

**Massachusetts Health Policy Commission**

**SHIFT-Care Challenge Models of Care**

This document describes examples of evidence based, innovative care delivery models, which address health care cost drivers related to health-related social needs and behavioral healthcare access. These models are provided as **examples** to support and guide Applicants in developing highly effective, previously tested Initiatives. Applicants may propose to adapt one or more of these example models to form their proposed Initiative but are **not** required to do so. The HPC does not endorse any particular model. Adaptation or citation of models described in this document **does not** confer an advantage to Applicants compared with proposing other models similarly supported by evidence found in other sources.

**Example Models:**

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**Glossary of Acronyms**

Below are brief definitions of abbreviations used in the following text.

**ED:** Emergency Department

**OUD:** Opioid Use Disorder

**PCP:** Primary Care Provider

**SBIRT:** Screening, Brief Intervention, and Referral to Treatment

**SDH**: Social Determinants of Health

**SUD**: Substance Use Disorder

**Health-related social needs:**

**1)**

*Address the social needs that impact the health of high-risk/high-cost patients, especially after an acute care visit or stay to prevent a future avoidable emergency department (ED) visit, revisit, or readmission*

Social determinants of health (SDH) are factors that contribute to an individual’s medical and behavioral health outcomes and to predicting population health (e.g., poverty, nutrition, education, and opportunity for employment, etc.).[[1]](#footnote-2)

Social determinants of health include both community-level characteristics and personal attributes. Community characteristics include access to affordable housing, the quality of early childhood education, and the presence of stable employment opportunities. Personal characteristics include race or ethnicity, religion, socioeconomic status, gender, age, mental health, disability, sexual orientation or gender identity, geographic location, or other characteristics historically linked to exclusion or discrimination. Both types of health-related social needs have been shown to impact health outcomes as well as healthcare utilization and expenditures.[[2]](#footnote-3) Populations such as homeless individuals and families, low-income individuals and families, and women, who bear the majority of caregiving responsibilities in the home, often face unique health care access issues that result in delaying preventative and routine treatment. Socioeconomic, racial, and geographical disparities in readmission rates further indicate the importance of addressing health-related social needs as part of any comprehensive solution for reducing health care costs. For example, patients living in low-income neighborhoods are 24 percent more likely than others to be readmitted to the hospital.[[3]](#footnote-4)

**Track 1 Example Model I: Chicago Housing for Health Partnership**

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| **Target Populations** | **Impacts** |
| * Patients without stable housing 30 days prior to hospitalization
* Patients with at least 1 chronic medical illness
 | * Over 18 months, and as compared to patients in the control group, patients in the intervention group experienced:
	+ 29% fewer hospitalizations and hospital days
	+ 24% fewer ED visits
 |
| **Service Model** |
| The hospital-based Chicago Housing for Health Partnership provides housing and case management interventions for patients with housing insecurity and chronic medical illness. Target patients must experience housing insecurity within 30 days prior to discharge and have one of the following chronic medical illnesses: hypertension or diabetes requiring medication, thromboembolic disease, renal failure, cirrhosis, congestive heart failure, myocardial infarction, atrial or ventricular arrhythmias, seizures, asthma or emphysema requiring hospitalization, cancer, gastrointestinal tract bleeding, chronic pancreatitis, or HIV. The program was developed by a multidisciplinary team of hospitals, respite care centers, and housing agencies. In accordance with the principles of the Housing First Model, hospital case managers facilitate patients’ discharge planning to respite care or stable housing.[[4]](#footnote-5) Case managers assist with medical care, substance use disorder (SUD) treatment, and mental health treatment through bi-weekly patient contact. There are weekly team meetings among all case managers to discuss patients’ social and medical needs. The published evaluation linked below demonstrated that patients randomized to the program had fewer hospitalizations, hospital days, and ED visits than patients who received usual care. |
| **Critical Success Factors** |
| **** Housing First model emphasizes the importance of access to stable housing as a factor in chronic medical illness management  Community collaboration between hospital and 10 community agencies offers a variety of living arrangements for patients Patient-centered care allows for the recognition of diverse needs among the homeless population and includes tailored housing plans |
| **To learn more about the model and its results, click** [**here**](https://www.ncbi.nlm.nih.gov/pubmed/19417194)**.** |

