH to promote sustainability.

Another respondent noted that changes on the ground could not occur based on a national level policy alone; a "circular" is required to allow, for example, nurses to initiate ART. Without these circulars, only very limited implementation could occur.

Donor structures, which, like government structures, were viewed as siloed, impaired transferring the task shifting work done in MNCH to HIV. Related was sense that PEPFAR specifically was "overly focused on numeric goals without too much thought to the systems implications of them" (implementing partner). It was also suggested that the task sharing policy was developed under donor pressure.

Multiple consultations with key stakeholders such as ***professional associations and councils***, NGOs, and donors in conjunction with capacity development efforts by IPs was seen as a key reason for delayed implementation of task sharing activities. NACOP's Care and Treatment Division was viewed as the most resistant to task sharing, specifically in the area of VMMC. The nursing training unit was resistant to adding men who have sex with men (MSM)-related services into the nursing curriculum because MSM was categorized as a mental health issue, not a medical one. Subsequent additions to the nursing curriculum on Kaposi's sarcoma which included serving MSM, creating a conflict between the nursing training unit and the nursing curriculum. One IP advocated with the MOH Chief Medical Officer to address this gap so nurses could fulfill their role of serving all. The nursing curriculum was then adjusted to include MSM.

The approval of NIMART was challenged as doctors, who made up a small portion of the total health workforce but dominated in MOH leadership positions, felt threatened and perceived nurses as not being able to provide complicated ART services. Instead of transferring tasks to nurses, doctors felt the Government of Tanzania should increase the number of doctors, allowing nurses to "continue to do bed-pans" (NGO respondent). While NIMART was initially intended to be a guideline, there was political resistance to its adoption. It was decided that NASCOP's Guideline for the Management of HIV/AIDS would be the main guiding document prescribing policy while the NIMART document was "downgraded" to a handbook (NGO respondent) rather than being considered a true policy document. However, this same respondent noted that while the doctors were resistant to the guideline development and approval process, they would not universally hinder implementation "because doctors aren't at the lower level facilities" and generally were not aware of the broad array of services nurses were providing at the lower level in the absence of doctors.

However, one respondent noted that these reviews, approvals, and structures were now in place despite opposition, and that their existence should facilitate forward movement on task sharing.

The restriction limiting nurses' authority to initiate patients on ART causes delays in service delivery, impacting the quality of care. However, concerns about lower level cadres providing HIV services were also related to quality stemming from inadequate training and supervision. Respondents noted that there were some errors in care delivery because those providing services did not have the skills or knowledge to do so safely and there was no supervision. Resistance from professional associations was viewed as stemming from concerns over the system's capacity to adequately supervise lower level cadres in the provision of care. As per one respondent, without functioning supervisory and referral systems, there were limits to the amount of task shifting that could be done.

In a district referral center (hospital), there was a clinical officer and a nurse. The nurse was allowed to initiate the patient on ART until the clinical officer was available. But this was only after he had completed his rounds and had seen other patients. The HIV patients were just waiting around and very few of them were started on ART. The nurses were there, ready to attend to the patient but they were only allowed to dispense cotrimoxazole. The facility had a large number of patients. Clinical officers were saying that nurses should not be doing [ART initiation].

-MOH respondent describing baseline assessment findings

Before tasks could be successfully shifted to nurses it was imperative that nursing staff be appropriately distributed across the country and retained in their positions, especially in rural and remote areas. It was suggested that while there were retention guidelines which cover supervision and incentives for nurses, they still did not stay in their facilities and were not oriented to working in remote areas once they received their assignment.

IV. DISCUSSION

Informal task shifting has been the backbone of HIV service delivery in many LMICs for decades out of necessity – with persistent shortages of health workers, especially in rural and remote areas, facilities have drawn on the human resources available to deliver services. Efforts have been made in many countries to formalize this task shifting in an effort to enhance the quality of care and more effectively and efficiently move toward universal health coverage. This need, in conjunction with advocacy efforts, donor pressure, and evidence to support task shifting facilitated policy and guideline development and implementation.

