
The Role of Diverse Healthcare Specialists in Promoting Public Health: A Comprehensive Review

Nawaf Khalid Alasmari¹, Abdullah Mohammed Alkhathami², Khalid Salman Almalki³, Abdulaziz Eidhah Alotaibi⁴, Waleed Saeed Alghamdi³, Saleh Aedh Alotaibi⁵, Majed Ghazi Alotaibi⁴, Abdullah Omar Alyamani⁶, Bandar Shaeer Murdhi Alotaibi⁷, Majed Saleh Alamri⁸, Raed Saleh Almalki⁹, Abdullah S. Alamri¹⁰, Khalaf H. Alghumay¹¹

¹ Emergency Medical Services, Alhada Armed Forces Hospital, Taif, Saudi Arabia

² Emergency Medical Services, Prince Mansour Military Hospital, Taif, Saudi Arabia

³ Public Health Specialist, Armed Forces Center for Psychiatric Care, Taif, Saudi Arabia

⁴ Nursing Specialist, Armed Forces Center for Psychiatric Care, Taif, Saudi Arabia

⁵ Nursing Technician, Armed Forces Center for Psychiatric Care, Taif, Saudi Arabia

⁶ Clinical Psychologist, Armed Forces Center for Psychiatric Care, Taif, Saudi Arabia

⁷ Medical Equipment Technician, Armed Forces Center for Psychiatric Care, Taif, Saudi Arabia

⁸ Laboratory Technician, Prince Mansour Military Hospital, Taif, Saudi Arabia

⁹ Pharmacy Technician, Armed Forces Center for Psychiatric Care, Taif, Saudi Arabia

¹⁰ Department of Preventive Medicine, Armed Forces Center for Psychiatric Care, Taif, Saudi Arabia

¹¹ Department of Family Medicine, Armed Forces Prince Mansour Hospital, Taif, Saudi Arabia

Abstract

The effectiveness of public health initiatives increasingly relies on the collaborative efforts of diverse healthcare specialists, each bringing unique expertise to address the multifaceted challenges of population health. This comprehensive review examines the integral roles that various specialists—ranging from physicians and nurses to public health educators, nutritionists, social workers, and mental health professionals—play in promoting public health. We begin by addressing the importance of interdisciplinary collaboration in health promotion, emphasizing how diverse perspectives can lead to more holistic health interventions. Each specialist contributes distinct skills and knowledge areas, fostering a more inclusive approach to health that acknowledges social determinants, cultural competencies, and behavioral sciences. The review highlights several case studies where integrated healthcare teams have successfully tackled pressing public health issues, such as obesity, mental health crises, and infectious disease outbreaks. Furthermore, the review explores the regulatory and systemic barriers that often hinder effective collaboration among healthcare specialists. It critically analyzes the challenges posed by fragmented healthcare systems, limited funding, and varying scopes of practice, which can impede comprehensive public health efforts. In addition, we discuss innovative models of care that promote teamwork, such as patient-centered medical homes and community health initiatives, which facilitate cooperative strategies to enhance health outcomes at the community level. This review serves as a call to action for policymakers, educators, and healthcare leaders to prioritize the integration of diverse healthcare specialists in public health initiatives, ensuring a more effective response to the dynamic health challenges faced by populations today. The synthesis of specialized knowledge and skills is essential to advance the agenda of public health and improve health outcomes for all.

Keywords: effectiveness, Physician, Competencies, cooperative.

Introduction

Public health is a multifaceted field that encompasses a wide range of activities aimed at

improving the health of populations. It requires the collaboration of various healthcare specialists, each bringing unique skills and perspectives to the table

[1]. This article explores the roles of nursing technicians, lab technicians, clinical dietitians, social workers, psychologists, emergency medical services personnel, and public health specialists in promoting public health. By examining their contributions, we can better understand how these diverse professionals work together to enhance health outcomes and address the complex challenges faced by communities [2].

The importance of public health cannot be overstated, especially in an era marked by rapid changes in demographics, technology, and disease patterns. The COVID-19 pandemic has underscored the critical need for a robust public health infrastructure and the essential roles played by various healthcare specialists. As we navigate the complexities of modern healthcare, it becomes increasingly clear that no single profession can address the myriad challenges we face. Instead, a collaborative, interdisciplinary approach is necessary to create effective solutions that improve health outcomes for all [3].

