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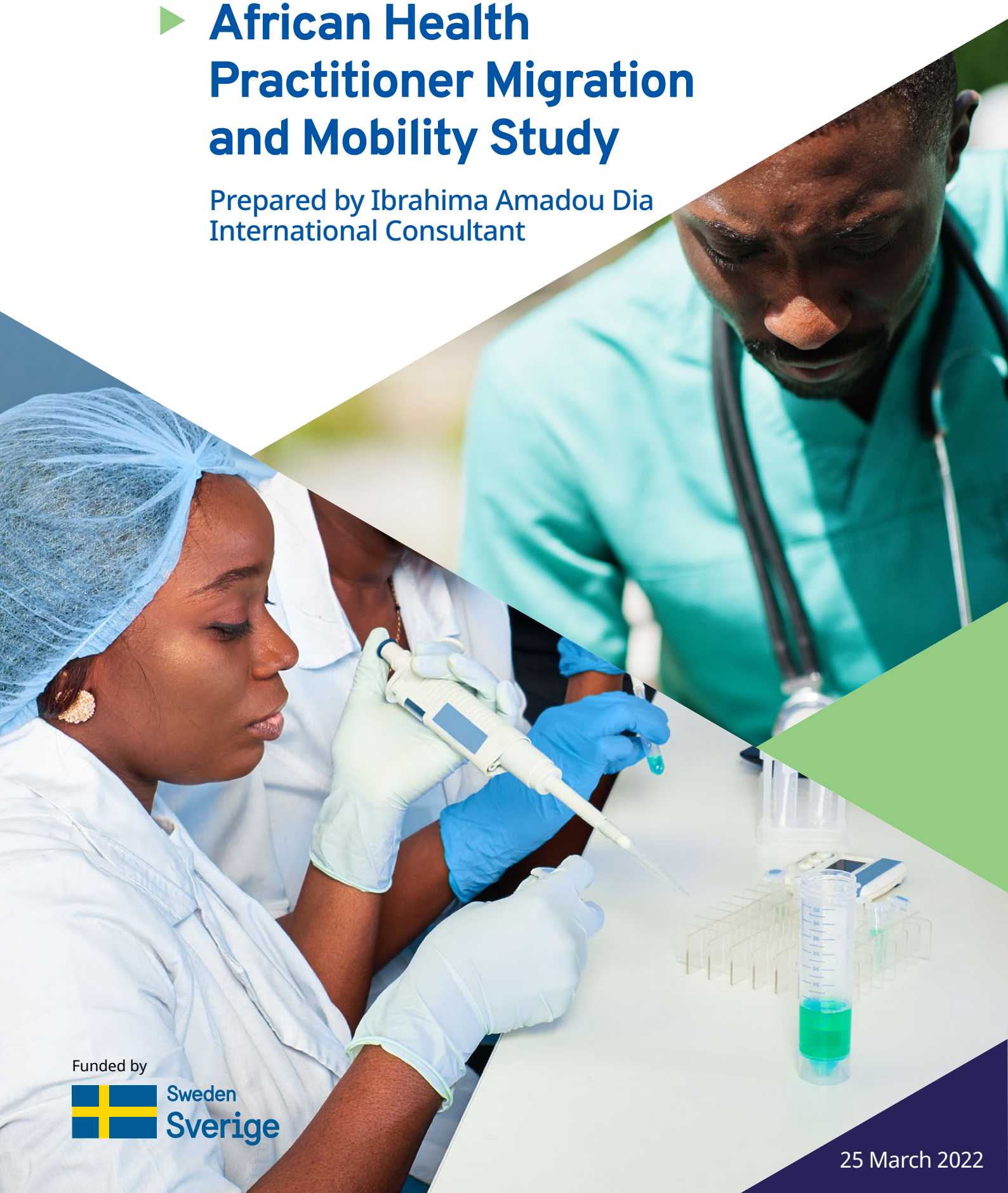
World Health Organization

African Health Practitioner Migration and Mobility Study

Prepared by Ibrahima Amadou Dia
International Consultant



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Contents

List of tables

List of boxes

List of figures

List of acronyms and abbreviations

AfCFTA	African Continental Free Trade Area
Africa CDC	Africa Centres for Disease Control and Prevention
AHS	Africa Health Strategy (2016-2030)
ANPA	Association of Nigerian Physicians in the Americas (ANPA)
AU (FMP)	African Union Free Movement of Persons
AU (MPFA)	Africa Union Migration Policy Framework for Africa
AUC	African Union Commission
AU	Africa Union
BBC	British Broadcasting Corporation
CNOM	Conseil National de l'Ordre des Médecins
COVID-19	Coronavirus disease
ECCAS	Economic Community of Central African States
EGP	Egyptian Pound
ETB	Ethiopian Birr
EEA	European Economic Area
ENAHPA	Ethiopian North American Health Professionals Associations
EU	European Union
GATS	General Agreement on Trade in Services
GCC	Gulf Council Cooperation
GCIM	Global Commission on International Migration
GCM	UN Global Compact for Safe, Orderly, and Regular Migration
GDP	Gross Domestic Product
GHS	Ghanaian cedi
HIVAIDS	Acquired immune deficiency syndrome
HIV and TB	HIV and Tuberculosis
HRH	human resources for health
JLI	Joint Learning Initiative
JLMP	Joint Labour Migration Programme
ICN	International Council of Nurses
ICT	Information Communication Technology
ILO	International Labour Organization
IMGs	International medical graduates
IMGTI	International Medical Graduate Training Initiative
IOE	International Organisation of Employers
IOM	International Organization for Migration
ITUC	International Trade Union Confederation
OECD	Organization for Economic Cooperation and Development
MAD	Moroccan Dirham
MIDA	IOM Migration for Development in Africa

MS	Member States
MWK	Malawian Kwacha
NAFTA	North American Free Trade Agreement
NEPAD	New Partnership for Africa's Development
NHS	UK National Health System
NGN	Nigerian Naira
NGO	Non-Governmental Organization
NMC	UK Nursing and Midwifery Council
OATUU	Organization of African Trade Union Unity
RCN	UK Royal College of Nursing
RECs	Regional Economic Communities
RNs	Registered Nurses
SANSA	South African Network of Skills Abroad
SDGs	Sustainable Development Goals
SMPs	Skills Mobility Partnerships
TB	Tuberculosis
TRQN	Temporary Return of Qualified Nations
UHC	Universal Health Coverage
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Program
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNCTAD	United Nations Conference on Trade and Development
UNGA	United Nations General Assembly
USA	United States of America
USD	United States Dollars
VSO	Voluntary Service Offices
WHA	World Health Assembly
WHO	World Health Organization
NHWA	WHO National Health Workforce Accounts
WTO	World Trade Organization
WONCA	World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians
XAF	Central African CFA Franc
XOF	West African CFA Franc
ZAR	South African Rand

▶ Executive summary

I. Introduction

This study is carried out by the ILO in close collaboration with the AU, WHO, and IOM. It is within the framework of the JLMP (Joint Labour Migration Programme) jointly coordinated by the ILO, AUC, IOM, and UNECA that aims to strengthen labour migration governance in Africa. It aims to enhance understanding of the causes and drivers of Africa's health worker migration, its patterns and trends, its impacts on origin and host countries and African health worker migrants, and the policy implications to address its challenges and minimize its negative impacts. This study is expected to contribute to laying the foundations for an AU Continental Policy on African Health Practitioner Migration and Mobility.

From an analytical standpoint, this study draws on the debates on brain drain, brain waste, brain gain, and brain circulation surrounding the international high skilled migration, especially health worker migration. From a methodological standpoint, this study employs a scoping and critical literature review, qualitative and quantitative research involving various stakeholders (representatives of African Member States and regional economic communities, African health worker migrants and diaspora organizations, representatives of international organizations, representatives of employers and workers organizations, civil society organizations).

II. International health worker migration: a core issue in the international agenda

Migration of health workers is at the heart of the global policy agenda as exemplified by various national and international dialogues to improve understanding of this phenomenon and address its health, migration, labor, and development implications. In its resolution (WHA 57.19), the World Health Assembly recommended strengthening understanding of the international migration of health workers and responding to its challenges for national health systems, especially its effects on economically vulnerable countries facing fragile national health systems. Ensuring ethical governance of migration and mobility of health workers and respect of international human rights instruments and labor standards in the recruitment and mobility of health workers are prominent elements on the agenda of the WHO, ILO, IOM, AUC, and other relevant international and regional organizations.

The WHO Global Code of Practice on the International Recruitment of Health Personnel, adopted in 2010, is one of the critical instruments for the governance of international migration and mobility of health workers. The Report of the WHO Expert Advisory Group on the Relevance and Effectiveness of the WHO Global Code of Practice on the International Recruitment of Health Personnel stressed strengthening the national health workforce to achieve the universal health coverage and the U.N. SDGs. Considering the recommendations of the Report and WHA 73(30), the WHO Secretariat has elaborated the Health Workforce Support and Safeguards, List 2020.

Recently against the backdrop of the unfolding COVID-19 situation and its underlying deaths and devastation, and adverse effects on health workforce and national health systems' sustainability, health worker migration and mobility have also raised concerns among national and international stakeholders.

Key international instruments/ platforms related to health worker migration governance:

- The WHO Global Code of Practice on the International Recruitment of Health Personnel,
- The WHO, ILO, and OECD International Platform on Health Worker Mobility,
- Mode 4 of the General Agreement on Trade in Services (GATS),
- United Nations international normative instruments, mainly the 1990 International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICRMW) and the 1951 Refugee Convention and its 1967 Protocol,

- ILO International Labour Standards (Migration for Employment Convention (Revised), 1949 (No. 97), and the Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143), as well as the Migration for Employment Recommendation (revised), 1949 (No. 86), and the Migrant Workers Recommendation, 1975 (No. 151), the C149 - Nursing Personnel Convention, 1977 (No. 149), the ILO Nursing Personnel Recommendation, 1977 (No. 157) and the ILO Multilateral Framework on Labour Migration, ILO Fair Migration Agenda, the ILO General Principles and Operational Guidelines for Fair Recruitment),
- The IOM Migration Governance Framework,
- UN Global Compact for Safe, Orderly, and Regular Migration,
- Skills Mobility Partnerships (SMPs).

Key African Union regional policy instruments related to health worker migration governance:

- The revised African Union Migration Policy Framework for Africa;
- The African Union passport and the African Union Free Movement of Persons (FMP) Protocol;
- The African Continental Free Trade Area;
- The A.U. Agenda 2063; and,
- The Africa Health Strategy 2016-2030.

III. Africa's international migration of health workers: challenges on statistics and data collection

The lack of accurate, reliable, and disaggregated data and empirical studies, problems related to the international comparability of statistics and terminology, conceptual and methodological gaps and other constraints hinder a better understanding of the African health worker migration's causes, trends, and impacts. The lack of accurate and reliable data on African health worker migrants disaggregated by age, sex, occupation, country of training, level of education, migration trajectories, and other socioeconomic variables alongside the lack of accurate and updated databases of the existing workforce and the lack of reporting of those who left are also additional elements to the policy conundrums underlying Africa's migration of health workers.

IV. Magnitude and patterns of Africa's international migration of health workers

African health workers' migration and mobility have complex patterns, trends, and dynamics. The international migration and mobility of African health workers include both temporary and permanent movement and go beyond the Global South to the Global North axis. Besides the mobility to OECD countries, there are patterns of intra-regional movement of African health workers. The international migration of African medical students is associated with the globalization of health worker education and the internationalization of health labour markets.

Contemporary patterns of health worker migration include South-South and intra-regional movement of healthcare workers. Gulf countries and African countries are emerging as significant destinations for Africa's international migration of health workers. While there are different types of Africa's health worker migration (permanent move, circular or temporary migration, etc.), recent trends of health workers' migration suggest increasing temporary migration though there is a lack of accurate and reliable statistics to assess its extent and magnitude. The existence of temporary migration of African health workers (alongside permanent African health worker migration) challenges the tendency to view migration of African health workers as only a one-way or permanent movement and should be understood against the backdrop of increasing restrictive visa and migration policies, constraints related to the recognition of foreign skills and qualifications and the challenges in accessing the host country labour markets, among other elements. While some African health worker migrants are moving abroad on a permanent basis, others migrate for a few years to strengthen their skills and qualifications and their financial capital with the view to return to their country of origin.

V. Causes and drivers of Africa's health worker migration

Africa's health worker migration is a result of an interlocking of economic, political, social, demographic factors and circumstances and unfavorable structural conditions. The search for educational and training opportunities, higher wages, favourable working conditions, and balanced work and life are among the causes of the migration of African health workers to high-income countries. Uneven economic development between origin and destination countries, poverty, financial crisis, political unrest and conflicts, low salaries, difficult working and living conditions, human rights violation are some of the many drivers of Africa's health worker migration. Also, lack of opportunities for upward professional mobility increases the probability for international migration of African health personnel in search for greener pastures. Unemployment, underemployment, and skill mismatch of African health workers can influence their decision to migrate. Exposure to health risks, poor management of health systems, and other unfavourable structural conditions can accentuate the international migration of African health workers. Family reunification, linguistic, cultural, historical, and geographical links and other non-economic factors also can influence African health workers migrants' decision to migrate.

VI. Impacts of the migration of African health workers

Impacts on country of origin

On the one hand, migration of African health personnel can accentuate the crisis of health system in African countries, particularly among low-income African countries already experiencing health workforce deficit and weak national health system. The health systems in most African countries have limited capacities to respond to the increasing diseases and other health risks and the international health worker migration can accentuate the shrinking of the health system, thus affecting the health conditions of the populations, especially the socioeconomically vulnerable ones. As the availability of sufficient and well-trained skilled health workers is critical for sustaining the health sector, African health worker migration can accentuate the challenges to ensure the quality of health delivery and improve the health conditions of the population. The negative impacts of international migration of African health workers stem from the loss of investment of countries of origin in the education and training of their nationals as they move in search for greener pastures. According to estimates from international organizations such as the UNCTAD (Marchal and Kegels 2003), the migration of African health personnel represents a net loss for African countries in terms of human and financial capital. The African continent is said to lose 184, 000 US $ for each African professional working abroad and at the same time, foreign experts working in Africa costs 4 billion US $ per year to the continent.

On the other hand, African health worker migration can be beneficial to African countries in terms of knowledge transfer, remittances transfer and foreign direct investment. It can contribute to strengthening human capital by enabling skills and knowledge transfer, remittances transfer, and educational and training opportunities. However, the negative impacts of African health worker migration on the national health systems tend to outweigh the positives, especially in low-income countries.

Impacts on destination countries

The reliance of high-income destination countries on the international recruitment and migration of health workers can weaken the domestic human resource for health and hinder the sustainability of the health workforce and health systems. High income destination countries confronting chronic shortage of health workers consider policies aimed at attracting and significantly retaining their nationals in health professions as a strategy to address their high dependence on the international recruitment and migration of health workers.

However, high income destination countries tend to be the main beneficiaries of health worker migration. The reliance of international expertise enables huge savings in education and training. Health worker migration can help respond to the chronic shortage of health personnel in high income countries though on a short-term basis. However, there are concerns about the ethical aspects of the international health worker recruitment for African origin countries with already weak health workforce and health system.

Globalization of the health workers' labor market and the liberalization of health services tend to be detrimental to developing countries, especially African countries.

Impacts on health worker migrants

The international migration of African health workers can lead to positive outcomes for the health worker migrants, their families, and communities in terms of improving their living and working conditions and career development, providing support in the form of remittances, and building health centers, to name but a few. African diaspora health workers can play a major role though they cannot alone address the many fundamental challenges affecting the public health in the African continent.

Furthermore, the experience of discrimination, racism, and xenophobia at workplace and in the wider sense of community confronting African health workers can affect their wellbeing and self-esteem and increase their vulnerability to precarious living and working conditions, abuses and exploitation, and brain waste situation, which can be a triple loss (for the African health worker migrants themselves, the origin, and the host country).

VII. Review of policy implications on health worker migration

Health worker migration is often considered in the literature within the broader context of high skilled international migration. Policies related to health worker migration aim to maximize its benefits and minimize its negative effects especially for developing origin countries. Strong economic growth, political stability, democracy, and respect for the human rights are crucial to attract back and retain highly skilled workers, including health workers.

African countries have attempted to respond to the adverse effects of international migration of health workers by devising sets of policies, including restricting health worker migrant flows, improving the working conditions of healthcare workers, addressing the structural crisis affecting the national health workforce and health systems. Keeping and retaining the health workforce and strengthening the domestic health workforce through favorable employment and remuneration conditions and improving health training and education are essential to meet the complex healthcare needs.

However, these policies have been largely inefficient or inadequate as they fail to address the multifaceted challenges underlying the African health workforce migration. Beyond the national health system crisis and the global shortage of healthcare workers, the poor health system governance, socioeconomic development problems alongside the internationalization of health education and labor markets and other structural elements need to be taken into consideration in formulating policies to address the challenges of Africa's health worker migration. Moreover, the diversity of national contexts, different levels of socioeconomic development, and conditions should be considered when devising policies and measures on health worker migration governance. International or multilateral and regional policy dialogues and instruments are crucial for effective governance of health worker migration but the lack of implementation of these international and regional instruments and their domestication into national policy and institutional frameworks remain a significant challenge. African countries alone cannot address the health worker migration governance- related problems and the impacts of this type of migration on the national health system and the socioeconomic development. An effective governance and management of international migration of health workers requires a strong partnership between origin and destination countries. An effective implementation of the WHO Code and a formulation of relevant continental and regional policies and measures to address the adverse effects of health worker migration and maximize its potential benefits constitute significant steps to strengthen the health worker migration governance in Africa.

In what follows, some of the policy implications on health worker migration for origin countries are summarized drawing on the literature review and findings from the qualitative interviews.

Policies on staff retention to address shortage of health personnel and health workforce imbalances

Health workforce retention policies should underscore various elements, including policies on health worker production, policies to respond to health worker migrant inflows and outflows, and policies to respond to the maldistribution of health workers and inefficiencies.

Strengthening health human resource planning policies

The national human resources for health plans should include policies and measures aimed at addressing the negative impacts of brain drain in the health system such as improving the living and working conditions of health workers in the countries of origin, facilitating a better work and family life balance, and improving remuneration and working conditions.

Return of migrants to their home country and resourcing of expatriates (diaspora option)

The Diaspora option has the potential to reduce brain drain and brain waste by enabling the engagement of the skilled African diaspora into the development of their country of origin. Policies and programs that promote successful return of African health diaspora workers or mobilize them on a temporary basis to contribute to improving the healthcare to vulnerable groups overall to strengthening the capacity of public health institutions on quality healthcare. Such policies and programs can enable skills and knowledge transfer for the benefit of the home country public health sector trough capacity building and training schemes carried out by African health workers abroad to the local health workers.

Reparation for loss of human capital

In the past, international organizations such as the UNCTAD (1976) suggested compensation measures for the reparation for the loss of human and financial capital due to the brain drain or negative effects of skilled migration, especially in the health sector. These suggested policies and measures to address the brain drain problem in developing origin countries, especially African countries included taxation and compensation mechanisms. However, these policies measures were unsuccessful due to various hindrances, including the difficulty for their implementation and the fact they do not address the root causes of international migration.

Restriction of international mobility

Restrictive measures aim to counterbalance the increasing outflows of skilled health workers from lesser developed countries and to promote the retention of health workers, especially from low-income countries. They aimed at encouraging the return of students upon completion of their studies abroad. However, these policies and measures restricting the international mobility of health workers and medical students have been unsuccessful and widely criticized not only for their ineffectiveness but for the fact they constitute a violation to the rights to mobility, which is a human rights violation. In the same vein, measures such as withholding academic certificate until the students return to the country of origin is counterproductive. Overall, restriction of international migration through strategies of bonding health workers to government after their training was unsuccessful because healthcare workers could find alternative to escape from these restrictive policies and measures.

Promoting implementation of the WHO Code of Practice for the Recruitment of International Health Personnel

Effective implementation of the WHO Code of Practice can help to ensure the ethical recruitment of health personnel. It can contribute to addressing the negative impacts of health worker migration on the health systems and the health conditions of the populations, especially in African countries.

Foster Skills Mobility Partnership (SMPs)

The Skills Mobility Partnerships suggests a win-win situation benefiting the origin and destination countries and migrant themselves. It considers the need of destination countries in terms of skilled workers as well as the need to strengthen training and skills development in the countries of origin. Skills Mobility Partnerships constitute an avenue to strengthen the nexus between migration and skills development for win-win drive for migrants, and origin and host countries, in line with the Global Compact for Migration.

Address brain drain, brain waste, and promote brain grain

The brain drain is considered a fundamental challenge for the sustainability of health systems of African countries that have undergone structural crises for several decades. It is seen as one of the setbacks undermining the already weak capacities of national health systems of most African countries overwhelmed by increasing burden of diseases, alongside shortage of health workers and rising international health worker migration. Policies to minimize the brain drain in the health sector include task-shifting, improved remuneration conditions, regulatory schemes to retain and attract back health workers, health workforce regulation and governance, compensation measures, bonding, political stability, recruiting international health workers, improving training and education, fostering remittances, knowledge and skills transfer, among others. However, their effectiveness depends on the origin and host country' structural conditions including the level economic development, political stability, the effectiveness of policy and institutional frameworks related to health, labour, migration, and development and whether there is a conducive environment to keep and attract back highly skilled workers, among others.

Need for a balanced approach

Leading destination countries of international migration of health workers in the global North use various incentives to retain and attract foreign-born health workers, as they rely on international health workers to address their chronic health workforce shortage. On the one hand, policies aimed at restricting international health workers' migration constitute a human right violation as they infringe to the right to mobility, which is a fundamental right. On the other, the migration of African health workers, especially from low-income African countries faced with a shortage of health workforce and weak health systems, hinders the prospect of inclusive and sustainable socioeconomic development. Therefore, there is a need for a balanced approach to the health worker migration issues by taking into consideration both the right to mobility of health workers, the right to healthcare of the population and the right of the people and countries of origin to benefit from return from the investment in the training of these African health workers.

Strengthen the governance of health worker migration

An effective governance of health worker migration requires strong engagement of origin and destination countries to tackle the adverse effects of the international recruitment of health workers and the shortage of health staff, ensure self-sufficiency in the health workforce and strengthen the health systems. It requires strong commitment of the origin and destination countries to mitigate the negative effects of health worker migration and maximize its development potential.

Strengthen international cooperation on health worker migration management

Effective partnership between the source and origin countries is crucial to strengthen international cooperation on health worker migration management. This could help to address the setbacks underlying the international recruitment and migration of African health workers. However, the different levels of economic development and the ability of high-income recipient countries to retain and keep foreign-born health workers, unlike developing origin countries, constitute an impediment among many others for enhanced cooperation of managing the international recruitment and migration of African health workers.

Learning from the COVID-19 pandemic

There is a strong need to establish a continental policy framework for better governance of African health workers' migration and mobility of health workers against the backdrop of the unfolding COVID-19 pandemic and other transnational health risks.

As the COVID-19 pandemic may result in significant shifts in patients' access to care with the increasing digitalization of access and consultations with general practitioners and hospital specialists, African policymakers should explore ways to strengthen the engagement of African health workers diasporas through the use of information communication technology. Moreover, there is a need to strengthen African health migrant workers' e-health initiatives for the benefit of the national health systems in Africa.

Conclusion

African health worker migration results from several factors including the crisis of health systems in most African countries that contributes to accentuate it. The global shortage of health personnel is expected to continue in the future, thereby increasing the reliance of high-income destination countries on the international health workers and the magnitude of health worker migration from developing countries, including African countries. There is a nexus between international student migration and African health workers' mobility and migration as the former constitutes a steppingstone for the later. Hence, African health workers may migrate to further their studies and training with some coming back after gaining skills and capitals abroad while other remaining abroad.

International migration of health workers has raised various concerns among African governments about addressing its negative impacts on the health systems in the country of origin. Addressing the brain drain and brain waste and promoting brain gain diaspora option and human rights-based approach to labour migration, and protecting the rights of health migrant workers and ensuring the sustainability of the national health systems represent some of the policy options to address the challenges and opportunities of international migration of health workers on African countries.

For most African countries, one of the fundamental challenges is responding effectively to the many constraints affecting their already weak national health systems and health workforce, including poor health human resource planning that have resulted in significant healthcare workers' drop out, discontent, and out migration. Moreover, most African countries have not effectively mainstreamed migration into their development policies or lack migration and development policies that could help to foster the potential benefits underlying health worker migration and minimize its negative impacts.

For high-income destination countries, the international recruitment of health personnel can partially help to respond to the chronic shortage of health workers. However, the international recruitment and migration of health workers should not be considered a durable solution as it raises ethical concerns, especially for low-income countries faced with already weak health workforce and health systems.

The adoption of the WHO code for the ethical international recruitment of health workers reflects the need to address the negative impacts of health worker migration, including the abuses and violation of human rights and fundamental rights facing the health workers though one of the main challenges is the lack of implementation of this WHO Code, as well as other international instruments related to health worker migration. The multifaceted impacts of the international migration of African health workers require multi-stakeholder and multi-sectoral perspectives to address its underlying challenges and opportunities. African governments and Regional Economic Communities (RECs) should consider Africa's health worker migration and its various consequences on the health system and overall Africa's development a priority in their policy agenda and commit to address these complex challenges through effective policies and measures. An AU Continental Health Practitioner Migration and Mobility Policy could help to address the challenges and opportunities underlying African health worker migration and mobility in line with the AU Agenda 2063 and the UN SDGs.

