ISSN 2321 -9017
Volume 10, No.6, October - November 2022
International Journal of Bio-Medical Informatics and e-Health
Available Online at http://www.warse.org/IJBMIeH/static/pdf/file/ijbmieh261062022.pdf
https://doi.org/10.30534/ijbmieh/2022/261062022

Evaluating the Quality of Patient Care in Public Medical Clinics: A Critical Review

Saleh Mane saleh almotared[1], Salem Abdullah Salem Alyami[2], Ali Yahya Mashaa Albusus[3], Bader Ali Saleh Almahamed[4], Saleh Nassar Mhamad Alkhamsan[5]
[1]Ministry of Health, Saudi Arabia, salmotared@moh.gov.sa
[2]Ministry of Health, Saudi Arabia, Salyami23@moh.gov.sa
[3]Ministry of Health, Saudi Arabia, aalbasoos@moh.gov.sa
[4]Ministry of Health, Saudi Arabia, Balmahamed@moh.gov.sa
[5]Ministry of Health, Saudi Arabia, Snalkhamsan@moh.gov.sa

Received Date: September 25, 2022 Accepted Date: October 30, 2022 Published Date: November 07, 2022

ABSTRACT

This critical review examines the adherence to and implementation of patient care standards in public medical clinics, highlighting the significance of these standards in ensuring high-quality healthcare delivery. Despite the crucial role of public medical clinics in providing accessible healthcare, challenges such as limited resources, staffing shortages, and infrastructure constraints often hinder the consistent application of care standards. This article synthesizes findings from various studies, reports, and case analyses to assess the current landscape of patient care quality within these institutions. It delves into the repercussions of substandard care, including compromised patient outcomes, public health risks, and economic burdens. Furthermore, the review explores innovative strategies and best practices that have shown promise in enhancing patient care, alongside recommendations for policy reforms and the integration of technology in healthcare processes. By providing a comprehensive overview of the existing state of patient care in public medical clinics and offering actionable insights for improvement, this article contributes to the ongoing discourse on elevating healthcare standards in public health systems.

Key words: Patient Care Standards**,** Public Medical Clinics**,** Healthcare Quality**,** Implementation Challenges**,** Public Health**,** Economic Impact**,** Best Practices**,** Healthcare Policy**,** Technology in Healthcare**,** Patient Outcomes

1.INTRODUCTION

The provision of high-quality healthcare is a cornerstone of modern public health systems, ensuring the well-being and satisfaction of communities. In this context, public medical clinics play a pivotal role, especially in underserved areas where they often serve as the first, and sometimes only, point of access to healthcare services. The standards of patient care within these clinics are critical indicators of their effectiveness and efficiency in delivering health services. These standards encompass a broad range of criteria, including the safety, accessibility, and patient-centeredness of care, as well as the professional competence of healthcare providers [1]. Ensuring adherence to these standards is fundamental to achieving optimal health outcomes and enhancing the overall patient experience.

However, the implementation of high patient care standards in public medical clinics faces numerous challenges. Resource constraints are a significant barrier, with many clinics operating under tight budgets that limit their ability to procure medical supplies, maintain modern facilities, and employ sufficient healthcare professionals [2]. Staffing issues, such as shortages of qualified personnel and high turnover rates, further exacerbate the problem, often leading to increased workloads for existing staff and compromised quality of care [3]. Additionally, infrastructure limitations, including outdated medical equipment and inadequate facility space, can hinder the effective delivery of healthcare services and negatively impact patient outcomes [4].

The consequences of substandard patient care in public clinics are far-reaching. Poor quality of care can lead to adverse health outcomes, reduced patient satisfaction, and diminished trust in the healthcare system [5]. Moreover, it poses significant public health risks, as ineffective treatment and management of diseases can contribute to the spread of infections and chronic disease complications. From an economic perspective, inadequate patient care can lead to increased healthcare costs, as preventable conditions become more complex and expensive to treat [6].

Despite these challenges, there are opportunities for improvement. Innovations in healthcare delivery, such as the integration of technology and telemedicine, offer promising avenues for enhancing patient care in resource-limited settings [7]. Best practices from successful clinics, including continuous staff training, patient engagement initiatives, and the adoption of evidence-based care protocols, can serve as models for others. Additionally, policy reforms aimed at increasing funding, improving healthcare infrastructure, and

incentivizing the retention of skilled healthcare workers are critical for elevating patient care standards in public medical clinics.

This review aims to provide a comprehensive examination of the current state of patient care in public medical clinics, identify key challenges and their implications, and explore strategies for improvement. By drawing on a wide range of literature, case studies, and expert recommendations, this article contributes to the ongoing discourse on enhancing healthcare quality in public health systems, with the ultimate goal of achieving better health outcomes for all patients.

2.BACKGROUND

The concept of patient care standards within public medical clinics is rooted in the broader framework of healthcare quality and safety. These standards serve as benchmarks for measuring the effectiveness, efficiency, and equity of healthcare services provided to the public. The World Health Organization (WHO) defines quality healthcare as being safe, effective, timely, efficient, equitable, and people-centred [8]. In the context of public medical clinics, which often cater to the most vulnerable populations, these dimensions of quality are particularly critical.

Patient care standards are guided by evidence-based practices and policies that aim to ensure the best possible health outcomes for patients. They encompass various aspects of healthcare delivery, including clinical guidelines, patient safety protocols, and service delivery models. The Institute of Medicine's (IOM) seminal report[9], highlighted the necessity of adhering to these standards to bridge the gap between the healthcare that people receive and the healthcare that they should receive, based on the best available scientific knowledge.

Public medical clinics are integral components of the primary healthcare system, often serving as the first point of contact for individuals seeking medical attention. These clinics provide a range of services from preventive care and health education to the management of acute and chronic conditions. The accessibility and quality of care offered by these clinics have a significant impact on community health outcomes and the overall efficiency of the healthcare system [10].

However, the implementation of patient care standards in public clinics is influenced by various factors, including healthcare policies, funding mechanisms, and the socio-economic context. Studies have shown that disparities in healthcare quality and access are prevalent in many regions, often reflecting broader social and economic inequalities [11]. These disparities pose challenges to the equitable provision of high-quality care in public clinics, necessitating targeted interventions and policy reforms.

The role of patient care standards in public medical clinics extends beyond the immediate health outcomes of individual patients. By ensuring consistent and high-quality care, these standards contribute to the broader public health goals of reducing disease prevalence, preventing outbreaks, and promoting overall well-being within communities [12]. Moreover, they are pivotal in achieving the Sustainable Development Goals (SDGs) related to health, particularly Goal 3, which aims to ensure healthy lives and promote well-being for all at all ages [13].

3.METHODOLOGY OF REVIEW

The methodology for this critical review of patient care standards in public medical clinics was structured to ensure a comprehensive analysis of existing literature, policies, and practices. The approach was designed to gather insights into the current state of patient care, identify challenges and barriers to high-quality care, and explore effective strategies for improvement.

Literature Search Strategy

A systematic literature search was conducted across several databases, including PubMed, Scopus, Web of Science, and Google Scholar, to identify relevant studies, reviews, and reports published in the last two decades. Keywords and phrases used in the search included "patient care standards," "public medical clinics," "healthcare quality," "primary care," "healthcare challenges," and "best practices in public health." The search was supplemented by reviewing the reference lists of identified articles for additional relevant sources.

Inclusion and Exclusion Criteria

Studies were included in the review if they met the following criteria:

- Published in peer-reviewed journals or as official government or NGO reports.
- Focused on patient care standards, quality of care, healthcare delivery, or policy implementation in public medical clinics or primary healthcare settings.
- Provided empirical data, case studies, or comprehensive reviews on the challenges, outcomes, or best practices related to patient care standards.
- Written in English.

Exclusion criteria were:

- Studies focusing exclusively on private healthcare settings without applicability to public medical clinics.
- Articles that did not directly address patient care standards or their implementation.
- Outdated studies or reports published before the year 2000, unless they were seminal works or provided historical context.

Data Extraction and Synthesis

Relevant data extracted from the selected articles included the authors, year of publication, study location, study design, sample size, key findings, and recommendations. This information was organized in a tabular format to facilitate the comparison and synthesis of findings across different studies.

The synthesis involved a thematic analysis to identify common themes and patterns related to patient care standards in public medical clinics. This included challenges in implementing standards, the impact of substandard care on patient outcomes

and public health, and strategies that have been successfully employed to improve care quality.

Quality Assessment

The quality of included studies was assessed using standardized checklists appropriate for each study design, such as the Critical Appraisal Skills Programme (CASP) checklists for qualitative and quantitative research. This step ensured that the review was based on reliable and valid evidence.

Ethical Considerations

Given that this review involved the synthesis of published literature and did not include primary data collection involving human subjects, formal ethical approval was not required. However, ethical considerations related to the accurate representation of research findings and the avoidance of plagiarism were strictly adhered to throughout the review process.

This methodology provided a structured framework for critically reviewing the extensive body of literature on patient care standards in public medical clinics, ensuring that the findings and conclusions drawn were based on a rigorous analysis of high-quality evidence.

4.CURRENT STANDARDS OF PATIENT CARE

Current standards of patient care, particularly in public medical clinics, are shaped by a combination of international guidelines, national policies, and best practice frameworks. These standards are designed to ensure that all patients receive safe, effective, and compassionate care, regardless of their socio-economic status or geographical location.

International Guidelines

The World Health Organization (WHO) plays a pivotal role in setting global standards for patient care. The WHO's framework for strengthening health systems to improve health outcomes is built around six building blocks, including service delivery, health workforce, health information systems, access to essential medicines, financing, and leadership/governance [14]. This framework emphasizes the importance of efficient healthcare services that are based on primary care and centered around the needs and preferences of individuals and communities.

National Policies and Regulations

In many countries, national health authorities or ministries of health establish patient care standards for public medical clinics. These standards often include guidelines for clinical practice, patient safety, infection control, and the management of chronic diseases. For example, the National Institute for Health and Care Excellence (NICE) in the United Kingdom provides evidence-based guidelines on various aspects of healthcare, including the management of specific health conditions and interventions to improve health and social care [15].

Accreditation and Quality Improvement Programs

Accreditation bodies, such as the Joint Commission International (JCI) and the International Organization for Standardization (ISO), offer certification programs for healthcare organizations that meet their rigorous standards for quality and patient safety [16][17]. These programs typically involve regular audits and reviews to ensure ongoing compliance with best practices.

Evidence-Based Clinical Guidelines

Clinical guidelines developed by professional societies and expert panels provide detailed recommendations for the diagnosis, treatment, and management of various health conditions. These guidelines are based on systematic reviews of the latest research and are intended to support healthcare professionals in making informed decisions about patient care. For instance, the American Heart Association (AHA) and the American College of Cardiology (ACC) jointly publish guidelines on cardiovascular care [18].

Patient-Centered Care Models

Patient-centered care models emphasize the importance of considering patients' individual preferences, needs, and values in the planning and delivery of care. The Patient-Centered Medical Home (PCMH) model, for example, focuses on comprehensive, coordinated, and accessible care, facilitated by a team of healthcare providers who work collaboratively to meet the full range of patient needs [19].

5.CHALLENGES IN IMPLEMENTING CARE STANDARDS

Implementing care standards in public medical clinics involves a complex interplay of factors, and several challenges can hinder the effective realization of these standards. These challenges range from systemic issues, such as funding and policy constraints, to operational hurdles like workforce management and technology integration.

Resource Constraints

Public medical clinics often operate within tight budgetary constraints, limiting their ability to invest in necessary infrastructure, medical equipment, and supplies. This financial limitation can directly impact the clinic's ability to adhere to established patient care standards, potentially compromising the quality of care. A study by Ansell et al. [20] highlights how underfunding in public health systems leads to resource constraints that significantly affect service delivery and patient outcomes.

Staffing Issues

Adequate staffing is critical to maintaining high standards of patient care. However, public medical clinics frequently face challenges in recruiting and retaining qualified healthcare professionals, leading to staffing shortages and overburdened existing staff. This not only affects the quality of care but also contributes to employee burnout and turnover, further exacerbating staffing challenges. Dussault and Franceschini [21] discuss the impact of healthcare workforce challenges on the quality of care, particularly in public health settings.

Infrastructure and Facility Limitations

The physical infrastructure of public medical clinics, including the condition of buildings and the availability of space, can affect the implementation of care standards. Outdated or insufficient facilities may not support the optimal delivery of healthcare services or adhere to patient safety and infection control standards. Banerjee and Skibniewski [22] examine how infrastructure limitations in healthcare settings can hinder effective service delivery and patient care.

Access to Technology and Information Systems

The integration of technology and health information systems is crucial for efficient healthcare delivery and adherence to care standards. However, many public clinics face challenges in accessing and implementing these technologies due to financial constraints, lack of training, or infrastructural issues. This can limit the clinic's ability to maintain electronic health records, utilize telemedicine, and implement other technological solutions that enhance patient care. Bashshur et al. [23] explore the role of telemedicine in overcoming barriers to healthcare access and improving the quality of care in resource-limited settings.

Policy and Regulatory Barriers

The regulatory environment and health policies can either facilitate or hinder the implementation of care standards in public medical clinics. Complex or inconsistent regulations, bureaucratic hurdles, and the slow pace of policy implementation can impede efforts to improve care quality. Lavis et al. [24] discuss the challenges of translating health research into policy and practice, highlighting the gap between evidence-based recommendations and their implementation in healthcare settings.

6.CASE STUDIES

Case studies provide valuable insights into the practical application of patient care standards in public medical clinics, highlighting both successes and challenges. By examining specific instances from different regions and contexts, we can glean lessons and best practices that can inform and improve healthcare delivery globally.

Case Study 1: Integrating Technology in Rural Clinics

In rural Rwanda, the implementation of electronic health records (EHRs) and mobile health technologies in public clinics has significantly improved patient care and clinic efficiency. The program, spearheaded by Partners In Health, involved the use of a cloud-based EHR system that allowed for better patient tracking, data management, and decision support. This initiative led to improved adherence to treatment protocols, reduced medication errors, and enhanced monitoring of patient outcomes. The success of this program underscores the potential of technology to overcome geographical and resource barriers in healthcare delivery [25].

Case Study 2: Community Engagement in Brazil's Family Health Program

Brazil's Family Health Program (FHP) has been a model for integrating community health workers (CHWs) into public medical clinics to enhance primary care. CHWs in this program are responsible for regular home visits, health education, and acting as a liaison between the community and healthcare professionals. This approach has led to significant improvements in healthcare access, maternal and child health, and management of chronic diseases. The FHP demonstrates how community engagement and a team-based approach to care can effectively address healthcare needs in underserved populations [26].

Case Study 3: Improving Quality of Care in Indian Public Clinics

India's National Health Mission (NHM) includes a program aimed at enhancing the quality of care in public health facilities through accreditation. The program sets specific standards for infrastructure, clinical services, infection control, and patient rights. Public clinics that meet these standards are accredited and receive additional support and resources. An evaluation of the program showed improvements in patient satisfaction, service delivery, and adherence to clinical protocols in accredited facilities. This case illustrates the potential of accreditation programs to motivate and guide public clinics in meeting and maintaining high standards of care [27].

Reference for Case Study 3

These case studies highlight diverse strategies and interventions that have successfully addressed challenges in implementing patient care standards in public medical clinics. They underscore the importance of context-specific solutions, the potential of technology, community engagement, and policy frameworks in improving healthcare delivery and outcomes.

7.IMPROVING PATIENT CARE IN PUBLIC CLINICS

Improving patient care in public clinics requires a multifaceted approach that addresses systemic challenges, enhances healthcare delivery, and prioritizes patient-centered care. Drawing from successful interventions and best practices, the following strategies can significantly contribute to elevating care standards in public medical clinics:

Leveraging Technology and Digital Health Solutions

The integration of technology in healthcare, such as electronic health records (EHRs), telemedicine, and mobile health applications, can enhance the quality and efficiency of patient care. These technologies facilitate better data management, improve access to care, especially in remote areas, and support clinical decision-making. A study by Bashshur et al. [28] highlights the positive impact of telemedicine on extending healthcare access and improving outcomes, particularly in underserved communities.

Strengthening Healthcare Workforce

Investing in the education, training, and continuous professional development of healthcare workers is crucial. Initiatives such as task shifting, where certain tasks are delegated to less specialized health workers, and the integration of community health workers into care teams, can alleviate workforce shortages and enhance care delivery. Dussault and Franceschini [21] discuss the importance of addressing healthcare workforce challenges to improve care quality.

Enhancing Infrastructure and Access to Essential Medicines

Improving the physical infrastructure of public clinics and ensuring a reliable supply of essential medicines are fundamental to delivering quality care. This involves not only upgrading facilities and equipment but also establishing efficient supply chain management systems for medications and medical supplies. Banerjee and Skibniewski [29] examine

the impact of infrastructure improvements on healthcare service delivery.

Implementing Quality Improvement Programs

Quality improvement (QI) programs that focus on patient safety, clinical effectiveness, and patient-centered care can drive improvements in care standards. These programs often involve setting specific, measurable goals; monitoring performance; and engaging staff in continuous improvement processes. The Plan-Do-Study-Act (PDSA) cycle is a commonly used framework in healthcare QI initiatives [30].

Fostering Community Engagement and Patient-Centered Care

Engaging the community and focusing on patient-centered care ensures that healthcare services are aligned with the needs and preferences of the population served. This approach can improve healthcare outcomes and patient satisfaction by making care more accessible, culturally sensitive, and responsive to patient needs. Paim et al. [31] highlight the success of Brazil's Family Health Program in leveraging community engagement to improve primary care.

Policy Reforms and Sustainable Financing

Addressing policy and financing challenges is essential for supporting the above strategies. This includes advocating for policies that prioritize healthcare funding, incentivize quality improvement, and support the integration of innovative healthcare models. Sustainable financing mechanisms can ensure that public clinics have the resources needed to maintain high standards of care.

8.CONCLUSION

In conclusion, the critical review of patient care standards in public medical clinics underscores the vital role these institutions play in delivering healthcare to diverse populations, particularly in underserved areas. While there are established international and national guidelines aimed at ensuring high-quality patient care, the implementation of these standards faces numerous challenges. Resource constraints, staffing issues, infrastructure limitations, and access to technology are among the significant barriers that hinder the consistent delivery of quality care in public medical clinics.

The case studies highlighted in this review illustrate both the challenges and the innovative strategies that have been employed to overcome these obstacles. From leveraging technology in rural clinics to integrating community health workers into healthcare teams, these examples provide valuable lessons on improving patient care. The success of these initiatives demonstrates the potential of targeted interventions, policy reforms, and the adoption of best practices in enhancing the quality of care provided by public medical clinics.

Improving patient care in public clinics requires a multifaceted approach that addresses the systemic challenges inherent in public healthcare systems. This includes investing in healthcare infrastructure, enhancing the skills and well-being of the healthcare workforce, and embracing technology to improve efficiency and access to care. Additionally, fostering community engagement and focusing on patient-centered care models can significantly improve healthcare outcomes and patient satisfaction.

Policy reforms and sustainable financing are also crucial in supporting the necessary improvements in public medical clinics. Policymakers and healthcare leaders must advocate for policies that prioritize healthcare funding, incentivize quality improvement, and support the integration of innovative healthcare models. By ensuring that public clinics have the resources and support needed to adhere to high patient care standards, we can make significant strides in improving the health and well-being of communities worldwide.

In essence, elevating patient care standards in public medical clinics is not only about adhering to guidelines but also about creating a healthcare environment that is responsive to the needs of patients and healthcare providers alike. Through collaborative efforts, innovative solutions, and a commitment to continuous improvement, it is possible to overcome the challenges faced by public medical clinics and achieve the shared goal of high-quality, accessible, and equitable healthcare for all.

REFERENCES

1. Institute of Medicine (2001). "Crossing the Quality Chasm: A New Health System for the 21st Century." National Academy Press.

2. World Health Organization (2008). "Primary Health Care: Now More Than Ever." WHO.

3. Dussault, G., & Franceschini, M. C. (2006). "Not enough there, too many here: understanding geographical imbalances in the distribution of the health workforce." Human Resources for Health, 4(1), 12.

4. Banerjee, A., & Skibniewski, M. J. (2010). "The barriers to the application of advanced technologies in public health facilities: A case study of telemedicine and e-health in Bangladesh." Electronic Journal of Information Systems in Developing Countries, 41(1), 1-18.

5. Blendon, R. J., Schoen, C., DesRoches, C. M., Osborn, R., & Zapert, K. (2004). "Confronting competing demands to improve quality: a five-country hospital survey." Health Affairs, 23(3), 119-135.

6. Or, Z., Wang, J., & Jamison, D. (2000). "International differences in the impact of doctors on health: A multilevel analysis of OECD countries." Journal of Health Economics, 19(5), 589-602.

7. Bashshur, R. L., Howell, J. D., Krupinski, E. A., Harms, K. M., Bashshur, N., & Doarn, C. R. (2016). "The Empirical Foundations of Telemedicine Interventions in Primary Care." Telemedicine and e-Health, 22(5), 342-375.

8. World Health Organization (2006). "Quality of Care: A Process for Making Strategic Choices in Health Systems." WHO.

9. Institute of Medicine (2001). "Crossing the Quality Chasm: A New Health System for the 21st Century." National Academy Press.

10. Starfield, B., Shi, L., & Macinko, J. (2005). "Contribution of Primary Care to Health Systems and Health." The Milbank Quarterly, 83(3), 457-502.

11. Marmot, M. (2005). "Social determinants of health inequalities." The Lancet, 365(9464), 1099-1104.

12. Frenk, J. (2006). "Bridging the divide: global lessons from evidence-based health policy in Mexico." The Lancet, 368(9539), 954-961.

13. United Nations (2015). "Transforming Our World: the 2030 Agenda for Sustainable Development." United Nations.

14. World Health Organization (2007). "Everybody's Business: Strengthening Health Systems to Improve Health Outcomes: WHO's Framework for Action." WHO.

15. National Institute for Health and Care Excellence (2021). "Guidelines." NICE.

16. Joint Commission International (2020). "Accreditation Standards for Hospitals." JCI.

17. International Organization for Standardization (2016). "ISO 9001:2015 - Quality management systems — Requirements." ISO.

18. American Heart Association (2020). "Guidelines & Statements." AHA.

19. Agency for Healthcare Research and Quality (2019). "What is the PCMH?" AHRQ.

20. Ansell, D., Crispo, J. A. G., Simard, B., & Bjerre, L. M. (2017). "A systematic review of the cost and cost-effectiveness of electronic health records in primary care." British Journal of General Practice, 67(659), e293-e300.

21. Dussault, G., & Franceschini, M. C. (2006). "Not enough there, too many here: Understanding geographical imbalances in the distribution of the health workforce." Human Resources for Health, 4(1), 12.

22. Banerjee, A., & Skibniewski, M. J. (2010). "The barriers to the application of advanced technologies in public health facilities: A case study of telemedicine and e-health in Bangladesh." Electronic Journal of Information Systems in Developing Countries, 41(1), 1-18.

23. Bashshur, R. L., Howell, J. D., Krupinski, E. A., Harms, K. M., Bashshur, N., & Doarn, C. R. (2016). "The Empirical Foundations of Telemedicine Interventions in Primary Care." Telemedicine and e-Health, 22(5), 342-375.

24. Lavis, J. N., Lomas, J., Hamid, M., & Sewankambo, N. K. (2010). "Assessing country-level efforts to link research to action." Bulletin of the World Health Organization, 88(8), 620-628.

25. Fraser, H. S. F., Blaya, J., Choi, S. S., Bonilla, C., & Jazayeri, D. (2017). "Implementing electronic medical record systems in developing countries." Informatics for Health and Social Care, 42(3), 297-307.

26. Paim, J., Travassos, C., Almeida, C., Bahia, L., & Macinko, J. (2011). "The Brazilian health system: history, advances, and challenges." The Lancet, 377(9779), 1778-1797.

27. Bajpai, V., & Dholakia, R. H. (2011). "Improving the Performance of Accredited Social Health Activists in India." Working Paper Series, Columbia Global Centers - South Asia, Columbia University.

28. Bashshur, R. L., Howell, J. D., Krupinski, E. A., Harms, K. M., Bashshur, N., & Doarn, C. R. (2016). "The Empirical Foundations of Telemedicine Interventions in Primary Care." Telemedicine and e-Health, 22(5), 342-375.

29. Banerjee, A., & Skibniewski, M. J. (2010). "The barriers to the application of advanced technologies in public health facilities: A case study of telemedicine and e-health in Bangladesh." Electronic Journal of Information Systems in Developing Countries, 41(1), 1-18.

30. Taylor, M. J., McNicholas, C., Nicolay, C., Darzi, A., Bell, D., & Reed, J. E. (2014). "Systematic review of the application of the plan–do–study–act method to improve quality in healthcare." BMJ Quality & Safety, 23(4), 290-298.

31. Paim, J., Travassos, C., Almeida, C., Bahia, L., & Macinko, J. (2011). "The Brazilian health system: history, advances, and challenges." The Lancet, 377(9779), 1778-1797.