

COVID-19 is prompting hospitals and health care systems to reconsider how and where they deliver care to patients. Many see the patient’s home as the safest and most effective option for certain conditions and patients. As a result, the hospital-at-home model – where patients receive acute-level care in their homes, rather than in a hospital – is emerging as a promising approach to improve value for patients.

This issue brief examines the hospital-at-home model and highlights examples of hospitals from across the country successfully implementing hospital-at-home care for their patients.

What is Hospital-at-Home Care?

The structure and implementation of hospital-at-home care varies based on the needs and capacity of the hospital and its patient population. Some hospitals run the program out of the emergency department (ED) and admit eligible patients to their homes, while others rely on community paramedics or specialty clinics to refer patients into the program. Hospitals may focus on a specific patient population for hospital-at-home care, such as providing oncology care or post-surgical monitoring at home, enabling a planned “home admission” to replace or shorten an inpatient stay. Hospitals also are adapting home hospital care to meet patient needs in rural regions.

Though the structure of hospital-at-home care models may vary, programs share many commonalities. Hospital-at-home care is well-suited for medium acuity patients who need hospital-level care but are considered stable enough to be safely monitored from their homes. While hospital-at-home care is not appropriate for all patients, it is a particularly good fit for patients that have



conditions with well-defined treatment protocols, such as pneumonia, congestive heart failure, chronic obstructive pulmonary disease (COPD), diabetes or cellulitis.

Though the patients are not physically at the hospital, they are never far from health care providers. They are consistently connected to their care team through a combination of in-person visits, video visits and continuous biometric monitoring via telehealth technologies.

Hospitals can provide a wide array of services in the home setting, including:

- **Diagnostic studies** such as electrocardiograms, echocardiograms, and x-rays;
- **Treatments** such as oxygen therapy, intravenous fluids, intravenous antibiotics and other medicines;
- **Services** such as respiratory therapy, pharmacy services and skilled nursing services.

Based on the patient’s needs and care protocols, care team members visit the patient at least once daily to provide treatment.



Providers also need to ensure that the patient's home is conducive to hospital-at-home care, with adequate internet access, cooling/heating and social support. Receiving hospital-level care in the home setting creates an opportunity for providers to identify a patient's social needs. For instance, when visiting a patient at home, a provider may be able to recognize unsafe living conditions or challenges with accessing food. The provider could then connect the patient with a social worker or make a referral to a social service agency that could help meet that need.

A Step by Step Guide to Hospital-at-Home Care

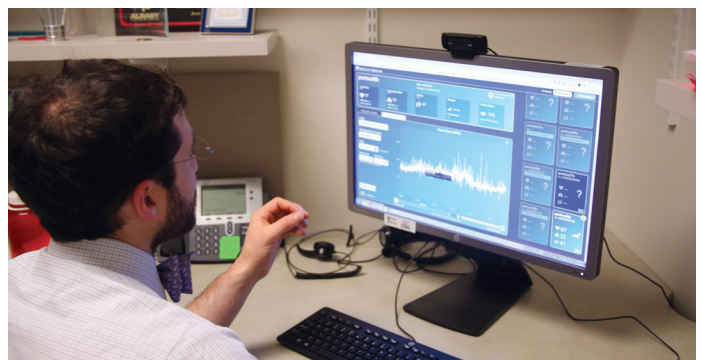
Johns Hopkins Medicine, one of the trailblazing organizations for developing and researching the hospital-at-home model, offers a step by step approach for implementation. The adapted guide below describes how Hospital at Home™ can work and is illustrated by an example of how a patient may experience the process.

- Using the hospital's eligibility criteria for Hospital at Home, the ED or physician identifies a patient sick enough to require hospital-level care but stable enough to be treated at home. *Fred, a 77 year old man, presents at the ED with an exacerbation from his congestive heart failure. Doctors review his case and find that he needs observation and treatment, but is stable enough to receive that treatment from his home.*

- The Hospital at Home team meet with the patient and family to discuss the program and assess the suitability of the patient's home for Hospital at Home (e.g., must have air conditioning, heat and running water). *A Hospital at Home team member meets with Fred and his family in the emergency room and explains the option to receive care at home. They also discuss Fred's living situation – they determine that he lives with his wife in a house that is conducive to hospital-level care at home.*
- Responsibility for the patient's care is assigned to a physician from the hospital and other care team members are identified based on the patient's needs. *Fred is assigned a physician to direct his care over the course of his home admission. Fred's primary care physician*