I.
Introduction, analytical and methodological frameworks

1. Introduction

International migration of skilled workers has raised concerns among African governments about maximizing its development potential, and minimizing its negatives, especially in the health sector. Addressing the Africa's brain drain and brain waste problems that hinder national socioeconomic development and scientific and technological capacities and promoting brain gain, scientific or knowledge diaspora networks or brain circulation (see box no. 1 for the definitions of these notions) represent some of the policy options to minimize the adverse effects of Africa's skilled international migration (Dovlo 2005, Zimbudzi, 2013, Chikanda 2006, Labonté et al. 2015).

The issue of the brain drain, including in the health sector has been an enduring problem for developing countries, especially African countries. The WHO (i.e., WHO 2006, WHO 2020), the United Nations (i.e., UN 2010), the UNDP (UNDP 2009), the formerly Global Commission on International Migration (GCIM 2005), the ILO (2006), and other international and regional stakeholders recommended addressing the challenges of international migration of health workers that impede the health system and socioeconomic development of developing origin countries, especially in Africa.

Debates about brain drain in the African context revolve around the negative impacts on international migration of skilled African workers, particularly in the health sector against the backdrop of the already fragile national health systems in most Africa countries, the difficulty to retain and attract African health workers, the global shortage of health workforce, the increasing internationalization of the health labor market and the need of high-income destination countries to respond to the deficit of healthcare workers, the aging of the population and workforce and complex healthcare needs (Dovlo 2005, Zimbudzi 2013, Chikanda 2006, Labonté et al. 2015), among other issues.

The complexity of healthcare needs, the increasing aging of the population and other sociodemographic and economic challenges accentuate the health care systems crisis in general. One of the fundamental challenges facing healthcare systems in developing as well as developed countries is the healthcare workers' shortage. Demographic, socioeconomic shifts and other societal challenges have accentuated the shortage of health workers in developed and developing countries, especially among nursing and physician staff. The global shortage of health workers and its implications on the international migration of health workers have raised many concerns among national governments and international organizations regarding the sustainability of the health human resources and national health systems. While high income countries rely on the international recruitment and migration of health workers to address the increasing demand for health workers of their national health systems and set up policy incentives to address imbalances in the health labor markets, healthcare systems in developing countries often are confronting enduring chronic health workforce shortage due to structural crisis hindering their national health systems, including poor funding that impede training or retraining of significant numbers of health workers (nurses, physicians, allied health workers, etc.) (Stewart, Clark, and Clark 2007: 1, Jensen 2013, WHO 2006, WHO 2020a, WHO 2020b, WHO 2017, WHO 2016).

The international health workers' migration has various trends, patterns, and dynamics: migration from developing to developed countries, between developed countries, between developing countries, etc. On the one hand, the internationalization of health education and globalization of labor market provide opportunities for health staff to strengthen their skills and qualifications, career, improve their living conditions and nurture their sociocultural experiences and for developed countries to respond to the shortage of health workers. On the other hand, they result in sets of setbacks especially for developing countries regarding the brain drain of health workers and its major hindrances on access to adequate healthcare. The main policy implication is, therefore, how to balance the competing interests of various actors involved in the international migration of health workers (health workers, origin countries, destination countries) (Stewart, Clark, and Clark 2007: 1, Jensen 2013).

The literature of international migration of health workers from developing countries, especially from the African region focus on various issues, to name but a few: deepening understanding of African health workers' migrant flows, estimating the extent and magnitude of these migrant flows, strengthening the national health workforce and finding alternatives to the departure of internationally trained health workers, enhancing the development potential of health migrant workers (by leveraging remittances and

knowledge transfer and health system's capacity building), ensuring ethical recruitment of these health migrant workers, asking for compensation measures, elaborating policies to mitigate brain drain and promote brain gain (e.g., Dovlo 2005, Dovlo 2004, Hongoro and McPake 2004, McPake B. 2004, Labonté et al. 2015,).

The international health workers' migration and the shortage of health workers have raised many concerns among African governments (AUC 2020)[1] and regional (RECs) stakeholders, and international financial and technical partners. They have been discussed in multiple fora and consultations, including the World Health Assembly (e.g., WHO 2020a, WHO 2020b, WHO/World Health Assembly (WHA 57.19) 2004) and United Nations High-Level Dialogue on Migration (IOM n.d.), to name a few.

The JLMP, a joint initiative of the AU, IOM, ILO, and UNECA, is committed to strengthening the capacities of AU Member States (M.S.) and Regional Economic Communities (RECs) on elaborating regional mutual recognition schemes drawing on the key sectors and occupations identified by the A.U. It aims to contribute significantly to "Supporting the development of regional mutual recognition arrangements in African Union identified sectors and occupations". This study falls within the JLMP Priority's Output 1.4 "Labour migration stakeholders in Africa are capacitated to address the skill dimension of labour migration governance."

The study aims to provide an in-depth understanding of Africa's international migration and mobility of health workers, considering various sectors and A.U. Member States, which would lay the foundation for an A.U. Health Practitioner Migration and Mobility Policy. This study s conducted in close conjunction with ILO, WHO, AUC, IOM, UNESCO, Global Skills Partnership (comprised of ILO, IOM, UNESCO, ITUC and IOE) and other relevant partners.

Overall, this study endeavors to:

- Contribute to enhancing the governance of the migration and mobility of health workers at the continental level, to maximize its positives and minimize its negatives for origin and destination countries;
- Provide inputs to support MS and RECs in elaborating well-balanced health workforce development and the ensuing strategies and policies related to mobility, thereby contributing to strengthening national health systems in their endeavor to attain healthcare for all; and
- Contribute to enhancing fair and ethical governance of labour migration in the health sector, especially health worker migration and mobility in line with the WHO Code of Practice and relevant international human rights and labour standards.

More specifically, this Study provides an overview of contemporary trends and policies on the international migration and mobility of health workers and recommendations to address health worker migration data gaps.

2. Analytical and methodological frameworks

Health workers are internationally recruited on a temporary and permanent basis, and this has been interpreted varyingly by scholars and policymakers (e.g., Stewart, Clark, and Clark 2007: 1, Jensen 2013, WHO 2006) either from a pessimistic (brain drain, brain waste) or optimistic (brain gain, brain circulation, scientific or knowledge diasporas networks or "diaspora option") standpoint. (See box 1 for a definition of these terminologies, and for general and critical overview of these approaches, see for instance: Wickramasekara 2003, Findlay and Lowell 2002))

1 See for instance the virtual conference organized by the African Union's Labour Migration Advisory Committee (LMAC) on July 2020 on the mobility of African health workers in the context of post COVID-19 AUC (30 July 2020) "Mobility of African Health Workers comes under the Spotlight Post COVID-19" Press release https://au.int/en/pressreleases/20200730/mobility-african-health-workers-comes-under-spotlight-post-covid-19 (last consulted: 8 June 2021).

▶ Box 1: Brain drain, brain waste, brain gain, scientific diasporas, brain circulation

The notions "brain drain", "brain waste", "brain gain", "scientific diasporas", "brain circulation" have been subject to an abundance of literature and defined by various authors. This box provides a brief overview of the definitions of these concepts that underpin this study.

The term "brain drain" was first coined in 1957 in Ayn Rand's novel "Atlas Shrugged" to describe the loss of scholars and talented people for political, economic, and social reasons. In the sixties, the term "brain drain" was used in the Report of Royal Society to describe the exodus of British physicians and biologists to the US and its underlying loss for the UK (Gaillard J. and Gaillard A.M., 1998: 30, Gaillard and Gaillard 2015. See also Brock and Blake (2015) among many authors). Since the 60s, brain drain has been mainly used to refer the loss of human capital underlying skilled international migration affecting developing origin countries. It has been considered as an "international transfer of human capital" from the developing origin countries that have invested in the education and training of their skilled nationals to the benefit of developed destination countries (see for instance: Nadeem and Jahangir 1998: 21, Brock and Blake 2015). It especially affects developing countries confronting scarce skills or limited workforce and that has invested considerably in these skills and are unable to replace their skilled nationals involved in skilled international migration. So, it relates to the loss of various skilled workers (medical doctors, nurses, scientists, engineers, etc.) in the context of skilled international migration and the difficulty to replace them once they settled permanently abroad and the negative impacts of their country of origin' development (See Gaillard J. and Gaillard A.M. 1998: 30, Nadeem U.H. and Jahangir A. 1998: 21, Lowell and Findlay 2001, Brock and Blake 2015).

Brain waste is used to highlight the process of deskilling of skilled migrants in host countries due to unemployment and underemployment. Due to lack of recognition of foreign skills and credentials and barriers in accessing the host country labour markets, skilled migrants rely on low paid and unskilled jobs that are not commensurate with their skills and qualifications as survival strategies (e.g., Mattoo, Neagu and Özden 2005, Sumption 2013).

Brain gain describes the process of maximizing the positive impacts of skilled international migration. It suggests that migration can be beneficial to skilled migrants, countries of origin and destination. It suggests skilled migration can contribute to the development of the country of origin thanks to the transfer of resources, skills, know-how, social capitals of skilled migrants and scientific diasporas and its underlying development potential (remittances, knowledge and technology transfer, foreign direct investment, etc.). The brain gain interpretation challenges the rhetoric of loss and pessimism underlying the brain drain thesis. It posits a positive nexus between skilled migration and development if there is an enabling environment to maximize the development potential of skilled migration and minimize its negatives. The difficulty to restrict skilled migration flows, the evidence of the significant contribution of highly skilled migrants from China, India, Japan, South Korea in their homeland socioeconomic development and scientific and technological progress and the development potential of diasporas networks have led to increasing consideration of the brain gain option among policymakers (i.e., Meyer et al., 1997; Gaillard and Gaillard 1998; Meyer, 2001; Mountford, A., 1997;).

Scientific diasporas (e.g., Meyer and Brown 1999a), or knowledge diasporas (Meyer and Brown 1999 b), or professional or knowledge diaspora networks (e.g., Meyer and Wattiaux 2006) can be defined as communities of high skilled migrants (engineers, scientists, medical doctors, academics, etc.) gearing to the development of their country of origin in the realm of science, technology, education, health, etc. It underlines diaspora engagement for development. Due to the negative impacts of brain drain , the "diaspora option" (e.g., Pellerin and Mullings 2015) has been considered as a way to turn the brain drain into brain gain, i.e., to maximize the role of high-skill migrants in the development of their country of origin (i.e., Barré et al.

The methodology for this study has consisted of the following tasks (for a detailed information on the methodology for the scoping review and the survey, the sampling strategy and a brief overview of the deliverables - see the annex):

1. A comprehensive literature or desk review of:

- Relevant national, sub-regional and international regulatory and policy frameworks and recommendations governing the migration and mobility of health workers from across relevant sectors (e.g., health, labour, trade, migration qualifications, and skills recognition) considering the need for a multi-pronged and multi-stakeholder cooperation
- Data and information on migrant health workers' stock and flows, including by sex, occupation, age, country of training, and other key variables as available;
- And practices, lessons, and challenges related to the governance of health worker migration and mobility in other economic regions.

2. Key informant interviews to gather information and perspective from key stakeholder on challenges and opportunities with respect to international health worker mobility (see annex about the sampling strategy). The key informant interviews included various stakeholders (for additional information about the selection of respondents, see Annex 1. Detailed methodology and Workplan): representatives of REC bodies, national health authorities, national regulatory bodies, professional associations and trade unions, health worker diaspora groups, and representatives from international organizations (i.e., WHO, ILO, IOM, UNESCO), African civil society, research and think tanks organizations on health issues. At total, 22 respondents were interviewed (see the list of respondents in Annex).

Time constraints, and the unavailability of respondents alongside gaps on statistics and data and the wide-ranging aspects covered by the study are some of the main hindrances in carrying out this study. However, by using a snowballing method in conjunction with the Internet search, ensuring trust and cooperation, we were able to reach some respondents from various stakeholders (health migrant worker, national stakeholders, international organizations, regional economic communities, workers' organizations, academia, and research institutions). By diversifying the sources of information, adopting a triangulation of sources and methods, this study minimized the knowledge gaps underlying health worker migration, especially regarding statistics and data collection.

This study provides an insight of: (i) why health worker migration is a core issue in the global policy agenda, focusing on some of the key international and regional policy instruments related to health worker migration; (ii) the patterns, extent and magnitude of African health workers migration and the challenges related to statistics and data collection on health worker migration; (iii) the causes and drivers of health worker migration; (iv) its impacts; (v) and the policy implications to address its adverse impacts and maximize its development potential, including selected national and international good practices aimed at strengthening governance of health worker migration. The conclusion pinpoints some key trends and challenges and provides a snapshot of the policy recommendations to strengthen the governance of health labour migration, minimize its challenges and maximize its opportunities.

II.

International health worker migration: a core issue in the global policy agenda

II. International health worker migration: a core issue in the global policy agenda

Migration of health workers is at the heart of the international policy agenda as exemplified by various national, regional, and global dialogues to improve understanding of this phenomenon and address its health, migration, labour, and development implications. In its resolution (WHA 57.19), the World Health Assembly recommended strengthening understanding of the migration of health workers and responding to its challenges for national health systems. The ILO International Labor Conferences, the IOM International Dialogues on Migration and Development, the Africa Union Migration Policy Framework for Africa (MPFA), the Global Forum on Migration and Development, the United Nations High-Level Dialogue on International Migration, the Global Compact on Migration, and the United Nations SDGs and other relevant international bodies, regulatory frameworks, and platforms highlighted directly or indirectly the fundamental importance of addressing the several challenges of health worker migration for the benefit of health worker migrants and their families and origin and destination countries.

1. Why health worker migration is a core issue in the international/global policy agenda?

The increasing magnitude of Africa's international health workers' migration and the ensuing challenges related to brain drain, brain waste or deskilling, strengthening national health systems, responding to the healthcare needs of the populations, especially in African countries with scarce health personnel, and achieving inclusive sustainable development raise policy challenges for national, regional, and international stakeholders. National health systems in most African countries are under increasing strains due to the adverse effects of the international migration of healthcare workers. On the one hand, migrant health workers play a fundamental role in responding to health risks and emergencies, including global health risks as exemplified by the COVID-19 pandemic and achieving Universal Health Coverage. On the other hand, accelerating international migration of health workers has negative impacts on addressing health emergencies, and achieving universal health coverage. The increasing health worker migration, because it affects the already weak health workforce and national health systems especially in African origin countries, can hinder adequate responses to health emergencies and achievement of universal health coverage in these countries (WHO 2004, Stewart, Clark, and Clark 2007, Jensen 2013). The international migration of African health workers accentuates the health workforce shortage, thus contributing to weakening health systems and exacerbating health inequalities and socioeconomic disparities in most African countries (Jensen 2013). Most African countries have reached the threshold indicating a "critical shortage" of health workers, that is a ratio fewer than 23 health workers (doctors, nurses, and midwives) per 10,000 population. This critical shortage that has been accentuated by the international migration of health workers although it is not its fundamental cause represents a major challenge in achieving an "80% coverage rate for deliveries by skilled birth attendants or for measles immunization" (Chen et al., 2004; WHO, 2006: 220, cited by Jensen: 2013: 9).

The international migration of African health workers has been triggered among other factors by the globalization and the underlying internationalization of health labour markets though it contributes to reproduce health inequalities and overall, the global inequalities (Mensah et al. 2005, cited by Jensen 2013: 8). Significant numbers of health workers in both qualitative and quantitative terms are fundamental for ensuring adequate provision of healthcare. However, their scarcity or shortage in most African countries along with other structural constraints severely undermine adequate provision of healthcare, thus hindering the prospect of universal health coverage and addressing health emergencies. Thus, any departure of health workers in African countries confronting chronic health shortage can constitute a major hindrance in the response to health emergency, universal health coverage, and strengthening of health system (WHO 2006, Jensen 2013).

Recently against the backdrop of the unfolding COVID-19 situation and its underlying deaths, devastation, traumas, reconfigurations of the global migration landscape, and adverse effects on national health systems' sustainability, health worker migration and mobility have also raised concerns among national and international stakeholders. The WHO has again alarmed about international migration of health workers, especially its effects on economically vulnerable countries facing fragile national health systems. The Report of the WHO Expert Advisory Group on the Relevance and Effectiveness of the WHO Global Code of Practice on the International Recruitment of Health Personnel stressed strengthening the national health workforce to achieve the universal health coverage and the U.N. SDGs (WHO 2020a, WHO 2020b: 47).

Therefore, ensuring more ethical governance of migration and mobility of health workers and respect of international human rights instruments and labour standards in the recruitment and mobility of health workers are prominent elements on the agenda of WHO, ILO, IOM, AUC, and other relevant international and regional organizations.

2. Some key international and regional policy instruments and frameworks related to African health worker migration

There is a consensus among international organizations (ILO, IOM, WHO, etc.) about the need for a well-governed migration and mobility of health workers. It could foster the strengthening of health systems and inclusive socioeconomic development. The migration of health workers involves wide-ranging sectors such as health, labor and trade, and stakeholders (governments, private sector, international recruitment agencies, health workers' associations, UN. agencies, etc.), thereby reflecting a need for a holistic and inclusive approach towards its governance. National and regional stakeholders should promote effective bilateral and multilateral agreements regarding the international health workers' migration, while protecting their rights and taking into account the freedom of health workers to move. Bilateral and multilateral agreements can facilitate regional migration as well as enable return migration for critical skills. Moreover, effective governance of migration of health workers implies strengthening data collection and statistics on health labor migration and the international comparability of these statistics for well-evidenced or data-driven policies (e.g., WHO 2006, Clark and Clark 2006, Connell 2010, Dovlo 2004).

As underlain by the WHO (2016) *Global Strategy on Human Resources for Health: Workforce 2030* and the WHO (2016) report of the High-Level Commission on Health Employment and Economic Growth *Working for Health and Growth Investing in the health workforce*, it is fundamental to enhance understanding of the health worker migration and mobility and maximize its benefits and minimize its adverse impacts on health worker migrants, origin, and destination countries.

Achieving self-sufficiency in the human resources health, strengthening domestic supply and maximizing the benefits of international health workers' mobility, and addressing its setbacks are some of the policy options in response to the challenges of the governance of this form of mobility (WHO 2006, WHO 2016, WHO 2020).

2.1 The WHO Global Code of Practice on the International Recruitment of Health Personnel

The WHO Global Code of Practice on the International Recruitment of Health Personnel, adopted in 2010, is one of the critical instruments for the governance of international migration and mobility of health workers. It covers ethical norms and principles aimed at enhancing better management and governance of health worker migration grounded in well-evidenced, informed, and data-driven policies and measures and viable international cooperation. Sixty-four countries have included the WHO Code provisions into their national legal and policy frameworks and bilateral agreements. The 73rd World Health Assembly in 2020

held discussions about Member State-led review of the WHO Global Code's Relevance and Effectiveness that underlined the importance of the WHO Code implementation in ensuring health emergency and universal health coverage in WHO member states and the need to set up targeted support and safeguards in this respect (WHO 2020 a). Considering the recommendations of the Report and WHA 73(30), the WHO Secretariat has elaborated the Health Workforce Support and Safeguards, List 2020 (WHO 2020).

The WHO Expert Advisory Group (EAG) in its 10 Year Review of the Code in 2020 recommended the WHO to "strengthen technical cooperation with Member States, the capacity of WHO Secretariat, sufficient funds to support relevant WHO activities & engagement with Non-State actors). The 2020 WHO Expert Advisory Group in charge of the 10 Year Review of the Code recommended Member States to "invest in education, recruitment and retention of health workers. The WHO Expert Advisory Group recommended leading destination countries and development partners to "commit funds towards Code implementation as a global public good." It also recommended "regular convenings and outputs of the International Platform on Health Worker Mobility" and to "regularly update the list of countries with critical Shortages." (WHO 2021).

2.2 Mode 4 of the General Agreement on Trade in Services (GATS)

International migration of health workers also is a prominent topic within the framework of the Mode 4 of the General Agreement on Trade in Services (GATS). Globalization has accelerated the international mobility or temporary movement of services providers, including health workers considered as the movement of natural persons withing the GATS Mode 4. The GATS underlines four modes of supply regarding the health services sector: (i) cross-border trade (e.g., telemedicine); (b) consumption abroad (e.g., health tourism); (c) commercial presence (e.g., foreign hospital established in another country); (d) temporary movement of service suppliers (temporary assignments of physicians in another country). However, the effects of GATS Mode 4 on international health worker migration are limited, owing to the very low commitments of countries for trade in health services (Forcier et al. 2004: 7).

2.3 The WHO, ILO, and OECD International Platform on Health Worker Mobility

The WHO, ILO, and OECD have created an International Platform on Health Worker Mobility to strengthen dialogue, knowledge, and cooperation for better global governance of migration and mobility of health workers in close collaboration with multiple stakeholders from the WHO Member States and key non-State actors. In this light, it is essential to strengthen efforts to maximize the positive effects of health worker migration and address its negative consequences. And such platform endeavors to enhance policy dialogue and implementation for effective health worker mobility governance, including enhanced monitoring, support to the Member States, knowledge production and dissemination, and support for the implementation of the WHO Global Code and relevant ILO Conventions and Recommendations (WHO n.d.).

2.4 United Nations international normative instruments

Sets of UN international law instruments related specifically to migration or other areas or addressing human rights in general can be useful in the governance of health worker migration and mobility. Most significantly, the 1990 International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICRMW) and the 1951 Refugee Convention and its 1967 Protocol alongside the ILO International Labour Standards (see the next section) constitute overarching normative frameworks for migration governance, including health worker migration and mobility.

2.5 ILO International Labour Standards

The ILO international labor standards also provide frameworks for better governance of health labour migration and mobility. The Migration for Employment Convention (Revised), 1949 (No. 97), and the Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143), as well as the Migration for Employment Recommendation (revised), 1949 (No. 86), and the Migrant Workers Recommendation, 1975 (No. 151), the C149 - Nursing Personnel Convention, 1977 (No. 149), the ILO Nursing Personnel Recommendation, 1977 (No. 157) and the ILO Multilateral Framework on Labour Migration, ILO Fair Migration Agenda aim to enhance effective labor migration governance, including health labor migration (ILO 2017: 63).

Moreover, the ILO General Principles and Operational Guidelines for Fair Recruitment adopted by the ILO Governing Body in November 2016 that endeavors to ensure fair recruitment is "the internationally agreed commitment to reduce the costs of labor migration, and implementation of the ILO Fair Recruitment Initiative" (ILO 2017: 3). It stresses the need to ensure that recruitment at national and international levels and in all sectors of the economy comply with human rights, international labor standards, especially fundamental principles and rights at work. In addition, it foregrounds key other elements such as: eliminate recruitment fees to prevent and fight against "abusive and fraudulent recruitment practices, including those that could result in forced labour and trafficking, ensure "transparent employment contracts and labour inspection, and use of standardized registration, licensing and certification systems." It also underlines the specific role of various stakeholders (governments, public employment services and enterprises, labour recruiters and employers) regarding operational guidelines (ILO 2017: 64).

The 2006 ILO Multilateral Framework on Labour Migration, an international non-binding instrument, covering wide-ranging issues related to labour migration governance, in its Principle 13, recommends governments in origin and destination countries to give "due consideration to licensing and supervising recruitment and placement services for migrant workers" in line with Convention No. 181 and Recommendation No. 188,and includes sets of guidelines regarding migrant workers' protection in the recruitment process and series of regulatory measures (ILO 2017: 63).

2.6 The IOM work on international migration of health workers

The IOM, through its various instruments such as the *Migration Governance Framework*, emphasizes strengthening effective governance on international migration, including labour migration of health workers. IOM works in close conjunction with national governments and regional and international stakeholders to strengthen the governance of health worker migration and the capacities of health systems in countries of origin and diaspora' skill or knowledge transfer (IOM 2018).

2.7 The UN Global Compact for Safe, Orderly, and Regular Migration

The UN Global Compact for Safe, Orderly, and Regular Migration, a non-binding agreement, aims at strengthening global migration governance. With its 23 goals and target-objectives, and action plans, it adopts a holistic and comprehensive approach to international migration and lays the foundations for increasing international cooperation to achieve global migration governance and for the realization of the migration-related SDGs in line the United Nations 2030 SDGs agenda. The GCM stresses enhancing international cooperation on migration while recognizing the states' sovereignty regarding the conditions of admission and stay within their national territories. It underscores responding to the global migration challenges, maximizing the benefits of international migration, and harnessing the contribution of migrants and migration to the attainment of SDGs.

The GCM is consonant with the target 10.7 of the 2030 Agenda for Sustainable Development and underlines the fundamental need for enhanced international cooperation to facilitate safe, orderly, and regular migration. It provides options to member States to address international migration as per their needs, contexts, capacities, and specific migration trends and patterns. (UN General Assembly 2019). The GCM provides an opportunity to address both the challenges and opportunity underlying the international migration and mobility of health workers through enhanced coordination and cooperation between origin and destination countries to come up with effective win-win situation that is underpinned by a human

rights-based and development-centered approach to migration in order to protect the human rights and fundamental rights of health worker migrants, achieve universal health coverage, and ensure gains for migrants, origin and destination countries.

