

# HAS THE CODE BEEN SUCCESSFUL? AN INTEGRATIVE REVIEW OF THE IMPACT OF THE WHO GLOBAL CODE OF PRACTICE ON THE INTERNATIONAL RECRUITMENT OF HEALTH PERSONNEL

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## ABSTRACT

International migration of health human resources (HHR) from low- and middle-income (LMIC) countries to high-income countries has been addressed on several international platforms since the late 1990s. World Health Organization (WHO) adopted the WHO Global Code of Practice on the International Recruitment of Health Personnel in 2010 to mitigate the adverse effects of HHR migration, but like other codes of practice aiming to provide ethical guidelines for international recruitment, the impact of the code is not clear so far.

This study is an integrative review of past studies assessing the impact and adherence of the code in WHO state members and regions. This review follows the Whitemore & Knafel (2005) guidelines for conducting the review [6]. A total of eleven studies were included in the review. The study results suggest that the code has not yet realized its full potential, especially in the countries that are more in need of health human resources. The direct impact of the code was found to be limited in areas such as key legislation in migration or bi-lateral agreements between source and destination countries or any financial mechanism to compensate source countries for the loss of HHR. However, as intended the code has been able to promote a global discussion and awareness of the issue related to migration and catalyse a few developmental changes.

The study is limited by geographical regions as it does not represent all geographical regions such as regions of the Americas or western Pacific regions. This study provides a future direction to evaluate the code's impact on LMICs and amendments to be made in the code to make it more effective.

## KEYWORDS

WHO Code of Practice, WHO global code, ethical recruitment, health human resource migration

## INTRODUCTION

The period between the late 1990s and early 2000s saw a sharp rise in the number of foreign-educated health professionals in many developed nations. The chronic shortage of health human resources (HHR) was addressed by many international forums and alliances. Several

international agencies and alliances acknowledged that an adequate number of health human resources is required to achieve the internationally agreed development goals. The World Health Organization (WHO) noted that the migration of highly trained health workers has been increasing at an exponential rate weakening the health systems of developing economies [1]. It was further

noted that developing economies make a significant investment to educate, train and develop HHR and a mechanism must be established to mitigate the adverse effect of migration of HHR from such economies [1].

This period also saw several codes of practice being introduced to mitigate the adverse effects of health professional migration on developing economies such as The Code of Practice for the international recruitment of healthcare professionals (CoP) in 2001 by the UK [2] or Voluntary Code of Ethical Conduct for the Recruitment of Foreign-Educated Health Professionals to the United States (Code) for safe and fair recruitment of nurses from foreign countries in 2008 [3]. Though the impact of such codes of practice on international recruitment is not known, however, it has been encouraging global collaboration to manage migration [4]. WHO [4] noted that having a non-binding code, or a soft law, in place may exert a moral or ethical influence which may shape the behaviour of member states. A code of practice may establish a benchmark to monitor international behaviour. WHO adopted the WHO Global Code of Practice on the International Recruitment of Health Personnel (hereafter referred to as "code") in 2010 [5], but like other codes of practice aiming to provide ethical guidelines for international recruitment, the impact of the code is not clear. It has been more than a decade since the code was implemented however the influence, and impact of the code on member states, especially in developing countries is yet to be assessed. The issue of health human resources migration has become more relevant for LMIC countries in recent times as the world deals with a pandemic.

This study is an integrative review of past research on the code's impact and effectiveness on different aspects of health human resource migration. This review follows the Whittemore & Knafel [6] guidelines for conducting the review. Additionally, the PRISMA 2020 guidelines have been followed to report the review [7].

## METHOD

### ELIGIBILITY CRITERIA:

Studies were considered if the articles empirically, theoretically, or from a policy view assessed the impact of the code in any WHO state member or region. There was no restriction on the method and design of the study. A time range was applied to search engines. Articles published after 2010 were considered. Only English-

language articles were included in the review. Articles reporting the progress of the code as per the WHO national reporting instrument were excluded. Also, Articles assessing the combined impact of the code with other codes of practice were excluded from the study.

