

# **A Systematic Review on Workforce Development in Healthcare Sector: Implications in the Post-COVID Scenario**

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**Abstract:** Developing a workforce in the healthcare sector is an important part of the process. From hiring a set of well-skilled workers to updating their skills based on the latest improvements, many criteria are required to be fulfilled. The research here is an attempt to provide a systematic review of the development of the workforce scenario in the healthcare sector along with its implications post the pandemic. For the study, a systematic approach is taken where high-quality papers from various databases related to the topic are used to identify the themes for the study. The five themes identified include employment situation, quality of care, working conditions, retention and migration and policies designed. These five elements are crucial for developing an efficient workforce in the sector, especially during the pandemic. Healthcare workers require satisfactory employment benefits and proper hygienic working conditions. The policies supporting the healthcare workers are beneficial to keep them motivated towards working in the sector in the future. The paper systematically reviews the important aspects to focus on while developing the healthcare workforce during a pandemic.

**Keywords:** Healthcare; Workforce; Pandemic; Employment; Retention; Policies; Employment Situation; World Health Organisation; Management System; Scopus; Retention and Migration.

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## **1. Introduction**

Any service offering becomes easier and more pleasing to the customers if it is well supported by the workforce in action. In services such as healthcare, it is even more desirable to include a competent workforce as including such an effective workforce helps deal with the complexities occurred among the patients smoothly. According to World Health Organisation [64], primary healthcare services are important because they involve delivering healthcare services throughout an individual's life and help them attain better health results. Even in more remote regions, primary healthcare services, often known as PHCs, are being established to give a higher standard of medical attention. The workforce that is engaged in these healthcare facilities is required to have some fundamental attributes such as the ability to provide leadership, the ability to coordinate among themselves, the ability to provide assistance, and the ability to maintain stability [33]. When carrying out their work responsibilities, the people who are working at these facilities suffer from a variety of debilitating chronic illnesses. As a result, the workforce needs specific policies that are tailored to the nature of the work in order to motivate them to continue serving people. The World Health Organization [63] emphasised the point that it is important to incorporate services for the benefit of the workforce, such as methods of prevention, treatment facilities, rehabilitation centres, and services connected to palliative cases [66].

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It is evident from the above discussion that the healthcare workforce requires a wide range of support from the organisation due to the challenging nature of their job. Although there are strategies designed to support their job conditions, Panzera, *et al.*, [45] stated that it is essential for the authorities to design multifaceted strategies to meet the deserving requirements of the healthcare workforce. Macfarlane, *et al.*, [36] put forward five strategies for the development of the healthcare workforce – the first refers to the recruitment of the staff based on the skills possessed by them in transforming services, second in line is redesigning the strategies and developing new roles, thirdly it is important to improve the planning involved with the workforce, there is also a need to formulate strategies in the process of linking the development of staff based on the service needs, and lastly strategies enabling shared method of learning and exchange of knowledge should be focused on [67].

There are several other studies based internationally that suggest the urgent need to pay attention to other relevant issues in the workforce, such as motivation, leadership and providing of support in improving the process of delivering healthcare facilities [38]; [28]. Research and reviews are conducted to determine the strategies employed in workforce development in the health sector. Based on the increasing focus of workforce development departments in the health care sector into a range of strategies such as providing training to health professionals, promoting several aspects from the western indigenous systems, including traditional indigenous practices related to health etc. Anderson *et al.*, [4] have triggered the increase in these studies.

Out of a wide range of factors impacting the workforce development strategies in healthcare, there arises a serious problem regarding the prevailing employment situation. While healthcare professionals are constantly being trained to attain skills of the desired level, the number of workers available in the particular profession and their retention in the field is a concern. Asamani, *et al.*, [6] stated that apart from the shortage of the required facilities for healthcare service delivery, workforce deficiency exists in the sector. Santos [19] mentioned that it has become very difficult to retain the workforce in healthcare as they think there is a lack of career opportunities in the sector and compensation limitations [68].

