Original Article

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Staff Predicting in Healthcare System

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Abstract

Background: In recent years, specific measures have been implemented in the Republic of Uzbekistan to attract medical personnel to work in medical and preventive institutions. However, due to the existing differences in the socio-economic development of the regions, the implemented measures for the employment of graduates differ in their composition and focus, there is often no priority and systematicity of measures, which in turn reduces the effectiveness of solving the problems of attracting and retaining medical personnel in practical health care. **Subjects and methods:** Analysis of literature data on predicting future personnel fluctuations, as well as the results of a questionnaire survey of 139 leaders of the RMO and chief doctors of hospitals (employers) on the quality of education of TashPMI graduates, conducted in the regions of the Republic of Uzbekistan in 2019. **Results:** Today's university graduate chooses narrow specialties for which there is an overabundance of these specialties in all regions, such areas as otorhinolaryngology, neurology, pediatric neurology, ophthalmology, traumatology and radiology. According to our preliminary estimates, this approach to choosing a future specialty without the presence of a carefully thought-out strategy for professional orientation of medical students can lead to a sharp crisis in the personnel policy of healthcare, namely, in this case, to an overabundance of specialties "popular" among students. **Conclusion:** The lack of a unified and differentiated approach to support and promote the employment of young medical personnel, which is able to form a competitive offer for specialists employed in rural areas, makes it difficult in the near future to solve the problem of eliminating the uneven distribution of medical personnel.

Keywords: Medical Students, Healthcare System Personnel, Medical Education, Public Health.

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Introduction

In recent years, specific measures have been implemented in the Republic of Uzbekistan to attract medical personnel to work in medical and preventive institutions. However, due to the existing differences in the socio-economic development of the regions, the implemented measures for the employment of graduates differ in their composition and focus, there is often no priority and systematicity of measures, which in turn reduces the effectiveness of solving the problems of attracting and retaining medical personnel in practical health care. The lack of a unified and differentiated approach to support and promote the employment of young medical personnel, which is able to form a competitive offer for specialists employed in rural areas, makes it difficult in the near future to solve the problem of eliminating the uneven distribution of medical personnel.[1,2]

Today, according to the head of the Department of Science and Education of the Ministry of Health of the Republic of Uzbekistan, there is a shortage of medical workers in Uzbekistan, including 6136 narrow specialists, 2324 general practitioners [Figure 1]. If the national average number of health workers per 10 thousand populations is 20.5, then in some regions (Surkhandarya, Kashkadarya, Jizzakh regions) this figure is even lower - about 16-17 health workers [Figure 2].

To solve this problem, certain measures are being taken to attract medical personnel to work in medical and preventive institutions, for example, each graduate, before entering the magistracy / clinical residency, works in primary health care. This measure currently covers staffing needs at the primary health care level for a while. But, in our opinion, the above measure is not effective and requires certain improvements.

To date, according to the decree of the President of the Republic of December 7, 2018 No. UP-5590, the current personnel policy does not allow predicting the prospects for the provision of specialists at all levels of medical care, especially at the level of primary health care, as well as training organizers and management personnel of the health system. To solve this problem, we propose to adopt the time-tested and

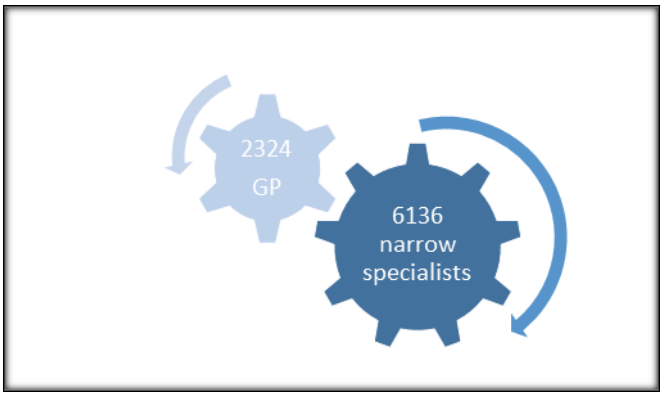

Figure 1: Human resources shortage in the healthcare system (2019)

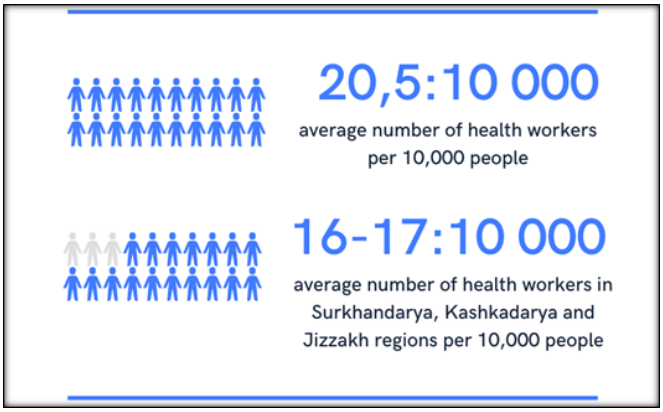

Figure 2: Average number of health workers per 10,000 (2019)

proven world experience, in accordance with the principles of assessing future needs, in the WHO health workforce.