### SEARCH STRATEGY:

A basic Google and Google Scholar search was conducted to identify common terms referring to the code. After narrowing down key search terms authors identified literature published on the WHO Code of Practice in one specialized and one multi-disciplinary academic database. Search query included terms WHO AND ("code" OR "global code" OR "code of practice") AND ("international recruitment" OR "health personnel" OR "international migration"). Since the code was introduced in 2010, results were filtered with the year of publication from 2010 onwards. Only English language records were included. A grey literature search was also conducted in Google Scholar and the WHO institutional repository for information sharing (<https://apps.who.int/iris/>). Additionally, reference searching of studies included in the review was also conducted. Figure 1 indicates the search process for identifying and screening records. All the databases were last searched on December 1st, 2021.

### DATA COLLECTION:

Records were imported to the Endnote online. After eliminating the duplicates, to screen the records and assess the eligibility of studies two reviewers worked together. Studies were included only if a) the study set in postcode introduction time b) focused on how code has influenced policy, strategies, or any other areas of health HR migration c) clearly stated that studies assess the adherence or impact of the code. In case of any disagreement, both the authors discussed the major objective and potential contribution of the study and based on that study were included/excluded. Studies were excluded if the period of study was not exclusively post-code introduction, the impact of the code was assessed in combination with other codes of practice or, the aim of the study was not clear. One study that appeared to meet the inclusion criteria however was excluded. The reason this study was excluded is because the article presents findings of the first round of the WHO reporting instrument [8]. A total of eleven studies were included in the review (Table 1).

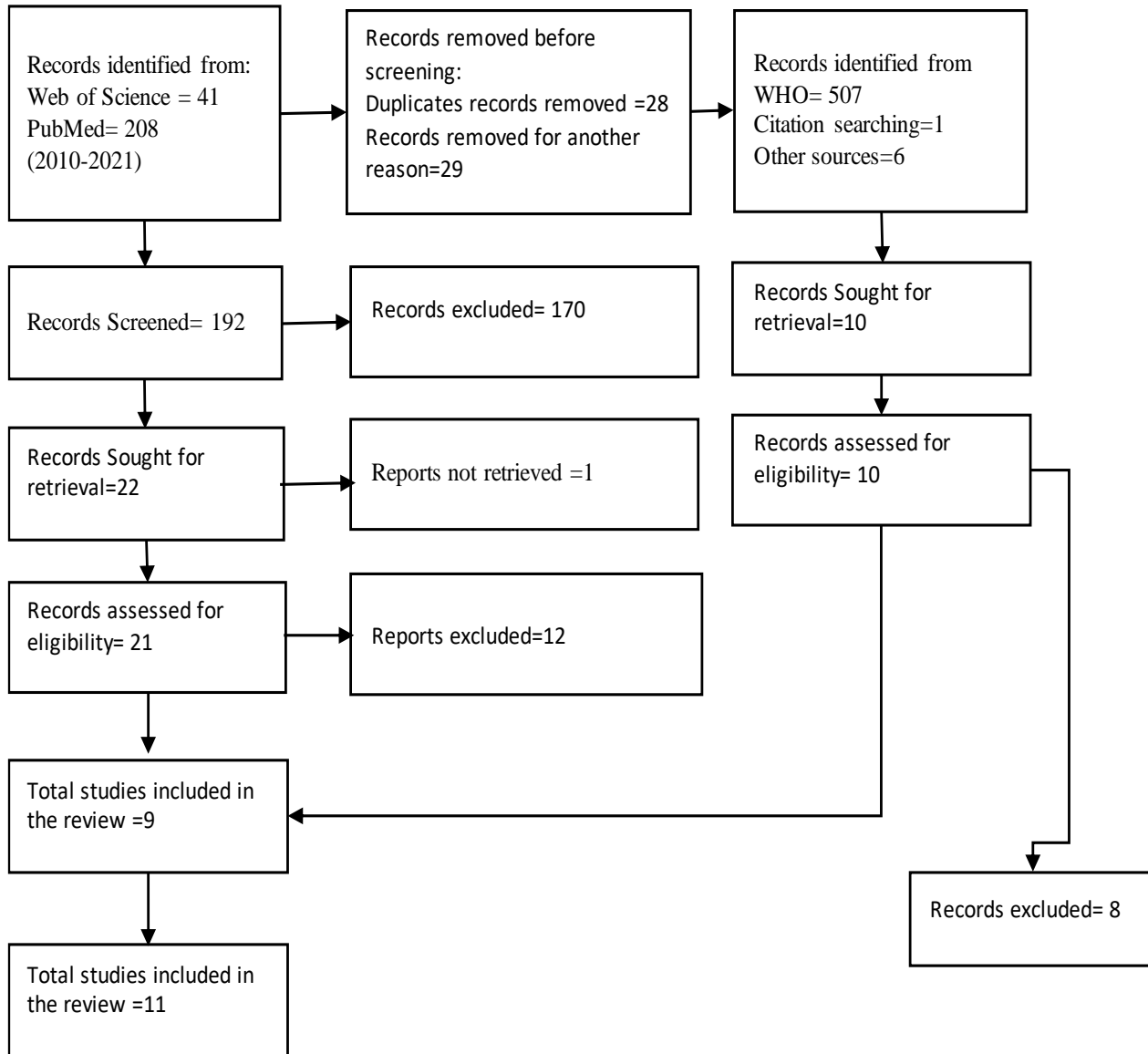
### DATA ANALYSIS:

Data was analysed using the Whittemore and Knafel process of data reduction, data display, data comparison, conclusion drawing, and verification [6] from all eligible

studies were extracted in a spreadsheet. The first author of the study performed data extraction after consulting the co-author. Once all the studies were summarised in the spreadsheet, the next phase was to identify commonly occurring variables or themes. Data was read again and again to find the initial themes or codes. Emerging codes

were constantly compared with each other to find commonality or variability. The next stage was to merge the initial themes into groups and conclusion drawing. For accuracy, at the final stage conclusions were verified with the primary data source.

**FIGURE 1. PRISMA FLOW DIAGRAM FOR STUDIES INCLUDED IN THE REVIEW**



**TABLE 1. SUMMARY TABLE OF STUDIES INCLUDED IN THE REVIEW**

Date/Author	Country/Settings	Aim of the study	Method (study design, sample, data collection)	Conclusion
Edge and Hoffman, 2013	Australia, Canada, UK, USA	To measure awareness for and perceived impact of the Code and its implementation	42 key informants from across government, civil society and private sectors were qualitative surveyed	A gap between awareness of the Code among stakeholders at global forums and the awareness and behaviour of national and sub-national actors was found
Williams et. al, 2020	WHO Europe region	To assess adherence with the Code's principles and its continuing relevance	Data from the joint OECD/EUROSTAT/WHO-Europe questionnaire from 2010 to 2018 was analysed to determine trends in intra- and inter-regional mobility of foreign-trained doctors and nurses working in case study destination countries in Europe	The proportion of foreign trained nurses and doctors has risen faster than domestically trained professionals, with increased mobility driven by rising East-West and South-North intra-European migration, especially within the European Union. The number of nurses trained in developing countries but practising in case study countries declined by 26%
Abuagla & Badr, 2016	Sudan	To ascertain the code's relevance and effectiveness & implementation	Secondary analysis in terms of available literature and documentation on the issue, and mostly by unpublished material from local sources. Five key informant interviews	Code has catalysed some vital steps in managing migration and strengthening the national health workforce. Yet, the country's response falls short of the effective measures required to address migration and to utilize the WHO Code to its full potential
van de Pas, Mans, de Ponte & Dambisya, 2016	A number of European countries and in Eastern and Southern Africa (ESA).	To assess the relevance and effectiveness of the code	In case studies from the European and eastern and southern African regions, the authors provide their experiences with and insights into the uptake of the Code	In Europe, the Code is effective and relevant but might require some tweaking. In Eastern and Southern Africa, the code is relevant but far from efficient in mitigating the negative effects of health workforce migration
Tangcharoensathien et al, 2018	Bhutan, Indonesia, Maldives, and Thailand	To assess policies and practices in 4 countries in Southeast Asia on managing the in- and out-migration of doctors and nurses to see whether the	Synthesis of documents on employment practice for local and expatriate health professionals by the country authors, followed by a cross-country thematic analysis.	The analysis reaffirms that systematic arrangements between source and destination country governments are useful in protecting health system integrity, moderating migration, and protecting out-migrating professionals.