As a result, ongoing vacancies in the healthcare sector remain, and employee retention and migration is seen as significant problem. Aluttis, *et al.*, [3] state that due to the crisis created in the workforce development in the healthcare sector, there is a pattern in migration observed globally where workers from low-income countries are seen moving into the high-income ones for work. In order to deal with the struggling workforce management in the healthcare sector, appropriate policies must be designed by the organisations and the government to maintain a balanced work-life management system [69]. Moreover, facilitating skill development for healthcare workers with every updated modification made is important to ensure a better quality of care.

The year 2020 brought challenges in every individual's life as the global pandemic arrived. This became a challenge, especially for the healthcare workers as they had to work more than usual, with a risk of getting affected by the virus. In such cases, it is important that these healthcare workforces are provided with hygienic working conditions and that the necessities of their job life are met. Iyengar, *et al.*, [27] stated the problems faced by healthcare workers as they were treated as untouchables in society. Apart from the challenges faced by the medical sector to equipment and vaccines, the hardship faced by health workers at personnel levels is too critical [70].

Mira, *et al.* [39] mentioned that due to the sudden outbreak of Covid-19 and the consequences attached to it, healthcare workers dealt with a huge amount of stress and suffered through mental health traumas due to the lack of policies and preparation associated with the emergence of a pandemic such as this. This led to an impact on their performances during the situation, and the authors state that it is necessary that in the future appropriate policies and measures are created for the healthcare workers in case of emergencies such as this [71].

Therefore, in the context of this review, certain important factors are considered critical for the development of the healthcare workforce [72]. The factors are seen to exist for a long time in the past and still haven't been resolved. The viewpoint and discussion put forward by several past researchers would help understand the situation on these issues better. This paper thus attempts a systematic review based on the problems faced by the healthcare sector in developing its workforce for quality service delivery.

## **2. Research Methodology**

The literature pattern used by Webster and Watson [60], also known as the concept-driven systematic review approach, was utilised for the purpose of conducting the review for this research project. Reviewing the scientific literature from the point of view held by a number of authors from different periods of time is an essential part of the methodology that Webster and Watson [60] described. The methods distinguish themselves from the other approaches, which are author-driven and involve looking at particular authors' perspectives on various subjects covered in the articles. The body of literature that pertains to the growth of the workforce in the healthcare industry is fairly large and can be found in a number of different academic subfields. As a result, the method of systematic review is an approach that is more suited to the investigation [73].

The requirement for healthcare has never ceased to decrease as it is always necessary for people across the globe. During the current pandemic, a look into the development of the healthcare workforce has become even more crucial [74]. With a worldwide increase in research oriented to the healthcare sector, reviewing the workforce development strategies in the sector would help understand and discuss the studies related to the field easily and systematically [75].

## **2.1. Sources**

For the review, a search was initiated in several databases such as Scopus, ScienceDirect, and Web of Science to gather the relevant articles. As almost all the articles are reviewed using ScienceDirect and Web of Science databases, and these were all found in the Scopus database, it can be concluded that Scopus has been used for the primary data collection procedure for the review [76]. Keywords representing the required topics are typed into the database, such as “Healthcare Sector”, “Workforce in Healthcare”, “Development of Workforce”, “Healthcare Workforce Strategies”, etc. The research papers selected from the search conducted are analysed in detail to arrive at the results of the systematic review conducted.

## **2.2. Theme identification**

Following the approach outlined earlier, the research papers that were collected from the database served as the basis for the in-depth examination that was used to select the topics that would be included in this review. As a part of the research framework that is being developed for the analysis, the titles of the research articles are evaluated to determine whether or not they should be included in the analysis. The framework was helpful in identifying the primary challenges that arise during the process of developing a workforce in the healthcare industry.

The major factors found while analysing these papers helped in categorising the papers as per the requirements of the review. The themes categorised for the study helped realise the potential fallouts that are likely to cause hindrances in the coming time. A detailed review of these important aspects of developing the healthcare workforce would ensure the fulfilment of the motive behind conducting the review.

