AHOP Policy Briefs - 2024

Strengthening Rwanda's health workforce

Strategies to improve retention in the health sector

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African Health Observatory
PLATFORM ON HEALTH SYSTEMS AND POLICIES
World Health Organization
African Region

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ISBN: 9789290314264

Suggested citation. Ndikubwimana, A., Matsiko, E., Kamanzi, C., Umubyeyi, A., Kanya, L., & Simmons, B. (2024). Strengthening Rwanda's health workforce: strategies to improve retention in the health sector. Brazzaville: WHO Regional Office for Africa; 2024. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

Designed in Brazzaville, Republic of Congo

About AHOP

The African Health Observatory - Platform on Health Systems and Policies (AHOP) is a regional partnership that promotes evidence-informed policy-making. AHOP is hosted by the WHO Regional Office for Africa through the integrated African Health Observatory and is a network of centres of excellence from across the continent, leveraging existing national and regional collaborations. National Centres currently include the College of Health Sciences, Addis Ababa University, Ethiopia; KEMRI Wellcome Trust, Kenya; the Health Policy Research Group, University of Nigeria; the School of Public Health, University of Rwanda; and Institut Pasteur de Dakar, Senegal. AHOP draws on support from a technical consortium including the European Observatory on Health Systems and Policies (EURO-OBS), the London School of Economics and Political Science (LSE) and the Bill & Melinda Gates Foundation (BMGF). AHOP joins a cohort of regional health systems Observatories including the European Observatory and the Asia-Pacific Observatory (APO) who have shared their learning to inform the development of the AHOP approach.

About AHOP policy briefs

AHOP policy briefs are one of a suite of outputs produced by the platform. We aim to capture current concepts, experiences, and solutions that are of importance to health policymaking within the African region, often applying a comparative lens to learn from diverse approaches. We recognise that there are multiple approaches to writing policy briefs. Through consultation we have developed a distinct AHOP approach, with all our briefs following a common template. AHOP briefs bring together existing evidence and present it in an accessible format; use systematic methods transparently stated; and all undergo a formal and rigorous peer review process.

Acknowledgements

Series Coordinator: Dorothy Chisare

Reviewers: The authors and editors are grateful to external reviewer James Avoka Asamani (WHO) for providing feedback and expertise on this brief. The brief was also reviewed internally by Serge Bataliack (WHO); and Lesong Conteh, Leon Janauschek, Beth Kreling and Mojirayo Ogunkanmi (LSE) on behalf of the AHOP partners.

Production: Our thanks go to Ashleigh Slingsby (LSE) for copyediting the brief, Alexia Honore (LSE) for French copyedit support, and Cat Johnson (Manta Ray Media) for the design.

Cover photo credit: Accessing primary healthcare in Nyaruguru District, Rwanda, November 2022. © WHO / Isaac Rudakubana.

Further information

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This programme is supported by the Bill & Melinda Gates Foundation.

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Abbreviations

CMHS	College of Medicine and Health Sciences
GoR	Government of Rwanda
HMIS	Health management information system
HRH	Human resources for health
HSS-MAG	Health Sector Staff Mutual Aid Group
HWD	Health Workforce Department
IPPIS	Integrated payroll and personnel information system
IRCAD	Research Institute against Digestive Cancer
MoH	Ministry of Health
NSHPD	National Strategy for Health Professions Development
NST1	National Strategy for Transformation
PBF	Performance-based financing
SACCO	Saving and Credit Cooperative Organisation
SDGs	Sustainable Development Goals
UHC	Universal health coverage
US	United States
WHO	World Health Organization

Key messages

Rwanda has implemented health workforce strategies with positive impacts: Key programmes have expanded and upskilled the health workforce, digitalized data collection has improved monitoring and evaluation of the health sector, and the country has established a Human Resources for Health (HRH) Secretariat, recently renamed the Health Workforce Department.

Low health workforce density is a persistent challenge: Despite significant improvements, workforce density ratios are below the African regional average, and the country continues to fall short of regional and global thresholds for universal health coverage (UHC) and the Sustainable Development Goals (SDGs).

Health sector staff attrition is high: Low public health sector salaries, heavy workloads, inadequate working conditions, lack of clearly established staff motivation and retention strategies, unclear career progression pathways, and the insufficient and inequitable geographic distribution of health professionals present major obstacles.

Innovative staff retention strategies have been put in place: Contract retention mechanisms, performance-based incentives, a dual clinical practice policy, and access to finance have been implemented to address the high voluntary attrition. The Ministry of Health has initiated a reform programme to train and ensure the availability of a minimum of 4 healthcare workers for every 1 000 people within the next four years, called the "4x4" reform.

Additional staff retention strategies need to be explored and piloted: These could include ensuring competitive pay, improving health training opportunities, implementing mechanisms for horizontal and vertical promotion, and in-kind benefits, such as staff accommodation.

Executive summary

Introduction

Rwanda's national health sector is focused on the equitable delivery of high-quality health services. The Government of Rwanda (GoR) recognizes that developing human resources in the health sector is a critical factor to the well-being of the population. Development of the health workforce has been guided by the Human Resources for Health (HRH) Programme (2012-2019) and its successor, the National Strategy for Health Professions Development (NSHPD) (2020-2030). Rwanda has made significant progress in enhancing its skilled health workforce, with notable improvements in the health professional-to-population ratio over the past decade, attaining 13.4 doctors, nurses, midwives, pharmacists, and dentists per 10 000 people in 2022. Despite such progress, health workforce levels remain below national and global recommendations.

