Health Workforce Assessment in Jakarta for Effective HIV Policy Implementation: Challenges and Opportunities toward Epidemic Control

Kajian Tenaga Kerja Kesehatan di Jakarta Untuk Implementasi Kebijakan HIV yang Efektif: Tantangan dan Peluang dalam Pengendalian Epidemik

Rachel Hoy Deussom[1], Elisabeth Rottach[2], Ciptasari Prabawanti[3], Edhie Rahmat[4], Tetty Rachmawati[4], Nanda Sirajulmunir[5]

[1]HRH2030 Program, Global Health Division, Chemonics International - Washington, DC, USA
[2]The Palladium Group, Washington, DC, USA
[3]Siklus, Jakarta, Indonesia
[4]Health Division, United States Agency for International Development (USAID), Jakarta, Indonesia
[5]SOLIDARITAS, Jakarta, Indonesia

Korespondensi: Rachel Hoy Deussom
e-mail: rdeussom@chemonics.com

Abstract
Strategic efforts are needed in Indonesia to implement the recently released human immunodeficiency virus (HIV) Test and Treat policy which promotes increased treatment uptake, known to have important economic benefits. Of Indonesia's estimated 631,635 people living with HIV (PLHIV) in 2018, only 12% are on treatment. The USAID- and PEPFAR-funded Human Resources for Health in 2030 (HRH2030) Program undertook policy analysis and assessed the available health workforce and service delivery at select sites in Jakarta to identify and anticipate Test and Treat implementation gaps. A mixed methods concurrent triangulation design was used, including policy analysis, key informant interviews, and site-level tools to capture workforce availability, skills, quality, and performance. Results indicate priorities to: define and implement HIV standards of practice for the Test and Treat policy; improve relevance and coordination of pre-service and in-service training programs; and support managers to optimize task and workforce allocation, including allocating lower-skilled workers to routine testing. Additional site-level data are needed from rural and remote sites in Indonesia, where fewer health workers are distributed. Efficiencies can help sustain HIV programs and contribute to epidemic control.
Keywords: human resources for health, health workforce, HIV/AIDS, policy implementation, workforce management

Abstrak
Upaya strategis dibutuhkan Indonesia untuk implementasi kebijakan Pemeriksaan dan Pengobatan (Test and Treat) HIV, seperti yang diterbitkan oleh USAID dan PEPFAR. Kebijakan ini mendorong peningkatan cakupan pengobatan yangd diyakini penting secara ekonomi. Diperkirakan pada tahun 2018 terdapat 631,635 ODHA di Indonesia dan hanya 12% yang menjalani pengobatan. Program HRH2030 yang didanai oleh USAID dan PEPFAR melakukan analisis kebijakan dan penilaian ketersediaan tenaga kesehatan dan pelayanan HIV di beberapa unit layanan di Jakarta, untuk mengidentifikasi dan mengantisipasi kesenjangan implementasi kebijakan. Kajian menggunakan metode campuran dengan melakukan analisis kebijakan, wawancara informan kunci, dan serangkaian alat asesmen tingkat unit layanan untuk menangkap informasi terkait ketersediaan, keterampilan, kualitas, dan kinerja tenaga kesehatan. Hasil kajian ini memprioritaskan adanya penetapan dan penerapan standar praktik layanan HIV yang sesuai dengan kebijakan Pemeriksaan dan Pengobatan. Peningkatan koordinasi program pendidikan pra-layanan dan pelatihan dalam jabatan dan dukungan kepada manajer unit layanan untuk mengoptimalkan alokasi tugas dan tenaga kesehatan menjadi hal yang penting. Pendekatan ini diharapkan dapat meningkatkan efisiensi layanan dan keberlanjutan program HIV. Data dan informasi tingkat unit layanan dibutuhkan, khususnya dari wilayah pedesaan dan terpencil.
Kata kunci: sumber daya manusia kesehatan, tenaga kesehatan, HIV/AIDS, implementasi kebijakan, manajemen tenaga kesehatan

Introduction

Immediate initiation of antiretroviral treatment (ART) for asymptomatic individuals testing positive for the human immunodeficiency virus (HIV) provides greater health benefits than delaying initiation (Rutherford and Anglemayer, 2016). Further, the economic returns of the early initiation of ART demonstrate benefits of adults beginning or returning to productive work (Resch et al. 2011; Thirumurthy, Galárraga et al. 2013). In addition, HIV treatment serves as prevention, as reducing viral

loads of people living with HIV (PLHIV) in turn reduces new HIV infections (Hull and Montaner 2014).