## **2.3. Data Extraction and Synthesis**

Once the major categories of the paper are identified, each factor is subjected to a thorough reading procedure. An extensive reading on each of these factors helps in learning about the perspective of the researchers over time on them. The papers are checked based on their titles and abstract. The good-quality papers that constitute the research requirement are then selected to identify the specific themes.

A flow chart using Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) has been prepared, indicating the inclusion criteria for the papers finally selected. Bibliometric analysis using the Scopus database has also been used to contribute to this research topic.

## **3. Results and Discussion**

The database generated many search results (n=916) using the abovementioned keywords. After scrutinising all the results generated and removing the papers beyond 2010 to 2020, a total of 543 papers were finally chosen to be gone through for identifying the major challenges occurring in the workforce development process in healthcare.

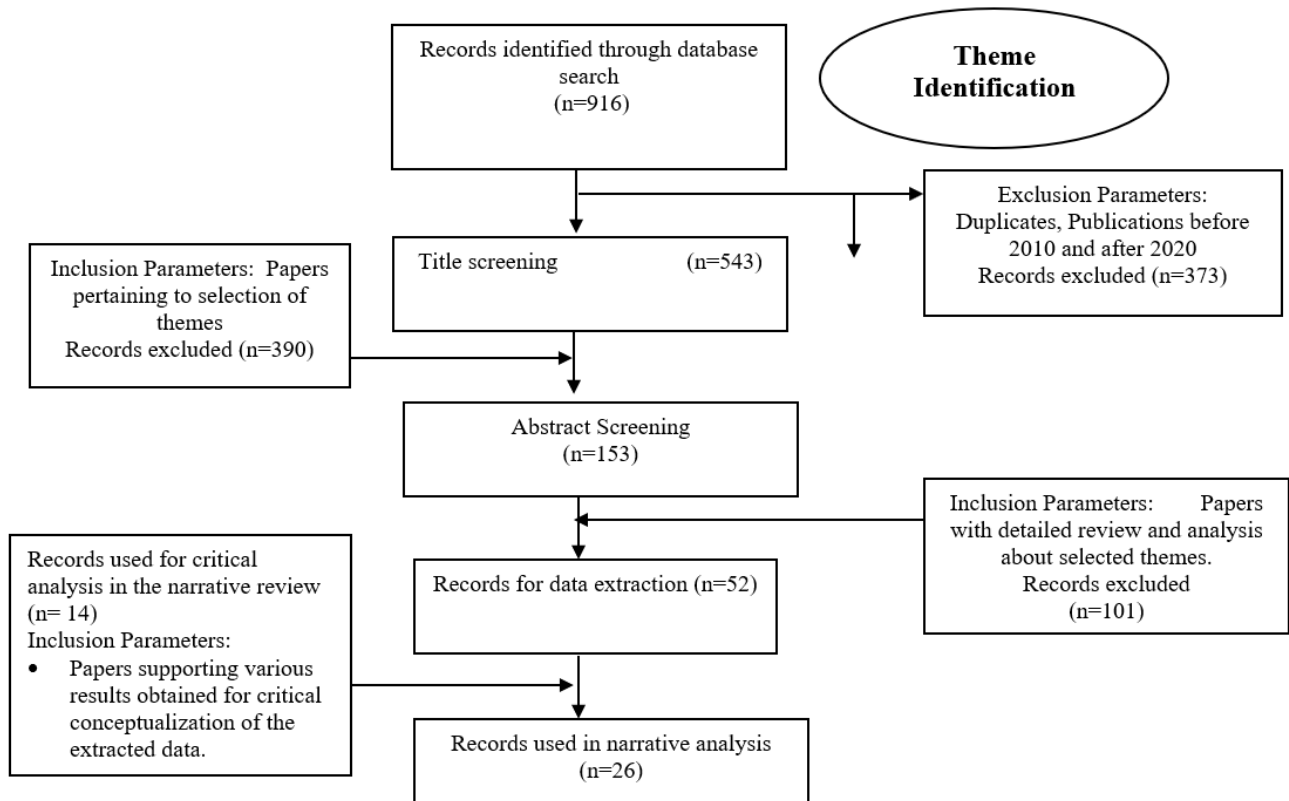
After carefully scrutinising the papers in hand, it is seen that the major challenge while developing the healthcare workforce is employing the workers and giving them adequate facilities to motivate them towards working for the same.