High staff attrition in Rwanda's health sector

Even though much has been achieved, the health sector faces a high level of staff attrition, which constitutes a major challenge. Nine percent of all health professionals leave the sector annually, and 13% of all health professionals and 22% of medical specialists who graduated in Rwanda between 2000 and 2016 have left the country (Rwanda Ministry of Health, 2019). Key factors associated with high staff turnover in the health sector include low public health sector salaries and incentives, especially compared to the private health sector; heavy workloads; lack of clear staff motivation, retention, and career development strategies; and a low health worker-to-population ratio.

Health sector staff retention policy options

A broad range of strategies have been implemented in Rwanda to improve the retention of health care professionals with differing goals. These include contract retention mechanisms, incentives based on individual and institutional performance, a dual clinical practice policy regulating health professionals in public hospitals to undertake private clinical practice on a contractual basis, and access to finance through the Health Sector Staff Mutual Aid Group (HSS-MAG) and Muganga Saving and Credit Cooperative Organisation (SACCO). These interventions have not been extensively evaluated for their impact on staff retention, highlighting a key gap in assessing their effectiveness and shaping future policy options. Additional retention strategies addressing different aspects of staff retention are therefore needed. Specific strategies explored in this brief include improving competitive public sector pay; offering easily accessible and incentivised health training programmes; encouraging horizontal and vertical promotion within the public sector; and improving non-financial incentives, such as staff accommodation through public-private partnerships.

Conclusion

Successive human resources for health programmes have contributed to improving the health workforce to support a high-quality and sustainable health system in Rwanda. However, the persistent issue of high health workforce attrition presents a complex challenge that requires multifaceted solutions that go beyond current strategies. Exploring new retention strategies – such as competitive remuneration, accessible and incentivised training programmes, structured promotion mechanisms, and innovative non-financial incentives – constitutes an approach to building a stable, motivated, and equitable health workforce. Implementing such strategies will require careful planning, implementation, and monitoring to ensure the optimal balance between costs and benefits. The success of these strategies in retaining the health workforce will be instrumental in sustaining Rwanda's health sector achievements and ensuring the continued delivery of high-quality health care services to its population.

Introduction

Background

Rwanda's Vision 2050 lays out a comprehensive blueprint for the country's development, with a key focus on achieving universal access to high-quality health services. Recognising the crucial role of a skilled health workforce, both Vision 2050 and the National Strategy for Transformation (NST1) 2017-2024 highlight the necessity of having sufficient, well-trained health professionals, including general practitioners, specialists, nurses, midwives, and administrative professionals (Rwanda Ministry Of Finance And Economic Finance, 2020). Achieving this goal requires significant investment in the training, recruitment, and retention of a skilled and motivated health workforce (Government of Rwanda, 2017).

Over the past decade, Rwanda has made significant progress in strengthening its health workforce, particularly in terms of increasing worker production numbers and improving specialist training. Recent data show considerable improvements in the density of health workforce personnel relative to the population (Rwanda Ministry of Health, 2019). Despite this progress, the current health worker density remains below the targets set by the Government and the World Health Organization's (WHO) recommended thresholds for achieving universal health coverage (UHC) and the Sustainable Development Goals (SDGs) (Rwanda Ministry of Health, 2019) (World Health Organization, 2016).

Additionally, Rwanda faces significant challenges in health workforce retention. While staff turnover is a natural and necessary process in all health care organizations, when the rate of workforce exits surpasses replenishment rates, it depletes the workforce, directly impacting the quality of care and delivery of health services (Lopes et al., 2017; World Health Organization, 2010). This scenario is especially detrimental when experienced professionals leave the health sector entirely, taking with them valuable skills.

The Ministry of Health's (MoH) 2019 Health Labour Market Analysis Report showed an average annual attrition rate of 9% among public sector health professionals, ranging from 6% for midwives to 22% for doctors (Rwanda Ministry of Health, 2019). The growing private health sector, often offering better working conditions and higher salaries, exacerbates this challenge. In 2018, 35% of the health workforce was employed in the private and non-profit sectors (Rwanda Ministry of Health, 2020a). Additionally, out-migration is a challenge, with 13% of all health professionals and 22% of medical specialists who graduated in Rwanda between 2000 and 2016 having left the country by 2019 (Rwanda Ministry of Health, 2019). Recent data show that Rwanda has one of the highest proportions of doctors and nurses working abroad compared to those working in-country (World Health Organization Regional Office for Africa, 2024).

The causes of high levels of staff attrition in Rwanda's health sector are complex. While the Health Labour Market Analysis Report does not specify reasons for high attrition, known factors for voluntary attrition include a shortage of highly qualified health care staff, a heavy workload, and long hours. Another study in Rwanda cites inadequate remuneration, poor working conditions, unattractive rural postings, and limited career development opportunities as contributing factors (Ntambue, 2019).

Globally, workforce retention issues are common. WHO identifies key factors such as the migration of qualified health workers, inadequate remuneration and incentives, the disparity between urban and rural job attractiveness, inadequate investment in human resources, and ineffective human resource management (World Health Organization, 2014). In 2021, WHO published updated guidelines to optimize health workforce retention, particularly in rural and remote areas (World Health Organization, 2021). These guidelines make 17 recommendations under four themes: (1) health workforce education; (2) regulations; (3) providing incentives; and (4) ensuring personal and professional support.

To address high attrition of qualified health workers, Rwanda has implemented various strategies aimed at enhancing health worker retention. However, the effectiveness and challenges associated with these strategies need further assessment. Additionally, there is a need to consider additional workforce retention strategies to address the various causes of staff attrition.

Key questions

This policy brief explores the following key questions:

- What are the underlying reasons for high levels of voluntary staff attrition in Rwanda's health sector?
- What staff retention strategies are in place in Rwanda, and what challenges do these strategies face?
- What supplementary retention strategies could be implemented to reduce attrition?