As health worker migrants play a prominent role in the delivery of health and social services worldwide, it is paramount to take into consideration migrants' access to health and social services as well as recognize their fundamental role in national health systems. The GCM as well as the relevant UN Conventions and the WHO Code provide an opportunity to uphold the human rights and fundamental rights of health worker migrants against the backdrop of their increasing vulnerability to human rights violation, discrimination, exploitation, and racism. The GCM recommendations (i.e., strengthening statistics and data collection (objective 1), opportunities for regular, safe, and orderly migration (objective 5), fair and ethical international recruitment of migrant workers (objective 6), skills development and mutual recognition (objective 18), enhancing global cooperation and partnership on international migration (objective 23) can contribute to strengthening international health worker migration governance and management. In the same vein, the GCM is in line with the WHO Code as they both advocate the need to enhance international cooperation and dialogue on migration, with the GCM considering global migration (various aspects of international migration) and the WHO Code being more specific to health worker migration (Yamamoto et al. 2019).[2]

2.8 Skills Mobility Partnerships (SMPs)

Skills Mobility Partnerships (SMPs) consist of bilateral or multilateral agreements between origin and destination countries that emphasize skills development. The SMPs are underpinned by the following key elements: "formalized State cooperation, multi-stakeholder involvement, training, skills recognition, and migration/mobility". The SMPs are in line with SDGs 4, 8, and 10 and the Objective 18 of the GCM: "Invest in skills development and facilitate mutual recognition of skills, qualifications and competences" and promote multi-stakeholder cooperation and partnership. An effective implementation of the SMPs can contribute to address skilled workers' shortages, respond to the labour market needs, allow migrants' skills development, career enhancement and access to decent jobs, while fostering the development potential of labour migration such as transfer of remittances, skills, knowledge for the benefit of the countries of origin (IOM n.d., IOM 2019).

The essential preconditions for sustainable SMPs are the following: "1. Long and mid-term planning; 2. Multistakeholder approach & policy coherence; 3. Data for evidence-based policy; 4. Local development and job creation; 5. Skills classification and recognition at national level and beyond; 6. Address the social aspects of employment and mobility; 7. Incorporate migration considerations; 8. Cost reduction and sharing" (IOM 2019).

Skills Mobility Partnerships can strengthen skills development, the recognition of migrant workers' credentials and qualifications, thereby potentially contributing to job matching and enhanced productivity and to responding to challenges such as the brain drain problem and situations of abuse and exploitation of migrant workers. National as well as international labour markets should be taken into account in implementing the SMPs that should consider the mutual priorities and potential gains of origin and host countries and migrant workers in a balanced manner. Also, a fundamental priority for the SMPs is contributing to a more sustainable and equitable human resources in both origin and destination countries (ILO 2020 a: 29).

Notwithstanding its promising prospects, the SMPs have sets of challenges, including its short-term policy lens; employers' tendency to focus on immediate needs and less on investment on future skills; coordination and cooperation gaps between origin and destination countries and various stakeholders within countries; limited or low developmental inputs of the SMPs to the origin country; overlooking of migrants' aspirations and needs; and overlooking of complex migration trends, characteristics, trajectories, and routes resulting in migrants' reluctance to adhere to the SMPs (IOM n.d., IOM 2019).[3]

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2 https://www.devex.com/news/opinion-as-the-world-seeks-migration-solutions-the-health-sector-can-help-94085 (Accessed: 25/11/2021)

3 IOM (n.d.) SKILLS MOBILITY PARTNERSHIPS (SMPs) TOWARDS A GLOBAL APPROACH TO SKILLS DEVELOPMENT AND LABOUR MOBILITY; IOM (2019) STANDING COMMITTEE ON PROGRAMMES AND FINANCE Twenty-Fifth Session SKILLS-BASED MIGRATION AND PARTNERSHIPS: ELEMENTS AND ESSENTIAL PREREQUISITES

2.9 African Union regional policy instruments (inter alia)

The revised African Union Migration Policy Framework for Africa considers mitigating brain drain or the loss underlying African skilled international migration, especially in the health sector as a key policy priority. Consonant with the NEPAD Strategy for retention and attraction of African skilled and educated personnel, it underlines the vital importance to keep and attract back African skilled workers, especially health workers and to foster gender-sensitive, education, employment, human capital enhancement policies for inclusive and sustainable development (AUC 2018: 39).

The African Union passport and the African Union Free Movement of Persons (FMP)[4] Protocol (AU 2018) can play a fundamental role in fostering Africa's inclusive and sustainable economic growth and development and continental integration. Therefore, they can contribute to strengthening well-managed and gainful Africa's migration and mobility of health workers.

The African Continental Free Trade Area was launched in 2019 to strengthen trade in service and movement of persons at the continental level. It endeavours to contribute to creating a common market and continental economic integration, facilitating the movement of capital and goods and fostering investment across Africa for the continent sustainable and inclusive socioeconomic development, structural transformation, and greater global economic competitiveness.[5] The implementation of the AfCFTA will help address wide-ranging issues of common interest to many A.U. member countries, including the issue of health workers' mobility and its implications on health systems in Africa. It will have several consequences on the health sector, including in the realm of health innovations and universal health coverage. The critical areas of the AfCFTA (business and financial services, communication, transport, and tourism) constitute socioeconomic determinants of health. The free movement of people across borders will impact intra-African health worker migration and research and academic cooperation in health, science and technology, to name a few (Awosusi 2019).

The A.U. Agenda 2063 lays the foundations for Africa's inclusive growth, sustainable socioeconomic development, and structural transformations (AU 2015). The A.U. Agenda 2063 and the SDGs and other international policy and normative instruments provide frameworks for addressing the policy implications of the migration of health workers. Strengthening the national health systems, addressing the challenges related to healthcare needs and health risks, and responding to the concerns associated with the migration of healthcare workers can contribute to achieving Aspiration no. 1 of the A.U. Agenda aimed to ensure prosperity in the African continent through inclusive growth and sustainable development and the ensuing goals such as Goal 3 related to healthy and well-nourished citizens. This could help to achieve another critical Agenda 2063 target on ending malnutrition, maternal, child, and neonatal mortalities by at least 50% in a context of broader access to quality healthcare and services. To achieve these policy objectives and targets, it is paramount that African stakeholders give special attention to strengthening the health sector and the health labour market, including policies and measures aimed at boosting education, attracting back, and retaining health workers.

The Africa Health Strategy 2016-2030 (AU 2016) encompasses issues relating to the migration and mobility of health workers. It also underlines the need to recognize health as human right and the developmental implications of health and adopt a holistic and multipronged perspective to meet Africa's health-related goals. Multisectoral response to health requires strengthening the health labour markets and health worker mobility governance. In addition, it implies addressing the challenges of international migration and mobility of health workers and the impacts on the health conditions of the peoples and the sustainability of national health systems:

4 Protocol to the Treaty Establishing the African Economic Community Relating to Free Movement of Persons, Right of Residence and Right of Establishment.

5 "Agreement Establishing the African Continental Free Trade Area" https://www.tralac.org/documents/resources/african-union/2162-afcfta-agreement-legally-scrubbed-version-signed-16-may-2018/file.html

> Prioritizing human resources for health. Health sector reforms must ensure there is a human resource management plan and capacity that: promote all aspects of human resources for health development and retention, addressing policies, strategic plans, information, training, recruitment, deployment and retention, administration, working and living conditions and the health of staff. Good performance of all health staff should be rewarded. Expertise in health management should be developed. The establishment of continental/sub regional norms and standards of training and licensing should be instituted. All countries should establish National Health Workforce Observatories. Mechanisms to enhance cooperation and sharing experience among countries should be encouraged. Additionally, a continental mechanism to regulate and better manage intra and inter-continental migration of health workers need to be established."
>
> **(AU 2016: 19).**

Thus, health worker education, mobility, and migration within and outside the African continent are major concerns in the Africa Health Strategy (AHS) and need effective policy responses. Addressing health worker education, mobility and migration is essential to achieve the Strategic Objective 1 of the AHS: "By 2030, to achieve universal health coverage, through adequate national human resource management frameworks to substantially increase health worker training, recruitment, deployment, regulation, support and retention."

The Africa Health Strategy underlines the need to set up a continental framework for effective regulation and management of migration of health workers within and outside Africa and for fostering international cooperation and partnership on national health systems' strengthening, including through skills mobility partnership. It points out the need to strengthen health human resources management by improving the living and working conditions and health of the staff in the health sector and enhancing their training, recruitment, and retention. In the same vein, it emphasizes the need to set up continental/sub-regional norms and standards of training. The need for enhanced standardization of health workers' training, qualification, and licensing is also another strategic approach of the AHS. The AHS emphasizes enhancing South-South and South-North-South cooperation and partnership to strengthen the health sector in line with the WHO Global Code of Practice that aims to regulate the international recruitment of healthcare workers and address the underlying ethical problems and challenges for the national health systems and health workforce.

2.10 Bilateral Labour Migration Agreements (BLMAs)

In the absence of an effective international health worker migration regulation global framework, most countries resort to bilateral agreements and memoranda of understanding in developing cooperation on health worker migration management (for more information about the establishment of bilateral labour migration agreements, see for instance: ILO 2020b). However, various challenges impede the management of health worker migration through bilateral agreements, including different migration policies, the limited bargaining power of developing source countries and their higher vulnerability to brain drain and health staff shortage in comparison to high-income destination countries and the overlook or lack of sufficient attention to the migration and development nexus (Dhillon et al. 2010).

For instance, South Africa has bilateral agreements with Tunisia, Iran, and Cuba on international health worker recruitment (Labonte et al.). South Africa and the UK signed a bilateral agreement on the reciprocal educational exchange of healthcare concepts and personnel (OECD 2007). Senegal, Benin, and Congo have signed bilateral agreements with France on migration management, including health worker migration and health human resources development (OECD 2007). However, the lack of assessment studies of these bilateral agreements does not allow understanding their effectiveness in contributing to enhanced African health worker migration management.

III.

Africa's international migration of health workers: challenges on statistics and data collection

III. Africa's international migration of health workers: challenges on statistics and data collection

Conceptual and methodological problems and lack of accurate and relevant statistics impede a better understanding of long term and short-term health worker migration and assessment of the evidence and magnitude of health migrant inflows and outflows (Martineau et al. 2002: 92). Conceptual, and methodological problems impede access to accurate, viable, and disaggregated data about health worker migration and health migrant workers. Terminologies such as "overseas" or "internationally recruited" health workers may lead to some conflations. These terminologies do not enable to distinguish between an individual health worker's country of birth, qualification, and employment. Overseas or internationally recruited health staffs often relate to health workers with foreign diplomas originating from developing countries that have been "actively" and regularly hired to fill the health labour shortage in destination countries such as the UK (Bach, 2008: 9-10). The United Nations (1988) and the ILO (2018) have provided international guidelines for the statistics on international migration that can be used to address the conceptual and methodological problems related to health worker migration.

The lack of accurate, reliable, and disaggregated data and empirical studies hinder an understanding of the health worker migration's causes, trends, and impacts (Kangasniemi, : 1, Connell 2010). The difficulty to distinguish between temporary and permanent health migrant workers, the diversity of national contexts (variety of labour market and national health systems, etc.), the variety of health professions (medical doctors, nurses, pharmacists, etc.), problems related to the international comparability of statistics and terminology, conceptual and methodological problems also impede understanding international health worker migration (Martineau et al., 2002, Connell 2010).

The various hindrances regarding statistics and data collection on migration of health workers reflect the need for "systematic, comprehensive and comparable data" (Connell 2010: 65). To fill the gaps on comprehensive, accurate, reliable, and disaggregated data, experts and policymakers often rely on varying data sources, such as databases of international organizations, official reports from governments, reports from professional associations and regulatory bodies, underlying different typologies, measurements, concepts, terminologies, and methods (Stilwell et al. 2003; Clemens and Pettersson 2008; Robinson et al. 2008, cited by Connell 2010: 65). As a result, it is difficult to have a better assessment of the extent and magnitude of health worker migration, as well as internationally comparable figures, especially for stakeholders from developing origin countries.

The lack of accurate and reliable data about the health migrant flows, including data disaggregated by age, sex, occupation, country of training, level of education, migration trajectories, and other socioeconomic variables is also an additional element to the policy problems underlying Africa's migration of health workers (Diallo et al. 2004, Dovlo 2005, Wickramage et al. 2018). It is difficult to obtain accurate data on health migrant workers' outflows in countries of origin and destination. The lack of accurate and updated databases of the existing workforce and the lack of reporting of those who left, including situations of health workers who left but continue to be on the payroll list, impede well-evidenced policies to address the challenges of Africa's health workers migration (Dovlo 2005).

Statistics are based on labor force surveys, professional registrations, and the health workers' census. One of the constraints is to estimate the magnitude and evidence of the health migrant flows based on the data and statistics in the country of origin, especially developing countries. Estimates related to the international migration of health personnel are often based on statistics and data collection from high income destination countries (IOM, 2004). However, these estimates do not reflect the extent and magnitude of the migration of health personnel as many health personnel migrate on an individual basis or outside States' sponsorships (Tikki, Lonsang, Haines, 2002). Data tend to be more available regarding the nursing and physician staff in comparison to other health occupations (for instance: pharmacists, dentists, allied health workers) (Bach, 2008: 9-10).

Household surveys can help to collect data on migrant health workers, but most countries do not have in their household surveys variables related to international migration (including health worker migration) allowing to collect data on health worker migrants disaggregated by national origin, sex, qualification, etc.

In a nutshell, the varying patterns and trends of migration of health workers from and within Africa suggest the need to strengthen data collection and statistics (e.g., Diallo 2004, Clemens and Pettersson 2008), especially data that are accurate and reliable and disaggregated by sex, age, occupation, country of training, and other variables to gain more insight of its complex configurations and dynamics (Diallo 2004).

IV.

Magnitude and patterns of Africa's international migration of health workers

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International health workers' migration and mobility have complex patterns, trends, and dynamics. The migration and mobility of health workers go beyond the Global South to the Global North axis. Besides the mobility from developing to OECD countries, there are patterns of intra-regional, South-South, and North-South movement. The existence of temporary and permanent health worker migration alongside "registration and employment in multiple jurisdictions" reflect the complexity of health worker migration patterns. The increasing international migration of students in health sciences is associated with the globalization of health worker education and the internationalization of health labor markets. The complexity of these patterns, trends, and challenges suggests enhancing efforts for effective global governance of health worker migration (WHO 2006, WHO 2020).

African migrant health workers move to high-income countries. There are also African health skilled migrants who move in the context of intra-regional migration. The AfCFTA once effectively implemented can shift the intra-African health workforce migration and mobility landscape (Awosusi 2019). However, one of the main features of this type of migration is that African migrant health workers often are originated from source countries in dire need of health staff. Gaps in remuneration between source and recipient countries are one of the primary reasons of this migratory pattern (Dovlo 2005, ICN 2004, Vujivic et al. 2004).

Contemporary patterns of health worker migration include South-South and intra-regional movement of healthcare workers. Gulf countries and African countries are emerging as significant destinations for Africa's international migration of health workers. Qatar is reported to essentially rely on foreign-born health workers and attracts, for example, medical doctors from Egypt, Sudan, and Libya; nurses from Senegal and Ghana; and pharmacists from Algeria and Libya. Many Sudanese health workers are reportedly working in Saudi Arabia and other rich Gulf countries (Aspen Institute, 2011). There is also a significant African migration of health workers within the African continent. For example, Ugandan health workers are reportedly moving within the African continent, especially to the Eastern and Southern African region. South Africa attracts significant number of African health workers, especially from Nigeria and the Democratic Republic of Congo. Namibia's physicians that are foreign trained represent 90% of the total medical workforce in the country and most were trained in other African countries (WHO 2017, AUC and JLMP 2020).

Changing international migration of African healthcare workers' trends include increasing temporary mobility besides one-way or permanent migration. While there are different types of health worker migration (permanent move, circular or temporary migration, etc.) (Stillwell et al. 2003), recent trends of health workers' migration suggest increasing temporary migration (e.g., Findlay and Lowell 2002 cited by Buchan 2009: 44) against the backdrop of increasing restrictive visa and migration policies, constraints related to the recognition of foreign skills and qualifications and the challenges in accessing the host country labour markets, among other elements (Buchan 2009). African health worker migrants are moving abroad for a few years to strengthen their skills and qualifications and their financial capital with the view of returning to their country of origin (Labonte et al. 2015: 6). Moreover, the unfavorable structural conditions ranging from economic crisis, political instability, unemployment and underemployment, low wages along with the unfolding COVID-19 and other transnational health risks will continue to shape the global and African migration landscape, including on health worker migration. However, the general conditions leading to the international African health worker migration have not fundamentally shifted, when assessing the literature on health worker migration over the last decades (e.g., Dovlo 2005, Chikanda 2006, Labonté et al. 2015, Nwadiuko et al. 2021, Duvivier et al. 2017, Zimbudzi 2013).

Improved employment conditions in the home country over time and expectations of better career and socioeconomic opportunities can trigger temporary emigration and return to the country of origin. Conversely, concerns about worsening employment situation in the country of origin can lead to delayed return to the homeland or long term or permanent emigration (Buchan 2009: 44). Moreover, migration trends are also influenced by the employment conditions and overall situation in the destination countries.

With the hindrances related to recognition of foreign credentials and qualifications and other obstacles impeding access to labour markets, prospects for permanent international migration tend to be scarce. On the other hand, global shortage of health workers can trigger transient (temporary) and permanent migration of health workers in search of attractive employment and socioeconomic opportunities (Buchan 2006).

However, based on existing data, it is difficult to have an accurate picture of the extent and magnitude of temporary skilled international migration, including health workers' migration in comparison to permanent skilled migration (Auriol and Sexton 2002). Furthermore, the distinction between temporary and permanent migration is not always obvious, with some temporary movement turning permanent, while some initially expected permanent move ends up being short-lived:

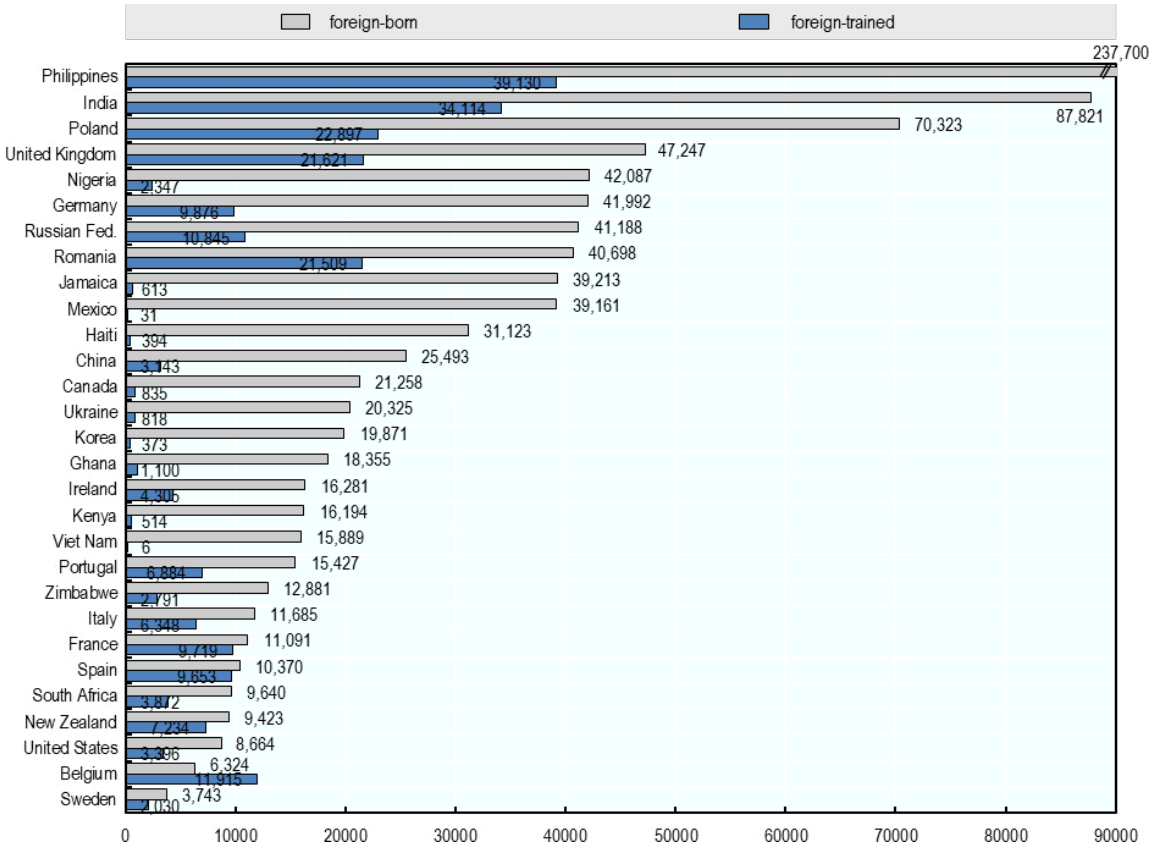
> If there is no expectation that the employment situation in the home country will improve over time, it is likely that health workers will plan their moves to be long term or permanent. Conversely, migration is likely to be considered a temporary solution if there is an expectation of improvement in the home situation, with the view of returning when attractive career opportunities become available."
>
> **(Buchan 2006: 52).**

International medical graduates account for a substantial share in the health workforce of many countries other than the country of origin (OECD 2019). For example, a significant number of Nigerian international medical graduates working in the health system in OECD studied outside their country of origin, Nigeria (OECD 2019). Leading destination countries such as the USA, Canada, Australia, and United Kingdom attract many internationally trained health workers (see for instance the figure below related to migration of medical doctors to the US between 2005 and 2015) (OECD 2019).

Countries such as Nigeria, Ghana, with significant numbers of health workers, have a substantial share of their nationals involved in the international migration of health workers (Dovlo 2005). They are among the African countries with the highest share of their health workers abroad, especially in Europe, the U.S. and Canada, and increasingly in the Gulf oil-rich countries. Also, other African countries with scarce health workers such as Malawi and Mali also face the challenges of health workforce migration.

Recent data from OECD show that Nigeria, Kenya, Zimbabwe, and South Africa are the among the 20 countries of origin of international nursing migration to OECD countries, respectively (see figure 1) (OECD 2020: 6). This OECD report also mentioned that Nigeria, Ghana, Kenya, and South Africa are among the Top 20 countries of origin for foreign-trained or foreign-born doctors and nurses working in OECD countries, respectively (OECD 2020: 6).

Figure 1: Top 20 countries of origin, foreign-born or foreign-trained nurses working in the OECD area



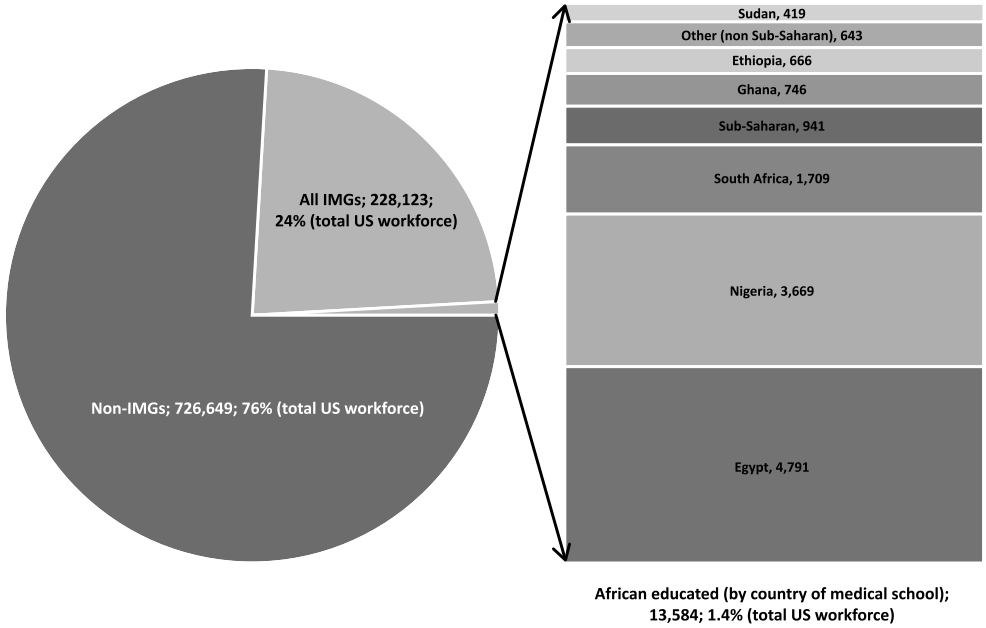
Note: Most recent data is from 2017/18 (or nearest year) for foreign-trained nurses and 2015/16 for foreign-born nurses. The number of foreign-trained nurses working in the OECD area might be underestimated due to data gaps ((regarding the place of training)) in large countries of destination such as the United States, the United Kingdom, or Germany. Nurses whose place of birth is unknown are excluded from the calculation.

