RETHINKING UKRAINIAN MEDICAL TRAINING: STRATEGIES FOR MEDICAL EDUCATION AND SYSTEM IMPROVEMENT

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Summary. This article delves into the current state and future prospects of Ukraine’s healthcare system. It critically examines the strategic framework laid out in the “Strategy for the Development of the Healthcare System until 2030”. A pivotal aspect of the article is its analysis of the burden of cardiovascular diseases (CVDs) in Ukraine compared to the European Union. It highlights that the prevalence and impact of CVDs in Ukraine.

The article underscores the necessity for comprehensive knowledge among medical professionals, especially in the context of the rising burden of cardiovascular diseases. It points out the inadequacies in the current medical education and training system in Ukraine in imparting this comprehensive knowledge. Drawing a comparison with the Chinese medical internship system, the article suggests that adopting a similar approach could significantly benefit Ukraine’s medical education system.

In its conclusion, the authors emphasize the need to integrate foreign policies in training young physicians to build a more effective healthcare system.

Key Words. Ukraine healthcare system; medical education reform; internship; rotational internship models; War’s Effect on Medical Training; Ukraine-China Healthcare Comparison

Problem setting. Medical education in Ukraine is considered to be one of the best in the World making it attractive and affordable for both domestic and foreign students [1]. But such extreme situations as a Covid-19 epidemics and the War have shown an inability of the given state of the healthcare system to face the uprising demands of society.

Due to the fact that most of the studies were mainly conducted online [1] and clinical training was suspended, basic knowledge and practical skills of medical students have significantly decreased [2], making it difficult for them to have internship or even directly influencing their graduation [3]. In order to make healthcare system more adaptive to any kind of stimulus and be able to face the demands of the people, several changes can be done.

The question of improving the health care system and making it more capable of facing needs of Ukrainian society, is not a fundamentally new way to organize scientific research. Relevant problematics has not only obtained development in the works of Akiko Kamimura (suggested that implementing health promotion initiatives in community clinics could enhance the health-related quality of life within neighborhoods and the broader society) [4], Bila-Tiu nova (emonstrated that the contemporary healthcare system in Ukraine is unable to meet the actual needs of the population) [5], Mohammad B. Almoshantaf (states about the absence of coordination between different levels of healthcare facilities) [6]. Some of the areas of the discussed problematic were discussed within the framework of the preliminary research carried out by the author of this publication [7–9]. Despite the sufficient attention to the issues connected with the situation of the healthcare system in Ukraine, it is still open for further research. Among issues connected with the relevant topic we can mention aspects of modern Ukrainian healthcare's inability to satisfy demands of society during war time and possible changes that can be made to make medical help more easily accessible. In order to enhance the quality of professional training and better meet the needs of the population, it is pertinent to compare the Ukrainian healthcare training system with that of China's.

Paper main body. According to the “Strategy for the Development of the Healthcare System until 2030” made with the The Ministry of Healthy, creating conditions for effective and affordable medical services and medical care of the population is the constitutional responsibility of the state, and the preservation, protection and promotion of the health and well-being of citizens – is one of the key tasks and priorities [1]. In order to successfully create an affective policy of healthcare, current health problems of Ukrainian society should be taken into account. According to the results from the 2019 Global Burden of Disease (GBD) study held by the Institute for Health Metrics and Evaluation [2], while there is not a big difference in the percentage of deaths and Disability-Adjusted Life Years (DALYs) due to neoplasms and chronic respiratory diseases between Ukraine and the European Union, things go different when it comes to the cardiovascular diseases (see Figure 1).

![Graph showing percentage of deaths and DALYs by disease type in Ukraine and European Union](image)

- Ukraine, cardiovascular diseases; ■ Ukraine, neoplasms; ■- Ukraine, chronic respiratory diseases; ■- European Union, cardiovascular diseases; ■- European Union, neoplasms; ■- European Union, chronic respiratory diseases;

**Fig. 1. Comparison difference of percentage of Death and DALYs caused by cardiovascular diseases, neoplasms and chronic respiratory diseases in the last 29 years in Ukraine and European Union**


The percentage of death from the cardiovascular diseases in Ukraine is 64.3%, what is 1.7 times higher than the corresponding indicator in the European Union (37.4%), and the amount of DALYs because of cardiovascular diseases in Ukraine is about 38.5% percent, what is more then 2 times as high as the indicator in the European Union (18.9%). It may be caused by the healthcare system limitations (such as limited healthcare resources, lower healthcare spending, difference in healthcare polices and management, etc.) and clinical practical challenges (less effective prevention strategies, detection methods and treatment strategies for the cardiovascular diseases).

Addressing this burgeoning health crisis requires a comprehensive understanding among medical professionals. This includes not only in-depth knowledge of cardiovascular and other diseases but also a broader understanding of related health issues and systemic healthcare challenges. However, the current medical education and training system in Ukraine may not be fully equipped to impart this comprehensive knowledge effectively. A comparative look at the medical internship system in China offers valuable insights (see Table 1).