By addressing these questions, this brief aims to provide evidence-based insights that will inform future policies and strategies to strengthen the health workforce in Rwanda's public health sector. The primary target audience for this policy brief is the Rwandan MoH and other policy-makers at national and subnational levels, health sector training institutions, academics, and international audiences. The findings from this policy brief could also be used to inform interim reviews of the current human resources for health strategy in Rwanda.

Methodology

This policy brief utilises a desk-based review to examine a broad range of relevant literature and the available evidence base. Sources included existing documents and literature at national, regional, and global levels that address the development of human resources for health. Specific sources reviewed include academic articles, policy documents, reports from the Rwandan MoH and international health organisations, and other publications that discuss the status of the health workforce in Rwanda, reasons for staff attrition, and retention strategies. The information obtained from these sources was then analysed and synthesized to provide a comprehensive understanding of the current situation and potential strategies for health workforce retention in Rwanda.

Context

Establishing health professional tertiary education

Rwanda's efforts to build a robust health workforce began with substantial investments in tertiary education and training for health professionals. Undergraduate medical training started in 1963 at the former National University of Rwanda with a Bachelor of Medicine and Surgery (National University of Rwanda, 2022). Later (1996), the Kigali Health Institute was established to address the shortage of health personnel both in quality and quantity. At that time, there was a pressing need for qualified nurses, midwives, physiotherapists, radiology technicians, anaesthetists, laboratory technicians, dentists, hospital managers, and environmental health practitioners, who were virtually non-existent (Kigali Health Institute, 2011).

In 1997, a postgraduate medical training programme was established at the former National University of Rwanda in collaboration with Belgium, requiring medical students to travel to Europe for training. An in-country training programme was introduced in 2005, involving a four-year residency programme for doctors. Currently, the University of Rwanda's College of Medicine and Health Sciences (CMHS) is the only government-funded higher institution in the country and is responsible for training all cadres of health professionals. With campuses across the country, CMHS offers publicly funded degrees and specialist training in medicine, nursing, midwifery, and various allied health professions. CMHS is complemented by private institutions, including the University of Global Health Equity, University of Central Africa, University of Gitwe, Ruli Higher Institute of Health, and Kibogora Polytechnic. Following the recent 4x4 reform (see below), other universities and higher learning institutions, such as the Catholic University of Rwanda, the East African Christian College, the Institute of Applied Sciences Ruhengeri, the Institut Catholique de Kabgayi, the Research Institute against Digestive Cancer (IRCAD) Africa, the Rwanda International Institute of Ophthalmology, and Mount Kenya University, were authorized to train health professionals starting in 2024 (Rwanda Ministry of Health, 2024).

The Human Resources for Health Programme (2012-2019)

In 2012, the GoR launched the HRH Programme (2012-2019), a significant initiative in Rwanda's health workforce development. This seven-year plan aimed to develop the health education infrastructure and workforce required to establish a high-quality, sustainable health system in the country. Funded with approximately US$ 100 million of external funding, primarily from the United States (US) Government, this innovative partnership included the GoR, Rwandan medical education institutions, and US academic and medical institutions. The programme aimed to enhance knowledge transfer, foster collaboration, and significantly increase the productive capacity of the University of Rwanda's CMHS. The HRH Programme (2012-2019) focused specifically on:

- increasing the number of specialised physicians in the public sector; and
- advancing the skill level of nurses and midwives in services from the public sector.

This programme contributed to a notable increase in the number of health care practitioners (see Figures 1 and 2). For example:

- the doctor-to-population ratio improved from 0.6 per 10 000 people in 2010 to 1.2 per 10 000 in 2020, inclusive of general and specialist medical practitioners;
- the nurse-to-population ratio marginally improved from 7.7 per 10 000 people in 2010 to 8.3 per 10 000 in 2020; and
- the midwife-to-population ratio significantly improved from 0.1 per 10 000 women of reproductive age in 2010 to 4.3 per 10 000 in 2019 (Rwanda Ministry of Health, 2020b).

The National Strategy for Health Professions Development (2020-2030)

Building on the successes and lessons learned from the HRH Programme (2012-2019), the GoR in 2020 created a dedicated HRH Secretariat that recently transformed into the Health Workforce Department (HWD). This department manages the NSHPD (2020-2030) (Government of Rwanda, 2020). It was designed to address issues such as the shortage and diversity of health professionals in the country and low enrolment in specialty postgraduate training programmes (e.g., anaesthesiology, paediatrics, surgery, and radiology) by 2030. The NSHPD (2020-2030) focuses on increasing the number of health professionals, improving their working conditions, and enhancing their career development opportunities. Specifically, it aims to:

- accelerate the attraction, training, and retention of Rwandan health professionals;
- address key inputs to educational programmes, improving the quality and relevance; and
- ensure that practising providers deliver high-quality care, while adhering to principles of professionalism, ethics, and sound planning and monitoring (Government of Rwanda, 2020).

As the NSHPD (2020-2030) is ongoing and in its early stages of implementation, its impact and effectiveness are yet to be fully assessed. Early evidence suggests progress in attracting, training, and retaining health professionals. For instance, the number of medical students at CMHS grew from 300 in 2019 to over 450 in 2023. Additionally, the NSHPD (2020-2030) has developed standards and curricula for some specialist training (Rwanda Ministry of Health, 2023). The same report suggests improvements in retention rates through better remuneration, continuous professional development, career advancement opportunities, and working conditions. These initiatives have also helped to increase patient satisfaction rates, which rose from 65% to 80% in 2023. In addition, the GoR has adopted the 4x4 reform to increase the number of health workers in the country. The reform aims to achieve a health workforce density of 4 per 1 000 people within the coming four years. To accomplish this target, Rwanda is planning to increase the number of medical graduates to 32 973 by 2028 (Rwanda Ministry of Health, 2024).

