

Research Article

A SWOT Analysis of Hospitals' and HMO Representatives' Opinions regarding Hospital at Home in Israel

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Purpose. To examine attitudes regarding acute hospital at home (AHaH). *Materials and Methods.* A SWOT (strengths, weaknesses, opportunities, and threats) questionnaire was developed to interview 14 managers from health management organizations (HMOs) and hospitals. A mixed-method (qualitative/quantitative) analysis was used. *Results.* AHaH was provided by hospital or HMO staff or outsourced (private suppliers). Differences in service pertained mainly to on-site testing and imaging tools. All agreed that AHaH is favorable for patient outcomes and experience and that AHaH promotes medical service and clinical development. Barriers expressed were as follows: choosing the right patient; burden for caregivers and family; unclear financial incentive for providers; insufficient standardization, risk management, and quality control (expressed mainly by hospital representatives); and limited on-site testing, imaging, and telemonitoring (mainly expressed by HMO representatives). *Conclusions.* To increase use of AHaH, further development of on-site testing, imaging, telemonitoring, standards, and financial planning is needed. Research regarding quality and quantity, mid- and long-term medical implications, caregiver implications, and long-term systemic financial implications is required. Evaluating the fit between AHaH service provider (hospital/outsourced/HMO), patient group, and diagnosis is advised.

1. Introduction

Hospital care was once considered the “gold standard” for delivery of acute medical care [1]. However, the hospital environment might harbor risks, including falls, delirium, infections, and pressure sores [2, 3]. Community care is more easily accessed and less hazardous but limited in staffing and types of interventions available [4]. Hospital at home (HaH) might combine the best of two worlds: intensive medical care in the home environment [5].

Healthcare systems define acute HaH (AHaH) in several different ways. Casteli et al. [6] performed a meta-analysis of AHaH studies in English, French, Spanish, and Portuguese and evaluated different definitions of HaH. They chose the operational definition: “. . . a service that provides in-home hospital care to patients with complex clinical conditions who would be hospitalized in conventional facilities due to

an acute episode, and require 24/7 monitoring and follow-up that is only available in the hospital.” This concurs with the British [7] and Israeli definitions [8].

COVID-19 increased the integration of telehealth and digital health into mainstream healthcare services [9, 10], which in turn facilitated the growth/implementation of additional HaH services [11]. Telemonitoring of stable COVID-19 patients [12] enabled earlier discharge [13–15] and better control of patient flow [16, 17].

The concept of AHaH has been known for several decades. However, despite demonstrated benefits [18], it has not created widespread change in hospitalization preferences [19, 20]. Therefore, obtaining the opinions of healthcare professionals directly involved in AHaH might provide insights regarding barriers and facilitators to expanding AHaH. This study used a questionnaire based on the SWOT model (strengths, weaknesses, opportunities, and threats) to obtain this information.

SWOT is used to explore healthcare organizations [21–24]. The World Health Organization proposed a SWOT situation analysis of entire health sectors [25]. SWOT healthcare studies often analyze a single healthcare entity facing an exterior challenge, such as COVID-19 [26–28]. This study used the SWOT model to evaluate and compare attitudes of healthcare managers toward AHaH from the perspectives of individuals who represent hospitals or HMOs.

2. Methods

2.1. Research Design. This is a qualitative, grounded theory [29, 30], exploratory study. The methodology is suitable for understanding attitudes and constructing theory. The SWOT questions, which seek multidimensional aspects of a phenomena, correspond well with this. Participants were asked: “*What are the strengths, weaknesses, opportunities, and threats of AHaH for patients and healthcare providers?*” We compared the answers of HMO and hospital representatives to observe similarities and differences between the positions of these two stakeholder groups.

2.2. Sample. The stakeholders in this study were the HMOs and general hospitals who choose to operate AHaH in Israel. The aim was to interview clinical and administrative professionals from each healthcare organization type, who are involved daily with AHaH. One HMO and one hospital had only one representative in charge of both clinical and administrative operations. A total of 14 participants, representing the four government-mandated HMOs and four general hospitals, were interviewed.

The HMO participants included three medical doctors (two in charge of AHaH and one in charge of primary medicine), three registered nurses (two in charge of regional HaH and one in charge of national HaH), and one economist in charge of purchasing and auditing.

Among the hospitals that offer AHaH, four medical doctors were interviewed, including two hospital CEOs (one of a virtual hospital that is part of a large hospital), one doctor who oversees an internal medicine ward and an AHaH program, and one doctor who oversees AHaH and a COVID-19 ward. In addition, two registered nurses were interviewed, one in charge of the “virtual hospital” operations and one in charge of AHaH in a general hospital. One hospital chief financial officer was interviewed as well. Hospitals varied in size, geographic location, and ownership.