Source: OECD Health Statistics 2019; DIOC 2015/16 and LFS 2015/16, in (OECD 2020: 6).[6]

A study from Hagopian et al. (2004) drawing on the 2002 American Medical Association Physician Masterfile indicated that the total of African medical doctors practicing in the U.S. outnumbered physicians working in Sub-Saharan Africa. Most were originally from Nigeria, South Africa, and Ghana. However, there is no indication about the number trained in Africa though it may constitute a substantial share (Hagopian et al. 2004, Dovlo 2005) and those that faced deskilling and underemployment, i.e., the so-called brain waste. In the same vein, Duvivier et al. (2017: 3) underlined the crucial importance of international medical graduates in the US physician workforce, including African-educated physicians. As the figure 1 from Duvivier et al. (2017: 3) shows, the IMGs represented 24% (228 123) of all the physicians in the US health systems in 2015. The IMGs that had been educated at an African medical school represented 5.9% of these IMGs (that is 13 584). In 2015, there was a rise in the number of African-educated IMGs from 10 684 to 13 584, representing a 27.1% increase. This underlined a significant rise of African-educated physicians in the US, "a net increase of 2900 African-educated physicians since 2005, or about one African-educated doctor migrating to the US per day over the last decade" (Duvivier et al. 2017: 3).

6 OECD (2020) Contribution of migrant doctors and nurses to tackling COVID-19 crisis in OECD countries Policy Brief https://read.oecd-ilibrary.org/view/?ref=132_132856-kmg6jh3kvd&title=Contribution-of-migrant-doctors-and-nurses-to-tackling-COVID-19-crisis-in-OECD-countries (Accessed 07/12/2021)

Figure 2: International medical graduates (IMGs) in the US, 2015 data



Source: Duvivier et al. (2017).

According to recent data from the 2018 American Community Survey, 1-year sample, Nigeria (with 2.4.% share of all immigrant healthcare workers or 0.4% share of all healthcare workers, that is 62,800 Nigerian-born healthcare workers) is among the top 10 countries of origin for immigrant health workers in the US healthcare system (see table 1). Nigeria ranked 3rd when considering the 5 top countries of birth for immigrant registered nurses (RNs) in the US healthcare system, with 4.4% of all immigrant registered nurses, 0, 7 % share of all RNs, corresponding to 21,200 Nigerian-born RNs in the US healthcare system (see table 2).

Table 1: Top Countries of Birth for Immigrant Healthcare Workers in the US healthcare system[7]

Country of Birth	Number of Healthcare Workers	Share of All Immigrant Healthcare Workers	Share of All Healthcare Workers
Philippines	357,300	13.5%	2.2%
Mexico	283,200	10.7%	1.7%
India	183,700	7.0%	1.1%
Jamaica	115,900	4.4%	0.7%
Haiti	102,100	3.9%	0.6%
China	91,300	3.5%	0.6%
Cuba	75,600	2.9%	0.5%
Dominican Republic	74,400	2.8%	0.4%
Vietnam	66,400	2.5%	0.4%
Nigeria	62,800	2.4%	0.4%

Source: 2018 American Community Survey, 1-year sample.
https://research.newamericaneconomy.org/report/immigrant-healthcare-workers-countries-of-birth/ (accessed: 27/11/2021)

7 New American Economy Research Fund (April 24, 2020) Which Countries Do Immigrant Healthcare Workers Come From? https://research.newamericaneconomy.org/report/immigrant-healthcare-workers-countries-of-birth/ (Accessed: 27/11/2021)

Table 2: Top Countries of Birth for Immigrant Registered Nurses (RNs) in the US healthcare system

Country of Birth	Number of Workers	Share of All Immigrant RNs	Share of All RNs
Philippines	142,800	29.3%	4.5%
India	32,400	6.7%	1.0%
Nigeria	21,200	4.4%	0.7%
Jamaica	21,200	4.3%	0.7%
Mexico	18,900	3.9%	0.6%

Source: 2018 American Community Survey, 1-year sample.
https://research.newamericaneconomy.org/report/immigrant-healthcare-workers-countries-of-birth/ (accessed: 27/11/2021)

South African medical doctors in Canada are mainly recruited in rural zones in Alberta and Saskatchewan (Tyrell and Dale 1999, Grant 2006). An important share of medical doctors working in Canadian rural areas are international health workers, among them significant numbers of South African medical doctors and other Sub-Saharan African countries (Tyrell and Dale, 1999, Dovlo 1999, Grant 2006, Labonte et al. 2015, George et al. 2013, Nwadiuko 2021). Canada is one of the main destination countries of South Africa's international health worker migration alongside the UK, the USA, Australia, and New Zealand (George et al. 2013). Recent data regarding the share and number of foreign-born nurses confirm the crucial role of international health workers in the Canada's healthcare system, including health workers from Africa. While these data provide indications for the share of selected countries for West Africa, Eastern Africa, and Northern Africa, however, they do not specify for the Southern African region though many studies consider Canada as one of the top destination countries of the international migration of South African health workers, thus suggesting significant numbers of South African health workers in the Canada's healthcare system (Grant 2006, Nwadiuko et al. 2021).

Table 3: Proportion and number of adult immigrants in nursing and health care support occupations, by region and country of birth, 2015/2016

Region of birth/ country of birth (selected cases)	Total number of employed persons	Total number of persons employed in nursing and health care support occupations	Total number of employed women	Total number of women employed in nursing and health care support occupations	Proportion of all employed persons in nursing and health care support occupations	Proportion of all employed men in nursing and health care support occupations	Proportion of all employed women in nursing and health care support occupation
	Number				Percentage		
Western Africa	63,605	7,360	28,170	5,965	11.6	3.9	21.2
Nigeria	24,475	3,425	11,145	2,780	14.0	4.8	25.0
Ghana	12,945	1,670	5,950	1,460	12.9	3.0	24.6
Eastern Africa	95,235	7,750	44,105	6,525	8.1	2.4	14.8
Ethiopia	20,230	2,300	9,090	1,930	11.4	3.3	21.3
Northern Africa	118,990	3,600	46,325	2,185	3.0	1.9	4.7
Morocco	38,630	1,705	15,350	1,140	4.4	2.4	7.4
Central Africa	27,980	3,320	13,010	2,705	11.9	4.1	20.8
Democratic Republic of the Congo	12,440	1,695	5,825	1,380	13.6	4.8	23.7
Cameroon	11,180	1,330	5,380	1,085	11.9	4.3	20.1
Southern Africa	21,340	505	9,870	455	2.4	0.5	4.6

Source: adapted from Cornelissen (2021: 5).[8]

South Africa ranked one of the third main origin countries of foreign health personnel working in the UK health system in 2000 / 01 alongside Philippines (1st), and Australia (3rd) (Martineau et al). Recent data released in March 2021 show that South Africa ranked 22nd among the top 102 main origin countries of health migrant workers in the UK national health system while Nigeria ranked 5th; Zimbabwe (12th); Ghana (13th); Egypt (15th) (Baker 2021: 4) (see adapted table drawing on Baker (2021: 4).

8 Cornelissen, L. (2021) Profile of immigrants in nursing and health care support occupations Release date: May 28, 2021. Statistics Canada, p. 5 (version pdf)
https://www150.statcan.gc.ca/n1/pub/75-006-x/2021001/article/00004-eng.htm (Accessed 28/11/2021)

Table 4: African nationality reported by NHS staff in England as of March 2021 Data: NHS Digital

Nigerian	10,494	Sierra Leonean	596	Libyan	183
Zimbabwean	4,780	Zambian	498	Tanzanian	177
Ghanaian	3,395	Nigerien	418	Algerian	125
Egyptian	2,895	Cameroonian	358	Ethiopian	124
South African	1,829	Somali	302	Central African	93
Mauritian	1,308	Malawian	291	Ivorian	80
Sudanese	1,003	Gambian	284	Moroccan	79
Kenyan	894	Mauritanian	239	Motswana (from Botswana)	78
Ugandan	[9]648	Eritrean	201		

Source: adapted from table "One NHS, many nationalities Nationality reported by NHS staff in England as of March 2021" in Baker (2021: 4).

The migration of North African (Algeria, Morocco, and Tunisia) health personnel to France is the result of the historical, cultural, and geographic proximity between these Northern African countries and France owing to colonial legacy. Besides, the curriculum and the training system of these Northern African countries draw on the French model, which can facilitate the migration of health workers, especially medical doctors in France. Psychiatry, anesthesiology, radiology, ophthalmology, gynecology, and general surgery are the main specialties registering the highest share of Algerian, Moroccan, and Tunisian medical doctors (Musette, Abdellaoui, Zehnati 2016: 44).

According to the CNOM (2017), Algerian born-medical doctors represented the most important share of foreign-born medical doctors in France (24%), followed by Moroccan (10.7%), Romanian (8.1%), and Tunisian (?) born physicians in 2017 (Zehnati 2021). Algerian medical doctors are more concentrated in specialties such as radiology, nephrology, and psychiatry where there is a shortage of health personnel. There are concerns that the international migration of Algerian physicians specializing in these fields will exacerbate the serious shortage of health staff in the healthcare system in Algeria (Zehnati 2021).

While the Egyptian health workers, especially medical doctors move to destination countries such as Germany (Schumann et al. 2019), their primary destinations are GCC countries (Saudi Arabia, Bahrain, Kuwait, Qatar) (Elliot 2011: 5-6). The increasing need of health workers in the GCC in the context of economic boom has fostered increasing recruitment of international health workers. As Northern African and Middle East region share historical, linguistic, cultural, and religious similarities, this has facilitated the health worker migration from these countries to the GCC. The migration of Sudanese health workers to Saudi Arabia has increased over the last decades. It accounts for 70% of the international migration of Sudanese health workers each year.

Available evidence shows increasing South-South migration of health workers. For instance, Nigeria, and Democratic Republic of Congo (DRC) are among the main origin countries of international migration of health workers to South Africa between 2011-2015. Cuba is one of the prominent non-African origin countries regarding the international migration of health workers to South Africa. Nigerian medical doctors are among the foreign-born and internationally health trained workers practicing in Trinidad and Tobago. According to estimates, between 2010-2015, half of the emigrant General Practitioners (GPs) from Uganda are reported being involved in intra-regional health workers' migration, mainly to Southern and Eastern African destinations, notably Namibia and Kenya. Another trend is the increasing internationalization of South-South medical education besides the South to North ones. For example, from 2010-2016, Kenya is among the origin countries of international student migration in the realm of medical education to Uganda from 2010-2016 (WHO 2017: 3).

9 Baker C. (2021) NHS staff from overseas: statistics House of Commons Library, 20 September 2021 https://researchbriefings.files.parliament.uk/documents/CBP-7783/CBP-7783.pdf (Accessed: 27/11/2021)

The COVID-19 pandemic has exacerbated concerns about the international migration of health workers. High and middle-income countries have adopted measures to increase international health workers' recruitment to address health workforce gaps. These measures include easing pathways for residence and citizenship for foreign-born health workers and facilitating the international mobility of health workers, including through setting up special funds. However, to counter the devastating impacts of the coronavirus, many low and lower-middle-income countries, including African countries, adopted stringent measures to restrict international migration. The COVID-19 pandemic has thus accentuated the uneven distribution of the health workforce and raised the fear of developing countries about the negative impacts of international migration of health workers to economically advanced countries, the so-called brain drain of health workers (e.g., Gunn et al. 2021, Shaffer et al., 2020).

Against this backdrop, the 73rd World Health Assembly in November 2020 underlined the need to strengthen the WHO Global Code of Practice on the International Recruitment of Health Personnel (WHO Code) implementation. For instance, enhancing assistance to countries facing the negative impacts of the international health workers' recruitment and the challenges related to achieving Universal Health Coverage can help in the WHO Code implementation. The WHO Member States reiterated commitments to the WHO Code. Member States from Africa expressed their commitment to implement the WHO Code and strengthen cooperation and investment in this respect. Furthermore, WHO Member States stressed the crucial importance of protecting national health system and enhancing cooperation in this domain during the debates on health worker mobility (WHO 2020 a).

V.

Causes and drivers of Africa's health worker migration

V. Causes and drivers of Africa's health worker migration

Africa's health worker migration results from sets of economic, political, social, demographic factors and circumstances and unfavorable structural conditions. Poverty, financial crisis, political unrest, low salaries, difficult working and living conditions, political instability, human rights violation are some of the drivers of Africa's health worker migration(i.e., Awases et al. 2004, Dzinamarira and Musuka 2021, George, Atujuna, & Gow 2013, Hagopian et al. 2005, Zimbudzi 2013, Dovlo 2005, Chikanda 2006, Bundred and Levitt, 2000; Pang et al., 2002 ; Kline 2003, Buchan et al. 1997: 54-62; Kingma 2001: 205-212, Clark and Clark, 2006, Chikanda 2006). Also, the lack of funding for research and lack of opportunities for upward professional mobility are some of the many hindrances in the origin country that increase the probability for international migration of of African health personnel in search of greener pastures. Uneven economic development between origin and destination countries, lack of employment opportunities in the origin countries and skill mismatch result in the surplus of qualified professionals faced with unemployment and underemployment (Chikanda 2006, Clark and Clark 2006). Also, there are gendered causes, patterns, challenges, and implications of health worker migration. The migration decision of female health workers can be influenced by gender due to the gendered discrimination and inequality they confront through traditional views about female migration (e.g., Adhikari 2013, Bourgeault et al. 2021). Gender also shapes migrant health workers' working conditions (e.g., Piper 2005, Bourgeault et al. 2021) as women often experience lower wages, hindrances to upward professional mobility (e.g., Bourgeault et al. 2021). It is beyond the scope of this report to scrutinize the wide-ranging causes and motives underlying health worker migration. Rather, it analyzes some of these causes or motives from the country of origin and destination perspectives.

1. Country of origin

Poverty and economic crisis alongside low wages and difficult working conditions and crisis in employment, education, and training can accentuate the international migration of African health workers.

Poverty and economic crisis

The search for higher wages and greater employment conditions is deemed one of the major causes of the migration of health personnel. The decision to migrate is not only based on individual motives. Migration can be motivated by family or households' strategies for income maximization or income diversification. Poverty and socio-economic inequalities can push African health workers to leave their country of origin. Lower salaries and reduced public health expenditures due to persisting economic crisis have contributed to worsening the living and working conditions of African health workers and increasing the migration pressures.

Higher wage gaps between developed and developing countries and uneven economic development between countries and regions are such that many health workers resort to international migration in search for better employment and remuneration conditions. (Kangasniemi et al. 2004: 7).

The net annual salary of Ghanaian and Nigeria medical doctors was between 3,600 and 12, 000 $ whereas the average annual salary of a medical doctor in the USA was around 162, 000 $ (Guglielmo, W.J.: 2003) quoted by (Amy Hagopian and al, idem). The average monthly salary of a medical doctor was around $ 50 in Sierra Leone, $ 199 in Ghana, $ 200 in Zambia, $ 1,058 in Lesotho, $ 1,161 in Namibia and $ 1,242 in South Africa (Dovlo, 1999 b) quoted by (Martineau et al. : 7). While these figures show huge disparity in terms of income, the differentials in terms of living costs and the level of currency, inflation, deflation, and other socioeconomic parameters should be taken into account (Eshemoha 2019).

Australian and Canadian nurses earned twice than South African ones, fourteen times than Ghanaian ones and twenty-five times than Zambian ones (Brown, 2003) (quoted by Clark et al. 2006: 48).

Recent data[10] shows that a person working as Doctor / Physician in Ghana typically earns around 11,900 GHS per month (1,931.82 USD). Salaries range from 4,370 GHS (709.42 USD) (lowest average) to 20,100 GHS (3,262.99 USD) (highest average, actual maximum salary is higher) (Salaryexplorer 2021.). These are recent data, but it is difficult to assess their robustness. can be questioned. McCoy et al. (2008) in their study related to salaries and incomes of health workers in Sub-Saharan Africa provided an overview of the pay structures of African health workers in selected African countries (Ghana, Burkina Faso, Zambia, Nigeria, Ethiopia) though these data are outdated.

Table 5: Average yearly salary of medical doctors in selected African countries

Countries	Average yearly salary	
	Local currency	USD
Ghana	143 000 GHS[11]	(23,436.94 US $)
Nigeria	9,550,000 NGN[12]	(23,275.08 US $)
Cameroon	13,000,000 XAF[13]	(23,088.70 US $)
South Africa	878,000 ZAR[14]	(57,584.61 US $)
Kenya	4,140,000 KES[15]	(37,193.28 US $)
Senegal	9,880,000 XOF[16]	(17,547.41 US $)
Morocco	348,000 MAD[17]	(38,529.17 US $)
Egypt	259,000 EGP [18]	(16,484.04 US $)
Ethiopia	251,000 ETB[19]	(5,289.79 US $)
Malawi	2,950,000 MWK[20]	(3,616.66 US $)

Moreover, there are gender gaps in salary between female and male health workers although both males and females report lower wages as one of the motives of international health worker migration. Male doctors earn more than their female counterparts on average in many African countries: Ghana (12%), Nigeria (16%),

10 These are recent data, but it is difficult to assess their robustness. We were not able to find data related to the salary of health workers in African countries from official sources (African governments).

11 Salaryexplorer (n.d.) Doctor / Physician Average Salaries in Ghana 2021
http://www.salaryexplorer.com/salary-survey.php?loc=82&loctype=1&job=13&jobtype=2 (Accessed 31/10/2021)

12 Salaryexplorer (n.d.) Doctor / Physician Average Salaries in Nigeria 2021
http://www.salaryexplorer.com/salary-survey.php?loc=158&loctype=1&job=13&jobtype=2 (Accessed 31/10/2021)

13 Salaryexplorer (n.d.) Doctor / Physician Average Salaries in Cameroon 2021
http://www.salaryexplorer.com/salary-survey.php?loc=37&loctype=1&job=13&jobtype=2 (Accessed 31/10/2021)

14 Salaryexplorer (n.d.) Doctor / Physician Average Salaries in South Africa 2021
http://www.salaryexplorer.com/salary-survey.php?loc=201&loctype=1&job=13&jobtype=2 (Accessed 31/10/2021)

15 Salaryexplorer (nd) Doctor / Physician Average Salaries in Kenya 2021
http://www.salaryexplorer.com/salary-survey.php?loc=111&loctype=1&job=13&jobtype=2 (Accessed 31/10/2021)

16 Salaryexplorer (nd) Doctor / Physician Average Salaries in Senegal 2021
http://www.salaryexplorer.com/salary-survey.php?loc=192&loctype=1&job=13&jobtype=2 (Accessed 31/10/2021)

17 Salaryexplorer (nd) Health and Medical Average Salaries in Morocco 2021
http://www.salaryexplorer.com/salary-survey.php?loc=146&loctype=1&job=2&jobtype=1 (Accessed 31/10/2021)

18 http://www.salaryexplorer.com/salary-survey.php?loc=64&loctype=1&job=13&jobtype=2 (Accessed 31/10/2021)

19 Salaryexplorer (n.d.) Doctor/ Physician Average Salaries in Ethiopia 2021
http://www.salaryexplorer.com/salary-survey.php?job=13&jobtype=2&loctype=1&loc=69 (Accessed 31/10/2021)

20 Salaryexplorer (n.d.) Health and Medical Average Salaries in Malawi 2021
http://www.salaryexplorer.com/salary-survey.php?loc=129&loctype=1&job=2&jobtype=1 (Accessed 31/10/2021)

Senegal (11%), South Africa (8%); Ethiopia (11%); Kenya (10%); Egypt (19%); Morocco (17%); Malawi (12%) (Source: Salaryexplorer 2021). While the gender gaps in salary between female and male African health workers are obvious, however, there is a lack of studies due to unavailability of data that pinpoint gender gaps in salary as one of the main causes of the international migration of female African health workers.

Table 6: Figures compiled by NIMED health on information about salary scale in various African countries

Ethiopia:	230 USD per month
Kenya:	3,187 USD per month
Malawi:	6,728 USD per month
Morocco:	Health medical salaries ranging from 1,121.87 USD to 11,538.11 USD
Senegal:	A specialist doctor earning average 3, 515 USD per month
Nigeria:	entry level doctor (400 USD per month); senior registrar (1,106 USD per month); consultant/ specialist (1,600 USD)
Cameroon:	300 USD per month
Ghana:	Senior Medical Officers (between 635 USD and 727 USD per month);
South Africa:	3,402 USD per month
Egypt:	78 USD per month from the Ministry of Health; 157 USD from the private sector

Source: Eshemokhah (2017) Doctor salary scale in all the 55 African countries (Updated 2021)
https://nimedhealth.com.ng/2019/10/27/doctors-salary-scale-in-all-the-55-african-countries/

By way of comparison, the average salary of a doctor in the United States was $313,000/year in 2019, according to a Medscape Report. However, there are variations on doctor salaries depending on the location and specialty (Nomad Health, 2019)."[21] According to the Swiss Federal Office of Public Health Office, the mean salary of a specialist doctor in Switzerland was 197 000 Swiss Francs in 2014.[22]

The attractive remuneration conditions in the destination countries such as the USA and Switzerland can constitute motives for health worker migration although such a migration is combination of financial and non-financial reasons (for the non-economic causes of international migration of African health workers, see the section "Other motives").

Low wages and difficult working conditions

Low wages and difficult working conditions, and the search for better socioeconomic prospects and career advancement are some of the leading causes of the migration of African health workers. Health workforce shortage in high income destination countries creates employment opportunities for health workers from low and middle-income origin countries. Many foreign-trained health workers, especially young graduates, are likely to stay abroad after completing studies to seek employment opportunities. Those who go back to their country of origin seek opportunities to work overseas, searching for favorable remuneration and working conditions and moving for other reasons (e.g., Clark and Clark, 2006, Dovlo 2005, Awases et al. 2004, Dzinamarira and Musuka 2021).

Lack of opportunities for training and professional development, and for incentives for retaining and attracting health personnel; difficult working conditions, workload, low wages, increasing frustration, lack of motivation of health staff, inefficient health human resource planning policies, and other challenges

21 Nomad Health (May 13, 2019) "Complete List Of Average Doctor Salaries By Specialty" [UPDATED For 2019!] https://blog.nomadhealth.com/complete-list-of-average-doctor-salaries-by-specialty-locum-tenens/ (Accessed 04 December 2021)

22 Office fédéral de la santé publique (OFSP) « Revenus des médecins en Suisse » https://www.bag.admin.ch/bag/fr/home/zahlen-und-statistiken/statistiken-berufe-im-gesundheitswesen/statistiken-medizinalberufe1/statistiken-aerztinnen-aerzte/einkommen-aerztinnen-und-aerzte-in-der-schweiz.html (Accessed 04 December 2021)

cause a severe health workforce shortage in African countries (e.g., Clark and Clark 2006, Dovlo 2005, George, Atujuna, & Gow 2013).

Difficult working conditions, lack of provision of medicines and other essential resources at facilities alongside greater exposure to health risks due to "a lack of personal protective equipment in the health facilities" have fuelled Zimbabwean health workers' strike during the COVID-19 pandemic (Dzinamarira et al. 2021, cited by Dzinamarira and Musuka 2021). Strikes of health workers also have been an enduring problem confronting the Nigerian healthcare system (Chima 2021). Poor remuneration leads to difficult living conditions, forcing health workers in Zimbabwe (Dzinamarira and Musuka (2021), Nigeria (Chima 2021) and other African countries to look for other additional jobs in the private sector or opportunities for international migration as coping strategies. For instance, the monthly salary of a medical doctor and a nurse in a government hospital in Zimbabwe is respectively around 100-150 US$; and 50-75 US$ (Karombo 2020, cited by Dzinamarira and Musuka 2021).

In some countries, there are cases of illness due to the exposure of health workers to contagious and chronic diseases. Frontline health workers in Zimbabwe, particularly nurses have been exposed to infection with COVID-19 due to "lack of personal protective equipment (PPE) and poor infection control at the facility level" (Dzinamarira and Musuka 2021). In Zambia, 185 nurses got infected with HIVAIDS in 1999, representing 38% of the new nurses trained during this year (Hongro & McPake, 2004, cited by Clark et al. 2006: 47). All these hardships confronting health workers, including those in the face of COVID-19 and other pandemics and health risks can propel them to migrate in search of better remuneration and working conditions and safer workplaces (Dzinamarira and Musuka 2021).

As the COVID-19 pandemic is causing millions of deaths around the world, many African countries are still exposed to other deadly and devastating health risks such as HIV and TB while struggling with the unfolding COVID situation, and all this with weak health workforce and increasing frustrations of health workers. For instance, despite their prominent role in the fight against HIV and TB in Zimbabwe, nurses also had to go on strike to complain about poor remuneration and working conditions (Eghtessadi et al. 2020, Mukwenha et al. 2020, cited by Dzinamarira and Musuka 2021). The inability of governments to respond to health workers needs in terms of better remuneration, working, and living conditions can trigger health worker migration, thus undermining the already weak capacities of national health systems to respond to the HIV, TB, COVID, and other health risks (Eghtessadi et al. 2020, Mukwenha et al. 2020, cited by Dzinamarira and Musuka 2021).

Crisis in employment, education, and training

The decision to leave the country of origin can be motivated by existing employment opportunities in high income countries. Migration whether for study or employment reasons is considered a mean for success and social prestige and for constructing and strengthening intellectual and professional trajectory (Hagopian et al. 2004: 1754). According to Dovlo and Nyonator (1999), 40 out of 43 graduates in medicine in Ghana interviewed during a survey intended to leave their country of origin at the end of their training.

Gaps on investment on education and training result on the weakening of the workforce in most African countries. The education and training strategies tend to prioritize talented skilled workers that are saleable or attractive to the international skilled labour market (that is an incentive to skilled outward migration) rather than "initial training over continued professional development" (Hongoro and McPake 2004: 1452).