		management has been in line with the WHO Global Code		
Paina, Ungureanu & Olsavszky, 2016	Romania	To explore Romania's implementation, relevance, and effectiveness of the code	Analysis of peer-reviewed and grey literature, in English and Romanian	Romania's implementation of the Code was observed to be limited. Gaps were identified regarding several aspects of the Romanian health system. The authors could not identify any evidence of monitoring of the Code's implementation to date
Tankwanchi, Hagopian & Vermund, 2019	South Africa	To estimate post-Code physician net migration (NM) in South Africa (SA), and SA's net loss of physicians to OECD countries from 2010 to 2014	Through the General Medical Council register, data on SA-IMGs from OECD. Stat based on the Joint OECD/Eurostat/WHO-Europe Questionnaire on non-monetary healthcare statistics, National Reporting Instrument reports database, analysis of emigration trends	Physician emigration from SA is slowing. Although our analysis of migration focuses mainly on post-Code trends, SA's physician emigration slowdown likely began earlier
Tam, Edge & Hoffman, 2016	Australia, Canada, UK, and USA	To represent a medium-term empirical impact evaluation of the Code, four years after its adoption. And to determine changes in stakeholders' perception of the implementation, utility, and relevance of the Code	44 respondents, from government, civil society and the private sector completed an email-based survey evaluating their awareness of the Code, perceived impact, changes to policy or recruitment practices resulting from the Code, and the effectiveness of non-binding Codes generally.	Insufficient national uptake and implementation of the Code's principles. Little has changed since the initial impact evaluation of the Code three years ago; since then, the Code has still not produced the tangible improvements in health worker flows it aspired to achieve
Tankwanchi, Vermund & Perkins, 2015	Sub-Saharan African	To monitor the post-CoP migration of physicians originating from Sub-Saharan Africa (SSA) and recruited into the physician workforce of the US	SSA-origin physicians' data was collected in December 2013 from the medical database system of an American Medical Association Physician Masterfile, we projected to 2015	The annual admission rate of SSA émigrés into the US physician workforce is increasing. This increase is due in large part to the growing number of SSA-born physicians attending medical schools outside SSA, representing a trend towards younger migrants. Most SSA

			with linear regression, and we mapped migrant physicians' locations using GPS Visualizer and ArcGIS.	migrant physicians are locating to large urban US areas where physician densities are already the highest. The Code of Practice has not slowed the SSA-to-US physician migration
Efendi & Chen, 2014	Indonesia	To monitor the implementation of the Code and impact of code on nurse migration in Indonesia	Qualitative and quantitative data, A triangulation approach was achieved through semi-structured interviews with key stakeholders, and records review of nurses' migration in the last two years.	The Code has been utilized by the Ministry of Health to manage migration. This guideline at the least provides direction that may be used where appropriate in the formulation and implementation of nurse migration.
Dambisya, Malema, Dulo et. Al, 2014	Eastern and Southern Africa	Seeks to address how the policy interests of African countries informed the Code, and how the Code has been used, implemented, and monitored in countries in the ESA region, particularly in relation to the concerns that motivated the Code	Various research strategies: i.an extensive review of literature, ii. a 'fast-talk' session at the 66th World Health Assembly,iii. a region-wide questionnaire survey to obtain views of government informants iv. three country case studies undertaken in Kenya, Malawi, and South Africa	Countries in the ESA region have not made much progress in implementing and monitoring the Code or using it in their engagement in global health diplomacy, and the code remains largely unknown in the region