2.3. Questionnaire. An open-ended questionnaire was developed that contained three sets of questions: six regarding demographics (name, employer, years in organization, job description, years in job, and affiliation to HaH services); one definition question: “How does your organization define AHaH?”; and four SWOT questions: “What are the strengths, weaknesses, opportunities, and threats regarding AHaH for the patient and the organization?” Each interview took up to 30 minutes.

Interviews were conducted by researcher 1 (NH) and reviewed by researcher 2 for guidance, comparison, and consistency. At the beginning of each interview, the researcher explained the SWOT model. A benchmark question regarding the definition of AHaH was used to ensure all respondents were referring to the same type of service.

All interviews were conducted via telephone or Zoom and typed in Word format in Hebrew, during July and August 2022. Before the interviews, two healthcare service professionals who were not part of the research were interviewed by both researchers separately, to establish the coherence and validity of the questionnaire.

2.4. Data Analysis. Researchers 1 (NH) and 2 (RM) analyzed the data using an adaptation of the four-stage thematic analysis [31–33]. This consisted of (1) familiarization with and organization of transcripts, (2) identification of themes, (3) review and analysis of themes to identify structures, and (4) construction of a theoretical model, constantly checking against new data.

Both authors read all interviews and coded them separately. Codes were identified and divided into categories and subcategories. Data from each interview were compared between both authors and other interviews [30]. This revealed core issues and their frequency of expression. Thus, this study used an exploratory, pragmatic, mixed-method analysis [25, 34], analyzing qualitative data for subjective views and for frequency [35, 36].

Tables were constructed to reflect categories and subcategories, their SWOT dimensions, relevant citations, and frequency. Since 14 respondents were interviewed, seven from hospitals and seven from HMOs, each subcategory could be expressed by 0 to 7 representatives from each group.

The interview responses were translated from Hebrew to English while attempting to maintain the tone of the original response.

2.5. Ethics. Ethics approval was obtained from the Faculty of Social Sciences, Bar Ilan University, in April 2022. Signed consent to participate in this study was obtained from all participants.

3. Results

Four aspects of HaH were identified: patient clinical care, HMO and hospital organization, macro-health systems, and staffing. All respondents gave the same answer and the same legal boundaries to the benchmark question of what is AHaH (namely, acute care replacing an internal medicine ward in a hospital), in agreement with the Israeli Ministry of Health’s (MOH) [37] directive and definition.

Table 1 presents aspects pertaining directly to patient care. All respondents viewed AHaH as beneficial for patients in terms of experience, medical outcomes, commitment to adherence, and avoiding risks and side effects related to hospitalization.

TABLE 1: SWOT of patient clinical and care aspects.

SWOT	Subcategory	HMO	Hospital
S + O	Comfort and satisfaction of patient and family, more active in recovery. "Patients stay in their normal environment," "Treatment is provided on their schedule," "I do not remember a violent incident, I have more time, I am a guest, I am respected"	7	7
S	Avoidance of infections, delirium, falls, quicker recovery, less rehospitalization. "Same standard of care, better quality of service"	7	6
W	Burden on family/caretaker/mostly wives. "Family member becomes part of the treatment staff," "We need someone dedicated to home care," and "Caregivers at home should be compensated"	3	2
W	Challenging to refer patients appropriately. "It is difficult to understand whether someone is suitable for AHaH," "Patients may demand the service when they are not suited for it," "Patient may behave inappropriately (leave house/go to work)"	5	5
W	Exclusivity, inequitable access. "The stipulation of 30 km distance from hospital, and limiting AHaH to adults, might cause many potential clients to be lost"	3	3
T	Risk management, quality control, and standardization. "A patient who is not in the hospital is not covered 24/7 and is at a higher risk level" and "Risk and quality aspects need development"	2	3

S, strengths; W, weaknesses; O, opportunities; T, threats.

Some respondents mentioned AHaH as encouraging patients and family to take more active roles in the healing process, whereas other respondents were leery of the burden on caregivers. Another perceived weakness was that this service is not for everyone, due to home and family conditions, geographic proximity, and clinical fit. This was followed by a concern, expressed by both groups, of the risk of a patient not being monitored 24/7 and the need to develop additional standards and quality tools for home care.

Table 2 focuses on the impact on the healthcare organization. Some respondents viewed AHaH as an improvement in service, in terms of the hospital-community care continuum, institutional prestige, and professional development.