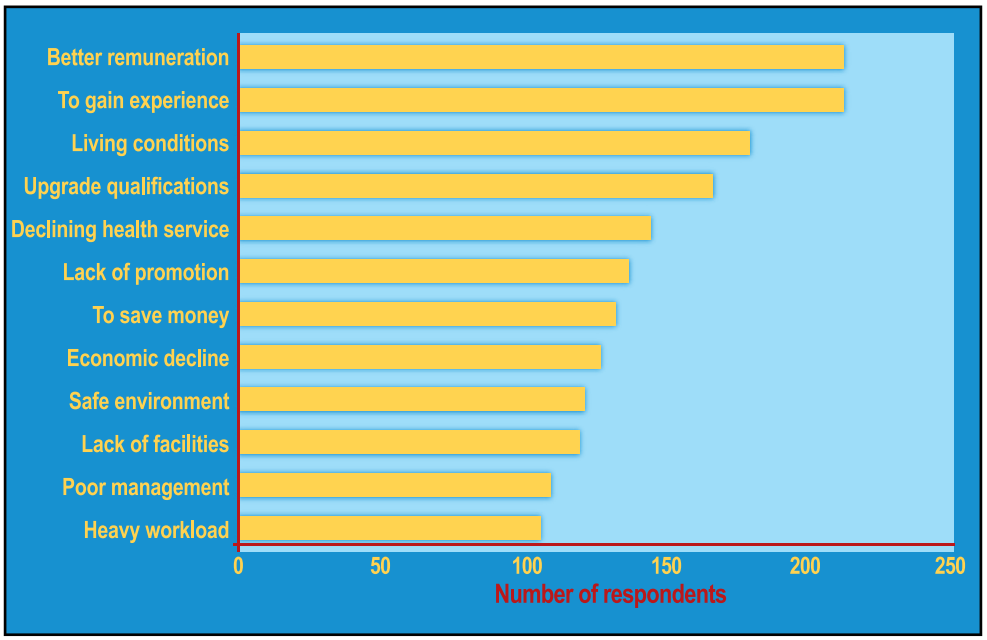
Limited or inadequate opportunities for speciality training alongside underinvestment in training and placement opportunities not only accentuate the health workforce shortage (Miseda et al. 2017) but also constitute a driver for health worker migration. A qualitative study on Egyptian health workers and graduate students' migration to Germany underlined sets of factors influencing their migration decision, including the availability of quality postgraduate training and learning opportunities and cutting-edge technology and the quality of the healthcare system in Germany (Schumann et al. 2019).

Other motives

Most significantly, the possibilities of upward professional mobility and the international reputation associated with obtaining diplomas in higher education institutions in economically advanced countries constitute some triggers of international migration (Kangasniemi et al. 2004: 7). For example, besides financial considerations and the attractiveness of the host country labour market, the facilities regarding licensing and registration procedures for foreign medical doctors in Germany and the availability of social networks (colleagues, friends, or family members already in Germany or planning to move there) influenced the decision Egyptian physicians to migrate to this country (Schumann et al. 2019).

While the financial considerations and search for better working conditions are some of the primary causes of the African health workers' migration, non-financial and non-work motives should be considered as additional drivers. Migration is seen as an emancipatory project, i.e., to escape from unfavourable structural conditions that hinder qualify of life, wellbeing, self-esteem, enjoyment of human rights and professional development (Tankwanchi 2018). For instance, some Egyptian physicians migrating to Germany stated that they were attracted by the possibility to have a good lifestyle in this country (Schumann et al. 2019). Linguistic, cultural, historical, and geographical links also can influence African health workers migrants' decision to migrate (e.g., Elliot 2011). In a nutshell, lack of enabling environment ranging from poor wages, difficult working conditions, exposure to health risks, poor management of health systems, lack of professional development and other unfavourable structural conditions are drivers for the international migration of African health workers. The search for higher wages, favourable working conditions, and balanced work and life are among the causes of the migration of health workers to high-income countries. Foreign-born health workers in destination countries tend to concentrate on occupations that are overlooked or less valued by domestic health staff. Awases et al. (2004)'study reflected the multifaceted circumstances, rationales, and motives underlying African health worker migration (see figure 3).

Figure 3: Main causes of the emigration in four African countries (Cameroon, South Africa, Uganda, and Zimbabwe)



Source: Awases M, Nyoni J, Gbary A and Chatora R. (2004) *Migration of health professionals in six countries: a synthesis report.* World Health Organization, WHO Regional Office for Africa, Division of Health Systems and Services Development, Geneva, Switzerland.

The next section provides a brief overview of the causes of the international migration of health workers from the perspective of the destination countries.

2. Destination countries

Shortage of health workforce, the reliance on foreign-trained health workers, and increasing international migration of health workers

Estimates point to the increasing international recruitment of qualified health workers and such a tendency is likely to continue in the coming decades (Dixon, A and E. Mossialos, 2002; Buchan, J., 2002) due to the shortage of human resource in the health sector. While health worker migration is considered as one of the main causes of the crisis of health system in developing countries (WHO, 2002), other analyze international health worker migration as a result of the global shortage of health personals due to the imbalance between the supply and demand of healthcare workers (Buchan, J. and F. O' May, 1999; Bundred and Levitt, 2000; Buchan and May, 1999; WHO, 2002, Mehmet, 2002).

Due to the chronic dependence of internationally trained health workers in many OECD countries, the migration of health workers to these countries is becoming a burning issue. Changing demographic trends with the aging of the population and the health workforce and rising complex health care needs will result in looming health workforce shortage and growing demand for international health workers in OECD countries. OECD estimates point to health worker shortages increasing to 500, 000 in Germany and 350,000 in the U.K. by 2030, thereby accelerating the international recruitment of healthcare workers to address such demand.

According to estimates, there has been increasing number of migrant doctors and nurses within OECD countries over the last decades. With the growing labor market demand and shortage of health workers, the international health workers' migration is likely to accelerate in the coming decades (e.g., WHO 2006, WHO 2020). Although there are gaps on statistics disaggregated by sex, age, and occupation within the health sector, estimates point to an increasing global health workforce shortage, especially in developing countries (see table below).

Table 7: Estimated health workforce supply versus "need" by regions and income group, 2013 and 2030

WHO Region	2013 (165 countries)			2030 (165 countries)			# Countries in each group
	Supply (S)	Need (N)	Diff (S–N)	Supply (S)	Need (N)	Diff (S–N)	
Africa	1,874,830	5,891,071	−4,016,241	3,066,666	8,910,473	−5,843,806	43
Americas	8,385,480	5,439,623	2,945,857	12,742,856	6,246,463	6,496,393	28
Eastern Mediterranean	2,690,443	3,797,769	−1,107,326	4,611,408	5,055,625	−444,217	15
Europe	12,692,401	5,628,533	7,063,868	16,803,264	5,786,268	11,016,996	50
South-East Asia Western	5,772,250	12,433,083	−6,660,833	10,168,591	14,712,987	−4,544,397	8
Pacific	10,294,627	11,538,553	−1,243,926	17,261,342	12,270,476	4,990,867	21

Source: Adapted from Liu et al. (2017: 10)

Data from WHO drawing on more than 80 of its Member States (data extracted from the WHO NHWA Data Platform) show an increasing share of foreign-trained doctors, dentists, and pharmacists in their health workforces (WHO 2020: 10). Data from OECD point to a continuing increase of the share of foreign-born or foreign-trained doctors across the OECD countries over the last two decades, "with around two-thirds of all foreign-born or foreign-trained doctors originating from within the OECD area and upper-middle-income countries" (Socha-Dietrich and Dumont 2021: 4). Moreover, the unfolding COVID-19 situation has prompted many OECD countries to set up policies aimed at easing the entry of migrant health workers (Socha-Dietrich and Dumont 2021: 5).

According to the WHO *State of the World's Nursing* Report, one in eight nurses globally is exercising in a country other than their origin. This reflects the importance of foreign-born nurses in the health systems across countries:

> Among countries reporting, one in every eight nurses (13%) was born or trained in a country other than the one in which they currently practise. Applying this share to the stock of nursing personnel gives an estimated 3.7 million nurses foreign born or trained globally."
>
> **(WHO 2020: 47).**

According to the OECD (2020), one in six doctors in many OECD countries are foreign-trained, reflecting the importance of international health workers in national health systems in OECD countries. Significant numbers of African health workers are working in OECD countries. For instance, estimates point to 22 out of every 1000 UK National Health System staff coming from Africa (Baker 2020, cited by AUC and JLMP 2020: 3). Moreover, 77% of physicians trained in Liberia were reportedly practicing in the US (Tankwanchi, Ozden and Vermund 2013, cited by AUC and JLMP 2020: 3).

Many countries in the global North (UK, New Zealand, Canada, USA, Ireland, Australia, etc.) rely on the skilled workforce from countries in the global South to address their deficit of health personnel. (Aika et al. 2004: 69-77). The shortage of health workers is more acute in rural areas and suburbs in the US and Canada (Martineau et al. 2002: 8).

The UK is in constant need of medical doctors and most significantly nurses to achieve its new national health plan. The international recruitment of health personnel especially nursing staff is one of the main priorities of the UK National Health System to strengthen its national health workforce. The shortage of nurses represented one of the main obstacles for healthcare delivery in the UK national health system. Significant numbers of employers in the UK national health system face a shortage of health personnel. There are also non filled job vacancies in the field of information technology communication, psychiatric and pediatric. One of the main targets of the UK national health policy is increasing the nursing staff in the UK health system through policy of international nursing recruitment while adhering to the ethical principles for the international health worker recruitment. Foreign health workers represent a fundamental share in the UK total health workforce (Buchan 2002: 6-9, Briggs 2019).

The USA and Canada rely on foreign health workers to fill the gap in rural areas and suburbs, thus resulting in increasing temporary health migration. Employers in the US healthcare institutions actively lobby to alleviate the restrictions hindering the admission and recruitment of international nurses in the US health system. (Martineau et al.: 8).

In the USA, the shortage of health workforce concerns various occupations: radiologists, pulmonologists (lung doctors), etc. (New York Times, 2001; AFT 2003; Stanton, Willis and Young, 2005; Home Office 2006). In the USA, the diminishing number of nurses, one of the causes of the shortage of nursing staff (Cherry and Jacobs, 2004) is due to the lack of interest on the nursing profession among young people because of workload, poor remuneration and working conditions, among other factors. Substantially, there is an increasing aging of the nursing workforce, and an increasing rate of retirees among the nursing staff. These trends result in the increasing aging of the health workforce, thus accentuating the health workforce shortage. The profession as nurse tends to attract fewer young people due to stress, overload and excessive working time underlying the nursing occupation (Aiken et al., 2001, cited by Clark et al.).

Estimates point to a continuing shortage of health workforce in the USA by 2020 (Cooper, 2004) and in the next decades. The shortage of medical doctors is caused by the reduced number of enrolled medical students in health institutes and the cost of professional insurance "which has made most medical doctors reluctant to health professions, especially among obstetricians and emergency specialists", among other factors. (Greene, 2001).

While in the past, the UK was the main source country, Canada's health system is characterized by the internationality of its staff with a significant proportion of foreign-born health workers, including those from Sub-Saharan African countries. There have been initiatives both at the Federal and provincial levels to address the hindrances on the recruitment of foreign health workers and to ease the licensure process although the brain waste remains a challenge.

According to a McKinsey Report (Mourshed et al. 2008, cited by Elliot 2011), the demand for health workers in the GCC is expected to increase by 240 % by 2030, especially for Saudi Arabia, Qatar, and the United Arab Emirates due to the accelerating development of the health systems of these countries, (i.e., use of cutting-edge technologies, rise of health hubs, expansion and renovation of hospitals) and a deficit of health workers to adjust to their trends as well as to address complex healthcare needs (i.e., rising demand for health services such as cardiovascular and diabetes- related services (Elliot 2011: 5). Notwithstanding considerable spending on healthcare (predicted $ 60 billion by 2030) and investment on medical education, there is a mismatch between the domestic human resources for health and the increasing demand for health workers. Thereby, oil rich GCC countries have to rely primarily on the international recruitment of health workers to meet the increasing demand for health workers (Elliot 2011: 6). For instance, a 2004 report of the Saudi Board for Medical Specialization pointed to a need of 32, 660 foreign doctors and 52,420 foreign nurses for Saudi Arabia by 2020. This reflects the dependence of this country on the international recruitment of health workers (Elliot 2011: 6).

The COVID-19 pandemic and its devastating consequences on the health systems worldwide has prompted developed countries such as the UK to adopt measures to attract international healthcare workers due to the shrinking of the capacities of the national health system unable to cope with the unfolding COVID-19 situation. For instance, on 14 July 2020, the British Home Secretary and Secretary of State for Health and Social Care issued a Health and Care Visa to facilitate the international recruitment of skilled health workers to cope with the COVID-19 situation (UK Department of Health and Social Care 14 July 2020).[23] This new Visa scheme aims to accelerate and enable the international recruitment of healthcare workers against the backdrop of the limited capacities of the UK health sector to respond to the negative impacts of the COVID-19 pandemic due to a chronic health workforce shortage among other factors.

What stands out is that the increasing need of healthcare workers of high-income countries against the backdrop of chronic shortage of health staff and difficulty to have self-sufficiency in health human resources is one of the fundamental causes of the persisting international migration and recruitment of health workers, including from developing countries.

Increasing internationalization of education and training of health workers and health labour markets as triggers for the migration and mobility of health workers

International student migration is a launchpad for health workers' migration. African students move to destination countries for studies through national or international scholarships or support from their families or self-funded projects (WHO 2014, Dovlo and Nyonator 1999, Hagopian et al. 2005, Abuosi and Abor 2015). The inability of origin countries to provide them competitive remuneration and favorable working conditions as to those of recipient countries delayed or impeded their return, which can negatively impact the sustainability of the national health workforce and health systems. Furthermore, this led to increasing migration pressures for would-be-migrants attracted by higher wages and a more favorable working environment (Vucijic et al. 2004, Dovlo 2005).

23 UK Government (14 July 2020) Government launches Health and Care Visa to ensure UK health and care services have access to the best global talent https://www.gov.uk/government/news/government-launches-health-and-care-visa-to-ensure-uk-health-and-care-services-have-access-to-the-best-global-talent (Accessed 06 Nov. 2021)

There is an increasing internationalization of the education and training of health workers. Ireland, Hungary, Romania, Bulgaria, and Poland are emerging destinations for international student migration, including those from Africa (OECD 2019). Besides the international African medical student migration to OECD countries, it should be pointed out an increasing South-South migration of African medical students (for instance to Cuba (e.g., Hammett 2013) and to China (e.g., Li and Sun 2019). Also, there is an increasing intra-African medical student migration, with countries such as South Africa (e.g., Tati 2010), Senegal, Tunisia, Morocco, and Algeria (e.g., Racelma 2016) emerging as some of the main destinations).

The financial costs for travelling abroad depend mainly on individual savings. While some students have been granted government or international scholarships during their studies and training abroad or were exempt for paying the enrollment fees, most international students, including in the health sector rely on the support of their families, their individual saving, or temporary jobs to finance the travel costs and their stay abroad.

Migration of medical doctors from developing to developed countries can be motivated by the desire to pursue postgraduate training. However, there is a high proportion of health workers from developing countries in associate specialist jobs, thus suggesting a delayed or non-return of these health personnel after completing their studies and training, as seen in the UK (Kangasniemi et al., 2004: 3-5) and other high-income destination countries.

The internationalization of health labor market has been facilitated by ease in access to information source related to overseas employment opportunities in the health sector, bilateral and regional agreements on trade and migration promoting free movement of persons (for instance NAFTA in the American region) (Schmid, 2004). The UK National Health Service has been actively promoting the international recruitment of health personnel through bilateral agreements and UK employers have been actively recruiting internationally directly or through private recruitment agencies to respond to the health workforce needs (Buchan and Dovlo, 2004; Buchan, Jobanputra, and Gough, 2004).

Private recruitment agencies increasingly operate as intermediaries to enable prospective health worker migrants to access to information related to employment and migration opportunities in the health sector (Buchan and Dovlo, 2004). The information and communication technologies can facilitate the international recruitment of health personnel (job posting online, possibility to respond online to the emigration and recruitment abroad requirements). In the US where the health system is not centralized, some employers for instance combine both the recruitment strategies via private recruitment agencies and direct recruitment through online job applications (Clark et al. 2006: 55).

Loss of attractiveness of health occupations

Governments in OECD countries are concerned about the reduced number of students in medical schools and strive to encourage their national residents to study health related sciences (Charatan, 2000: 94). High-income destination countries such as Canada also is facing difficulties in terms of health workforce planning.

The nursing profession faces sets of challenges, including the increasing alternative career option for women and the loss of attractiveness of the nursing profession among the local population (Briggs 2019, Marchal & Kegels, 2003: 94). Many OECD countries are faced with the difficulty to retain their nurses. The discontent and frustrations of healthcare workers about their difficult working conditions can result in significant numbers of exit from the health sector. In the UK, it has been noted a higher tendency of exit of nurses in comparison with the admission of new nurses in the UK health system. Difficulties to retain health workforce in the UK health system, especially nurses stem from various causes, including low salaries, the lack of consideration of the nursing job, the impacts of the health system restructuring, inadequate funding, and lack of opportunities for professional development in the nursing sector (Finlayson et al., 2002; Berliner and Ginzberg, 2002). Findings from a recent survey of 14,996 nurses and midwives who left the NMC register underline emigration, the uncertainties underlying the Brexit, and poor remuneration conditions and benefits as primary motives for younger staff withdrawing from the nursing profession (UK

Royal College Nursing 2021).[24] The lack of autonomy due to government "meddling", lack of recognition of government authorities, and the lack of consideration of patients and other constraints are source of frustration, demotivation, and lack of enthusiasm, especially among the nursing staff (Edwards et al., 2002; Jones, 2002; Smith, 2001).

Aging of the population

The aging of the population and the aging of the health workforce are some of the primary causes of health worker migration to the global North. Demographic projections point to the increasing need for healthcare workers in the coming years in many OECD countries to cope with the complex healthcare needs of an aging society and aging workforce (Martineau et al. 2002: 8). The share of the nursing staff aged 50 or beyond is rising in the UK and other OECD countries (Buchan: 1999, cited by Martineau et al. 2002: 7) and the US (Clark and Clark 2006: 45). To respond to complex healthcare needs, more nursing and physician staffs and health services are needed, especially in the context of population aging (Clark 2006: 45).

In most developed countries, demographic trends with the aging of the population and the aging of the health workforce, (Berliner and Ginzberg, 2002: 94), the complexity of healthcare needs, the changes in medical practices due to information communication technology, and other factors have led to an increasing demand for health workers (Berliner and Ginzberg, 2002; Buchan, 2000: 94).

Despite the growing importance of nurses, the health system in the UK faces major constraints due to the aging of the health personnel (nurses and mid-wives) (Buchan, 2002: 6). According to recent figures from the UK Nursing and Midwifery Council, there is an accelerating aging nursing workforce, as

> one in five of those on the register are aged 56 or above and almost one in 10 are over 60."
>
> **(UK Royal College of Nursing (RCN) 20 May, 2021).**

According to estimates and projections , the health workforce deficit in the US represented 150, 000 in 2005, more than 275,000 in 2010 and more than 800, 000 in 2020. The total US nursing staff is insufficient to meet the healthcare needs in the US health system. The aging of the population affects most of the health workforce. The population aged 65 and more represented 13% of the total US population in 2010 and is projected to represent 20% in 2030. Therefore, there is a crucial need to strengthen the healthcare delivery system and to recruit more and more health personnel, notably nurses (Clark et al. 2006: 45).

Search for higher wage and a suitable working environment

According to Weiner et al. (1998, cited by Clark et al. 2006: 53), one out of three graduates in medical schools from South Africa was "likely to expatriate to Australia, Canada and UK" (Clark et al. 2006: 53). Findings from a survey of 1, 119 foreign nurses in 2002 revealed that more than half of these nurses intended to stay in the UK on a permanent basis due to attractive working and remuneration conditions. Some of these nurses had to pay fees to private recruitment agencies or employers for the travel costs. Most of these nurses were originally from South Africa, Zimbabwe, Ghana, Nigeria, and Philippines (Buchan, 2002: 22).

It should be noted that the search for higher wages and favorable working conditions is not only specific to the international migration of health workers from developing to developed countries. Health workers move among developed countries in search of more favorable remuneration and working conditions. For instance, while bilateral agreements between Switzerland and the European Union have enabled mutual access to labor markets from both sides, most skilled workers from EU member countries are attracted

24 UK Royal College Nursing (RCN) Fewer new people are joining the NMC register as more nurses near retirement. (20 May 2021) https://www.rcn.org.uk/news-and-events/news/uk-nursing-workforce-not-growing-fast-enough-to-meet-demand-warns-rcn-200521 (Last accessed: 21 November 2021)

by higher salary and favorable working conditions in Switzerland. Medical doctors from Germany moving to Switzerland are lured by "higher wages, a nice working environment and the quality of the extra time or leisure time" in Switzerland. In Germany, the salary of a single medical doctor and the salary of the married medical doctor represent respectively 1,800 euro and 2,500 euro per month. The reduced salary (almost 15%) to lower the higher number of job contracts has resulted in the migration of significant numbers of German health workers, mainly in Switzerland (Taverna, 2006). Irish health workers, especially the younger graduates, unsatisfied by low wages and difficult working conditions move to destination countries such as the UK, the US that offer better remuneration and working conditions (i.e., Brugah 2021, Brugah et al. 2020).

While the frustrations over poor remuneration and difficult conditions are common reasons for the migration of health workers from developing and developed, the difference with high income countries such as Ireland is that they have the resources allowing them to attract and retain foreign or internationally trained health workers unlike low- and middle-income origin countries (Tankwanchi et al. 2021). Moreover, health workers from low-income countries are more likely to accept lower salary, flexible and precarious working conditions than their counterparts from high income countries to have access to the international health labor market opportunities.

Medical doctors from non-EEA (European Economic Area) countries (for instance Philippines) are eager to retrain as nurses to increase their chances of getting a job in destination countries (Dovlo 2005) against the backdrop of increasing demand of nursing staff in OECD countries. While nursing is predominantly a female occupation, there are increasing numbers of males embracing the profession (for instance in India, Philippines) as a steppingstone for international recruitment in the health sector in high-income destination countries confronting health workforce shortage, especially in the nursing sector (Walton-Roberts 2019).

In conclusion, a combination of economic, demographic, political, and social factors has triggered the increasing migration of health workers across countries. The dependence on migrant health workers due to a shortage of health workforce[25], concerns of developing origin countries about the negative impacts of the migration of health workers on the already fragile national health systems and the health conditions of the population, the situations of abuses, and human rights violations underlying the recruitment of some health workers and other challenges show the necessity to implement effectively the WHO Code of Practice, an international regulatory framework aimed at ensuring ethical and fair governance of migration and mobility of health workers (WHO 2020). After providing a brief overview of the causes of international African health worker migration, the report then will examine its impacts.

25 https://apps.who.int/gb/ebwha/pdf_files/WHA73/A73_9-en.pdf (Last consulted: 01/06/2021), page 47

VI.
Impacts of the migration of health workers

VI. Impacts of the migration of health workers

The debate on the impacts of international migration of health personnel on African countries is not something new. Health worker migration entails both losses and gains for health worker migrants, the origin and destination countries (Lowell and Findlay, 2001, Connell 2010, Wickramasekara 2003). Proponents of the "brain drain" thesis considers skilled migration as a major hindrance for the socioeconomic development of developing origin countries unlike proponents of the "brain gain" thesis that underlines the positive effects of skilled migration (Teferra, 2000, Wickramasekara 2003). While the term brain gain has increasingly gained traction in international policy and scholarly debates and the term brain drain being increasingly challenged (Martineau et al., 2002), however, the brain drain thesis is still underlain in numerous publications especially in the context of health migration to reflect the negative impacts of the international recruitment of health workers and the non-return of health sector student migrants on the developing origin countries' health systems, especially those facing chronic shortage of health workforce (Marchal and Kegels, 2003: 90-91).

There are concerns about the brain waste which refers to the underutilization of skills of skilled migrants or situation of "deprofessionalization" (Bundred and levit, 2000), i.e., skilled migrants being hired in occupations that do not match with their level of qualification (for instance: medical doctors working as cab drivers because of the lack of recognition of their foreign medical diplomas).

The situation of health workers who endure deplorable conditions work in low-paid jobs that are unrelated to their qualifications and skills is a waste for the migrants themselves as such a situation could undermine their self-esteem, human capital, and the potential to contribute significantly to strengthening the homeland health system and socioeconomic development. These circumstances also are jeopardy for economically vulnerable countries that have considerably invested in the training of their national health workers (Alam et al. 2015, Lofters et al. 2014). A significant proportion of deskilling is found among highly skilled migrants from developing regions such as Sub-Saharan African countries, including health migrant workers, especially female nurses often facing persisting gender discrimination in employment and deteriorating working conditions (e.g., Cuban 2016, Creese and Wiebe 2009).

Most studies underline the huge intention to migrate of health workers and health sector students in many African countries (e.g., Chikanda 2006, Sylla et al. 2020). However, the intention to migrate is not often fulfilled due to the selectivity of international migration and the various hindrances faced by citizens from developing countries about international mobility to high-income countries. Also, despite their willingness to move to the global North, most would-be-migrants will find various constraints to integrate into the health sector in destination countries, thus joining the already significant numbers of health workers facing the brain waste problem (Lofters et al. 2014, Tankwanchi et al. 2020: 661). Various contextual factors condition the achievement of the migration and international career projects, including the level of their skills and qualifications and its attractiveness, the extent of migration laws, regulations, and policies in the destination countries, the licensure procedure and labor market trends in destination countries and the prevailing global financial and public health landscape.

