

Midocean University

College of Management

Department of Master of Project Management



**Barriers to the Implementation of Telehealth Among Allied Healthcare
Providers in the Riyadh Second Health Cluster:
An Investigative Study**

Prepared by:

Ohouad Dakelallah Alotaibi

Academic ID:

232000182

Second Supervisor

Dr. Fayez Ali Jrad

Main Supervisor

Dr. Alfaisal Abdelhameed Mohamed

Year: 202

Abstract

The expanding integration of telehealth services within healthcare systems has revolutionized the delivery of medical care, particularly within the Riyadh Second Health Cluster. This study examines the adoption of telehealth services by allied healthcare providers, exploring the multifaceted influences of technological barriers, organizational and policy-related barriers and socio-cultural factors. A cross-sectional survey was conducted with a sample of 351 healthcare professionals, including doctors, nurses and allied health staff, to assess their knowledge, utilization and perceptions of telehealth. The analysis employed descriptive statistics and ANOVA to discern patterns and differences across various demographic and professional groups.

Findings reveal a high level of awareness of telehealth among healthcare providers, yet a significant variation in the extent of its adoption. Notably, the ANOVA results indicated a statistically significant difference in awareness levels across different professional groups ($p = .004$), suggesting that specific roles within the healthcare system may influence familiarity and engagement with telehealth technologies. However, the presence of telehealth services at the hospital and their usage for various purposes showed no significant differences across demographics, indicating a uniform availability but varying utilization patterns.

Technological barriers, such as inadequate infrastructure and lack of technical skills, emerged as significant impediments to telehealth adoption. The study highlights that the disparity in internet connectivity and the functionality of telehealth platforms can hinder seamless integration into routine practice. Organizational support, particularly in the form of comprehensive training and a supportive institutional culture, was identified as crucial for fostering a conducive environment for telehealth utilization. The study also underscores the importance of clear policies and regulations, including licensing, reimbursement and data security, in facilitating the widespread adoption of telehealth services.

A unique insight from this research is the profound impact of socio-cultural factors, including cultural acceptance and patient engagement, on telehealth adoption. The findings suggest that cultural norms and attitudes significantly shape both patient and provider receptivity to telehealth. In particular, the preference for face-to-face interactions and varying levels of trust in digital platforms pose challenges to the full realization of telehealth's potential. The study recommends targeted educational initiatives to enhance cultural competence and patient literacy regarding telehealth, alongside robust support systems to bridge technical and infrastructural gaps.

In conclusion, the study provides a comprehensive understanding of the determinants influencing the adoption of telehealth services among allied healthcare providers in the Riyadh Second Health Cluster. It calls for a multi-faceted approach to address the identified barriers, emphasizing the need for technological, organizational and cultural alignment to foster a sustainable telehealth ecosystem. This research contributes to the growing body of knowledge on digital health integration, offering practical recommendations for healthcare policy-makers, administrators and practitioners aiming to optimize the deployment and utilization of telehealth services. Through its innovative lens, this study advocates for a paradigm shift towards a more inclusive, efficient and patient-centered healthcare delivery model in the digital age.

Declaration

I, Ohouad Dakelallah Alotaibi, hereby declare that this thesis, titled " Barriers to the Implementation of Telehealth Among Allied Healthcare Providers in the Riyadh Second Health Cluster: An Investigative Study," is the original work of the author. All information and data presented in this study have been collected and analyzed ethically and accurately. I acknowledge that Midocean University holds the right to utilize this research study for academic, educational and research purposes. This includes the reproduction, distribution and public display of the work, either in full or in part, without any infringement on copyright laws. The university may use this thesis as a resource for future research and educational endeavors, ensuring that the original authorship is duly credited.

Name: **Ohouad Dakelallah Alotaibi**

Date: **08/08/2024**

Signature:



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List of Terminology

Allied Healthcare Providers: Professionals who provide a range of diagnostic, technical, therapeutic and support services in connection with healthcare. In this study, this term refers to non-physician healthcare professionals, such as nurses, physiotherapists and medical technicians, working within the Riyadh Second Health Cluster.

ANOVA (Analysis of Variance): A statistical method used to compare the means of three or more groups to determine if there are statistically significant differences between them. This study uses ANOVA to analyze the perceptions and experiences of different groups regarding telehealth.

Barriers: Factors that impede the effective implementation and utilization of telehealth services. These can include technological, logistical, regulatory, cultural and financial challenges.

Demographic Factors: Characteristics of the study's participants, such as age, gender, nationality, occupation and place of work, which may influence their perceptions and experiences with telehealth.

Descriptive Statistics: Statistical methods used to describe and summarize the main features of a dataset, including measures of central tendency (mean), dispersion (standard deviation) and range. These are used in the study to present the demographic data and attitudes toward telehealth.

Healthcare Delivery: The process and method by which healthcare services are provided to patients. The study examines how telehealth impacts healthcare delivery among allied healthcare providers.

Implementation: The process of integrating telehealth services into healthcare systems and practices. This study explores the challenges associated with implementing telehealth among allied healthcare providers.

Infrastructure: The physical and organizational structures and facilities needed for the operation of telehealth services, including hardware, software and communication networks.

Perceived Validity: The degree to which allied healthcare providers believe that telehealth services are effective and reliable. This perception can influence the acceptance and utilization of telehealth technologies.

Perceived Reliability: The belief in the consistency and dependability of telehealth services. The study investigates how these perceptions affect the adoption of telehealth.

Riyadh Second Health Cluster: A specific administrative and operational grouping of healthcare facilities in Riyadh, Saudi Arabia. This study focuses on allied healthcare providers within this cluster.

Standard Deviation: A measure of the amount of variation or dispersion in a set of values. In this study, it is used to quantify the variation in responses among participants regarding their experiences with telehealth.

Sum of Squares: A statistical measure used in ANOVA to assess the total variability in the data. It is divided into between-group and within-group components to evaluate differences in group means.

Telehealth: The use of electronic information and telecommunication technologies to support long-distance clinical healthcare, patient and professional health-related education, public health and health administration. This study examines the barriers to telehealth implementation among allied healthcare providers.

Telehealth Adoption: The process by which healthcare providers begin to use telehealth services as part of their regular practice. The study identifies factors influencing the adoption of telehealth among allied healthcare providers.

Telehealth Infrastructure Readiness: The extent to which healthcare facilities are equipped with the necessary technology, equipment and systems to effectively implement telehealth services.

Telehealth Utilization: The degree to which telehealth services are used by healthcare providers. This includes various applications, such as remote consultations, diagnostics and patient monitoring.

Validity and Reliability: Concepts used to evaluate the effectiveness and consistency of telehealth services. Validity refers to the accuracy and appropriateness of telehealth, while reliability refers to its consistency over time.

Variance: A statistical measure of the dispersion of data points in a dataset. It is used in this study to determine the differences in telehealth perceptions among different groups of allied healthcare providers.

List of Abbreviations

AI - Artificial Intelligence

ANOVA - Analysis of Variance

df - Degrees of Freedom

F - F-Statistic

MS - Mean Square

p-value - Probability Value

SD - Standard Deviation

SPSS - Statistical Package for the Social Sciences

SS - Sum of Squares

TAM - Technology Acceptance Model

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Chapter 1

Introduction

1.1 Introduction:

Telehealth has emerged as a transformative force in healthcare, leveraging technology to provide remote medical services. It offers a vital solution to the limitations of traditional healthcare delivery models, especially in regions with geographic, social or economic barriers [1]. In the Riyadh second health cluster, telehealth presents an opportunity to bridge gaps in care for home healthcare patients, particularly those without primary caregivers, who are often excluded from comprehensive care due to stringent enrolment requirements.

The Riyadh second health cluster represents a significant portion of the population in Saudi Arabia, with a diverse demographic that includes a substantial number of patients requiring home healthcare services. The integration of telehealth into this cluster aims to enhance patient access to medical and allied healthcare providers, offering continuous, coordinated care across various specialties [2]. Despite the potential benefits, the adoption and implementation of telehealth services among allied healthcare providers have been notably slow, posing a significant challenge to the healthcare system's overall efficiency and effectiveness [1]. Allied healthcare providers, including physical therapists, occupational therapists, speech therapists, dietitians and social workers, play a crucial role in delivering holistic care. Their engagement in telehealth is essential for ensuring comprehensive patient management, yet their participation has lagged behind that of medical professionals such as nurses and physicians [1]. This research seeks to investigate the reasons behind this slow uptake, aiming to identify barriers and propose solutions to enhance telehealth adoption among allied healthcare providers.

1.2 Problem Statement

The slow implementation of telehealth among allied healthcare providers in the Riyadh second health cluster limits the ability of the healthcare system to deliver complete and integrated care to home healthcare patients, particularly those lacking primary

caregivers. This research aims to address this issue by identifying the barriers to telehealth adoption within this group and exploring strategies to overcome these challenges.

1.3 Study Importance

This study is significant as it addresses a critical gap in the implementation of telehealth services, focusing on allied healthcare providers who are essential for comprehensive patient care. By identifying and addressing the barriers to telehealth adoption, this research can contribute to the improvement of healthcare delivery models in the Riyadh second health cluster. The findings will have implications for healthcare policy, organizational practices and future research, potentially leading to more effective and inclusive telehealth services that benefit a broader patient population.

1.4 Study Purposes

1.4.1 Primary Purpose

1. To assess the reasons for the slow adoption of telehealth services among allied healthcare providers in the Riyadh second health cluster.

1.4.2 Specific Purpose:

1. To identify technological barriers hindering telehealth implementation among allied healthcare providers.
2. To explore organizational and policy-related barriers affecting telehealth adoption.
3. To examine socio-cultural factors contributing to the slow uptake of telehealth services.
4. To propose actionable recommendations for improving telehealth adoption among allied healthcare providers.

1.5 Study Questions

1.5.1 Main Research Question

1. What are the barriers to the adoption of telehealth services among allied healthcare providers in the Riyadh second health cluster?

1.5.2 Sub-question:

1. What technological barriers are faced by allied healthcare providers in implementing telehealth?
2. How do organizational policies and structures impact the adoption of telehealth services?
3. What socio-cultural factors influence the acceptance and use of telehealth among allied healthcare providers?
4. What strategies can be recommended to enhance the adoption of telehealth services?

1.6 Research Hypotheses

1. Technological barriers significantly hinder the adoption of telehealth among allied healthcare providers in the Riyadh second health cluster.
2. Organizational policies and structures negatively impact the adoption of telehealth services among allied healthcare providers.
3. Socio-cultural factors play a critical role in the acceptance and use of telehealth among allied healthcare providers.
4. Addressing identified barriers through targeted strategies will enhance the adoption of telehealth services.

Chapter 2

Literature review

2.1 Introduction

The adoption of telehealth services has the potential to significantly enhance the accessibility and quality of healthcare, particularly for home healthcare patients who may lack primary caregivers [3]. However, the uptake of telehealth among allied healthcare providers in the Riyadh second health cluster has been notably slow, impeding the delivery of comprehensive care across the healthcare continuum. This literature review examines the existing body of research on telehealth adoption, focusing on the dependent variable of telehealth adoption itself and the independent variables influencing it, including technological barriers, organizational and policy-related barriers and socio-cultural factors.

2.2 Past studies

2.2.1 Dependent Variable - The Adoption of Telehealth Services by allied healthcare providers

The dependent variable in this study is the adoption of telehealth services by allied healthcare providers. Adoption refers to the extent to which these providers incorporate telehealth technologies into their routine practice. It encompasses various aspects, including the frequency of use, the range of services offered via telehealth and the integration of telehealth into standard care protocols [4]. Definition and Scope: Adoption of telehealth involves the use of digital communication tools to deliver healthcare services remotely. It includes video consultations, remote monitoring and digital communication between providers and patients [5]. Significance: The successful adoption of telehealth can lead to improved patient outcomes, enhanced access to care and more efficient healthcare delivery, particularly in home healthcare settings where patients may lack primary caregivers [6].

2.2.2 Independent Variables

The independent variables influencing the adoption of telehealth services among allied healthcare providers in the Riyadh second health cluster include several key factors. This section

discusses these factors comprehensively, with a focus on technological barriers, organizational and policy-related barriers and socio-cultural factors.

2.2.3 Technological Barriers

According to [2], they eluded that technological barriers play a significant role in the adoption of telehealth services. These barriers encompass various aspects related to the infrastructure, technical skills and usability of telehealth systems. Understanding these barriers is crucial for developing strategies to enhance telehealth adoption [4].

2.2.4 Infrastructure

According to [7], infrastructure is a fundamental requirement for the successful implementation of telehealth services. It includes the availability and reliability of internet connectivity and the quality of telehealth platforms [8].

Internet Connectivity: Reliable and high-speed internet connectivity is essential for effective telehealth services [9]. Studies have shown that poor internet infrastructure can significantly hinder the use of telehealth, particularly in rural or underserved areas [10]. For example, a study by [2], highlighted that inadequate internet access is a major barrier to telehealth adoption in many regions. In the context of the Riyadh second health cluster, any deficiencies in internet connectivity could impede allied healthcare providers' ability to conduct virtual consultations and remote monitoring effectively.

Telehealth Platforms: The functionality and performance of telehealth platforms also affect their adoption [11]. A robust telehealth platform should support various features such as video conferencing, secure messaging, electronic health records (EHR) integration and remote monitoring. Research indicates that telehealth platforms with poor functionality, frequent downtimes and lack of integration with other healthcare systems can discourage healthcare providers from using them. For instance, [12] found that technical issues related to telehealth platforms were a common barrier among healthcare providers.

2.2.5 Technical Skills

The technical competence of allied healthcare providers is another critical factor influencing the adoption of telehealth services [13].

Training and Education: As highlighted in [14] that the ability of healthcare providers to effectively use telehealth technologies depends on their technical skills and training. Studies have shown that insufficient training and lack of familiarity with telehealth systems can deter providers from adopting these technologies. According to [15], continuous education and training programs are essential to equip healthcare providers with the necessary skills to utilize telehealth effectively. In the Riyadh second health cluster, ensuring that allied healthcare providers receive adequate training on telehealth platforms is vital for promoting adoption.

Support and Resources: The availability of technical support and resources also plays a significant role. Providers need access to technical support to troubleshoot issues and maintain the functionality of telehealth systems [16]. A lack of technical support can lead to frustration and decreased use of telehealth services. Studies such as those by [17] have emphasized the importance of technical support in the successful adoption of telehealth.

2.2.6 Usability

Usability refers to the perceived ease of use and user-friendliness of telehealth systems. It is a crucial determinant of telehealth adoption [18].

User Interface and Experience: [19] advocate that the design and user interface of telehealth platforms should be intuitive and user-friendly. Healthcare providers are more likely to use systems that are easy to navigate and require minimal effort to operate. Research by [20] on the Technology Acceptance Model (TAM) suggests that perceived ease of use is a significant predictor of technology adoption. Telehealth platforms with complex interfaces can discourage use among healthcare providers, as highlighted in [16].

Integration with Workflow: The integration of telehealth systems into existing clinical workflows is also important [21]. Telehealth platforms that align with the routine practices of healthcare providers are more likely to be adopted. For example, a study by [22] highlighted that telehealth systems that seamlessly integrate with EHRs and other clinical tools facilitate

smoother adoption. In the Riyadh second health cluster, ensuring that telehealth platforms are designed to complement the workflows of allied healthcare providers can enhance their usability and adoption.

Technological barriers such as infrastructure, technical skills and usability significantly influence the adoption of telehealth services among allied healthcare providers [23]. Addressing these barriers through improved internet connectivity, robust telehealth platforms, comprehensive training programs and user-friendly system designs is crucial for promoting telehealth adoption in the Riyadh second health cluster, as highlighted in [24]. Understanding these factors provides a foundation for developing targeted interventions to enhance telehealth integration and utilization [24].

2.3 Organizational and Policy-Related Barriers

Ganapathy, Clough and Casey (2021) found that organizational and policy-related barriers significantly impact the adoption of telehealth services. These barriers include organizational support and the regulatory framework governing telehealth practices, including licensing, reimbursement and data security (Gajarawala and Pelkowski, 2021).

2.3.1 Organizational Support

The level of support provided by healthcare institutions is a crucial factor in telehealth adoption. Organizational support encompasses the availability of training, resources and a supportive culture that encourages the use. A study by [25] found that organizational and policy-related barriers significantly impact the adoption of telehealth services. These barriers include organizational support and the regulatory framework governing telehealth practices, including licensing, reimbursement and data security [26].

of telehealth technologies [2].

Training and Resources: Effective telehealth adoption requires that healthcare institutions provide adequate training and resources to their staff. Training programs should cover not only the technical aspects of telehealth platforms but also clinical and communication skills necessary for remote care delivery [13]. Research by [27] underscores the importance of

comprehensive training programs in facilitating telehealth adoption. In the Riyadh second health cluster, ensuring that allied healthcare providers have access to regular training sessions and updated resources can enhance their confidence and competence in using telehealth technologies.

Institutional Culture and Support: The organizational culture and the degree of support from management play a significant role in the adoption of telehealth services [28]. Institutions that foster a culture of innovation and provide strong leadership support for telehealth initiatives are more likely to see higher adoption rates. Studies by [29] have shown that management support and a positive organizational attitude towards telehealth are critical for its successful implementation. In the context of the Riyadh second health cluster, creating a supportive environment that encourages the use of telehealth can significantly boost adoption rates among allied healthcare providers.

2.3.2 Policies and Regulations

The regulatory framework governing telehealth practices is another critical determinant of telehealth adoption. Policies and regulations related to licensing, reimbursement and data security can either facilitate or hinder the implementation of telehealth services [30].

Licensing: Regulatory requirements for licensing can be a barrier to telehealth adoption if they are overly stringent or not well-defined. Healthcare providers need clarity on the legal aspects of providing telehealth services, including cross-border practice [31]. Research by [32] highlights that inconsistent licensing regulations across regions can impede the expansion of telehealth services. In the Riyadh second health cluster, clear and supportive licensing policies are essential to encourage allied healthcare providers to integrate telehealth into their practice.

Reimbursement: The financial viability of telehealth services is largely dependent on reimbursement policies. Adequate reimbursement for telehealth services ensures that healthcare providers are compensated for their time and effort [30]. Studies have shown that uncertainty or inadequacy in reimbursement policies can deter providers from adopting telehealth. For instance, a study by [33] found that reimbursement issues were a major

concern among healthcare providers considering telehealth. In the Riyadh second health cluster, establishing clear and fair reimbursement policies for telehealth services is crucial for promoting its adoption.

Data Security: Ensuring the security and privacy of patient data is paramount in telehealth practices. Regulatory frameworks need to address data protection issues to build trust among healthcare providers and patients [34]. According to research by [35], concerns about data security and privacy are significant barriers to telehealth adoption. Regulations should mandate robust security measures, such as encryption and secure data storage, to protect patient information. In the Riyadh second health cluster, implementing stringent data security policies can alleviate concerns and encourage the use of telehealth technologies.

Organizational and policy-related barriers, including organizational support and regulatory frameworks, significantly influence the adoption of telehealth services among allied healthcare providers [36]. Addressing these barriers through comprehensive training programs, supportive institutional cultures, clear licensing regulations, adequate reimbursement policies and robust data security measures is essential for promoting telehealth adoption in the Riyadh second health cluster, as highlighted in [37]. Understanding these factors provides a foundation for developing targeted interventions to enhance telehealth integration and utilization [30].

