

# Supportive Oncology Care at Home Intervention for Patients with Pancreatic Cancer

Ryan Nipp MD<sup>1</sup>, Melissa Hennessey Smith NP<sup>2</sup>, Eliza Shulman DO<sup>2</sup>, Patricia M.C. Brown Esq<sup>2</sup>, Marcy Bergeron Noa DNP<sup>2</sup>, Isabel Neckermann<sup>1</sup>, Shira Hornstein<sup>1</sup>, Eva Gauffberg<sup>1</sup>, Charu Vyas<sup>1</sup>, Chinenye Azoba<sup>1</sup>, Carolyn L. Qian<sup>1</sup>, Jordon Jagers<sup>1</sup>, Colin D. Weekes MD<sup>1</sup>, Jill N. Allen MD<sup>1</sup>, Eric Roeland MD<sup>1</sup>, Aparna Parikh MD<sup>1</sup>, Laurie Miller DNP<sup>1</sup>, Theodore Hong MD<sup>1</sup>, Joseph Greer MD<sup>1</sup>, David Ryan MD<sup>1</sup>, Jennifer Temel MD<sup>1</sup>, Areej El Jawahri MD<sup>1</sup>, <sup>1</sup>Massachusetts General Hospital Cancer Center Boston, MA <sup>2</sup>Medically Home Boston, MA

**Background:** Patients with pancreatic cancer receiving chemotherapy often experience substantial symptoms and high healthcare utilization. We sought to determine the feasibility of delivering a Supportive Oncology Care at Home intervention designed to address the needs of these patients.



**Methods:** We prospectively enrolled patients with pancreatic cancer who were participating in a parent trial of neoadjuvant FOLFIRINOX and residing in state, within 50 miles of our hospital. Patients received the Supportive Oncology Care at Home intervention during neoadjuvant treatment (i.e., up to 4 months).

## The intervention entailed:

1. Provision of a technology kit for remote monitoring of daily patient reported symptoms, daily vital signs, and weekly weights;
- 2) A hospital in the home care model including scheduled IV fluids, symptom assessment and management; and
- 3) Structured communication with the oncology team.

We defined the intervention as feasible if  $\geq 60\%$  of patients enrolled and  $\geq 60\%$  completed the daily assessments within the first two weeks of enrollment. We tracked numbers of phone calls, emails, and home visits generated by the intervention.

Exit interviews were conducted with patients, caregivers, and oncology clinicians to assess the acceptability of the intervention. Exploratory analysis was used to compare rates of treatment delays, urgent clinic visits, emergency room (ER) visits, and hospitalizations among those who did and did not receive Supportive Oncology Care at Home from the parent trial.

## What is Supportive Oncology?

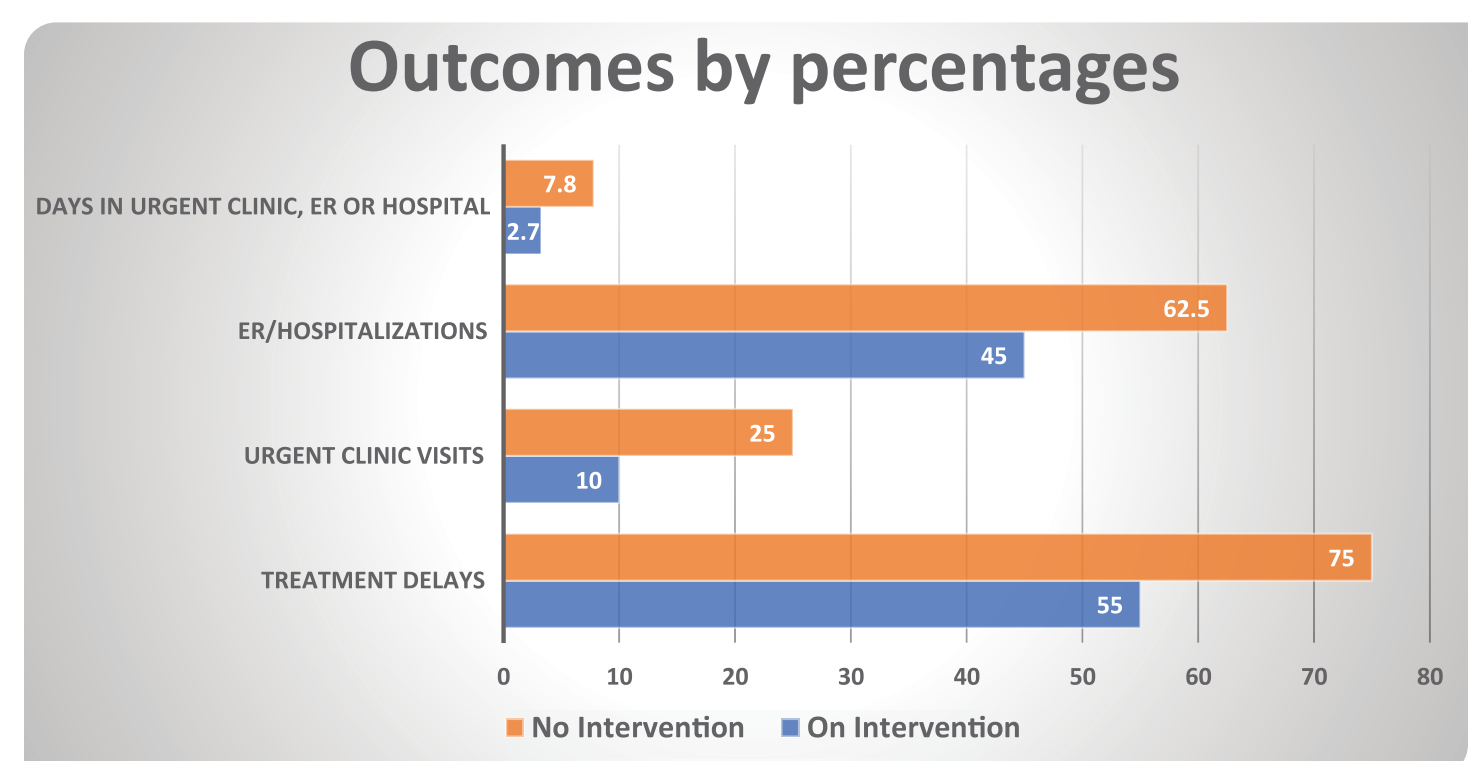
- ◆ A daily Symptom Survey, vital signs and weekly weights
- ◆ Real time virtual triage by a registered nurse
- ◆ Scheduled in home IV hydration
- ◆ In home assessment and management of symptom escalation
- ◆ Structured communication with the primary oncology team

