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EXPLORING CLINICIAN BARRIERS AND ENABLERS IN REFERRING PATIENTS TO A VIRTUAL HOSPITAL FOR ACUTE CARE

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ABSTRACT

BACKGROUND:

Virtual hospitals offer a promising solution to alleviate pressures on traditional healthcare systems by providing acute care in patients' homes. Despite the implementation of a virtual hospital model in South Australia, referral rates remain below expectations.

AIM:

To explore clinician attitudes, beliefs, barriers, and enablers influencing referrals to a virtual hospital for acute care.

METHODS:

A qualitative exploratory study was conducted using semi-structured interviews with nine clinicians who had experience referring patients to the virtual hospital. Data were analysed thematically using a grounded theory approach.

RESULTS:

Four key themes emerged: (1) Complexity of the healthcare ecosystem leading to duplication and navigation challenges; (2) Ambiguity in patient selection criteria causing uncertainty in referrals; (3) Higher social complexity and non-medical care needs acting as barriers; (4) Interoperability issues and the need for effective change management.

CONCLUSIONS:

Addressing the identified barriers through refining referral pathways, clarifying eligibility criteria, enhancing support for patients with complex needs, and improving system interoperability could increase referral rates to the virtual hospital. Engaging clinicians in the co-design of virtual care models is essential for successful implementation.

KEYWORDS

virtual hospital, acute care, barriers

INTRODUCTION

Healthcare systems worldwide are grappling with increasing demand for acute care services, exacerbated by capacity constraints and workforce shortages [1,2]. Traditional hospital models are under pressure, leading to the exploration of alternative care delivery methods. Virtual hospitals have emerged as a promising solution, utilising technology to provide acute care in patients' homes, thereby potentially reducing hospital admissions and alleviating bed shortages [3,4].

South Australia has pioneered the implementation of a virtual hospital model, delivered under public private partnership for SA Health, and accredited under the National Safety and Quality Health Service Standards [5]. Despite the theoretical capacity to serve at least 10% of acute patients, the virtual hospital is currently operating below this potential, accommodating only 5% of acute care public patients [6].

Understanding the factors influencing clinician referrals to the virtual hospital is crucial for optimising its utilisation. Previous studies have highlighted various barriers to adopting virtual care, including technological challenges, funding issues, and regulatory concerns [7-9]. However, there is limited research specifically exploring clinician perspectives on referring patients to virtual hospitals for acute care.

This study aims to explore clinician attitudes and beliefs regarding referrals to a virtual hospital for acute care in South Australia, focusing on identifying barriers and enablers that impact referral decisions.

OBJECTIVES

- To explore the barriers and enablers influencing clinicians' decisions to refer patients to the virtual hospital.
- To understand the impact of trust, accountability, and the service delivery model on referral volumes.
- To identify actionable strategies to enhance referrals to the virtual hospital.

METHODS

A qualitative exploratory study design was employed to gain in-depth insights into clinicians' perspectives. Semi-structured interviews were conducted to allow flexibility in exploring participants' experiences and opinions. Participants were purposively sampled from clinicians who had referred patients to the virtual hospital within the past three months. Inclusion criteria encompassed doctors, nurses, and allied health professionals across various healthcare settings, including hospitals, community health services, general practice, and residential aged care facilities. Clinicians directly working within the virtual hospital were excluded to minimise potential bias.

An invitation email was sent to approximately 480 clinicians identified as recent referrers to the virtual hospital. The email outlined the study's purpose and participation requirements. Fifteen clinicians responded and consented to participate.

Interviews were conducted virtually via Zoom, with each interview lasting approximately thirty minutes and was guided by a semi-structured interview protocol. Interviews were audio-recorded and transcribed verbatim using secure, password-protected cloud storage provided by the University of Adelaide. Ethical approval was obtained from the University of Adelaide Human Research Ethics Committee (approval number H-2021-020). Participants provided informed consent electronically before the interviews. Confidentiality was assured, and data were de-identified during transcription and analysis.

Data was analysed using thematic analysis in real-time, following Braun and Clarke's six-step framework [10]. Transcripts were read multiple times to ensure familiarisation. Initial codes were generated and organised into potential themes. Themes were reviewed and refined to accurately reflect the data. NVivo software (version 12) was used to facilitate coding and organisation of data. A total of nine interviews were conducted, and no further interviews were conducted due to theoretical saturation.

RESULTS

The nine participants included a mix of doctors (n=5), nurses (n=3), and allied health professionals (n=1). They represented various healthcare settings, including hospitals (n=4), general practice (n=3), and community health services (n=2).

EMERGENT THEMES

Four key themes emerged from the data analysis:

1. Complex Health Ecosystem and Duplication

Participants highlighted the complexity and fragmentation of the healthcare system, leading to challenges in navigating referral pathways. The existence of multiple services with overlapping functions created confusion.

"We are underdone in the health navigation space. It's always challenging to know which service is the right one for the patient." (Participant 1)

Clinicians expressed concerns about transferring clinical responsibility without clear communication channels.

