ORIGINAL ARTICLES

Applying tools to support human resource management in HIV/AIDS prevention and control in 7 provinces: Initial results on the appropriateness and scalability

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ABSTRACT

Objectives: This study aims to evaluate the appropriateness and scalability of two human resources (HR) tools in HIV/AIDS prevention and control in all seven piloted provinces in Vietnam after one year of application.

Methods: A mixed-method approach was employed in seven provinces in Vietnam from December 2021 to March 2022. An online cross-sectional survey was administered to 234 health staff who have directly applied the HR tools and qualitative interviews included 24 in-depth interviews with key informants involved in the process of applying the tools.

Results: This evaluation demonstrated the appropriateness of the HRM-supporting tools in addressing existing HRM challenges and their compatibility with local requirements within the HIV/AIDS prevention and control setting. Moreover, feedback from stakeholders, including health managers, policymakers, and decision-makers at the national, provincial, and district levels, indicated a strong commitment to accept and incorporate these tools into routine HRM practices, ensuring the scalability of these interventions beyond the HIV/AIDS sector.

Conclusion: The use of HRM-supporting tools should be a priority in future HIV/AIDS programming efforts and be scaled up in the whole healthcare system and other areas in Vietnam, conducted collaboratively with local stakeholders and adapted to evolving local contexts and needs.

Keywords: *Human resource management, HIV/AIDS prevention and control, WISN, tools, scalability, appropriateness.*

INTRODUCTION

In 2015, Vietnam's government committed and implemented activities to achieve the 90-90-90 targets which translates to 90% of people living with HIV knowing their HIV status, 90% of people who know their HIV-positive status accessing treatment, and 90% of people on treatment having suppressed viral loads (1). By the year 2020, Vietnam expanded this target to 95-95-95, aiming to end the HIV epidemic by 2030. However, Vietnam is now facing challenges in achieving those targets in the context of donors' phasing out and ongoing re-structured health systems (merging provincial preventive medicine units into the provincial Centers for Disease Control – CDC), especially in terms of sustaining human resources (HR). Recent studies indicated many challenges related to HR and human resource management (HRM) in HIV/AIDS prevention and

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control due to this restructuring, including a shortage of healthcare staff – especially well-trained professionals, inappropriate staffing arrangements, a high and imbalanced workload, and a lack of appropriate guidelines/tools to calculate the required number of health staff and to optimize the efficiency of HR use (2) (3). Since HR is one of six crucial components of the health system as recommended by the World Health Organization, effective planning for adequate and qualified medium-long-term HR, especially in the complex context of HIV/AIDS control, is thus an increasingly urgent challenge that needs to be addressed.

In this context, with the support from L'Initiative (Expertise France), the Hanoi University of Public Health (HUPH) in collaboration with a strategic partner – the Vietnam Authority for HIV/AIDS Control (VAAC) – Ministry of Health (MOH) has been implementing a three-year project *"Leveraging human resource management for HIV/AIDS Prevention and Control to achieve 90-90-90 target"* since December 2019. The overall aim of this project is to "Effectively manage human resources for HIV/AIDS Prevention and Control to achieve the 90-90-90 targets" to ensure sufficient health staff during the transition phase and for a sustainable HIV/AIDS response beyond. To reach this goal, the project developed and piloted two tools to support HRM from January to December 2021 in 7 project provinces. The first HR tool adopted the original WHO Workload Indicators of Staffing Needs (WISN) tool to the Vietnam setting, is applied to HIV/AIDS service-providing facilities under district health centers (DHC) including Out-Patient Clinics (OPCs), Methadone Maintenance Therapy (MMT) clinics, and HIV Testing and Counselling (HTC) centers. The key functions of this tool include: (1). To determine how many health workers are needed to handle the workload in an HIV/AIDS service-providing unit; (2). To determine the number of people needed to provide services based on the workload; (3). To calculate the amount of work and time it takes to complete tasks in each HR category; (4). To compare personnel between medical units and other areas of management; and (5). To evaluate employees' work pressure. The second HR tool is applied to administrative staff at Departments of HIV/AIDS Prevention and Control, CDCs, the key functions of the second tool are: (i). To determine how many health workers are needed to handle the workload in an administrative department/unit. (ii), To identify necessary health workers by profession (such as doctors, pharmacists, public health professionals….), (iii). To determine the number of staff performing professional work in the administrative department; staff to carry out the mobilization work of other departments; (iv). To determine the percentage of time spent on additional/support activities; and (v). To assess each health staff about the percentage of time spends in professional activities, whether health workers are assigned jobs according to their expertise, individual workload, and pressure at work. After one year of piloting, it is important to assess the appropriateness and scalability of HRM-supporting tools in the local context before scaling them into the wider scope.

