

## **Equity in Action: Developing Infrastructure for Sustainable Models**

Models of Care Delivery in Rural Patient

Populations



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#### Disclosures

Consultant to Reimagine Care





## Landscape for the Delivery of Cancer Symptom Management since 2013

- Symptoms and adverse events remain a significant feature of treatment and advanced disease
- Fragmented symptom care
- Limited or no EHR inclusion
- Current model: Patient selfmanagement education
- Current model: Clinic visit, ED and unplanned hospitalization for urgent care- not proactive
- A bricks and mortar structure

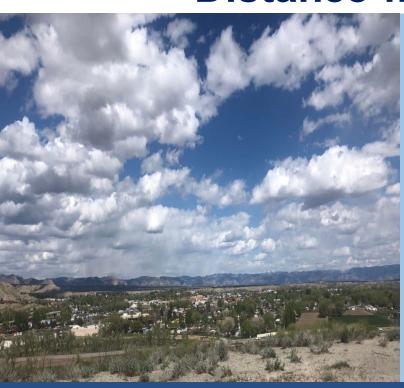


- Technology advances
- Value of patientreported outcomes (PROs)
  - Basch, 2016,2017;Mooney 2017
- Covid-19 Pandemic
- New models of care
  - Remote monitoring
  - Hospital at Home
  - Virtual care
  - Chemo at home





## Overlay the Current Care Model with Distance from Cancer Care



#### Distance as a Disparity

- Living outside of a metropolitan area
   Rural <100/sq. mi; Frontier <7/sq. mi</li>
- Rural patients-higher cancer mortality rates; less likely to receive standard of care (Levit, 2020)
- Utah rural patients- 5-year relative survival 5.2% lower than urban and a 10% increase in risk of death (HR = 1.10, 95% CI = 1.03, 1.18). More likely higher stage, older patients (Hashibe, 2018)





#### **Distance Disparities**

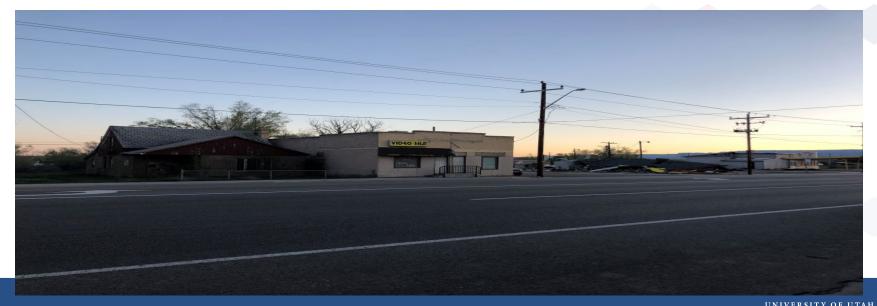
- Limited or no access to oncology services without travel: screening, diagnosis, treatment, clinical trials, supportive care, survivorship care
- Travel (while unwell)
- Transportation costs
- Lodging and food costs
- Lost wages, added financial burden
- Limit treatment options to fit travel demands and added costs

- Demands on family caregivers
- Uncertain about how to evaluate symptoms-seek local care or travel to cancer services
- Self-management challenges for complex care, health literacy
- Lack of coordination and communication between local providers and cancer providers; incompatible EHRs



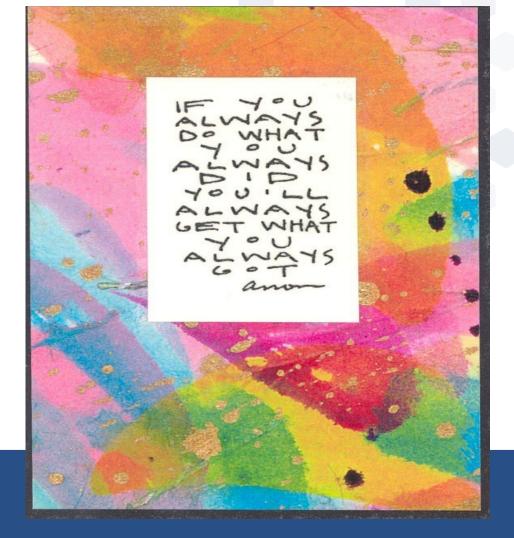


# Is this a Patient-Centric Model of Care Delivery; Does it Provide Equitable Access to Care?













## Paradigm Changing Models of Care Delivery

**Bringing Cancer Care Home** 







#### **Home-Based Model for Cancer Care**

Need for a unique oncology home-based model of care to address treatment side effects and symptoms of disease progression

- □ Acute episode care that would otherwise require ED and/or hospitalization
- Subacute monitoring and care to address early, symptom exacerbations and to prevent acute episodes all together (not found in standard hospital at home models)