## RESULTS

### AWARENESS, IMPLEMENTATION, AND DISSEMINATION OF THE CODE:

The awareness and knowledge of the code across the studies were reported to be limited. Edge and Hoffman [9] in their early evaluation of 8-10 months found a lack of awareness of the code among most of the respondents. The respondents in this study were key informants across government, civil society, and private sectors in four high-income countries namely the UK, USA, Australia, and Canada. A majority (60%) of respondents also believed that their colleagues were not aware of the Code. Among those who reported awareness of the Code among their colleagues, a significant number (14 out of 17) of respondents noted that the code's awareness was extremely limited. UK respondents were most aware in this study, no government sector respondents reported awareness of the Code among their colleagues [9]. A medium-term impact evaluation, using the same methodology and instruments, reported similar findings 4 years after the code's adoption [10]. Forty-one per cent of respondents reported that they were largely unaware of the code and its impact despite working in related sectors such as health policy and workforce development. Similarly, in a case study, respondents and key informants from South Africa exhibited a distinct lack of knowledge of the code's contents and purpose despite working with the national department of health and regulatory bodies. Only one informant was aware of the Code. This lack of knowledge posed a barrier to engaging in a meaningful discussion with the informants on the implications of the Code for informing policy solutions for migration. In Malawi, most respondents were ignorant of the code despite working in the HRH technical working group. Out of 9 respondents, 8 respondents had either never seen, read, heard or were aware of the code's content [11]. Kenya, was an exception in this study, having an intimate knowledge and understanding of the code.

Implementation of the code varied in different regions. Van de Pas et al. [12] noted a stark difference between European and Eastern and Southern Africa (ESA) regions, while European regions have effectively implemented the and most countries were aware of the code. On the contrary, in the ESA implementation of the code was lacking. Many countries such as Malawi and South Africa have not taken adequate measures to disseminate the code such as designating authorities [12]. Other countries

such as Romania, and Sudan also fell short of implementation and dissemination of the code [13,14]. However, Indonesia is noted to have disseminated the code [15].

### INFLUENCE OF OTHER EXISTING CODES OF PRACTICE:

Few studies suggested that the changes that the code was hoping to bring had already been made in response to previously adopted national/regional codes or profession-specific codes. In the short-term evaluation by Edge & Hoffman [9] Key informants working in nursing referred to the International Council of Nurses' Position Statement on Ethical Nurse Recruitment (2001) and the Canadian Nurses Association's Position Statement on Ethical Nurse Recruitment (2007), while those informants working with physicians referred to the World Organization of Family Doctors' Melbourne Manifesto (2002) while discussing policy changes [9]. Similarly, in the mid-term evaluation respondents referred to the Melbourne Manifesto and the UK Code of Practice, among other international codes while referencing tangible regulatory changes following the implementation of the [code 10]. In South Africa, Occupation Specific Dispensation (OSD) introduced in 2012 was reported to have induced changes such as improved pay for healthcare professionals and was rated a highly successful measure to help better health workers, whereas the code has not been disseminated [11]. Tankwanchi [16] also noted that the decreasing emigration trends from SA could partly be credited to the introduction of the OSD to attract and retain the health workforce in SA, especially in the nursing sector. In Romania, the residency reform initiative was initiated before the Code's implementation began and provides an example of regulatory mechanisms that can be adapted and evaluated to support the Code's principles and ensure effectiveness [13]. The Code was either perceived as complementary providing further support or secondary to these existing agreements or codes, incapable of making a direct impact [10].

### IMPACT OF CODE ON NATIONAL DECISION-MAKING

The perceived direct impact of the code on national health policies and regulations or decision-making was reported to be limited across the studies. In an early evaluation, eighty-six per cent of respondents from the UK, USA, Canada, and Australia reported that the code has not made any meaningful impact on their country's health workforce recruitment practices, policies, or regulations [9]. In another study respondents When asked whether the Code had a meaningful impact on health worker



recruitment, fifteen respondents disagreed (34 %), with six and eight individuals indicating strong and moderate disagreement, respectively. However, thirteen respondents suggested that no specific amendments to the Code would improve its effectiveness in terms of producing a change in health worker recruitment policy or regulation [10]. The main findings between these two evaluations are strikingly similar. In both studies, most key informants reported that no significant policy or regulatory changes to health worker recruitment had occurred in their countries as a direct result of the Code [10].