Despite concerted efforts to control and eliminate HIV in Indonesia, challenges persist to expand testing and access to ART to all PLHIV. Of Indonesia's estimated 631,635 PLHIV in 2018, only 232,323 (36%) have been diagnosed, and only 77,748 (12%) are on ART (MoH, 2017). Strategic efforts are needed to achieve "90-90-90": 90% of PLHIV knowing their status, 90% maintaining ART, and 90% achieving viral suppression. In 2015 Indonesia became a "Fast-Track" country, aiming to make rapid, efficient, innovative investments to reach HIV prevention and treatment targets, notably in Jakarta (IAPAC, n.d.). However, PLHIV retention on treatment remains low, especially among key populations (Januraga et al. 2018).

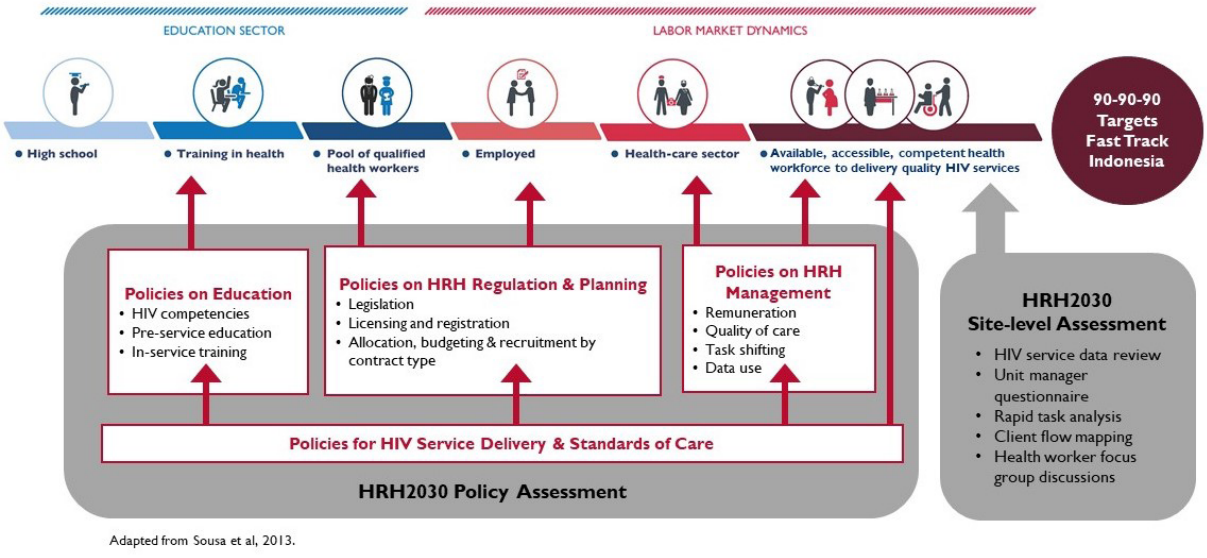
The Government of Indonesia's (GOI) Ministry of Health (MoH) has responded with increasingly expansive HIV policies: the "Strategic Use of Anti-Retrovirals (SUFA)" in 2014, and the Test and Treat Policy in 2018. Test and Treat introduces: (i) routine testing for all: patients in generalized epidemic areas, those with AIDS symptoms, TB patients, pregnant women, STI patients, hepatitis patients, key populations, prisoners, and partners of PLHIV; (ii) ARV administration to all PLHIV regardless of clinical symptoms and CD4 count; and (iii) counseling for PLHIV who refuse tests and ART(MoH, 2018).

Further, policies for effective health workforce investments can help to optimize health service delivery and organization; appropriate and evidence-driven health workforce investments are shown to offer high economic returns (WHO, ILO OECD 2015). Indonesia's Test and Treat policy implementation requires competent and well-distributed health workforce (HRH) teams providing comprehensive, integrated HIV care as more PLHIV initiate and maintain ART for life. While Indonesia's HRH number and distribution have improved, 57.4% of Indonesian doctors work in Java or Bali, serving 36.7% of the population; shortages of nurses and pharmacists persist in underserved regions of the country (Mahendradhata et al., 2017).

Methods

The United States Agency for International Development (USAID)- and United States President's Emergency Program for AIDS Relief (PEPFAR)-funded Human Resources for Health in 2030 (HRH2030) Program (Cooperative Agreement No. AID-OAA-A-15-00046) adapted the health labor market framework (Sousa et al., 2013) to use a mixed methods concurrent triangulation design, including both policy- and site-level assessments in Indonesia to understand relevant national, provincial, and district-level policies and their current implementation across the life cycle of HRH providing HIV services. The assessment aimed to recommend approaches for optimizing the health workforce to successfully implement Test and Treat and sustain HIV epidemic control (Figure 1).

Figure 1 HRH2030 HIV-HRH Assessment: Policy and Site-level Approach in Indonesia



Adapted from Sousa et al, 2013.