Therefore, this study aims to evaluate the appropriateness and scalability of two tools for supporting HRM in HIV/AIDS prevention and control in all seven piloted provinces in Vietnam, including Hanoi, Son La, Thai Nguyen, Thua Thien Hue, Lam Dong, Khanh Hoa, and Kien Giang. The results of this study will provide recommendations for policymakers, healthcare managers, and other stakeholders involved in HIV/AIDS prevention and control programs to better manage HR with appropriate and effective tools.

METHODS

Study design: This study applied a mixed-methods research design, including quantitative and qualitative components.

Study site and time: Hanoi, Son La, Thai Nguyen, Thua Thien Hue, Lam Dong, Khanh Hoa, and Kien Giang were selected based on their ecological characteristics and representation of the HIV epidemic.

Data collection

Data collection included in-depth interviews (IDI) and self-administered questionnaires, including online and face-to-face approaches, conducted from 15 December 2021 to 8 January 2022.

Structured questionnaire: The structured questionnaire included questions about the appropriateness of the HRM-supporting tools. These questions were developed based on the aims of the study and in consultation with stakeholders including: (i). Does this HR tool calculate exactly the workforce volumes (accuracy)? (ii) Is it easy to implement (acceptability)?; (iii). Does it provide complete government reporting and compliance capabilities (applicability)?; and (iv). Is it easy to customize to fit provincial HIV/AIDS prevention and control needs (relevance to the local context). All questions used a scale from 1-4 (from very poor - very good, respectively).

The questionnaire was sent to all health staff who have directly applied two HRM-supporting tools, including 108 administrative staff and 126 health service-providing staff in 7 project provinces, using an online survey platform. In the end, 225 people (including 108 administrative staff and 117 health service-providing staff) out of 234 responded to the survey.

In-deepth interviews: Guidelines for in-depth interviews for each participant group were developed based on research themes/sub-themes. The appropriateness was evaluated in terms of accuracy, acceptability, applicability, and relevance to the local context, whereas the scalability was evaluated in aspects of human resources, financing, technologies, governance/procedures, challenges, and possible solutions. The qualitative research sample included important stakeholders involved in the process of applying and using the results of 2 HR tools. Using an intentional sampling approach, a total of 30 respondents were interviewed including a MOH policymaker, a member of the project team, 7 health managers of 7 CDCs, 7 health managers at 7 DHCs, and 14 related health staff (one administrative and one service-providing health staff per each province). Based on the COVID-19 pandemic status in each province, field visits have been conducted in Hanoi, Thai Nguyen, Son La, and Thua Thien Hue provinces while online interviews have been conducted in Lam Dong, Khanh Hoa, and Kien Giang.

Data analysis: FGDs and IDIs were audio-recorded with participants' consent and transcribed in Vietnamese. The collected data were analyzed using the thematic analysis method, which involved employing inductive and deductive approaches to identify key themes and sub-themes. The coding, categorization, and synthesis of data were carried out using the NVivo 12 software.

With the quantitative survey, descriptive statistics including frequency and mean were used for analysis by groups of participants. Analytical statistics (Chi-square test) was used to determine statistical differences between groups with a significance level of 95%. All analyses were conducted using SPSS, version 20.

Ethical approval: Ethical approval of the study was granted by the Ethical Review Board for Biomedical Research, Hanoi University of Public Health, Hanoi, Vietnam (No. 148/2020/YTCC-HD3). We also ensured the ethical considerations of the research by obtaining informed consent from the participants, ensuring confidentiality and anonymity of the information, and avoiding any harm or exploitation of the participants.

RESULT

The appropriateness of HMR-supporting tools

The appropriateness of two piloted HRM-supporting tools for HIV/AIDS prevention and control was evaluated in terms of accuracy, acceptability, applicability, and relevance to the local context. The quantitative results from 108 HIV/ADIDS preventative/administrative staff at 7 pCDC and 117 HIV/AIDS service-providing staff at 14 district health centers indicated that most of participating health staff (88% or more) evaluated the appropriateness of both the HMR-supporting tools at level "good" or "very good". However, in most indicators, the tool for administrative staff was evaluated more positively than the ones for health service-providing staff (Table 1).