**Track 1 Example Model II: Metropolitan Area Neighborhood Nutrition Alliance (MANNA)**

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| **Target Populations** | **Impacts** |
| * Medicaid patients experiencing acute nutritional risk and chronic and/or nutritional diseases[[5]](#footnote-6)
 | * Over twelve months and as compared to the comparison group, the MANNA group realized:
	+ 50% fewer monthly ED visits
	+ 31% lower average monthly health care costs
	+ 37% shorter average length of stay
	+ 23% higher likelihood of discharge to home (rather than to long-term care or subacute rehabilitation facilities)
 |
| **Service Model** |
| The Metropolitan Area Neighborhood Nutrition Alliance (MANNA) is a nonprofit organization that serves clients in the greater Philadelphia and Southern New Jersey area who are experiencing acute nutritional risk and any illnesses included in the diagnosis list.5 MANNA delivers to clients three nutritionally balanced, medically-tailored meals per day, seven days per week, free of charge based on referral from a medical care provider. In the peer-reviewed study linked below, researchers evaluated the effects of MANNA’s program on a cohort (n=65) of Medicaid managed care members who: had claims at a hospital, clinic, or skilled nursing facility; and accessed MANNA services without interruption for at least three months between August 1, 2008 and April 30, 2010 (21 months). This group was compared to a cohort (n=633) of Medicaid members with the same nutrition-related diagnosis codes in their claims histories who did not access MANNA services. Patients served by the program experienced statistically significant overall and inpatient-specific cost savings, shorter lengths of stay, fewer emergency department visits, and higher likelihood of discharge to their homes relative to those who did not receive MANNA services.  |
| **Critical Success Factors** |
|  Rigorous patient identification method based on recent hospital, clinic, or SNF visits, and diagnoses of nutrition-related chronic illnesses Coordination between MANNA dieticians and client’s medical care team |
| **To learn more about the model and its results, click** [**here**](http://journals.sagepub.com/doi/pdf/10.1177/2150131913490737) **and** [**here**](http://www.mannapa.org/apply-for-manna-meals/)**.** |

**Timely Access to Behavioral Health Services:**

**2)**

*Increase access to behavioral health care for high-risk / high-cost patients*

Patients with one or more behavioral health diagnoses (mental illness and SUD) often have higher health care expenditures and disproportionately poor health outcomes, highlighting the need for increased attention to the way behavioral health conditions are identified and treated.[[6]](#footnote-7)

High-cost behavioral health patients account for a disproportionate number of hospitalizations. Patients with behavioral health conditions are also 16 times more likely to board (i.e., spend 12 or more hours in an ED) than patients without behavioral health conditions.[[7]](#footnote-8) Boarding not only exacerbates health care costs, but also delays ED response time (to all patients), and subjects patients to stressful, chaotic environments for extended periods of time. Increasing capacity of behavioral health services to treat patients on a timely basis can alleviate pressures on EDs and inpatient floors, improve patient outcomes, and ultimately, lower acute care utilization for this population.

**Track 2 Example Model:** Telepsychiatry Intervention for Pediatric Mental Health Emergencies in Children’s Hospital Colorado (CHCO)

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| **Target Population** | **Impacts** |
| * Individuals under age 18 presenting to an ED with a behavioral health complaint that was not life-threatening.
 | * Compared to children who received usual care, those who received telepsychiatry consultation realized:
	+ Shorter ED lengths of stay
		- Median length of stay for telepsychiatry patients was 5.5 hours (as compared to 8.3 hours)
	+ Lower total patient charges
		- Median charges for telepsychiatry patients were $3,493 per patient (as compared to $8,611)
	+ Reduced likelihood of inpatient admission
		- Patients who received telepsychiatry were nearly half as likely to be admitted to inpatient care as patients who received usual care were (OR =.59).
 |
| **Service Model** |
| Patients presenting to the Children’s Hospital Colorado academic medical center (CHCO Main) or to one of five pediatric ED and urgent care facilities in the CHCO system (network ED) with a behavioral health complaint receive a telepsychiatry consultation intervention. The program began with educational sessions including both network ED staff and the psychiatric emergency service behavioral health team at CHCO Main. The program synchronized work flows across all sites: the network ED with a patient suitable for telepsychiatry would contact the CHCO Main psychiatric emergency service behavioral health care team by phone to request telepsychiatry consultation. The CHCO Main team would then secure a private consultation room at CHCO Main, send a virtual meeting request to the network ED. Nursing staff at the network ED would then secure a room for the patient, assess vital signs, and then connect the patient with the psychiatric emergency service team at CHCO Main in real time using a video-enabled cart. The live video interaction would typically include: the presenting patient and parent or guardian; the network ED attending physician or advanced practice provider; and the psychiatric emergency services provider (typically a licensed clinical social worker) from CHCO Main. The CHCO Main provider would then conduct a standard clinical interview to make a disposition decision. The patient would subsequently be discharged home or transferred to an inpatient provider, either CHCO Main or another facility.  As compared to patients who received usual care, patients who received telepsychiatry consults through this program experienced shorter lengths of stay, lower charges, and reduced likelihood of inpatient admission. Earlier evidence had demonstrated telepsychiatry’s potential to reduce travel, wait, and consultation time. Caregivers (because patients were under 18 years of age) and providers involved in the intervention were highly satisfied: caregivers appreciated its prevention of unnecessary travel; providers observed that the program prevented particularly costly transfers by ambulance, which are often done even when they are clinically unnecessary.  |
| **Critical Success Factors** |
|  The telepsychiatry program was available at a variety of care locations—CHCO Main and five network EDs within the hospital’s system. Involved clinicians at the main campus and at all network sites received standardized training at the beginning of the program. |
| **To learn more about the model and its results please click** [**here**](https://www.ncbi.nlm.nih.gov/pubmed/29032703)**.**  |

**Timely Access to Behavioral Health Services**:
**Focus on Opioid Use Disorder**

**2)**

*Increase access to behavioral and physical health care (including SUD) for high-risk / high-cost patients*

The epidemic of opioid use disorder (OUD) has increased national attention on and dialogue about the manner and settings in which OUD is identified and treated. As rates of addiction and fatal and nonfatal overdoses increase, public health and health care providers have expanded on traditional settings for treatment initiation, in order to make services available to more patients on a timely basis. EDs present a novel setting in which clinicians can engage patients with OUD in evidence-based treatment, especially those who have experienced one or more nonfatal overdoses and are at high risk of additional acute care utilization and/or death.