At the policy level, the team applied the Policy Implementation Assessment Tool (Bhuyan et al., 2010) to identify relevant HRH policies, protocols, scopes of practice, and task shifting practices that hinder or support implementation and scale up of SUFA/Test and Treat program; and policy and advocacy opportunities, challenges, priority actions, and implications for HRH programming. The policy assessment—conducted from April to August 2018—considered seven dimensions for HIV policy implementation and included policy analyses and key informant interviews (KII).

Policy analyses

The team collected relevant legal and policy documents such as acts, laws, government regulations, ministerial decrees, then verified their validity status and searched for previously referenced policies. Policy documents were classified according to their relevance of addressing HIV and HRH issues and the HRH2030 approach framework (Figure 1). Subsequent text analyses of the most relevant components were conducted.

Key informant interviews

Using a semi-structured interview guide, the team conducted 23 KIIs at the national level with representatives from 18 institutions involved in HRH and HIV prevention and treatment. The interviews examined stakeholders' experiences executing HRH and HIV-related policies to identify implementation barriers and opportunities.

At the site level, HRH2030 assessed the availability, accessibility, and competency of the health workforce to deliver quality HIV services to generate evidence for: (i) developing site-specific interventions to address the underlying causes of HRH-related bottlenecks to HIV service delivery; (ii) policy interventions to improve HIV service delivery towards: HRH optimization to achieve Fast-Track targets; sustainability planning and HIV mainstreaming; future consideration of differentiated service delivery (DSD) models.

From May to August 2018, 10 sites were assessed in five districts in Jakarta, representing a range of HIV testing and treatment volumes and facility types (Table 1). While there was focus on the sub-district, primary health care-level *puskesmas* (PKM) *kecamatan*, the assessment also captured one sub-sub-district health post PKM *kelurahan*, as well as a large, private sector, key population (KP)-friendly clinic with a high volume of HIV-positive tests. The HRH2030 Program adapted a suite of tools and other recognized approaches to the Indonesian context: HIV service data review, unit manager questionnaires, rapid task analysis, client flow mapping, and health worker focus group discussions (Table 2) (HRH2030, 2018a).

Results

Policy Results

The team identified 55 HRH and HIV-related policies, of which 22 were categorized as primary policies that mainly address HIV and HRH issues. The documents included laws and regulations related to the health sector, health and HIV service delivery, HRH development and management, and local governance (Figure 2).

Policies on Education

The GOI has established competency standards and continuing education policies through the laws on health, medical practice, health workers, and nursing, but there are gaps. The laws set explicit HIV competency standards for doctors and midwives (MoH, 2007; Indonesian Medical Council, 2012) but do not for nurses, although they must provide health education and patient nursing care for PLHIV (Indonesian Nurse Association, 2013). However, there is no standardized curriculum on HIV for undergraduates, and the quality of HIV curriculum varies between medical schools (KII with MoH staff, 2018).

According to key informants, not all medical students encounter HIV patients in their clinical year; newly graduated doctors' clinical knowledge and skills for managing HIV patients may be inconsistent. Similarly, recent midwifery and nursing graduates were not always educated in prevention of mother-to-child transmission (PMTCT) (KII with professional association staff, 2018). The health worker registration policy requires doctors, nurses, and midwives to participate in continuing education (MoH, 2013). As such, health workers are entitled to in-service training, including in HIV. However, national and local governments may not adequately fund professional learning opportunities and therefore, according to key informants, donors such as the Global Fund often fund in-service training.

Policies on Regulation and Planning

Regulations dictate that both centralized and decentralized authorities have roles in HRH planning, distribution, and procurement. While

Table 1 Selected Jakarta Sites for the Site-level HIV-HRH Assessment

Site	District	Volume of all HIV tests conducted			Volume of HIV+ tests		
		High Volume *>2000 HIV test/quarter (VCT+PITC)*	**Medium Volume** *1000 - 1999 HIV test/quarter (VCT+PITC)*	**Low Volume** *<1000 HIV test/quarter (VCT+PITC)*	**High Volume** *>100 new HIV+/quarter*	**Medium Volume** *50 - 99 new HIV+/quarter (VCT+PITC)*	**Low Volume** *<50 New HIV+/quarter (VCT+PITC)*
PKM Kecamatan Cakung	East			X			X
PKM Kecamatan Cengkareng	West	X					X
PKM Kecamatan Gambir	Central			X			X
PKM Kecamatan Kramat Jati	East		X				X
PKM Kecamatan Penjaringan	North		X				X
PKM Kecamatan Setiabudi	South	X				X	
PKM Kecamatan Taman Sari	West		X				X
PKM Kecamatan Tanjung Priok	North	X					X
Klinik Ruang Carlo	Central	X			X		
PKM Kelurahan Kramat (Kecamatan Senen)	Central	X				X	