Table 1. The appropriateness of HRM-supporting tools from the HIV/AIDS staff's perspective

Criteria	Question	Tool for administrative staff (n=108)				Tool for health service-providing staff (n=117)			
		Level of assessment (%)				*Level of assessment (%)*			
		1	2	3	4	1	2	3	4
Accuracy	Does it calculate exactly the workforce volumes?	1.8	1.8	44.0	51.4	1.7	3.4	46.2	48.7
Acceptability	Is it easy to implement?	0.9	1.8	28.4	67. 9	0.8	6.0	28.2	65.0
Applicability	Does it provide complete government reporting and compliance capabilities?	-	2.8	42.2	54.0	0.8	3.4	46.2	49.6
Relevance to the local context	Is it easy to customize to fit provincial HIV/AIDS prevention and control needs?	-	5.5	34.9	58.7	0.8	3.4	34.2	60.6

Note: level of assessment: 1: Very poor 2: Poor3: Good 4: Very good

The results obtained from the in-depth interviews also demonstrated on the appropriateness of the HR tools:

Accuracy: HRM-supporting tools were evaluated to be highly accurate in their calculations of workforce volumes and helpful in clarifying health professional roles and professional categories:

"The tool for administrative staff taking into account statistical data from the previous year as well as the prediction data for next year, thereby it can calculate exactly the required workforce not only at present but also estimate it in the future." (IDI, health manager at CDC)

"*WISN results [from the HR tool for health service-providing facilities] can be very*

helpful in clarifying health professional roles and professional categories. Application of WISN at the health center level demonstrated clearly that nurses in HTC were spending up to 50% of their working time on "non-nursery" activities" (IDI, health manager at DHC).

Acceptability: The tools' overall acceptability was mixed. Interviewees found the tool easy to use, and easy to operate and appreciated its level classification system, but some found the interface design of the tools overly complex and take time to enter the data.

Applicability: Generally, stakeholders agreed that the tools were suitable for both HIV/AIDS administrative staff needs and their technical capacities. However, a few interviewees raised concerns that there was an increased need for continuous support from adequate expertise for the health service-providing staff because of their limited technical capacity.

Relevance to the context: Interviewees had mixed opinions as to relevance. While the tools did align with organizational goals, some felt it may not measure up to HR practices of both regional and local context requirements instead, prioritizing routine operations rather than overall support and development of the human resource in health organizations.

Overall, the evaluation showed that the HRM-supporting tools accurately calculated staffing needs for HIV/AIDS staff but required adjustments to the interface design and sensitivity to contextual elements such as limited technical capacity, additional administration specialization, and holistic support for health organization stakeholders' continuity.

The scalability of the HMR-supporting tools

Scalability can be considered as the ability of the pilot stage to change its scale in order to meet growing volumes of demand. This study framework assessed evidence of scalability under financial resources, human resources, technologies, governance/procedures, challenges, and possible solutions. *In terms of financial resources*, the qualitative information indicated that the scale-up of the use of the tools in the 7 piloted provinces should not require any additional financial resources. Financial resources could be necessary for the expansion and use of the tools in other provinces after the end of the project. However, the participants expected that the costs should be quite limited since all the piloted tools and related training and guidance material will be available with permission but without fee and would thus only require some training costs for participating provinces and health facilities and adaptation of the tools. This money could come from the regular budget of the provinces and health facilities. Advocacy efforts might be required to promote the successful tools and mobilize resource allocation. Indeed, it would be a sound investment with a positive return as the use of the tools to improve the planning and management of human resources could contribute to the overall financial sustainability of the organizations/sectors.

"Financial resources needed for expanding the use of these tools may be limited, as the piloted tools and related materials will be available without fees. This investment in training and adaptation will yield significant returns." (IDI, health manager at DHC).

Regarding human resources, members of implementing teams at the provincial level are original staff of CDC and related institutions who have been trained and become trainers in the project. They are still working in the CDC and OPC, HTC/MMT. A strong focus on capacity building/ knowledge transfer to this team is one element greatly supporting the scalability of the tools because they will be still able to provide continued technical support to ensure the scalability of other departments/units of their institutions and other health facilities under CDC.

"The potential costs associated with expanding and utilizing these tools should not be a barrier, as the expected expenses are minimal. The priority lies in promoting their successful implementation and ensuring their benefits lead to improved financial sustainability." (*IDI, health manager at CDC*).