**Track 2 OUD Example Model: ED-initiated Buprenorphine/Naloxone Treatment (Yale-New Haven Hospital / Yale School of Medicine)**

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| **Target Population** | **Impacts** |
| * Opioid-dependent patients presenting to the ED
 | * 30 days after discharge:
	+ 78% of patients who received SBIRT and buprenorphine in the ED were engaged in treatment as compared to 35% for those who received SBIRT alone
	+ 11% of patients who received SBIRT and buprenorphine in the ED were hospitalized as compared to 45% for those who received SBIRT alone
* 2 months after discharge
	+ Patients who received SBIRT and buprenorphine in the ED experienced a reduction in use of illicit opioids
 |
| **Service Model** |
| Providers and researchers at Yale-New Haven Hospital (YNHH) and Yale School of Medicine developed an Opioid Use Disorder (OUD) treatment program focused on YNHH ED patients who had been identified as engaging in non-medical use of prescription opioids or heroin in the past 30 days. Patients presenting to the ED with opioid dependency were given a modified form of Screening, Brief Intervention, Referral, and Treatment (SBIRT), which incorporated ED-initiated buprenorphine/naloxone and referral to a PCP at YNHH for ongoing medication management. The modified SBIRT model included a 10-15 minute brief negotiation interview conducted by a research associate, who asked about opioid use, provided feedback, and sought to enhance motivation as well as negotiate with and advise patients on critical actions. Patients were given buprenorphine/naloxone if they exhibited moderate to severe withdrawal symptoms, and were provided with sufficient take-home daily doses of the medication to last them until their scheduled appointment in the hospital’s primary care center within 72 hours. Patients not in withdrawal were provided buprenorphine/naloxone for take-home use with a detailed self-medication guide. Office-based buprenorphine was provided for patients over the course of 10 weeks by physicians and nurses using established procedures with visits ranging from once a week to twice a month, depending on clinical stability of the patient. After the office-based treatment, patients were transferred to either a community program, a clinician, or were offered a two-week detox period. This decision was based on patients’ clinical stability, insurance options, and preference. Outcomes were measured at 30 days for the first study publication, and at two, six, and twelve months for the second publication. The buprenorphine/naloxone ED-initiation group was engaged in treatment at higher rates and reported greater reductions in the average number of days of illicit opioid use per week than standard of care control groups.  |
| **Critical Success Factors** |
|  Partnership between ED and community- and office-based treatment providers for follow-up care in readily accessible locations ED protocol for screening patients with SUD who are eligible for buprenorphine/naloxone intervention Nurses trained to conduct opioid-focused brief negotiation interviews, and educate patients about buprenorphine/naloxone |
| **To learn more about the model and its results please click** [**here**](https://www.ncbi.nlm.nih.gov/pubmed/28815789) **and** [**here**](https://www.ncbi.nlm.nih.gov/pubmed/28194688)**.**  |

1. Healthy People 2020. “Determinants of Health”. Available: https://www.healthypeople.gov/2020/about/foundation-health-measures/Determinants-of-Health [↑](#footnote-ref-2)
2. US Department of Health and Human Services. *“HHS Action Plan to Reduce Racial and ethnic Health Disparities.”* 2011. Web. [↑](#footnote-ref-3)
3. Jianhui Hu, Gonsahn M. D., & Nerenz D.R. “Socioeconomic Status And Readmissions: Evidence From An Urban Teaching Hospital.” *Health Affairs May 2014 v. 33.5.* Web. [↑](#footnote-ref-4)
4. The Housing First Model prioritizes housing stability after a short transitional stay in respite care following hospitalization. [↑](#footnote-ref-5)
5. **Chronic conditions affecting the sample and comparison cohorts:** AIDS/HIV; chronic pulmonary disease; cancer; mild liver disease; diabetes; congestive heart failure; renal disease; metastatic carcinoma; myocardial infarction; cerebrovascular disease; peripheral vascular disease; connective tissues disease/rheumatic disease; peptic ulcer disease; paraplegia and hemiplegia; moderate or severe liver disease; and dementia.

**Nutritional conditions affecting the sample and comparison cohorts:** dysphagia’ anemia; failure to thrive’ underweight; abnormal loss of weight; constipation gastroenteritis; and nutritional deficiency. [↑](#footnote-ref-6)
6. Massachusetts Health Policy Commission. *2014 Cost Trends Report*. 2015. [↑](#footnote-ref-7)
7. Massachusetts Health Policy Commission. ED boarding Analyses (2015 data). [↑](#footnote-ref-8)