### **IMPACT ON MIGRATION PATTERNS AND FLOWS:**

The impact of code on migration patterns and flows was inconclusive in studies. The authors noted that due to the limitations in data, migration is either underrepresented or the workforce is overrepresented. Williams et al. [17] noted that the countries in Western Europe i.e., Austria, Belgium, France, Germany, Ireland, Norway, Switzerland, and the UK are still reliant on an internationally trained health workforce, and postcode implementation of the number of foreign-trained doctor and nurses has risen faster than the total stock of these health professionals in these countries. This growth in the number of physicians was the fastest between 2010 to 2014. From 2014 to 2018 the annual inflow of physicians trained in LMIC increased two-fold in case study countries. Conversely, this same period marked a fall in the annual inflow of doctors trained in EU countries, leading to a rise in the share of doctors trained in LMIC. In the case of nurses, the majority of nurses in four of the five countries were trained in another EU-EFTA country and the number of foreign-trained nurses grew by 29% between 2010-2018. In the UK, just over one-third of IEN was trained in LMIC. Though a decline in members of nurses from LMIC was observed, however, since 2016, there has been a steady increase in the annual inflow of nurses from LMIC in the case studies countries [17]. The study did not establish a cause-and-effect relationship between code and health worker migration and due to the limitations of data, hence a clear conclusion could not be drawn. Another study by Tankwanchi et al. [18] reported that after Three years of postcode adoption, the recruitment of sub-Saharan Africa (SSA) origin physicians in the US physician workforce has increased, driven mainly by SSA-born, foreign-trained physicians. The study reported that code has not slowed down physician migration rather the clustering of physicians in the same localities in several US metro areas pre- and post-code was observed, supporting the network theory of migration. Although there remains data limitations, and the estimation of migration could be

underrepresented [18]. Tankwanchi et al. [18] note that it indicates a limited policy impact of code and passive recruitments of SSA physicians represent a paradox in US national policies. On the contrary, Tankwanchi et al. [16] noted that net physician emigration has slowed down from South Africa. However, it's unlikely that the code has had any impact on declining trends since it began before the code's inception and the region has not yet fully translated the code into policy instruments [16]. On the other hand, migration from Indonesia was reported to have increased fourfold between 2010 to 2012 compared to three years before the code was adopted [15].

### **IMPACT ON THE BILATERAL AGREEMENTS:**

The systematic arrangement of skill exchange between the source country and destination country is a core element of the code. These systematic arrangements such as bilateral agreements can help develop explicit incentive-institution mechanisms that are agreeable to both nations enabling policy harmonization [10], moderating migration, and protecting internationally recruited professionals [19]. However, not many countries reported having entered into bilateral agreements or other arrangements for postcode adoption. In case such agreements were entered or existed, either these were not effectively implemented or a link between code and such agreements could not be established. For example, Sudan is reported to have entered bilateral agreements with two main destination countries i.e., Saudi Arabia and Libya, however, these agreements have not been effectively implemented and Sudan did not receive any financial and technical support in exchange for its health workforce [14]. Romania also has signed 11 bilateral agreements since 1990, with few destination countries for which it serves as a source country for health professionals however author could not link the agreements with the code and none of these could be identified in their original form [13]. In another study respondents from South Africa, Zimbabwe, Uganda, and Kenya stated that their countries have entered bilateral agreements with other states, however, no evidence was found to establish the contribution of code towards the negotiation of such codes [11]. Van de Pas et al. [12] noted that the preference of northern countries to use development aid rather than bilateral agreements to address health worker issues has prevented African countries from using code as a negotiating tool in health diplomacy. One study noted that Indonesia has entered an agreement with Japan to improve nursing capacity inspired by the code and has received financial and technical cooperation [15].