Restricted work-permit quotas and reduced employment opportunities and other challenges have increased the likelihood of irregular of precarious work among female highly skilled migrants (e.g., Cuban 2016, Triandafyllidou and Isaakyan 2016). The complex migrants' trajectories of skilled migrant women are compounded by the global economic recession. Their trajectories are not linear. Most may move to the EU for study or employment purposes, and end up as family migrants (marriage) and low-skilled or subject to under-employment and deskilling in the host country. Skill wastage of female highly educated migrants is found to be pervasive in the care sector (Triandafyllidou and Isaakyan 2016).

1. Impacts on countries of origin

Loss underlying the migration of health workers

Migration of health personnel can accentuate the crisis of health system in African countries, particularly among low-income origin countries already experiencing health workforce deficit and weak national health system. As the availability of sufficient and well-trained skilled health workers is critical for sustaining the health sector, health worker migration can hinder the quality of health delivery and the health conditions of the population (Bloom & Standing, 2001, Bundred and Levitt, 2000, Ndlovu et al., 2001, WHO, 1997).

Loss of human and financial capital

The negative impacts of international health worker migration stem from the loss of investment of countries in the education and training of their nationals as they move in search of greener pastures. While their countries of origin were hopeful that upon completing their studies and training, they will return and contribute to the delivery of essential healthcare services and the health system strengthening, their settlement abroad constitutes a major hindrance in terms of public return on investments, health workforce planning, and healthcare delivery. For low-income countries confronting huge deficit of health workers, the loss is not only in terms of human capital but "also excess mortality associated with loss of expertise" (Tankwanchi et al. 2020: 660).

Despite significant efforts on education and training, there is an enduring human resource crisis, especially in critical sectors such as health. Besides gaps on medical training infrastructures, most medical schools in developing countries, particularly in Africa face the negative consequences of the international migration of specialist lecturers "who are in many cases providers of health services themselves" (Hongoro and McPake 2004: 1453), another feature of the so-called brain drain problem in the health sector in need of further attention.

The migration of health workers can impact negatively on the sustainability of the health system in many African countries confronting to set of challenges. Besides, health workers (medical doctors, pharmacists, dentists, nurses, etc.) represent an important segment of the middle class and therefore play a major socioeconomic role. Therefore, their departure can impact negatively on the resilience and coping strategies of individuals and households faced with poverty and problems related to access to healthcare (Hagopian et al.). These losses have been described as brain drain. The loss of human and financial capital resulting from skilled migration, i.e., brain drain, is more severe for low-income origin countries (Matineau et al., 2002). The brain drain is considered one of the prominent causes and manifestations of the enduring crisis of the Zimbabwean health system (e.g., Dzinamarira and Musuka 2021, Chirwa 2016, Chikanda 2006), although this crisis must be seen as a result of wide-ranging structural problems (References?). The enduring brain drain in in the Zimbabwean public health sector is exemplified by the persisting high vacancy rates in various health occupations: "As of December 2019, positions for 34% of doctors, 25% of radiographers, and 64% of medical laboratory scientists were vacant (HSB, Ministry of health and childcare December 2019, cited by Dzinamarira and Musuka 2021). Against this backdrop, it is likely that relaxed migration policies aimed at attracting talented international health workers can accentuate the weak health workforce and health system.

According to estimates from international organizations such as the UNCTAD, the migration of health personnel represents a net loss for developing origin countries. According to the UNCTAD, the African continent losses 184, 000 US $ for each African professional working abroad and at the same time, foreign experts working in Africa costs 4 billion US $ per year to the continent (Marchal and Kegels 2003). Economically powerless countries contribute up to 500 US $ billions to the economy of richer countries, through the international mobility of their health workers to economically advanced countries, when considering the cost for the training of a medical practitioner estimated around 60, 000 $ and a paramedics around 12, 000 $ (JLI, 2004 : 102).

African countries face uneven distribution of health human resources and huge loss in terms of human

capital in the health sector. The meeting of the Regional Network for Equity in Health in Southern Africa in 1998 considered the international migration of health workers as a factor aggravating the crisis of the health system in Africa, one of the regions in the world with greater deficits of health personnel (Regional Network for Equity in Health in South Africa) (see table 8 and table 9).

Table 8: Density per 1000 population of different occupations of the health workforce between 2005 and 2018 in the 47 countries in the African Region

Category	2005		2018	
	Number	Density per 1000 pop	Number	Density per 1000 pop
Physicians	149 186	0.20	334 167	0.31
Nurses and midwives	792 873	1.06	1 311 508	1.23
Dentists and technicians	23 964	0.03	58 028	0.05
Pharmacists and technicians	43 791	0.06	94 098	0.09
Environ. and public health	23 284	0.03	40 043	0.04
Laboratory technicians	40 581	0.05	370 104	0.35
Community health	179 968	0.24	486 186	0.46
Administrative and support staff	187 968	0.25	458 989	0.43
Other technicians and health cadres	119 505	0.16	420 574	0.40
Total	1 561 120	2.08	3 573 697	3.36

Source: WHO Regional Office for Africa (2021: 18).[26]

Table 9: Health Workforce Density per 10,000 population, by Region, 2005-12

Region	Physicians	Nursing and midwifery personnel	HRH density per 10,000 population	Dentists	Pharmacists	Community health workers
Worldwide average	13.9	29	42.9	2.6	4.4	__
African Region	2.5	9.1	11.6	0.4	0.6	__
Region of the Americas	20.4	71.5	91.9		6.9	__
Southeast Asia Region	5.5.	9.9	15.4	0.7	4.2	0.8
European Region	33.3	84.2	117.5	5	6	__
Eastern Mediterranean Region	10.8	15.9	26.7	1.9	5.2	__
Western Pacific Region	15.2	19.5	34.7		4.4.	7.9

Source: WHO 2013 Note: HRH = human resources for health. - = not available

(Table from AU (2020) Mobility and Migration of African Health Workers Post COVID-19)
https://au.int/sites/default/files/documents/39884-doc-mobility_and_migration_of_african_health_workers_post_covid-19.pdf

26 The state of the health workforce in the WHO African Region, 2021. Brazzaville: WHO Regional Office for Africa; 2021. Licence: CC BY-NC-SA 3.0 IGO.

Moreover, a limited number of medical and nursing schools means many students will seek to pursue their studies abroad (Msanjala 2018). Due to limited employment opportunities back home and difficult working conditions, international students will likely strategize to find alternatives abroad, which can increase the volume and magnitude of health worker migration (OECD 2019, Abuosi et al. 2015) and concerns about potential brain drain in the health sector of origin countries.

The training of health staff based on international standards can increase their chances to work abroad, especially in high-income countries. In addition, it is challenging to train substitute health workers to fill the gaps following the departure of these health workers. However, training substitute health workers to meet local needs may be less valued due to the probability that this training does not meet international standards. Training domestic health workers in local standards to not be competitive in the international labour market is not the best way to respond to the increasing international migration of health workers. Thus, some professional associations and regulatory councils are pessimistic about the substitute health workers' option. Countries such as Zambia and Ghana have set up measures against producing enrolled and auxiliary nurses to improve the status of the professions, notwithstanding the continuing health worker migrant flows and stagnating economies (Dovlo 2005).

Crisis of health system

The health system in many African countries is faced with wide-ranging challenges, including low productivity, health workforce shortage, lack of well-trained health personnel, limited job opportunities in the health sector, the non-replacement of retirees alongside health worker migration. Besides, there is a poor health human resources management in most African countries, underlying a structural crisis (Awases et al. 2004, Chakanda 2006).

Various health forums such as the international "Health Care for All' conference highlighted the fundamental role of a sufficient and well-trained health workforce in health system strengthening (Marchal and Kegels, 2003:89). The health system crisis in many developing countries is caused by wide-ranging and interrelated factors, including the lack of available and well train health personnel. The WHO and other international organizations consider the deficit of well-trained health workers as a major hindrance to address the health risks confronting developing countries such as HIV/AIDS, maternal and child Health, TB and malaria (WHO, 1995, 2000, 2002; Martineau and Buchan, 2000; Mercer et al., 2002; Van Lerberghe and Ferrinho, 2002; Brugha et al., 2002; Kvale, 2002; cited by Marchal and Guy Kegels, 2003: 89-90).

The increasing magnitude of international health worker recruitment and migration, especially from developing countries and the effects of economic globalization on the health system have raised concerns among national governments about the need to address the negative impacts of brain drain on the health system (Frenk and Gomez-Dantes, 2002; Taylor, 2002) that accentuates the health worker shortage. The shortage of health personnel affects various occupations in the health sector, including medical doctors, nurses, pharmacists, technicians in laboratories, managers, and logisticians. It is considered as one of the major obstacles in improving the health conditions in developing countries (tuberculosis, malaria, etc.). (WHO, 2006).

On the one hand, the shortage of health workers is a global concern, hindering the health system in countries of the global North and the global South. Economically advanced countries strive to fill the health worker shortage through the international recruitment of health personnel. On the other, developing countries face major challenges to sustain their health workforce due to economic and financial crisis, inefficient policies related to training and retention of health workers, and other structural constraints (Clark et al. 2006: 44). Most African countries have limited capabilities to train enough health workers to meet the healthcare needs of the populations. Therefore, the shortage of health workforce is more acute in these countries, although it is a worldwide phenomenon (Dovlo 2005).

Health worker migration can negatively affect public health institutions in developing countries that face enduring structural crisis. The health systems in most African countries have limited capacities to respond to the increasing diseases and other health risks and the international health worker migration can accentuate the shrinking of the health system, thus affecting the health conditions of the populations, especially the socioeconomically vulnerable ones. Most of the poor population rely on the public health

sector that seem to be more affected by the migration of health workers compared to the private health sector, which is costly and out of reach for most people facing economic hardships (Awases et al. 2004).

A shortage of human resource in the health sector, especially nursing and physician staff and the brain drain of health workers can hinder the quality of health delivery, particularly in low-income countries. For instance, many African countries face a chronic deficit of health personnel and multiple health risks (infantile mortality, HIV, tuberculosis, etc.) notwithstanding their investment on the education and training of their health personnel (Batata, 2005). Pandemics such as HIVAIDS have affected health workers, especially the younger ones, thus exacerbating the shortage of health personnel in countries such as South Africa. And the health institutions were overwhelmed by increasing diseases and health risks in a context of chronic understaffing and other structural constraints that impeded access to healthcare and social protection (Dorrington et al:2001).

The USA represents 37% of the global health workforce, 50% of the global financial health expenditures and 10% of the global burden of diseases. In contrast, Africa represents more than 24% of the global burden of diseases and concentrates only 3% of the global health workforce and less than 1% of the global financial health expenditures, with often funding for health consisting of subventions and loans from donor countries. 36 out of the 57 countries that cannot meet 80% of the universal health coverage are Sub-Saharan African countries. Countries with less than 2.5 health care workers (counting only doctors, nurses, and midwives) per 1000 population failed to achieve an 80% coverage rate for deliveries by skilled birth attendants or for measles immunization. According to estimate, to address such shortage of health workers in Sub-Saharan Africa, an additional 2, 4 million of health workers would be needed (WHO 2006). The recent WHO Regional Office for Africa points to a need of around 6, 1 million of health workers by 2030 to respond to the health workforce shortage in Africa, drawing on data from the United Nations: "The needs-based shortage of health workers in Africa by 2030 is estimated at 6.1 million.5 This anticipated shortage is already constraining the delivery of essential health services to achieve health-related development goals including the ability to accelerate progress towards UHC [Universal Health Coverage]" (WHO 2021: 5). According to estimates, an increase of the health workforce up to 140% is necessary to address the shortage of health worker in the Sub-Saharan African region (WHO, 2006). The WHO estimates pointed to a shortage of 720 000 medical doctors in Africa over the last decades (Clark and and Clark, 2006: 44). According to Scheller et al. (2016: 14), a total number of 1 629 671 medical doctors will be needed in Africa to reach the SDG threshold forecasted for 2030, drawing on calculations based on the WHO Global Health Observatory data (see table 10).

While the right to mobility is a fundamental right, increasing migration of health workers can be detrimental in strengthening health systems and improving the health conditions of the populations. The global health workforce shortage and the underlying uneven distribution of health staff within and across countries is a significant hindrance for improved health outcomes, especially in developing countries (WHO 2016). For instance, one of the inklings evidence of this is the negative impacts of low health worker density. It can result in rising maternal and child mortality in some countries. Contrastingly, increased health worker density (for example, beyond 2.5 workers per 1,000 populations) can result in enhanced health outcomes (i.e., enhanced "prospects of achieving 80 percent coverage of measles immunization and skilled attendants at birth"). Findings suggest the extent of correlation between health worker density and maternal death. The lower the health worker density, the higher the propensity for maternal death (Dovlo 2005). The WHO Global Strategy on human resources for health: Workforce 2030 stressed strengthening health workforce availability and capability are fundamental for addressing maternal mortality and other global health pressing problems (WHO 2016: 10). The estimated "SDG index threshold" of 4.45 doctors, nurses, and midwives per 1000 population was considered a minimum density pertaining to the need for health workers in 2013 and 2030 (Sheffler et al. 2016).

Nevertheless, increased health worker density is associated with reduced maternal mortality (Joint Learning Initiative 2004). The importance of the density of the health workforce in health outcome, as underlain in the case of maternal mortality, reflects the need to keep and attract back highly skilled or qualified health personnel to respond to complex healthcare needs. However, most countries in Africa do not meet the minimum threshold in terms of health worker density (Dovlo 2005).

Table 10: Total numbers of health workers needed to reach the SDG threshold estimated for 2013 and forecasted for 2030 in Africa

Physicians		Nurses/midwives		Other cadres		Total health workers		
2013	2030	2013	2030	2013	2030	2013	2030	% change
1 080 315	1 629 671	2 719 618	4 102 581	2 099 50	3 190 020	5 899 437	8 922 272	51%

Data sources: Adapted from Scheller et al. (2016)'s calculations based on WHO Global Health Observatory data (Scheller et al. 2016: 14).

The inability of source countries to keep and attract back their health worker nationals, their reliance on international development assistance and their limited bargaining power (Dovlo 2005)[27] in global policy settings make health workers' migration governance a challenging problem. In addition, while many countries have adhered to the WHO Code of Practice and have adopted national regulations regarding labour recruitment in general or specific measures on health workers' recruitment, the challenge remains the implementation of these international or national instruments.

While the health worker migration poses the problem of the ethical recruitment of international health workers, particularly those from economically vulnerable countries, it also demonstrates the mismanagement or governance deficits of health systems facing a structural crisis. Such a crisis is accentuated by international health worker migration. However, it should not be considered as the sole explanatory of the national health systems structural crisis. The health system governance challenges, including on health human resource planning policies, are likely to accentuate health personnel's migration pressures notwithstanding the willingness to adhere to the ethical recruitment principles. Therefore, it is fundamental to strengthen the health system and health labor market governance (Gencianos 2021, Adano 2008, Mackey and Liang 2013, Dovlo 2005).

Thus, policies and measures related to the international migration of health workers should consider the devastating impacts of the shortage of health staff and increasing health personnel migration flows in the population's health conditions, especially in developing countries (WHO 2014: 25-26, Stilwell et al. 2004, Msanjala 2018).

Gains

The health worker migration can be beneficial to the origin countries in terms of knowledge transfer, remittances transfer and foreign direct investment (Dos Santos & Postel Vinay, 2003, Mountford, 1997; Stark & Wang, 2000, Connell 2010). It can contribute to strengthening human capital by enabling skills and knowledge transfer, remittances transfer, and educational and training opportunities (Vidal, 1998; Beine, Docquier et Rapport, 2001 a, Brücker et al. 2012). However, it has setbacks on the national health systems, especially in economically powerless countries.

Remittances transfers contribute to improving the living conditions of families and communities in the country of origin and has a significant impact on national GDP (Forcier, Simoens et Giuffrida, 2004, Skeldon 2006). These remittances are not viable alternative to the crisis of health systems in developing countries. The main benefiters of these remittance transfers are migrant families and communities left behind rather than the health system.

Health worker migration can result in virtuous circle (human capital, knowledge transfer and transfer of know how) for developing countries in the case of temporary or circular migration. However, it is essential to strengthen the national health systems to maximize the benefits resulting of the migration of health personnel.

27 As Dovlo states: "Unlike the United Kingdom, the US has a multifaceted health system, which makes it difficult to imagine a situation in which it is feasible to agree on control of physician migration from countries that have little political or economic clout. Such source countries have little influence when it comes to negotiating over the poaching of their health professionals by powerful countries such as the US."

According to the World Bank, temporary or circular skilled migration can be beneficial to developing origin countries (World Bank, 2001) though some studies question the potential of circular migration to foster a win-win situation for migrants, the origin and host country and raise concerns about the lack of consideration of the human rights of migrant workers in the context of the circular migration model (i.e., Wickramasekara 2011). Moreover, there is a lack of evidence or in-depth studies about the patterns, trends, and impacts of the circular migration model in the context of the international migration of health workers (Weber and Frenzel 2014). The Mid-term Development Plan of Philippines (2001-2004) encouraged Philippine's nursing migration due to the fundamental role of remittances transfer in this country. However, while one of the main priorities of the government of Philippines is training large numbers of nurses for international recruitment, there is a concern that increased migration of health workers can exacerbate the shortage of health workers in Philippines[28] (Batata et al. 2005).

Countries such as Philippines and Cuba have an oversupply of skilled health workers that find it difficult to be integrated in the local labor market due to poor funding of the health services, undervaluing of health professions, poor living, remuneration and working conditions of health workers, and other structural constraints. Philippines and Cuba are some of the most prominent global suppliers of health workers though their health systems face health workforce shortage due to the inability to hire the health workers against the backdrop of poor or limited funding of health services. Therefore, most health personnel of Cuban and Philippine origin are attracted by the international health labor market as a strategy for better wages and working conditions and to escape from the risks of unemployment in the country of origin. The chronic shortage of health staff in developed countries provides windows of opportunities for health workers from Philippines and Cuba for international recruitment or migration for employment purposes. Philippines is one of the main suppliers of qualified nurses in the world. Significant numbers of Philippine nurses migrated to economically advanced countries, mainly in Saudi Arabia and the UK. Philippines and Cuba have signed bilateral agreements with various countries on temporary international health labor migration (IOM, 2004).

Philippines (Alburro and Abella, 2002) and Cuba (Hilary, 2002) are well known for their policies to promote massive international recruitment of their national health workers. However, for African countries facing significant health workforce deficits, migration of health care workers can weaken their health systems that are already shrunken by sets of challenges. Despite its oversupply of health personnel, paradoxically, Philippines faces a shortage of nursing staff (due to underfunding, low wages, difficult living and working conditions and other constraints mentioned above), which was forecasted to increase to 29% by 2020 in the event of lack of regulation of the increasing international recruitment of its health personnel (Padilla, 2003, cited by Marchal and Kegel, 2003:98).

Both Cuban and Filipino migrant health workers are involved in the "cascading global care chains" by replacing migrating local health workers in countries facing health workforce deficits (i.e., some Pacific Island states (Vanuatu, Fiji)). Rather than reducing or preventing international migration of health workers to address potential brain drain, both Cuba and Philippines encourage exporting their health workers. However, Philippines seems to have a more aggressive policy towards the international recruitment of its health workers as part of the strategy to maximize the remittances. Philippines is considered the primary exporter of nurses globally while India is regarded as the world largest exporter of medical doctors. The Philippines' model aimed at producing a surplus of health workers more than required at the local level to meet the needs of the international health labor market. Both countries have signed bilateral agreements with destination countries in the global North and GCC countries to increase the international recruitment of their health workers. The Philippines' model has been lauded by many developing countries, including African countries. Some countries such as China and Vietnam have attempted to replicate this model. However, beyond the potential brain in terms of remittances and placement of a "surplus" of health workers in the international health labour market, the Philippines' model entails set of challenges for the health system of Philippines that still faces health workforce shortage, uneven distribution of health workers, and lack of effective governance of the international migration of health workers (Connell 2010).

28 Aiken LH, Buchan J, Sochalski J, Nichols B, Powell M: Trends in international nurse migration. Health Affairs 2004, 23(3):69–77. Global Scholarship Alliance: Program launched to reverse global nursing crisis. [http://www2.pro-ns.net/~scottgs/press2.htm] The State Employee 2003., 17(366):

Cuba has been actively promoting South-South health cooperation. Cuba has assisted many developing countries through medical missions and the recruitment of its health worker nationals, including African countries (i.e., Zambia, Zimbabwe, South Africa, Mauritania, Guinea-Bissau, to name but a few) to improve healthcare delivery, fil the health workforce deficits or replace migrating workers or in the event of emergencies and natural disasters. Cuba' stance has been described as a form of "medical diplomacy" (Connell 2010: 42) with the underlying "ideology of humanitarian solidarity and a need to secure hard currency earnings" (Hammett 2013). Cuba has signed bilateral agreements with some African countries (for instance South Africa) on supplying Cuban health workers and for the training of students in medical schools in Cuba (Hammett 2013, Sui et al. 2019). Also, Cuba is an increasing destination for the international migration of medical students from developing countries, including African countries (Hammett 2013, Sui et al. 2019).

While the international recruitment and migration of health workers are beneficial for countries such as Philippines and India, they also have setbacks for the national healthcare system. Public health institutions are under-staffed, and the departure of their health staff and their non-replacement accentuates such health worker deficit. Moreover, some medical doctors, physiotherapists, dentists, and public health engineers retrain as nurses to have access to the nursing job opportunities in the international labor market.

Migration can contribute to strengthening health migrant workers' competences, skills and qualifications, and financial resources (Bach 2003, Findlay, 2001, Clemens 2007). Countries such as Ghana have developed policies and measures to mobilize their skilled diaspora on a short-term basis to foster knowledge transfer for the benefit of the homeland institutions. Skilled migration can have positive effects on encouraging skilled diasporas networks' knowledge transfer to improve training and education in the country of origin and transnational initiatives with their local counterparts for the homeland socioeconomic development (Pang et al., 2002: 93; Wickramasekara, 2004; Seguin et al., 2006).

The internationalization of skills and qualifications and the current demand for health workforce can trigger increasing health worker migration and mobility (Martineau, et al., 2002). Although globalization and deregulation can enable and intensify the international migration of health workers, such phenomenon has started well before the current global economic restructuring (Bundred and Levitt, 2000). Developing countries should explore ways to enhance economic growth through health services (Hilary 2001). Temporary skilled migration could foster economic growth in developing origin countries (World Bank, 2001).

2. Impacts on the destination countries

Loss

The dependance on foreign health workers can hinder the strengthening of the domestic health human resource (Martineau et al.: 9). For instance, destination countries such as the UK confronting chronic shortage of health workers consider policies aim to attract and retain significantly their nationals in health professions as a strategy to address their high dependance on the international recruitment and migration of health workers. (Briggs 2019, UK Bureau of Health Professions, 2002). In Germany, the Eastern rural regions and those situated in Bavier faced a shortage of health personnel due to the migration of medical doctors to the Western part of Germany or abroad, mainly in Switzerland. The reconversion of medical doctors into research, pharmacology, media, their migration, alongside school dropout have resulted in deficit of health personnel (Taverna 2006).

Gains

The destination countries are the main beneficiaries of health worker migration. The reliance of international expertise enables huge savings in education and training. Health worker migration can help respond to the chronic shortage of health personnel in high income countries though on a short-term basis. However, there are concerns about the ethical aspects of the international health worker recruitment for developing origin countries with weak health workforce and health system, especially in African countries. Globalization of the health workers' labor market and the liberalization of health services tend to be detrimental to developing countries, especially African countries (i.e., PHR 2004, Marchal and Kegel 2003: 9, Clark et al. 2006).

3. Impacts on African health migrant workers

The international migration of African health workers can lead to positive outcomes for the health worker migrants, their families, and communities in terms of improving their living conditions, providing support in the form of remittances, and building health centers, to name but a few. African Diaspora health workers can play a major role though they cannot alone address the many fundamental challenges affecting the public health in the African continent. By mobilizing their skills, knowledge, experience, human, social, and financial capitals, they can help to improve the living conditions of those left behind, minimize the devastating impacts of common infections and chronic diseases, poor health prevention, diagnoses, and treatment, and socioeconomic hardships on the health conditions of the populations in most African countries. They can partner with local, national, and international stakeholders to improve quality care and address the public health challenges in Africa (e.g., Ezeonwu 2021, Wojczewski et al. 2015, Ionescu et al. 2009).

African health workers abroad either return home temporary for private visits or to support home country public health institutions and or develop transnational Diasporas networks or organizations, aimed at contributing to the improved the health conditions of the populations and overall, the socioeconomic development (Oyelere 2007: 27-28).

Reduced brain waste of African health migrant workers can enhance the potential for brain gain as a successful socioeconomic and professional integration of African health worker migrants in the host country can probably catalyze a virtuous cycle in terms of increased remittances, skills and knowledge transfer though it can also result in increased high skilled migration and a potential brain drain with growing numbers of highly skilled workers moving abroad because of the expectations of more favorable working and remuneration conditions in the host country (Oyelere 2007: 27).

