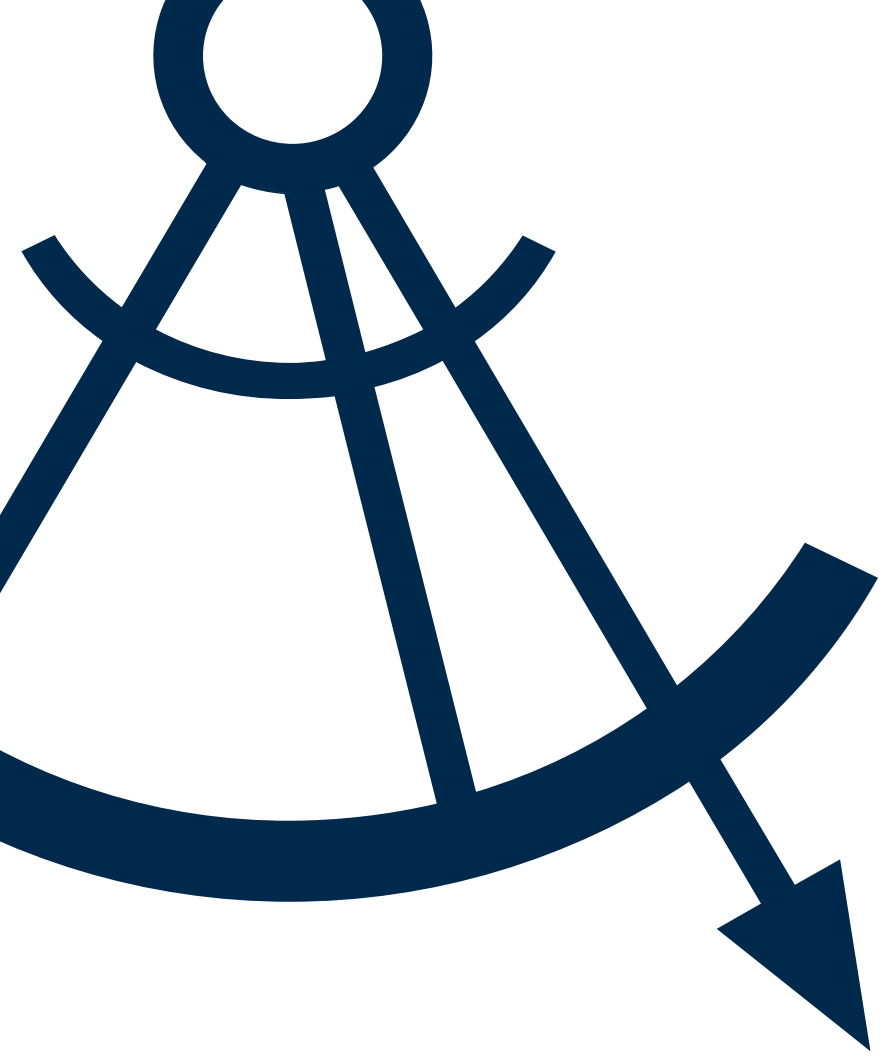

Hospital at Home Supply Chain & Logistics:

How to Deploy Distributed Acute Care Resources in Patients' Homes

CHARTIS

As more healthcare executive suites endorse implementation of hospital at home business lines, health systems' operational leaders are faced with unique challenges in translating these conceptual clinical operating models to reality.

A pervasive question all programs grapple with is how to effectively manage the time-sensitive orchestration of various distributed clinical, ancillary, and support resources required to care for a geographically dispersed acute patient population. Ensuring the right products, equipment, and services get to the right place at the right time is hard enough within the 4 walls of the hospital—the operational complexity is materially amplified when that is required "off-campus." Other common challenges include continued regulatory uncertainty, varying vendor capabilities, and broader supply chain issues affecting traditional providers (e.g., inflationary pressures, backorders, and allocation).

Essential to meeting the needs of any hospital at home program will be developing a resilient supply chain and logistics model that leverages well-established capabilities while also solving for "last mile" needs of home-based care models. Meeting the unique needs of hospital at home programs often requires a redefinition of the scope and service levels for contracted services—and at times, development of new, complementary internal capabilities. Supply chain leaders must closely partner with hospital at home clinical operations leaders early in the planning process to define business, clinical, operational, and other functional requirements that meet the initial needs of the program, while also aligning on a continuous improvement process to support evolving requirements as the program matures.

Manage Supply Chain and Logistics at Every Step of the Hospital at Home Patient Journey

A patient-centric, cost effective, and scalable hospital at home care model requires efficiently orchestrated supply chain and logistics activities at each stage in the patient journey. Following are essential considerations for each stage.

PATIENT IDENTIFICATION AND ADMISSION

- Ensure standard care plans include durable medical equipment (DME), supplies, and other equipment needs by diagnosis.
- Gather necessary supplies, equipment (e.g., oxygen, DME), and medications and prepare patient for transport.
- Coordinate appropriate transport for the patient and any supplies or equipment issued to them.
- Dispatch patient resources as required (e.g., couriers, DME, oxygen, and meals).

