Patient Safety Alert

HaH (Hospital at Home)

INTRODUCTION

Hospital-level care provided in the home represents a growing area of health care. Hospital at Home (HaH) models provide acute hospital-level care in a patient's home, reducing hospitalizations and unnecessary complications.[1] While there are many benefits to the HaH model, there are also safety considerations that are distinct from the traditional brick-and-mortar acute care settings.

The Academic Medical Center Patient Safety Organization (AMC PSO) regularly convenes subject matter experts to discuss existing and emerging risks to safety around different topics. The goal of these convenings is to reach consensus on how to achieve high-quality, safe care in the topic area of focus.

HaH care has shown to be an effective and efficient way to treat older adults,[2] and has several benefits compared to care provided during an inpatient hospital stay, including decreased rates of mortality, reduced discharges to skilled nursing facilities, and fewer readmissions.[3] Overall, patients report positive care experiences and physical activity by being cared for in the home setting.

However, HaH is not without risks and challenges to patients and their caregivers. Potential issues include unrecognized hazards in the physical environment, stressors to both those receiving and providing care, and complexities related to social support networks and functional needs, such as activities of daily living.[1] These risks are compounded by physician concerns, patient resistance to home care, and reimbursement challenges from payors.[1] The landscape of safety events and issues with HaH is evolving and needs to be monitored.[4,5]

The AMC PSO assembled a Task Force comprised of HaH physician, nurse, pharmacy, and operations leaders. The Task Force convened four times from December 2024 to May 2025 to discuss safety themes around HaH, and any gaps in literature or best practices that they felt should be addressed. Task Force members represented HaH programs at various stages of development, ranging from six months post-implementation to more than ten years of experience providing hospital-level care at home.

Discussions and a group survey revealed three buckets of potential risk for evaluation:

- Vendor relationships/subcontractors
- Patient population selection
- Medication safety

This document summarizes each of these areas of potential risk and corresponding mitigation strategies identified by the Task Force.

1. Vendor Relationships & Subcontractors

Vendors supply all equipment needed to care for a patient in their home. Because they are a separate entity from the hospital, there are issues with oversight, quality, and availability.

RISKS	MITIGATION STRATEGIES
• Education gaps for vendor clinicians and health care leaders • Inconsistent quality of care provided • Lack of staff oversight • Not equipped for 24-hour care or access to resources that are necessary for timely assessment and intervention	• Perform failure mode and effects analysis (FMEA) or use other proactive risk assessment tools to identify key risks and develop proactive mitigation strategies. These can be leveraged to set clear expectations for selecting, managing, and negotiating with vendors • Ensure HaH staff have the requisite knowledge and competencies for care of patients in a HaH setting • Develop system-based redundancy with associated contingency planning • Establish policies that outline an escalation process for each vendor • Define structures, processes, and measures for ongoing and continuous improvement

2. Patient Population Selection

Programs identify appropriate patients for whom they can safely provide HaH care.

RISKS

- Failure to establish clear patient population selection criteria
- Inability to provide equitable care
- Risks may differ depending on the stage of HaH implementation and development of safety infrastructure: early phase programs may serve a narrower patient population, while more mature programs may safely serve patients with more complex needs.

MITIGATION STRATEGIES

EARLY STAGES

Programmatic Fundamentals:

- Develop programmatic foundation that recognizes key goals, patient populations, conditions to be included in services, and available resources

Delivery of Clinical Care:

- Implement a pilot phase to evaluate the feasibility of service delivery
- Establish clear measures to evaluate feasibility, patient safety, and programmatic success
- Develop infrastructure for preparing and engaging a competent workforce
- Identify opportunities for automation, e.g., integration with electronic health records (EHR) to identify appropriate patients
- Implement intentional review of clinical processes and pathways for HaH

Equitable Care:

- Establish a data stratification plan to monitor potential biases and inequities
  - Review data with a perspective that considers significant differences between HaH and brick-and-mortar clinical care locations

Safety & Emergency Planning:

- Keep as many systems as possible consistent with brick-and-mortar workflows, e.g., same safety reporting system
- Ensure a senior sponsor for safety and the dedication of resources to allow for patient and workforce safety
- Establish safety management processes for review and assessment of safety metrics
- Identify community support and resources, such as local police or ambulance services
- Early review of emergency plans

Expansion Considerations

- Build trust with senior leaders when considering expansion.
- Use existing data and metrics, such as CMS required reporting and readmissions data, to compare with hospital measures to help guide the safety of expanding a program*

NOTE:

*Metric definitions can vary, but attention to appropriate acuity for the model of care and support is key to patient safety. Using escalations of care as an illustrative example, hospitals may have an escalation-of-care goal of less than 20 percent unplanned transfers to ICU level-of-care, and a similar measure may be framed for HaH transfers to the hospital. The measure can also be used to gauge how conservative a team is. For example, if zero percent of patients from the HaH program required hospital admission, the team may be overly conservative in selecting the patients for home-based inpatient care. Finding a balance is important to ensure appropriate patients are selected for HaH care.

