

EDITORIAL

Time to shift the research agenda for Hospital at Home from effectiveness to implementation

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The evolution of hospital care is witnessing a remarkable shift with the recent expansion of Hospital at Home (HaH) programmes. Though practised since the 1950s in some health systems, many new programmes have emerged in the last five years in response to the acute shortage of hospital beds triggered by the COVID-19 pandemic and challenges posed by ageing populations.[1][2][3] The publication of two Cochrane reviews together enables us to re-examine the evidence base for both effectiveness and implementation.

Edgar and colleague's latest updated meta-analysis of 20 studies strengthens existing evidence about the clinical effectiveness of HaH.[4] Their findings indicate that HaH is comparable to traditional hospital care in terms of clinical outcomes and self-reported health status. HaH also offers significant advantages for healthcare systems, such as reduced length of initial hospital stays and potential cost savings. This suggests that HaH is an evidence-based intervention for select groups of patients as an alternative to conventional hospitalisation.

Healthcare systems that deliver traditional hospital care are now faced with the challenge of implementing HaH effectively. The qualitative evidence synthesis of 52 studies by Wallis and colleagues is a much-needed addition to the literature, encompassing views from clinicians, managers, commissioners, patients, and caregivers on the implementation of HaH.[5] Findings from these studies were developed into four themes: development of policy and systems prior to implementation, processes and resources required for safe and effective implementation, service acceptability, and sustainability. Twelve summarized findings were developed from the themes - 11 were assessed as high and one as moderate confidence.

Yet, despite the strong evidence backing, HaH summarized by Edgar and colleagues, and the availability of small studies looking at implementation facilitators summarized by Wallis and colleagues, the majority of HaH programmes remain small. In Edgar's meta-analysis, the average number of patients in randomized controlled trials (RCTs) was 155 participants. In a recently published research report on the national experience of HaH in the USA by Levine and colleagues, they described 5132 patients admitted to HaH over a one-year period and a mean length of stay of 6.3 days.[6] This translates into approximately 89 home beds filled per day across the USA, despite more than 300

hospitals across 37 states being issued the Acute Care at Home Waiver.

This raises concerns about the scalability and applicability of these findings past the 'pilot' phase or in the context of an RCT to more diverse and larger real-world settings. Wallis and colleague's review effectively describes the development of policies and active engagement of stakeholders needed in the early foundational years of HaH service development.[5] Literature on scaling up HaH past the foundational years is predominantly based on expert opinions rather than empirical data, revealing a critical knowledge gap in how to scale up HaH services effectively. We will illustrate this knowledge gap with three examples.

The first example is the challenge of patient identification faced by referrers. Although strategies such as teaching sessions were identified, the effectiveness of such strategies is not clear. Systemic strategies such as including HaH in medical curricula at undergraduate or postgraduate training, or structured incentives to encourage referrals to HaH are not well explored. Furthermore, developing and testing strategies to address referral barriers tailored to each professional group (e.g. general practitioners, emergency departments, hospitalists, and surgeons) may be considered.

Second, patients and caregivers may vary in their acceptance of HaH. Patient acceptance was high when staff were positive and competent but lower in the absence of caregiver support and 24-hour supervision from hospital staff. However, attitudes may differ across settings; for example, cultures with multi-generational households may have perceptions of safety and concerns about caregiver burden in HaH. Therefore, effectively addressing cultural nuances is vital to enhancing patient receptivity towards HaH in testing implementation strategies, such as in public awareness campaigns.

A final example is HaH's challenge of sustainability. Addressing HaH's operational and technological needs is crucial to scaling up and sustainability. The costs reflected in RCTs focus on direct care expenses and may not include overheads associated with scaling up services. There is a pressing need to delve into how advanced technologies, like remote patient monitoring, communication systems and integrated logistics management systems, can enhance service efficiency and sustainability as services expand.

In conclusion, the updated Cochrane reviews demonstrating HaH's clinical and cost-effectiveness, and lack of effective scaling-up strategies strongly suggest that the future direction of HaH research must move beyond repeating clinical and cost-effectiveness studies that compare HaH to usual care. Instead, the critical need is to identify and test strategies to increase adoption and sustainability across different healthcare systems. These should explore, amongst others, strategies for engagement of referrers, strategies for engagement of patients and caregivers, and strategies for process optimisation and sustainability. This transition in research focus is critical for HaH to be a core part of every acute hospital's care strategy and extend its impact to transform patient care on a larger scale.

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Declarations of interest

YFL leads a care solutions team at the MOH Office for Healthcare transformation and spearheaded the creation of a national regulatory and financing sandbox for hospital-at-home pilots in Singapore. YFL peer-reviewed the accompanying Cochrane reviews (CD007491 [4]; CD014765 [5]). YFL has declared no additional interests.

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