

Acute Care Delivery at Home

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Delivering hospital-level care in a patient's home has been a patient surge management strategy for some healthcare facilities in the U.S. and several other countries around the world for many years. This acute care delivery at home model can become part of a healthcare facility's strategy for a variety of reasons. Short-term implementations can be a valuable resource in response to a public health emergency to help alleviate patient surge in hospitals. For example, during infectious disease outbreaks, acute care delivery at home can allow high-risk patients to receive hospital-level care at home while reducing their potential exposure. Acute care delivery at home can also be a long-term strategy to allow patients more flexibility in where they receive their care, providing equivalent or superior care in the comfort of their homes.

There are several factors to evaluate when contemplating the implementation of an acute care delivery at home program. This document recognizes the varying approaches to applying this model and that there is a wide spectrum of care, eligibility requirements, resource needs, and financial/ reimbursement/ payer models. The goal of this tip sheet is to provide a general overview of characteristics of various types of acute care delivery at home programs (e.g., Hospital at Home[®], virtual hospital at home, acute care at home, home hospitalization, early supported discharge) to help healthcare providers better understand this care model.

Some acute care delivery at home programs are fully integrated into care delivery and have been part of "business as usual" for years. While unique to each program, these implementations have developed a qualification process for patients, often including a list of inclusive diagnoses, and policies and procedures surrounding transitioning to and managing care at home. Other programs have been developed recently in response to COVID-19 to alleviate overcrowding in the hospital, treat milder cases of COVID-19, and isolate patients with comorbidities that place them at high-risk for a COVID-19 infection while still providing hospital-level care.

Studies have identified many advantages of the acute care delivery at home model and shown condition-specific quality indicators can be met at the same rate or better, though there are individual variations between studies. In addition to the reduction in hospital inpatient census during a public health emergency, patients have demonstrated improved emotional state at home with family, friends, and pets as they recover.¹ Some programs have also realized reductions in:

¹ If diagnosed with COVID-19 or another highly infectious disease, patients must be counseled on infection prevention at home and avoidance of family and friends.

- Inpatient-induced delirium ([74% reduction](#))
- Pressure sores/ other complications from inactivity (as patients have improved mobility at home) ([23% mobility as an inpatient vs. 12% at home](#))
- 30-day readmission rates ([23% inpatient vs. 7% in acute care delivery at home program](#))
- [Skilled nursing facility admissions and emergency department \(ED\) visits](#)
- [Mortality](#)
- [Stress in patients and caregivers](#)

General Characteristics of an Acute Care Delivery at Home Program

Acute care delivery at home allows for in-home, hospital quality medical care to be administered to interested patients with qualifying acute conditions, instead of admission as an inpatient at a hospital. Other characteristics of these programs include:

- Patients are assessed by a healthcare professional as they normally would be and may receive some treatment to stabilize their condition and determine eligibility to receive acute care delivery at home.
- Some programs allow patients to directly enter the acute care delivery at home program based on referral from a treating primary care physician (PCP) or specialist, depending on the participation requirements of the organization.
- Programs may also elect to perform emergency evaluations at home based on their capabilities and plans, so patients may not need to be assessed in a physical ED prior to admission.
- Once admitted, all patient transport needs will be provided by a hospital or contracted entity to the patient’s home, where they will continue to receive hospital-level care. In the event that in-hospital diagnostics or short-term treatment is required, patients can be transported back to the hospital for those services, then transported back home through transportation coordinated by the hospital.
- While this level of care may reduce readmission to the hospital and ED visits within the first 30 days, it is not intended to subvert hospital evaluation and stabilization or treatment that needs to be done in the healthcare facility.
- While acute care delivery at home is not post-acute care, one of the main strengths of these programs is that they can negate the need for facility-based post-acute care, such as skilled nursing facility placement, particularly in the 30-day post admission window.
- The model is intended to manage acute conditions, not chronic case management, as the name implies.
- Care can be implemented as a direct response to patient surge during a public health emergency.