Furthermore, the ever-evolving nature of public health demands that healthcare professionals be adaptable, innovative, and responsive to emerging trends and challenges. The increasing prevalence of chronic diseases, such as diabetes and heart disease, requires a comprehensive approach that incorporates prevention, treatment, and management strategies. Additionally, the growing awareness of the social determinants of health, including poverty, education, and housing, highlights the need for healthcare professionals to work in tandem with community organizations and policymakers to address the root causes of health disparities [4].

In this context, the roles of various healthcare specialists become even more critical. Nursing technicians, for instance, play a vital role in providing hands-on care and support to patients, while lab technicians are essential in diagnosing and monitoring diseases. Clinical dietitians, on the other hand, work with patients to develop personalized nutrition plans that promote healthy eating habits and disease prevention. Social workers and psychologists provide critical support services, including counseling and case management, to individuals and families affected by mental health issues or social determinants of health [5].

Emergency medical services personnel are often the first responders in emergency situations, providing life-saving care and transportation to medical facilities. Public health specialists, meanwhile, work behind the scenes to develop and implement policies, programs, and interventions that promote health and prevent disease at the population level. By examining the contributions of these diverse professionals, we can gain a deeper understanding of the complex interplay between healthcare, social services, and community resources that underpin effective public health practice [6].

Ultimately, the success of public health initiatives depends on the ability of healthcare professionals to work together, share knowledge, and leverage their unique skills and perspectives to address the complex challenges faced by communities. By fostering a culture of collaboration, innovation, and mutual respect, we can create a more effective and responsive public health system that improves health outcomes for all. This, in turn, requires a fundamental shift in how we approach healthcare, from a focus on individual patients to a broader emphasis on population health and community well-being [7].

The Importance of Interdisciplinary Collaboration

In the realm of public health, interdisciplinary collaboration is essential. The complexity of health issues often requires a team-based approach, where professionals from different backgrounds come together to share knowledge, skills, and resources. This collaboration not only enhances the quality of care but also fosters a more comprehensive understanding of health determinants. Each specialist plays a distinct role, yet their efforts are interconnected, creating a synergistic effect that ultimately benefits public health [8].

The integration of diverse healthcare specialists allows for a more holistic approach to health. For instance, a patient with diabetes may require the expertise of a clinical dietitian to manage their nutrition, a psychologist to address any mental health concerns, and a nursing technician to provide day-to-day care [9]. By working together, these professionals can create a comprehensive care plan that addresses the patient's physical, emotional, and social needs [11].

Moreover, interdisciplinary collaboration can lead to innovative solutions to public health challenges. When healthcare specialists from different fields come together, they can share insights and perspectives that may not be apparent within a single discipline. This exchange of ideas can result in the development of new programs, policies, and interventions that effectively address the complex health issues faced by communities [12].

Nursing Technicians: The Backbone of Patient Care

Nursing technicians are often the first point of contact for patients within healthcare settings. They provide essential support to registered nurses and other healthcare professionals, ensuring that patients receive timely and compassionate care. Their responsibilities include monitoring vital signs, assisting with daily living activities, and providing emotional support to patients and their families [13].

The role of nursing technicians extends beyond basic care. They are instrumental in patient education, helping individuals understand their health conditions and the importance of adhering to treatment plans. By fostering a supportive environment, nursing technicians contribute to improved patient outcomes and satisfaction. Their ability to communicate effectively with patients and families enhances health literacy, empowering individuals to take an active role in their health [14].

Moreover, nursing technicians play a critical role in identifying potential health issues early on. By closely monitoring patients, they can detect changes in condition and alert the healthcare team, facilitating timely interventions. This proactive approach not only improves individual health outcomes but also contributes to the overall efficiency of the healthcare system [15].

In addition to their clinical responsibilities, nursing technicians often serve as a bridge between patients and the healthcare team. They help to facilitate communication, ensuring that patients' concerns are heard and addressed. This role is particularly important in settings where patients may feel overwhelmed or anxious, as nursing technicians can provide reassurance and support during challenging times [16].

Furthermore, nursing technicians are essential in promoting preventive care. By educating patients

about healthy lifestyle choices and the importance of regular check-ups, they help to reduce the incidence of chronic diseases. Their involvement in community outreach programs can also raise awareness about public health issues, such as vaccination campaigns and health screenings [17].