A weakness presented primarily by the HMO representatives was the limited access to on-site testing, imaging, and telemedicine, which may indicate that AHaH provides fewer supportive services compared to hospitals. Worth mentioning is the concern that doctors will refer patients to AHaH when they are not sure what they need. Hospital and HMO representatives thought hospitals were neither well-integrated nor reimbursed sufficiently within the national model of AHaH.

Table 3 expresses the respondents' general observations about AHaH and the healthcare system. Among the 14 respondents, 5 from each group perceived AHaH as an opportunity for HMOs and hospitals to develop new services. Six of seven HMO representatives also perceived it as potentially cost-saving for the healthcare system, although large investments were needed to develop AHaH operated by in-house HMO staff.

Table 4 presents the strengths and opportunities for staff, which included increasing professional expertise and gaining insight into the home sphere, enabling seasonal and flexible recruiting, and extra work for those interested.

4. Discussion

This study presents issues pertaining to AHaH care from the perspectives of 14 individuals who play major roles in

the public healthcare system in Israel. All respondents agreed that AHaH is beneficial for the patient and that it is a positive development for the medical provider. This concurred with other studies that stressed quicker recovery, fewer side effects, and a better overall experience [18, 38]. Concerns brought up regarding financing, standards, and safety concur with previous research [39, 40], as does the limited availability of on-site technology in AHaH [11]. Issues requiring more deliberation are risks, financial incentives, implications and burdens, quality assessment, evaluation and comparison, and exclusion.

4.1. Risk Management in the Home Environment. AHaH requires medical staff to work with caregivers who are not professional healthcare providers. Laymen assuming professional roles may result in mistakes and misunderstandings, potentially risking patient safety. Burden and fatigue of caregivers may add to this risk. Studies that focus on the consequences and repercussions on family members of patients receiving AHaH are lacking. Time spent by professionals on instruction was not mentioned in previous research. It might be worthwhile to develop a checklist for emergency departments to gauge the true at-home treatment capacity in this regard.

4.2. Comparing "Apples to Oranges". The findings show that AHaH provided by hospital staff, as an extension of ward activity, is very different from outsourcing or immediate referral to AHaH after an emergency department visit, or from a general practitioner referring a patient directly from home to AHaH. Most studies regarding HAH explored short-term consequences and savings. Studies exploring the medium-to-long-term effects of AHaH were not found, as well as studies comparing the types of physician/nursing visits and interventions, testing, prescribing, and time of response to urgent calls. A more in-depth comparison of AHaH operations is required.

TABLE 2: Organizational aspects of the HMO and hospital.

SWOT	Subcategory	HMO	Hospital
S	Patient-centered continuum of care; better communication between hospital and community. “The family doctor is involved during the hospitalization and does not just get a report at discharge”	2	4
S + O	Enhances reputation of the medical provider. “An opportunity to enhance community healthcare and conduct additional academic research in community care.” “This is how people are going to be treated in five years, this is the future”	3	5
W	Hospitals are not well-integrated in AHaH policy. The healthcare system is not united behind the concept. “If they had an incentive, they would cooperate more.” “The Ministry of Health does not include hospitals in the equation”	3	5
W	Not enough on-site testing, imaging, specialists, and documentation. “If the patient needs a CT scan or lab work, we need to take them to the hospital.” “I may miss something because of limited testing”	6	1
O	Service is now expanding. “More and more general practitioners are aware of the additional benefits and service options”	3	2
T	Service might be misused. “The general physicians’ workload prevents them from making home visits or they cannot decide whether a patient needs hospitalization, so they refer them to AHaH”	2	1
T	Acutization of hospital patients. “In the long run, hospitals will benefit from clearing uncomplicated patients, saving beds for patients with more complex needs”	2	—

S, strengths; W, weaknesses; O, opportunities; T, threats.

TABLE 3: Macrohealthcare system aspects.

SWOT	Subcategory	HMO	Hospital
S	The entire healthcare system and the HMOs save money. “The entire system saves money.” “A systemic way to treat the shortage of hospital beds and need for additional hospital construction”	6	2
W	Need for large investments, structural adaptations, and logistics. “We need to build a new practice philosophy”	2	2
O	A new kind of futuristic service. “This is neither hospital nor community—it is something new”	5	5
T	Finances affect treatment decisions. “Financial considerations threaten the initiative”	3	1

S, strengths; W, weaknesses; O, opportunities; T, threats.

TABLE 4: Staff issues and considerations.