2.4 Socio-Cultural Factors

Socio-cultural factors play a crucial role in the adoption of telehealth services. These factors encompass cultural acceptance, attitudes and perceptions and patient engagement [38]. Understanding these factors is essential for identifying barriers and facilitating the integration of telehealth into routine healthcare practice.

2.5 Cultural Acceptance

Cultural acceptance of telehealth technologies by both patients and providers is fundamental to the successful adoption of these services [39].

Patients: For telehealth to be effective, patients must be willing to engage with and accept these technologies. Cultural norms and beliefs can significantly influence this acceptance. For

instance, in some cultures, face-to-face interactions with healthcare providers are preferred, which may hinder the acceptance of telehealth. Studies such as those by [40] have shown that cultural beliefs about healthcare delivery can impact patients' willingness to use telehealth services. In the Riyadh second health cluster, addressing cultural reservations through education and demonstrating the benefits of telehealth could enhance patient acceptance.

Providers: Similarly, healthcare providers' acceptance of telehealth is influenced by their cultural context. Providers may have preconceptions about the efficacy and appropriateness of telehealth compared to traditional in-person consultations [41]. Research by [39] indicates that cultural attitudes towards technology and innovation can affect healthcare providers' acceptance of telehealth. In the context of the Riyadh second health cluster, fostering a culture that values technological innovation in healthcare can encourage providers to adopt telehealth services.

2.6 Attitudes and Perceptions

The attitudes and perceptions of allied healthcare providers regarding telehealth are critical determinants of its adoption. These include the perceived usefulness and trust in telehealth services [42]. Perceived Usefulness: The extent to which healthcare providers believe that telehealth can enhance their practice influences its adoption. According to the (TAM) proposed by [43], perceived usefulness is a key predictor of technology adoption. Providers are more likely to use telehealth if they believe it can improve patient outcomes, increase efficiency and expand access to care. Studies such as those by [44] support this view, indicating that positive perceptions of telehealth's benefits can drive its adoption. In the Riyadh second health cluster, highlighting the tangible benefits of telehealth to allied healthcare providers can promote its use.

Trust: Trust in the reliability and effectiveness of telehealth technologies is also vital. Providers need to trust that telehealth platforms will function correctly and provide accurate and secure patient information. Research by [45] shows that trust in technology is a significant factor influencing telehealth adoption. In the Riyadh second health cluster, building trust through

evidence-based demonstrations of telehealth efficacy and robust data security measures can encourage providers to adopt these services.

2.7 Patient Engagement

The willingness and ability of patients to engage with telehealth services are crucial for its successful adoption. Patient engagement involves both the technical ability to use telehealth platforms and the motivation to participate in remote healthcare interactions [46].

Technical Ability: Patients must have access to the necessary technology and the skills to use telehealth platforms. This includes having devices such as smartphones or computers and understanding how to navigate telehealth applications. A study by [47], found that lack of technical literacy among patients is a barrier to telehealth adoption. In the Riyadh second health cluster, providing technical support and education to patients can help overcome this barrier.

Motivation and Willingness: Patients' motivation to use telehealth services is influenced by their health beliefs and previous experiences with healthcare technologies. Studies have shown that patients who perceive telehealth as convenient and beneficial are more likely to engage with it. Research by [48] indicates that patient-centered approaches that address individual preferences and concerns can enhance engagement. In the Riyadh second health cluster, understanding patient preferences and tailoring telehealth services to meet their needs can improve engagement levels.

Socio-cultural factors such as cultural acceptance, attitudes and perceptions and patient engagement significantly influence the adoption of telehealth services among allied healthcare providers. Addressing these factors through cultural sensitivity, building trust and positive perceptions of telehealth and enhancing patient engagement through education and support is essential for promoting telehealth adoption in the Riyadh second health cluster. Understanding these socio-cultural dynamics provides a foundation for developing targeted interventions to facilitate the integration of telehealth into healthcare practice [49]

2.8 Theoretical Framework of the study

This chapter outlines the theoretical framework guiding the study, integrating relevant theories and a model that explains the adoption and implementation of telehealth services.

2.8.1 Technology Acceptance Model (TAM)

The (TAM) is the theoretical framework guiding this study. TAM, developed by [50], is a widely used model for understanding the adoption of new technologies. It posits that two main factors influence an individual's intention to use technology: perceived usefulness and perceived ease of use [50].

Perceived Usefulness: The degree to which a person believes that using a particular technology will enhance their job performance. In the context of telehealth, perceived usefulness refers to the extent to which allied healthcare providers believe that telehealth will improve their ability to deliver care [17].

Perceived Ease of Use: The degree to which a person believes that using a particular technology will be free of effort. For telehealth, this involves the ease with which allied healthcare providers can use telehealth platforms and integrate them into their practice [51].

2.8.2 Application of TAM to Telehealth Adoption

Perceived Usefulness: Allied healthcare providers are more likely to adopt telehealth if they believe it will enhance their efficiency, improve patient outcomes and provide better access to care.

Perceived Ease of Use: If telehealth systems are user-friendly and providers feel confident in their ability to use them, adoption rates are likely to increase.

The application of TAM in this study will help identify specific factors that influence the adoption of telehealth among allied healthcare providers in the Riyadh second health cluster. By understanding these factors, targeted strategies can be developed to enhance telehealth adoption and improve healthcare delivery in this region.

Chapter 3

Research Methodology

3.1 Introduction

The research methodology employed in this study, detailing the systematic approach undertaken to investigate the adoption of telehealth services among allied healthcare providers within the Riyadh second health cluster. This chapter expounds upon the research design, sampling strategy, data collection methods and analytical procedures that were utilized to explore the determinants influencing telehealth adoption. By adopting a mixed-methods approach, the study leverages quantitative data to provide a comprehensive understanding of the various factors at play. The selection of participants, the development of survey instruments and the subsequent data analysis are discussed in detail, ensuring that the methodological rigor and ethical considerations are clearly articulated. This chapter sets the foundation for the empirical analysis and findings presented in subsequent chapter, establishing a robust framework for interpreting the study's outcomes and the implications for healthcare policy and practice.

3.2 Research Methodology

This chapter outlines the research methodology employed to investigate the barriers to the adoption of telehealth among allied healthcare providers in the Riyadh second health cluster. Given the quantitative nature of this study, a structured approach is utilized to gather, analyze and interpret data. The methodology encompasses the research design, study population, sample characteristics, sample size determination, data collection procedures, study determinants and methods of analysis [52].

3.3 Research Design

This study adopts a quantitative research design to systematically assess the factors influencing telehealth adoption among allied healthcare providers. According to [53], they guide that quantitative research allows for the collection and analysis of numerical data, facilitating the identification of patterns, relationships and statistical significance. A cross-

sectional survey design is used, enabling the collection of data at a single point in time to capture the current state of telehealth adoption and the associated barriers.

3.4 Population of the Study

The study population consists of allied healthcare providers working within the Riyadh second health cluster. This includes physical therapists, occupational therapists, speech therapists, dietitians and social workers. These professionals play a crucial role in delivering comprehensive care to patients, particularly in home healthcare settings.

3.5 Sample Characteristics

The sample for this study will be representative of the allied healthcare providers within the Riyadh second health cluster. Key characteristics to be considered include:

Professional Role: Distribution across different allied healthcare professions.

Experience Level: Years of experience in the healthcare sector and with telehealth technologies.

Demographic Information: Age, gender and educational background.

3.6 Sample Size Determination

The sample size for this study is determined using Cochran's formula for sample size calculation, as guided in Nanjundeswaraswamy and Divakar, (2021):

$$n_0 = \frac{Z^2 \cdot p \cdot (1 - p)}{e^2}$$

Where;

n_0 = required sample size

Z = Z-value (1.96 for 95% confidence level)

p = estimated proportion of the population (assumed to be 0.5 for maximum variability)

e = margin of error (0.05)

Using these parameters:

$$n_0 = \frac{1.96^2 \cdot 0.5 \cdot (1 - 0.5)}{(0.05)^2} \approx 384$$

Given the population size and practical considerations, a sample size of approximately 400 allied healthcare providers will be targeted to ensure sufficient representation and statistical power.

3.7 Study tools

3.7.1 Survey Questionnaire

The primary tool for data collection in this study is a survey questionnaire. The questionnaire is designed to capture a comprehensive range of information related to the barriers to telehealth adoption among allied healthcare providers. It is structured to include closed-ended questions, allowing for the collection of quantitative data.

3.7.2 Distribution and Administration

The final version of the survey questionnaire will be distributed electronically to allied healthcare providers within the Riyadh second health cluster. The electronic distribution allows for efficient data collection and ease of access for respondents. To maximize response rates, several strategies will be employed:

Follow-up Reminders: Periodic reminders will be sent to encourage participation.

Incentives: Small incentives may be offered to respondents to motivate participation.

Anonymity and Confidentiality: Ensuring respondents that their answers will be kept confidential and used only for research purposes.

3.7.3 Design and Development

The survey questionnaire is developed based on an extensive review of the literature and existing validated instruments [55]. It includes sections tailored to capture data on the following areas:

Demographic Information: Basic information about the respondents, such as age, gender, professional role, years of experience and educational background.

Technological Barriers: Questions related to the availability and reliability of internet connectivity, the usability of telehealth platforms and the technical skills required to use these technologies effectively.

Organizational and Policy Barriers: Items addressing organizational support, policies and regulations and the availability of resources and training related to telehealth.

Socio-Cultural Factors: Questions exploring cultural acceptance, attitudes and perceptions towards telehealth, as well as patient engagement and willingness to use telehealth services.

3.7.4 Data Collection Procedures

Data will be collected using a structured questionnaire designed to capture information on the barriers to telehealth adoption. The questionnaire will include sections on:

Demographic Information: Age, gender, professional role, years of experience.

Technological Barriers: Availability of infrastructure, technical skills, usability of telehealth systems.

Organizational and Policy Barriers: Organizational support, policies and regulations affecting telehealth.

Socio-Cultural Factors: Cultural acceptance, attitudes and perceptions towards telehealth.

The questionnaire will be distributed electronically to allied healthcare providers within the Riyadh second health cluster. To ensure a high response rate, follow-up reminders will be sent and the importance of the study will be emphasized.

3.8 Method of Analysis

The collected data will be analysed using statistical software such as SPSS. The analysis will include, as guided in [56]:

3.8.1 Descriptive Statistics

Mean, median and standard deviation for continuous variables

Frequencies and percentages for categorical variables

3.8.2 Inferential Statistics

Correlation Analysis: To assess the relationships between independent variables (technological, organizational, socio-cultural barriers) and the dependent variable (telehealth adoption).

Multiple Regression Analysis: To identify the most significant predictors of telehealth adoption among allied healthcare providers.

ANOVA and t-tests: To compare differences between groups based on demographic characteristics and other relevant factors.

3.8.3 Validity and Reliability Testing

Cronbach's Alpha: To assess the internal consistency of the questionnaire.

Factor Analysis: To validate the constructs of the questionnaire.

By employing these methods, the study aims to provide a comprehensive understanding of the barriers to telehealth adoption and identify actionable strategies to enhance the integration of telehealth services in the Riyadh second health cluster.

3.8.4 Validation and Pilot Testing

According to [56], to ensure the validity and reliability of the questionnaire, it will undergo a pilot test with a small group of allied healthcare providers not included in the main study sample. Feedback from the pilot test will be used to refine the questionnaire, ensuring clarity, relevance and comprehensiveness of the items. The pilot test will also help in assessing the internal consistency of the questionnaire using Cronbach's Alpha.

3.8.5 Research Limitation

This chapter outlines the potential limitations of the study and how they might affect the findings and conclusions. By systematically exploring the barriers to telehealth adoption among allied healthcare providers, this research aims to provide valuable insights and practical recommendations to enhance healthcare delivery in the Riyadh second health cluster, ultimately improving patient outcomes and access to care.

3.8.5.1 Methodological Limitations

Limitations related to research design and data collection methods.

3.8.5.2 Generalizability

Challenges in generalizing findings beyond the Riyadh second health cluster.

3.8.5.3 Technological Constraints

Issues related to varying levels of digital literacy and access to technology among participants.

3.8.5.4 Time and Resource Constraints

Limitations due to the scope and duration of the study.

Chapter 4

Practical Study

4.1 Introduction

This chapter presents the comprehensive analysis of data collected through the study's survey instruments, delineating the empirical findings derived from the participants' responses. It commences with an examination of the demographic characteristics of the sample population, providing a foundational understanding of the participants' background. This demographic analysis is followed by a detailed assessment of the reliability of the questionnaire, ensuring the validity and consistency of the data collection tool. Subsequently, the chapter delves into the core research findings, employing appropriate statistical techniques to test the hypotheses and address the research questions. The analysis encompasses both descriptive and inferential statistics, elucidating the patterns, relationships and significant trends within the data. Through a rigorous examination of the results, this chapter aims to offer a nuanced interpretation of the data, contributing to the broader understanding of the research problem and setting the stage for the discussion and implications in subsequent sections.

4.2 Data Analysis

This section presents the data analysis and research findings derived from the study's empirical investigation into the adoption of telehealth services among allied healthcare providers in the Riyadh second health cluster. It systematically explores the data collected through quantitative method, employing statistical analysis techniques to uncover insights and patterns. The section is structured to provide an examination of the data, interpretation of the findings and the formulation of recommendations based on the study's results.

Table 1: Cronbach's Alpha

Reliability Statistics	
Cronbach's Alpha	N of Items
0.749	10

Table 4.1 illustrates the reliability analysis for the questionnaire used in the study produced a Cronbach's Alpha of 0.749 for a total of 10 items. This subsection discusses the implications of this result in the context of the study, focusing on the interpretation of the reliability coefficient and its impact on the overall research findings.

An alpha value of 0.749 suggests that the questionnaire exhibits good internal consistency. This value is above the commonly accepted threshold of 0.7, which is generally considered a benchmark for acceptable reliability in social sciences research [52]. The interpretation of the alpha coefficient is as follows:

Internal Consistency: The items in the questionnaire are moderately correlated, suggesting that they are likely measuring the same underlying construct or concept.

Good Reliability: An alpha value close to 0.75 indicates that the questionnaire is reliable and that the responses are consistent across different items. This consistency enhances the validity of the findings, as it suggests that the measurement tool is stable and dependable [55].

4.2.1 Implications for the Study

Validity of Constructs: The reliability of the questionnaire implies that the constructs being measured are adequately captured by the items. This strengthens the validity of any conclusions drawn from the data, as the measurement tool can be trusted to reflect the true nature of the constructs under investigation [57].

Comparability of Data: With good reliability, the data collected can be considered comparable across respondents. This means that differences in responses are more likely attributable to actual differences in the measured constructs rather than inconsistencies in the questionnaire [57].

4.2.2 Demographic Data

The demographic data and survey responses provide a comprehensive overview of the current state and perceptions of telehealth among healthcare professionals in the Riyadh Region. The findings highlight both the widespread acceptance and the challenges associated with

telehealth, offering valuable insights for future research and policy development aimed at optimizing telehealth implementation in Saudi Arabia.

Table 2: Frequency Demographic Data

Demographic Data: Nationality					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non-Saudi	154	43.9	43.9	43.9
	Saudi	197	56.1	56.1	100.0
	Total	351	100.0	100.0	
Demographic Data: Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	179	51.0	51.0	51.0
	Male	172	49.0	49.0	100.0
	Total	351	100.0	100.0	
Demographic Data: Age (in years)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21 – 30	28	8.0	8.0	8.0
	31 – 40	103	29.3	29.3	37.3
	41 – 50	94	26.8	26.8	64.1
	51 – 60	64	18.2	18.2	82.3
	51 – 60	62	17.7	17.7	100.0
	Total	351	100.0	100.0	
Demographic Data: Place of					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	King Salman Center for Kidney Diseases, Riyadh Region	25	7.1	7.1	7.1
	King Fahad Medical City, Riyadh Region	80	22.8	22.8	29.9
	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	19	5.4	5.4	35.3
	Alyamamh Hospital, Riyadh Region	19	5.4	5.4	40.7
	Tumair General Hospital, Tumair Governorate in Riyadh Region	30	8.5	8.5	49.3
	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	29	8.3	8.3	57.5
	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	35	10.0	10.0	67.5
	Al Artawiyah General Hospital, AlArtawiyah Governorate in Riyadh Region	20	5.7	5.7	73.2
	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	24	6.8	6.8	80.1
	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	41	11.7	11.7	91.7
	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	29	8.3	8.3	100.0
	Total	351	100.0	100.0	

The demographic composition of the study sample reveals a diverse representation, crucial for understanding the perspectives of different groups regarding telehealth. The nationality breakdown shows that 43.9% of the participants are non-Saudi, while 56.1% are Saudi nationals. This distribution reflects a slight majority of Saudi participants, providing insight into the perceptions of both local and expatriate healthcare professionals and patients within the context of Saudi Arabia.

4.2.2.1 Gender

Gender distribution in the sample is relatively balanced, with females constituting 51.0% and males 49.0%. This near-equal representation suggests that the findings may offer a well-rounded view of the opinions and experiences of both genders regarding telehealth services.

4.2.2.2 Age

The age distribution among the participants shows a predominance of individuals aged between 31 and 50 years, comprising 56.1% of the sample. Specifically, 29.3% of respondents are aged 31-40 years and 26.8% are aged 41-50 years. The remaining participants are distributed among the age groups 21-30 (8.0%), 51-60 (18.2%) and above 60 years (17.7%). This range indicates that the study captured responses from a broad spectrum of age groups, likely encompassing varied experiences with and attitudes toward technological healthcare solutions like telehealth.

4.2.2.3 Workplace Distribution

The respondents' workplace distribution spans multiple healthcare facilities across the Riyadh Region and its governorates. The largest group, 22.8%, works at King Fahad Medical City, followed by significant representations from King Khaled Hospital (10.0%) and Hotat Sudir Hospital (11.7%). This distribution is significant as it ensures that the data reflects a wide array of institutional settings and operational scales, from major urban hospitals to regional healthcare facilities. Such a spread is vital for generalizing the findings across different healthcare settings within the region.

4.2.3 Enquiries

In assessing familiarity and use of telehealth, an overwhelming majority of participants (90.6%) indicated they are aware of telehealth, with 88.3% affirming its presence in their hospitals. Additionally, 58.4% of the respondents utilize telehealth for various purposes, highlighting a substantial adoption rate among healthcare professionals. However, the varied responses to using different types of telehealth (47.0% Yes, 23.1% No and 29.9% Maybe) suggest a nuanced understanding and potential variability in telehealth implementation across different institutions.

The preparedness of telehealth infrastructure at the hospitals, with 46.4% indicating preparedness, coupled with 31.9% expressing uncertainty (Maybe), points to ongoing developments and potential gaps in readiness. This aspect is critical for healthcare administrators and policymakers, as it underscores the need for further investment and standardization to ensure effective telehealth delivery.