Technically, all the products (tools, software, and its manuals) that have been developed and piloted were evaluated as likely to fit a different scale in health sectors including for calculating workload for both health staff working in service delivery and administrative positions and other areas, according to the responses from most of the informants. This can be explained by the relatively low complexity of the technical solution. Furthermore, the project's tool being able to be divided into modules that could be implemented independently will make the intervention approach of this project more likely to be scaled up. The same rationale applies to the high degree of integration of the tools attached to project operation, which is a strong indication of good technical leverage when scaling up the project dimension. The people involved in developing" testing and using the tools in the pilot in all 7 provinces also shared their point of view that applying the HRM-supporting tools does not require additional infrastructure. As a result, the current infrastructure creates no limits on the maximum size of the solution.

"The products developed and piloted have received overwhelmingly positive feedback, with most informants stating they are likely to fit into different scales within the health sector. The relatively low complexity of the technical solution has contributed to its adaptability and potential for scalability" (IDI, member of the project team).

In the aspect of governance/procedures, the qualitative indicated that HRM tools developed during the project also contributed to improving the institutional quality of HRM work and the capacities of staff working on them. These products largely meet users' needs and expectations. From the feedback of key informants from the project partners, the project will become integrated into the routine work related to managing staff of HIV/AIDS prevention and control departments in particular and may have the potential to apply to other departments of the provincial CDC and be more likely to be sustainable. This approach will allow for more technical and managerial oversight as well as timelier implementation and will directly impact scalability.

"The HRM tools developed during the project not only meet the needs and expectations of users but also contribute to improving the institutional quality of HRM work and enhancing the capacities of staff. This integration has the potential to extend beyond the HIV/AIDS prevention and control departments, making it a sustainable solution for other departments/fields within the health sector" (IDI, policymaker from MOH).

Challenges and possible solutions: The process of piloting the HRM-supporting tools faced difficulties including the unclear structure of job positions and limited technical capacities. Currently, the structure of job positions for officers in HIV and AIDS prevention and control systems is not clear. Moreover, almost all facilities in the system are administrative. Many problems arose during the estimation of personnel types, such as most officers are not able to identify a specific number of each kind of personnel, e.g., how many doctors, bachelors, or consultants are needed?

"The job title structure is not clear so it is difficult to identify the necessary number of personnel. Therefore, employment is sometimes haphazard, and not appropriate for the current needed positions." (IDI, policymaker from MOH).

In addition, the application of HRM tools to calculate HR needs requires staff, especially at the lower level/service-providing level, to have minimal technical skills. This evaluation found that there was some initial hesitation and reluctance to use technology devices. However, during the pilot of HRS tools, these activities seemed to go smoothly thanks to the simplicity and ease operating of the newly developed tools. However, to effectively use and scale up the tools, training, and support for users (institutional staff) will be compulsory.

The key to sustainability is the strong commitment of decision-makers including health managers at health facilities, Provincial Health Departments, Provincial Home Affairs, and policymakers at Ministry of Health, Ministry of Home Affairs who have key authorities related to HRM at health facilities, provincial, and national levels, who will continue to accept and act on the results of the HRM-supporting tools. It is good that from IDIs the evidence showed that the project tool development process had been presented in early planning meetings with key stakeholders who will contribute significantly to the scale-up effort. In the key informant interviews, policymakers expressed their interest in and support for HRM tools application. They also stated their commitment to introduce, scale up the tools, and develop regulations related to HRM tools in the future.

"We recognize the significance of HRM-supporting tools in advancing the efficiency and effectiveness of healthcare delivery. As decision-makers at central levels, we are committed to accepting and utilizing the results of these tools to drive sustainable improvements in HRM practices" (IDI, policymaker from MOH).

DISCUSSION

Our findings suggested that HRM-supporting tools can be successfully applied to HIV/AIDS prevention and control programs in Vietnam. The tools we developed were found to be appropriate, effective, and scalable, and have the potential to improve HIV/AIDS prevention and control outcomes across a range of settings. Our analyses showed that the indicators we selected are well-suited to measure the workloads of healthcare professionals undertaking both prevention and health service-providing activities in HIV/AIDS. Two HRM-supporting tools were well received by our project partners including CDC and healthcare facilities, they are accurate and easy-to-use tools that can assist in identifying the most appropriate and optimal staffing levels required. Such positive results were obtained because the development and piloted application of the tools was carried out in a timely manner, in line with the orientation of human resources development in HIV/AIDS prevention and control of the Ministry of Health; was adopted a participatory and collaborative approach and referred to lessons learned globally.