Figure 2 HRH Regulations: Hierarchy of Legislations

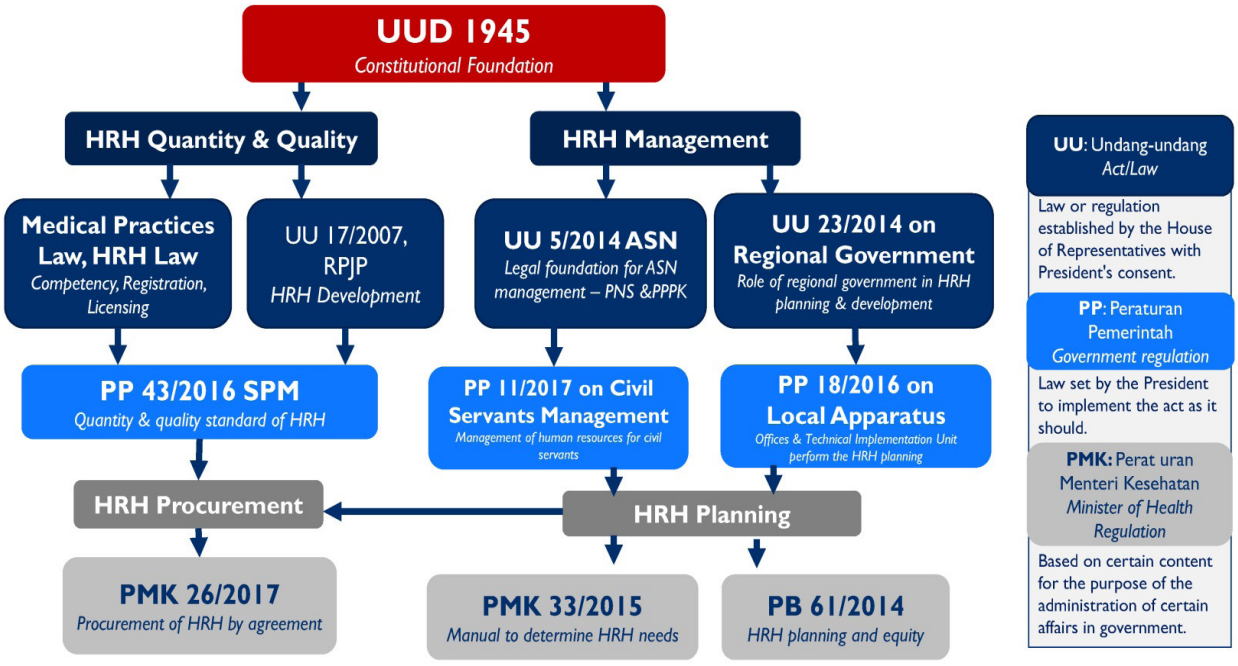


Table 2 Site-level tools and approaches to assess HRH availability, accessibility and competency for HIV services

	Tool name	Description	Data Source
1	HIV Service Data Review	Adapting the Toolkit on Optimizing Health Worker Performance and Productivity to Achieve 95-95-95 Targets[1] approach, to understand existing bottlenecks for HIV services	FY18, Q3 HIV service delivery data verified by US-AID/Indonesia and PEPFAR
2	Unit Manager Questionnaire	Adapted from the PEPFAR Rapid Site-level Health Workforce Assessment Tool[2], information on health worker types, number, allocation, capacity, and potential HRH barriers	Sites managers provided responses through semi-structured interviews.
3	Rapid Task Analysis	Adapted from the HRH2030 task analysis approach[3] this tool assessed HIV competencies in providing HIV/AIDS services. The Provincial Health Office and USAID-supported LINKAGES project staff prioritized five to ten tasks for each type across 11 service areas: *Health worker types* - Doctor - Nurse - Lab analyst - Pharmacist / assistant - Recording & reporting officer - Midwife - Community counselor or cadre *Service areas* - Examination of HIV, STI and hepatitis - ART enrollment - ART initiation - Adherence counseling - Clinical examination and consultation - Recording & reporting - Health education - Integrated TB-HIV services - Mobile testing - PMTCT - Harm reduction	Health workers self-reported using Open Data Kit (ODK)-enabled tablets the following for each task: - Confirmed if task assigned - Knowledge of task - Confidence performing task - Frequency performing tasks - Date of last training on task, if any
4	Client Flow Maping	This recognized tool was used to observe ART refill clients to capture patience experience through wait times and identify potential bottlenecks.	Trained partner civil society organizations (CSOs) community counselors collected data of clients they supported by accompanying them on their visit to access ARV services and entering data on Open Data Kit (ODK)-enabled tablets.
5	Health Worker Focus Group Discussions	Maps were elaborated during guided conversations to assess HIV service flow, document the typical flow of clients and health workers by service point, and identify constraints and impediments to effective service delivery. Discussants were probed to identify the underlying, or root causes of impediments, categorized by HRH problem types according to the HRH2030 Toolkit on Optimizing Health Workforce Performance and Productivity to Achieve the 95-95-95 Targets[4]: - Health worker competency gaps - Low engagement - Poor allocation of staff or tasks - Inefficient work processes - Other health systems issues	Focus group discussions held with health workers currently providing HIV services.