Five factors have been seen to have the maximum impact in formulating an efficient healthcare workforce. They are:

- Theme 1- Employment Situation
- Theme 2- Quality of Care
- Theme 3- Working Conditions
- Theme 4- Retention and Migration
- Theme 5- Policies Designed

All these five factors have an everlasting impact on the development of the workforce in the healthcare sector, and thus conducting a discussion on the same would throw helpful insights into the battles fought during the process.

Figure 1 represents a flow chart showing the systematic review process.



**Figure 1:** PRISMA for the Systematic Review [65]

Table 1 below lists the 52 papers reviewed for the study. The table contains the authors' names, the five themes identified from the review, and the type of study (quantitative or qualitative). The boxes with the mark '×' represent the presence of the variable in the study conducted.

**Table 1:** Data Extraction for the Review Papers Selected for the Identified Themes

| Author                        | Methodology  | Employment Situation | Quality of Care | Working Conditions | Retention and Migration | Policies Designed |
|-------------------------------|--------------|----------------------|-----------------|--------------------|-------------------------|-------------------|
| Aggar, <i>et al.</i> , [1]    | Qualitative  | ×                    |                 |                    | ×                       |                   |
| Ahmad, <i>et al.</i> , [2]    | Quantitative |                      | ×               | ×                  | ×                       |                   |
| Aluttis, <i>et al.</i> , [3]  | Qualitative  | ×                    |                 | ×                  | ×                       | ×                 |
| Ariff, <i>et al.</i> , [5]    | Quantitative |                      | ×               | ×                  |                         |                   |
| Asamani, <i>et al.</i> , [6]  | Qualitative  | ×                    |                 |                    | ×                       |                   |
| Bates, <i>et al.</i> , [8]    | Qualitative  | ×                    |                 |                    | ×                       | ×                 |
| Browne, <i>et al.</i> , [10]  | Qualitative  |                      | ×               | ×                  |                         | ×                 |
| Buchan, <i>et al.</i> , [11]  | Qualitative  | ×                    |                 |                    | ×                       | ×                 |
| Chernoff and Cueva [12]       | Qualitative  |                      | ×               | ×                  |                         | ×                 |
| Cometto, <i>et al.</i> , [13] | Qualitative  |                      | ×               | ×                  |                         | ×                 |
| Conway, <i>et al.</i> , [14]  | Qualitative  |                      | ×               | ×                  |                         | ×                 |
| Curson, <i>et al.</i> , [15]  | Qualitative  |                      |                 | ×                  | ×                       | ×                 |
| Curtis, <i>et al.</i> [16]    | Qualitative  |                      | ×               | ×                  |                         |                   |
| Darkwa, <i>et al.</i> [17]    | Qualitative  | ×                    |                 | ×                  | ×                       | ×                 |