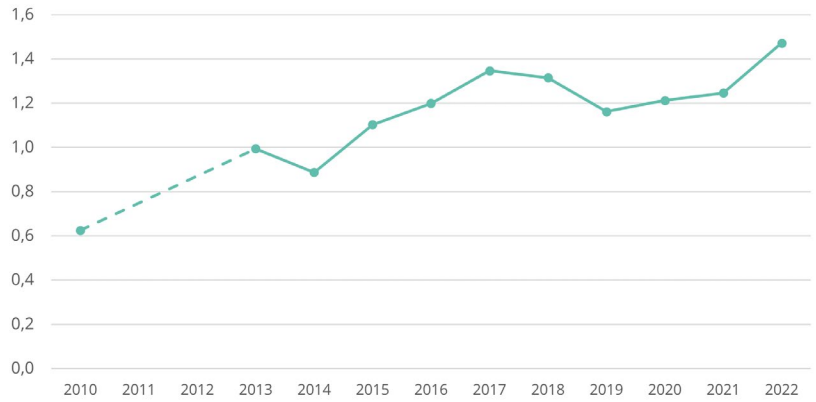
The Rwandan health workforce

As of 2022, Rwanda had ratios of 1.6 active licensed doctors per 10 000 people, 9.7 active licensed nurses per 10 000 people, and 5.7 active licensed midwives per 10 000 people, according to the most recent MoH estimates. This amounts to a total of 17 health workers per 10 000 people, falling short of the regional average of 26.8 per 10 000 people, but above the East African average of 14.5 per 10 000 people (World Health Organization Regional Office for Africa, 2024). Rwanda's doctor-to-population ratio (Figure 1) is lower than the African region average (around 5 per 10 000) (World Health Organization Regional Office for Africa, 2024). The nursing and midwifery density (Figure 2) is slightly below the African region average (19 per 10 000) (World Health Organization Regional Office for Africa, 2024). Despite progress, there is still a gap in the workforce, with health worker densities remaining short of the targets laid out in the Rwanda NST1 and the WHO global threshold of 44.5 per 10 000, indicating a need to make substantial progress in SDG tracer indicators (Rwanda Ministry of Health, 2019; World Health Organization, 2016).

Despite progress in producing health workers, the geographical distribution of the health workforce remains skewed both between and within provinces. In 2018, the best-staffed districts and provinces had ten times and three times more staff, respectively, than the worst staffed districts and provinces (Rwanda Ministry of Health, 2019). Although no recent statistics are available, estimates from 2014 indicate that non-Rwandan nationals make up a high proportion of Rwanda's doctors (33%), with foreign doctors constituting over half of the workforce in many rural areas, underscoring the need for sustainable solutions to ensure local retention (Rwanda Ministry of Health, 2019).

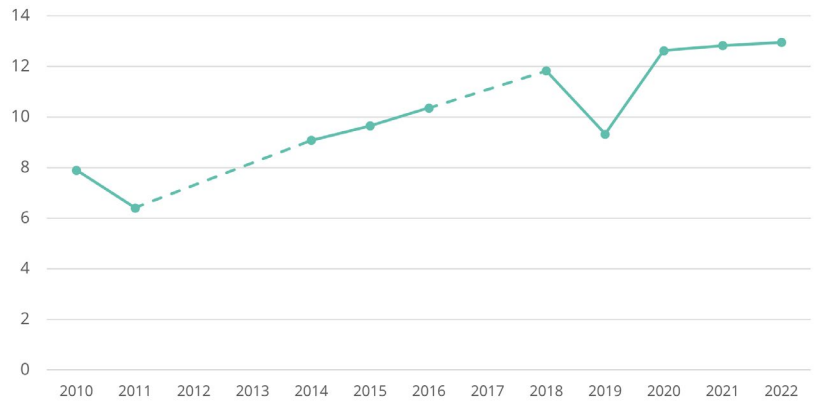
Health workforce density

Figure 1: Medical doctor density per 10 000 population (2010-2022)



Source: Rwanda MoH, 2020b; Rwanda MoH, 2011; Rwanda MoH, 2022; World Health Organization, 2024. When WHO Global Health Observatory data unavailable, supplementary Rwanda MoH data used. Note, data not available for 2011 and 2012.

Figure 2: Nursing and midwifery personnel density per 10 000 population (2010-2022)



Source: Rwanda MoH, 2020b; Rwanda MoH, 2011; Rwanda MoH, 2022; World Health Organization, 2024. When WHO Global Health Observatory data unavailable, supplementary Rwanda MoH data used. Note, data not available for 2012, 2013, and 2017.

Digitalized data collection

To support the design and implementation of effective retention interventions, Rwanda has strengthened digitalized data collection on the health workforce. The integrated payroll and personnel information system (IPPIS) was introduced into the public service in 2008 to improve the quality and cost-effectiveness of public services. The system has been rolled out in decentralised health facilities (health centres and district, provincial, and referral hospitals) since October 2016. The IPPIS collects socio-demographic (age, sex, marital status, education level, field of study, training undertaken) and work-related data (employment starting date, staff performance, health facility-related basic information, employee's main function, monthly salary, exit reason), presenting a robust database that holds potential for insightful workforce management.

In addition, the health management information system (HMIS) in Rwanda collects data related to health care workers, including their qualifications, training, deployment, and performance. This digitalized approach to data collection is used to inform policy decisions related to the allocation and distribution of health care workers in the country. Since 2023, this has been complemented by the MoH's Clinical Staff Management System and Health Workforce and Digital logbook which facilitates the assignment of health workers to job positions by eliminating paper-based application processes, thereby aiming to increase operational efficiency.