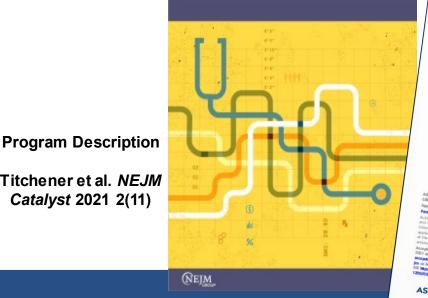




#### **Huntsman at Home**

Began August 2018

Catalyst Innovations in Care Delivery



Evaluation of Oncology Hospital at Home: Unplanned Health Care Utilization and Costs in the Huntsman at Home Real-World Trial Main Money, P.O., RAY, Karm Titchney, MSc., Benjamin Halland, MS. PRD, Lorda A. Camba, PAD, MSC., and Jaho K. Ward, MO. Halland Reason, PAD, Jardan P. McPhurson, Passon, MSC., America, PAD, MSC., America, P PURPOSE Patients with cancer experience high rates of morbidity and unplanned health care utilization and may FURDER Palents with cancer experience high rates of morbidly and unplanned health care utilization and may benefit from new models of care. We evaluated an adult oncobig hospital at home program's rate of unplanned statements and experience of the control of th certain from new modes or care. We evaluate an about oricingly morphism at notice program is take or unpainted hospitalisations and health care costs and secondarily, emergency department (ED) use, length of hospital stays, hospitalisations when the hospital stays, and the hospital stays are hospital stays. METHODS We conducted a prespective, nonrandomized, real-world cohort compar-METHODS We conducted a prospective, nonandomized, real-world cohort comparison of 367 hospitalized patients with cancer—199 patients consecutively admitted after hospital descharge to Humbinara all Home HHI. patients with cancer—test patients consecutively admitted after negotiar discharge to Huntsman at Home (HH).

a hospital-al-home program, compared with 158 usual care patients concurrently identified at hospital disa hospetiathone program, compared wen 15g usual care patients concurrency identified at nospital de-chage. All patients met clinical criteria for HH admission, but hose in usual care fixed outside the HH southern chage, All patents met clinical criteria for HH admission, but those in usual care lived outside the HH senice area, Primary outcomes were the number of upplanned hopptalizations and costs during the 30 days after area, Pirrany outcomes were the number of unplanned hospitalizations and costs during the 3D days after enrollment. Secondary outcomes included length of hospital stays, ICU admissions, and ED visits during the SE SULTS GROUPS were comparable except that more women received HH care. In propensity-weighted analyses, RESULTS Groups were comparable except that more women received HH care. In propensity weighted analyses, the odds of unplanned hospitalizations was reduced in the HH group by 55% (odds ratio, 0.45, 95% CI, 0.25 to 0.75 to the odds of unplanned hospitalizations was reduced in the HH group by 55% (odds ratio, 0.45, 95% Cl, 0.29 to 0.70, P < .001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.53, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.73, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.73, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.73, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.73, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.73, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.73, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.73, 95% Cl, 0.39 to 0.72, P < 0.001) and hashin care costs were 47% (lower (maan cost ratio, 0.73, 95% Cl, 0.73, 95% Cl 0.70, P.C. 001) and health care costs were 47% lower (mean cost also, 0.53;95% Cl. 0.39 to 0.72; P.C. 001) one the 30-day period. Secondary outcomes also Second HH. Total booksts stay days were reclused by 1.64 period. One of the 1.64 period by 1 over the shortest period, Securically outcomes also severed PTH. For noticine any depth were reduced by 45% (odds 386, 0.55; 95%  $\Omega$ , 0.33 to 0.92;  $\rho = .022$ ). There was no evidence of a difference as  $|\Omega|$  a difference as  $|\Omega|$  a difference as  $|\Omega|$  and  $|\Omega|$  are also as  $|\Omega|$ . entance is a uninterface in and demonstration of many and demonstration of the condition of J CRn Oscol CO. © 2021 by American Society of Chical Oscoboyy

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high rates of unplanned health care utilization.