According to the Principles for Assessing Future Human Resource Needs for Health by Gilles Dussault et al. the importance of predicting ”staff fluctuations” in medicine is argued by the following:

- In countries with aging populations, there is a shift in emphasis towards services related to chronic conditions management, more social assistance, and response to end-of-life needs.[3] The emergence of outbreaks of infectious diseases makes it necessary to pay attention to the training of personnel in the field of infectious diseases, virology, immunology, epidemiology, as in the example of the outbreak of COVID-19;

- Taking into account consumer demand, in connection with the emergence of new technological, innovative and pharmaceutical solutions in the world of medicine.

- Fluctuations in the future health personnel themselves, taking into account the expectations of young personnel from the specialty: salary, social protection, employment conditions;

- Quite a long time lag between making decisions about changes and achieving results.[4]

In this article, we will consider the world experience in comparison with the experience of the Ministry of Health of the Republic of Uzbekistan, and also try to offer our own ways of solving this problem.

Subjects and Methods

Analysis of literature data on predicting future personnel fluctuations, as well as the results of a questionnaire survey of 139 leaders of the RMO and chief doctors of hospitals (employers) on the quality of education of TashPMI graduates, conducted in the regions of the Republic of Uzbekistan in 2019.

Results and Discussion

Today’s university graduate chooses narrow specialties for which there is an overabundance of these specialties in all regions, such areas as otorhinolaryngology, neurology, pediatric neurology, ophthalmology, traumatology and radiology. According to our preliminary estimates, this approach to choosing a future specialty without the presence of a carefully thought-out strategy for professional orientation of medical students can lead to a sharp crisis in the personnel policy of healthcare, namely, in this case, to an overabundance of specialties ”popular” among students.

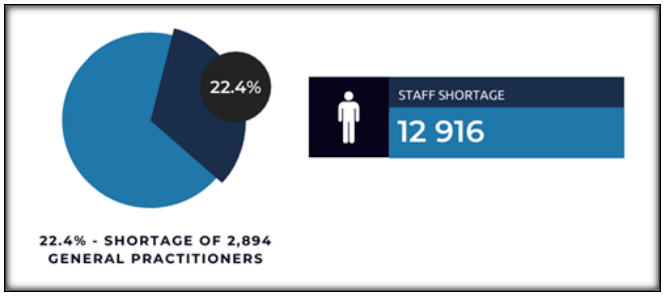

Figure 3: Staff shortage in the healthcare system (12/27/2019)

In our opinion, the personnel of the health care system should be prepared in advance and vacancies in medical and preventive institutions should correlate with the quota for clinical residency and magistracy. For example, according to the Ministry of Health, there is a shortage of 12,916 workers in the country

today, including 2,894 general practitioners and 10,022 specialized specialists. In particular, there is a need for 851 pediatricians, 465 therapists, 326 dentists, 273 anesthesiologists-resuscitators, 269 obstetricians-gynecologists, 216 psychiatrists, 198 radiologists, 192 phthisiatricians, 172 surgeons and 5383 other specialists [Figure 3].

The situation related to the health workforce pool is of great importance in maintaining the health of the population, which is why it is necessary to introduce a tool for ”balancing” and ”forecasting” the workforce climate in the health care system. The strategy for regulating staffing needs will undoubtedly serve as a prevention of the following conditions in the labor market:

- Staff shortage
- Oversupply of personnel
- Inappropriate allocation of personnel

Different countries deal with this problem according to their strategy, which provides for regional characteristics. For example, Finland, since 1991, has been carrying out a comprehensive analysis of the demand and supply of labor in all sectors, including social security and health care.[5] A number of structures are involved in this process, such as ministries, the National Board of Education, the Association of Local and Regional Authorities of Finland, Statistics Finland, the Finnish Pension Center and research institutes. These calculations allow you to set targets for the admission of students to medical training programs.