What acute care delivery at home is NOT

- Home health
- Case management
- Chronic disease management
- Skilled nursing
- Admission prevention

- Patients with co-morbidities that put them at high risk for complications from an infectious disease may be managed in the home to reduce the risk of exposure.
- Care may be delivered in a virtual environment under certain circumstances, reducing the likelihood of exposures to healthcare providers.
- The use of limited personal protective equipment (PPE) may be reduced through the reduction of in-person contact in the virtual environment.
- Patients receiving care within the acute care delivery at home model can alleviate the strain on the hospital census by allowing limited in-hospital care to be dedicated to the most staff-intensive treatment.

General Features of Acute Care Delivery at Home Programs²

- Acuity and complexity of the patient condition differentiates acute care delivery at home from other community services (higher acuity patients).
- Ensures urgent access to hospital-based diagnostics, if required (e.g., endoscopy, radiology, cardiology).
- Provides access to hospital-level interventions at home (e.g., intravenous fluids, medication therapy, oxygen).
- Requires daily input from a multidisciplinary team that includes multiple visits and provisions for 24-hour care coverage, with the ability to respond to urgent visits.
- Requires acute care level specialist leadership, at least daily changes in the care plan, and clear lines of clinical responsibility.
- Employs staff that are experienced and comfortable treating patients in the home environment.
- Includes defined inclusion and exclusion criteria.
- Determines the appropriateness of the home environment based on characteristics such as climate control, running water, and social support.

Evaluating Organizational Readiness

Providing acute care delivery at home requires strategic cooperation across the organization in order to develop and implement the new policies and procedures necessary to provide this level of care. Organizational resistance to change is often cited as one of the biggest hurdles when developing and managing an acute care delivery at home program.

The following [considerations can help build and maintain strategic support](#) for an acute care delivery at home program:³

² Titchener, Karen. (2020). Efficient, Effective, Excellent: Issues in Logistics and Operations in Hospital at Home: [Slides](#) and [Recorded Webinar](#).

³ Titchener, Karen. (2021). Building Support for Your Hospital at Home Program: Issues in Strategic Engagement: [Slides](#) and [Recorded Webinar](#).

Spotlight: Hospital at Home®

[Hospital at Home](#)® is a specific model, first developed by Johns Hopkins Schools of Medicine and Public Health, “that provides hospital-level care in a patient's home as a full substitute for acute hospital care.” More than 100 major healthcare facilities and top universities have implemented this and similar models across the country. Hospital at Home® has an active users’ group and provides resources on their website, including a recent webinar series with presentations from facilities around the country that have implemented the program.

Hospital at Home® proposes using [five questions](#) as a place to start when contemplating this model. The “health system” includes services provided through contractual partnerships as well. Answering yes to any of these questions means an organization is ready to start evaluating the model in more detail.

1. Is your health system experiencing problems from a lack of hospital capacity?
2. Does your health system have established home health-care delivery capabilities?
3. Do you have physicians with the interest and ability to care for patients in the home environment? Physicians can complete visits either in person or virtually.
4. Does your health system experience a large volume of Medicare admissions for common problems such as community-acquired pneumonia, heart failure, or chronic obstructive pulmonary disease (COPD)?
5. Does your institution view itself as an innovator in developing and implementing new models or systems of care?

- Ensure leadership and clinical teams are engaged in the service design/ pathways development.
- Start with a limited number of conditions and a clear pathway for patient selection.
- Build clear patient pathways for referral and expectations for resources needed, interventions provided, and “length of stay.”
- Present the program to as many staff groups as possible to obtain input and stimulate awareness of the options for care. Cooperation between the ED, hospitalists, and nursing leaders is important.
- Ensure the program is promoted and understood internally and externally to the organization (e.g., encourage patient stories/experiences, immediately address issues, engage staff, develop informational materials for staff and patients).
- Secure stable funding to support the program.
- Ensure IT and telecommunication systems are integrated to support the programmatic goals.
- Create a single point of access with an integrated referral process.