Medicare Hospital Care At Home

The Centers for Medicare & Medicaid Services launched the Acute Hospital Care At Home program to provide hospitals expanded flexibility to care for patients in their homes. Participating hospitals admit patients from the ED and inpatient beds to their homes. Hospitals must apply for a *waiver* and adhere to screening and safety protocols. Patient are evaluated by a nurse daily and receive two in-person visits daily by either nurses or mobile integrated health paramedics. The Acute Hospital Care at Home program can serve COVID and non-COVID patients.





and specialists are notified that Fred will be “admitted” into his home for treatment and monitoring of his congestive heart failure.

- A care team member meets the patient at home and a physician meets with the patient either in person or over video to discuss the treatment protocol. Medical supplies also are transported and delivered to the patient’s home. *When Fred and his wife arrive home, they are joined by a care team member to set up the medical supplies in his home. They video conference in the physician, who talks with Fred and his wife about the treatment protocol over the coming days.*
- Orders are written and health care providers visit to administer services. The patient’s vital signs are monitored electronically by the care team. *Fred’s care team members provide the services that the doctor ordered and set up biometric monitoring so that the Hospital at Home team can observe his condition remotely.*
- A care provider visits the patient daily. The physician connects with the patient daily, either in person or via telemedicine. *Each day, at least one care provider visits with Fred and his wife to observe his condition and provide treatment. Fred receives the prescribed infusions and his care team monitors his progress.*
- When the patient is stabilized and well enough to be “discharged,” the patient is discharged. *When Fred’s doctor is satisfied with his progress, he is “discharged” from his Hospital*

at Home. Fred receives outpatient follow-up care from his primary care and specialty care physicians.

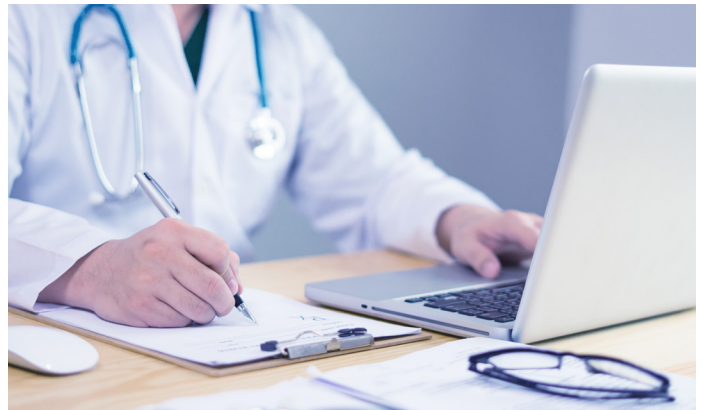
Overcoming Barriers to Adopting Hospital-at-Home Care

Despite the proven value of hospital-at-home programs, barriers to increased adoption persist, including:

- **Payment.** Most private payers do not cover hospital-level care in the home setting. Hospitals that have successfully navigated the payment challenge include the Veterans Affairs network, which is essentially a single-payer system for its population. Health systems that have their own insurance plans have a similar opportunity to cover hospital-at-home care. To expand surge capacity during the pandemic, CMS launched the Acute Hospital Care at Home waiver program, giving hospitals flexibility to treat beneficiaries in their homes.
- **Implementation.** Standing up a hospital-at-home program requires logistical and technical work, with an investment of time, staff and money. Some hospitals have partnered with companies, such as Medically Home or Contessa, that can provide the technology, manage logistics or provide care coordination to facilitate implementing a hospital-at-home program.
- **Demand.** Prior to COVID-19, there was skepticism that the quality of care provided at home would be as good as in the hospital. This may be changing. As patients are reluctant to go to the hospital and telehealth capacity is growing, hospital-at-home care is becoming a more desirable option for providers and patients.