**Results:** From 1/2019-9/2020, we enrolled 80.8% (21/26) of potentially eligible patients. One patient became ineligible post consent due to moving out of state, resulting in 20 participants (median age = 67 years [range 55-77]; 60.0% female).

Within the first two weeks of enrollment, 65.0% completed all daily assessments, with participants reporting 96.1% of daily symptoms, 96.1% of daily vital signs, and 92.5% of weekly body weights. Each participant generated a weekly average of 2.22 phone calls (range 0.62-3.77), 2.96 emails (range 1.50-5.88), and 0.15 home visits (range 0-0.69).

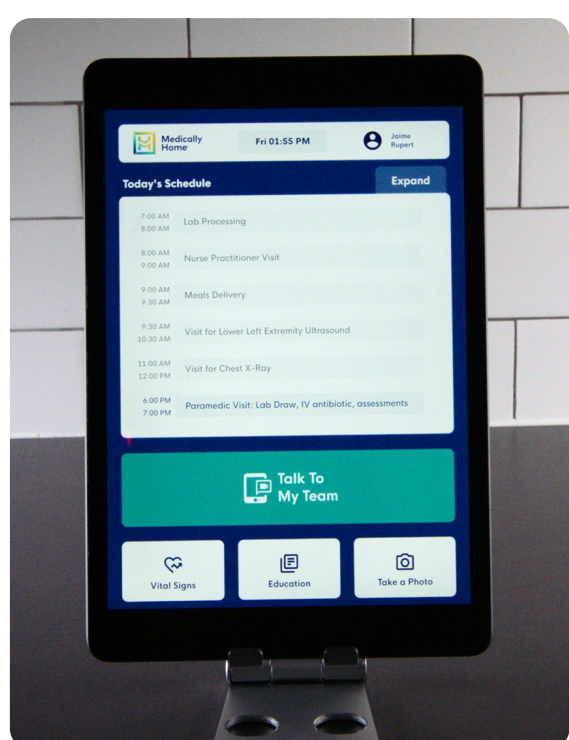
In exit interviews,  $>80\%$  of patients, caregivers, and clinicians found the intervention to be helpful and convenient, and reported high satisfaction with the communication among patients, clinicians, and the hospital in the home team.

**Outcomes:** Patients receiving the intervention had lower rates of treatment delays (55.0% v 75.0%), urgent clinic visits (10.0% v 25.0%), ER visits or hospitalizations (45.0% v 62.5%), as well as a lower proportion of days spent in urgent clinic, ER, or hospital (2.7% v 7.8%), compared with those not receiving the intervention who were in the same parent trial (n=24).



**Conclusions:** These findings demonstrate the feasibility and acceptability of a Supportive Oncology Care at Home intervention. Future work will investigate the efficacy of this intervention for decreasing healthcare use and improving patient outcomes.

## Technology in the Home – Virtual Hospital Room Hardware and Software designed for redundancy, reliability, and ease of use



### Biometrics and Engagement



### Communications and Safety