[1]https://hrh2030program.org/prodperftoolkit
[2]https://hrh2030program.org/wp-content/uploads/2019/01/Synthesis_Report_Final_SITE_ANNEXES_public_30nov2018.pdf
[3]https://hrh2030program.org/wp-content/uploads/2019/01/Synthesis_Report_Final_SITE_ANNEXES_public_30nov2018.pdf
[4]https://hrh2030program.org/prodperftoolkit

Figure 3 Summary Results of 8 Puskesmas Kecamatan

PKM	HIV Services *June-August 2018*			Core team	Knowledge				Confidence to perform				% Training
	New positives	*Enrolled in ART*	*Currently on ART*	+ = -	*Advanced*	*Sufficient*	*Basic*	*None*	*Confident, capable to mentor*	*Confident*	*Confident but need support*	*Needs practice*	*Across all HWs & tasks*
A	8	6	82	+	0%	73%	20%	7%	11%	41%	36%	11%	66%
B	20	15	237	+	5%	73%	19%	3%	57%	8%	27%	8%	79%
C	0	0	61	+	0%	56%	38%	6%	21%	44%	15%	21%	53%
D	10	6	111	+	0%	85%	12%	2%	20%	32%	34%	15%	95%
E	20	11	171	+	0%	68%	32%	0%	16%	60%	12%	12%	88%
F	10	9	265	+	4%	71%	24%	0%	27%	53%	18%	2%	78%
G	2	7	81	+	12%	81%	8%	0%	46%	31%	23%	0%	88%
H	13	12	241	+	34%	47%	19%	0%	38%	53%	9%	0%	75%

overall HRH planning is the responsibility of the MoH, local governments have autonomy to plan and procure HRH at the local level. In practice, there is ineffective coordination and communication between the MoH and other ministries in HRH planning, which is further weakened by the absence of a direct command line from MoH to the provincial and district health offices. As a result, key informants reported that HRH recruitment does not respond to actual need.

Local governments, especially in remote areas, may not have the financial capacity to hire more health workers. Therefore, although relocation and redistribution across health facilities is theoretically possible, it rarely happens. Further, timely health workforce databases are inaccessible or are inadequately maintained at the local level, in part due to high HRH turnover. As a result, limited data around the number and capacity of health workers inhibits effective HRH planning.

NGO workers are another key type of health worker that regularly perform HIV outreach services and counselling, especially for key populations. However, there is no legal basis to provide fees or compensation to those that are not under a government contract.

Policies on HRH Management

Indonesian regulations establish clear and rigid boundaries of HIV tasks that distinct health professional types may perform. The Act on Health (GOI, 2009) stated that HIV diagnosis and treatment must be performed by doctors, who are exclusively authorized to prescribe ARVs (GOI 2004). However, the Laws on Nursing and Health Workers (GOI, 2014a; GOI, 2014b) permit task shifting in case of doctor shortage or absence. Nurses may carry out medical actions based on doctors' delegated authority with certain limitations. There is no policy that allows doctors to delegate authority to midwives or community-based and non-clinical workers, other than what is covered generally in the Law on Health Workers (GOI, 2014b).

The MOH has established "core teams" to standardize the provision of ART in hospitals and PKM, consisting of: a medical doctor, nurse, lab technician, pharmacy worker, and recording and reporting officer (KII; MOH, 2014). The team should be trained by certified trainers to allow for task shifting from a doctor to nurse; some facilities with no doctor have implemented this approach. However, according to key informants, task-shifting often occurs without formal delegation, especially in the absence of doctors, with many doctors' tasks performed by available health workers, especially nurses. This means that health workers often assume tasks without legal protection.

Site-level Results

Overall, the 10 Jakarta sites have a sufficient number and type of health workers, given their HIV service volume. The eight PKM *kecamatan* experience

generally low service volume and have staffing that surpasses the "core team" minimum of five (Figure 3). However, task allocation, self-reported knowledge, and performance confidence across HIV service tasks were inconsistent and inadequate. On average, all teams surveyed at the eight PKM *kecamatan*, reported having advanced or sufficient knowledge for about three-quarters (76.5%) of the HIV service delivery tasks assigned to them and expressed confidence in their ability to perform over two-thirds of these same tasks (69.6 %). Higher skilled clinicians reported frequently performing lower-skilled tasks such as HIV counselling and testing.

Site-specific data is not disclosed in an identifiable manner as they are potentially sensitive; the eight PKM *kecamatan* results are summarized (Figure 3).

1. **HIV Service Delivery Review**

Quarterly service delivery data at all 10 sites were obtained, representing: 21% of the total PEPFAR-supported Jakarta sites (10/48); 37.0% of all people receiving HIV testing and counseling services (5,913/15,987); 55.7% of all newly testing positive (384/689); 38.6% of all receiving ART (4,346/11,267); 43.7% of all newly enrolled on ART (313/716) (PEPFAR DATIM, 2018).