African health migrant workers and in general those from developing countries face more hindrances to international mobility in comparison to health workers from high income countries in the global North (Europe, North Americas) due to restrictive visa and migration policies and the global asymmetry of power. Most African health migrant workers also are vulnerable to precarious working conditions, low salaries, and lack of recognition of their skills and qualifications though some have achieved better remuneration and working conditions and upward professional mobility (e.g., Mendy 2021: 117, Davda et al. 2022, Creese and Wiebe 2009).

The increasing restrictive and constraining migration policies in high income destination countries impede the registration procedures and visa application of African health migrant workers that are costly and take lengthy times. Moreover, African health workers often complain about the intense emotional strains and financial burden underlying the registration procedures, visa application and adaptation programs in the host country (e.g., Mendy 2021: 129, Davda et al. 2022, Creese and Wiebe 2009).

While many destination countries in the global North have adopted the WHO Code and even developed their own ethical principles for the international recruitment of health workers, in practice, there are gaps for the implementation of these ethical principles as employers tend to be more focused on addressing the

health workforce deficits by recruiting foreign-born health workers (whose skills and qualifications match the standard of care in the host country health system than on the consequences of the international recruitment of health workers on the developing countries with fragile healthcare systems (e.g., Mendy 2021: 130, Eliott 2011).

The experience of discrimination, racism, and xenophobia at workplace and in the wider sense of community, the lack of recognition of foreign skills and qualifications and the ensuing brain or skills waste, underemployment and unemployment confronting African health workers can hinder their aspirations for better living and working conditions, affect their wellbeing and self -esteem and increase their vulnerability to precarity, abuses and exploitation, which can be a triple loss (for the African health worker migrants themselves, the origin, and the host country) (e.g., Lofters et al. 2014, VSO 2010: 13, Cuban 2016, Creese and Wiebe 2009).

The brain waste situation facing many African health worker migrants in the global North should deserve consideration among national and international policymakers. Brain waste or the underutilization of the skills and qualifications of foreign-born skilled workers due to the lack of recognition of their skills and qualifications, constraints related to registration and licensing procedures, linguistic problems, lack of social networks and other structural problems such as discrimination and racism can result in the unemployment or underemployment of African health workers. Due to the difficulty to get their skills and qualifications recognized, they end up working in menial and low-paid jobs such as taxi drivers, security guards as a survival strategy (Lofters et al. 2014, Reitz 2011, Alam et al. 2015: 128-131, Creese and Wiebe 2009). As they often experience downward professional mobility and work in precarious and low-paid jobs and experience difficult living conditions, this may hinder their health, well-being, self-esteem, social life and career plans, their ability to support their families and those left behind through remittances, and overall, their potential to contribute to the development of their country of origin (Reitz 2011, Alam et al. 2015: 128-131, Creese and Wiebe 2009). Brain waste is considered a loss for the migrants, the host and origin country (Alam et al. 2015: 128-131, Sumption 2013, Batalova et al. 2016, Lofters et al. 2014) because it undermines the aspirations and capabilities of the health worker migrants, and it represents a loss in terms of human capital for the origin and host country that both face health workforce shortage.

While African health workers flee their country of origin to escape from challenging conditions or in search of greater opportunities beyond the decent lives they had in the homeland and are attracted by the greener pastures of the global North, the conditions are not always favorable to improve their living and working conditions and strengthen their careers once moving abroad. Beyond the legitimate aspirations to thrive professionally or socially or to ensure human security for their families and themselves, it is essential to underline that there might be gaps between these aspirations and the reality in the host country that may be not glamorous for most of them, as underlain by situations of precarity and brain waste, skill discounting, and difficulty related to the recognition of their foreign skills and qualifications. The conditions in the host country are not favorable for most African health workers to achieve their aspirations underlying their decision to migrate (Mendy 2014, VSO 2010: 13-14).

While high income destination countries are faced with the shortage of health workforce and are dependent on the international recruitment of health workers, however, the type of migration policies and the type of health system and the ensuing laws and regulations related to health occupations and the recruitment of foreign-born health workers may influence the conditions of African health workers in the host country (Mendy 2014, VSO 2010, Davda et al. 2022, Creese and Wiebe 2009).

VII.

Review of policy implications, including selected national and international good practices, aimed at strengthening governance of health worker migration

VII. Review of policy implications, including selected national and international good practices, aimed at strengthening governance of health worker migration

Health worker migration is often considered in the literature within the broader context of skilled migration and policies related to health worker migration aim to maximize its benefits and minimize its negative effects especially for developing origin countries (i.e., Wickramasekara, 2002, Lowell 2002, Lowell and Findlay 2002, Cornell et al. 2007, Cornell 2010, Czaika 2018). Strong economic growth, political stability, democracy, and respect for the human rights are crucial to attract back and retain highly skilled workers from developing countries.

Keeping and retaining the health workforce and strengthening the domestic health workforce through favourable employment and remuneration conditions and improving health training and education, among other policy incentives are essential to meet the complex healthcare needs. African countries have attempted to respond to the adverse effects of international migration of health workers by devising sets of policies, including restricting health worker migrant flows, improving the working conditions of healthcare workers, addressing the structural crisis affecting the national health workforce and health systems. However, these policies have been largely inefficient or inadequate as they fail to address the fundamental challenges of health workforce migration that stem not only from the national health system crisis, the global shortage of healthcare workers but also from poor health system governance, socioeconomic development problems alongside internationalization of health education and labor markets and other structural elements that are worthy of consideration (e.g., Cornell et al. 2007, Labonte et al., 2016, Grignon et al. 2012, Stilwell et al.). Moreover, the diversity of national contexts, different levels of socioeconomic development, and conditions should be considered when devising policies and measures on health worker migration governance. International or multilateral policy dialogues and instruments are crucial for effective governance of health worker migration. Singled-out countries cannot address the governance of this type of migration that requires a partnership between source and destination countries (Mackey and Liang 2013, Dovlo 2005). An effective adhesion to the WHO Code and a formulation of relevant continental and regional policies and measures to address the adverse effects of health worker migration and maximize its potential benefits constitute significant steps (WHO n.d., WHO 2020a, WHO 2020b).

Policies on staff retention to address shortage of health personnel and health workforce imbalances

According to Sousa et al. (2013: 893), health workforce retention policies should underscore the following elements: policies on health worker production, policies to respond to health worker migrant inflows and outflows, and policies to respond to maldistribution of health workers and inefficiencies.

Enabling more opportunities (better salaries, decent working time, facilities in terms of housing, children schooling, etc.) and favourable working conditions to health workers and promoting a positive image of the health professions, especially nurses can have positive effects on the health staff recruitment and retention. For example, countries such as Peru initiated restructuration programs to attract their health personnel in rural areas to address the internal health workforce imbalances (Martinez et al., 1999; Frenk, 1992).

Reforming the training to respond to the local health conditions can help to address skill mismatch and to reduce the frustration and dissatisfaction of health personnel (Frommel, 2002). According to Heller and Mills (2002), low-income countries should reform the staffing structure and the skill mix of their health services by emphasizing the training of mid-level health workers that are less competitive in the international labour market “and to whom tasks of full professionals can be delegated”. These medical auxiliaries can help fil the shortage of health personnel due to the migration of skilled health workers to

OECD countries. Skilled health workers moving to OECD countries have more chances to get employed in the international labor market as their training meets international standards unlike the mid-level health workers that are trained to respond to the local healthcare needs. This could help in health workforce retention strategy in developing origin countries. However, such retention schemes have been subject to criticism pointing out its ineffectiveness and the fact it undermines the quality of training in countries of origin: "The training of mid-level health workers has been a standard practice in developing countries for many decades and there is thus little new in these proposals. However, creating new cadres of lesser-qualified staff specifically to fill gaps left by departing professionals institutionalizes not only the brain drain, but also the health inequity between North and South." (Marchal and Kegel, 2003: 96). Furthermore, there is a need for adequate policies to address the brain drain of health workers that are trained according to international standards as they are critical to address the healthcare needs in African countries, especially in the case of more complicated pathologies (Marchal and Kegel, 2003: 95-96) without constraining their rights to mobility.

In the context of shortage of health workers accentuated by the international migration of health workers, enhancing task-shifting can help to reduce the workforce gaps and in the delivery of healthcare services due to short supply of healthcare workers, for instance physicians (e.g., Mwapasa et al. 2021).

Some countries resort to "bonding or mandatory deployment of recent graduates" to work for a couple of years in rural areas, as part of their retention policies. While such measures can to some extent help to reduce the geographical imbalance or maldistribution of medical doctors and other health workers, they neither address the root causes of international migration of health workers nor prevent it. Well-balanced policies that conciliate the right to move with the right to healthcare tend to be more realistic against the backdrop of globalization, internationalization of health sector education and labour market, and shortage of health workers. It is crucial to maintain and strengthen the health workforce, promote avenues for a human rights-based, fair, and ethical circular migration, including opportunities for training and skills' enhancement through bilateral agreements while ensuring that this is not detrimental to the health systems of origin countries, especially low- and middle-income countries (Brugah 2021).

Cultivating a spirit of strong attachment to the community and a passion to serve the community in the hiring of trainees in health professions (nurses, medical doctors, etc.) and in the curriculum can contribute to the retention strategy of health workers in their countries of origin despite the difficult living and working conditions these health workers may confront (i.e., Tankwanchi 2021: 662). However, while strong attachment to the community is one of the reasons why health workers stay at home despite having opportunities to migrate, most (home-based) African health workers have no choice but to accept to stay in the country of origin and endure difficult living and working conditions, because of lack of mobility opportunities, which can lower their motivation and professional satisfaction (i.e., Tankwanchi 2021). Besides, most African health worker migrants express their attachment to their country of origin and their strong willingness to give back to their homeland despite the physical or geographical distance (i.e., Wojczewski et al. 2015).

Strengthening health human resource planning policies

Policies related to the migration of health workers should also consider the variety of the health workforce (nurses, medical doctors, pharmacists, dentists, etc.) (Dovlo 2005). The national human resources for health plans should include effective policies and measures to address the negative impacts of brain drain in the health system, including improving the living and working conditions of health workers in the countries of origin (Dzinamarira and Musuka 2021). While improving the remuneration condition can contribute to the retention strategies of health workers, it is not alone sufficient. Policies related to human resource for health should also facilitate a better work and family life balance in addition to improving remuneration and working conditions.

Return of migrants to their home country and resourcing of expatriates (diaspora option)

IOM initiated several voluntary temporary return programs in Europe, Latina America, Asia, and Africa aimed to mobilize health Diaspora workers' for the development of the national health systems of the

country of origin. For instance, within the framework of the IOM's "Migration for Development in Africa" (MIDA) that aims to mobilize the competences of African diaspora for the development of their country of origin, the MIDA Somalia Project (2015-2019) lead by IOM Helsinki contributed to strengthening the capacity of Somali public health institutions on quality healthcare by bringing Somali health Diaspora workers on a temporary basis to contribute to improving healthcare to vulnerable groups. This IOM project also contributed to enhancing employment opportunities in the health sector to the Somali youth. The IOM MIDA Somalia project (2013-2015) contributed to skills and knowledge transfer for the benefit of the Somali public health sector trough capacity building and training schemes carried out by Somali diasporas health workers to the local health workers (IOM n.d.). Another IOM project (2012-2014) aimed to strengthen the human resources for health of South Sudan by engaging South Sudan's diaspora health workers. Besides, the project included providing technical capacity to the South Sudan's government for the elaboration of a National Diaspora Engagement Strategy for the Health Sector of South Sudan though crisis and instability in December 2013 impeded the effective realization and endorsement of such a strategy. As part of the diaspora mapping in the health sector, a website and web-based registration were set up to allow South Soudan's health workers in the diaspora to register their skills and qualifications and areas in which they can contribute to strengthening the home country health sector (IOM, n.d.). The IOM Netherlands Temporary Return of Qualified Nations (TRQN) project endeavoured to foster diaspora engagement including in the health sector by mobilizing national health workers abroad through training and internship schemes in strengthening the capacities of the health institutions in the origin countries (IOM, n.d.). The IOM program called "Return and Reintegration of Qualified African Nationals" (1983-1995) involved the voluntary return of 2565 professionals in various occupations to Africa. Also, IOM earlier developed programmes for India, South Korea, and Taiwan focusing on research-development (International Organization for Migration, 2001). It is difficult to assess the effectiveness of these projects in strengthening the health systems in the country of origin by mobilizing skilled national health workers abroad due to lack of studies and knowledge gaps about the sustainability of these projects.

The Diaspora networks option is said to reduce brain drain and brain waste by enabling the engagement of the skilled diaspora into the development of their country of origin (Economic Commission for Africa, 2000; International Organization for Migration, 2001, 2002). Telemedicine, short term visits or return of highly skilled nationals, remittances transfer, knowledge transfer, philanthropic activities, and other diasporic initiatives aims to contribute to homeland development. The IOM "Migration for Development in Africa" (MIDA) (IOM 2001), the UNDP "Transfer of Knowledge through Expatriate Nationals" and the "Reverse brain drain project" in Thailand (National Science and Technology Development Agency, 2003) aimed at mobilizing the skills and resources of the diaspora for homeland development. "South African Network of Skills Abroad" (SANSA, 2003) and the "Ethiopian North American Health Professionals Associations" (ENAHPA, 2003) are examples of African skilled diasporas' organizations initiatives aimed at strengthening the health system, scientific and technological capacities and socioeconomic development. However, these initiatives lack sustainability and cannot alone replace governments' role on the national development (Marchal & Kegel, 2003: 96 - 97).

While there is optimism about the Diaspora option (see for instance Meyer, 2001), "it is too early to assess its impact, however, and it seems unlikely that this 'brain mobility' will structurally alleviate health staff shortages in developing countries" (Marchal & Kegel, 2003: 97).

Reparation for loss of human capital

In the 1960s, international organizations such as the UNDP (2001) and UNCTAD (1976) suggested measures for the reparation for loss of human capital due to the brain drain. These measures included taxation and compensation mechanisms ("student loan recovery mechanisms, exit fees, flat taxes for overseas workers, and a taxing system on nationality rather than residence") (Bundred and Levitt, 2000). However, these measures were unsuccessful due to various hindrances, including the difficulty for their implementation and the fact they do not address the root causes of migration (Wickramasekara, 2002).

Restriction of international mobility

According to Kerse and Ron (2002), there is a need to adopt restrictive measures to counterbalance the increasing outflows of skilled workers from lesser developed countries. Pang et al. (2002] argued that compensation mechanisms can enable the retention or return of some skilled nationals. Restrictive measures aimed at encouraging the return of students upon completion of their studies abroad have been unsuccessful. For instance, the imposition by the Eritrean government of an upfront payment of US$ 15,000 to Eritrean students migrating to South Africa as a guarantee of their return was widely criticized (BBC, 2001) and later removed. Alternatively, withholding academic certificate until the students return to the country of origin is counterproductive (Marchal & Kegel, 2003: 97). Restriction of international migration in terms of "strategies of bonding health workers to government" after trained were mostly unsuccessful because healthcare workers find alternative to escape from these restrictive strategies (Hongoro and McPake 2004: 1453).

The World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA) recommended governments to rethink their recruitment policies to address the negative impacts of health worker migration. The UK Department of Health and the Commonwealth developed Codes of practice for fair international health workers' recruitment. However, various hindrances impede the implementation of these Codes of practice. Kerse and Ron (2002) advocated reducing the number of international recruitments to sustain the health workforce in low-income countries and also ensuring a fair international recruitment of health workers. (Bundred and Levit, 2000, cited by Marchal & Kegel, 2003: 97).

Promoting implementation of the WHO Code of Practice for the Recruitment of International Health Personnel

Effective implementation of the WHO Code of Practice will help ensure the ethical recruitment of health personnel, thus contributing to addressing the negative impacts of health worker migration on the health conditions of the populations in developing countries, including in Africa (SEATINI, ACHEST, TARSC 2011).

Notwithstanding the efforts to promote fair international health recruitment by adopting national codes of practice along with adhering to the WHO Code of Practice, these initiatives seem not to have yield significant effects. For instance, while the UK National health Service developed an ethical recruitment Code banning the recruitment of healthcare workers from developing countries, however, recruitment agencies take advantage of the loopholes underlying the system to recruit in these countries (Hongoro and McPake 2004: 1452).

▶ Box 2: Policy recommendations to promote the WHO Code implementation: findings drawing on the qualitative interviews

Short and medium term

- Use the WHO Code as a guiding framework for national policies on international health worker migration and recruitment.
- Ensure wider dissemination and sensitization of the WHO Code through videos, social media, and translation in national languages.
- Ensure that reporting is based on international human rights and labour rights frameworks.
- Learn from the COVID-19 pandemic in terms of the importance to strengthen health workforce.
- Conduct a census/ survey of private health worker recruitment agencies and provide them training about human rights and fundamental rights of migrants.
- Ensure greater scrutiny of private health worker recruitment agencies to ensure their compliance with national and international legal and policy frameworks related to the health worker international recruitment and provide severe penalties in case of human rights violation, abuses, and exploitation.
- Use labour inspections to ensure protection of health worker migrants' labour rights.
- Provide opportunities for safe and regular health labour migration while strengthening the health workforce in the countries of origin.
- More emphasis on high-income destination countries investing in training and skills' development of health workers in developing origin countries.

Long term

- Create a sense of ownership of the WHO Code.
- Move towards a Convention to protect health workers.

Foster Skills Mobility Partnership (SMPs)

The Skills Mobility Partnerships has gain increasing international attention over the last few years. It suggests a win-win situation between the origin and destination countries, considering the need for highly skilled workers of destination countries and the need to strengthening training and skills development in the countries of origin (OECD 2018, cited by Yeates and Pillinger 2021: 105). Skills Mobility Partnerships are underlain in the Global Compact for Migration (see UNGA 2018, Art. 33 (e)) as an avenue to strengthen the nexus between migration and skills development for win-win drive for migrants, and origin and host countries.

Skill mobility partnership can allow strengthening employability, skills transfer and mobility of health workers and other positive impacts. It can contribute to health labour migration and health workforce development if effectively implemented through win-win drive, equity and human rights-based standpoints benefiting origin and destination countries, health migrant workers, national health systems as well the users of health services (e.g., Gencianos 2018, van de Pas and Hinlopen 2020).

Some studies highlight some concerns about the Skills Mobility Partnerships that they may "open paths to greater reliance on private financing for education and training and international trade in health services. There is also a great deal of uncertainty as to how they will fulfil their promise of simultaneously contribute to a net creation of health workers in the source country, mitigate the effects of health worker migration and prove an effective way of addressing health workforce availability and promoting health system sustainability. There are also unanswered questions about how they will ensure ethical recruitment and rights-based approaches to migration (i.e., uphold the principles of the WHO Global Code). There are specific concerns that they may further embed temporary and circular health worker migration schemes

(and related quotas) rather than promote permanent migration and other rights-based approaches to migration established by the UN and the ILO (Yeates and Pillinger 2019a, 190-193)" (Yeates and Pilinger 2021: 105-106). Another concern pertains to the current focus on issues surrounding "financial incentives, employability, skills transfer and mobility rather than around health systems strengthening, health systems sustainability, health equity, decent work and social protection" (Yeates and Pilinger 2021: 106).

▶ Box 3: Strengthening skill partnership in the context of Africa's international migration and mobility of health workers- Some policy recommendations drawing on the findings of the qualitative interviews

Short term

- Joint assessment of the needs in terms of health workers in origin and destination countries and after that, identification of the optimal funding and resources need to invest in skills development in the countries of origin.
- Joint- cooperation between origin and destination countries to facilitate Diaspora engagement for health system strengthening and for socioeconomic development of the countries of origin through bilateral agreements on migration and development.
- Encourage joint- investment between origin and destination countries in the training of health workers.

Medium term

- Ensure the successful integration of health migrant workers and their access to critical skills and capital.
- Provide an enabling environment for the successful return and reintegration of health migrant workers in the countries of origin.
- Tailor the education, training, and skills' development to the local needs, not only to the needs of high-income destination countries or the international labor markets.
- High-income countries to provide conducive environment for the retraining and reskilling of health migrant workers facing brain waste, in close partnership with the countries of origin.

Long term

- Skill Mobility Partnership (SMP) as a possible way to reduce the adverse effects of brain drain by enabling investment on skills' development in the country of origin.
- SMP as an enabler of skills' development and diaspora engagement for development of the country of origin.
- Ensure an effective triple win (migrants, origin, and destination countries) and address the tendency to focus only on the needs and priorities of high-income destination countries.
- SMP as a possible way to reduce the adverse effects of brain waste by harmonizing curriculum between origin and destination countries to prevent lack of recognition of foreign skills and qualifications.
- Bring countries of origin and destination into partnership rather than letting the countries of destination decide what are the priorities.
- Implement the GCM.
- Train more health workers to meet the local and international demand, while strengthening the domestic health workforce, protecting health migrant workers' rights and implementing the WHO Code and other relevant international instruments.

Address brain drain, brain waste, and promote brain grain

The brain drain is considered a fundamental challenge for the sustainability of health systems of African countries that have undergone structural crises for several decades. It is seen as one of the setbacks undermining the already weak capacities of national health systems of most African countries overwhelmed by increasing burden of diseases alongside shortage of health workers and rising international health worker migration. Policies to minimize the brain drain can be summarized as follows: "task-shifting, remuneration, regulatory mechanisms, compensation, bonding, political stability, importing, training, and remittances" (i.e., Zimbudzi 2013).

▶ Box 4: Policy recommendations to address the brain drain: findings from the qualitative interviews

Short term

- Ensure favourable working environment, better remuneration conditions and recycling staff.
- Ensure effective retention strategies of health workers and transparent and effective recruitment process.
- Establish dialogue between the diaspora to address the brain drain problem and for effective implementation of the recommendations and measures in response to brain drain.
- Strengthen statistics and data collection for a better understanding of health worker migrants' inflows and outflows.
- Promote the temporary return of highly skilled health workers for skills and knowledge transfer (for instance: university professors in medical science coming back temporary to train students in medical faculties or involved in dual appointments, medical doctors, or nurses, etc. coming back to strengthen the capacities of their local counterparts in the health systems of the country of origin).
- Enable a better working environment for the contribution of African skilled health diasporas through the information communication technology (ICT) (telemedicine, online courses, etc.).
- Promote excellence and meritocracy and keep the best and brightest talents.
- Allocate enough funding to the health system and ensure effective health system governance and management.
- Promote a rights-based approach to migration, including the protection of the migrant workers' rights and their labour rights.
- Promote skills mobility partnership between origin and destination countries.
- Promote the recognition of skills and qualifications of health workers.

Medium term

- Ensure favourable conditions for skills development and skills anticipation in origin countries.
- Ensure enabling environment for a successful return and reintegration of health workers in the country of origin, including those facing deskilling and underemployment (the so-called brain waste).
- Train more health workers and ensure an oversupply of health workers and promote their international recruitment taking example of countries such as Cuba and Philippines while strengthening the local health workforce in the country of origin.
- Strengthen the bargaining power of African origin countries and ensure they have harmonized and uniform policies and perspective during their dialogue with high-income countries regarding health worker migration.

Long term

- Address both external brain drain (international migration of health workers) and internal brain drain (medical doctors doing administrative work).
- Improve the health system's infrastructure, equipment, and facilities.
- Address the negative impacts of brain drain, while promoting Africans in top positions in the international scene.
- Address the push and pull factors underlying the brain drain problem.
- Address the health workforce shortage in origin countries.
- Address the health system poor management and governance deficits in origin countries.
- Strengthen health human resource policies and consider health worker migration in the context of health human resource policies.
- Address the governance deficits in African countries.
- Address the uneven distribution of the economic growth and promote a pro-poor economic growth in African countries.
- Ensure well-managed health worker migration.

The experience of brain waste or deskilling, underemployment, and unemployment is often felt with frustrations and resentments among international medical graduates from origin developing countries. Health workers' migrants have invested significant amount of time and energy in the destination countries to only find themselves in low-paid and precarious jobs that do not match their initial qualifications as a means to make-ends meet. They confront sets of hindrances to access to skilled occupations in the health sector in destination countries, which may result in a feeling of failure of their migration project. While they migrate to escape from unfavourable working and living conditions or to enhance socioeconomic and professional prospects, they end up in socially and economically vulnerable situations in high-income destination countries (Lofters et al. 2014). There are sets of policy recommendations to minimize the brain waste, including "providing information, training and support to domestic standards, working regulators to simplify requirements, screening for credential recognition at entry" (Sumption 2013: 13-15). The following box highlights some of the policy recommendations to respond to the brain waste situation, drawing on findings from the qualitative interviews.

▶ Box 5: Policy recommendations to address the brain waste: findings from the qualitative interviews

Short term

- Address the misinformation or lack of information that may lead to failed migration project (as the case of brain waste situation) by providing would-be-migrants accurate and reliable information about the host country, the type of migration policies, laws, and legislation and the employment conditions in the health labour market.
- Create an organization at national level that provides relevant information to would-be-migrants about the situation in host country, recruitment process, and coordinates and monitors the international health worker migration and recruitment and sets up a database of national health workers abroad.
- Include attachment to the community and sense of patriotism in the training and curriculum of health workers in the country of origin, including module on migration to prevent brain waste and brain drain situations.