## CODE AS A CATALYST:

The ability of code to raise awareness on HHR migration and promote a discussion on global platforms was recognized across the studies. Studies agreed that though not having enough power to influence key aspects of migration management such as legislation, the code has catalysed a dialogue and discussion relating to health workers' migration. A Study from Sudan noted that the code has catalysed the scenario of HHR migration from one of neglect to one of attention and subsequent active involvement [14]. Sudan reported that the code has boosted some health workforce development changes such as increased remuneration, increased training capacity, and entering into bilateral agreements. Sudan also introduced the first-ever national health workforce strategy in 2012 which was informed by the WHO Code [14]. In 2011, Sudan received a health workforce research grant and studies related to migration guided by the relevant provisions of the WHO Code [14]. For the Indonesian government code served as a guide for appropriate policy formulation and implementation in nurse migration [15]. The Code's recommendation to improve data on health workforce flows and systematic reporting mechanisms has led to the development of National Health Workforce Accounts (NHWA) [16]. Romania also, though not having fully implemented the code, has been part of the initiatives that raise awareness of the code and health workforce challenges such as the EU Joint Action on Health Workforce Planning and Forecasting and sharing health workforce data [13]. In the study conducted in Southeast Asia, authors found that code has been useful in addressing health workforce development and has informed some good practices to manage migration [19].

## IMPACT OF CODE AS A VOLUNTARY INSTRUMENT:

Studies suggested the perceived impact of the code as a non-binding instrument was limited or had little effect on practices, especially in key policy areas. In one empirical study respondents believed that non-binding codes have limited or no effect. A limited sense of urgency and the voluntary nature were cited as the factors impeding the ability of code. Another reason cited responsible for limiting the ability of the code was prioritization and market consideration [9]. Similarly, another follow-up evaluation suggested that voluntary codes were generally of low- to mixed-effectiveness. Authors, however, noted that non-binding codes can have some effects such as a source of moral imperative, a guide for policymaking, or an advocacy tool [10]. Participants reaffirmed that the Code

has its utility but health systems that involve multiple levels of leadership weaken the code. Van de Pas et al. [12] assessed that the Code lacks an enabling governance structure and the lack of a financial mechanism to reimburse resource-poor countries impedes the effectiveness of the Code. Another study supported it by noting that code is perceived as a watered-down document with no teeth making it not so important for national legal departments [11].

## DISCUSSION

The review suggests that publicity, awareness, and dissemination of the code have not been enough for the code to penetrate national-level decision-making. There was a wide difference in implementation measures taken by high-income countries and LMICs. As van de Pas et al. [12] note countries that are more in need, have not fully implemented the code. Dambisya et al [11] note that perhaps there are more pressing issues for such countries than international migration such as rural/urban disparities, shortage of health professionals, low morale, and low salary. While the involvement of civil society has facilitated the adoption of the code, the absence of the same was cited as a barrier. At the same time, the impact of the code was overridden by various other existing codes of practice. The review also suggested that though the code has not yet been able to bring significant changes in key areas of migration such as national-level policies or bilateral agreements, it has been successful to catalyse changes across many areas of health human resources and bring issues of international migration on a front. Many destinations and OECD nations have started building their workforce strategies keeping the code as a guide and many source countries or LMICs have become more aware of the provisions that may protect their health systems.

The perceived impact of the code as a voluntary and non-binding instrument was also reported to be limited. Few studies raised the concern over the lack of urgency a non-binding code exhibits making it less effective. Also, a lack of a mechanism that may financially compensate the resource-poor countries was perceived to be a major factor in the ineffectiveness of the code. The incorporation of such a mechanism was sought in the early negotiation of code drafting, however, was dropped soon as the consensus was not reached, and many countries felt that it may delay the code's finalization [20]. In literature, voluntary approaches are known to ignore the important

problems and focus on the issues that are easy to find consensus upon [21].