SWOT	Subcategory	HMO	Hospital
S	AHaH enables more flexibility in recruiting staff according to needs and provides extra income for staff after hours. “An opportunity to give staff extra work and extra hours”	1	2
W	Inefficient to have staff in transit and see a smaller case load than in the hospital. “Even if you are efficient, you still need to travel from place to place”	1	1
O	Staff are exposed to what happens in the home, holistic, continuum of care, novelty in internal medicine, variety, and experience for staff. “Now, they can see the entire picture of the patient, the continuity of care.” “This is an evolution in internal medicine”	1	4
T	Shortage of human resources and staffing can stifle AHaH development. “When it comes to human resources, the resources for all the health professions are limited”	2	1

S, strengths; W, weaknesses; O, opportunities; T, threats.

4.3. Financial Incentives. Most studies reported financial benefits for systems based on private insurance [18, 41] and national healthcare [38]. Most evaluated daily expenditures, length of hospitalization, and immediate results. Although it may seem less expensive compared to the cost of a hospital day, this comparison often does not evaluate medium and long-term expenses incurred by deteriorating health,

complications [40], and hidden costs, such as time spent on transporting staff [42], drugs, and test kits from home to labs.

Our findings reflect the notion that there is potential savings on an organizational level, but investment is needed to develop a robust in-house AHaH service. The total cost for the purchaser-insurer might seem less for some patients;

however, developing more sophisticated services for a varied patient population requires investments in technology and staff. Investments lower profitability in the short-term but can yield additional, higher quality service options, which providers such as hospitals would like to develop themselves. When the purchaser such as an HMO is incentivized, it may choose a less expensive, less sophisticated AHaH provider for less complex patients, while leaving more complicated patients in hospital. However, incentivizing the provider (i.e., hospital) might motivate it to invest more in quality and sophisticated care, competing with other facilities of its kind. The results of this study demonstrated the perspective that incentivizing the HMOs (purchasers), as is done in Israel today, may be perceived as discouraging hospitals from developing AHaH or even from cooperating with this venture.

4.4. Equity vs. “Pick the Right Patient”. AHaH requires careful patient selection—clinically, demographically, socially, and geographically. A patient who does not meet the criteria is excluded from AHaH. The study results concur with the literature, since many respondents repeated the theme: “Pick the right patient.” Given the financial incentives we referred to previously, this could be perceived as a new form of cream skimming and exclusion. When “picking the right patient” is firmly ingrained in the process, AHaH might not be an equitable service to develop compared to other service options. Clearly, the social and systemic impact of AHaH development needs further analysis.

This study had some limitations. It evaluated opinions and attitudes, not quantitative data. It was also based on 14 interviews with professionals. Although all are experts in the field of AHaH, it was a purposive sample. Therefore, comparing subjective opinions to data collected from the organizations could improve triangulation and compatibility. The Israeli case of AHaH is generalizable, but information, particularly regarding financial considerations, is in the context of the Israeli healthcare system, mainly arrangements between hospitals, HMOs, and the MOH.

5. Conclusion

AHaH is perceived by healthcare service managers as a potential game changer for hospitals of the future. However, many barriers to upscaling exist, including quality management, staff development, technology and services, caregiver implications, and financial planning and incentives. Additional research that correlates the suitability of specific diagnoses for AHaH, as well as specific demographics, should be conducted. A comparison of the benefits and deficits of specific types of AHaH service providers (HMOs, hospital, or others), to create benchmarks for technologies and interventions, is also needed.

Can AHaH survive on a large scale without governmental compensation? Which type of organization is best suited to provide it? Which patient groups are the most appropriate? These questions need further deliberation

through more research. Last, a thorough review of patient, family and caregiver experiences, implications, and views is recommended.

Data Availability

The interviews and transcripts are in the Hebrew language. The translated data analysis charts are an integral part of the paper submitted.

Additional Points

Practice Points. AHaH is good for patients, healthcare organizations, and healthcare systems. Patient fit is important for clinical success of AHaH. Additional on-site testing, imaging, and telemonitoring are needed for scale-up. Additional research regarding medical, social, and financial impacts is needed. Additional evaluation and assessment tools specific for AHaH are needed. **Data Deposition.** Since this qualitative research study was conducted in Hebrew, summary data are presented in the manuscript. **Geolocation Information.** Israel.

Disclosure

This paper was written as part of the requirements for a Masters of Health Administration degree for Neta Harel, supervised by Prof. Racheli Magnezi.

Conflicts of Interest

The authors declare that they have no conflicts of interest. Neta Harel was an employee of the Israeli Ministry of Health and Racheli Magnezi is a professor at Bar Ilan University, Israel.

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