This assessment found that facility-based testing had been shifted to nurses in most countries; community-based lay worker-administered testing was for screening, requiring confirmation at the facility. ART initiation was predominantly facility-based. Nurses could initiate in 21 of the 26 included countries, with five countries restricting the delivery of this service to doctors. A 2014 study of NIMART found that it was not practiced in Mozambique and Tanzania (Zuber, McCarthy et al. 2014), this current assessment found that it is widespread in these countries, indicating that implementation of this task shifting strategy is ongoing in some locations. Out of necessity in many countries, non-pharmaceutical workers had to distribute ART due to notable shortages in pharmacy staff at all levels. Community-based distribution using diverse lay workers was carried out with IP support. By far the most task sharing took place in the delivery of adherence counseling, both at the facility and community levels.

Barriers and facilitators to task shifting across these key services (testing, initiation, dispensing/distribution, and adherence counseling) are presented in **Table 4**. Many barriers and facilitators identified in this assessment influenced all services. However, specific facilitators or

barriers were identified that only impacted adherence counseling which, as noted above, was shared most widely of all tasks across cadres.

Table 4: Factors enabling and hindering task shifting by service

Testing	ART Initiation	ART Distribution	Adherence Counseling
Other service delivery policies and initiatives (e.g., test and start) Abundance of lay workers to fill gaps Expansion of non-nurse roles to relieve burden on nurses Opposition from professional associations	Decentralized systems to support NIMART Political support for donor programs to train nurse as prescribers Cost analysis Legal barriers	Territorialism among cadres Pre-service training not matching with competencies required	None generated from the data
Cross-cutting Generating support and input from professional associations; advocacy; donor pressure Inappropriate job descriptions; complex government functions and processes; political resistance; lack of legal protections; limited financial resources to roll out; lack of operational guidelines; state autonomy			

This assessment demonstrated that adjusting job descriptions of one or more cadres involves other elements of the government system. Within the health system, changes to supervision and performance management, referrals, and supply chain, for example, are required for lower level cadres to effectively take on more responsibility. Similarly, in-service and pre-service training curriculum need to be designed and rolled out so cadres are skilled and competent in these new tasks. Collaboration with legal and financial systems is required to remove legal obstacles and ensure compensation and incentives for cadres. Data from the present assessment suggest that if these other systems are not simultaneously strengthened, task shifting can only be so effective and obstacles to task shifting can only be superficially overcome. Research from South Africa also points to the need for "broader organizational transformation" at the facility and system levels for effective implementation of NIMART (Georgeu, Colvin et al. 2012).

Professional associations functioned as both a barrier and an enabler to policy development and implementation. This assessment suggests that the medical and doctors' associations were more resistant to task shifting due to concerns about quality and professional territorialism. In Nigeria, medical dominance within the health system and conflict between doctors and other health professionals has negatively impacted the quality of care (Alubo and Hunduh 2016). Other research suggests that nurses are more open to working collaboratively with doctors than doctors are with nurses (Falana, Afolabi et al. 2016). It is possible lower level cadres are more open to working alongside higher level cadres than the other way around. A review of regulations, established by relevant professional associations or councils, in high-prevalence

Southeast Asian countries found that nursing or midwifery acts did not include a "detailed, task-oriented scope of practice…making it difficult to interpret how the terms in the general scope of practice, such as "diagnosis", "care" and "treatment", might related to HIV-specific tasks, such as diagnosis HIV and initiating ART" (Elison, Verani et al. 2015). Findings of the present assessment from Southeast Asia showed very little task shifting of HIV services to lower level cadres due, in part, to regulations restricting services to physicians, although this may be an interpretation of these vague scopes of practice. A similar review in 13 African countries found that 8 countries had updated scopes of practices for nurses and midwives to provide HIV services, but there was notable variation in licensure, pre- and in-service training and professional development, and standards (McCarthy, Voss et al. 2013). Continued engagement and advocacy at a high level were viewed as key to overcoming this obstacle in several countries included in this assessment.