3. Medication Safety

Medication safety has clear processes within a hospital, and transferring these to a HaH setting has unique challenges.

RISKS	MITIGATION STRATEGIES

ORDERING:

- Challenges with EHR-related workflows for ordering, dispensing, and packaging HaH medications

ADMINISTERING:

- Difficulties with ensuring medications are filled appropriately and delivered in a timely way to patients
- Risks in ensuring patients receive the correct medication and dosage, as prescribed
- Variability in temperature stability for medications during transport
- Reliability of equipment, e.g., barcode medication administration workflows
- Process for patients and/or caregivers to administer and clinician oversight
- Personal protective equipment (PPE) availability and adherence

STORING:

- In-home temperature and other storage requirements for medications

Controlled Substances (dispensing, securing, and documenting):

- Chain of custody and accountability for controlled substances

ORDERING:

- Establish medication ordering and subsequent dispensing workflows that meet HaH regulatory standards
- Clear adherence to the medication reconciliation process

ADMINISTERING:

- Ensure standardized medication dispensing, e.g., batch filled for 24 hours
- Always double-check packaging
- Use tamper-evident packaging
- Consider redundant kits for clinically urgent medications
- Dispense medications in a way that reduces bedside medication preparation
- When needed, dispense medications in a form that allows for the use of reconstitution devices to ensure safe bedside medication preparation and handling
- Use temperature indicators for temperature-sensitive medications
- Employ point-of-care barcode scanning

<u>Self-Administration Screening</u>

- Screening should include assessments of the patient's ability to self-administer medications safely. Considerations include the patient's capacity to self-administer medications, level of support needed or provided by caregivers, etc.
- Technology may be deployed to support self-administration practices by patients with some limitations in self-medication administration adherence

<u>Personal Protective Equipment:</u>

- To limit PPE use, package medication so that minimal medication preparation is needed in the home setting
- Ensure PPE is available for clinical team members who need to handle or administer hazardous substances

STORING:

- Evaluate best options, such as lock boxes and using two-colored pill boxes: one color for patient-administered medications and a different color for clinician-administered medications

MEDICATION SAFETY: CONTINUED ON NEXT PAGE

RISKS	MITIGATION STRATEGIES
	CONTROLLED SUBSTANCES (DISPENSING, SECURING, AND DOCUMENTING): • Ensure process reflects all steps in the chain of medication custody • Limit visibility of controlled substances and ensure tamper-proof packaging for couriers • Consider engaging a virtual nurse for self-administration of medications **OTHER CONSIDERATIONS** The list below represents other important areas of consideration for HaH, though they were not discussed in detail with the Task Force. • Patient consent and setting clear expectations • Emerging technology solutions, e.g., automatic dispensing machines • Standardized use of safety event reporting system and event review process with the respective hospital to ensure all team members, including patients, caregivers, and HaH staff can participate • Patient and family experience and feedback, e.g., might not be the same "quiet at night" metrics, but "how are you sleeping?" is important • Evolving regulatory requirements

SUMMARY

HaH represents an emerging area of patient care with evolving risks and benefits for patients and providers. Whether implementing or expanding a HaH program, consideration should be given to programmatic resources, goals, and the patient population to identify and mitigate risks and deliver safe, high-quality care.

The goal of the AMC PSO HaH Task Force was to discuss these shared concerns as well as any existing and emerging best practices. While this document provides a summary of these conversations, any takeaways are meant to be used in accordance with organizational goals and state and federal regulatory requirements.

REFERENCES

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3. Klibanski A. Meeting future demands of acute care through the home hospital care model. *J Healthc Manag*. 2025; 159-164.
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5. Sriskandarajah S, Ritchie B, Eaton V, et al. Safety and clinical outcomes of hospital in the home. *J Patient Saf*. 2020; 16(2):123-129.

OTHER RESOURCES

Stuck A, Crowley C, Malloy R, Sevin C, Deane M, Little K. Home-based Acute Care: Getting Started Guide. West Health Institute and Institute for Healthcare Improvement; 2022.

Hospital at Home Users Group Page, https://hahusersgroup.org/

CMS Fact Sheet https://www.cms.gov/newsroom/fact-sheets/fact-sheet-report-study-acute-hospital-care-home-initiative

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