Laboratory Technicians: The Unsung Heroes of Diagnostics

Lab technicians are vital to the healthcare system, providing essential diagnostic services that inform clinical decision-making. They perform a wide range of tests on blood, urine, and other bodily fluids, helping to identify diseases, monitor health conditions, and evaluate the effectiveness of treatments. The accuracy and reliability of lab results are crucial for effective patient management [18].

In the context of public health, lab technicians contribute to disease surveillance and outbreak investigations. By analyzing samples and identifying pathogens, they play a key role in tracking the spread of infectious diseases. This information is critical for public health officials, enabling them to implement appropriate interventions and control measures [19].

Furthermore, lab technicians are involved in research and development, contributing to the advancement of diagnostic technologies and methodologies. Their expertise in laboratory practices ensures that testing is conducted safely and efficiently, ultimately enhancing the quality of care provided to patients.

The role of lab technicians extends beyond the confines of the laboratory. They often collaborate with other healthcare professionals to interpret test results and provide insights that guide treatment decisions. This collaboration is particularly important in complex cases where multiple tests may be required to arrive at a diagnosis [20].

Additionally, lab technicians play a crucial role in educating healthcare providers about the capabilities and limitations of various diagnostic tests. By sharing their knowledge, they help ensure that clinicians make informed decisions based on accurate and timely information. This collaboration enhances the overall quality of care and supports the effective management of patient health [14].

Lab technicians also contribute to public health initiatives by participating in community health screenings and educational programs. Their expertise in laboratory testing allows them to provide valuable insights into the importance of early detection and prevention of diseases. By engaging with the community, lab technicians help raise awareness about health issues and promote healthy behaviors [21].

Moreover, the ongoing advancements in technology and laboratory practices require lab technicians to stay updated on the latest developments in their field. Continuous education and training are essential for maintaining high standards of practice and ensuring that they can effectively contribute to public health efforts [22].

Clinical Dietitians: Nutrition as a Cornerstone of Health

Clinical dietitians are specialized healthcare professionals who focus on the role of nutrition in health and disease. They assess patients' dietary needs, develop personalized nutrition plans, and provide education on healthy eating habits. The importance of nutrition in promoting health and preventing disease cannot be overstated, making the role of clinical dietitians essential in public health [23].

Dietitians work with individuals facing various health challenges, including obesity, diabetes, cardiovascular diseases, and gastrointestinal disorders. By addressing nutritional deficiencies and promoting healthy eating patterns, they help patients manage their conditions and improve their overall well-being. Their expertise extends to understanding the cultural and socioeconomic factors that influence dietary choices, allowing them to tailor interventions to meet the needs of diverse populations [24].

In addition to individual patient care, clinical dietitians contribute to community health initiatives. They may participate in public health campaigns aimed at promoting healthy eating and physical activity, particularly in underserved communities. By raising awareness about the importance of nutrition, dietitians play a vital role in preventing chronic diseases and improving population health [25].

Furthermore, clinical dietitians are involved in research that explores the relationship between diet

and health outcomes. Their findings can inform public health policies and guidelines, ensuring that nutrition remains a priority in health promotion efforts. By advocating for evidence-based dietary recommendations, dietitians help shape the future of public health nutrition [26].

Dietitians also collaborate with other healthcare professionals to create comprehensive care plans that address the nutritional needs of patients. This interdisciplinary approach ensures that patients receive holistic care that considers all aspects of their health, including physical, emotional, and social factors [27].

Social Workers: Bridging the Gap between Health and Community

Social workers are integral to the healthcare system, addressing the social determinants of health that impact individuals and communities. They provide support to patients and families, helping them navigate the complexities of the healthcare system and access necessary resources. Social workers are trained to assess the psychosocial needs of patients, offering counseling and advocacy to promote overall well-being [28].

In public health, social workers play a crucial role in addressing health disparities. They work with vulnerable populations, including low-income families, individuals with mental health issues, and those facing substance abuse challenges. By connecting these individuals with appropriate services, social workers help to mitigate the impact of social determinants on health outcomes [29].

Moreover, social workers are involved in community organizing and advocacy efforts. They collaborate with public health officials to develop programs that address the needs of specific populations, such as maternal and child health initiatives or mental health awareness campaigns. Their ability to engage with communities and foster partnerships is essential for promoting health equity and improving public health outcomes [18].