Even in countries where professional associations are supportive of task shifting, regulations and oversight is required by these professional associations who accredit, register, train, and supervise practitioners. Efforts have been made to enhance regulations among nurses and midwives under the PEPFAR-funded African Health Profession Regulatory Collaborative (Dynes, Tison et al. 2016). Additionally, legal protections are also needed, as recommended in the WHO 2008 task shifting guidelines (WHO 2008). There is a difference between a task shifting policy with gives lower level cadres authority to perform certain tasks and legal changes which protect lower level cadres when performing tasks. The case study in Nigeria revealed that some cadres were pushing back against task shifting because they were not legally protected in the event of a negative patient outcome. Therefore, effective task shifting implementation requires both the policy and the legal framework, mandating collaboration and cooperation across relevant ministries, which can be challenging in complex bureaucracies.

Legal restrictions on which cadre could provide which services was a notable barrier in some locations. However, even in places like Burma, where interview respondents articulated that testing and initiation was limited to physicians, IPs were piloting differentiated models of care that facilitated some shifting management of stable patients to nurses with promising patient outcomes (Mesic, Fontaine et al. 2017). Interestingly, participating countries with these legal restrictions also had concentrated epidemics indicating that there may be relationship between the nature of the epidemic and political support and actions to rationally distribute the workforce and HIV-related tasks.

In some countries examined in the present assessment, there was a perceived need for continued development of evidence to support the added value of task shifting. There appeared to be some hesitation in translating evidence from one country to another. This was true in Namibia in 2009, prompting implementation research on the effectiveness and acceptability of nurse-initiated ART versus doctor-initiated ART. The study found that nurse-initiated ART was both feasible and acceptable to patients and health workers, providing the evidence the Government of Namibia needed to scale up task shifting (O'Malley, Asrat et al. 2014). WHO's Workload Indicators of Staffing Needs (WISN) method (WHO 2015) was applied, facilitating the more rational distribution of health workers by cadre and making the financial case for NIMART. Other resources, such as the WHO's National Health Workforce Accounts (WHO 2016), can also offer insight and facilitate planning. In India, too, there was a need to generate evidence from Indian contexts to justify implementing task shifting, yet these local evaluations were viewed as barriers to implementation from the perspective of USG respondents.

A study of NIMART across 15 African countries found that country teams felt that increasing workload was a notable challenge to effective NIMART implementation (Zuber, McCarthy et al. 2014). While NIMART has been implemented in these countries, there is need for an evaluation

of the impact of task shifting on workload across cadres, as was expressed by interview respondents.

Community-based services have an important role in delivering HIV care. This assessment found that services at the community level were delivered by both lay workers and facility-based staff conducting outreach. A systematic review of the role of CHWs in HIV service delivery found that this cadre relieved workload pressures on healthcare workers and improved patient outcomes (Mwai, Mburu et al. 2013). However, in the face of reducing donor investments, the sustainability of this predominantly donor-supported cadre needs to be addressed. Additionally, this cadre is often asked to provide emotionally taxing services with little training or support, raising questions about ethical practices (Mundeva, Snyder et al. 2018).

Per the present assessment, community-based ART distribution took place across countries included in this study, even in locations where there was less task shifting in other areas of service delivery; much of this work was supported by IPs. A study in Uganda found that a program which employed a large number of expert clients for community-based ART distribution and ART mobile units was more expensive per patient (US$404) than less decentralized ART programs (US$257 and US$340) (Vu, Waliggo et al. 2016). Community groups for ART delivery have been found to be acceptable to both patients and health care workers (Pellacchia, Baert et al. 2017). An alternative approach, community-based ART refill centers, may be an effective and less costly method for distributing ARVs in densely populated, urban settings (Vogt, Kalenga et al. 2017).

Across most countries included in this assessment, financial resources from both donors and country governments to develop, operationalize, and implement task shifting policies was raised as a concern. PEPFAR's practice of prioritizing sub-national units in Kenya and Uganda has been shown to negatively impact health outcomes (Sutherland, Agala et al. 2018). While not specifically related to HRH, this finding highlights the importance of continued investment across geographies.

A. Limitations

Countries were selected by USAID OHA and may not be representative of the larger set of LMICs working on task shifting/sharing. PEPFAR is operating in 63 countries as of 2018 so this sample of 26 countries represents 41% of the PEPFAR total.