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**Outcomes Evaluation** 

Mooney et al. JCO 2021 39(23):2586-2593

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Journal of Clinical Oncology

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Titchener et al. NEJM Catalyst 2021 2(11)



#### **Acute**

- Hospital at Home model
- 3-7 day acute home-based care rather than hospitalization
- Common reasons:
  - Poorly controlled pain
  - Dehydration; electrolyte imbalance
  - Failure to thrive, frailty, falls
  - Neutropenic fever; infection
  - Acute hypoxia
  - Partial bowel obstruction

#### Subacute

- Technology based PRO monitoring and management
- Symptom Care at Home (SCH)-monitoring, automated coaching and NP follow-up
- Chemotherapy Patients with SCH monitoring: 67% less severe symptom days, 40% less moderate symptom days, 60% more mild symptom days, 25% more asymptomatic days than usual care
- Hospice Caregiver: 38% reduction in patient end-of-life symptoms; 35% improvement in Caregiver Mood and 31% improvement in Vitality than usual hospice care





### Huntsman at Home's Health Care Utilization Outcomes in the 30 Days after Enrollment

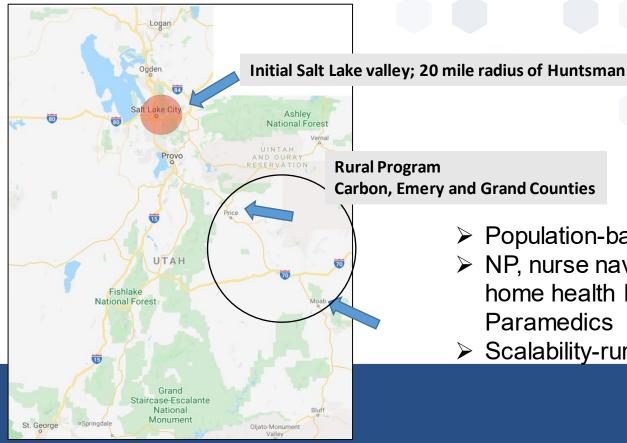
169 H@H pts compared to 198 usual care pts

Health Care Use; Cost	Estimate	p-value
Unplanned Hospitalizations Odds Ratio % Reduction	0.45 55%	<0.001*
Unplanned Hospital LOS	1.13 days	0.004*
ICU Stays Odds Ratio	0.99	0.972
ED Visits Odds Ratio % Reduction	0.55 45%	0.022*
% Reduction in Charges	47%	0.001*





#### **Huntsman at Home Rural Model** to Address Distance as a Disparity



Population-based model

- > NP, nurse navigator, home health RNs, PT, SW, **Paramedics**
- Scalability-rural virtual care center



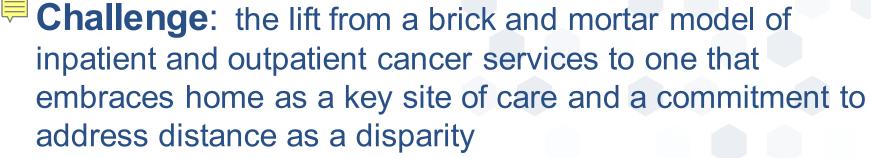


#### Addressing Geographic Access and Inequity

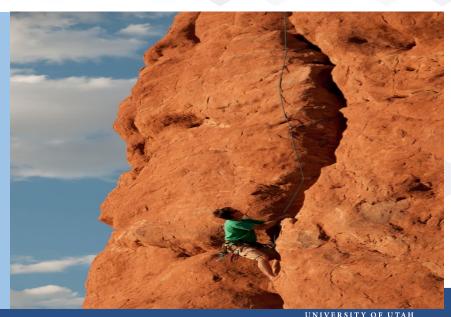
- 2 5 hour drive one way from Huntsman including a high mountain pass
- The 3 rural/frontier counties; 9,641 sq., mi
- Combined population 40,220
- No oncologist in the 3 counties
- Two safety net hospitals, 27 and 17 beds
- Significant health disparities
  - 49% Health literacy
  - 45% Transportation burden
  - 30% Patient & family financial toxicity
  - 15% Food insecurity





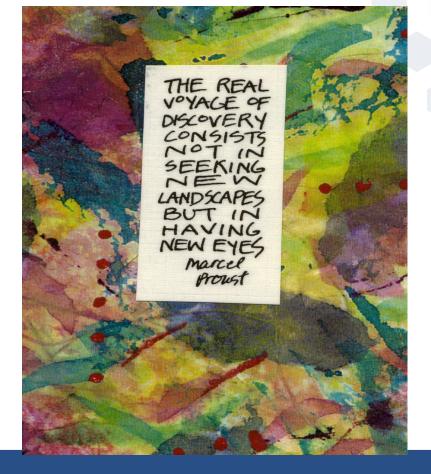


- Restructuring mindset, oncology cultural change, champions
- Becoming patient-centric
- Utilizing technology
- Investing in new infrastructure
- Changing restrictive regulations; adding enabling policies
- Embracing new payment models
- Emphasizing pragmatic trials and implementation science









Our challenge is to disrupt current approaches to cancer care delivery

By Having New Eyes