Implementation Strategies

[Recommendations to evaluate readiness](#) to start a program include:⁴

- Seek guidance from regulatory bodies.
- List services that are available internally and those sourced externally.
- Determine how to manage program development and implementation, briefings, marketing, and related tasks.
- Determine mechanisms for establishing conditions of participation and executing new contracts between the hospital and ancillary service providers such as:
 - Pharmacy
 - Infusion services
 - Respiratory care (including oxygen delivery)
 - Durable medical equipment
 - Diagnostics (including lab, radiology, etc.)
 - Transportation
 - Food services
 - Therapies (physical, occupational)
 - Social work

While developing a program, it is important to remain flexible. Take the opportunity to frequently review in-home services, patient satisfaction, and conditions of participation in order to evaluate if the program has the right mix of qualifying criteria and refine those as the program matures.

The Hospital at Home® “Starter Kit” includes considerations for [building support for the program](#), how to develop strong leadership support, and suggested partnerships that can augment the services that may be provided. Topics covered include:⁵

- Developing an executive vision and solidifying commitment and sponsorship.
- Creating measurable core strategic aim(s) associated with launching acute care delivery at home.
- Defining the delivery care model
- Defining the populations

Start-up Tips

- Find the right patients
- Discuss the benefits and drawbacks of program to patients/ families and referring and collaborating clinicians
- Align program availability with ED capacity surges

⁴ Read, Peter. (2021). On Time, Every Time: Delivering Hospital at Home Ancillary Services: [Slides](#) and [Recorded Webinar](#).

⁵ Thompson, Ryan. (2021). Building Support for Your Hospital at Home Program: Issues in Strategic Engagement: [Slides](#) and [Recorded Webinar](#).

- Consider reimbursement requirements. If Medicare and Medicaid patients will qualify for participation, identify regulations and requirements issued by the Centers for Medicare & Medicaid Services (CMS).
- Identifying local partnerships and program stakeholders
- Defining organizational structure.
- Defining patient inclusion/exclusion criteria.
- Continuously incorporate lessons learned.
 - Evaluate admission criteria, policies, and procedures for continual improvements, exercise, or test system components, if possible.
- Build health equity considerations into the model.

Operationalization, Evaluation, and Data

Considerations for operationalizing a program include the following (access the [Hospital at Home Users Group presentation](#) and [webinar recording](#) for detailed recommendations for these areas):⁶

- Establish strong leadership for the program.
- Define the program capacity (e.g., how many patients will the program see at one time, what is the target population and patient group, what is the shift pattern).
- Recruit program staff (e.g., who to recruit, employ vs. out-source) and understand key characteristics of successful acute care delivery at home staff.
- Develop a process for creating a clear care coordination plan for patient and caregiver.
- Identify staff requirements and sources of staffing.
- Identify staff induction criteria, competencies, and training curriculum.
- Develop day-to-day operations/ standard operating procedures.
- Ensure strong communication systems and procedures.
- Determine referral process and patient selection criteria.
- Complete an environmental home safety assessment to ensure:
 - Patient safety (evacuation plan, transportation needs, ambulation level, etc.)
 - Fire safety
 - Home safety (are there weapons in the home, infestation, frayed electrical cords, etc.)
 - Medication storage/management
- Develop partnerships with home care and hospice agencies for post discharge care.

⁶ Titchener, Karen. (2020). Efficient, Effective, Excellent: Issues in Logistics and Operations in Hospital at Home: [Slides](#) and [Recorded Webinar](#).