HOME SETUP

- Manage receipt of appropriate equipment and supplies at the patient's home.
- Set up and test equipment, supplies, remote patient monitoring (RPM), and other connected devices.
- Review care plan instructions, then educate and train the patient or caregiver on equipment, technology, supplies, medications, and medical waste disposal.

CARE DELIVERY

- Ensure field clinicians have appropriate equipment, technology, and supplies.
- Deploy diagnostic testing resources (e.g., imaging, cardiac testing, and labs) and coordinate reverse logistics for specimens, as necessary.
- Replenish supplies, medications, and meals.
- Troubleshoot issues with equipment and technology.

POST-DISCHARGE TRANSITION

- Collect unused supplies and medications, coordinate reverse logistics, and track asset recovery.
- Log issues with equipment and technology, and manage reprocessing/ maintenance, as required.
- Support patient transition to sub-acute care at home (e.g., home health and chronic condition management), and hand off responsibility/ownership of RPM and DME (e.g., tracking, billing, reimbursement).

Focus on Critical Success Factors to Achieve Clinical and Operational Effectiveness

In order to design an effective hospital at home supply chain and logistics model, health systems must solve for several dynamics that make acute care delivery at home different from facility-based care different from care delivery at a brick-and-mortar facility.

Regulatory & Compliance

UNDERSTAND applicable regulations, and design the hospital at home clinical operating model to adhere to regulatory standards. Many regions have unique regulatory requirements that impact hospital at home services, including transport (e.g., oxygen and pharmacy), specimen collection, infection control, and mobile diagnostics.

Health System Services

CONSIDER bandwidth, service partnership agreements, escalation processes, and internal accounting mechanisms when designing intracompany operating relationships. The nascent hospital at home operating model will require coordination and cooperation across many internal functions (e.g., nursing, lab, supply chain, and pharmacy).

Third-Party Support

LEVERAGE third parties in areas where the organization does not have the existing resources or capabilities to meet the needs of the care model (e.g., portable DME, mobile diagnostics, couriers), where redundancy is needed to reduce risk, or where outsourcing is financially advantageous. Develop service level agreements that enable consistent and reliable care delivery.

Portability/ Mobility

DESIGN the care model with logistics constraints in mind. Initially, focus on admitting patients who can be treated with limited supplies and portable equipment. Expand eligibility as additional hospital at home capabilities are developed.

Physical Space/ Geographic Scale

ALLOCATE appropriate physical space for supplies, equipment, and medication storage. Consider the need for geographically distributed storage and logistics capabilities as the hospital at home program expands its reach. Engage vendors that can scale geographically as the program matures.

Orchestration

DEDICATE resources to centralized logistics coordination. The distributed nature of hospital at home creates orchestration challenges that do not exist in a traditional site of care. Agile workflows, clear communication standards, and robust staff training are all critical to cohesively manage distributed resources.

Scale Your Supply Chain & Logistics Capabilities to Realize the Promise of Hospital at Home Sooner

As health systems grow their hospital at home programs by expanding their geographic reach and/or introducing new clinical pathways, their supply chain and logistics capabilities must adapt to meet the evolving needs of the hospital at home care model.

- Centralized storage and restocking may become a burden on hospital at home staff. Supply chain leaders should evaluate the possibility of utilizing distributed supply depots, leveraging system-level supply chain resources to replenish and restock distributed inventory much as they would in a facility storeroom.
- As eligibility for hospital at home expands to include a wider range of patients (some with higher acuity), the care model will require new operational capabilities (e.g., wound care or continuous fluids). Hospital at home leaders should continuously collaborate with clinicians to identify new and evolving requirements such that operational leadership can proactively design and implement an appropriate mix of internal and third-party capabilities.
- Once operational workflows are well defined, leaders should periodically reassess build and buy decisions. For example, to manage cost and have more direct control of logistics at scale, it may make sense to insource some DME or phlebotomy services that were outsourced initially. For some needs, it will make financial and operational sense to maintain vendor relationships as a primary supplier or as a back-up option to ensure the program can "flex" to meet demand.

Invest in a New Care Model to Drive Operational Efficiencies, Unleash Capacity, and Bring Care to the Comfort of Patients' Homes

While delivering hospital at home care in a distributed model is a complex process, it offers proven benefits for consumers and health systems. Time and capital needed to build a patient-centric, scalable, and financially viable hospital at home program are resources well spent to better respond to the growing consumer demand and address acute care capacity constraints.

Committed and well-coordinated health systems can meet the supply chain and logistics challenges by clearly defining clinical and operational requirements through an early, collaborative, and iterative process. Defining and communicating requirements during program design will inform decisions regarding how to appropriately leverage internal capabilities and where to engage third-party vendors to fill gaps.

Supply chain organizations already possess many of the competencies and capabilities needed to support acute care delivery at home (e.g., sourcing and procurement, and inventory management). With creativity and flexibility, supply chain leaders can build upon these strengths to support safe, effective care at home and enable program growth.

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