Two HRM-supporting tools which have been developed and successfully piloted are especially relevant and timely given the ongoing and planned changes in the staffing structure of the HIV program and the need to organize and institutionalize service delivery in an optimized manner both for health facilities for treatment as well as administrators who work at CDCs. Moreover, effective planning for adequate and qualified medium-long-term human resources is an increasingly urgent challenge that needs to be addressed. It is also very timely and appropriate in the context of ongoing health system strengthening with more integrated approaches as regulated in Circular 07/2021/TT-BYT defining the functions, tasks, power, and organizational structure of district, commune health centers by the MOH (5). At the end of 2019, the MOH requested VACC guide Provincial CDCs for the establishment and operation of provincial technical assistance

teams with the aim of capacity strengthening and responding to organizational changes in the local health systems. Therefore, the VAAC issued Decision 328 on guiding the establishment and operation of provincial technical assistance teams (6). The setting up of Provincial Leader Teams with the participation of high-ranking officials of the Provincial Health Department, CDCs, and Provincial Department of Home Affairs who serve the project as coaches and mentors for Implementing Team showed the relevance and meanings to the project provinces when we found that nearly almost all of them are members of Provincial Technical Assistance Teams for HIV/AIDS response at Decisions setting up these Teams at project provinces.

Our project was organized following a participatory and collaborative approach which are important approaches recommended by WHO for WISN application (7), meaning that the implementing partners were informed and consulted starting from project development to the needs assessment phase and throughout the whole project planning. In collaboration with health facilities, our team developed context-specific workload indicators relevant to HIV/AIDS prevention and control in Vietnam. Through this process, we involved healthcare professionals in determining appropriate workloads and staffing needs in HIV/AIDS programming. This participatory approach was crucial and contributed to the scalability of HRM-supporting tools in this context. Greater participation and collaboration lead to more productive and outcome-oriented assessments of workload and personnel allocation, and better reflection of community and organizational needs in decision-making efforts. Our research highlights that engaging locally with medical professionals and responding to community contexts and inputs, promotes more significant, relevant, and component-specific results in the HIV/AIDS intervention programs.

Regarding the HRM-supporting tool for health service-providing facilities, our project developed and specific-context adapted the WISN tool of WHO. Our findings compare favorably with earlier in-country and international studies of WISN in HIV/AIDS prevention and control programs. Previous research has shown that the WISN tool can increase the understanding and allocation of staffing resources across multiple health facilities in Vietnam (8), (9), and other comparable countries in which HIV/AIDS is prevalent (10). However, much of the previous research often lacked context-specific approaches to each community. Although our pilot was on a smaller scale, our results add significant clarity to similar studies. Our findings suggested that the application of WISN in HIV/AIDS program management can improve staffing resource allocation and the quality of services and interventions provided. Our initial results have the potential to allow better staffing levels and resource allocation translation to greater impact on HIV/AIDS outcomes. Additionally, our study emphasized the importance of tailored and localized approaches when implementing health interventions dependent on WISN and other similar human resource management tools. These approaches were also mentioned and emphasized in case studies from limited resources such as Indonesia, Mozambique, and Uganda (11), Namibia, Botswana, Kenya, and Ghana (12).

Policy implications

Our findings have important implications for the future of HIV/AIDS programming in Vietnam. The implementation of HRM-supporting tools should receive high priority in HIV/AIDS programming in Vietnam and other low- and middle-income countries. Our results suggested that the implementation of HRM-supporting tools can improve the allocation of staffing resources across multiple health facilities, improving the quality of HIV/AIDS services. In

addition, collaboration with local stakeholders is vital, as the HRM-supporting tools process must be tailored to greater efficacy in local contexts. the tools should also be integrated into comprehensive programming, with an eye to adaptability for changing needs and contexts.

Limitations of the study: There are several limitations in this study. Firstly, due to the short period of piloting, the findings only presented the initial exploration of the appropriateness and scalability of one-year piloting two HR tools. Further research is required to evaluate the long-term indicators such as the impact of the HR tools in the HIV/AIDS programs. Secondly, limitations are related to data collection, there was a risk that provincial key informants' responses would be biased towards portraying an overly positive view of the tools as they are direct beneficiaries and thus would be hesitant to criticize.

CONCLUSION

This evaluation demonstrated the appropriateness and scalability of the HRM-supporting tools within the HIV/AIDS prevention and control setting. The use of HRM-supporting tools should be a priority in future HIV/AIDS programming efforts and be scaled up in the whole healthcare system and other areas in Vietnam, conducted collaboratively with local stakeholders and adapted to evolving local contexts and needs.

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