High voluntary attrition in the health workforce

Despite improvements in the production of health workers, Rwanda's health sector continues to experience high rates of attrition among health professionals. This includes involuntary factors such as retirement, death, and disability (which contributes marginally to the challenge), and voluntary attrition through rural-urban migration, turnover from the public to the private sector and non-governmental organizations (NGOs), and external migration (brain drain). Key factors contributing to high voluntary attrition in Rwanda's health sector include:

Public sector remuneration and incentives

Salaries in the public sector are generally lower than those in the private health sector, which can offer more than double the public sector salaries, particularly for doctors and pharmacists (Government of Rwanda, 2020; Rwanda Ministry of Health, 2019). Additionally, while salaries are deemed to be competitive in relation to other categories of civil servants, civil service classifications and pay scales do not always align with the training and skills categories of public health professionals and are not in accordance with market rates (Rwanda Ministry of Health, 2019). Despite some available incentives, the overall package of financial and non-financial incentives remains insufficient to retain health professionals in the public sector.

Workload, supervision, and resources

Health care professionals in public health facilities report having a heavy workload and working under significant pressure. A study conducted by the Rwanda MoH found that doctors often work an average of 60 hours per week, while nurses work around 50 hours per week, exceeding the standard 40-hour workweek (Rwanda Ministry of Health, 2019). The patient-to-provider ratio is also disproportionately high, with some facilities reporting ratios as high as one doctor per 10 000 patients and one nurse per 1 200 patients (Rwanda Health Management Information System, 2020). Despite increased health workforce production, there remains a shortage of staff to cater for the need (Rwanda Ministry of Health, 2019). This results in staff often managing heavy workloads, long working hours, high stress levels, job dissatisfaction, and subsequent turnover. There is also a lack of supportive supervision, access to medicines and resources, and infrastructure, all of which may contribute to decisions to leave the public sector (World Health Organization, 2021).

Education, training, and career development

Opportunities for career advancement and recognition for work achievements are perceived as limited, contributing to lower job satisfaction (World Bank, 2020). Although horizontal promotion strategies have been established by the Ministry of Public Service and Labour, promotion mechanisms within health facilities, especially in remote areas, are not fully effective in retaining health professionals (Office of the President, 2015). This situation could encourage some professionals to seek career progression through management positions within the government or opportunities outside the health sector. While there have been improvements in long-term higher education offerings, their impact on staff retention has not been fully assessed. Additionally, a lack of local training opportunities could push workers to travel to urban areas or abroad for training.

Rural working conditions and opportunities

The insufficient and inequitable geographical distribution of health professionals, particularly in rural and remote areas, influences health worker attrition (World Health Organization, 2017). Health professionals often move to urban environments for better living conditions and more job opportunities or emigrate out of Rwanda. Rural attrition is compounded by a lack of opportunities for other sources of income, such as private practice, making rural areas potentially less attractive to health workers (Odhiambo et al., 2017).

High voluntary attrition in Africa

These challenges in health workforce retention are pervasive across Africa, reflecting factors found in other countries (World Health Organization, 2021). For example, poor remuneration is largely responsible for high public sector turnover rates in Kenya and Nigeria (Machayo, 2006; Lasebikan, 2020). Similarly, Ethiopian health workers often relocate to urban centres or the private sector due to low salaries, limited career development opportunities, a heavy workload, and psychosocial factors (Tekle, 2022). In Nigeria and South Africa, factors such as low remuneration, poor working conditions, and a lack of training and career development opportunities have been linked to job dissatisfaction and skilled health worker migration (Labonté et al., 2015; Yakubu et al., 2023; Lasebikan, 2020).

Existing health workforce retention strategies

A broad range of strategies aimed at improving the retention of health care professionals have been implemented in Rwanda, each with distinct goals and measures of success. Some strategies focus on short- to mid-term retention within specific localities, while others aim for overall retention within the national public system (i.e., preventing voluntary attrition to other sectors or emigration). Key strategies are summarized in Table 1 and elaborated on in the following pages.

Table 1: Existing health workforce retention strategies in Rwanda

Strategy	Activity	Objectives	Impact
Contract retention mechanisms	Mandates that health professionals receiving public-funded postgraduate education serve in MoH-designated public facilities for a specified number of years after completing their studies. The required service duration increases with the length of training (1-5 years).	• Ensure retention of health care professionals in public facilities after training. • Achieve an equitable distribution of health care professionals nationwide (particularly improving retention in underserved areas). • Promote career development, motivation, and improved skills through postgraduate training opportunities.	• Limited evidence on numbers and effectiveness in Rwanda, but global evidence suggests improvements in short- to medium-term retention. • Some evidence (both within Rwanda and globally) suggests high attrition rates after compulsory service periods. • Suggests that further incentives are required after the compulsory period to encourage long-term retention in specific localities.
Performance-based financing framework	Provides additional financing incentives for achieving specific performance indicators and targets, both for institutions and individuals (through individual performance contracts).	• Enhance retention through better pay and incentives. • Improve service quality.	• Notable improvements in service delivery and quality metrics. • Lack of direct evidence of its effect on health worker satisfaction and retention. • Global evidence suggests potential mixed externalities on the health workforce.
Dual clinical practice policy	Regulates the ability of health care professionals to engage in private practice within public and private facilities, allowing it under certain conditions to mitigate risks.	• Improve income through private work to retain and motivate health professionals in the public sector. • Improve service delivery and patient satisfaction. • Generate additional revenue for public facilities.	• Dual practice is very common, particularly among doctors, but no official statistics are available. • Evidence on the impact of the regulation is scarce.
Access to finance	Offers health sector staff a platform for savings and access to low-interest loans.	• Improve health care workers' socio-economic conditions. • Provide financial stability to improve job satisfaction and retention.	• Over 11 000 health sector staff enrolled within the first year. • No assessment on impact on retention.