Perceptions of the validity and reliability of telehealth services are largely positive, with 86.3% and 83.8% of participants respectively affirming these attributes. These figures suggest a strong confidence in telehealth as a credible and dependable medium for healthcare delivery. Similarly, the majority view telehealth as beneficial for both patients (83.5%) and healthcare providers (84.6%), indicating broad recognition of its advantages in improving healthcare accessibility and efficiency.

However, the presence of perceived barriers to telehealth in Saudi Arabia, noted by 51.3% of the respondents, reflects ongoing challenges. These barriers could range from technological issues to regulatory and cultural factors, requiring targeted interventions to enhance telehealth's adoption and effectiveness.

4.2.4 Descriptive Statistics

The descriptive statistics for the study's variables offer a detailed overview of the dataset, providing critical insights into the demographic characteristics and attitudes toward telehealth among participants. The analysis includes measures of central tendency (mean), dispersion (standard deviation) and the range (minimum and maximum values) for each variable [56].

Table 3: Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Demographic Data: Nationality	351	1	2	1.56	.497
Demographic Data: Gender	351	1	2	1.49	.501
Demographic Data: Age (in years)	351	1	5	3.08	1.224
Demographic Data: Occupation	351	1	7	3.79	1.932
Demographic Data: Place of Work	351	1	11	5.68	3.320
Do you know telehealth?	351	1	3	1.13	.425
Do you have telehealth at the hospital?	351	1	3	1.20	.571
Do you use telehealth for different purposes?	351	1	3	1.62	.802
Do you use different types of telehealth at the hospital?	351	1	3	1.83	.861
Is the place of telehealth at the hospital well prepared?	351	1	3	1.85	.874
Do think telehealth is valid?	351	1	3	1.24	.623
Do think telehealth is reliable?	351	1	3	1.29	.681
Do you think patients can benefit of telehealth?	351	1	3	1.31	.707
Do you think healthcare providers can benefit of telehealth?	351	1	3	1.28	.683
Do you think there are barriers of using telehealth in 2 Arabia?	351	1	3	1.75	.845
Valid N (listwise)	351				

4.2.4.1 Demographic Data

4.2.4.1.1 Nationality

The mean value of 1.56, with a standard deviation of 0.497, indicates a fairly even distribution between Saudi and non-Saudi participants, with the majority being Saudi (coded as 2). The minimum and maximum values of 1 and 2 confirm this binary categorization.

4.2.4.1.2 Gender

With a mean of 1.49 and a standard deviation of 0.501, the gender distribution is nearly balanced, slightly leaning towards females (coded as 1). The range again reflects the binary nature of the variable.

4.2.4.1.3 Age (in years)

The age variable shows a broader range, with a minimum of 1 and a maximum of 5, corresponding to the age groups in the study. The mean age category is 3.08, indicating that the majority of respondents fall within the middle age brackets (31-50 years). The relatively high standard deviation of 1.224 reflects a diverse age distribution among participants.

4.2.4.1.4 Occupation

The mean of 3.79 and a standard deviation of 1.932 suggest a varied occupational representation, with the participants' jobs spanning across seven distinct categories. This variation highlights the diverse professional backgrounds of the respondents, which can influence their perspectives on telehealth.

4.2.4.1.5 Place of Work

This variable displays the greatest diversity, with a mean of 5.68 and a standard deviation of 3.320, across 11 different hospitals or healthcare facilities. The wide range indicates that the study covers a broad spectrum of healthcare settings, which is beneficial for a comprehensive understanding of telehealth implementation and experiences.

4.2.4.2 Telehealth-Related Questions

4.2.4.2.1 Knowledge of Telehealth

The mean score of 1.13, with a low standard deviation of 0.425, suggests a high level of awareness of telehealth among participants, with most responses clustered around "Yes" (coded as 1).

4.2.4.2.2 Availability of Telehealth at the Hospital

The mean of 1.20 and a standard deviation of 0.571 indicate that the majority of hospitals represented in the study have telehealth services. The range (1 to 3) suggests there are some variations in responses, though most respondents indicated the presence of telehealth.

4.2.4.2.3 Use of Telehealth for Different Purposes

With a mean of 1.62 and a standard deviation of 0.802, there is a noticeable distribution across "Yes," "No," and "Maybe" responses. This indicates varied experiences and utilizations of telehealth for different medical purposes, reflecting a range of adoption levels across different institutions.

4.2.4.2.4 Use of Different Types of Telehealth

The mean score of 1.83 and a standard deviation of 0.861 indicate a mixed response, with a slightly lower affirmation rate for using various types of telehealth services. This suggests that while telehealth is known and available, its diverse applications might not be uniformly implemented across all facilities.

4.2.4.2.5 Preparedness of Telehealth Facilities

The mean of 1.85 and a standard deviation of 0.874 suggest some ambivalence regarding the preparedness of telehealth infrastructure. A significant portion of respondents indicated uncertainty or inadequacy, highlighting potential areas for improvement in infrastructure readiness.

4.2.4.2.6 Perceived Validity and Reliability of Telehealth

The mean values of 1.24 and 1.29, with standard deviations of 0.623 and 0.681 respectively, demonstrate strong confidence in the validity and reliability of telehealth services. Most responses affirm the credibility and dependability of telehealth, though a small fraction remains skeptical.

4.2.4.2.7 Benefits of Telehealth for Patients and Healthcare Providers

With means of 1.31 and 1.28 and standard deviations of 0.707 and 0.683, there is a consensus among respondents on the benefits of telehealth for both patients and healthcare providers. These findings underline the perceived positive impact of telehealth on healthcare delivery and outcomes.

4.2.4.2.8 Barriers to Telehealth in Saudi Arabia

The mean score of 1.75 and a standard deviation of 0.845 indicate that while many respondents acknowledge barriers to telehealth, there is also a significant portion of uncertainty or disagreement. This reflects a nuanced understanding of the challenges faced in integrating telehealth within the Saudi healthcare system.

The descriptive statistics provide a comprehensive snapshot of the participants' demographic characteristics and their views on telehealth. The data reveals a high level of awareness and general acceptance of telehealth, alongside a recognition of its benefits and challenges. The diversity in responses, particularly concerning the usage and infrastructure preparedness, highlights areas for further research and targeted improvements. These findings are pivotal for informing healthcare policies and strategies aimed at optimizing telehealth adoption and effectiveness in Saudi Arabia.

4.2.5 The ANOVA (Analysis of Variance)

ANOVA (Analysis of Variance) is a statistical technique used to determine if there are statistically significant differences between the means of three or more independent groups [58]. The analysis of variance (ANOVA) was conducted to examine the differences in perceptions and usage of telehealth among different allied healthcare professionals, categorized by various demographic factors and their responses to telehealth-related questions. The ANOVA (Analysis of Variance) results provide an in-depth examination of the differences in responses across various groups concerning telehealth-related questions. These results are critical for understanding whether demographic factors, such as nationality, gender, age, occupation place of work, significantly influence participants' perceptions and experiences with telehealth. The statistical significance of these differences is indicated by the p-value (Sig.), with a threshold commonly set at 0.05.

The ANOVA table includes the following headings:

Sum of Squares: This represents the total variation in the data that is being analyzed. It is divided into:

Between Groups (or Treatment): The sum of squares due to differences between the group means. It reflects the variation attributable to the independent variable(s) or the factor(s) under investigation.

Within Groups (or Error): The sum of squares due to differences within each group. It reflects the variability within each group due to random error or unexplained variance.

Total: The total sum of squares, which is the sum of the between-groups and within-groups sums of squares.

df (Degrees of Freedom): This indicates the number of independent values that can vary in the calculation of a statistic. It is divided into:

Between Groups: Calculated as the number of groups minus one ($k - 1$), where k is the number of groups.

Within Groups: Calculated as the total number of observations minus the number of groups ($N - k$), where N is the total number of observations.

Total: Calculated as the total number of observations minus one ($N - 1$).

Mean Square: This is the average of the sum of squares. It is calculated by dividing the sum of squares by the corresponding degrees of freedom:

Between Groups Mean Square: Sum of squares between groups divided by the degrees of freedom between groups.

Within Groups Mean Square: Sum of squares within groups divided by the degrees of freedom within groups.

F (F-Statistic): This is the test statistic used in ANOVA. It is the ratio of the mean square between groups to the mean square within groups. The F-statistic is used to determine whether the observed variances between group means are statistically significant.

Sig. (Significance Level or p-value): This indicates the probability that the observed differences among group means occurred by chance. A lower p-value (typically less than 0.05) suggests that

the differences among group means are statistically significant, meaning that there is a low probability that the observed differences are due to random variation [56].

The analysis of variance (ANOVA) was conducted to examine the differences in perceptions and usage of telehealth among different allied healthcare professionals, categorized by various demographic factors and their responses to telehealth-related questions. The results illustrated in Table 4.4, provide insights into the extent to which these factors influence the awareness, availability and perceived benefits and barriers of telehealth.

Table 4: The ANOVA (Analysis of Variance)

ANOVA						
		Sum of Squares	Degrees of Freedom (df)	Mean Square	F-Statistic (F)	Significance Level or p-value (Sig.)
Demographic Data: Nationality	Between Groups	1.106	6	.184	.743	.615
	Within Groups	85.327	344	.248		
	Total	86.433	350			
Demographic Data: Gender	Between Groups	2.175	6	.362	1.458	.192
	Within Groups	85.540	344	.249		
	Total	87.715	350			
Demographic Data: Age (in years)	Between Groups	25.785	6	4.297	2.964	.008
	Within Groups	498.819	344	1.450		
	Total	524.604	350			
Demographic Data: Place of Work	Between Groups	445.876	6	74.313	7.494	.000
	Within Groups	3411.099	344	9.916		
	Total	3856.974	350			
Do you k2w telehealth?	Between Groups	3.375	6	.562	3.232	.004
	Within Groups	59.856	344	.174		
	Total	63.231	350			
Do you have telehealth at the hospital? "	Between Groups	2.417	6	.403	1.241	.284
	Within Groups	111.623	344	.324		
	Total	114.040	350			
Do you use telehealth for different purposes?	Between Groups	3.354	6	.559	.868	.518
	Within Groups	221.490	344	.644		
	Total	224.843	350			
Do you use different types of telehealth at the hospital?	Between Groups	7.667	6	1.278	1.744	.110
	Within Groups	252.077	344	.733		
	Total	259.744	350			
Is the place of telehealth at the hospital well prepared?	Between Groups	12.708	6	2.118	2.859	.010
	Within Groups	254.881	344	.741		
	Total	267.590	350			
Do think telehealth is valid?	Between Groups	4.131	6	.689	1.798	.099
	Within Groups	131.766	344	.383		
	Total	135.897	350			
Do think telehealth is reliable?	Between Groups	5.031	6	.839	1.834	.092

	Within Groups	157.328	344	.457		
	Total	162.359	350			
Do you think patients can benefit of telehealth?	Between Groups	4.064	6	.677	1.365	.228
	Within Groups	170.705	344	.496		
	Total	174.769	350			
Do you think healthcare providers can benefit of telehealth?	Between Groups	3.755	6	.626	1.347	.235
	Within Groups	159.755	344	.464		
	Total	163.510	350			
Do you think there are barriers of using telehealth in 2 Arabia?	Between Groups	4.111	6	.685	.959	.453
	Within Groups	245.826	344	.715		
	Total	249.937	350			

4.2.5.2 Demographic Factors

Nationality: The ANOVA results indicate that there are no significant differences in perceptions or usage of telehealth across different nationalities ($F(6, 344) = 0.743, p = 0.615$). The low F-value and high p-value suggest that nationality does not play a significant role in determining the respondents' views on telehealth. This homogeneity could be attributed to the relatively uniform healthcare environment and policies that affect all professionals similarly, regardless of nationality.

Gender: Similar to nationality, gender differences do not significantly influence the responses related to telehealth $F = (6, 344) = 1.458, p = 0.192$). The lack of statistically significant differences suggests that both male and female healthcare professionals have similar levels of awareness and attitudes towards telehealth, possibly due to standardized training and uniform exposure to telehealth systems in their workplace.

Age: The analysis reveals a significant effect of age on the perceptions and usage of telehealth $F = (6, 344) = 2.964, p = 0.008$). This indicates that different age groups vary in their engagement with telehealth, potentially reflecting generational differences in technology adoption. Younger professionals may be more comfortable and familiar with digital technologies, while older professionals may have varying levels of acceptance and competence with telehealth systems.

Place of Work: The most significant finding in the demographic data is related to the place of work $F = (6, 344) = 7.494, p < 0.001$). This strong significance suggests that the availability and implementation of telehealth services vary greatly depending on the workplace setting. Healthcare facilities with more resources, technological infrastructure and administrative support are likely better equipped to implement telehealth services, influencing the perceptions and experiences of their staff.

4.2.5.3 Telehealth Awareness and Utilization

Knowledge of Telehealth: The analysis shows a significant difference in the awareness of telehealth among the different groups $F = (6, 344) = 3.232, p = 0.004$). This indicates that knowledge of telehealth is not uniformly distributed among the respondents, with some groups being more informed than others. These disparities could stem from differences in professional training, exposure to telehealth systems or the prioritization of telehealth in certain specializations or departments.

Availability of Telehealth in Hospitals: There is no significant difference in responses regarding the availability of telehealth in hospitals $F = (6, 344) = 1.241, p = 0.284$). This suggests a relatively consistent presence of telehealth services across different healthcare settings or it could reflect a uniform lack of awareness about the availability among the respondents.

Usage of Telehealth for Different Purposes: The responses do not show significant variation across groups regarding the use of telehealth for various purposes $F = (6, 344) = 0.868, p = 0.518$). This finding suggests that, regardless of demographic differences, healthcare professionals use telehealth similarly, potentially indicating standardization in the application of telehealth services within the healthcare system.

Types of Telehealth Used: There is no significant difference in the types of telehealth used among the different groups $F = (6, 344) = 1.744, p = 0.110$). This uniformity could suggest that the types of telehealth services available are consistent across the institutions represented in the study, reflecting standardized implementation across the board.

4.2.5.4 Perceptions of Telehealth Infrastructure and Benefits

Preparation of Telehealth Infrastructure: There is a significant difference in the perceptions of how well-prepared the telehealth infrastructure is in hospitals $F = (6, 344) = 2.859$, $p = 0.010$). This result indicates variability in the readiness and quality of telehealth systems, which could impact the effectiveness and efficiency of telehealth services. Differences may be due to disparities in funding, management support or the technological sophistication of the institutions.

Validity and Reliability of Telehealth: The perceptions of the validity $F = (6, 344) = 1.798$, $p = 0.099$) and reliability $F = (6, 344) = 1.834$, $p = 0.092$) of telehealth do not show significant differences among groups, although the p-values are close to the threshold for significance. This suggests a general consensus among healthcare professionals regarding the trustworthiness of telehealth, possibly due to established protocols and evidence supporting telehealth's efficacy.

Benefits to Patients and Healthcare Providers: There are no significant differences in the perception of the benefits of telehealth for patients $F = (6, 344) = 1.365$, $p = 0.228$) and healthcare providers ($F(6, 344) = 1.347$, $p = 0.235$). This indicates a shared belief in the potential advantages of telehealth, such as increased access to care, convenience and efficiency.

Barriers to Telehealth in Saudi Arabia: The responses regarding barriers to telehealth in Saudi Arabia do not vary significantly among groups $F = (6, 344) = 0.959$, $p = 0.453$). This uniformity could reflect a common understanding of the challenges faced in the adoption and implementation of telehealth, such as technological limitations, regulatory hurdles or cultural resistance.

4.3 Research Findings

The sample size of 351 responses provides a robust foundation for generalizing the study's findings, given the diversity of the sample, the expected variability in responses and the confidence level aimed for in the study. While no sample can perfectly represent an entire population, especially in complex and heterogeneous populations, a sample of this size offers a

credible basis for drawing conclusions about the broader population of interest. The study's results can inform telehealth policies, training programs and adoption strategies, particularly within the context of the Riyadh second health cluster and similar settings.

4.3.4 Demographic Data

The analysis of demographic variables offers essential insights into the composition and diversity of the study participants. The fairly even distribution of nationality (mean = 1.56) underscores a substantial representation of both Saudi and non-Saudi respondents, with a slight majority being Saudi nationals. This diversity is crucial in understanding the varying perspectives on telehealth across different cultural backgrounds.

Gender distribution (mean = 1.49) reveals a near-balanced representation of male and female healthcare professionals, slightly skewed towards females. The age distribution, with a mean category of 3.08, indicates a predominant presence of professionals within the 31-50 years age bracket, suggesting that middle-aged practitioners form a significant portion of the workforce engaging with telehealth. The wide range in occupation (mean = 3.79) and place of work (mean = 5.68) highlights the diversity of professional roles and healthcare settings, which is vital for a comprehensive understanding of telehealth's reach and implementation challenges.

4.3.5 Telehealth-Related Questions

The study reveals a high level of awareness about telehealth among healthcare professionals, with a majority acknowledging its existence and applications (mean for knowledge of telehealth = 1.13). Despite this awareness, the availability of telehealth services in hospitals (mean = 1.20) and the utilization for various purposes (mean = 1.62) show a more varied response, indicating differing levels of implementation and integration across institutions.

Interestingly, the use of different types of telehealth (mean = 1.83) and the perceived preparedness of facilities (mean = 1.85) suggest a cautious yet growing engagement with telehealth technologies. These findings point to the need for enhancing infrastructure and training to fully leverage telehealth's potential. The strong confidence in the validity (mean = 1.24) and reliability (mean = 1.29) of telehealth services reflects a positive outlook among professionals, despite some skepticism. The perceived benefits for patients (mean = 1.31) and

healthcare providers (mean = 1.28) further underscore the recognized value of telehealth in improving healthcare delivery.

The acknowledgment of barriers to telehealth (mean = 1.75) presents a crucial area for intervention. While a significant portion of respondents recognize challenges, there remains a notable degree of uncertainty, highlighting the need for clearer policies and strategies to overcome these obstacles.

4.3.6 The ANOVA (Analysis of Variance)

The ANOVA results provide an in-depth examination of the differences in responses across various groups concerning telehealth-related questions. The between-group variability reflects the influence of demographic factors on the perceptions and experiences of telehealth, while the within-group variability accounts for individual differences within these demographic categories. The F-statistic and p-values indicate the statistical significance of these differences, providing critical insights into the factors that significantly impact telehealth adoption and usage [58].

The analysis reveals statistically significant differences in perceptions of telehealth based on age, occupation and place of work, with age showing the most pronounced influence ($p < 0.05$). These findings suggest that younger and middle-aged professionals may be more adaptable and receptive to telehealth technologies, while differences in occupation and place of work point to the varying levels of exposure and training in telehealth across different professional roles and institutions.

The lack of significant differences in perceptions based on nationality and gender suggests a general consensus on telehealth's value across these demographics. However, the differences in perceptions related to the availability and use of telehealth for different purposes highlight the uneven distribution of resources and expertise, emphasizing the need for more equitable access and support for telehealth implementation.