2. **Unit Manager Questionnaire**

Relative to many resource-constrained facilities with similar staffing, all PKMs had a manageable HIV service workload. Unit managers reported daily patient volumes between 100 and 700-900, with daily HIV patient volume ranging from 1-2 to 200; and daily ART patients between3-5 and 100-150.

Across the eight PKM *kecamatan* sampled, about 5.7% (72/1,257) of all health workers staffed were working on HIV service delivery. Of the five "core team" types needed for HIV site activation, about 9.8% (65/664) work in HIV service delivery. Of all cadres, the largest proportion of lab technicians were performing HIV services: 42.9% (18/42). Unit managers identified seven of the 237 midwives (2.95%) as providing HIV services, despite their officially defined PMTCT role. Community counselors (n=3) were untrained for two-thirds of assigned task types. Across workforce types and service areas, unit managers reported that almost one-third of the time, health workers performed tasks due to either health worker shortages (28.8%) or high patient volume (31.7%) of the time. Staff shortages were the most frequently cited HRH challenges, (6/8), followed by inadequate infrastructure (4/8), and inadequate clinical competence (3/8). The top HIV training priorities cited by unit managers were "counselling" and "medication support service."

3. **Rapid Task Analysis**

Of all 68 health workers surveyed, doctors (n=13) reported being trained for the highest proportion of HIV tasks, though most trainings were over one year ago. A minority identified palliative counseling as their assigned task (46%); they were mostly untrained in newer palliative and addiction counseling tasks (54% and 46% untrained). For certain tasks, few nurses (n=12) reported they were assigned to them, such as ART diagnosis (25%), palliative counseling (25%), and managing ARV for pregnant women (8.3%). However, adherence counseling and ART initiation counseling were the areas that nurses performed with the greatest confidence (50% for both tasks) and frequency (75% and 42% performed at least several times a week, respectively).

Of all their HIV-related tasks, lab technicians (n=11) reported the lowest levels of knowledge (27% reporting "necessary" knowledge) and confidence (36%) conducting pre-ART support exams; similarly, for inputting lab results data into SIHA (0% and 9.1%, respectively, with none trained in this system). Their greatest knowledge and performance confidence were in: monitoring the availability of tools; lab checks for HIV/syphilis mobile testing (63.4%); and HIV lab activity logging (72.7%).

For some defined tasks, pharmacy staff (n=9) reported generally high levels of knowledge and confidence performing their tasks, except for writing usage reports (22% knowledge, 11% confidence) and administering methadone for PWID harm reduction (33% knowledge and confidence). Despite one-third of pharmacy staff administering methadone at least weekly, only one (11%) pharmacy staff reported having training.

For tasks they perform frequently, recording and reporting officers (n=10) cited the highest levels of confidence for: inputting data to SIHA and KOHORT (80%), and recordkeeping for HIV-TB-STI reports (60%). Less frequent tasks such as LASS and PTRM logs had lowest self-reported competency (30%).

For midwives (n=10), 70% reported they were not assigned ART enrollment and counseling tasks,

and only one reported being trained in this area. While 90% reported performing PMTCT activities almost every day, only 30% reported adequate confidence in this area, despite a majority (70%) having formal in-service training in this area. The response rate for community cadre (n=3) was insufficient for analysis.

4. **Client Flow Mapping**

A total of 18 ART refill clients were observed at all sites, including 16 clients observed in the eight PKM *kecamatan*. On average, the 16 clients observed in PKM *kecamatan* by trained counselors spent 51% of their time at the site in a waiting room. Length of visit ranged from 18 minutes to 92 minutes. The small client sample size limits this analysis.

5. **Health worker focus group discussion**

The "core team" health workers at eight *PKM* (n=49) who participated in the focus group discussions identified a variety of facility-specific workforce problems by category. All identified problems in the "inefficient work processes" category, while most (7/8 PKM) identified problems in the "health worker competency gaps," "low engagement," and "poor allocation of staff and tasks" categories. Generally, they reported training needs in specific HIV areas, high workloads for HIV staff, and inefficiencies in recording and reporting; they also highlighted other problems that negatively affected HIV service delivery, including inadequate supplies and infrastructure. A detailed report provides further results (HRH2030, 2018b).

Discussion

The HRH2030 HIV-HRH assessment approach provided rich evidence on HIV-HRH policy implementation. The central-level HIV policies reviewed sufficiently support Test and Treat, though more guidance is required to promote decentralized implementation. Indonesia's HRH policies detail planning and procurement processes. However, stakeholders responsible for health workforce development, planning, deployment, and support in the public sector are multisectoral and at multiple levels of government.