However, Germany adheres to the principle of freedom of choice of a profession, so it does not currently have a national system for forecasting and monitoring personnel in the health care system. This system led to the fact that Germany became an exporter of medical personnel, since there is a difference between supply and demand in the medical labor market.[6,7]

According to a UK House of Commons report, there is a lack of alignment between human resource planning and service / funding planning, as well as insufficient planning capacity between top-down requirements. The response to this investigation was outlined in the Next Steps Review, which focuses on resource transfer to primary health care and local delivery of services on a contract basis, and highlights the importance of the management of medical work.[8–10]

According to our forecasts, if there is a strong connection in the activities of the structures responsible for managing the personnel field [Figure 4], we can achieve the following results:

- Study of staffing needs in the context of the district, city
- Forecasting the future needs of research medical centers, clinics of institutes, medical institutions, as well as private clinics.

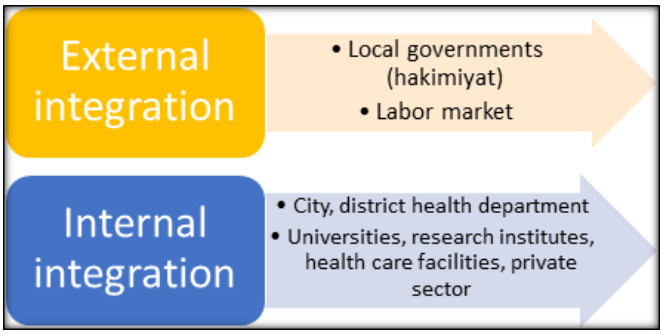

Figure 4: The key link in the management of the personnel field

- Integration of the obtained data into the educational process:

1. Announcement of admission quotas for undergraduate, graduate and clinical residency programs
2. Professional orientation of students during study cycles

According to the results of a survey of 139 heads of RMOs and chief doctors of medical institutions (employers) on the quality of education of TashPMI graduates, conducted in the regions of the Republic of Uzbekistan in 2019, it was revealed that 98.5% of employers are ready to hire graduates of TashPMI, but emphasize the need to integrate practical skills in the education process. The introduction of the correct strategy for vocational guidance is still an important issue in the training of future medical personnel, in one form or another, it is developing in almost all countries. The most perfect and developed system of career guidance exists in France, and it covers the system of both higher and secondary education. It is about the gradual preparation of a young person to choose a direction for further education and vocational guidance. According to employers, the correct professional orientation, the presence of practical training ”at the patient’s bedside” will help ”keep” the loss of future medical personnel. The loss of medical personnel, and the departure of medical students to other areas of the labor market, as noted above, is one of the main arguments for the development of a center for forecasting and assessing future personnel in the health care system.

The current situation determines the urgency of the problem, and requires the realities of today’s life. The creation of a unified medical information and analytical system for the promotion and employment strategy of graduates of medical universities ”CAREER CENTER” is the lack of standards in the field of e-health and regulations for the exchange of electronic medical information.

Today, the mechanism and forms of providing social support and promoting the employment of young medical personnel

completely depend on the budgetary possibilities of the territory (region), its economic development, the standard of living and employment of the population. At the present stage of development of the country's health care, based on the formation of conceptually new models of organization and financing of health care, ensuring a radical increase in the efficiency, quality and accessibility of medical care to the population, the introduction of modern achievements of medical science and technology, as well as in accordance with the objectives of the Action Strategy in five priority areas development of the Republic of Uzbekistan in 2017 - 2021 - the problem of employment of young personnel takes a special position. This is due to the fact that modern requirements of science and industry establish potentially new opportunities for the formation of personal qualities and attitude to work. It can be noted that as a result of the consistent implementation of targeted measures to reform and diversify the country's economy, modernization and technical re-equipment of leading industries, as noted in the Decree of the President of the Republic of Uzbekistan "On measures to further improve state policy in the field of employment and radically increase the efficiency of labor bodies" ("PP-2690, dated 06/05/2017) is an important condition for solving an urgent problem - ensuring employment of the able-bodied population, especially young people."

The lack of a unified and differentiated approach to support and promote the employment of young medical personnel, which is able to form a competitive offer for specialists employed in rural areas, makes it difficult in the near future to solve the problem of eliminating the uneven distribution of medical personnel.

Firstly, the Unified System of Assistance to Employment of Graduates will make it possible to predict the prospects for providing specialists at all levels of medical care, especially in primary care;

Secondly, the proposed unified standards in the field of e-health, modern software products will be introduced to ensure the integration and effective management of medical personnel or the forecast of specialists in the context of the country's regions.

Finally, the Unified System of Assistance to Employment of Graduates will provide monitoring, development of proposals, organization and coordination aimed at further improving the regulatory framework in order to create a unified all-encompassing system for the distribution of graduates of medical universities.

Conclusion

We are confident that integration between all participants in the process of education and training of narrow specialists and their further employment will give a positive result, undoubtedly it will take some time to solve this problem, but the desire to improve current shortage of personnel, especially the shortage of narrow specialists in the regions of the country - it is a teamwork task.

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