4.4 Discussion of Research Findings

The findings of the study present a comprehensive analysis of the perceptions and usage of telehealth among allied healthcare professionals. This section aims to elucidate the results derived from the collected data, offering a detailed examination of the responses related to various demographic factors, awareness, availability and perceived benefits and barriers of telehealth. By presenting the quantitative data from the survey and highlighting significant statistical outcomes, the findings reveal key trends and patterns that inform our understanding of telehealth adoption in the healthcare sector. This analysis not only identifies areas of strength and potential growth but also sheds light on the challenges and disparities faced by different groups within the professional community. The ensuing discussion will delve into these findings, interpreting their implications for practice, policy and future research in the realm of telehealth.

The descriptive statistics offer a foundational understanding of the dataset, elucidating the characteristics of the study sample and their attitudes toward telehealth technologies. Furthermore, the Analysis of Variance (ANOVA) provides a nuanced examination of the variability in perceptions and experiences, highlighting the significance of demographic factors in shaping these views.

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4.4.7 Knowledge and Preparedness of Telehealth Facilities

The study's findings indicate that demographic factors significantly influence awareness and perceptions of telehealth infrastructure. Notably, the disparities in knowledge of telehealth and the preparedness of facilities underscore the need for targeted educational and infrastructural interventions. These disparities suggest that certain demographic groups may lack sufficient information or resources, hindering equitable telehealth adoption. Addressing these gaps through tailored training and infrastructure improvements is crucial for ensuring that all healthcare professionals can effectively utilize telehealth technologies.

4.4.8 Perceived Validity and Reliability of Telehealth

The near-significant differences in perceptions of telehealth's validity and reliability reveal a potential area for deeper investigation. While there is a general positive perception, understanding the specific demographic factors—such as age, occupation or level of exposure to telehealth—that influence these views could inform more focused strategies to enhance trust and acceptance. This is particularly important for building confidence in telehealth services, especially among professionals who may be skeptical due to a lack of familiarity or experience.

4.4.9 Consensus on Telehealth Benefits

The lack of significant differences in the perceived benefits of telehealth for patients and healthcare providers highlights a broad consensus on the positive impacts of these technologies. This uniformity suggests that the healthcare sector largely acknowledges the potential of telehealth to improve healthcare delivery. Consequently, future efforts should prioritize logistical and infrastructural challenges over shifting perceptions, as the foundational acceptance of telehealth's benefits is already established.

4.4.10 Demographic Influences on Telehealth Perceptions

The significant influence of demographic factors, particularly age and occupation, on telehealth perceptions suggests that younger and more technologically proficient professionals may spearhead the adoption of telehealth. This finding emphasizes the necessity for continuous professional development, especially for older professionals and those less familiar with digital technologies. Ensuring that all healthcare workers are adequately trained and comfortable with telehealth is essential for maximizing its potential benefits.

4.4.11 Standardization and Equity in Telehealth Services

The study underscores the importance of a comprehensive strategy to standardize telehealth services across various healthcare settings. The identified disparities in infrastructure readiness and usage highlight the need for equitable access and consistent quality of care. Policymakers and healthcare administrators must address these disparities to create a uniform telehealth experience, ensuring that all patients and providers have access to high-quality telehealth services regardless of their location or the type of healthcare facility.

4.4.12 Implications for Policy and Practice

The research provides a critical overview of the current state of telehealth in Saudi Arabia, offering valuable insights for shaping future policies and practices. The high level of awareness and positive perceptions of telehealth, coupled with identified barriers and readiness levels, point to the need for targeted interventions. These interventions should focus on enhancing infrastructure, providing comprehensive training and ensuring equitable access. By addressing

these challenges, healthcare systems can better leverage telehealth's transformative potential, ultimately improving patient care and outcomes.

Overall, this study highlights the need for a multifaceted approach to telehealth implementation, one that considers the diverse needs and perspectives of healthcare professionals. The insights gained from this research are instrumental in guiding the development of effective telehealth policies and practices, ensuring that the benefits of this technology are fully realized across the healthcare sector.

4.5 Generalizability Considerations

4.5.4 Population Size and Diversity

The representativeness of the sample is critical for generalizability. If the sample of 351 respondents reflects the diversity of the population from which it was drawn—considering factors such as nationality, gender, age, occupation and place of work—it is more likely that the findings can be generalized to the broader population. Given the demographic data provided, the study appears to have considered a range of demographic variables. For instance, the study's respondents included both genders (with a relatively balanced gender split), a range of ages (from younger to older participants) and various occupations and workplaces. This diversity can enhance the external validity of the findings.

4.5.5 Variability and Representation

A sample size of 351 is reasonably large for a survey-based study, especially if the target population is not extremely large. This size is typically sufficient to capture variability in responses and to provide a reliable estimate of the population parameters. For example, if the study's goal is to assess attitudes towards telehealth, the variability in responses regarding knowledge, usage and perceptions of telehealth can be adequately captured with 351 participants. This size allows for the analysis of subgroups within the sample, such as differences between age groups or occupations, further enhancing the study's insights and generalizability.

4.5.6 Confidence Level and Margin of Error

With a sample size of 351, the study can achieve a reasonable margin of error at a typical confidence level (e.g., 95%). The margin of error decreases with increasing sample size, so 351 respondents would generally provide a good balance between precision and practicality. For example, assuming a proportion near 50% (which maximizes the sample size needed for a given margin of error), the margin of error would be approximately $\pm 5.3\%$ at a 95% confidence level. This margin is acceptable in many social science research contexts and suggests that the results can reasonably generalize to the broader population.

4.5.7 Contextual Factors

The specific context of the study also plays a role in justifying the sample size. For instance, if the study focuses on the Riyadh second health cluster and the population of allied healthcare providers in that area, a sample of 351 may represent a significant portion of that population, especially if it includes a wide range of institutions and specialties. The study's focus on telehealth adoption among allied healthcare providers in this specific region further supports the relevance and generalizability of the results within this context.

4.6 Research Recommendations

4.6.4 Addressing Technological Barriers

4.6.4.1 Enhancing Infrastructure

The literature emphasizes the critical role of infrastructure in telehealth adoption. Reliable internet connectivity is a cornerstone for the successful implementation of telehealth services [9]; [2]. The ANOVA results indicate a significant variation in awareness of telehealth ($F = 3.232, p = 0.004$), highlighting the need for equitable access to telehealth platforms. To address this, it is recommended that investment be made in upgrading internet infrastructure, particularly in underserved areas. This will ensure that all allied healthcare providers can conduct virtual consultations and remote monitoring effectively, as supported by the mean score of 1.13 (low variability), indicating limited awareness among providers.

4.6.4.2 Upgrading Telehealth Platforms

The usability and functionality of telehealth platforms are crucial [11]. The descriptive statistics indicate a low mean score of 1.83 on the use of different types of telehealth at hospitals, suggesting limited engagement. Upgrading telehealth platforms to include comprehensive features such as video conferencing, secure messaging and EHR integration is necessary. Additionally, ensuring these platforms are user-friendly and intuitive can enhance usability, as the ease of use is a significant predictor of technology adoption [20].

4.6.4.3 Enhancing Technical Skills

Training and continuous education for healthcare providers are essential [14]. The mean score of 1.20 for having telehealth at the hospital suggests underutilization, possibly due to a lack of technical skills. Regular training programs focusing on the technical and clinical aspects of telehealth should be implemented to equip healthcare providers with the necessary competencies. This recommendation aligns with the findings of [15], who underscore the importance of continuous education in telehealth adoption.

4.6.5 Overcoming Organizational and Policy-Related Barriers

4.6.5.1 Strengthening Organizational Support

Organizational support, including training and resources, is vital for telehealth adoption [2]. The data indicate that the place of telehealth at hospitals is not well-prepared ($F = 2.859$, $p = 0.010$), highlighting the need for organizational improvements. Healthcare institutions should foster a supportive culture that encourages the use of telehealth technologies. This can be achieved by providing dedicated resources and fostering a culture of innovation, as recommended by [28].

4.6.5.2 Revising Policies and Regulations

Clear policies regarding licensing, reimbursement and data security are necessary for telehealth adoption [30]. The study's findings suggest variability in the perception of the

reliability of telehealth ($F = 1.834$, $p = 0.092$), indicating potential regulatory ambiguities. Clear licensing regulations and fair reimbursement policies should be established to incentivize healthcare providers. Additionally, robust data security measures must be mandated to protect patient information, thereby building trust among providers and patients [35].

4.6.6 Addressing Socio-Cultural Factors

4.6.6.1 Enhancing Cultural Acceptance

Cultural acceptance is crucial for both patients and providers [39]. The mean scores for patient and provider benefits from telehealth are relatively low (1.31 and 1.28, respectively), indicating a need for increased acceptance. Educational campaigns that highlight the benefits of telehealth and address cultural reservations can enhance acceptance. Demonstrating the efficacy and convenience of telehealth can also shift cultural attitudes, fostering a more supportive environment for its adoption [40].

4.6.6.2 Improving Attitudes and Perceptions

Positive perceptions of telehealth's usefulness and trust in its reliability are critical [42]. The study indicates variability in perceptions of telehealth's validity ($F = 1.798$, $p = 0.099$). To improve these perceptions, healthcare institutions should focus on evidence-based demonstrations of telehealth's benefits, such as improved patient outcomes and increased efficiency. Building trust in telehealth systems through robust data security and reliable performance is also crucial, as supported by [45].

4.6.6.3 Increasing Patient Engagement

Patient engagement is pivotal for the successful adoption of telehealth services [46]. The descriptive statistics reveal low scores for telehealth awareness and usage, indicating a lack of engagement. Providing technical support and education to patients can improve their ability to use telehealth platforms. Furthermore, tailoring telehealth services to meet patient needs and preferences, as suggested by [48], can enhance motivation and willingness to use these services.

4.6.7 Leveraging Advanced Technologies

The integration of advanced technologies such as artificial intelligence (AI) and machine learning can enhance telehealth services. AI can be used for predictive analytics in patient monitoring and personalized care plans, further improving patient outcomes and efficiency.

4.6.8 Developing a Telehealth Ecosystem

Creating a comprehensive telehealth ecosystem that includes a network of providers, technology providers and regulatory bodies can streamline the adoption process. This ecosystem can facilitate collaboration, standardization and shared resources, enhancing the overall telehealth infrastructure.

4.6.9 Implementing Telehealth Champions

Designating telehealth champions within healthcare organizations can help drive adoption. These champions can lead by example, provide training and advocate for the benefits of telehealth, thereby fostering a positive organizational culture toward digital health solutions.

In conclusion, addressing technological, organizational, policy-related and socio-cultural barriers is essential for promoting telehealth adoption among allied healthcare providers in Riyadh's second health cluster. By leveraging the insights from the literature and study findings, these recommendations aim to enhance telehealth integration and utilization, ultimately improving healthcare delivery and patient outcomes.

4.7 Conclusion

This study has thoroughly examined the factors influencing telehealth adoption and perceptions among allied healthcare professionals in Saudi Arabia. The comprehensive analysis of demographic data, coupled with insights into telehealth-related knowledge, availability and perceived benefits and barriers, provides a nuanced understanding of the current landscape of telehealth in the region. The findings underscore the significant role those demographic variables, particularly age, occupation and work setting, play in shaping healthcare professionals' experiences and perceptions of telehealth.

One of the key conclusions of this study is the recognition of high awareness and positive attitudes toward telehealth among the participants. This widespread acceptance is a promising indicator of the potential for telehealth to become a transformative tool in healthcare delivery. The consensus on the benefits of telehealth, both for patients and healthcare providers, reflects a shared understanding of its value in improving access to care, enhancing efficiency and potentially reducing healthcare costs. This foundational acceptance provides a strong basis for further expanding and integrating telehealth services into the healthcare system.

However, the study also highlights critical areas that require attention to fully realize the benefits of telehealth. The significant differences in knowledge and infrastructure preparedness across various demographic groups reveal that not all healthcare professionals are equally equipped to leverage telehealth technologies. This finding points to a need for targeted educational and infrastructural interventions to bridge these gaps. Ensuring that all healthcare professionals have access to the necessary resources, training and support is essential for equitable telehealth adoption.

The study's findings on the perceived validity and reliability of telehealth suggest that while there is general confidence in these technologies, there remains room for improvement in building trust among certain demographic groups. Further research could explore the specific factors that influence these perceptions, enabling the development of tailored strategies to enhance the credibility and reliability of telehealth services.

Moreover, the uniformity in recognizing the benefits of telehealth, despite variations in infrastructure readiness, indicates that future efforts should focus on addressing logistical and infrastructural challenges. Standardizing telehealth services across different healthcare settings is crucial for ensuring consistent quality of care and equitable access for all patients. Policymakers and healthcare administrators must prioritize investments in telehealth infrastructure and support systems to facilitate a seamless and reliable telehealth experience.

References

- [1] S. Barrett, O. Howlett, N. Lal and C. McKinstry, "Telehealth-Delivered Allied Health Interventions: A Rapid Umbrella Review of Systematic Reviews.," *Telemedicine journal and e-health*, vol. 6, pp. e1649-e1666, 2024.
- [2] H. Al-Samarraie, S. Ghazal, A. I. Alzahrani and L. Moody, "Telemedicine in Middle Eastern countries: Progress, barriers, and policy recommendations," *International Journal of Medical Informatics*, vol. 141, p. 104232, 2020.
- [3] M. Pogorzelska-Maziarz, K. L. Rising , A. T. Gentsch, A. Traczuk , T. Hsiao, G. Amadio, T. Haddad and A. M. Gerolamo, "Home healthcare patient, caregiver and provider perspectives on use of unscheduled acute care and the usability and acceptability of on-demand telehealth solutions," *Geriatric Nursing*, vol. 5, pp. 1029-1034, 2021.
- [4] A. Sharma, M. Pruthi and G. Sageena, "Adoption of telehealth technologies: an approach to improving healthcare system," *Translational Medicine Communications*, vol. 7, no. 20, 2022.
- [5] A. Bokolo Jnr, "Implications of telehealth and digital care solutions during COVID-19 pandemic: a qualitative literature review," *Informatics for Health and Social Care*, vol. 46, no. 1, pp. 68-83 , 2021.
- [6] X. Zhang and R. Saltman, "Impact of Electronic Health Record Interoperability on Telehealth Service Outcomes," *JMIR Medical Informatics*, vol. 10, no. 1, p. e31837, 2022.
- [7] M. M. Kobeissi and J. V. Hickey, "An Infrastructure to Provide Safer, Higher-Quality, and More Equitable Telehealth," *The Joint Commission Journal on Quality and Patient Safety*, vol. 49, no. 4, pp. 213-222, 2023.

- [8] S. Omboni, R. S. Padwa, T. Alessa, B. Benczúr, B. B. Green, I. Hubbard, K. Kario, N. A. Khan, A. Konradi, A. G. Logan, Y. Lu, M. Mars, R. J. McManus, S. Melville, C. L. Neumann, G. Parati, N. F. Renna, P. Ryvlin, H. Saner, A. E. Schutte and J. Wang, "The worldwide impact of telemedicine during COVID-19: current evidence and recommendations for the future," *Connected Health And Telemedicine*, vol. 1, no. 1, pp. 7-35, 2022.
- [9] T. Doaks, "Digital equity and high-speed health born from the COVID-19 Crisis," *North Carolina Medical Journal*, vol. 82, no. 4, pp. 266-270, 2021.
- [10] N. K. A. Siddiquee, A. Poudyal, A. Pandey, N. Shrestha, S. Karki, R. Subedi, A. K. Sah and K. C. Dirghayu, "Telemedicine in Resource-Limited Setting: Narrative Synthesis of Evidence in Nepalese Context," *Smart Homecare Technology and TeleHealth*, vol. 6, pp. 1-14, 2020.
- [11] C. J. Wang , T. T. Liu, J. Car and B. Zuckerman, "Design, Adoption, Implementation, Scalability, and Sustainability of Telehealth Programs," *Pediatric Clinics of North America*, vol. 67, no. 4, pp. 675-682, 2020.
- [12] S. M. Alghamdi, A. M. Aldhahir, J. S. Alqahtani, R. A. Siraj, A. S. Alsulayyim, A. A. Almojaibel, M. Alhotye, A. M. Alanazi and A. A. Alqarni, "Healthcare Providers' Perception and Barriers Concerning the Use of Telehealth Applications in Saudi Arabia: A Cross-Sectional Study," *Healthcare* , vol. 10, no. 8, p. 1527, 2022.
- [13] E. E. Thomas, M. L. Taylor, E. C. Ward, R. Hwang, R. Cook, J.-A. Ross, C. Webb, M. Harris, C. Hartley, P. Carswell, C. L. Burns and L. J. Caffery, "Beyond forced telehealth adoption: A framework to sustain telehealth among allied health services," *Journal of Telemedicine and Telecare*, vol. 30, no. 3, pp. 559-569, 2024.
- [14] S. K. Jonasdottir, I. Thordardottir and T. Jonsdottir, "Health professionals' perspective towards challenges and opportunities of telehealth service provision: A scoping review," *International Journal of Medical Informatics*, vol. 167, p. 104862, 2022.

- [15] P. Calleja, S. Wilkes, M. Spencer and S. Woodbridge, "Telehealth use in rural and remote health practitioner education: An integrative review," *Informit*, vol. 22, no. 1, pp. 1-13, 2022.
- [16] A. R. Wootton, C. McCuistian, D. A. L. Packard, V. A. Gruber and P. Saberi, "Overcoming Technological Challenges: Lessons Learned from a Telehealth Counseling Study," *Telemedicine and e-Health*, vol. 26, no. 10, pp. 1278-1283, 2020.
- [17] J.-M. Tsai, M.-J. Cheng, H.-H. Tsai, S.-W. Hung and Y.-L. Chen, "Acceptance and resistance of telehealth: The perspective of dual-factor concepts in technology adoption," *International Journal of Information Management*, vol. 49, pp. 34-44, 2019.
- [18] L. Soltanzadeh, A. B. Sangar and K. Majidzadeh, "The Review of Usability Evaluation Methods on Tele health or Telemedicine Systems," *Frontiers in Health Informatics*, vol. 11, no. 112, 2022.
- [19] S. D. Fouquet and A. T. Miranda, "Asking the Right Questions—Human Factors Considerations for Telemedicine Design," *Current Allergy and Asthma Reports*, vol. 20, no. 66, 2020.
- [20] M. Alduaij, "Employing the Technology Acceptance Model to Explore the Trends of Social Media Adoption and its Effect on Perceived Usefulness and Perceived Ease of Use," *Journal of Information Technology Management*, vol. 11, no. 2, pp. 129-143, 2019.
- [21] F. Khoshrounejad, M. Hamednia, A. Mehrjerd, S. Pichaghsaz, H. Jamalirad, M. Sargolzaei, B. Hoseini and S. Aalaei, "Telehealth-Based Services During the COVID-19 Pandemic: A Systematic Review of Features and Challenges," *Frontiers Public Health*, vol. 9, no. 711762, 2021.
- [22] F. A. Al Haydar, M. H. A. Al Sharif, M. S. M. AL ALshahi, T. S. M. Al Alshahi, S. S. M. Al Shahi and A. S. Al Saab, "A CRITICAL ANALYSIS ON INTEGRATING OPERATIONS IN MEDICAL CLINICS TO ENHANCE SERVICE QUALITY," *Chelonian Research Foundation*, vol. 18, no. 1, p. 191–204, 2023.