Contract retention mechanisms

Return of service agreements are contractual agreements between health workers and their employing organisations or governments, whereby health professionals commit to providing a specified period of service in a designated area. In exchange, they receive benefits such as financial incentives, educational scholarships or bursaries, or professional training. These agreements are designed to improve the retention of health professionals, particularly in underserved or rural areas, by ensuring a return on investment in their education and training, while addressing local health care needs.

In Rwanda's public health sector, the GoR has leveraged contract retention mechanisms in exchange for providing higher education opportunities (Office of the Prime Minister, 2016: No. 151/03). The key aims of these agreements are to:

1. ensure the retention of health care professionals upon training completion, particularly in underserved areas;
2. support career development and motivation through further training opportunities; and
3. improve the workforce skills to better meet the populations' health needs.

Through this initiative, health professionals pursuing GoR-sponsored postgraduate or residency programmes are required to sign retention contracts. These contracts mandate return service to their respective health facilities or other institutions, as designated by the MoH, upon successful completion of their studies. The objective is to ensure that the improved skills directly benefit the local health sector. Service retention periods range from one year to five years, based on the duration of training.

The effectiveness of contract retention mechanisms is promising, and WHO conditionally recommends it depending on the context, with evidence from other settings indicating improved retention and reduced health care disparities (Pagaiya et al., 2015; World Health Organization, 2021). However, there is limited evidence available on the uptake and impact of these contract retention mechanisms in Rwanda, and it remains unclear how many health professionals are currently engaged in such agreements. An earlier initiative, requiring a two-year compulsory service, found that without additional retention interventions, doctors often seek alternative opportunities and leave the facilities after fulfilling the mandatory period (Odhiambo et al., 2017). Global studies corroborate this finding, indicating a general trend of attrition following the completion of compulsory service, highlighting a key challenge. Another critical challenge lies in providing adequate infrastructural and administrative support to ensure the effective implementation of these mechanisms. Balancing the benefits and addressing the drawbacks of contract retention mechanisms is essential for optimizing their impact.

Performance-based financing framework

Performance-based financing (PBF) is a health financing strategy designed to improve the quality of care by linking financial incentives to performance metrics. PBF mechanisms are designed to motivate health workers and facilities by rewarding individual and institutional performance based on set indicators and targets, with mixed externalities on the health workforce.

In 2008, the Rwanda MoH institutionalised a PBF programme in all public health facilities, providing financial incentives to facilities based on meeting performance metrics. This programme has been expanded to include all public health facilities and cadres of health workers, including community health workers. The PBF system collects data, verifies performance achievements, and allocates monetary incentives accordingly (Rwanda Ministry of Health, 2021a). In addition to the facility-based incentives, the PBF system in Rwanda incorporates individual performance-based incentives, where health workers receive additional payments based on their performance scores. These incentives are formalised through individual performance contracts between health facilities and employees, defining the additional bonuses to be paid based on performance. These individual-based incentives are designed to improve individual motivation and support the retention of the health workforce.

Evidence shows that PBF implementation in Rwanda has led to improved service delivery and quality of care (Basinga, 2014). However, specific data on the direct influence of PBF and individual performance contracts on health worker satisfaction and retention in Rwanda is less clear (Kalk et al., 2010). Global evidence indicates that PBF can have varied effects on staff job

satisfaction and attrition (Lemiere, et al., 2012) (Bertone & Witter, 2015). While PBF can improve motivation by linking financing rewards to performance, it can also lead to resentment and demotivation due to perceived unfairness or increased pressure on staff (Shen, et al., 2017). Individual performance-based incentives may be more effective in improving staff motivation and job satisfaction, but their long-term impact on retention requires further investigation.

Dual clinical practice policy

Implemented in 2020, the dual clinical practice policy allows health professionals in public hospitals to undertake private clinical practice on a contractual basis at their public hospital after their regular working hours. In addition, during their days off, they can provide services in private health facilities (Rwanda Ministry of Health, 2020a). The initiative aims to regulate the practice, increase access to quality services at public facilities, and retain highly skilled health professionals in the public sector.

Unregulated dual practice is pervasive and has undermined efforts to address the shortage of health care professionals in the country and reduce brain drain, which is a common challenge in many African countries. Many health professionals who complement their public sector work by practising in the private sector do so to supplement their income, which allows them to stay in the country and continue practising. However, concerns have been raised about potential quality of care issues, as health professionals may prioritize their private patients over those in public health facilities. To address this, the Rwandan Government has set regulations under the dual clinical practice policy to mitigate the possible negative impacts of public-private interactions, aiming to ensure high-quality services for all patients (Amaya, 2019). Specific regulations include limiting the patient ratio in dual practice to normal working hours, restricting the number of facilities at which a professional can work at, and requiring applications and timetables for dual practice hours.

There is limited evidence on the impact of dual practice and dual practice regulation on health worker retention in Rwanda. The Health Labour Market Analysis Report indicates that dual practice is very common, particularly among doctors, but that there are no official statistics to be able to quantify the impact of the practice and dual clinical practice policy on the workforce (Rwanda Ministry of Health, 2019). Globally, the possible positive and negative implications of dual practice have been detailed, but robust evidence of its impact is limited (Moghri et al., 2017).