Interview respondents were primarily USAID representatives who have detailed knowledge about the USAID-supported activities in country, but not necessarily activities undertaken by other funding bodies (e.g., CDC, local government, or other donors). This impacted the breadth and depth of the information the assessment was able to elicit, which in part was reflected in the level of detail respondents provided compared to what was available in the policies and guidelines. The sample did not include representatives who work at the community level in each country which impacted the depth of information researchers obtained about their place in task shifting and task sharing. While researchers did obtain some information from informants on community-level policies and activities, greater representation from this group would have enriched the information. The use of open-ended questions and reliance on spontaneous response facilitated examination of key areas of knowledge the respondents had, but does limit comparison. A respondent from a country may not have mentioned a barrier to facilitator, for example, but that does not mean it is not present in the country.

In the two countries where researchers conducted the deep dives, Tanzania and Nigeria, researchers were unable to observe care delivery or human resource organization at facilities. This would have allowed more data collection from those directly involved in the delivery of HIV

care in real time and would have provided for a more comprehensive examination of the topic. The snowball sampling strategy applied was necessary to gain access to key informants with knowledge of task shifting for HIV, but it is possible other informants who could have contributed to this assessment were not included in the sample. The fact that there were very few government informants limited the depth of information of state human resource policy regarding task assignment. Data collectors made substantive efforts to conduct interviews with this group, especially in Tanzania and Nigeria, but to no avail.

Respondents used the term task sharing more frequently, even if, when asked directly, they agreed that policies, guidelines, and implementation resembled task sharing more closely, making it difficult to separate out countries which were practicing task shifting versus task sharing.

While there is an interest in comparing countries to assess their progress in implementing task shifting/sharing, it would be inappropriate with the data collected in this assessment to make such comparisons. Each country's health system and epidemic is unique, and while there were commonly observed facilitators and challenges to task shifting, this study was not designed to control for contextual factors that would have made such comparisons possible. Similarly, making inferences about the relationship between task shifting/sharing and outcome indicators such as ART coverage would require a more quantitatively oriented design which was outside the scope of this assessment. Finally, it was beyond the scope of this study to determine the relationship between task shifting and the quality of HIV services. Quality of care indicators, such as adherence to standards of care and treatment coverage, would be of substantive interest to determine which task shifting policies and what methods of implementation are the most successful in optimizing the quality of services as well as the quantity.

V. CONCLUSION & RECOMMENDATIONS

The form and nature of task shifting policies and guidelines, as well as their implementation, varied by country and HIV epidemic context. However, this assessment revealed key learnings across countries to allow formulation of recommendations or considerations.

First, adjusting cadre responsibilities in the delivery of care requires coordination and collaboration across diverse government, professional, and private stakeholders. Regular engagement and advocacy, along with time, are necessary to build support for policy change and to move from policy to implementation. Successful advocacy demands evidence supporting task shifting. WISN or other methods for analyzing workload and modeling potential impacts of task shifting can be effective in making the case for task shifting as an HRH strategy, but can also illuminate the impact of different approaches.

Second, policies need to be supplemented by operational guidelines, capacity building efforts across the whole health system, pre- and in-service training, and supportive supervision mechanisms, among others. Complementary systems need to be modified accordingly to allow for full implementation. Adaptive management systems to allow for course corrections also need to be established and fostered. Similarly, monitoring and evaluation, as well as implementation research on the impact of task shifting on workload, job satisfaction, attrition/retention, and quality of care across cadres is necessary.

Related is the need to invest in sub-national level activities for sustainability. Depending on the government structure, the nature of this engagement will vary. However, building capacity to manage and deliver HIV services at lower level facilities where there are fewer physicians may increase patient access and build ART program sustainability. Facility managers must be empowered to shift tasks and build capacity and supervise staff, and health care workers must also be empowered to take on new tasks and responsibilities.

Some countries are also moving towards greater integration of HIV services. As such, providers are offering HIV services as part of comprehensive care. In countries where disease-specific task shifting has occurred, efforts will need to be made to reconcile roles, responsibilities, and tasks across health areas.

Task shifting and sharing can be an effective strategy for addressing pressing and persistent HRH challenges in HIV and other health areas, but is a complex strategy to fully implement.

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