The limited interpretation and implementation of many HRH policies persist due to separate spheres of authority. Despite local government autonomy for planning and procurement, financial flows and contract mechanisms fluctuate, creating HRH shortages and maldistribution across health facilities and geographic areas. Use and availability of accurate and timely HRH information systems are limited and inhibit long-term planning. Gaps in HRH management and support were also identified.

Compared to some contexts where there is a dearth of health workers, in Jakarta all facilities assessed were sufficiently staffed with a core team, including nurses trained in ART initiation and management. However, the HIV service knowledge and skills self-reported by health workers indicates that additional support is needed to provide relevant training, supportive supervision, and clinical mentoring to reinforce knowledge and skills application to ensure quality service availability. However, in other parts of Indonesia, investments in the health workforce to increase the availability of HIV services may impact access to and uptake of ARTs. Investments to support and retain health workers in rural, remote and underserved areas could be particularly impactful, such as was done in Uganda (Jaskiewicz et al. 2016). Further, task sharing and differentiated care models for HIV service delivery may support more patient-centered care, which may improve retention on treatment which provides economic benefits (Grimsrud et al. 2016, WHO PEPFAR UNAIDS 2008).

Conclusion and Recommendation

Conclusion

The new Test and Treat policy has important skill and workload implications for the human resources for health providing HIV services across Indonesia. Its successful implementation requires an available, qualified, competent health workforce to provide HIV services across the clinical cascade and to sustain the increasing number of PLHIV expected to maintain their ART regimen for life. The policy- and site-level assessment suggests the importance of addressing HRH education, planning, management, and support across the health labor market to control the HIV epidemic in Indonesia, notably to support acquiring and applying new HIV competencies across diverse teams through locally contextualized continuing professional development. To sustain HIV epidemic control in Indonesia, district, facility, and community capacity and coordination for operationalizing Test and Treat and HRH policies should be strengthened. Strategic skills building for

the health workforce should be evidence-informed and targeted to address HIV service delivery gaps while strengthening linkages across the continum of care. Site-level assessments should be replicated outside Jakarta, and routinely repeated to promote continuous learning and improvement.

Recommendation

To effectively sustain HIV epidemic control, Indonesia should address policy implementation for HIV and HRH education, planning, management, and site-level support.

***Clarify and update HRH roles and responsibilities for Test and Treat*:** While policies are sufficient to support implementation of Test and Treat, more guidance for contextualization is required, specifically to define stable patients and task shifting/sharing responsibilities. In addition, existing data systems and quality assurance mechanisms should be reviewed to anticipate how to implement and scale safe multi-month scripting, a differentiated service delivery model of care for stable ART patients that may appropriately reduce site workload. The standards of care documents should provide guidance in consideration of the diverse contexts in which they may be implemented, notably to define tasks where there is reliance on non-clinical, community-based, contracted or volunteer counsellors, and no doctor is present.

***Increase quality of health workforce education and practical skills in HIV*:** Although HIV-related competencies are prescribed for physicians, they should be revised and elaborated in all "core team" pre-service education curricula under their next review. For newly graduated health workers, there is a need for TB-HIV training, especially in priority and generalized epidemic areas. Health graduates should be tracked in the SI-SDMK or another national interoperable platform. Continuing professional development for current practitioners should be aligned and rolled out incrementally, aligning with staff rotations.

***Use data to strengthen HRH planning and management functions for managing HIV services, including for community cadres*:** Conduct additional research (e.g., mapping, costing, task shifting) and advocate for the benefits of recognizing and engaging community-based cadres to support community-based, non-clinical HIV services. Monitor workload data (e.g., Pusrengun) to support incremental task sharing or differentiated care, including multi-month scripting at high-volume sites, where pharmacy workloads are high, or when monthly refills present hardship for the client. Strengthen local governments' capability to adapt national capitation regulations to manage *Puskesmas* funding, as well as to monitor staff turnover and identify priority posts to recruit.

***Support local teams to understand specific site-level workforce problems and develop improvement action plans*:** Site-level dissemination and review of assessment results can promote facility-led plans to address specific site-level HRH challenges and health systems issues. Health workers may require more dedicated skills building and performance support that district, site budgets, or capitation funds could support; an initial investment should be coordinated and monitor targeted, practical skills building for priority HIV tasks, including employing a quality improvement approach review of competencies against service delivery outputs.

References

Bhuyan, A., A. Jorgensen, and S. Sharma. 2010. Taking the Pulse of Policy: The Policy Implementation Assessment Tool. Washington, DC: Futures Group, Health Policy Initiative, Task Order 1. http://www.healthpolicyplus.com/archive/ns/pubs/hpi/1155_1_PIAT_Paper_Taking_the_Pulse_of_Policy_acc.pdf

Government of Indonesia (GOI). 2004. *Law of Medical Practices 29/2004*.

GOI. 2009. *Law on Health 36/2009.*

GOI. 2014a. *Law on Nursing 38/2014*.