As rural hospitals close or consolidate, some rural residents are experiencing reduced access to hospital care. To address this issue, University

of Utah Health and Ariadne Labs developed the [Rural Home Hospital Program](#) to test how hospital-at-home care could be delivered in rural areas. In this model, a local paramedic travels to the patient’s home while a hospital-based physician video conferences in to guide the paramedic’s care provision and set up of any medical equipment in the home. The goal is to leverage technology and the local workforce to safely and effectively treat acutely ill rural patients in their homes. University of Utah expects to see 100 patients in the first year of rural operations, with plans to scale up in subsequent years.



Hospital-at-Home Model Improves Value

A growing body of research shows that hospital-at-home is an effective strategy that improves all three components of the value equation – improve outcomes, enhance the patient experience and reduce cost.

A 2016 Cochrane review of 16 randomized control trials evaluated the effectiveness of hospital-at-home care for patients with conditions including COPD, stroke and a mix of other acute conditions.

AHA’s Value Equation

Through *The Value Initiative*, the AHA is addressing affordability through the lens of value to improve outcomes and enhance the patient experience while reducing cost.

Source: American Hospital Association, 2018.

The review found no difference in six-month mortality, no difference in being transferred or readmitted to a hospital, higher satisfaction with health care, and lower costs.¹ These findings were

reinforced by a 2019 clinical trial that found the cost of treating an acute care episode at home was 38% lower than usual care patients, and that home hospital patients had fewer low-value services, such as laboratory orders, imaging studies and consultations.²

Below we explore how hospital-at-home care impacts each element of the value equation and share examples of how hospitals have been putting hospital-at-home into action for their patients.

Outcomes

Hospital-at-home models provide high-quality care and improve patient outcomes. A meta-analysis of 61 studies found that patients that have received hospital-at-home care have a 20% reduction in mortality³ while another randomized control trial found that acutely ill patients admitted to hospital at home through the ED were three times less likely to be admitted to the hospital within 30 days than usual care patients.⁴

The hospitals profiled here show how receiving hospital-level care at home improved patient quality and outcomes. All have received waivers for the CMS Acute Hospital At Home program.

[University of Utah Health’s Huntsman Cancer Institute](#) offers the Huntsman at Home service to oncology patients, enabling them to leave the hospital sooner or avoid going in altogether. Launched in 2018, Huntsman at Home offers acute care, supportive care and palliative care that is



customized to meet the unique needs of patients and their families. Patients can receive multiple visits daily from nurse practitioners, nurses and health aides. Via telehealth, a registered nurse can visit patients in their home and facilitate a medical appointment with a provider located at the Huntsman Cancer Institute. In a study of the impact of the model, Huntsman at Home patients were 58% less likely to be admitted for an unplanned hospital stay, and those who were admitted to the hospital had a shorter length of stay. [Huntsman at Home](#) patients had 48% fewer ED visits. They also had 48% lower cumulative charges for clinical services when compared to the control group.⁵

[Presbyterian Healthcare Services](#) provides Presbyterian Hospital at Home services to patients with well-defined treatment protocols, such as congestive heart failure and COPD who live within 25 miles of a Presbyterian hospital, covering much of New Mexico. Since its inception in 2008, Presbyterian has served over 1,400 patients at home. Patient satisfaction scores are at 99%, and no infections or wounds have been acquired while on hospital at home, and there have been no unexpected deaths. The cost of a hospital-at-home admission is 42% less than an equivalent hospitalization, and the 30-day and 90-day readmission rates are 5.6% and 6.4%, respectively. Presbyterian is able to secure reimbursement from its health plan.

Patient Experience

People often prefer to receive care in the comfort of their homes. Hospital-at-home patients are more likely to report a higher level of satisfaction

with their physician, comfort and convenience of care, admission process and the overall care experience.⁶ Below is an example of a hospital that found improved patient satisfaction among patients who received hospital-at-home care, as well as improved outcomes and reduced cost.

[Mount Sinai's](#) Mount Sinai at Home program provides hospital services and rehabilitation services to acutely ill patients who would otherwise require hospitalization. The program provides patients with a suite of integrated services that includes daily visits from nurses, doctors and social workers; IV support; oxygen; X-rays; and physical therapy through a combination of in-person visits, video visits and remote monitoring. Patients who receive hospital-at-home care have fewer complications, fewer 30-day ED visits, lower 30-day hospital readmission rates, and decreased length of stay. Mount Sinai also reported increased patient satisfaction and lower cost of care. To enable private insurance companies to pay for hospital-at-home, Sinai formed a joint venture with Contessa Health to facilitate the development of contracts with health plans and other payers.