According to the “Management of Clinical Applications of Medical Technology” [1] and the “Rules on Clinical Application Management of Endoscopic Diagnosis and Treatment” [2], the Chinese model emphasizes a compulsory 3-year rotation across various specialties, providing medical interns with a well-rounded experience, instead of Ukrainian 1-3 year fixed internship (according to the Order of the Ministry of Health of Ukraine “On Approval of the Regulations on Internship” [3]). Even though specific rotation plan may differ depending on the speciality chosen, still a this approach ensures that interns gain exposure to a diverse range of medical conditions and treatment methodologies, enhancing their overall understanding and skills. Adopting a similar approach in Ukraine could significantly benefit the medical education system. By rotating through different specialties, Ukrainian medical interns would gain a broader perspective and understanding of various health issues, including cardiovascular deceases. This comprehensive training would better equip them to tackle the specific healthcare challenges facing Ukraine, especially the rising prevalence of cardiovascular diseases.

Moreover, such a rotational approach would align well with the goals set out in the “Strategy for the Development of the Healthcare System until 2030”. It would contribute to creating conditions for more effective and affordable medical services by fostering a new generation of well-rounded, knowledgeable medical professionals. These professionals would be better prepared to understand and address the diverse healthcare needs of the Ukrainian population.

Comparison of Internship systems in Ukraine and China

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Internship (Ukraine)</th>
<th>Internship (China)</th>
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</thead>
<tbody>
<tr>
<td>Definition</td>
<td>is a form of postgraduate education necessary for medical graduates to improve their practical and professional skills</td>
<td>is a standardized residency training. is a mandatory program for medical graduates in China aimed at standardizing postgraduate medical training.</td>
</tr>
<tr>
<td>Program Focus</td>
<td>postgraduate training focusing on practical skills and preparation for independent medical practice</td>
<td>postgraduate training with an emphasis on clinical skills, medical ethics, and overall professional development</td>
</tr>
<tr>
<td>Duration</td>
<td>usually lasts 1-3 years, depending on the specialization</td>
<td>typically lasts 3 years, varying slightly based on the medical specialty.</td>
</tr>
<tr>
<td>Objective</td>
<td>focuses on enhancing practical and professional skills and preparing graduates for independent medical practice</td>
<td>aims to standardize and enhance clinical skills, medical knowledge, and overall professional development of medical graduates</td>
</tr>
<tr>
<td>Curriculum Content</td>
<td>focuses on practical experience in chosen specialties, potentially including rotations in relevant medical fields</td>
<td>diverse clinical rotations, theoretical training, and assessments to ensure a broad understanding of various medical conditions</td>
</tr>
<tr>
<td>Regulation</td>
<td>overseen by the Ministry of Health of Ukraine and tailored according to national medical standards</td>
<td>regulated by the Chinese government and medical authorities to ensure uniformity and quality</td>
</tr>
<tr>
<td>Post-Completion Requirements</td>
<td>may lead to further studies or specialization, such as Master or Clinical Residency programs</td>
<td>may require additional training or exams for certain specialties or advanced roles</td>
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</tbody>
</table>

*Table 1*

data generated from [13-15]

Implementing a rotational internship model in Ukraine, akin to the Chinese system, could be a pivotal step towards improving the quality of medical education and healthcare delivery. This model would not only enhance the knowledge and skills of medical professionals but also align with the broader objectives of the Ukrainian healthcare strategy. It is an approach that recognizes the complexity of healthcare challenges and the need for a multifaceted and well-informed medical workforce.

Conclusions. Considering all mentioned above, we can formulate such following conclusions.

Firstly, the current healthcare system in Ukraine, despite being one of the best in the world for medical education, has its limitations. It did not only fail to satisfy needs of medical students during extraordinary challenges such as the COVID-19 pandemic and the ongoing War, but also can not satisfy the needs of society in
getting effective prevention strategies, detection methods and treatment strategies for the non-communicative chronic diseases. The oversight by the state in addressing these issues could potentially lead to future strains on the national healthcare system, as it may have to contend with the challenges arising from the deteriorating health conditions of the average working Ukrainian.

Secondly, the improvement of the healthcare system to meet the needs of the Ukrainian society involves considering the insights of foreign similar polices. Integration of successful experiences of other countries in young physicians training is crucial for a building a more robust, effective, and responsive healthcare system.

Last but not least, as Ukraine strives to meet its healthcare objectives by 2030, reevaluating and potentially reforming its medical internship system could be a key strategy. Implementing a rotational internship model in Ukraine, akin to the Chinese system, could be a pivotal step towards improving the quality of medical education and healthcare delivery. This model would not only enhance the knowledge and skills of medical professionals but also align with the broader objectives of the Ukrainian healthcare strategy. It is an approach that recognizes the complexity of healthcare challenges and the need for a multifaceted and well-informed medical workforce.

References:


