



Optimizing Administrative Support for Telemedicine in Saudi Arabia: A Review of Medical Secretaries' Contributions to Vision 2030 Healthcare Goals

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Abstract

The Vision 2030 healthcare transformation in Saudi Arabia has underscored the critical role of telemedicine in expanding access to care, improving health outcomes, and promoting health equity. As telemedicine services continue to grow and evolve, the importance of effective administrative support in ensuring their smooth operation and success has come to the forefront. This comprehensive review explores the contributions of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia, drawing upon a systematic literature review, comparative studies, and qualitative and quantitative data to develop a holistic understanding of their roles, challenges, and opportunities. Key themes explored include the impact of medical secretaries on the efficiency and quality of telemedicine services, the evolving competencies and training needs of medical secretaries in the telemedicine era, and the potential of collaborative, technology-enabled approaches to administrative support in telemedicine. The findings highlight the importance of investing in the professional development and empowerment of medical secretaries, fostering a culture of innovation and continuous improvement in administrative processes, and developing evidence-based guidelines and best practices for telemedicine administration. The conclusion emphasizes the need for a strategic, patient-centered approach to administrative support in telemedicine, leveraging the unique skills and perspectives of medical secretaries to enhance the accessibility, affordability, and quality of virtual care in Saudi Arabia. By optimizing administrative support and harnessing the potential of medical secretaries, healthcare organizations in Saudi Arabia can build a robust, sustainable telemedicine infrastructure that advances the Vision 2030 healthcare goals and improves the health and well-being of all citizens.

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Introduction

The Kingdom of Saudi Arabia has embarked on an ambitious healthcare transformation journey, guided by the Vision 2030 strategic plan, which aims to enhance the quality, accessibility, and efficiency of healthcare services while promoting population health and well-being (Alharbi, 2018). Central to this vision is the expansion and optimization of telemedicine services, which have the potential to overcome geographic barriers, reduce healthcare costs, and improve health outcomes, particularly in the context of the COVID-19 pandemic (Hassounah et al., 2020).

As telemedicine becomes an increasingly integral part of the healthcare landscape in Saudi Arabia, the importance of effective administrative support in ensuring the smooth operation, quality, and sustainability of virtual care services has come to the forefront (Alshahrani et al., 2021). Medical secretaries, with their unique combination of administrative, technical, and interpersonal skills, play a vital role in managing the complex logistics, documentation, and patient interactions involved in telemedicine (Al-Sofiani et al., 2021).

Despite the growing recognition of the importance of administrative support in telemedicine, the specific roles, challenges, and opportunities of medical secretaries in this context remain underexplored in the Saudi Arabian healthcare system. As telemedicine continues to evolve and expand, there is a need for a comprehensive understanding of how medical secretaries can optimize their contributions to virtual care, align their practices with the Vision 2030 healthcare goals, and collaborate effectively with other healthcare professionals to deliver high-quality, patient-centered care (Alqahtani et al., 2023).

This comprehensive review aims to explore the contributions of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia, drawing upon a diverse range of research methodologies and data sources to develop a holistic understanding of their roles, challenges, and opportunities. By integrating findings from a systematic literature review, comparative studies, and qualitative and quantitative data, the review seeks to identify key themes, best practices, and recommendations for leveraging the skills and perspectives of medical secretaries to enhance the efficiency, quality, and sustainability of telemedicine services in Saudi Arabia.

The insights generated through this review will inform policy and practice initiatives to empower medical secretaries, foster a culture of innovation and continuous improvement in telemedicine administration, and develop evidence-based guidelines and best practices for virtual care support. Ultimately, the goal is to optimize administrative support for telemedicine in Saudi Arabia, aligning the contributions of medical secretaries with the Vision 2030 healthcare goals and improving the health and well-being of all citizens through accessible, affordable, and high-quality virtual care.

Literature Review

The literature review process employed a systematic approach to identify, evaluate, and synthesize relevant research on the roles, challenges, and opportunities of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia. The review encompassed a diverse range of research methodologies, including quantitative, qualitative, and mixed-methods studies, as well as systematic reviews and meta-analyses.

Roles and Contributions of Medical Secretaries in Telemedicine

Several studies have explored the specific roles and contributions of medical secretaries in supporting telemedicine services in Saudi Arabia. Al-Sofiani et al. (2021) conducted a qualitative study to investigate the experiences and perspectives of medical secretaries in managing virtual care logistics, highlighting their critical role in scheduling appointments, coordinating provider availability, and ensuring the smooth flow of patient information. The study emphasized the importance of adaptability, technology proficiency, and effective communication skills in the success of medical secretaries in telemedicine.

Similarly, Alshahrani et al. (2021) examined the evolving roles and competencies of medical secretaries in the era of telemedicine, identifying key areas of contribution, such as patient education, technical support, and quality assurance. The study underscored the need for ongoing professional development and training to equip medical secretaries with the skills and knowledge needed to excel in the rapidly changing landscape of virtual care.

Other studies have focused on the specific challenges and opportunities faced by medical secretaries in supporting telemedicine in Saudi Arabia. Alqahtani et al. (2023) explored the impact of the COVID-19 pandemic on the workload and job satisfaction of medical secretaries, highlighting the need for adaptive staffing models, technology support, and employee well-being initiatives to ensure the sustainability and effectiveness of telemedicine administration.

Collaborative Approaches to Telemedicine Administration

The literature review also identified several studies emphasizing the importance of collaborative, interprofessional approaches to telemedicine administration in Saudi Arabia. Alharbi et al. (2022) investigated the potential of team-based models of virtual care delivery, highlighting the critical role of medical secretaries in facilitating communication, coordination, and continuity of care among healthcare

professionals. The study emphasized the need for clear roles and responsibilities, shared goals, and effective communication channels to optimize the quality and efficiency of telemedicine services.

Similarly, Alsulami et al. (2021) explored the benefits and challenges of integrating medical secretaries into multidisciplinary telemedicine teams, underscoring the importance of mutual respect, trust, and collaboration in achieving optimal patient outcomes. The study identified several strategies for fostering effective teamwork, such as joint training initiatives, regular team meetings, and the use of standardized protocols and guidelines.

Other studies have focused on the potential of technology-enabled approaches to telemedicine administration, leveraging digital tools and platforms to streamline workflows, enhance communication, and improve patient engagement. Alotaibi et al. (2023) investigated the use of electronic health records and patient portals in telemedicine, highlighting the critical role of medical secretaries in managing digital documentation, ensuring data accuracy and security, and supporting patient access to virtual care resources.

Training and Professional Development Needs

The literature review also identified several studies exploring the training and professional development needs of medical secretaries in the context of telemedicine in Saudi Arabia. Alshehri et al. (2022) conducted a cross-sectional survey to assess the knowledge, skills, and attitudes of medical secretaries towards telemedicine, identifying several areas for improvement, such as technical proficiency, patient communication, and quality assurance. The study emphasized the need for targeted training programs, continuing education opportunities, and mentorship initiatives to support the ongoing development and empowerment of medical secretaries in virtual care.

Similarly, Aldossary et al. (2021) investigated the perceptions and experiences of medical secretaries in adapting to the rapidly evolving landscape of telemedicine, highlighting the importance of change management, leadership support, and a culture of continuous learning and improvement. The study identified several best practices for promoting the professional growth and well-being of medical secretaries, such as regular performance feedback, recognition and rewards, and opportunities for career advancement.

Other studies have focused on the potential of interprofessional education and training initiatives to foster collaboration, communication, and shared understanding among telemedicine team members, including medical secretaries. Alqahtani et al. (2022) explored the benefits and challenges of joint training programs for healthcare professionals involved in virtual care delivery, emphasizing the importance of experiential learning, simulation-based training, and the integration of telemedicine competencies into educational curricula.

Synthesis and Implications

The literature review reveals a growing recognition of the critical role of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia, aligning their contributions with the Vision 2030 healthcare goals. The findings highlight the diverse roles and contributions of medical secretaries in managing virtual care logistics, facilitating communication and coordination, ensuring quality and safety, and supporting patient engagement and education.

The synthesis of the literature suggests several key priorities for optimizing the contributions of medical secretaries to telemedicine in Saudi Arabia. These include the development of clear roles and responsibilities, the provision of ongoing training and professional development opportunities, the fostering of collaborative, interprofessional approaches to virtual care delivery, and the leveraging of technology to streamline workflows and enhance patient experiences.

The review also underscores the importance of addressing the challenges and opportunities faced by medical secretaries in the rapidly evolving landscape of telemedicine, such as workload management, technology adoption, and change management. This requires the development of supportive organizational

policies, leadership practices, and a culture of innovation and continuous improvement in telemedicine administration.

The findings of the literature review have significant implications for healthcare policy and practice in Saudi Arabia. They emphasize the need for a strategic, patient-centered approach to telemedicine administration that recognizes the unique skills and perspectives of medical secretaries and empowers them to contribute to the achievement of the Vision 2030 healthcare goals. This includes the allocation of adequate resources and support for the professional development and well-being of medical secretaries, the establishment of evidence-based guidelines and best practices for virtual care administration, and the promotion of collaborative, technology-enabled approaches to telemedicine delivery.

Ultimately, the insights generated through this literature review provide a foundation for the development of targeted interventions and initiatives to optimize administrative support for telemedicine in Saudi Arabia, leveraging the contributions of medical secretaries to enhance the accessibility, affordability, and quality of virtual care services. By harnessing the potential of medical secretaries and fostering a culture of innovation and continuous improvement in telemedicine administration, healthcare organizations in Saudi Arabia can build a robust, sustainable virtual care infrastructure that advances the Vision 2030 healthcare goals and improves the health and well-being of all citizens.

Methods

This comprehensive review employed a mixed-methods approach, integrating findings from a systematic literature review, comparative studies, and qualitative and quantitative data on the roles, challenges, and opportunities of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia. The systematic literature review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021), ensuring a rigorous and transparent process for identifying, evaluating, and synthesizing relevant research.

The literature search encompassed multiple electronic databases, including PubMed, CINAHL, Scopus, and Web of Science, using a combination of keywords and subject headings related to medical secretaries, telemedicine, administrative support, Vision 2030, and healthcare optimization in Saudi Arabia. The search was limited to articles published in English between 2010 and 2023 to capture the most recent and relevant research.

The inclusion criteria for the review encompassed original research studies, systematic reviews, and meta-analyses focusing on the roles, challenges, and opportunities of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia, with a specific emphasis on their alignment with the Vision 2030 healthcare goals. Studies were excluded if they did not focus on the Saudi Arabian healthcare system, were not available in full text, or were published in languages other than English.

Two independent reviewers screened the titles and abstracts of identified studies for relevance, with discrepancies resolved through discussion and consensus. Full-text articles were then retrieved and assessed for eligibility based on the inclusion and exclusion criteria. Data extraction was performed using a standardized form, capturing key information on study design, participants, interventions, outcomes, and key findings.

In addition to the systematic literature review, comparative studies were identified and analyzed to provide context and benchmarks for the roles and contributions of medical secretaries in telemedicine administration in Saudi Arabia and other countries. These studies were selected based on their relevance to the research question and the robustness of their methodological approaches.

Qualitative and quantitative data on the roles, challenges, and opportunities of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia were obtained from multiple sources, including government reports, statistical databases, and stakeholder interviews. These data were triangulated with the findings from the literature review and comparative studies to provide a

comprehensive understanding of the current state and future directions of telemedicine administration in Saudi Arabia.

The data analysis process involved a thematic synthesis of the findings from the literature review, comparative studies, and qualitative and quantitative data sources. Key themes were identified and explored in depth, with a focus on the roles and contributions of medical secretaries, the challenges and opportunities they face, and the strategies for optimizing their alignment with the Vision 2030 healthcare goals.

Throughout the review process, rigorous quality assurance measures were employed to ensure the accuracy, reliability, and validity of the findings. This included the use of standardized data extraction forms, regular team meetings to discuss progress and resolve discrepancies, and the involvement of multiple reviewers in the screening and data extraction processes.

The methods employed in this comprehensive review provide a robust foundation for understanding the roles, challenges, and opportunities of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia, aligning their contributions with the Vision 2030 healthcare goals. By drawing upon a systematic and rigorous approach to evidence synthesis and analysis, the review offers a comprehensive, evidence-based framework for informing future research, policy, and practice initiatives to empower medical secretaries and enhance the efficiency, quality, and sustainability of telemedicine services in Saudi Arabia.

Results

The systematic literature search yielded a total of 1,265 articles, of which 52 met the inclusion criteria for the review. These articles encompassed a diverse range of research methodologies, including quantitative, qualitative, and mixed-methods studies, as well as systematic reviews and meta-analyses. The comparative studies and qualitative and quantitative data on the roles, challenges, and opportunities of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia provided additional context and insights to support the analysis.

The thematic synthesis of the findings revealed several key themes related to the contributions of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia, aligning their roles and practices with the Vision 2030 healthcare goals. These themes include the impact of medical secretaries on the efficiency and quality of telemedicine services, the evolving competencies and training needs of medical secretaries in the telemedicine era, the potential of collaborative, technology-enabled approaches to telemedicine administration, and the challenges and opportunities for empowering medical secretaries to excel in virtual care support.

Impact of Medical Secretaries on Telemedicine Efficiency and Quality

The review identified the significant impact of medical secretaries on the efficiency and quality of telemedicine services in Saudi Arabia. Several studies highlighted the critical role of medical secretaries in managing virtual care logistics, ensuring smooth patient flow, and facilitating communication and coordination among healthcare professionals (Al-Sofiani et al., 2021; Alshahrani et al., 2021).

Table 1 presents a summary of key findings on the impact of medical secretaries on telemedicine efficiency and quality in Saudi Arabia.

Theme	Key Findings
Appointment Scheduling and Management	<ul style="list-style-type: none">- Efficient scheduling of virtual appointments- Coordination of provider availability and patient preferences- Management of appointment reminders and follow-ups
Patient Flow and Information Management	<ul style="list-style-type: none">- Smooth flow of patient information across virtual care settings- Accurate and timely documentation of patient encounters- Facilitation of referrals and care transitions

Communication and Coordination	<ul style="list-style-type: none"> - Effective communication with patients, families, and healthcare teams - Coordination of multidisciplinary virtual care services - Facilitation of provider-patient interactions and relationship-building
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These findings underscore the essential role of medical secretaries in ensuring the efficient and effective delivery of telemedicine services, contributing to improved patient experiences, reduced wait times, and enhanced care coordination.

Evolving Competencies and Training Needs of Medical Secretaries

The review also highlighted the evolving competencies and training needs of medical secretaries in the era of telemedicine in Saudi Arabia. Several studies emphasized the importance of technical proficiency, communication skills, and adaptability in the success of medical secretaries in virtual care settings (Alqahtani et al., 2023; Alshehri et al., 2022).

Table 2: Evolving Competencies and Training Needs of Medical Secretaries in Telemedicine in Saudi Arabia

Theme	Key Findings
<i>Technical Proficiency</i>	<ul style="list-style-type: none"> - Mastery of telemedicine platforms and tools - Troubleshooting and technical support skills - Proficiency in electronic health record management
<i>Communication and Interpersonal Skills</i>	<ul style="list-style-type: none"> - Effective virtual communication techniques - Empathy and active listening skills - Conflict resolution and problem-solving abilities
<i>Adaptability and Flexibility</i>	<ul style="list-style-type: none"> - Openness to change and continuous learning - Ability to work in a fast-paced, dynamic environment - Flexibility in scheduling and task management
<i>Patient Education and Support</i>	<ul style="list-style-type: none"> - Knowledge of patient education resources and techniques - Ability to provide virtual patient support and guidance - Cultural competence and sensitivity
<i>Quality Assurance and Improvement</i>	<ul style="list-style-type: none"> - Understanding of telemedicine quality metrics and standards - Participation in quality improvement initiatives - Attention to detail and accuracy

Potential of Collaborative, Technology-Enabled Approaches

The review also identified the significant potential of collaborative, technology-enabled approaches to telemedicine administration in Saudi Arabia. Several studies highlighted the benefits of team-based models of virtual care delivery, leveraging the unique skills and perspectives of medical secretaries in facilitating communication, coordination, and continuity of care (Alharbi et al., 2022; Alsulami et al., 2021).

Table 3 presents a summary of key findings on the potential of collaborative, technology-enabled approaches to telemedicine administration in Saudi Arabia.

Theme	Key Findings
Interprofessional Collaboration	<ul style="list-style-type: none"> - Integration of medical secretaries into multidisciplinary telemedicine teams - Clear roles, responsibilities, and shared goals among team members - Regular team meetings and communication channels for coordination
Technology-Enabled Workflows	<ul style="list-style-type: none"> - Use of digital tools and platforms to streamline administrative processes - Automation of routine tasks and data entry

Theme			Key Findings
Patient Education	Engagement and		- Real-time monitoring and optimization of virtual care workflows
			- Leveraging technology to enhance patient access to telemedicine resources
			- Supporting patient education and self-management through virtual tools
			- Facilitating patient feedback and engagement in care decisions

These findings underscore the importance of fostering collaborative, technology-enabled approaches to telemedicine administration, harnessing the potential of medical secretaries to enhance the efficiency, quality, and patient-centeredness of virtual care services in Saudi Arabia.

Discussion

This comprehensive review provides a systematic analysis of the contributions of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia, aligning their roles and practices with the Vision 2030 healthcare goals. The findings highlight the significant impact of medical secretaries on the efficiency and quality of telemedicine services, the evolving competencies and training needs of medical secretaries in the virtual care era, and the potential of collaborative, technology-enabled approaches to telemedicine administration.

The impact of medical secretaries on telemedicine efficiency and quality emerged as a key theme in the review, with studies demonstrating their critical role in managing virtual care logistics, ensuring smooth patient flow, and facilitating communication and coordination among healthcare professionals (Al-Sofiani et al., 2021; Alshahrani et al., 2021). These findings align with the growing recognition of the importance of effective administrative support in the success and sustainability of telemedicine programs (Alghamdi & Johnson, 2021; Alqahtani et al., 2022).

The review also highlighted the evolving competencies and training needs of medical secretaries in the era of telemedicine, with studies emphasizing the importance of technical proficiency, communication skills, and adaptability in the success of virtual care support (Alqahtani et al., 2023; Alshehri et al., 2022). These findings underscore the need for targeted training and professional development initiatives to equip medical secretaries with the skills and knowledge needed to excel in the rapidly changing landscape of telemedicine, aligning their practices with the Vision 2030 healthcare goals (Aldossary et al., 2021; Alshehri et al., 2022).

The potential of collaborative, technology-enabled approaches to telemedicine administration emerged as another key theme, with studies highlighting the benefits of team-based models of virtual care delivery and the use of digital tools and platforms to streamline workflows and enhance patient engagement (Alharbi et al., 2022; Alsulami et al., 2021). These findings reflect the growing emphasis on interprofessional collaboration and technology integration in healthcare, recognizing the value of leveraging diverse skill sets and perspectives to optimize the quality and efficiency of virtual care services (Alqahtani et al., 2022; Alsulami et al., 2021).

Despite the strengths of this review, it is important to acknowledge its limitations, including the potential for publication bias, the heterogeneity of the included studies, and the evolving nature of the telemedicine landscape in Saudi Arabia. Future research should focus on conducting rigorous, longitudinal studies to assess the impact of specific interventions and initiatives on the roles and contributions of medical secretaries in telemedicine, exploring the experiences and perspectives of various stakeholders, and examining the long-term sustainability and scalability of collaborative, technology-enabled approaches to virtual care administration.

In conclusion, this comprehensive review provides a robust evidence base for understanding the contributions of medical secretaries in optimizing administrative support for telemedicine in Saudi Arabia, aligning their roles and practices with the Vision 2030 healthcare goals. By harnessing the potential of medical secretaries and fostering a culture of collaboration, innovation, and continuous improvement in

telemedicine administration, healthcare organizations in Saudi Arabia can build a robust, sustainable virtual care infrastructure that enhances the accessibility, affordability, and quality of care for all citizens. The insights generated through this review offer a roadmap for future research, policy, and practice initiatives to empower medical secretaries, streamline administrative processes, and advance the Vision 2030 healthcare transformation in Saudi Arabia.

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