Access to finance

A key challenge to health sector staff retention in Rwanda is a lack of access to credit at reasonable interest rates (Rwanda Ministry of Health et al., 2018). To address this challenge, the Health Sector Staff Mutual Aid Group (HSS-MAG) was established in 2017 by the MoH and other stakeholders as a microfinance institution (tontine) to provide health sector staff with a platform for savings and access to low-interest rate loans. The primary objectives of HSS-MAG are to improve members' socioeconomic conditions, as well as enhance staff motivation and retention (HSS-MAG, 2021). Marking an evolution, HSS-MAG has recently transitioned into Muganga SACCO, a formal 'Savings and Credit Cooperative Organization' that provides financial products, services, and solutions to contribute to the sustainable development and retention of both public and private health sector staff.

Within a year of the HSS-MAG launch, over 11 000 health sector staff joined the microfinance scheme – contributing more than US$ 1 million – and the scheme began disbursing loans to its members (Management Sciences for Health, 2020). While the initiative was established with the aim of improving staff retention, evidence on its impact on retention is not yet clear. However, by addressing financial barriers and improving socioeconomic conditions, it is expected that Muganga SACCO will contribute positively to staff motivation and retention in the long term.

Strategies to improve health workforce retention

This section focuses on potential new health workforce retention options to supplement strategies, where the emphasis is on initiatives to maintain appropriate levels of worker turnover. A variety of retention strategies designed to combat high turnover rates have been proposed or applied across various settings and with complementary goals. These include specific strategies focusing on improving compensation and benefits, offering professional development opportunities, providing non-financial incentives, and improving working conditions (World Health Organization, 2021). Considering Rwanda's context, the following strategies emerge from the evidence for potential consideration:

Revise health worker job classifications and pay scales

Objective

Align remuneration and structure a compensation strategy competitive with market rates, aiming to reduce health worker attrition.

Approach

Conduct a health labour market analysis that includes an exploratory study of wage expectations (comparing current earnings with transfer earnings and economic rent), as well as competitive pay benchmarking for various roles within the sector, assessing the forecasted wage bill and its implications for the production and distribution of the health workforce. This may include progressively adjusting public sector remuneration towards the expected transfer earnings of workers to reflect private sector competitiveness and potentially enhancing both financial and non-financial incentives.

Implications and challenges

Improved remuneration could enhance motivation and job satisfaction, thereby increasing retention and talent attraction. A key challenge is ensuring that the health sector's budget can sustainably accommodate the revised pay scales. Another anticipated challenge includes maintaining equity across the roles within the health sector and ensuring policy harmonisation with broader public sector pay in Rwanda to promote fairness across sectors. This may require inter-ministerial consultations to ensure that any adjustments in remuneration are part of a broader strategy that accounts for fiscal constraints and the priorities of the government.

Expand health training programmes, support enrolment, and incorporate a rural focus

Objective

Improve motivation and retention among health workers and broaden career progression opportunities by improving training and continuing professional development options, while supporting enrolment in these schemes.

Approach

Plan and implement interventions that improve access to a variety of high-quality higher education training programmes, establishing clear and attractive career progression pathways. This should align with the ongoing efforts outlined in the NSHPD (2020-2030). Key elements include:

- **Incentive structure:** Implement financial incentives (e.g. living stipends, salary support during studies, and loan forgiveness) and non-financial benefits (e.g., guaranteed job placements and fast-track career advancement opportunities) to facilitate and motivate individuals to enrol and complete these programmes.
- **Rural focus:** Incorporate specific elements to improve retention in rural and underserved areas, such as targeting admissions policies, locating education facilities in rural areas, providing targeted support (financial, academic, and social), and supplementing in-person opportunities with digital tools.
- **Local stakeholder involvement:** Ensure the involvement of key stakeholders (including rural health workers) in the implementation of the suggested strategies to meet needs.

A key issue identified in the NSHPD (2020-2030) is that, despite the availability of higher education courses, enrolment has been relatively low for some courses. Therefore, with 4x4 reforms, the medical training was extended to other universities and high learning institutions to improve access to these education opportunities, including outreach, financial assistance, and flexible learning options.

Needs assessment

As initiated in the NSHPD (2020-2030), a thorough analysis of the current public sector entry rate of graduates and public sector attrition rate is needed to identify the specialities and training programmes most needed within the Rwandan health sector. This assessment will inform the fine-tuning of training expansion strategies and associated access incentives, ensuring alignment with the existing contract retention strategy for beneficiaries to remain within the public sector.

Implications and challenges

This strategy aims to expand training opportunities and make them attractive to support and encourage participation. Expected outcomes include improved job satisfaction, diversified career pathways, and a more skilled health workforce. Key challenges include financial constraints and the required investment, ensuring the long-term sustainability of training programmes and incentive structures, and overcoming capacity limitations in accommodating additional programmes, which may require innovative solutions.

Enhance horizontal and vertical promotion mechanisms

Objective

Harmonize promotion mechanisms across all health care professions to motivate and retain health care workers within Rwanda's public health sector.

Approach

The specific criteria, processes, and opportunities for both horizontal and vertical promotion in health care could be outlined by the MoH. This could include establishing transparent, merit-based criteria for horizontal and vertical promotions (e.g., considering performance evaluations, professional development achievements, and contributions to health care outcomes), and should be linked with opportunities for further training and professional development.

Promotion types

Health professionals can be promoted horizontally or vertically. Horizontal promotions increase responsibilities and skills within the same job role, potentially with added compensation. Vertical promotions elevate the employee to a higher job title or rank, including more responsibilities and a higher compensation package.

Implications and challenges

By making the promotion process more transparent and merit-based, health care professionals are more likely to feel valued, leading to higher levels of motivation and job satisfaction, thereby contributing to the retention of skilled professionals. Ensuring fairness and objectivity in the promotion process may require regular audits of the system to prevent biases and ensure equity.