|   |              |   |   |   |   |   |
|---|--------------|---|---|---|---|---|
| Dieleman, <i>et al.</i> , [18]              | Qualitative  |   |   | × |   | × |
| Santos [19]                                 | Qualitative  | × | × | × | × |   |
| Drebit, <i>et al.</i> , [20]                | Quantitative | × | × |   | × |   |
| Ogero, <i>et al.</i> , [44]                 | Qualitative  |   | × | × |   | × |
| Fan, <i>et al.</i> , [21]                   | Quantitative |   |   | × | × |   |
| Freund, <i>et al.</i> , [22]                | Qualitative  | × |   |   | × |   |
| Gampa, <i>et al.</i> , [23]                 | Qualitative  |   | × | × |   |   |
| Gershon, <i>et al.</i> , [24]               | Quantitative |   | × | × |   |   |
| Gunn, <i>et al.</i> , [25]                  | Qualitative  | × |   | × | × | × |
| Hoge, <i>et al.</i> , [26]                  | Qualitative  | × |   | × | × | × |
| Jongen, <i>et al.</i> [28]                  | Qualitative  | × | × | × | × |   |
| Katz, <i>et al.</i> , [29]                  | Qualitative  | × |   | × | × | × |
| Kirigia and Kirigia [30]                    | Qualitative  |   |   | × |   | × |
| Kwesigabo, <i>et al.</i> [32]               | Qualitative  | × |   | × | × |   |
| Laufik [34]                                 | Qualitative  |   |   | × | × | × |
| Lopes, <i>et al.</i> , [35]                 | Qualitative  | × |   | × | × |   |
| Macfarlane, <i>et al.</i> , [36]            | Qualitative  |   | × | × | × |   |
| Mallee District<br>Aboriginal Services [37] | Qualitative  | × |   | × | × | × |
| Kostas, <i>et al.</i> , [31]                | Quantitative | × |   | × | × |   |
| Mosadeghrad [41]                            | Quantitative |   | × | × | × |   |
| Mosadeghrad and Ferdosi<br>[40]             | Quantitative | × |   | × | × |   |
| Myrick and Del Vecchio<br>[42]              | Qualitative  |   |   | × | × |   |
| Nayak, <i>et al.</i> , [43]                 | Quantitative | × |   | × | × |   |
| Panzer, <i>et al.</i> , [45]                | Qualitative  | × |   |   | × |   |
| Pavolini and<br>Kuhlmann, [46]              | Qualitative  | × | × |   | × |   |
| Rees, <i>et al.</i> , [47]                  | Qualitative  | × |   |   | × | × |
| Roche and Nicholas [48]                     | Qualitative  |   |   | × | × |   |
| Schmidt, <i>et al.</i> , [49]               | Qualitative  |   | × | × |   |   |
| Schoenwald, <i>et al.</i> , [50]            | Qualitative  | × | × | × | × |   |
| Schrimmer, <i>et al.</i> , [50]             | Qualitative  | × | × | × | × |   |
| Stahl, <i>et al.</i> , [52]                 | Qualitative  |   |   | × | × | × |
| Beneria, <i>et al.</i> , [9]                | Qualitative  | × |   | × | × |   |
| Tangcharoensathien,<br><i>et al.</i> , [54] | Qualitative  |   | × | × |   | × |
| The Lowitja Institute [55]                  | Qualitative  |   | × | × |   | × |
| Walker, <i>et al.</i> , [57]                | Qualitative  | × |   |   | × |   |
| Watson, <i>et al.</i> , [59]                | Qualitative  |   | × |   |   | × |
| Willis, <i>et al.</i> , [61]                | Qualitative  | × |   | × |   | × |
| Wolf, <i>et al.</i> , [62]                  | Qualitative  |   | × | × |   |   |

### 3.1. Theme 1

Employment Situation One thing that is very crucial when forming a workforce in healthcare is the requirement of professionals to have appropriate skills in the field [46];[6];[61];[53]. However, not every country is well-populated with individuals having the skills to work in this sector [26];[22];[50]. This raises a concern in the healthcare sector as availability is one concern, and even with the availability of these workers, the employment pattern and conditions in the country serve as an issue.

The Covid-19 situation has been tough for healthcare workers, and as reported by Bannow [7], healthcare workers lost almost 1.4 million jobs in April 2020. The employment situation posts Covid, especially in the healthcare sector, is prone to several changes in the coming time. With the employment rate in healthcare decreasing by 6 percent than the previous years, there is a shift in the situation observed due to the coronavirus outbreak.