The study could not draw a clear conclusion on the impact of the code on migration flows. The absence of complete and internationally comparable data poses a great difficulty for researchers while attempting to assess the magnitude, flows, and patterns of HHR migration. Though many nations from Organisations for Economic Co-operation and Development (OECD) are adhering to ethical recruitment practices and appear to discourage active recruitment from shortage areas, no decrease in the share of foreign health workers or decline in the annual inflow of foreign HHR was noted in post-code adoption hinting at the limited impact of code. As often misinterpreted the Code never intended to ban or prohibit migration of health workforce from source countries rather it calls for a more systematic, government-to-government arrangement that moderates the migration [22], especially from critically shortage areas and ensures that international workforce is protected by the system, eventually benefitting both destination and source country [5]. Studies noted that the ambiguous terms used in the code such as 'ethical' and 'active recruitment' create confusion further limiting its effects [12].

This review suggests that code has not yet materialized fully in many regions, especially in resource-poor regions, and its potential is yet to be achieved. The positive aspect is that the code has been able to bring global attention to HHR migration issues and active involvement of countries to promote ethical practices while recruiting an international workforce. This shift has given a voice to LMICs and provided ground to collaborate with developed nations to strengthen their HHR.

## CONCLUSION

The WHO Code of Global Practice serves as a guideline to member states for the international recruitment of HHR. The code is aimed to help nations create a sustainable health workforce for their countries and find ways to protect and strengthen the health system of shortage countries. The review, however, suggested many countries have not implemented the code to the desired level. Especially in countries that require more protection against unilateral active recruitment of HHR, the dissemination and adherence to the code is close to non-existent. Limited awareness of the code's content and purpose throughout

the studies stands as the biggest obstacle towards the code's success. Additionally, the non-binding nature of the code, lack of engagement of stakeholders or other high-priority issues in developing countries are the reasons limiting the code's adherence and effectiveness. The impact of the code on key areas such as policymaking has also been limited. This review was inconclusive about the migration flow and magnitude post-code implementation due to the data limitations. On the positive front, the code has promoted an international dialogue between the nations and many OECD nations have actively participated in devising strategies to protect and strengthen the health systems across the world. The huge projected deficit of HHR in many developed countries and the current outbreak of COVID-19 make the debate on HHR migration more pertinent. The code has a scope of protecting the source countries and helping destination countries to address the shortages of HHR and ethically manage the migration if implemented to its full potential.

This review poses several questions and areas to be explored in future research. Firstly, the included studies in this review do not represent all WHO regions. The authors could not find any studies reporting the adherence and impact of code in many geographical regions such as regions of the Americas or western Pacific regions. As evident, many significant regions are yet untouched and how the adoption of code impacted them is unknown. The impact of code on health workforce practices, policies, and sustainability, especially in traditional destination countries such as the USA and major host countries such as India or the Philippines is yet to be explored. The assessment of the impact of the code in these countries will clarify how a soft law may perform in different political, cultural, and economic settings. So far, the impact of the code on different health systems in host countries is unknown. Secondly, more studies can be conducted to explore the impact of bilateral agreements on HHR migration between countries that frequently share resources and how the adoption of the code may provide support to such agreements. Thirdly, the review also provides an idea of barriers limiting the impact of code, to be addressed in future revisions. A deeper analysis can be conducted to understand the motivation, migration intentions and patterns of HHR migration in nations that are central to the HHR migration economy. The WHO proposes a reevaluation of the code's content periodically and such studies might be helpful to revise the code and make it more successful.

## DATA AVAILABILITY STATEMENT:

This study was a review of published studies. All the eleven studies used for analysis and one study that appeared to match the inclusion criteria of review however excluded at a later stage, are openly available and can be found at the following DOI/link (In order as they appear in the text):

- Siyam A, Zurn P, Rø OC, Gedik G, Ronquillo K, Co CJ, et al. Monitoring the implementation of the WHO Global Code of Practice on the International Recruitment of Health Personnel. *Bull World Health Organ* [Internet]. 2013;91(11):816–23. Available from: <https://doi.org/10.2471/BLT.13.118778>
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