Improve in-kind benefits such as accommodation assistance

Objective

Introduce non-financial incentives such as accommodation support for health care workers to enhance retention in the public sector, improve health worker distribution, and attract professionals to underserved and rural areas.

Approach

Strategies might include providing or subsidizing accommodation, particularly in areas where the housing market is competitive and poses significant challenges. Engaging in public-private partnerships could secure sustainable financing and efficient management of accommodation facilities. Special focus on facilitating the relocation of health care workers to rural settings could be beneficial through comprehensive housing support within relocation packages. This approach not only addresses immediate accommodation and incentive needs, but also contributes to a more equitable distribution of health care services. Other potential benefits to consider could include additional leave, insurance coverage, tax relief, education subsidies for health workers and their families, and employment opportunities for spouses (World Health Organization, 2021).

Implications and challenges

Improving non-financial incentives is expected to make the health sector more attractive, thereby supporting the recruitment and retention of health workers. Financial sustainability and fair allocation of accommodation pose challenges, requiring ongoing partnerships and assessment of the costs and benefits of the different options.

These potential strategies require careful planning, implementation, and monitoring to assess their effectiveness in addressing Rwanda's high health sector attrition. Building on relevant case studies or pilot programme results will help to understand the practical applicability of these strategies in Rwanda.

Conclusion

Human resources are an essential component of the health system and essential for achieving UHC and the SDGs. Over the past decade, Rwanda has made commendable progress in establishing a skilled health workforce. Strategic initiatives, such as the HRH Programme (2012-2019) and the NSHPD (2020-2030) have significantly contributed towards achieving this goal. The establishment of the HRH Secretariat has underscored Rwanda's commitment to attracting, training, and retaining health professionals, as well as addressing key inputs to educational programmes in the health sector and ensuring practising providers deliver high-quality care.

Despite these advances, high staff attrition remains a significant challenge. The reasons for high levels of voluntary attrition are multifaceted, driven by factors like inadequate remuneration, heavy workloads, and competition from the private sector. These challenges, mirroring those experienced across Africa, underscore the need for Rwanda to prioritize retention alongside workforce development, thereby recognizing it as an integral part of health sector planning.

Rwanda's innovative strategies, as discussed in this policy brief, constitute a proactive approach to retention. The strategies include training opportunities associated with contract retention mechanisms, performance-based incentives, access to finance, and the implementation of a dual clinical practice policy for health professionals. To further improve retention, additional strategies are essential, targeting different aspects of motivation and retention. Proposed strategies aimed at improving remuneration, training accessibility, career progression, and non-financial benefits, like housing support, form a comprehensive plan to mitigate attrition. The impacts and challenges associated with these strategies, including those already implemented, are not fully understood, thereby underscoring the need for more extensive evaluation and assessment of the potential benefits and trade-offs. Such monitoring and evaluation should be prioritized and embedded in new strategies.

Implementing retention strategies must also consider the diverse needs of health care professionals, based on their roles, the level of specialisation, and work locations (e.g., urban or rural). In addition, addressing high attrition must be coupled with combating workforce distribution inequities between and within provinces and districts. These factors necessitate a robust data-driven approach, facilitating timely and informed policies and retention strategies.

In conclusion, while Rwanda advances towards strengthening its workforce, efforts continue to be affected by high staff attrition. Addressing this challenge requires a comprehensive and multifaceted approach that includes improving remuneration, offering clear career advancement opportunities, and enhancing working conditions. Increased and sustainable financing, alongside strategic resource allocation and political commitment, are crucial to achieving these objectives. The HRH Secretariat, in collaboration with MoH, health facilities, academia, the private sector, and other partners, stands in a pivotal position to address high levels of attrition, and thereby advance Rwanda towards its Vision 2050 goal of universal access to high-quality health services. The opportunity for regional and global collaboration presents a platform for shared learning and strategy fine-tuning, essential for tackling common challenges in health workforce retention.

Policy implications

This brief highlights several policy implications for reducing health worker voluntary attrition and enhancing retention strategies in Rwanda. They set out possible ways to improve future practice, highlight key issues, and encourage cross-country learning. Analysis of the policy implications and strategies emerging from the evidence may inform the review and update of the NSHPD (2020-2030) to improve the retention of health workers. Key policy implications include:

Integrated health worker production and retention

Rwanda's experience highlights the need to integrate efforts to increase the production of health workers with effective retention strategies.

Proposed retention policy options

To effectively address the causes of attrition, proposed complementary strategies for consideration include:

- **Competitive remuneration:** Develop health worker classifications and pay scales competitive with market rates to adequately reward professionals.
- **Expanding training and enrolment incentives:** Expand and incentivise health training programmes, aligning with priority areas outlined in the NSHPD (2020-2030). Financial and non-financial incentives should support enrolment and completion, particularly in underserved areas.
- **Promotion mechanisms:** Institutionalise clear mechanisms for horizontal and vertical promotions to foster clear career progression paths within the public health sector.
- **Non-financial incentives:** Enhance non-financial incentives, such as housing support, with a focus on addressing rural-urban disparities.

Tailored strategy implementation

Ensure that retention strategies are specifically tailored to account for profession type, the level of specialisation, the location (urban or rural), and existing policies and programmes.

Prioritising evaluation

Conduct regular and systematic evaluations of current and new retention strategies utilising data from existing digitalized data systems to understand their impact, identify areas for improvement, and ensure that resources are allocated efficiently. This data-driven approach will facilitate informed and responsive policy-making.

Sustainable investment

Recognize the need for sufficient and sustainable funding for health worker salaries, benefits, and training. Exploring innovative financing solutions and increasing investment in the health sector is crucial for long-term sustainability and effectiveness of retention strategies.

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The WHO Regional Office for Africa

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