### **3.2. Theme 2**

Quality of care reflects that the amount and better quality provided by the healthcare workers is crucial as patients depend on them for their life. Providing skills to healthcare workers from time to time is an important aspect of the responsibilities of the healthcare providers [46];[54];[19]. The scope to provide appropriate skills based on the technical aspects, the leadership qualities and the motivation to support each other when required forms an important part of the workforce duties [5]; [41]. The pandemic demanded that healthcare workers provide a non-technical set of skills and effective teamwork to be bland

### **3.3. Theme 3**

Working conditions are very important considerations for health workers as there are several instances observed where they are attacked with chronic diseases while being on duty [18];[26];[28]. This forms demotivation for these workers to serve incessantly when the working conditions around them are not maintained well. Apart from the physical environment, a proper organisational structure must be maintained for the benefit of the employees during the pandemic, where it is of utmost necessity to maintain hygienic working conditions with proper protection provided to the front-line health workers.

The requirement to set up satisfactory working conditions for these healthcare workers becomes predominant. Theorell [56] stated that several challenges occurred in the working conditions of healthcare employees during the pandemic. High demands at the workplace with little control over the situation at hand, working overtime shifts and reports about lack of support from institutions amplified the problems in the situation. Moreover, the lack of reward in exchange for the hard work and overtime service provided by these health workers served as areas of negligence during the crisis.

### **3.4 Theme 4**

Retention and Migration-of healthcare workforces is difficult as often they view their job having lack of growth opportunities with a low rate of compensation [42];[45];[43];[47]. In such cases, along with the risks associated with working in a diseased environment, concerns like this often trigger healthcare workers to leave their jobs and migrate to other sectors.

In the case of the pandemic, these healthcare workers have struggled with risks to their own physical and mental well-being, with a lack of rewards in exchange for their duties [7];[56] moreover, with the decreasing employment rate since the pandemic in the healthcare sector has even lessened the chances of easy retention and migration of employees from other sectors into healthcare.

### **3.5. Theme 5**

All the problems mentioned earlier can be effectively solved had policies designed specifically to address these problems. The government of a particular country and the organisation must formulate policies to improve these workforces and motivate them to be a part of the sector. The importance of formulating policies by the organisation as well as the government in favour of the healthcare workers are realised across studies [3];[52];[59]. The Lowitja Institute, [55];[37].

The Indian Labor Organisation, after the pandemic had hit the world, put forward a framework to help the workers serving during this time [58]. The framework consisted of guidelines protecting the workers at the workplace, offering support to the workers in terms of employment and income, stimulating the demand for labour and using a way between the government, the workers and the employers to find solutions. Other government policies taken post the covid phase are to increase research in the field and allocate sufficient budget to benefit the situations in the healthcare sector.

The five themes identified for the review summarise the situation of the pandemic to them. The areas discussed constitute important portions of the healthcare sector, and the maintenance of these aspects could improve the entire workforce development process in the healthcare sector.

The review is an attempt to present the important factors that contribute towards formulating an effective healthcare workforce. A bibliometric analysis of the research conducted revealed the following results (figures 2 and 3).



**Figure 2:** Year wise Trend in Literature Review for Development of Workforce in the Healthcare Sector



**Figure 3:** Year wise Trend in Literature Review for Development of Workforce across all Sectors

#### 4. Conclusion and Future Outlook

It is evident from the analysis that the number of articles concerning workforce development over the years is quite large. The topic has managed to gain the interest of the researchers over time. While concentrating especially on the healthcare sector, it is found that there are comparatively lesser number of studies focusing on the area. Developing an efficient workforce in the healthcare sector is extremely important as it relates to many aspects. From comforting a patient to carrying out serious cases, healthcare workers are entitled to many responsibilities. Especially with the emergence of the global pandemic, the risks and duties associated with them have increased significantly. While healthcare workers are serving the world against the deadly coronavirus attack, certain factors must be carefully designed to protect their health and secure them with sufficient benefits.

The working conditions in the organisation need to be structured and dealt with clearly for the healthcare workers to work much more efficiently; policies regarding their well-being and security must be enforced while taking care of the employment benefits and training of appropriate level of skills required to handle such a time of crisis. This systematic review highlights the importance of these factors over time in the development of the workforce in the healthcare sector, along with the implications that it has during the period of Covid. The review provides a clear picture of the present situation of healthcare workers to the challenges incurred in the process for a long time in the past.

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