Delivering Hospital-Level Acute Care at Home:

Learning from Huntsman at Home

BY AMANDA PATTON, MA

Monies spent for acute care services, including unplanned hospitalizations and emergency department (ED) visits, are responsible for nearly half (48 percent) of U.S. cancer spending.[1] As value-based payment models look to improve quality and decrease costs, outcome metrics incentivize care transformation aimed at decreasing ED utilization and unplanned hospitalization rates. In recent years, cancer programs and practices have implemented innovative strategies to reduce ED visits and unplanned hospital admissions, including extended and weekend clinic hours, 24/7 oncology-specific urgent care clinics, supportive care clinics, algorithms to risk-stratify patients, and more.

Since 2018, Kathi Mooney, PhD, RN, FAAN, and her colleagues at Huntsman Cancer Institute at the University of Utah have piloted a different approach: Delivery of hospital-at-home care for acutely ill adult patients with cancer through the Huntsman at Home™ model.

The program "features ongoing monitoring and rapid response for patients with unstable, acute illness."[2] Intensive hospital-level care is delivered to eligible patients in their own homes by a care team that includes oncology nurse practitioners (NPs), home health registered nurses, and allied healthcare staff. Besides planned visits, patients can access services within two hours of coming home from the hospital and in response to urgent needs.

The Huntsman at Home model uses a team of specially trained home health nurses to help acutely ill patients with cancer proactively manage emerging treatment-related symptoms, such as pain, nausea, vomiting, febrile neutropenia, and infections. Overseeing the team and patients' care are Huntsman at Home experienced oncology NPs. The program's NPs directly communicate and collaborate with Huntsman Cancer Institute's medical director, a physician who is board certified in oncology and palliative care, and patients' primary oncology team. Bringing hospital-level care into the home reduces patients' travel and wait time for care burdens, improving the patient experience and quality of life by decreasing hours spent in the hospital or clinic setting.

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Services provided depend on patients' condition but may include "acute symptom management; clinical monitoring of cardiovascular parameters and oxygen therapy; laboratory value monitoring and replacement; medication titration," as well as administration of intravenous (IV) fluids, antibiotics, and other IV medications.[3] Chemotherapy or other anti-cancer infusions are not provided.

In 2021, Dr. Mooney and colleagues published "Evaluation of Oncology Hospital at Home: Unplanned Health Care Utilization and Costs in the Huntsman at Home Real-World Trial" in the *Journal of Clinical Oncology*.[3] The article presented results from a prospective, non-randomized study of 367 hospitalized patients with cancer. Study participants were identified at hospital discharge, with 169 patients admitted to the Huntsman at Home program and 198 patients receiving usual clinic-based care. All patients met the criteria for admission to the hospital-at-home program, and those in the usual care group lived outside the service area for the hospital-at-home program (i.e., more than 20 miles outside of Huntsman Cancer Institute's hospital on the University of Utah campus). The average age of patients in the study was 62 years, 85 percent of patients were White, and 77 percent had Stage IV cancer.

Members of the Huntsman at Home team include clinical care professionals from Huntsman Cancer Institute and Community Nursing Services.

Patients admitted to the hospital-at-home program either needed "continued acute-level medical care after hospitalization" or "had continuing unstable symptoms related to treatment or disease progression that would either require ED evaluation or further hospitalization."[3] The study looked at the period of 30 days after enrollment with Huntsman at Home or the usual care comparison group.

Study results indicated that the odds of unplanned hospitalizations were 55 percent lower in the hospital-at-home group and healthcare costs were reduced by 47 percent in comparison to the usual care group.[3] The hospital-at-home group also had fewer hospital stay days and saw a 45 percent reduction in ED visits, compared to the usual care group.[3]

Study authors reported that next steps for the Huntsman at Home model would be expansion of the program to accept admissions directly from a patient ED visit (rather than by referral) and extension of the model to three rural "geographically distant, under-resourced communities in the southeastern part of Utah."[2] The hospital-at-home care in these communities, located two to four hours from Huntsman Cancer Institute, would be delivered using a combination of telehealth, remote technologies, and in-person care.

In a poster session at the American Society of Clinical Oncology Annual Meeting in June 2022, "Oncology Hospital at Home in Rural Communities: The Huntsman at Home Rural Experience,"[4] Dr. Mooney presented an update on the model's implementation in three rural Utah communities—Emery County, Carbon County, and Grand County.

During the first six months of the expanded Huntsman at Home program, 47 patients were enrolled from these rural areas.[4] Of these, 7 patients experienced 9 acute illness episodes; the average length of the acute episodes of care was 6.1 days. During these acute episodes, treatment was delivered for the following: infection, respiratory distress/hypoxia, cardiac instability (hypotension, tachycardia), dehydration/electrolyte imbalance, and uncontrolled vomiting.[4]

The remaining 40 patients received subacute care aimed to prevent acute episodes and further escalation, requiring a visit to the ED or hospitalization. These patients were on the subacute service for an average of 15.8 days.[4] During the study period, researchers noted that the cancer burden for rural patients was exacerbated by geographic and social determinants of health. For nearly half (44.7 percent), transportation was a barrier to care access, 14.9 percent experienced food insecurity that affected their nutritional status, and 29.8 percent endured financial toxicity due to lost wages, co-pays, and/or out-of-pockets costs. For 48.9 percent of patients, low health literacy affected their ability to navigate their healthcare and to self-manage their care at home.[4]

The Huntsman at Home research presented in the American Society of Clinical Oncology 2022 poster session supports the feasibility of deploying hospital-at-home models to close gaps in access to "acute and subacute care" in rural communities, with the caveat that such models must include "adaptation to rural needs and culture, coordinated escalation procedures and a focus on addressing geographic and social determinants of health that impact cancer burden."[4]

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