Social workers also play a vital role in crisis intervention, providing immediate support to individuals facing acute challenges. Whether it's assisting families in navigating a health crisis or providing resources for mental health support, their expertise is invaluable in ensuring that individuals receive the help they need [15].

Additionally, social workers contribute to policy development by advocating for changes that address systemic issues affecting health. Their insights into the lived experiences of individuals and communities inform public health strategies aimed at creating a more equitable healthcare system [30].

Psychologists: Understanding Mental Health in Public Health

Psychologists are essential in understanding the mental and emotional aspects of health. They assess and treat mental health conditions, providing therapy and counseling to individuals facing psychological challenges. The role of psychologists extends beyond individual therapy; they also contribute to public health by addressing mental health issues at the community level [21].

In the context of public health, psychologists are involved in designing and implementing mental health programs that promote awareness and reduce stigma. They work collaboratively with other healthcare professionals to integrate mental health services into primary care settings, ensuring that individuals receive comprehensive care that addresses both physical and mental health needs. By focusing on prevention and early intervention, psychologists help to reduce the burden of mental health disorders on individuals and communities [31].

Furthermore, psychologists conduct research to better understand the psychological factors that influence health behaviors. Their findings can inform public health strategies aimed at promoting healthy lifestyles and preventing chronic diseases. By applying psychological principles to health promotion, they contribute to the development of effective interventions that encourage positive behavior change.

Psychologists also play a critical role in training healthcare providers to recognize and address mental health issues. By equipping other professionals with the skills to identify psychological concerns, they help ensure that mental health is prioritized within the broader healthcare framework. This training can lead to earlier interventions and better overall health outcomes for patients [11].

Moreover, psychologists are instrumental in developing community-based mental health

initiatives that address the unique needs of specific populations. They may work with schools, workplaces, and community organizations to create programs that promote mental well-being and resilience. By fostering environments that support mental health, psychologists contribute to the overall health of communities.

In addition to their direct work with individuals and communities, psychologists often engage in policy advocacy. They work to influence legislation and public policy related to mental health, ensuring that mental health services are accessible and adequately funded. Their expertise is vital in shaping a healthcare system that recognizes the importance of mental health as a critical component of overall health [32].

Emergency Medical Services: First Responders in Crisis Situations

Emergency medical services (EMS) personnel are often the first responders in critical situations, providing immediate care to individuals experiencing medical emergencies. Their role is vital in stabilizing patients and ensuring timely transport to healthcare facilities. The quick actions of EMS personnel can significantly impact patient outcomes, particularly in life-threatening situations [9].

In addition to emergency response, EMS personnel play a role in public health by participating in community education and outreach programs. They provide training on first aid, CPR, and emergency preparedness, empowering individuals to respond effectively in crisis situations. By raising awareness about the importance of emergency care, EMS personnel contribute to building resilient communities [6].

Moreover, EMS personnel are involved in data collection and analysis related to emergency response and public health trends. This information can be used to identify patterns in health emergencies, guiding public health officials in developing strategies to address these issues proactively. Their insights can inform resource allocation and emergency preparedness planning, ultimately enhancing community resilience [16].

EMS personnel also collaborate with other healthcare providers to ensure continuity of care for patients after they leave the emergency setting. This

collaboration is crucial for managing chronic conditions and preventing future emergencies. By working together, EMS personnel and healthcare providers can create comprehensive care plans that address the ongoing needs of patients [33].

Furthermore, EMS personnel often engage in research to evaluate the effectiveness of emergency response protocols and interventions. Their findings can lead to improvements in emergency care practices, ensuring that patients receive the best possible care during critical moments [13].

Public Health Specialists: The Architects of Community Health

Public health specialists are at the forefront of efforts to improve population health. They analyze health data, identify health trends, and develop policies and programs aimed at addressing public health challenges. Their work encompasses a wide range of activities, including disease prevention, health promotion, and health education.

Public health specialists collaborate with various stakeholders, including healthcare providers, community organizations, and government agencies, to implement effective public health initiatives. They play a crucial role in responding to public health emergencies, such as disease outbreaks or natural disasters, coordinating resources and communication to protect community health [7].

Additionally, public health specialists focus on health equity, working to eliminate disparities in health outcomes among different populations. They advocate for policies that address social determinants of health, ensuring that all individuals have access to the resources and services they need to achieve optimal health. Their efforts are essential in creating a more equitable healthcare system that prioritizes the needs of marginalized communities [10].