"You're always worried about where they end up, and whether all the dots are joined. You've transferred clinical responsibility, but is the patient getting the care they need?" (Participant 5)

2. Ambiguity in Patient Selection Criteria

Unclear eligibility criteria for virtual hospital admission were a significant barrier. Clinicians found it difficult to determine which patients were appropriate for referral, particularly in the absence of clear guidelines.

"I think we need a really good triage system to decide whether a person needs a bed in a hospital or can be managed virtually. That would be pivotal." (Participant 6)
Junior clinicians were hesitant to make referral decisions without senior input, especially during weekends when senior staff availability was limited.

"On weekends, there are less senior decision-makers, and junior doctors aren't brave enough to make the call on disposition without that senior support." (Participant 7)

3. Higher Social Complexity and Non-Medical Care Needs

Patients with complex social situations or non-medical care needs posed challenges for virtual hospital referrals. Clinicians were concerned about the suitability of patients' home environments and support systems.

"If a patient's home isn't appropriate for care—due to overcrowding or lack of understanding of medical needs—it becomes dangerous to manage them virtually." (Participant 4)

However, virtual care was seen as beneficial for certain populations, such as paediatric patients with disabilities who might fare better in familiar surroundings.

"For children with disabilities, being in their home environment can be a key part of their recovery." (Participant 8)

4. Interoperability and Change Management

The lack of seamless integration between different healthcare systems hindered effective communication and tracking of patient outcomes.

"As a clinician, I want to look at the info about a patient in general practice, the state public health system, and their Medicare information all in one place." (Participant 9)

Clinicians emphasized the importance of effective change management to facilitate adoption of new care models.

"So much of this comes down to change management. The ideas are there, but implementing them is the hard part, and we [doctors] are not taught change management." (Participant 2)

DISCUSSION

This study illuminates the multifaceted barriers and enablers influencing clinician referrals to a virtual hospital for acute care. The findings reveal systemic, procedural, and individual factors that collectively impact referral decisions.

COMPLEX HEALTH ECOSYSTEM

The fragmentation and complexity of the healthcare ecosystem emerged as a significant barrier. Clinicians faced difficulties in navigating multiple services with overlapping roles, leading to uncertainty and potential duplication of efforts. This aligns with previous research indicating that complexity in healthcare systems can impede efficient service delivery and clinician engagement [11]. Simplifying the referral pathways and enhancing health navigation support could mitigate these challenges. By providing clear information about available services and their specific functions, clinicians can make more informed referral decisions.

AMBIGUITY IN PATIENT SELECTION

Unclear eligibility criteria created hesitation among clinicians, particularly junior staff. Clear, accessible referral guidelines are essential to empower clinicians to make informed decisions confidently. Studies have shown that well-defined referral pathways enhance the utilisation of alternative care models [12]. Developing standardised

triage tools and eligibility checklists could assist clinicians in identifying suitable patients for virtual hospital care. Additionally, ensuring that senior decision-makers are accessible for consultation can support junior clinicians in making referral decisions.

SOCIAL COMPLEXITY AND NON-MEDICAL NEEDS

The management of patients with complex social circumstances was a notable challenge. Addressing non-medical needs is crucial for the success of virtual care models. Integrating social support services and ensuring adequate home environments can facilitate the broader inclusion of patients in virtual hospital care [13]. Collaboration with community services and social care providers can help address the non-medical needs of patients. Tailoring virtual hospital services to accommodate patients with diverse social backgrounds may enhance accessibility and equity. However, funding models of such an approach would be a challenge, noting the combined Commonwealth and state-funded models of care.

INTEROPERABILITY AND CHANGE MANAGEMENT

Interoperability issues hindered effective communication and continuity of care. Clinicians expressed a need for integrated systems that allow seamless access to patient information across different care settings. Implementing interoperable electronic health records (EHRs) and enhancing data-sharing protocols are critical steps [14]. Effective change management strategies are necessary to facilitate the adoption of virtual care models. Engaging clinicians in the co-design process and providing education on new workflows can enhance acceptance and integration into practice [15].

LIMITATIONS

The study's limitations include a small sample size and potential selection bias, as participants had already referred patients to the virtual hospital. To gain a broader perspective, future research should include clinicians who have not engaged with the virtual hospital. Additionally, the findings are based on self-reported data, which may be subject to recall bias.

CONCLUSION

Virtual hospitals offer a valuable alternative to traditional acute care delivery, with the potential to alleviate pressures on hospital systems. However, maximising their utilisation requires addressing identified barriers. Recommendations include:

- **Simplifying Referral Pathways**: Streamlining the healthcare ecosystem to reduce complexity and duplication.
- **Clarifying Eligibility Criteria**: Developing and disseminating clear patient selection guidelines.
- **Enhancing Support for Complex Needs**: Integrating social support services and considering non-medical care needs, with co-commissioned Commonwealth and state models.
- **Improving System Interoperability**: Investing in interoperable EHRs and enhancing communication channels.
- **Engaging in Change Management**: Providing education and involving clinicians in the co-design of future virtual care models.

Implementing these strategies can enhance clinician confidence, increase referral rates, and optimise the benefits of virtual hospital care.

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