Cost

Providing hospital-level care in the patient's home is a lower cost care setting than the hospital. On average, hospital-at-home care has a 25% lower cost of stay.⁷ The example below shows that hospital-at-home can achieved reduced cost without sacrificing quality.

At [Brigham Health](#), selected patients who go to the ED are discharged to their homes, where physicians, nurses and other providers care for them daily at the same levels as if they were in the hospital. Through continuous electronic monitoring, video chats and texts, clinicians track patients' progress between visits. Clinical staff facilitate other services in the home, if needed, such as meals, occupational therapy, physical therapy, social services, ultrasound, X-rays or other care patients would have received in the hospital. The

program sees about 300 patients per year. In a 2019 randomized control trial of the model, Brigham Health found that the cost of treatment for a group of home hospital patients was lower than a control group of in-hospital patients by 38%. Compared to the in-hospital patients, the Home Hospital patients tended to be more physically active and less frequently readmitted to the hospital.

Hospital-at-Home during COVID-19

COVID-19 has accelerated the adoption of hospital-at-home care. The model serves a dual purpose; by treating patients at home, patients have reduced risk of exposure to the virus and hospitals are able to keep beds available for acutely ill COVID-19 patients. Additionally, some hospitals are setting up hospital-at-home services specifically tailored to COVID patients. Below are examples of hospitals that have launched hospital-at-home programs to treat lower acuity COVID-19 patients in their communities.

In response to the pandemic, [MetroHealth](#) in Cleveland rapidly set up a hospital-at-home program to treat lower acuity COVID-19 patients in their homes. Clinical staff remotely monitor eligible patients and virtually check in with them at least twice a day; physicians do a daily check-in. The health system also screens patients for social needs and social isolation and connects them to community-based organizations through Unite Ohio's shared technology platform, Unite Us, which enables them to send and receive electronic referrals. Through managing and monitoring patients' symptoms and vitals at home, MetroHealth has identified exacerbations before an emergency visit was necessary. Patients and staff have welcomed the hospital-at-home option. To date, the program has had 120 participants with an average daily census of 13. While their current focus is on COVID-19, they intend to expand to additional use cases.

[Northwell Health](#) launched the COVID Ambulatory Resource Support (CARES) program which enables

physicians via telehealth to advise patients in the community with mild or moderate COVID-19 symptoms. When necessary, a nurse visits the homes of patients with severe symptoms or underlying medical conditions, while specialists use telemedicine to follow these patients. This hospital-at-home program also provides care for discharged

Providing Age-Friendly Care at Home

For elderly adults and those with cognitive impairment, a hospital admission may be particularly stressful. The hospital-at-home model is especially well suited to meet the needs of the aging population by allowing them to receive care in their own environment. Age-Friendly Health Systems, an initiative of the John A. Hartford Foundation and the Institute for Healthcare Improvement in partnership with the AHA and the Catholic Health Association of the United States uses a 4Ms framework:

- **What Matters:** Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.
- **Medications:** If medications are necessary, use age-friendly medications that do not interfere with What Matters, Mentation or Mobility.
- **Mentation:** Prevent, identify, treat and manage depression, dementia and delirium across settings of care.
- **Mobility:** Ensure that older adults move safely every day in order to maintain function and do What Matters.

Pairing age-friendly care with hospital-at-home could enable hospitals to address all four Ms in the setting where their patients are most comfortable. Learn more about AHA's work on [Age Friendly Health Systems](#).



COVID-19 patients who have lingering symptoms that require care.

COVID-19 was the impetus for **Adventist Health** to jumpstart its Hospital@Home program, which launched in May. The Hospital@Home program cares for non-COVID patients in their homes which reduces these patients' risk of exposure to COVID-19 as well as enabling Adventist to expand its bed capacity for acute COVID-19 patients. Adventist Health had a starting capacity to take on 200 patients.

Conclusion

Hospital-at-home care has the potential to innovate how and where hospitals provide care to their patients. By identifying home as the best location for their patients to receive care and leveraging available technology, hospitals can improve value while keeping their patients safe and satisfied during the COVID-19 pandemic and beyond. For more case studies, podcasts and resources on hospital-at-home, visit www.aha.org/hospitalathome.

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