GOI. 2014b. *Law on Health Workers 36/2014.*

Grimsrud A., H. Bygrave, M. Doherty, P. Ehrenkranz, T. Ellman, R. Ferris, N. Ford, B. Killingo, L. Mabote, T. Mansell, A. Reinisch, I. Zulu and L.-G. Bekker. 2016. Reimagining HIV service delivery: the role of differentiated care from prevention to suppression. J Int AIDS Soc. 2016; 19(1)

HRH2030 Program. 2018a. Toolkit: Optimizing Health Worker Performance and Productivity to Achieve the 95-95-95 Targets. Washington, DC: University Research Company, LLC (URC) and Chemonics International, HRH2030 Program. https://hrh2030program.org/prodperftoolkit/

HRH2030 Program. 2018b. Indonesia HIV and Human Resources for Health Assessment: Rec-

ommendations for Implementing and Scaling Up the Test and Treat Policy. Washington, DC: Chemonics International and The Palladium Group, HRH2030 Program. https://hrh2030program.org/indonesia-hiv-and-human-resources-for-health-hrh-assessment-recommendations-for-implementing-and-scaling-up-the-test-and-treat-policy/

Hull M., and J.S.G. Montaner. 2013. HIV treatment as prevention: the key to an AIDS-free generation. J Food Drug Anal. 2013 Dec; 21(4): S95–S101.

Indonesian Medical Council. 2012. *Competence Standards for Medical Doctors.*

Indonesian Nurses Association. 2013. *Competence Standards for Nurses*

International Association of Providers of AIDS Care (IAPAC). No date. http://www.fast-trackcities.org/cities/jakarta

Januraga P.P., J. Reekie, T. Mulyani, B.W. Lestari, S. Iskandar, R. Wisaksana, N.A. Kusmayanti, et al. 2018. The cascade of HIV care among key populations in Indonesia: a prospective cohort study. Lancet HIV. 2018 Oct;5(10):e560-e568.

Jaskiewicz W., V. Oketcho, D. Settle, D. Frymus, F. Ntalazi, I. Ezati, and K. Tulenko. 2016. Investing in the health workforce to increase access to and use of HIV and AIDS services in Uganda. AIDS. 2016 Aug 24; 30(13): N21–N25.

Mahendradhata Y., L. Trisnantoro, S. Listyadewi, P. Soewondo, T. Marthias, P. Harimurti, and J. Prawira. 2017. The Republic of Indonesia Health System Review. Eds. K. Hort and W. Patcharanarumoi. Asia Pacific Observatory on Health Systems and Policies. Volume 7, No. 1 2017.

Ministry of Health. 2007. *Midwifery Professional Standard 369/MENKES/SK/III/2007*.

Ministry of Health. 2013. *Regulation on Health Worker Registration 46/2013.*

Ministry of Health. 2014. *Guidelines for Anti-retroviral Treatment 87/2014.*

Ministry of Health. 2016. Estimates and projection of HIV/AIDS in Indonesia 2015-2020. Directorate General of Disease Prevention and Control. Jakarta, Indonesia: Ministry of Health, Government of Indonesia. http://siha.depkes.go.id/portal/files_upload/ESTIMATES_AND_PROJECTION_OF_HIVAIDS_IN_INDONESIA_2015___2020.pdf

Ministry of Health. 2018. Letter HK.02.02/1/1564/2018.

Rutherford G.W., and A. Anglemayer. 2016. Initiating antiretroviral therapy in HIV-infected patients with >500 CD4 cells/μL provides more benefit than delaying treatment. Evid Based Med. 2016 Feb;21(1):26.

Sousa A., R.M. Scheffler, J. Nyoni, and T. Boerma. 2013. A comprehensive health labour market framework for universal health coverage. Geneva, Switzerland: The World Health Organization. Bulletin of the World Health Organization 2013; 91:892-894.

Thirumurthy H., O. Galárraga, B. Larson, and S. Rosen. 2012. HIV treatment procuded economics returns through increased work and education, and warrants continued US support. Health Aff (Millwood). 2012 Jul; 31(7): 1470–1477.

World Health Organization (WHO), United States President's Emergency Program for AIDS Relief (PEPFAR), and the Joint United Nations Programme on HIV/AIDS (UNAIDS). 2008. Task shifting : rational redistribution of tasks among health workforce teams : global recommendations and guidelines. Geneva, Switzerland: WHO. Available at: https://www.who.int/healthsystems/TTR-TaskShifting.pdf

WHO, International Labor Organization (ILO) and the Organization for Economic Co-operation and Development (OECD). 2015. Working for health and growth: investing in the health workforce. Report of the High-Level Commission on Health Employment and Economic Growth. Geneva, Switzerland: WHO. https://apps.who.int/iris/bitstream/handle/10665/250047/9789241511308-eng.pdf?sequence=1