- Increase awareness raising about the risks underlying migration to challenge the myth of Eldorado or greener pastures in the West.
- Protect migrants' human rights and labour rights.
- Enhance opportunities in terms of remittances, skills and knowledge transfer and capacity development for the benefit of countries of origin.

Medium and long terms

- Provide an enabling environment for the professional and socio-economic integration of health migrant workers in the destination countries.
- Enable the return of health workers that are unemployed or underemployed in the destination countries (brain waste) and their professional reintegration into the health system of the countries of origin.
- Enhance bilateral cooperation between origin and destination countries regarding the recognition of skills and qualifications.
- Promote skills mobility partnership between the countries of origin and destination that allows skills development. retraining and reskilling of health workers in the country of origin.
- Prevent brain waste by investing on health workforce and retention strategies of health workers in the country of origin.
- Provide an enabling working environment that allows people to work in their country of origin and excel there.

The literature about ways to convert brain drain into brain gain emphasizes sets of policies, including the 6 Rs: " 1. Return of migrants to their source country; 2. Restriction of international mobility to own nationals and foreign workers; 3. Recruitment of international migrants; 4. Reparation for loss of human capital (compensation); 5. Resourcing expatriates (Diaspora options); 6. Retention: through educational sector policies and through economic development" (Lowell and Findlay 2002, Wickramasekara 2003: 9). Wickramasekara (2003: 9) identified the three "policies – retention, return and circulation" as viable options to maximize the benefits of skilled migration for developing origin countries. The following boxes provides a snapshot of some of the policy recommendations to minimize brain drain and promote brain gain.

▶ Box 6: Promoting brain gain in the context of health worker migration: findings drawing on the qualitative interviews

Short term

- Promote a positive narrative of international health worker migration by highlighting its potential benefits.
- Ensure a better management of health worker migration by setting up national organizations that have database of health worker migrants' inflows and outflows, provide right information about opportunities abroad, employment conditions, and types of laws, legislation in the countries; and monitor the international health worker recruitment and migration through bilateral agreements.
- Strengthen statistics and data collection for well-evidenced policies to maximize the benefits of health worker migration.
- Policies and measures that enable the transfer of skills, resource, knowledge, and technologies and that facilitate constructive, harmonious, and positive linkages between the African health workers abroad and the countries of origin.

- Conducive environment to enable the African diaspora to contribute to structural transformation, inclusive and sustainable development of the African continent.
- Promote a successful return and reintegration of health worker migrants in their country of origin.
- Promote a rights-based approach to migration, including respect and protection of migrants' human rights and labour rights and effective implementation of the WHO Code of practice for international health worker recruitment.
- Strengthen the capacities of national stakeholders on diasporas' engagement for development, migration and development, and the nexus between health worker migration, health system strengthening, and development.

Medium and long term

- Create or strengthen existing network of African health workers abroad and provide an enabling environment for their contribution to health system strengthening and socioeconomic development.
- Address the brain drain problem, while promoting African skilled health workers in top position in the international arena to enhance the presence of the African continent in the global landscape.
- Strengthen bilateral and multilateral cooperation to harness the benefits resulting from health worker migration and address the ensuing challenges.
- Promote skills mobility partnership between origin and destination countries.
- Set up policies to meet both the local and international demand for health workers.
- Strengthen the technical, administrative, and organizational capacities of the diasporas' organizations to enhance their development potential.
- Make healthcare the keystone for Africa's development and invest more in training, decent work and enabling working environment and living conditions for health workers.
- Address the push and pull factors and consider the perspective of health worker migrants and address their needs.

Need for a balanced approach

Leading destination countries of international migration of health workers in the global North use various incentives to retain and attract foreign-born health workers (Hagopian et al. 2004, Aluttis et al. 2014, OECD 2919, Martineau et al. 2004). On the one hand, mobility is a fundamental right, which challenges policies aimed at restricting international health worker migration. On the other, the migration of health workers, mainly from African countries faced with a shortage of health workforce and weak health systems, hinders the socioeconomic development of these countries (Joint-Learning Initiative 2004). There is a conflicting perspective between the right to mobility, the right to healthcare and "the right of the people who contributed to the training of their country's health workers to benefit directly from their investment" (Dovlo 2005, Plotnikova 2011). These conflicting perspectives suggest a need for a balanced approach to the health worker migration issues.

A balanced approach (Lindauer 2017: 109, Plotnikova 2011) is crucial to managing competing priorities and needs. It helps ensure the right to mobility for health personnel and the imperative for countries to address the shortage of health workers through international health workers' recruitment and migration do not conflict with the right to health, especially in developing countries facing weak health systems.

There is a consensus among stakeholders that a global response is essential to tackle the challenges underlying the international recruitment and migration of health workers. These challenges relate to the brain drain problem, the difficulty sustaining the health workforce, especially in low-income countries, poor

human resource planning and management of health systems, among others. One of the fundamental policy challenges is how to balance the imperative to preserve the "intellectual asset" of developing origin countries with the need to address the global health workforce imbalances and shortages, minimize the negative effects of health worker migration and maximize its ensuing gains (Tikki et al.: idem).

Strengthen the governance of health worker migration

The poor governance of migration of health workers has negative impacts on the health conditions of the population, especially the socioeconomically vulnerable ones, and on the sustainability of the health systems. It can accentuate the fragility of the health system and affect the prospect for meeting the Sustainable Development Goals (SDGs). Its effective governance requires sets of policies and measures. These include strong engagement of origin and destination countries to tackle the adverse effects of the international recruitment of health workers and the shortage of health staff, ensure self-sufficiency in the health workforce and strengthen the health systems. Moreover, effective governance of health worker migration requires strong commitment of these countries to mitigate the negative effects of health worker migration and maximize its development potential for the health system, the economy, and society (Yeates and Pillinge 2019, Mackey and Liang 2013, Dovlo 2005).

Strengthen international cooperation on health worker migration management

International cooperation on addressing the recruitment of health migrant workers should enable effective partnership between the source and origin countries. However, the different levels of economic development and the ability of high-income recipient countries to retain and keep foreign-born health workers, unlike developing origin countries, constitute an impediment among many others for enhanced cooperation of managing the international migration and recruitment of these health workers (Dovlo 2005).

Learning from the COVID-19 pandemic

The COVID-19 pandemic may result in fundamental shifts in patients' access to care with the increasing digitalization of access and consultations with general practitioners and hospital specialists (Brugah 2021). This may be an opportunity to strengthen the engagement of health worker Diasporas through the use of information communication technology and there are evidence of health migrants workers' contribution to the health system of their country of origin through e-health.

There is a strong need to establish a continental mechanism for better governance of health workforce and migration and mobility of health workers within and outside the African continent against the backdrop of the unfolding COVID-19 pandemic and other health risks and challenges (see the study of AU (2020) about the impacts of the COVID-19 pandemic on Africa's health worker migration and mobility).

Selected national and international good practices aimed at strengthening governance of health worker migration.

- The International Medical Graduate Training Initiative (IMGTI) was set up in 2013 to allow overseas medical graduates to gain substantial training experience in clinical services in Ireland for a limited period (two year). After their training, it is mandatory for these overseas postgraduate medical trainees to return to their country of origin. The IMGTI is considered as beneficial for the Irish health system as it enables access to training to overseas doctors for potential international recruitment while meeting the WHO Code requirements. It contributes to strengthening the Irish health system. It is also considered beneficial to the international medical graduates as this allows them training and acquiring clinical experience and qualification. Medical graduates from Pakistan, Saudi Arabia, Oman and the United Arab Emirates and Sudan[29] benefited from this program (Irish Medical Council 2019:160).

29 (Brugha and Sweeney 2021: 2)

- Sudan has developed a national health worker migration policy, which objectives are: "Promoting health worker retention; Opting for bilateral agreements with destination countries; and Mobilizing diaspora contribution to support the country" (Gesmalla and Badr 2018). Moreover, Sudan has signed bilateral agreements related to health worker migration with Saudi Arabia and Ireland and strives to strengthen the Sudanese diasporas' engagement for health system strengthening and development through skills and knowledge transfer and training of their local counterparts (Gesmalla and Badr 2018, Yamamoto et al. 2019).
- South African government has adopted measures to improve and accelerate the employment authorization process for nonnationals in the health sector (Yamamoto et al. 2019). The Foreign Health Professionals policy in South Africa advocated "the civil society to engage with government in supporting the recruitment, employment and integration of foreign health workers into the country's health system" (WHO 2017: 7).

▶ Conclusion

This study endeavoured to provide a snapshot of the causes, trends, challenges, and opportunities of Africa's international health worker migration and mobility through a scoping literature review, in-depth semi-structured interviews with national, continental, regional and international stakeholders, and administration of questionnaires to national stakeholders.

Africa's international migration and mobility of health workers have increased in terms of scope and magnitude and have raised concerns among governments and international stakeholders. International migration of African health personnel is characterized by various source and destination countries, actors, causes, patterns, and impacts. However, the migration of African health workers to developed countries is one of the foci of policymakers and experts against the backdrop of the crisis of health system, shortage of health workforce, and increasing migration pressures. African health worker migration results from several factors including the crisis of health systems, and accentuates it. The global shortage of health personnel, as evidenced by the imbalance between supply and demand, will continue in the foreseeable future and increase the reliance of high-income destination countries on international health workers, including those from African countries. There has been increasing international African health worker migration to middle- and high-income countries due to a shortage of healthcare workers, among other factors. International student migration constitutes a pathway for African health workers' mobility and migration. Gaining diplomas in recognized universities and research institutions can increase the chance to get decent employment back home or in the international health labor market (Clark and Clark, 2006).

Demographic and labour force projections point to increasing international recruitment of health personnel in the future due to the aging of the population and the aging of the workforce in economically advanced countries, their dependence on migrant health workers and the limited capacity of the national health systems, especially in developing countries to retain their health workers and strengthen their health human resources. With the growing needs for health personnel and the internationalization of labour market, there are various source and destination countries, thus suggesting the need for a combination of global and local strategies to address the adverse effects of the international recruitment of health personnel and maximize the gains.

International migration of health workers can negatively impact the health systems in African countries, especially in countries with scarce health workers. It can accentuate the many challenges confronting African countries regarding the governance of this type of migration. Rural areas in Africa, with a more significant concentration of poor people, are the hardest hit by the setbacks of this migration (Alam et al. 2015, Lofters et al. 2014).

Given the fundamental role of remittances in improving the living conditions of families and households, migration, migration is considered a coping strategy in the context of poverty and lack or limited access to social protection and a way to improve the living conditions of the migrants and those left behind. However, because of the various hindering factors impeding the retention and attraction of the health workforce and the huge health workforce deficit, health worker migration is considered by stakeholders a significant hindrance in strengthening the health system and meeting the healthcare needs of the population in developing origin countries.

Policies to minimize the negative effects of international migration of health workers and maximize its benefits should emphasize both origin and destination countries. A sufficient and well-trained health workforce is essential for the health services delivery and for improving the health conditions of the population. However, there is a concern that current globalization trends with the increasing need of health personnel to address the shortage of health workers in higher income countries will weaken the already fragile health systems of low-income countries. One of the key elements in need of further attention in health human resource planning policies is addressing the frustrations and dissatisfaction of health workers and the reduced social valuation of health professions such as nursing in many countries to retain the health workforce and attract young people. The best is to understand the importance of these challenges in human resource policy making (Marchal & Kegel, 2003: 99).

For low-income countries, one of the fundamental challenges is how to respond effectively to the many constraints affecting the already weak national health systems. Poor health human resource planning has resulted in healthcare workers' significant drop out, discontent, and migration. While some countries strive to maximize gains by developing policies for the active international recruitment of their nationals and remittances transfer through formal channels (for instance, Cuba, Philippines), most developing origin countries have not effectively incorporated migration into their development policies. Even in the countries considered as the main global suppliers of health workers, the lack of regulation of the health migrant flows and the deficit of health workers reflect health workforce imbalances, thus undermining the capacity of the national health systems to respond to the healthcare needs, especially in the public health sector and in rural areas.

For high-income countries, the international recruitment of health personnel can partially help to respond to the chronic shortage of health personnel. However, it should not be considered a durable solution as it raises ethical concerns, especially for low-income countries confronting weak health workforce and health systems.

The adoption of the WHO Global Code of Practice on the international recruitment of health personnel (2010) reflects the need to address the negative impacts of health worker migration, including the abuses and violation of human rights and fundamental rights facing the health workers. Moreover, the GATS Mode IV of the WTO includes labour mobility of services providers, and therefore can help in managing temporary labour migration in the health sector. However, governments have not underpinned their migration policies on the GATS Mode IV of the WTO Mode IV. Licensing procedures and many other barriers impede the entry to the labour market in destination countries, particularly in regulated professions such as medical doctors.[30]

The multifaceted impacts of the international migration of African health workers require multi-stakeholder and multi-sectoral perspectives, involving governments, health workers' associations at home and in the diaspora, private sector, employers' and workers' organizations, civil society organizations, local communities, regional economic communities, international organizations, NGOs, and other financial and technical partners for effective policies and their implementation (Awases et al. 2006). African governments and regional economic communities (RECs) should consider Africa's health worker migration and its various consequences on the health system and overall Africa's development a priority in their policy agenda and commit to address these complex challenges through effective policies and measures. An AU Continental Health Practitioner Migration and Mobility Policy could help to address the challenges and opportunities underlying African health worker migration and mobility in line with the AU Agenda 2063 and the UN SDGs.

As per the terms of reference of this Study, it is expected that the findings of this study can help to lay the foundations for a Continental policy on health worker migration and mobility (see the following box about some of the key messages to consider in elaborating the policy).

30 See Nielson, J. (2002) Service providers on the move:
http://www.iom.int/jahia/webdav/site/myjahiasite/shared/shared/mainsite/microsites/IDM/workshops/Trade_2004_04051004/seminar%20docs/background.pdf

▶ Box 7: Some key messages in laying the foundations for such policy – findings drawing on the qualitative interviews.

Short term

- Ensure constant dialogue and coordination among African stakeholders on health worker migration and related issues.
- Create an enabling environment for favourable living, working and remuneration conditions and training and skills' development.
- Provide supportive environment for diaspora's contribution to health system strengthening and socioeconomic development.
- Strengthening health worker migration governance and management.
- Ensure the recognition of skills and qualifications.
- Promote the rights of health worker migrants, including their labour rights and address human rights violation, racism, exploitation, and discrimination.
- Develop policies and programs to keep and attract back African health workers, including policies and programs to facilitate effective integration and reintegration of returning migrant health workers in the health system and health education system (Faculty of medicine, nursing schools, etc.) and knowledge and skills transfer.
- Strengthen health workforce, health system and health worker migration governance.
- Consider healthcare as the fundamental priority for Africa's development per the Abuja Declaration that recommends AU Member States to allocate 15% of their government budgets to health, including providing sufficient funding to support and strengthen high quality training of the health staff.
- Create platforms for discussion between the African diaspora and national, regional, and continental stakeholders to address the brain drain of health workers and implement the policies and measures effectively.
- Promote the return of students upon completion of their medical studies.
- Encourage high-income destination countries to contribute to the training, skills development of health workers, health system strengthening, and development of the countries of origin.
- Ensure effective implementation of the WHO Code of Practice and the GCM recommendations and ensure the governance of international health workers migration is underpinned by a human rights-based approach in line with the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families; the ILO Conventions (C097 - Migration for Employment Convention (Revised), 1949 (No. 97), C143 - Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143)) and other international labour standards; the WHO Code of Practice and the GCM recommendations.
- Address the increasing vulnerability of health worker migrants to exploitation and discrimination and human rights violation, especially female health worker migrants.

Medium and long term

- Harmonize policies related to migration, health workforce, training, recruitment.
- Create a structure at national, regional, and continental level that deals with health worker migration.
- Create a network of African health workers abroad.
- Long term health human resource planning policies.
- Ensure coherent policy in the country of origin and effective cooperation between countries of origin and destination based on the priorities and needs of African countries.
- Promote and ensure a fair and rights-based skills mobility partnership between origin and destination that will lead to a win-win situation benefiting both health worker migrants and their families, and the origin and host country.

An A.U. Health Practitioner Migration and Mobility Policy can contribute to policy coherence at national and regional levels for enhanced governance of international migration of health workers from, within, and to Africa and its implications on various sectors (i.e., education, foreign affairs, health, interior, labour, trade, to name a few). Such policy would require a comprehensive perspective on health labour market ensuing dynamics and policies and an inclusive and participatory approach with the involvement of all relevant stakeholders and sectors and identifying lessons learned and best practices within and outside the African continent.

A proposed A.U. Health Practitioner Migration and Mobility Policy can help to strengthen the socioeconomic gains underlying migration and mobility of health workers for the benefit of health workers and their families and countries of origin and destination while minimizing its negatives (WHO 2016). This would require grounding such policy in comprehensive, rights-based, fair, ethical, and evidence-based standpoints for effective governance of health workers' migration and mobility. Also, an A.U. Health Practitioner Migration and Mobility can help to ensure policy coherence in line with the A.U. policy objectives and targets in migration, education, health, labour, and trade.

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Annexes

▶ Annex 1. Detailed methodology and workplan

1. Specific objectives of the Study and the corresponding tasks and methodology

Specific objectives of the Study	Tasks	Methodology
Provide an overview of contemporary trends and policies on the international migration and mobility of health workers.	A comprehensive scoping review or desk review of relevant national, sub-regional and international regulatory and policy frameworks and recommendations governing the mobility of health workers from across relevant sectors (e.g. health, labour, trade, migration qualifications and skills recognition). An overview of the impacts of the unfolding COVID-19 situation of international migration and mobility of health workers trends and policies, in general and in Africa, in particular. In addition, scoping review facilitated by the author's in-depth knowledge of the existing literature on international migration of health workers. Use of some of the most cited or bona fide papers on migration of health workers or bona fide and search papers that have recently cited the authors of these papers.	Scoping review drawing on existing sources (reports, statistics, data) from international organizations (WHO, IOM, ILO, OECD, Africa Union, etc.) and covering primarily the period (2000-2021). Mapping of existing policy recommendations, drawing on national, regional, continental, and international dialogues and meetings on African health worker migration, including the WHO World Health Assembly. Review of multilateral and bilateral agreements related to African health worker migration, as available. Review of existing international, continental, and regional policy instruments related directly or indirectly to health worker migration. A total of 22 respondents interviewed (see list of respondents in Annex, including their affiliations): Semi-structured interviews with A.U., RECs, and S.M.S. stakeholders, including aspects related to past and ongoing policy initiatives related to the governance of international migration of health workers and policy responses and measures to address shortage of health workers. Countries selected for the qualitative survey were Senegal, Nigeria, Morocco, South Africa, Ghana, Egypt, Morocco, Cameroon, and Malawi. Only a stakeholder from Morocco and from Malawi responded to the qualitative interview. All RECs contacted, but only representatives from the ECCAS responded.

Specific objectives of the Study	Tasks	Methodology
		Semi-structured interviews with specialists at international organizations (WHO, ILO, IOM, UNESCO, OECD.). Review of health labour market policies, health workforce, or health human resource planning policies.
	Data and information and knowledge and data gaps on health labour market and international health worker mobility stock and flows, including sex, age, and occupation-disaggregated information as available, drawing on various sources.	Questionnaires to be submitted to relevant national stakeholders (Ministry of Health or other stakeholders designed by national governments) to capture the most recent and up to date data and knowledge related to health worker migration and mobility issues, as available (taking into account the challenges related to statistics and data collection on migration in general, and particularly on health worker migration and mobility issues in Africa). Selected countries for the administration of the questionnaires were inter alia Senegal, Nigeria, Morocco, South Africa, Ghana, Egypt, Morocco, Cameroon, and Malawi. But none of the representatives of these countries contacted for the questionnaire-based survey responded. Analysis of data and information on health labour market and international worker migration and mobility, including sex and occupation-disaggregated data, as available drawing on data sources from international organizations (WHO, OECD, etc.), statistics from national statistical offices and research and academic institutions. Analyzing the challenges related to data collection and statistics on health worker migration.

Specific objectives of the Study	Tasks	Methodology
Suggest recommendations that lay the foundations for an A.U. Health Practitioner Migration and Mobility Policy	Practices, lessons, and challenges related to governance of health worker mobility in other economic regions.	Mapping of good practices aimed at better management of Africa health worker migration, ethical recruitment of international healthcare workers, wherever possible. Criteria regarding best practices on public health include: "relevance, community participation, stakeholder collaboration, ethical soundness, replicability, effectiveness, efficiency and sustainability."[31] A scoping review using keyword "good practice" will be conducted to map good practices in the health worker migration literature. Review of policies aimed at addressing the adverse effects of health worker migration and maximizing its benefits on health systems and socioeconomic development.
	Key informant interviews and focus group discussions to gather information and perspective from key stakeholder on challenges and opportunities with respect to international health worker mobility.	In-depth semi-structured interviews with key informants about the patterns of health worker migration; causes and impacts of health worker migration; policy implications on international health personnel migration and mobility; challenges for the governance of health worker migration and the ensuing policy options; policy options to promote the implementation of the WHO Code of Practice; policies aimed at brain gain and mobilizing health worker migrants for socioeconomic development.

2. Sampling strategy, content analysis of the data, some of the difficulties encountered and the strategies used to circumvent these difficulties

▶ Sampling strategy

- Sampling strategy based on a comprehensive list of potential respondents (African health migrant workers, representatives of health ministries or other relevant national stakeholders, international organizations, regional and economic communities, employers and workers organizations, health worker associations, think tanks, academic and research institutions, etc.).
- List of potential respondents drawing on Internet search (identification of national stakeholders working on health worker migration and participating at international conferences on this topic); contact persons provided by the international organizations collaborating in this

31 Ng E, de Colombani P. Framework for Selecting Best Practices in Public Health: A Systematic Literature Review. J Public Health Res. 2015 Nov 17;4(3):577. doi: 10.4081/jphr.2015.577. PMID: 26753159; PMCID: PMC4693338.

Study, and the RECs representations to the AUC, and the snowball effect methods (contacts provided by the interviewees).

- Selection of country case studies based while ensuring that the coverage of all regional economic communities.[32]
- Email correspondences sent to all potential respondents with introduction email that included background information about the research objectives, goals and expected results, the Terms of Reference (ToRs), the Inception Report and follow-up emails to remind about the invitation to take part in the Study and to set up a virtual interview.
- Interviews with 22 respondents carried out through Zoom covering various aspects of international health workers' migration, including causes and patterns of health workers' migration, its impacts, challenges and opportunities for health worker migrants, origin and destination countries; and policy options for a better governance of international health workers migration in Africa and maximize its benefits and minimize its negatives.
- To increase the response rates, regular follow-up, and reminders to those who have not responded to the emails or haven't confirmed their participation or the schedule that will be suitable to them for the virtual interview.
- Semi-structured interviews protocols and questionnaire used to national stakeholders. For the rest (RECs, international organizations, think tanks, health diaspora organizations, workers' and employers' organizations), only semi-structured interviews protocol were used.

▶ Content analysis of the data

- Findings from the semi-structured interviews and questionnaires used to strengthen/complement the literature review, especially from a policy standpoint rather than treating the scoping review and the survey as separate outcomes, since the study uses triangulation of sources and methods.
- Qualitative data content analyzed based on the thematic analyses, with each theme leading to subsequent themes and the ensuing policy recommendations.
- No response to the questionnaire yet from national stakeholders.

▶ Some of the difficulties encountered:

For the literature review: Lack of reliable and accurate disaggregated data on African health worker migration resulting in resorting to international organizations and high-income destination countries' statistics. Lack of comprehensive studies covering various aspects of health worker migration beyond the health sector, which was addressed by considering a multidisciplinary perspective that scrutinizes the various patterns, dynamics, and trends of health worker migration and its multifaceted policy implications.

For the survey: No response or delays in the responses; Internet connection problems; unavailability of the respondents due to time constraints, busy schedule, or other competing priorities; the wide-ranging topics covered by the Terms of Reference (ToRs); limited timeline for this kind of study that requires a longer duration; difficulties in identifying the current national stakeholders.

Despite time constraints, many respondents show enthusiasm and willingness to take part in this study for that consider it as very important for the African continent. Most look forward for the study outcomes and the practical implications in terms of policies, especially among African health workers and representatives of national entities.

32 Data source from OECD (that show that Nigeria, South Africa, Egypt, Ethiopia, Ghana, Kenya, Malawi and Senegal are some of the main countries of origin of African health worker migration to OECD countries (e.g., OECD (2015), Health at a Glance 2015: OECD Indicators, OECD Publishing, Paris. http://dx.doi.org/10.1787/health_glance-2015-).

▶ Annex 2. List of participants

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Beyene Moges (Aleftavconsult.com, Ethiopia)

Chris Moyo (HIPS Malawi)

Pr. Laetitia Rispel (University of Witwatersrand, South Africa)

Dr John Nkengasong (Africa CDC, African Union Commission)

Dr Sonny Isemede, (Consultant in the UK National Health Services (NHS), London, President of Patient Safety for Africa)

Maxime Ake, Economic Community of Central African States (ECCAS)

Anaclet Ngabonzima, Economic Community of Central African States (ECCAS) Dr. Aden W. Robble (Minnesota Public Health Department, US)

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Phumza Manquindi (IOM)

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Joel Odigie (International Trade Union Confederation)

Dr Debo Oluchi, UK NHS London

Dr Ondari(Nairobi Kenya (formerly in training in the UK NHS, London)

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