Considerations for [identifying and monitoring measures of quality and safety include](#):⁷

- Look to other industries for measures of quality and safety.
- Make sure the quality monitoring system is as automated as possible, rather than passive or manual.
- Use a data-based system that has high validity.
- Review data at least monthly, if not daily.
- Incorporate electronic health record feeds when possible.
- Report on incidence of:
 - Falls with serious injury
 - Medication error with serious injury
 - Delirium
 - Pressure injuries
 - Serious injury to staff secondary to assault in the home environment
- Determine longer-term measures, which may include:
 - 3-day readmission
 - 30-day readmission
 - 30-day return to the ED
 - The number of days the patient was treated at home
 - Linking patients to care measured by a 14-day primary care physician visit
 - Patient experience
- Review operational measures that may include the length of travel time, overnight events (either woke staff up at night or active events), demographics, and volume of patients.
- Review the level of peer mentoring for teams providing care in the patient’s home.

Data can be tracked through the electronic health record, however, customized reports specific to the needs of an acute care delivery at home patient may need to be developed. Data collected can be shared on a national level as well in order to continue to develop guidance and support for the acute care delivery at home model as a whole. Compliance officers within the healthcare facility can help identify “reportable events” to be measured, as some states consider acute care delivery at home patients as inpatient (most states), or out-patient (e.g., New York).

⁷ Levine, David. (2021). [How Are We Doing? Evaluating Hospital at Home Quality and Safety](#).

Spotlight: Centers for Medicare and Medicaid Services (CMS) Acute Hospital Care at Home

CMS issued a [waiver for acute hospital care at home](#) during the COVID-19 public health emergency to increase the capacity to treat patients and provide acute care outside the traditional hospital setting. In late 2020, Drs. Linda DeCherrie and David Levine delivered a [CMS webinar on the waiver](#). Though the CMS Acute Hospital Care at Home program was developed to support models of at-home hospital care throughout the country, operating under this waiver has specific requirements and conditions of participation, which make it unique from the other programs described in this document.

- Only available during the [COVID-19 Public Health Emergency](#).
- CMS provides full Medicare Severity-Diagnosis Related Group (MS-DRG) payment and applicable add on payments.
- CMS maintains a [list of approved hospitals](#).
- There are several requirements a hospital must meet to participate in the program:
 - Appropriate screening protocols which assess both medical and non-medical factors.
 - A physician or advanced practice provider must evaluate each patient daily either in-person or remotely after the initial in-person History and Physical exam, consistent with hospital policies.
 - At least once daily in-person or remote registered nurse visit who develops a nursing plan consistent with hospital policies.
 - At least two in-person visits daily by either registered nurses or mobile integrated health paramedics, depending on the established nursing plan.
 - At all times, there must be a system that allows immediate, on-demand remote audio connection with an Acute Hospital Care at Home team member who can immediately connect either an RN or MD to the patient.
 - The program must be able to respond to the patient's home within 30 minutes with a team of appropriate emergency personnel. This can be provided by 911 or emergency paramedics.
 - The hospital must track and report several patient safety metrics with weekly or monthly reporting, depending on the hospital's prior experience level.
 - A local safety committee must be established to review patient safety data prior to submission to CMS.
 - An accepted patient leveling process must be used to ensure that only patients requiring an acute level of care are treated.
 - The hospital must provide or contract for services required during an inpatient hospitalization.
 - All patients must be admitted from an Emergency Department or inpatient hospital bed.
- The waiver gives flexibility for initial ED to home patient transfer if both patient/family and admitting physician agree.
- CMS has an online portal to streamline the waiver request process linked above, and Frequently Asked Questions can be reviewed [here](#).

Resources

- [CMS Acute Hospital Care at Home Program Frequently Asked Questions](#)
- [CMS: What They're Saying: Acute Hospital Care at Home](#)
- [Denver Health Virtual Hospital At Home](#)
- [Hospital at Home Users Group Website](#)
- [Hospital at Home Technical Assistance Center](#)
- [Hospital at Home Website](#)
- [Hospital at Home Toolkit](#)
- [Hospital at Home Users Group Webinar Series](#)
- [Johns Hopkins Medicine: Hospital at Home](#)

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