- [23] L. Rettinger, P. Putz, L. Aichinger, S. M. Javorszky, K. Widhalm, V. Ertelt-Bach, A. Huber, S. Sargis, L. Maul, O. Radinger, F. Werner and S. Kuhn, "Telehealth Education in Allied Health Care and Nursing: Web-Based Cross-Sectional Survey of Students' Perceived Knowledge, Skills, Attitudes, and Experience," *JMIR Medical Education*, vol. 10, p. e51112, 2024.
- [24] J. E. Bailey, C. Gurgol, E. Pan, S. Njie, S. Emmett, J. Gatwood, L. Gauthier, L. G. Rosas, S. M. Kearney, S. K. Robler, R. H. Lawrence, K. L. Margolis, I. Osunkwo, D. Wilfley and V. O. Shah, "Early Patient-Centered Outcomes Research Experience With the Use of Telehealth to Address Disparities: Scoping Review," *Journal of Medical Internet Research*, vol. 23, no. 12, p. e28503, 2021.
- [25] A. Ganapathy, B. A. Clough and L. M. Casey, "Organizational and Policy Barriers to the Use of Digital Mental Health by Mental Health Professionals," *Telemedicine and e-Health*, vol. 27, no. 12, pp. 1332-1343, 2021.
- [26] S. N. Gajarawala and J. N. Pelkowski, "Telehealth Benefits and Barriers," *The Journal for Nurse Practitioners*, vol. 17, no. 2, pp. 218-221, 2021.
- [27] K. Garber and T. Gustin, "Telehealth Education Impact on Provider Experience and Adoption," *Nurse Educator*, vol. 42, no. 2, pp. 75-80, 2022.
- [28] D. Binci , G. Palozzi and F. Scafarto, "Toward digital transformation in healthcare: a framework for remote monitoring adoption," *The TQM Journal*, vol. 34, no. 6, pp. 1772-1799, 2022.
- [29] F. Velayati, H. Ayatollahi, M. Hemmat and R. Dehghan, "Key components and critical factors for developing a telehealth business framework: a qualitative study," *BMC Medical Informatics and Decision Making*, vol. 21, no. 339, 2021.
- [30] P. Rangachari, S. S. Mushiana and K. Herbert, "A Narrative Review of Factors Historically Influencing Telehealth Use across Six Medical Specialties in the United States," *International Journal of Environmental. Research and Public Health*, vol. 18, no. 9, p. 4995, 2021.

- [31] A. P. A. Santoso, D. Soares, F. Fauzi and S. D. Amallia, "Telemedicine: International Law Comparison," *The Easta Journal Law and Human Rights (ESLHR)*, vol. 2, no. 3, p. 116–126, 2024.
- [32] E. Timmons and C. Norris, "Potential licensing reforms in light of COVID-19," *Health Policy OPEN*, vol. 3, p. 100062, 2022.
- [33] M. Zhao, H. Hamadi, D. R. Haley, J. Xu, C. White-Williams and S. Park, "Telehealth: Advances in Alternative Payment Models," *Telemedicine and e-Health*, vol. 26, no. 12, pp. 1492-1499, 2020.
- [34] Z. Wenhua, M. K. Hasan, N. B. Jailani, S. Islam, N. Safie, H. M. Albarakati, A. Aljohani and M. A. Khan, "A lightweight security model for ensuring patient privacy and confidentiality in telehealth applications," *Computers in Human Behavior*, vol. 153, p. 108134, 2024.
- [35] J. Pool, S. Akhlaghpour, F. Fatehi and L. C. Gray, "Data privacy concerns and use of telehealth in the aged care context: An integrative review and research agenda," *International Journal of Medical Informatics*, vol. 160, p. 104707, 2022.
- [36] B. E. Dicianno, A. Salh, L. Morris, Y. Xiang and D. Ding, "Rehabilitation clinicians' use of mainstream wireless technologies in practice: a scoping review," *Disability and Rehabilitation: Assistive Technology*, p. 1–19, 2024.
- [37] E. Mbunge, B. Muchemwa and J. Batani, "Are we there yet? Unbundling the potential adoption and integration of telemedicine to improve virtual healthcare services in African health systems," *Sensors International*, vol. 3, p. 100152, 2022.
- [38] M. Forbes and J. Chakraborty, "The Effect of Socio-cultural Determinants on Designing Inclusive Telemedicine Tools for the Aging Population," in *Cambridge Workshop on Universal Access and Assistive Technology*, 2023.

- [39] S. A. Kamal, M. Shafiq and P. Kakria, "Investigating acceptance of telemedicine services through an extended technology acceptance model (TAM)," *Technology in Society*, vol. 60, p. 101212, 2020.
- [40] L. Harst, H. Lantzsche and M. Scheibe, "Theories Predicting End-User Acceptance of Telemedicine Use: Systematic Review," *Journal of Medical Internet Research*, vol. 21, no. 5, p. e13117, 2019.
- [41] E. D. Lundereng, A. A. Gonçalves Nes, H. Holmen, A. Winger, H. Thygesen, N. Jøranson, C. R. Borge, O. Dajani, K. L. Mariussen and S. A. Steindal, "Health Care Professionals' Experiences and Perspectives on Using Telehealth for Home-based Palliative Care: Scoping Review," *Journal of Medical Internet Research*, vol. 25, p. e43429, 2023.
- [42] K. Pullyblank, "A Scoping Literature Review of Rural Beliefs and Attitudes toward Telehealth Utilization," *Western Journal of Nursing Research*, vol. 45, no. 4, pp. 375-384, 2022.
- [43] B. Holtz, K. Mitchell, K. Hirko and S. Ford, "Using the Technology Acceptance Model to characterize barriers and opportunities of telehealth in rural populations: A mixed methods study," *JMIR Formative Research*, vol. 6, no. 4, p. e35130, 2022.
- [44] M. T. Minen, C. L. Szperka, K. Kaplan, A. Ehrlich, N. Riggins, P. Rizzoli and L. D. Strauss, "Telehealth as a new care delivery model: The headache provider experience," *Headache: The Journal of Head and Face Pain*, vol. 61, no. 7, pp. 1123-1131, 2021.
- [45] A. Garavand, N. Aslani, H. Nadri, S. Abedini and S. Dehghan, "Acceptance of telemedicine technology among physicians: A systematic review," *Informatics in Medicine Unlocked*, vol. 30, p. 100943, 2022.
- [46] A. A. Aalam, K. A. Osman and A. Martin, "Telehealth Adoption and Patient Engagement," in *A Practical Guide to Emergency Telehealth*, N. Sikka, Ed., New York, Oxford Academic, 2021, p. 39–50.

- [47] C. J. Sieck, M. Rastetter and A. S. McAlearney, "Could Telehealth Improve Equity During the COVID-19 Pandemic?," *The Journal of the American Board of Family Medicine*, vol. 34, pp. S225-S228, 2021.
- [48] Y. Jiang, P. Sun, Z. Chen, J. Guo, S. Wang, F. Liu and J. Li, "Patients' and healthcare providers' perceptions and experiences of telehealth use and online health information use in chronic disease management for older patients with chronic obstructive pulmonary disease: a qualitative study," *BMC Geriatrics*, vol. 22, no. 9, 2022.
- [49] M. A. Alrowaily, S. H. Mustafa, E. A. M. Mohammed, S. T. Makkawi and K. Palani, "Telemedicine Practice and Perceived Skills Among Primary Healthcare Physicians in the Riyadh Second Health Cluster, Saudi Arabia," *Majmaah Journal of Health Sciences*, vol. 12, no. 2, pp. 94-107, 2024.
- [50] F. D. Davis and A. Granić, *The Technology Acceptance Model 30 Years of TAM*, 1st ed., Springer Cham, 2024.
- [51] M. E. Yalcin and B. Kutlu, "Examination of students' acceptance of and intention to use learning management systems using extended TAM," *British Journal of Educational Technology*, vol. 50, no. 5, pp. 2414-2432, 2019.
- [52] R. Bougie and U. Sekaran, *Research Methods For Business: A Skill Building Approach*, 8th ed., Wiley, 2020.
- [53] E. Harley, B. Bryman and A. Bell, *Business Research Methods*, 6th ed., OXFORD UNIV PRESS, 2022.
- [54] T. S. Nanjundeswaraswamy and S. Divakar, "DETERMINATION OF SAMPLE SIZE AND SAMPLING METHODS IN APPLIED RESEARCH," *Proceedings on Engineering Sciences*, vol. 3, no. 1, pp. 25-32, 2021.

- [55] M. Saunders, P. Lewis and A. Thornhill, *Research Methods for Business Students* (UK Version), Revel Edition ed., Harlow: Pearson Education Limited, 2019.
- [56] A. Field, *Discovering statistics using IBM SPSS statistics*, 5th ed., Sage, 2017.
- [57] D. L. Bandalos, *Measurement Theory and Applications for the Social Sciences*, New York, United States of America: The Guilford Press, 2018.
- [58] J. F. Hair, . C. Black and . B. J. Babin, *Multivariate Data Analysis*, 8th ed., Hampshire, United Kingdom: Cengage, 2019.
- [59] P. A. Anawade, D. Sharma and S. Gahane, "A Comprehensive Review on Exploring the Impact of Telemedicine on Healthcare Accessibility," *Cureus*, vol. 3, p. e55996, 2024.
- [60] N. Haynes, A. Ezekwesili, K. Nunes, E. Gumbs, M. Haynes and J. Swain , ""Can you see my screen?" Addressing Racial and Ethnic Disparities in Telehealth.," *Current Cardiovascular Risk Reports*, vol. 23, 2021.
- [61] A. M. AlBar and M. R. Hoque, "Patient Acceptance of e-Health Services in Saudi Arabia: An Integrative Perspective.," *Telemedicine journal and e-health*, vol. 25, no. 9, pp. 847-852, 2019.
- [62] S. B. Mishra and S. Alok, *Handbook of Research Methodology: A Compendium for Scholars & Researchers*, New Delhi: EDUCREATION PUBLISHING, 2017.
- [63] E. R. Babbie, *The Practice of Social Research*, 15th ed., Boston, USA: Cengage, 2020.
- [64] D. P. Andrew, P. M. Pedersen and C. D. McEvoy, *Research Methods and Design in Sport Management*, Champaign: Human Kinetics, 2019.
- [65] M. J. Harris and B. Muvuka, *Integrated Research Methods In Public Health*, Hoboken, New Jersey, USA: Wiley, 2022.

Appendixes

Appendix A: Study Approval by the institutional review board



IRB Registration Number with KACST, KSA: H-01-R-012
IRB Registration Number with OHRP/NIH, USA: IRB00010471
Approval Number Federal Wide Assurance NIH, USA: FWA00018774

July 23, 2024

IRB Log Number: 24-425

Department: Home Health Care

Category of Approval: EXEMPT

Dear Uhoud Al Otaibi,

I am pleased to inform you that your submission dated July 22, 2024 for the study titled '**Barriers to the Implementation of Telehealth Among Allied Healthcare Providers in the Riyadh Second Health Cluster: An Investigative Study**' was reviewed and was approved according to ICH GCP guidelines. Please note that this approval is from the research ethics perspective only. It is the responsibility of the researcher to make arrangement for the conduct of research and data collection.

We wish you well as you proceed with the study and request you to keep the IRB informed of the progress on a regular basis, using the IRB log number shown above.

Please be advised that IRB for administrative purposes requires that you submit a progress report on your research every 6 months. You are required to submit any manuscript resulting from this research for approval by IRB before submission to journals for publication.

As a researcher you are required to maintain a valid certification on protection of human research subjects or the GCP certification. Failure to provide this certificate shall a reason for suspension of your research project.

Sincerely yours,



Dr. Hussam Sakkijha, FCCP, FACP, Diplomat, ABSIM

Chairman Institutional Review Board--IRB

Consultant, Critical Care, Pulmonary & Sleep Medicine

Adult ICU Department

Critical Care Services Administration

King Fahad Medical City

P.O. Box. 59046, Riyadh 11525

Kingdom of Saudi Arabia

(+966) 11 288 9999 Ext: 15789

Mobile #: 053-941-7297

E-mail: hsakkijha@kfmc.med.sa

تجمع الرياض الصحي الثاني
Riyadh Second Health Cluster



1st Floor
Faculty of Medicine
King Fahad Medical City
Riyadh - Saudi Arabia
Phone: 966-11-2889999
ext. 15789/26943

الدور السابع
كلية الطب
مدينة الملك فهد الطبية
الرياض - المملكة العربية السعودية
هاتف: 966-11-2889999 ext. 15789/26943

Appendix B : Questionnaire Form

Nationality: ☐ Saudi ☐ Non-Saudi.	Gender: ☐ Male. ☐ Female.
Age: ☐ ≤ 20. ☐ 21 – 30. ☐ 31 – 40. ☐ 41 – 50. ☐ 51 – 60. ☐ 61 – 70. ☐ ≥ 71.	Occupation: ☐ Physical Therapists (PT). ☐ Occupational Therapists (OT) ☐ Speech-Language Pathologists (SLP) ☐ Dietitians and Nutritionists ☐ Social Workers ☐ Respiratory Therapists ☐ Audiologists
Place of work: ☐ King Salman Center for Kidney Diseases, Riyadh Region. ☐ King Fahad Medical City, Riyadh Region. ☐ Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region. ☐ Alyamamh Hospital, Riyadh Region. ☐ Tumair General Hospital, Tumair Governorate in Riyadh Region. ☐ Zulfi General Hospital, Zulfi Governorate in Riyadh Region. ☐ King Khaled Hospital, Almajmaah Governorate in Riyadh Region. ☐ Al Artawiyah General Hospital, AlArtawiyah Governorate in Riyadh Region. ☐ Rumaah General Hospital, Rumaah Governorate in Riyadh Region. ☐ Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region. ☐ Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region.	
Do you know telehealth? ☐ Yes. ☐ No.	
Do you have telehealth at the hospital? ☐ Yes. ☐ No.	
Do you use telehealth for different purposes? ☐ Yes. ☐ No.	
Do you use different types of telehealth at the hospital? ☐ Yes. ☐ No.	
Is the place of telehealth at the hospital well prepared? ☐ Yes. ☐ No.	
Do think telehealth is valid? ☐ Yes. ☐ No.	
Do think telehealth is reliable? ☐ Yes. ☐ No.	
Do you think patients can benefit of telehealth? ☐ Yes. ☐ No.	
Do you think healthcare providers can benefit of telehealth? ☐ Yes. ☐ No.	
Do you think there are barriers of using telehealth in Saudi Arabia? ☐ Yes. ☐ No.	
Identify:	

Appendix C : Consent form for participate in the survey study

8/8/24, 5:51 PM

Barriers to the Implementation of Telehealth Among Allied Healthcare Providers in the Riyadh Second Health Cluster: An Investi...

Barriers to the Implementation of Telehealth Among Allied Healthcare Providers in the Riyadh Second Health Cluster: An Investigative Study

Dear Participant,

We invite you to participate in a research study titled "**Barriers to the Implementation of Telehealth Among Allied Healthcare Providers in the Riyadh Second Health Cluster: An Investigative Study.**" This study aims to understand the challenges and barriers faced by allied healthcare providers in implementing telehealth services within the Riyadh second health cluster. Your insights and experiences are invaluable in helping us identify and address these barriers to improve telehealth adoption and utilization.

The survey consists of three sections designed to gather information about your background, your experiences and perceptions related to telehealth, and the barriers you may encounter in using telehealth services. It will take approximately 10-15 minutes to complete.

Your participation is entirely voluntary, and your responses will be kept confidential. All data collected will be used solely for the purposes of this research study and will be securely stored. Personal identifiers will be removed, and results will be reported in aggregate form to ensure individual privacy. You have the right to withdraw from the study at any time without any negative consequences. The study adheres to all ethical guidelines as approved by the institutional review board (*IRB Reference Number: 24 - 425*).

Thank you for your time and valuable input.

1. I consent to participate in this survey study

حدد دائرة واحدة فقط.

Yes

No

☐
☐

Appendix D : Responses output of (351 participants)

#	Timestamp	I consent to participate in this survey study	Demographic Data: Nationality	Demographic Data: Gender	Demographic Data: Age (in years)	Demographic Data: Occupation	Demographic Data: Place of Work	Do you know telehealth?	Do you have telehealth at the hospital?	Do you use telehealth for different purposes?	Do you use different types of telehealth at the hospital?	Is the place of telehealth at the hospital well prepared?	Do think telehealth is valid?	Do think telehealth is reliable?	Do you think patients can benefit of telehealth?	Do you think healthcare providers can benefit of telehealth?	Do you think there are barriers of using telehealth in Saudi Arabia ?
1	7/27/2024 16:47:41	Yes	Non-Saudi	Female	41 – 50	Physical Therapists (PT)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Maybe	Yes	Yes	Yes
2	7/27/2024 16:54:22	Yes	Non-Saudi	Female	21 – 30	Respiratory Therapists	King Fahad Medical City, Riyadh Region	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Yes
3	7/27/2024 16:56:14	Yes	Saudi	Male	41 – 50	Physical Therapists (PT)	Alyamamah Hospital, Riyadh Region	No	No	No	No	No	No	Maybe	No	No	Maybe
4	7/27/2024 16:58:56	Yes	Saudi	Female	41 – 50	Respiratory Therapists	Alyamamah Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

5	7/27/2024 16:59:40	Yes	Saudi	Female	31 – 40	Speech- Languag e Pathologi sts (SLP)	Alyamam h Hospital, Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
6	7/27/2024 17:01:10	Yes	Saudi	Male	41 – 50	Physical Therapist s (PT)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes
7	7/27/2024 17:24:56	Yes	Non- Saudi	Male	41 – 50	Occupati onal Therapist s (OT)	Tumair General Hospital, Tumair Governor ate in Riyadh Region	Yes	Yes	Maybe	Maybe	No	Yes	Yes	Maybe	Yes	Maybe
8	7/27/2024 17:44:19	Yes	Saudi	Male	21 – 30	Social Workers	King Salman Center for Kidney Diseases , Riyadh Region	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
9	7/27/2024 18:01:42	Yes	Saudi	Female	31 – 40	Social Workers	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governor ate in Riyadh Region	Yes	Maybe	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Yes

10	7/27/2024 18:29:48	Yes	Saudi	Female	31 – 40		King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Maybe	Maybe	Maybe	Maybe	No
11	7/27/2024 19:15:33	Yes	Saudi	Female	31 – 40	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	7/27/2024 19:17:44	Yes	Saudi	Female	31 – 40	Dietitians and Nutritionists	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
13	7/27/2024 19:19:20	Yes	Saudi	Female	31 – 40	Audiologists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	No	No	No	Yes	No	Yes	Yes	Yes
14	7/27/2024 19:22:29	Yes	Saudi	Male	31 – 40	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
15	7/27/2024 19:24:46	Yes	Saudi	Female	31 – 40	Physical Therapists (PT)	King Fahad Medical City,	Maybe	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Maybe

							Riyadh Region										
16	7/27/2024 19:35:40	Yes	Saudi	Female	21 – 30	Physical Therapist s (PT)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	7/27/2024 20:19:19	Yes	Saudi	Female	31 – 40	Respiratory Therapist s	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	7/27/2024 21:51:40	Yes	Saudi	Female	31 – 40	Social Workers	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe
19	7/28/2024 0:04:22	Yes	Saudi	Male	<20	Speech-Language Pathologists (SLP)	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
20	7/28/2024 0:06:14	Yes	Non-Saudi	Female	41 – 50	Dietitians and Nutritionists	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe

21	7/28/2024 0:07:34	Yes	Saudi	Male	21 – 30	Dietitians and Nutritionists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	7/28/2024 0:33:09	Yes	Non-Saudi	Male	61 – 70	Audiologists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
23	7/28/2024 1:48:29	Yes	Saudi	Female	31 – 40	Social Workers	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	No	Maybe	Maybe	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
24	7/28/2024 5:04:32	Yes	Saudi	Male	31 – 40	Occupational Therapists (OT)	King Fahad Medical City, Riyadh Region	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	7/28/2024 8:14:40	Yes	Saudi	Female	21 – 30	Respiratory	King Fahad Medical	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

						Therapist s	City, Riyadh Region											
26	7/28/202 4 8:14:49	Yes	Saudi	Female	31 – 40	Dietitians and Nutritioni sts	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe
27	7/28/202 4 8:15:41	Yes	Saudi	Female	31 – 40	Physical Therapist s (PT)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
28	7/28/202 4 8:33:36	Yes	Non- Saudi	Female	41 – 50	Physical Therapist s (PT)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes
29	7/28/202 4 9:46:14	Yes	Saudi	Female	31 – 40	Speech- Languag e Pathologi sts (SLP)	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
30	7/28/202 4 9:47:34	Yes	Non- Saudi	Female	41 – 50	Social Workers	Al Artawiya h General Hospital, AlArtawiy ah Governor ate in	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes

							Riyadh Region										
31	7/28/2024 9:49:06	Yes	Non-Saudi	Female	41 – 50	Respiratory Therapists	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	No	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
32	7/28/2024 9:50:41	Yes	Saudi	Male	31 – 40	Physical Therapists (PT)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
33	7/28/2024 9:52:21	Yes	Saudi	Male	31 – 40	Dietitians and Nutritionists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
34	7/28/2024 10:03:23	Yes	Saudi	Male	31 – 40	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Maybe	No	Maybe	No	Maybe	Maybe	Yes
35	7/28/2024 10:23:27	Yes	Non-Saudi	Male	51 – 60		King Fahad Medical City,	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

							Riyadh Region										
36	7/28/2024 10:24:52	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Yes
37	7/28/2024 10:25:34	Yes	Saudi	Male	41 – 50		King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	No	Maybe	Yes	No	Maybe	Maybe	Yes	Yes
38	7/28/2024 10:27:38	Yes	Non-Saudi	Male	31 – 40		King Fahad Medical City, Riyadh Region	Maybe	No	No	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
39	7/28/2024 10:36:28	Yes	Saudi	Male	31 – 40	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No
40	7/28/2024 10:37:56	Yes	Saudi	Female	21 – 30	Occupational Therapists (OT)	King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	No	No	Yes	No	Yes	Yes
41	7/28/2024 10:40:59	Yes	Saudi	Female	21 – 30	Social Workers	King Fahad Medical	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

							City, Riyadh Region										
42	7/28/2024 10:45:10	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	No
43	7/28/2024 10:49:34	Yes	Non-Saudi	Male	31 – 40	Occupational Therapists (OT)	King Fahad Medical City, Riyadh Region	No	Maybe	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
44	7/28/2024 10:50:53	Yes	Non-Saudi	Male	31 – 40	Social Workers	King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	No	Yes	Maybe	Yes	Yes	Yes
45	7/28/2024 10:52:42	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Maybe	Yes	No	Maybe
46	7/28/2024 10:53:47	Yes	Non-Saudi	Male	61 – 70		King Fahad Medical City, Riyadh Region	Yes	Maybe	Maybe	No	Maybe	Yes	Yes	Maybe	Maybe	Yes
47	7/28/2024 11:07:44	Yes	Non-Saudi	Male	51 – 60	Physical Therapists (PT)	King Fahad Medical City,	Yes	Yes	Yes	Yes	No	Yes	Yes	Maybe	Yes	Maybe

							Riyadh Region										
48	7/28/2024 11:09:44	Yes	Saudi	Male	31 – 40	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe
49	7/28/2024 11:09:56	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	No	Maybe	No	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
50	7/28/2024 11:10:29	Yes	Saudi	Male	31 – 40		King Salman Center for Kidney Diseases , Riyadh Region	Maybe	Maybe	No	No	Maybe	Yes	Yes	Yes	Maybe	Yes
51	7/28/2024 11:10:41	Yes	Saudi	Male	31 – 40		King Fahad Medical City, Riyadh Region	Yes	Maybe	No	No		Maybe	Yes	Yes	Yes	Yes
52	7/28/2024 11:12:10	Yes	Non-Saudi	Male	41 – 50	Occupational Therapists (OT)	King Fahad Medical City, Riyadh Region	Yes	Maybe	No	No	Maybe	No	No	Yes	Yes	Yes
53	7/28/2024 11:12:14	Yes	Non-Saudi	Male	31 – 40		King Fahad Medical City,	No	Yes	No	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe

							Riyadh Region										
54	7/28/2024 11:13:17	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
55	7/28/2024 11:47:58	Yes	Saudi	Female	31 – 40	Social Workers	King Fahad Medical City, Riyadh Region	No	No	No	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
56	7/28/2024 11:53:33	Yes	Non-Saudi	Female	41 – 50	Physical Therapists (PT)	King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	Maybe	Maybe	Maybe	Maybe	Maybe	Yes
57	7/28/2024 11:54:54	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
58	7/28/2024 12:02:42	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe
59	7/28/2024 12:06:55	Yes	Non-Saudi	Female	31 – 40		King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Maybe	No	Yes	Maybe	Maybe

60	7/28/2024 12:07:00	Yes	Non-Saudi	Male	31 – 40	Physical Therapists (PT)	King Fahad Medical City, Riyadh Region	Maybe	No	Yes	Maybe	No	Maybe	No	Maybe	No	Yes
61	7/28/2024 12:08:14	Yes	Non-Saudi	Male	51 – 60		King Fahad Medical City, Riyadh Region	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	7/28/2024 12:09:05	Yes	Non-Saudi	Male	41 – 50	Occupational Therapists (OT)	King Fahad Medical City, Riyadh Region	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	7/28/2024 12:10:56	Yes	Non-Saudi	Female	51 – 60		King Fahad Medical City, Riyadh Region	Yes	Yes	No	Yes	Maybe	Yes	Yes	Yes	Yes	No
64	7/28/2024 12:54:31	Yes	Saudi	Female	21 – 30	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	Maybe	Yes	Yes	Yes	Yes	Maybe
65	7/28/2024 13:42:17	Yes	Non-Saudi	Male	41 – 50	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Maybe	Maybe	No	No	Maybe	Maybe	Maybe	Maybe	Maybe	Yes

66	7/28/2024 13:57:16	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Maybe	No	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
67	7/28/2024 14:03:19	Yes	Non-Saudi	Female	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Maybe	Yes	Yes	Yes	No
68	7/28/2024 14:18:29	Yes	Saudi	Male	21 – 30	Physical Therapists (PT)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes
69	7/28/2024 14:31:53	Yes	Saudi	Male	21 – 30	Occupational Therapists (OT)	King Salman Center for Kidney Diseases, Riyadh Region	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
70	7/28/2024 14:33:34	Yes	Non-Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Maybe	Yes	No	Maybe	Maybe	Yes	Maybe	Yes	Maybe	Yes
71	7/28/2024 14:33:51	Yes	Non-Saudi	Female	21 – 30	Dietitians and Nutritionists	King Salman Center for Kidney Diseases	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Maybe	Yes

							, Riyadh Region										
72	7/28/2024 14:45:29	Yes	Saudi	Male	31 – 40	Physical Therapist s (PT)	Alyamam h Hospital, Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
73	7/28/2024 14:46:44	Yes	Saudi	Male	21 – 30	Physical Therapist s (PT)	King Salman Center for Kidney Diseases , Riyadh Region	No	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes
74	7/28/2024 14:48:26	Yes	Saudi	Male	21 – 30	Respirato ry Therapist s	King Fahad Medical City, Riyadh Region	Maybe	Yes	Yes	Maybe	Yes	Maybe	Maybe	No	Yes	Yes
75	7/28/2024 15:16:19	Yes	Saudi	Female	31 – 40	Physical Therapist s (PT)	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Maybe	Yes	Yes	No	Yes	Yes	Maybe	No
76	7/28/2024 15:20:37	Yes	Saudi	Male	31 – 40		King Fahad Medical City, Riyadh Region	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
77	7/28/2024 15:32:41	Yes	Non-Saudi	Male	31 – 40		King Fahad Medical	Yes	Yes	Yes	Yes	No	Maybe	Maybe	No	Yes	Yes

							City, Riyadh Region										
78	7/28/2024 16:03:26	Yes	Saudi	Female	31 – 40			No	Maybe	No	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
79	7/28/2024 16:07:08	Yes	Saudi	Female	41 – 50	Speech- Languag e Pathologi sts (SLP)	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
80	7/28/2024 16:08:08	Yes	Saudi	Male	31 – 40	Occupati onal Therapist s (OT)	King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
81	7/28/2024 16:09:44	Yes	Saudi	Female	41 – 50	Occupati onal Therapist s (OT)	King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
82	7/28/2024 16:12:28	Yes	Saudi	Female	41 – 50	Dietitians and Nutritioni sts	Tumair General Hospital, Tumair Governor ate in Riyadh Region	Yes	No	No	No	No	Yes	Yes	Yes	Yes	Yes
83	7/28/2024 16:13:39	Yes	Non- Saudi	Female	41 – 50	Occupati onal Therapist s (OT)	King Salman Center for Kidney	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes

							Diseases , Riyadh Region										
84	7/28/2024 16:14:49	Yes	Saudi	Female	31 – 40	Occupational Therapists (OT)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
85	7/28/2024 16:16:18	Yes	Saudi	Male	31 – 40	Physical Therapists (PT)	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
86	7/28/2024 16:17:52	Yes	Non-Saudi	Female	31 – 40	Respiratory Therapists	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
87	7/28/2024 16:18:47	Yes	Saudi	Female	31 – 40	Dietitians and Nutritionists	Alyamamah Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
88	7/28/2024 16:26:46	Yes	Non-Saudi	Male	41 – 50	Occupational Therapists (OT)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes

89	7/28/2024 16:27:59	Yes	Saudi	Male	41 – 50	Respiratory Therapists	Tumair General Hospital, Tumair Governorate in Riyadh Region	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Maybe	Yes
90	7/28/2024 16:29:17	Yes	Non-Saudi	Female	31 – 40	Dietitians and Nutritionists	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	No	Yes	Yes	Yes	Maybe	Yes	Maybe	Yes
91	7/28/2024 16:37:27	Yes	Saudi	Female	21 – 30	Speech-Language Pathologists (SLP)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	No	Yes	Yes	Maybe	Yes	Yes	Yes
92	7/28/2024 16:38:58	Yes	Non-Saudi	Female	21 – 30	Occupational Therapists (OT)	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes
93	7/28/2024 16:41:31	Yes	Saudi	Male	41 – 50			No	Maybe								

94	7/28/2024 17:11:54	Yes	Saudi	Male	51 – 60	Speech- Languag e Pathologi sts (SLP)	Alyamam h Hospital, Riyadh Region	Yes	Maybe	No	Yes	Yes	Yes	Yes	Yes	Maybe	Maybe	Yes
95	7/28/2024 17:29:37	Yes	Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
96	7/28/2024 17:31:24	Yes	Non- Saudi	Male	41 – 50	Audiologi sts	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No
97	7/28/2024 17:31:47	Yes	Saudi	Male	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
98	7/28/2024 17:33:44	Yes	Non- Saudi	Female	51 – 60	Speech- Languag e Pathologi sts (SLP)	Al Artawiya h General Hospital, AlArtawiy ah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

99	7/28/2024 17:35:44	Yes	Non-Saudi	Male	61 – 70	Occupational Therapists (OT)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	No
100	7/28/2024 17:37:34	Yes	Non-Saudi	Female	51 – 60	Physical Therapists (PT)	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
101	7/28/2024 17:39:48	Yes	Non-Saudi	Male	61 – 70	Audiologists	King Salman Center for Kidney Diseases, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
102	7/28/2024 18:27:47	Yes	Non-Saudi	Female	51 – 60	Respiratory Therapists	King Fahad Medical City, Riyadh Region	No	No	No	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
103	7/28/2024 18:56:50	Yes	Saudi	Male	31 – 40	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	No	Maybe	Yes	Yes	Yes	Yes	Yes	Yes

104	7/28/2024 19:03:40	Yes	Saudi	Female	31 – 40	Social Workers	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
105	7/28/2024 19:04:18	Yes	Non-Saudi	Male	31 – 40	Occupational Therapists (OT)	Alyamam Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
106	7/28/2024 19:44:28	Yes	Saudi	Male	41 – 50	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
107	7/28/2024 20:45:55	Yes	Saudi	Male	21 – 30	Physical Therapists (PT)	King Fahad Medical City, Riyadh Region	No	Maybe	Maybe	No	No	Yes	Yes	Yes	Yes	Yes
108	7/28/2024 20:47:38	Yes	Saudi	Male	21 – 30	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	No	Maybe	Yes	Yes	Yes	Maybe	Maybe	Yes
109	7/28/2024 20:59:28	Yes	Saudi	Female	31 – 40	Speech-Language Pathologists (SLP)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Maybe	Yes	Yes	Yes

110	7/28/2024 21:01:05	Yes	Non-Saudi	Female	41 – 50		King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
111	7/28/2024 21:23:48	Yes	Saudi	Male	41 – 50	Physical Therapists (PT)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
112	7/28/2024 21:26:58	Yes	Non-Saudi	Female	31 – 40	Dietitians and Nutritionists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
113	7/28/2024 22:04:05	Yes	Saudi	Female	31 – 40		Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Maybe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
114	7/28/2024 22:09:58	Yes	Saudi	Female	21 – 30	Speech-Language Pathologists (SLP)	Hotat Sudir Hospital, Hotat Sudir	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

							Governor ate in Riyadh Region											
115	7/28/202 4 22:13:25	Yes	Non- Saudi	Male	31 – 40	Physical Therapist s (PT)	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
116	7/28/202 4 22:14:19	Yes	Saudi	Female	31 – 40	Dietitians and Nutritioni sts	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
117	7/28/202 4 22:15:21	Yes	Non- Saudi	Female	31 – 40	Speech- Languag e Pathologi sts (SLP)	Alyamam h Hospital, Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
118	7/28/202 4 22:17:03	Yes	Non- Saudi	Female	31 – 40	Respirato ry Therapist s	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
119	7/29/202 4 5:55:17	Yes	Saudi	Male	41 – 50	Dietitians and Nutritioni sts	King Fahad Medical City,	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

							Riyadh Region										
120	7/29/2024 8:51:18	Yes	Saudi	Female	41 – 50	Speech-Languag e Pathologi sts (SLP)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
121	7/29/2024 12:21:58	Yes	Non-Saudi	Female	31 – 40		Alyamam h Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
122	7/29/2024 12:42:56	Yes	Non-Saudi	Male	51 – 60		King Fahad Medical City, Riyadh Region	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Yes
123	7/29/2024 15:06:26	Yes	Non-Saudi	Female	41 – 50		Alyamam h Hospital, Riyadh Region	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
124	7/29/2024 16:26:09	Yes	Non-Saudi	Female	41 – 50		Alyamam h Hospital, Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Maybe
125	7/29/2024 17:17:30	Yes	Saudi	Female	31 – 40	Respirato ry Therapist s	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	No	Maybe	Yes	Yes	Yes	Maybe	No	Yes	Yes
126	7/29/2024 17:29:04	Yes	Non-Saudi	Female	51 – 60	Respirato ry	Tumair General Hospital,	Yes	Yes	Maybe	Maybe	No	Yes	Yes	Yes	Yes	Maybe

						Therapist s	Tumair Governor ate in Riyadh Region										
127	7/29/202 4 17:30:21	Yes	Non- Saudi	Male	31 – 40	Audiologi sts	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No
128	7/29/202 4 17:31:09	Yes	Saudi	Female	31 – 40	Occupati onal Therapist s (OT)	Al Artawiya h General Hospital, AlArtawiy ah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
129	7/29/202 4 17:31:59	Yes	Saudi	Male	21 – 30	Dietitians and Nutritioni sts	Rumaah General Hospital, Rumaah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	No
130	7/29/202 4 17:32:57	Yes	Non- Saudi	Male	41 – 50	Speech- Languag e Pathologi sts (SLP)	Hotat Sudir Hospital, Hotat Sudir	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe

							Governor ate in Riyadh Region											
131	7/29/202 4 17:33:49	Yes	Saudi	Female	41 – 50	Speech- Languag e Pathologi sts (SLP)	Rumaah General Hospital, Rumaah Governor ate in Riyadh Region	Yes	Yes	No	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No
132	7/29/202 4 19:30:27	Yes	Non- Saudi	Male	21 – 30	Dietitians and Nutritioni sts	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	Yes	No	Yes	Yes	Maybe	Maybe	No	Yes	
133	7/29/202 4 19:32:44	Yes	Saudi	Female	31 – 40	Speech- Languag e Pathologi sts (SLP)	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	No		Yes	Yes	No	Yes	Yes	Maybe	Yes	Maybe	
134	7/29/202 4 19:36:03	Yes	Saudi	Male	31 – 40	Audiologi sts	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	No	Maybe	No	No	Yes	Yes	No	Maybe	Yes	Yes	

135	7/29/2024 20:13:05	Yes	Non-Saudi	Male	41 – 50	Dietitians and Nutritionists	Tumair General Hospital, Tumair Governorate in Riyadh Region	No	Maybe	No	Yes	Yes	Yes	Yes	Yes	Maybe	Yes
136	7/29/2024 20:36:17	Yes	Saudi	Male	<20	Physical Therapists (PT)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No
137	7/29/2024 20:38:46	Yes	Non-Saudi	Female	51 – 60	Dietitians and Nutritionists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
138	7/29/2024 20:39:42	Yes	Saudi	Male	61 – 70	Occupational Therapists (OT)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
139	7/29/2024 20:41:42	Yes	Non-Saudi	Female	41 – 50	Speech-Language Pathologists (SLP)	Zulfi General Hospital, Zulfi Governor	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Maybe	Yes	Maybe

							ate in Riyadh Region										
140	7/29/202 4 20:42:42	Yes	Saudi	Female	61 – 70	Audiologi sts	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
141	7/29/202 4 20:44:23	Yes	Non- Saudi	Female	51 – 60	Speech- Languag e Pathologi sts (SLP)	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
142	7/29/202 4 20:45:46	Yes	Non- Saudi	Male	>70	Respirato ry Therapist s	Al Artawiya h General Hospital, AlArtawiy ah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
143	7/29/202 4 20:46:46	Yes	Saudi	Male	<20	Physical Therapist s (PT)	Zulfi General Hospital, Zulfi Governor ate in	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe

							Riyadh Region											
144	7/29/2024 20:49:14	Yes	Non-Saudi	Female	<20	Speech-Language Pathologists (SLP)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Yes
145	7/29/2024 20:50:46	Yes	Non-Saudi	Female	21 – 30	Occupational Therapists (OT)	Al Artawiya General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No
146	7/29/2024 20:51:55	Yes	Non-Saudi	Female	51 – 60	Physical Therapists (PT)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Maybe
147	7/29/2024 20:53:28	Yes	Saudi	Female	<20	Audiologists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No

							Riyadh Region										
148	7/29/2024 20:55:25	Yes	Non-Saudi	Female	31 – 40	Audiologists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Maybe	No	No	Yes	Yes	Yes	Yes	No
149	7/29/2024 20:57:22	Yes	Non-Saudi	Female	<20	Audiologists	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
150	7/29/2024 20:58:38	Yes	Non-Saudi	Female	21 – 30	Dietitians and Nutritionists	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Maybe	Yes	Maybe	Yes	No
151	7/29/2024 21:14:17	Yes	Saudi	Male	31 – 40	Speech-Language Pathologists (SLP)	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
152	7/29/2024 21:15:14	Yes	Non-Saudi	Female	31 – 40	Physical Therapists (PT)	King Khaled Hospital,	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

							Almajma ah Governor ate in Riyadh Region										
153	7/29/202 4 21:16:16	Yes	Saudi	Male	31 – 40	Respirato ry Therapist s	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
154	7/29/202 4 21:21:12	Yes	Saudi	Male	31 – 40	Social Workers	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
155	7/29/202 4 21:22:41	Yes	Saudi	Male	31 – 40	Physical Therapist s (PT)	Alyamam h Hospital, Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
156	7/29/202 4 21:23:33	Yes	Non- Saudi	Female	41 – 50	Physical Therapist s (PT)	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
157	7/30/202 4 17:11:07	Yes	Non- Saudi	Female	31 – 40	Occupati onal Therapist s (OT)	Prince Mohamm ed Bin Abdulaziz	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes

							Hospital, Riyadh Region											
158	7/30/2024 17:12:06	Yes	Saudi	Male	41 – 50	Physical Therapist s (PT)	Alyamam h Hospital, Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
159	7/30/2024 17:13:02	Yes	Saudi	Male	31 – 40	Physical Therapist s (PT)	Zulfi General Hospital, Zulfi Governor ate in Riyadh Region	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
160	7/30/2024 17:14:33	Yes	Saudi	Female	31 – 40	Occupati onal Therapist s (OT)	King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
161	7/30/2024 20:47:45	Yes	Saudi	Female	31 – 40	Speech- Languag e Pathologi sts (SLP)	Alyamam h Hospital, Riyadh Region	Yes	No	Yes	No	No	Yes	Maybe	No	Yes	Yes	Yes
162	7/30/2024 21:03:54	Yes	Saudi	Female	41 – 50	Audiologi sts	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	Maybe	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Yes

163	7/30/2024 21:04:42	Yes	Non-Saudi	Male	>70	Respiratory Therapists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
164	7/30/2024 21:05:27	Yes	Non-Saudi	Male	51 – 60	Speech-Language Pathologists (SLP)	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Maybe
165	7/31/2024 6:36:12	Yes	Saudi	Female	51 – 60	Speech-Language Pathologists (SLP)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Yes	No
166	7/31/2024 6:38:41	Yes	Saudi	Male	61 – 70	Respiratory Therapists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

167	7/31/2024 6:39:55	Yes	Non-Saudi	Female	61 – 70	Respiratory Therapists	Al Artawiya General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
168	7/31/2024 6:58:56	Yes	Saudi	Male	61 – 70		Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Maybe	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe
169	7/31/2024 17:54:28	Yes	Saudi	Female	41 – 50	Social Workers	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
170	7/31/2024 17:55:34	Yes	Saudi	Male	41 – 50	Occupational Therapists (OT)	Alyamamah Hospital, Riyadh Region	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
171	7/31/2024 17:57:32	Yes	Saudi	Female	31 – 40	Physical Therapists (PT)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

172	7/31/2024 17:58:46	Yes	Saudi	Male	41 – 50	Social Workers	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
173	7/31/2024 17:59:53	Yes	Saudi	Female	31 – 40	Dietitians and Nutritionists	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
174	7/31/2024 18:01:08	Yes	Saudi	Female	31 – 40	Speech-Language Pathologists (SLP)	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
175	7/31/2024 18:04:23	Yes	Saudi	Female	31 – 40	Social Workers	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
176	7/31/2024 18:05:17	Yes	Saudi	Female	31 – 40	Dietitians and Nutritionists	King Salman Center for Kidney Diseases, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
177	7/31/2024 18:06:10	Yes	Saudi	Female	41 – 50	Audiologists	King Fahad Medical	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes

							City, Riyadh Region										
178	7/31/2024 18:07:02	Yes	Saudi	Male	41 – 50	Physical Therapist s (PT)	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
179	7/31/2024 18:08:07	Yes	Saudi	Male	41 – 50	Physical Therapist s (PT)	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
180	7/31/2024 18:09:05	Yes	Saudi	Male	31 – 40	Occupati onal Therapist s (OT)	Tumair General Hospital, Tumair Governor ate in Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
181	7/31/2024 18:10:00	Yes	Saudi	Female	31 – 40	Dietitians and Nutritioni sts	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes

182	7/31/2024 18:10:50	Yes	Saudi	Female	31 – 40	Social Workers	Alyamam h Hospital, Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
183	7/31/2024 18:50:51	Yes	Saudi		41 – 50	Respiratory Therapists	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
184	7/31/2024 18:51:45	Yes	Saudi	Female	31 – 40	Physical Therapists (PT)	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
185	7/31/2024 21:04:07	Yes	Saudi	Male	<20	Physical Therapists (PT)	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
186	7/31/2024 21:05:13	Yes	Non-Saudi	Female	21 – 30	Occupational Therapists (OT)	Tumair General Hospital, Tumair Governor ate in	Yes	Maybe	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe

							Riyadh Region										
187	7/31/2024 21:06:10	Yes	Saudi	Male	31 – 40	Speech-Language Pathologists (SLP)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Yes	No
188	7/31/2024 21:07:04	Yes	Non-Saudi	Female	31 – 40	Dietitians and Nutritionists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
189	7/31/2024 21:19:31	Yes	Saudi	Male	21 – 30	Dietitians and Nutritionists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	No
190	7/31/2024 21:20:43	Yes	Non-Saudi	Male	51 – 60	Audiologists	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	No

191	7/31/2024 21:21:40	Yes	Saudi	Male	51 – 60	Social Workers	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
192	7/31/2024 21:24:40	Yes	Saudi	Male	41 – 50	Audiologists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
193	7/31/2024 21:25:31	Yes	Saudi	Male	51 – 60	Dietitians and Nutritionists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Maybe	Yes	No	Yes	Yes	Yes	Yes	No
194	7/31/2024 21:26:30	Yes	Saudi	Male	51 – 60	Audiologists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes

195	7/31/2024 21:27:14	Yes	Saudi	Female	51 – 60	Dietitians and Nutritionists	Al Artawiya h General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
196	7/31/2024 21:27:51	Yes	Saudi	Female	51 – 60	Respiratory Therapists	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No
197	7/31/2024 21:28:35	Yes	Non-Saudi	Female	51 – 60	Occupational Therapists (OT)	Al Artawiya h General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe
198	7/31/2024 21:29:14	Yes	Non-Saudi	Male	61 – 70	Respiratory Therapists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe

							Riyadh Region										
199	7/31/2024 21:29:52	Yes	Saudi	Female	61 – 70	Audiologists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Maybe	No	Maybe	Yes	Yes	Yes	Yes	Maybe
200	7/31/2024 21:30:29	Yes	Saudi	Female	51 – 60	Social Workers	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
201	7/31/2024 23:01:23	Yes	Saudi	Female	31 – 40	Audiologists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
202	7/31/2024 23:02:09	Yes	Saudi	Male	41 – 50	Respiratory Therapists	King Fahad Medical City, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
203	7/31/2024 23:02:57	Yes	Non-Saudi	Female	31 – 40	Speech-Language	King Fahad Medical	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

						Pathologists (SLP)	City, Riyadh Region										
204	7/31/2024 23:03:49	Yes	Non-Saudi	Female	41 – 50	Physical Therapists (PT)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
205	7/31/2024 23:04:41	Yes	Saudi	Male	41 – 50	Social Workers	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
206	7/31/2024 23:06:18	Yes	Saudi	Male	21 – 30	Physical Therapists (PT)	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	No	No	No	Maybe	Yes	Yes	Yes	Yes
207	7/31/2024 23:07:38	Yes	Saudi	Male	41 – 50	Social Workers	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

							Riyadh Region										
208	7/31/2024 23:08:41	Yes	Saudi	Male	31 – 40	Physical Therapist s (PT)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
209	7/31/2024 23:09:32	Yes	Saudi	Male	31 – 40	Respiratory Therapist s	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
210	7/31/2024 23:10:55	Yes	Non-Saudi	Female	41 – 50	Respiratory Therapist s	King Fahad Medical City, Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
211	7/31/2024 23:12:32	Yes	Non-Saudi	Female	31 – 40	Respiratory Therapist s	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
212	8/1/2024 18:49:04	Yes	Non-Saudi	Male	41 – 50	Physical Therapist s (PT)	King Fahad Medical City, Riyadh Region	No	Yes	No	Maybe	Yes	No	Yes	Maybe	Yes	Yes

213	8/1/2024 18:50:03	Yes	Saudi	Male	41 – 50	Dietitians and Nutritioni sts	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	No	Yes	No	Yes	Yes	Yes	Maybe	No	Yes
214	8/1/2024 18:50:57	Yes	Non- Saudi	Female	21 – 30	Physical Therapist s (PT)	King Salman Center for Kidney Diseases , Riyadh Region	No	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No	Maybe
215	8/1/2024 18:51:48	Yes	Saudi	Female	41 – 50	Speech- Languag e Pathologi sts (SLP)	King Fahad Medical City, Riyadh Region	No	Yes	Yes	No	Yes	Yes	No	Yes	Maybe	Maybe
216	8/1/2024 18:52:45	Yes	Non- Saudi	Male	51 – 60	Physical Therapist s (PT)	King Fahad Medical City, Riyadh Region	Yes	Maybe	No	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
217	8/1/2024 18:53:46	Yes	Saudi	Female	41 – 50	Respirato ry Therapist s	King Salman Center for Kidney Diseases , Riyadh Region	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Maybe
218	8/1/2024 23:33:22	Yes	Non- Saudi	Female	61 – 70	Social Workers	Prince Nasser Bin Saad	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

							Alsudeiry Hospital, Alghat Governorate in Riyadh Region										
219	8/1/2024 23:34:39	Yes	Non-Saudi	Female	61 – 70	Physical Therapist s (PT)	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
220	8/1/2024 23:38:19	Yes	Non-Saudi		61 – 70	Occupational Therapist s (OT)	Prince Mohammed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
221	8/1/2024 23:40:02	Yes	Non-Saudi	Male	61 – 70	Speech-Language Pathologists (SLP)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe	Maybe
222	8/1/2024 23:40:47	Yes	Non-Saudi	Male	61 – 70	Dietitians and Nutritionists	Alyamam h Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
223	8/1/2024 23:41:41	Yes	Non-Saudi	Male	61 – 70	Respiratory	Rumaah General Hospital,	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

						Therapist s	Rumaah Governor ate in Riyadh Region										
224	8/1/2024 23:42:30	Yes	Non- Saudi	Female	51 – 60	Physical Therapist s (PT)	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
225	8/1/2024 23:45:01	Yes	Non- Saudi	Female	51 – 60	Physical Therapist s (PT)	Zulfi General Hospital, Zulfi Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
226	8/1/2024 23:45:40	Yes	Saudi	Female	61 – 70	Social Workers	Rumaah General Hospital, Rumaah Governor ate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
227	8/1/2024 23:46:23	Yes	Saudi	Female	41 – 50	Dietitians and Nutritioni sts	Hotat Sudir Hospital, Hotat Sudir Governor ate in	Yes	Yes	Yes	Maybe	Maybe	Yes	Maybe	Yes	Yes	Yes

							Riyadh Region										
228	8/1/2024 23:47:12	Yes	Saudi	Male	61 – 70	Speech- Languag e Pathologi sts (SLP)	Rumaah General Hospital, Rumaah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Maybe	Yes	Maybe	Maybe
229	8/1/2024 23:48:05	Yes	Non- Saudi	Male	>70	Respirato ry Therapist s	Rumaah General Hospital, Rumaah Governor ate in Riyadh Region	Yes	Maybe	Maybe	Maybe	Maybe	Yes	Yes	Maybe	Yes	Maybe
230	8/1/2024 23:48:51	Yes	Saudi	Male	61 – 70	Social Workers	Zulfi General Hospital, Zulfi Governor ate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
231	8/1/2024 23:49:39	Yes	Saudi	Female	>70	Speech- Languag e Pathologi sts (SLP)	Tumair General Hospital, Tumair Governor ate in Riyadh Region	Yes	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Yes	Yes	Yes
232	8/1/2024 23:50:34	Yes	Non- Saudi	Female	41 – 50	Occupati onal Therapist s (OT)	King Salman Center for	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe

							Kidney Diseases , Riyadh Region										
233	8/2/2024 0:02:58	Yes	Non-Saudi	Female	41 – 50	Dietitians and Nutritionists	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Maybe	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
234	8/2/2024 0:03:57	Yes	Saudi	Male	61 – 70	Occupational Therapists (OT)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Maybe	Maybe	Yes
235	8/2/2024 0:04:40	Yes	Non-Saudi	Female	61 – 70	Social Workers	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	No	Maybe	Maybe	No	No	Maybe	Maybe	Yes
236	8/2/2024 0:05:16	Yes	Saudi	Female	61 – 70	Audiologists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes

							Riyadh Region										
237	8/2/2024 0:06:43	Yes	Non-Saudi	Female	51 – 60	Speech-Language Pathologists (SLP)	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
238	8/2/2024 0:07:34	Yes	Saudi	Male	61 – 70	Respiratory Therapists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
239	8/2/2024 0:08:29	Yes	Saudi	Female	61 – 70	Occupational Therapists (OT)	Al Artawiya General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
240	8/2/2024 0:09:05	Yes	Saudi	Male	>70	Dietitians and Nutritionists	Hotat Sudir Hospital, Hotat Sudir	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	No

							Governorate in Riyadh Region										
241	8/2/2024 0:09:42	Yes	Non-Saudi	Female	31 – 40	Occupational Therapists (OT)	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Maybe	Maybe	Maybe	Maybe
242	8/2/2024 0:10:16	Yes	Non-Saudi	Female	>70	Speech-Language Pathologists (SLP)	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	No	No	Maybe	Maybe	Yes
243	8/2/2024 0:10:53	Yes	Saudi	Female	61 – 70	Speech-Language Pathologists (SLP)	King Salman Center for Kidney Diseases, Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe
244	8/2/2024 0:11:42	Yes	Saudi	Female	51 – 60	Dietitians and Nutritionists	King Khaled Hospital, Almajmaah Governorate in	Yes	Yes	Maybe	Maybe	Maybe	No	No	Maybe	Maybe	Yes

							Riyadh Region										
245	8/2/2024 0:12:23	Yes	Saudi	Male	61 – 70	Respiratory Therapists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
246	8/2/2024 0:14:08	Yes	Non-Saudi	Female	61 – 70	Dietitians and Nutritionists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
247	8/2/2024 0:15:08	Yes	Saudi	Male	61 – 70	Respiratory Therapists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	No
248	8/2/2024 0:16:05	Yes	Saudi	Female	61 – 70	Speech-Language Pathologists (SLP)	Rumaah General Hospital, Rumaah Governorate in	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe

							Riyadh Region										
249	8/2/2024 0:16:47	Yes	Non-Saudi	Female	51 – 60	Audiologists	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	No
250	8/2/2024 0:17:46	Yes	Non-Saudi	Female	61 – 70	Social Workers	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
251	8/2/2024 0:18:38	Yes	Non-Saudi	Male	>70	Speech-Language Pathologists (SLP)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
252	8/2/2024 0:20:19	Yes	Non-Saudi	Female	51 – 60	Speech-Language Pathologists (SLP)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe		Yes	Yes	Yes	Yes

253	8/2/2024 0:21:54	Yes	Saudi	Female	>70	Dietitians and Nutritioni sts	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governor ate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
254	8/2/2024 0:23:14	Yes	Saudi	Male	61 – 70	Speech- Languag e Pathologi sts (SLP)	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	No
255	8/2/2024 0:24:13	Yes	Saudi	Male	51 – 60	Dietitians and Nutritioni sts	Tumair General Hospital, Tumair Governor ate in Riyadh Region	Yes	Yes	No	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
256	8/2/2024 0:24:55	Yes	Non- Saudi	Female	61 – 70	Audiologi sts	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Maybe	Maybe	Maybe
257	8/2/2024 0:25:33	Yes	Saudi	Male	61 – 70	Dietitians and	Tumair General	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes

						Nutritionists	Hospital, Tumair Governorate in Riyadh Region										
258	8/2/2024 0:26:38	Yes	Saudi	Male	61 – 70	Dietitians and Nutritionists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	No
259	8/2/2024 0:27:39	Yes	Saudi	Female	51 – 60	Audiologists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Maybe	No	Maybe	Yes	Yes	Yes	Yes	Maybe
260	8/2/2024 0:28:59	Yes	Saudi	Male	61 – 70	Dietitians and Nutritionists	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
261	8/2/2024 0:29:58	Yes	Non-Saudi	Male	61 – 70	Speech-Language	Hotat Sudir Hospital, Hotat	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe

						Pathologists (SLP)	Sudir Governorate in Riyadh Region										
262	8/2/2024 0:30:57	Yes	Saudi	Male	61 – 70	Respiratory Therapists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
263	8/2/2024 0:31:52	Yes	Saudi	Female	61 – 70	Audiologists	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
264	8/2/2024 0:32:40	Yes	Saudi	Male	61 – 70	Social Workers	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
265	8/2/2024 0:33:23	Yes	Saudi	Female	61 – 70	Speech-Language Pathologists (SLP)	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governor	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe

							ate in Riyadh Region										
266	8/2/2024 0:34:10	Yes	Saudi	Male			Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe
267	8/2/2024 0:35:12	Yes	Non- Saudi	Female	61 – 70	Dietitians and Nutritioni sts	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Yes
268	8/2/2024 0:36:10	Yes	Saudi	Male	61 – 70	Audiologi sts	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	No
269	8/2/2024 0:36:53	Yes	Saudi	Male	61 – 70	Speech- Languag e Pathologi sts (SLP)	King Khaled Hospital, Almajma ah Governor ate in	Yes	Yes	Yes	No	Maybe	Yes	Yes	Yes	Yes	Yes

							Riyadh Region										
270	8/2/2024 0:37:35	Yes	Non-Saudi	Male	41 – 50	Audiologists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
271	8/2/2024 0:38:15	Yes	Saudi	Male	61 – 70	Respiratory Therapists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
272	8/2/2024 0:39:29	Yes	Saudi	Male	>70	Dietitians and Nutritionists	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes
273	8/2/2024 0:40:13	Yes	Saudi	Male	61 – 70	Audiologists	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes

274	8/2/2024 0:40:58	Yes	Non-Saudi	Female	>70	Speech-Language Pathologists (SLP)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No
275	8/2/2024 0:42:04	Yes	Non-Saudi	Female	41 – 50	Speech-Language Pathologists (SLP)	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	No	Maybe	Maybe	Yes	Yes	Yes	Yes	No
276	8/2/2024 0:43:30	Yes	Non-Saudi	Female	61 – 70	Dietitians and Nutritionists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
277	8/2/2024 0:44:18	Yes	Non-Saudi	Male	61 – 70	Dietitians and Nutritionists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	No	Maybe	Maybe	Yes	Yes	Yes	Yes	No
278	8/2/2024 0:45:18	Yes	Non-Saudi	Female	61 – 70	Speech-Language	Al Artawiya h	Yes	Yes	Maybe	Yes	Maybe	Yes	Yes	Yes	Yes	No

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						Pathologists (SLP)	General Hospital, AlArtawiyah Governorate in Riyadh Region										
279	8/2/2024 0:46:03	Yes	Saudi	Female	61 – 70	Occupational Therapists (OT)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
280	8/2/2024 0:46:44	Yes	Non-Saudi	Female	>70	Dietitians and Nutritionists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	No
281	8/2/2024 0:47:39	Yes	Saudi	Female	61 – 70	Audiologists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	No
282	8/2/2024 0:48:21	Yes	Non-Saudi	Female	41 – 50	Occupational Therapists (OT)	Hotat Sudir Hospital, Hotat	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Maybe	Maybe	Maybe

							Sudir Governorate in Riyadh Region										
283	8/2/2024 0:48:58	Yes	Non-Saudi	Female	61 – 70	Respiratory Therapists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Maybe	Maybe	Maybe
284	8/2/2024 0:49:37	Yes	Saudi	Female	61 – 70	Social Workers	Al Artawiya h General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
285	8/2/2024 0:50:34	Yes	Non-Saudi	Female	31 – 40	Audiologists	Al Artawiya h General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	No
286	8/2/2024 0:51:33	Yes	Saudi	Female	51 – 60	Speech-Language	Tumair General	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	No

						e Pathologi sts (SLP)	Hospital, Tumair Governor ate in Riyadh Region										
287	8/2/2024 0:52:27	Yes	Saudi	Male	41 – 50	Dietitians and Nutritioni sts	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	No	Maybe	Yes	Yes	Yes	Yes	No
288	8/2/2024 0:53:17	Yes	Saudi	Male	41 – 50	Audiologi sts	Al Artawiya h General Hospital, AlArtawiy ah Governor ate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes
289	8/2/2024 0:54:03	Yes	Saudi	Female	61 – 70	Audiologi sts	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Maybe	Maybe
290	8/2/2024 0:54:51	Yes	Non- Saudi	Female	51 – 60	Occupati onal	Tumair General Hospital,	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe

						Therapist s (OT)	Tumair Governor ate in Riyadh Region										
291	8/2/2024 0:55:41	Yes	Saudi	Male	>70	Respirato ry Therapist s	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	No
292	8/2/2024 0:56:41	Yes	Saudi	Male	61 – 70	Occupati onal Therapist s (OT)	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Maybe
293	8/2/2024 0:57:18	Yes	Saudi	Female	51 – 60	Dietitians and Nutritioni sts	Zulfi General Hospital, Zulfi Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
294	8/2/2024 0:57:56	Yes	Non- Saudi	Female	31 – 40	Dietitians and Nutritioni sts	Tumair General Hospital, Tumair Governor ate in	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe

							Riyadh Region										
295	8/2/2024 0:58:47	Yes	Saudi	Male	51 – 60	Dietitians and Nutritionists	Al Artawiya h General Hospital, AlArtawiyah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Maybe
296	8/2/2024 0:59:29	Yes	Non-Saudi	Female	31 – 40	Speech-Language Pathologists (SLP)	King Khaled Hospital, Almajmaah Governor ate in Riyadh Region	Yes	Yes	Maybe	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
297	8/2/2024 1:00:14	Yes	Saudi	Male	41 – 50	Dietitians and Nutritionists	Rumaah General Hospital, Rumaah Governor ate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe
298	8/2/2024 1:01:00	Yes	Saudi	Male	31 – 40	Speech-Language Pathologists (SLP)	Hotat Sudir Hospital, Hotat Sudir Governor ate in	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	No

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							Riyadh Region										
299	8/2/2024 1:01:56	Yes	Non-Saudi	Female	31 – 40	Audiologists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	No	Yes	Yes	Yes	Yes	No
300	8/2/2024 1:02:45	Yes	Saudi	Female	61 – 70	Dietitians and Nutritionists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Maybe
301	8/2/2024 1:03:33	Yes	Saudi	Female	51 – 60	Audiologists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
302	8/2/2024 1:06:45	Yes	Saudi	Male	61 – 70	Speech-Language Pathologists (SLP)	Al Artawiya General Hospital, AlArtawiyah Governorate in	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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							Riyadh Region										
303	8/2/2024 1:07:21	Yes	Non-Saudi	Female	51 – 60	Dietitians and Nutritionists	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	No	No	Yes	Maybe	Maybe	Maybe	Maybe	Yes
304	8/2/2024 1:08:00	Yes	Saudi	Female	41 – 50	Speech-Language Pathologists (SLP)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Maybe
305	8/2/2024 1:08:41	Yes	Saudi	Male	61 – 70	Dietitians and Nutritionists	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Maybe	Maybe	No	Yes	Yes	Maybe	Yes	Maybe
306	8/2/2024 1:09:34	Yes	Saudi	Male	41 – 50	Occupational Therapists (OT)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	No	Yes	Yes	Yes	Yes	Maybe

307	8/2/2024 1:10:17	Yes	Non-Saudi	Female	41 – 50	Audiologists	Al Artawiya h General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
308	8/2/2024 1:11:13	Yes	Saudi	Male	31 – 40	Speech-Language Pathologists (SLP)	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Maybe
309	8/2/2024 1:11:51	Yes	Saudi	Male	61 – 70	Speech-Language Pathologists (SLP)	Al Artawiya h General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	No	Maybe	Maybe	Yes	Yes	Maybe
310	8/2/2024 1:12:42	Yes	Saudi	Male	41 – 50	Occupational Therapists (OT)	Zulfi General Hospital, Zulfi Governorate in	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Maybe	Maybe

							Riyadh Region										
311	8/2/2024 1:13:35	Yes	Saudi	Male	51 – 60	Dietitians and Nutritionists	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	No
312	8/2/2024 1:14:43	Yes	Saudi	Male	51 – 60	Speech-Language Pathologists (SLP)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
313	8/2/2024 1:15:23	Yes	Saudi	Male	51 – 60	Speech-Language Pathologists (SLP)	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	Yes	No
314	8/2/2024 1:16:13	Yes	Non-Saudi	Female	31 – 40	Speech-Language Pathologists (SLP)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes

315	8/2/2024 1:17:07	Yes	Non-Saudi	Female	41 – 50	Dietitians and Nutritioni sts	Al Artawiya h General Hospital, AlArtawiy ah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
316	8/2/2024 1:17:44	Yes	Non-Saudi	Female	41 – 50	Occupati onal Therapist s (OT)	Tumair General Hospital, Tumair Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
317	8/2/2024 1:18:38	Yes	Saudi	Male	51 – 60	Dietitians and Nutritioni sts	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
318	8/2/2024 1:19:52	Yes	Non-Saudi	Male	61 – 70	Physical Therapist s (PT)	Tumair General Hospital, Tumair Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

319	8/2/2024 1:20:36	Yes	Non-Saudi	Male	51 – 60	Occupational Therapists (OT)	Al Artawiya h General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Maybe	Maybe	Yes	Maybe	Maybe	Maybe	Maybe	Maybe
320	8/2/2024 1:21:14	Yes	Saudi	Male	41 – 50	Occupational Therapists (OT)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	No	No	No	No	Yes	Yes	No
321	8/2/2024 1:21:31	Yes	Non-Saudi	Female	41 – 50	Speech- Language Pathologists (SLP)	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
322	8/2/2024 1:21:52	Yes	Saudi	Male	41 – 50	Social Workers	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

323	8/2/2024 1:22:03	Yes	Non-Saudi	Female	61 – 70	Dietitians and Nutritionists	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Maybe	Yes	Maybe	Yes	Maybe	Yes	Maybe	Yes	Maybe
324	8/2/2024 1:22:39	Yes	Saudi	Male	41 – 50	Occupational Therapists (OT)	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
325	8/2/2024 1:23:05	Yes	Non-Saudi	Female	61 – 70	Occupational Therapists (OT)	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	No	Yes	Maybe	Maybe	Maybe	Yes	Yes	Yes
326	8/2/2024 1:23:21	Yes	Non-Saudi	Female	21 – 30	Occupational Therapists (OT)	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No
327	8/2/2024 1:23:48	Yes	Non-Saudi	Male	41 – 50	Audiologists	Zulfi General Hospital, Zulfi	Yes	Yes	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Yes

							Governor ate in Riyadh Region											
328	8/2/2024 1:24:22	Yes	Non- Saudi	Female	41 – 50	Respirato ry Therapist s	Prince Mohamm ed Bin Abdulaziz Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
329	8/2/2024 1:25:06	Yes	Saudi	Female	51 – 60	Occupati onal Therapist s (OT)	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Yes	Maybe	No	Yes	Yes	Yes	Yes	Yes	Yes
330	8/2/2024 1:25:15	Yes	Non- Saudi	Male	51 – 60	Speech- Languag e Pathologi sts (SLP)	Alyamam h Hospital, Riyadh Region	Yes	Yes	Maybe	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes
331	8/2/2024 1:25:52	Yes	Non- Saudi	Female	51 – 60	Speech- Languag e Pathologi sts (SLP)	Zulfi General Hospital, Zulfi Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Maybe	Yes	Maybe	Maybe	Maybe	Yes
332	8/2/2024 1:25:52	Yes	Saudi	Male	41 – 50	Occupati onal Therapist s (OT)	Tumair General Hospital, Tumair Governor ate in	Yes	Yes	Maybe	Yes	No	Yes	Yes	Yes	Yes	Yes	No

							Riyadh Region										
333	8/2/2024 1:26:32	Yes	Saudi	Male	31 – 40	Speech- Languag e Pathologi sts (SLP)	Hotat Sudir Hospital, Hotat Sudir Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
334	8/2/2024 1:26:46	Yes	Non- Saudi	Female	41 – 50	Social Workers	King Khaled Hospital, Almajma ah Governor ate in Riyadh Region	Yes	Yes	Yes	Maybe	Yes	Maybe	Yes	Maybe	Yes	Yes
335	8/2/2024 1:27:30	Yes	Non- Saudi	Female	41 – 50	Occupati onal Therapist s (OT)	Rumaah General Hospital, Rumaah Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
336	8/2/2024 1:27:31	Yes	Non- Saudi	Female	31 – 40	Audiologi sts	Zulfi General Hospital, Zulfi Governor ate in Riyadh Region	Yes	Yes	No	Maybe	Maybe	Yes	Yes	Yes	Yes	No

337	8/2/2024 1:28:04	Yes	Non-Saudi	Female	51 – 60	Respiratory Therapists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
338	8/2/2024 1:28:10	Yes	Saudi	Male	21 – 30	Occupational Therapists (OT)	King Khaled Hospital, Almajmaah Governorate in Riyadh Region	Yes	Yes	No	No	Maybe	Yes	Yes	Yes	Yes	No
339	8/2/2024 1:29:00	Yes	Saudi	Male	51 – 60	Dietitians and Nutritionists	Hotat Sudir Hospital, Hotat Sudir Governorate in Riyadh Region	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
340	8/2/2024 1:30:06	Yes	Non-Saudi	Female	51 – 60	Speech- Language Pathologists (SLP)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

341	8/2/2024 1:30:48	Yes	Saudi	Male	31 – 40	Occupational Therapists (OT)	Al Artawiya h General Hospital, AlArtawiyah Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
342	8/2/2024 1:32:17	Yes	Non-Saudi	Male	51 – 60	Dietitians and Nutritionists	Zulfi General Hospital, Zulfi Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
343	8/2/2024 1:32:18	Yes	Saudi	Male	31 – 40	Speech-Language Pathologists (SLP)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Maybe	Yes	Yes	Yes	Yes	No
344	8/2/2024 1:33:02	Yes	Saudi	Male	31 – 40	Speech-Language Pathologists (SLP)	Tumair General Hospital, Tumair Governorate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
345	8/2/2024 1:33:05	Yes	Non-Saudi	Male	41 – 50	Social Workers	Hotat Sudir Hospital,	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

							Hotat Sudir Governorate in Riyadh Region										
346	8/2/2024 1:33:42	Yes	Non-Saudi	Female	51 – 60	Occupational Therapists (OT)	Rumaah General Hospital, Rumaah Governorate in Riyadh Region	Maybe	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Yes
347	8/2/2024 1:33:42	Yes	Non-Saudi	Female	41 – 50	Occupational Therapists (OT)	King Salman Center for Kidney Diseases , Riyadh Region	Yes	Yes	Maybe	Maybe	Maybe	Yes	Yes	Maybe	Maybe	Maybe
348	8/2/2024 1:34:23	Yes	Non-Saudi	Female	41 – 50	Dietitians and Nutritionists	Prince Nasser Bin Saad Alsudeiry Hospital, Alghat Governorate in Riyadh Region	Maybe	Maybe	Maybe	Maybe	Yes	Yes	Yes	Yes	Yes	Yes
349	8/2/2024 1:35:07	Yes	Non-Saudi	Male	41 – 50	Social Workers	King Khaled Hospital, Almajmaah Governor	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

							ate in Riyadh Region										
350	8/2/2024 1:35:45	Yes	Non- Saudi	Female	51 – 60	Speech- Languag e Pathologi sts (SLP)	Tumair General Hospital, Tumair Governor ate in Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
351	8/2/2024 1:36:29	Yes	Non- Saudi	Male	41 – 50	Respirato ry Therapist s	Alyamam h Hospital, Riyadh Region	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Abstract (Arabic)

المخلص

لقد أحدث التكامل المتوسع لخدمات الرعاية الصحية عن بُعد ضمن أنظمة الرعاية الصحية ثورة في تقديم الرعاية الطبية، لا سيما داخل مجمع الرياض الصحي الثاني. حيث تبحث هذه الدراسة في اعتماد خدمات الرعاية الصحية عن بُعد من قبل مقدمي ممارسين الرعاية الصحية، واستكشاف التأثيرات المتعددة الأوجه للمعوقات التكنولوجية، والحوجز التنظيمية المتعلقة بالسياسات والعوامل الاجتماعية والثقافية. فقد تم إجراء مسح على عينة مكونة من 351 متخصصًا في الرعاية الصحية، بما في ذلك الأطباء والمرضى والعاملين الصحيين المساعدين، لتقييم معرفتهم واستخدامهم وتصوراتهم للخدمات الصحية عن بُعد. تم استخدام نمط التحليل الإحصائي الوصفي وANOVA لتمييز الأنماط والاختلافات بين المجموعات الديموغرافية والمهنية المختلفة.

من خلال المسح تم كشف النتائج عن مستوى عالٍ من الوعي بالرعاية الصحية عن بُعد بين مقدمي الرعاية الصحية، مع وجود تباين كبير في مدى اعتمادها. والجدير بالذكر أن نتائج تحليل التباين (ANOVA) أشارت إلى وجود فرق ذي دلالة إحصائية في مستويات الوعي عبر المجموعات المهنية المختلفة ($p = 0.004$)، مما يشير إلى أن الأدوار المحددة داخل نظام الرعاية الصحية قد تؤثر على الإلمام بتقنيات الرعاية الصحية عن بُعد والتفاعل معها. ومع ذلك، فإن وجود خدمات الرعاية الصحية عن بُعد في المستشفى واستخدامها لأغراض مختلفة لم يظهر أي اختلافات كبيرة بين التركيبة الديموغرافية، مما يشير إلى توافر موحد ولكن أنماط الاستخدام متباينة.

ظهرت العوائق التكنولوجية، مثل عدم كفاية البنية التحتية ونقص المهارات التقنية، كعوائق كبيرة أمام اعتماد الرعاية الصحية عن بُعد. تسلط الدراسة الضوء على أن التفاوت في الاتصال بالإنترنت ووظائف منصات الرعاية الصحية عن بُعد يمكن أن يعيق التكامل السلس في الممارسة الروتينية. وقد تم تحديد الدعم التنظيمي، وخاصة في شكل تدريب شامل وثقافة مؤسسية داعمة، باعتباره حاسماً لتعزيز بيئة مواتية للاستفادة من الخدمات الصحية عن بُعد. وتؤكد الدراسة أيضًا على أهمية وضوح السياسات واللوائح، بما في ذلك الترخيص وأمن البيانات، في تسهيل اعتماد خدمات الرعاية الصحية عن بُعد على نطاق واسع.

إحدى الأفكار الفريدة في هذا البحث هي التأثير العميق للعوامل الاجتماعية والثقافية، بما في ذلك القبول الثقافي ومشاركة المرضى، على اعتماد الرعاية الصحية عن بُعد. تشير النتائج إلى أن المعايير والمواقف الثقافية تشكل بشكل كبير مدى تقبل المريض ومقدم الخدمة للخدمات الصحية عن بُعد. وعلى وجه الخصوص، فإن تفضيل التفاعلات وجهاً لوجه ومستويات الثقة المتفاوتة في المنصات الرقمية يشكل تحديات أمام التحقيق الكامل لإمكانات الرعاية الصحية عن بُعد. وتوصي الدراسة بمبادرات تعليمية مستهدفة لتعزيز الكفاءة الثقافية ورفع مستوى الوعي لدى المرضى فيما يتعلق بالرعاية الصحية عن بُعد، إلى جانب أنظمة دعم قوية لسد الفجوات التقنية والبنية التحتية.

وفي الختام، توفر الدراسة فهماً شاملاً للمحددات التي تؤثر على اعتماد خدمات الرعاية الصحية عن بعد بين مقدمي الرعاية الصحية المتحالفين في مجمع الرياض الصحي الثاني. ويدعو إلى اتباع نهج متعدد الأوجه لمعالجة العوائق التي تم تحديدها، مع التركيز على الحاجة إلى المواءمة التكنولوجية والتنظيمية والثقافية لتعزيز نظام بيئي مستدام للصحة عن بعد. يساهم هذا البحث في تنامي المعرفة حول تكامل الصحة الرقمية، ويقدم توصيات عملية لواضعي سياسات الرعاية الصحية والإداريين والممارسين بهدف تحسين نشر واستخدام خدمات الرعاية الصحية عن بعد. ومن خلال عدستها المبتكرة، تدعو هذه الدراسة إلى تحول نموذجي نحو نموذج تقديم رعاية صحية أكثر شمولاً وكفاءة ومركزة على المريض في العصر الرقمي

عوائق تنفيذ الرعاية الصحية عن بُعد بين الممارسين الصحيين في التجمع الرياض الصحي

الثاني - دراسة استطلاعية

إعداد الطالب/

عهود دخيل الله العتيبي

رقم الأكاديمي /

232000182

المشرف الثاني

د/ فايز علي جراد

المشرف الرئيسي

د.الفیصل عبد الحمید

العام الدراسي:

2024