Public health specialists also engage in community-based participatory research, involving community members in the research process to ensure that their voices are heard. This approach fosters trust and collaboration, leading to more effective public health interventions that are tailored to the specific needs of the community [34].

Moreover, public health specialists are responsible for evaluating the effectiveness of public health programs and policies. By analyzing data and

assessing outcomes, they can identify areas for improvement and ensure that resources are allocated effectively. This continuous evaluation process is vital for maintaining the integrity and effectiveness of public health initiatives [35].

Conclusion

The diverse roles of healthcare specialists, including nursing technicians, lab technicians, clinical dietitians, social workers, psychologists, emergency medical services personnel, and public health specialists, are integral to promoting public health. Their collaborative efforts enhance patient care, address health disparities, and contribute to the overall well-being of communities. By recognizing and supporting the contributions of these professionals, we can foster a more effective and equitable healthcare system that prioritizes the health of all individuals. As we move forward, it is essential to continue advocating for interdisciplinary collaboration and the integration of diverse healthcare specialists into public health initiatives. By doing so, we can create a more resilient healthcare system capable of addressing the complex challenges of today and tomorrow. The future of public health depends on our ability to work together, leveraging the unique skills and perspectives of each healthcare professional to improve health outcomes for all.

References:

1. (2024). Assessing the long-term economic impact of wheezing episodes after severe rsv disease in children from argentina: a cost of illness analysis.. <https://doi.org/10.1101/2024.03.18.24304483>
2. (2019). Citizen engagement in public services in low- and middle-income countries: a mixed-methods systematic review of participation, inclusion, transparency and accountability (pita) initiatives. *campbell systematic reviews*, 15(1-2). <https://doi.org/10.1002/cl2.1025>
3. (2017). An exploration of potential gender differences in the discipline of nurse anesthetists.. <https://doi.org/10.28971/532017kj98>
4. (2024). The role of healthcare workers in modern medicine: a comprehensive review of challenges, contributions, and future directions. *journal of ecohumanism*, 3(7). <https://doi.org/10.62754/joe.v3i7.4666>

5. (2023). Integrating ai into health informatics for enhanced public health in africa: a comprehensive review. *international medical science research journal*, 3(3), 127-144. <https://doi.org/10.51594/imsrj.v3i3.643>
6. (2023). Recommendations for improvement of equity, diversity, and inclusion in the carms selection process. *canadian association of radiologists journal*, 74(4), 624-628. <https://doi.org/10.1177/08465371231174897>
7. (2015). Perceptions and attitudes of health professionals in kenya on national health care resource allocation mechanisms: a structural equation modeling. *plos one*, 10(6), e0127160. <https://doi.org/10.1371/journal.pone.0127160>
8. (2024). Integrating community-based partnerships for enhanced health outcomes: a collaborative model with healthcare providers, clinics, and pharmacies across the usa. *open access research journal of biology and pharmacy*, 10(2), 081-104. <https://doi.org/10.53022/oarjbp.2024.10.2.0015>
9. (2024). Mobile health (mhealth) innovations for public health feedback: a global perspective. *international medical science research journal*, 4(3), 235-246. <https://doi.org/10.51594/imsrj.v4i3.915>
10. (2010). Psychosocial correlates of medical mistrust among african american men. *american journal of community psychology*, 45(1-2), 87-106. <https://doi.org/10.1007/s10464-009-9280-6>
11. (2024). Estimated cardiorespiratory fitness and metabolic risks.. <https://doi.org/10.20944/preprints202404.0172.v1>
12. (2024). Examining healthcare professional delivery of health behaviour change interventions during a public health emergency: a multi-professional survey among nhs healthcare professionals. *journal of health psychology*. <https://doi.org/10.1177/13591053241291478>
13. (2020). Health is a political choice: why conduct healthcare research? value, importance and outcomes to policy makers. *life sciences society and policy*, 16(1). <https://doi.org/10.1186/s40504-020-00100-8>
14. (2024). Effect and outcome of equity, diversity and inclusion programs in healthcare institutions: a systematic review protocol. *bmj open*, 14(4), e085007. <https://doi.org/10.1136/bmjopen-2024-085007>
15. (2016). Needs, priorities, and recommendations for engaging underrepresented populations in clinical research: a community perspective. *journal of community health*, 42(3), 472-480. <https://doi.org/10.1007/s10900-016-0279-2>
16. (2022). The impact of covid-19 on the wellbeing of the uk nursing and midwifery workforce during the first pandemic wave: a longitudinal survey study. *international journal of nursing studies*, 127, 104155. <https://doi.org/10.1016/j.ijnurstu.2021.104155>
17. (2012). Organizational determinants of interprofessional collaboration in integrative health care: systematic review of qualitative studies. *plos one*, 7(11), e50022. <https://doi.org/10.1371/journal.pone.0050022>
18. (2020). How mindful of their own health are healthcare professionals? perception and practice of personnel in a tertiary hospital in nigeria. *ghana medical journal*, 54(4), 215-224. <https://doi.org/10.4314/gmj.v54i4.3>
19. (2024). Understanding the root of healing and beyond: exploring the way forward for alternative medicine in nigeria. *Bhutan Sorig J*, 1(1), 42-47. <https://doi.org/10.47811/bsj.0004050304>
20. (2021). Health workforce for health equity. *medical care*, 59(Suppl 5), S405-S408. <https://doi.org/10.1097/mlr.0000000000001609>
21. (2023). Creating an inclusive urology practice. *current bladder dysfunction reports*, 18(2), 131-138. <https://doi.org/10.1007/s11884-023-00694-7>
22. (2019). Individualising difference, negotiating culture: intersections of culture and care. *health an interdisciplinary journal for the social study of health illness and medicine*, 24(5), 552-571. <https://doi.org/10.1177/1363459319829192>
23. (2020). Project management in public health: a systematic literature review on success criteria and factors. *portuguese journal of public health*, 38(1), 37-48. <https://doi.org/10.1159/000509531>
24. (2013). Why perspective matters in health outcomes research analyses. *international business & economics research journal (iber)*,

- 12(11), 1503.
<https://doi.org/10.19030/iber.v12i11.8186>
25. (2015). Patient advocacy and the affordable care act: the growing need for nurses to be culturally aware. *open journal of nursing*, 05(03), 237-245.
<https://doi.org/10.4236/ojn.2015.53028>
26. (2020). The prevalence of psychological consequences of covid-19: a systematic review and meta-analysis of observational studies. *journal of health psychology*, 27(4), 805-824.
<https://doi.org/10.1177/1359105320966639>
27. (2023). Community-academic partnerships to embrace and ensure diversity, equity, and inclusion in translational science: evidence of successful community engagement. *journal of clinical and translational science*, 7(1).
<https://doi.org/10.1017/cts.2023.601>
28. (2021). Nursing profession in the contemporary healthcare system and public health: new roles and challenges. *zdravstvena zastita*, 50(2), 73-86.
<https://doi.org/10.5937/zdravzast50-30873>
29. (2023). Assessing the impact of a 6-year health sciences enrichment program for underrepresented minority youth on healthcare workforce diversity, career path, and public health. *frontiers in public health*, 11.
<https://doi.org/10.3389/fpubh.2023.1244593>
30. (2023). A systematic review of evaluation studies of primary and public health programs in qatar and other gcc nations in comparison with studies adopting the re-aim framework..
<https://doi.org/10.21203/rs.3.rs-3481066/v1>
31. (2021). Psychological distress among healthcare providers during covid-19 in asia: systematic review and meta-analysis. *plos one*, 16(10), e0257983.
<https://doi.org/10.1371/journal.pone.0257983>
32. (2024). Trends in budget allocation for primary healthcare: a decadal perspective on prioritization in tamil nadu. *international journal of community medicine and public health*, 11(6), 2504-2507.
<https://doi.org/10.18203/2394-6040.ijcmph20241518>
33. (2015). The effects of changes in the health system on the health of the population: a natural experiment in the countries of the former soviet union. *international journal of health sciences (ijhs)*.
<https://doi.org/10.15640/ijhs.v3n4a3>
34. (2018). Development of a richer measure of health outcomes incorporating the impacts of income inequality, ethnic diversity, and ict development on health. *globalization and health*, 14(1). <https://doi.org/10.1186/s12992-018-0385-2>
35. (2023). Application of project management in healthcare. *journal of health development*, 50(1), 22-25. <https://doi.org/10.32921/2225-9929-2023-1-50-22-25>