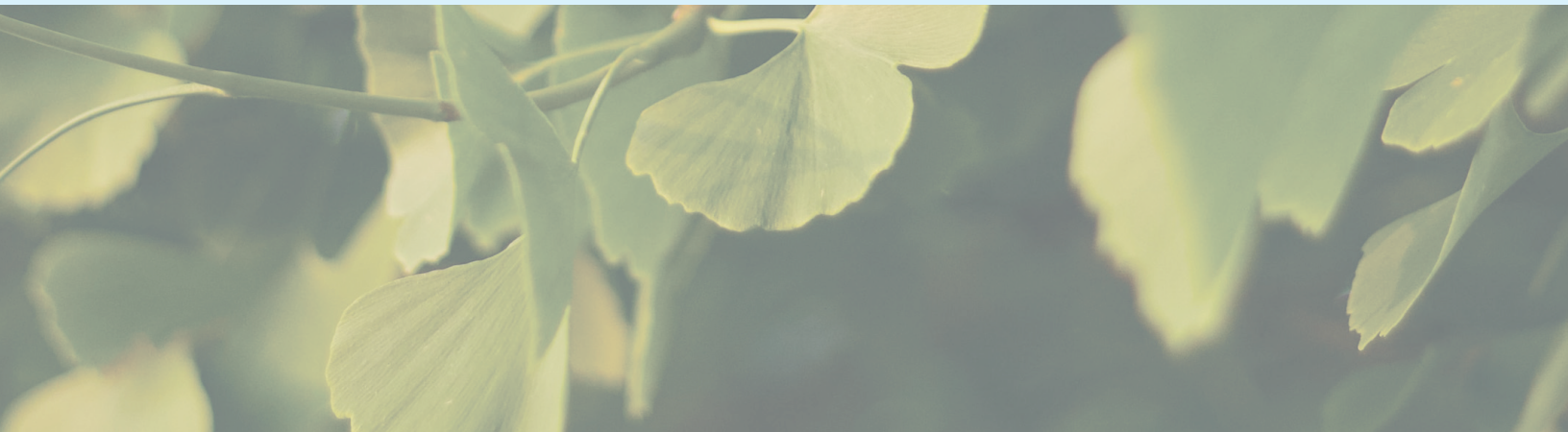
Behavioral Health Network
of Greater St. Louis

BEACN

A COMPREHENSIVE CARE COORDINATION MODEL FOR COMPLEX PATIENTS



About

BEHAVIORAL HEALTH NETWORK OF GREATER ST. LOUIS

MISSION

The mission of Behavioral Health Network of Greater St. Louis (BHN) is to improve our community by leading behavioral health planning and coordination through shared responsibility, accountability, transparency, inclusiveness, mutual respect, and racial equity.

VISION

Through the development of a coordinated, accessible, effective, and accountable system of behavioral health and support services, the people in our region will reach their highest potential.

OUR WORK

We emphasize services to the uninsured and underinsured residents of seven counties.

OUR SERVICE AREAS

In response to emerging issues, BHN consistently develops and launches new innovative opportunities to strength the system of care such as:

- Hospital to community transitions
- Access to needed care
- Critical intervention points
- Health equirt and vulnerable populations
- Community mobilization to reduce stigma
- Recovery-oriented services
- Social determinants impacting behavioral health
- Peer and natural supports
- Data-driven planning and coordination

OUR APPROACH

When organizations collaborate, better community outcomes prevail.

- Greater efficacy and effectiveness
- Improved health and well-being
- Enhanced efficiency and lower costs

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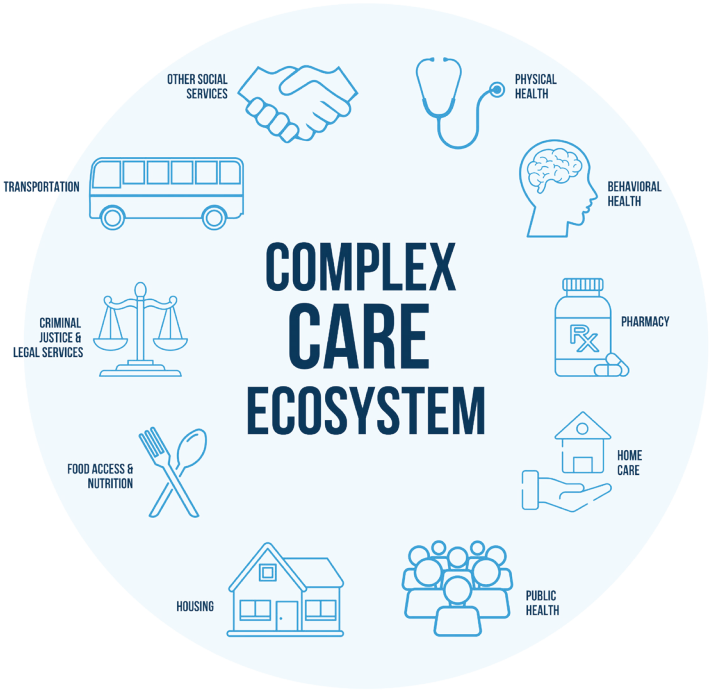
The
EXECUTIVE SUMMARY

Hospital emergency departments (EDs) have become one of the few remaining options for care for many Americans who are living with complex health and social needs, although this location and level of care is often not the ideal place for these populations to get their needs met in the long term. Hospitals are increasingly treating individuals in costly acute care settings for nonemergent conditions such as poorly managed chronic physical and behavioral health conditions and their interrelated health-related social needs such as quality housing, food access, and reliable transportation. Populations that visit the hospital emergency department with high degree of frequency are sometimes referred to as "Super Utilizers" (SU) of care and services.



In the Eastern Region of Missouri, approximately 1% of patients account for 8% of total annual emergency department (ED) visits. Patients with complex health and social needs are characterized by chronic illness, functional impairments, mental illness, and social deprivation with a lack of significant social support. These individuals often cycle through the health and social care system without lasting benefit from multiple hospital interactions, including emergency department utilization and in-patient admissions. Most of these patients have more than 10 ED visits in a year, some even have more than 100 visits. Traditional methods used to reduce ED utilization such as primary care preventive medicine and linkages to resources to address social determinants often fail to impact SU populations because these are not focused on whole-person care models.

The
EXECUTIVE SUMMARY

Project BEACN (Building Engagement to Address Complex Needs), is an innovative care model that is an initial step toward changing the way the system delivers care to individuals managing complex health conditions and significant social needs in the eastern region of Missouri. This targeted multiprong approach using Complex Care best practices has demonstrated long-term positive health, cost, and utilization outcomes among this vulnerable population. Behavioral Health Network (BHN) received funding for Project BEACN from the Missouri Foundation for Health (MFH) for 3 years (2020-2023), and additional hospital 340B funding for Mercy Clinical BEACN to support wrap-around services such as behavioral health and supportive housing. The grant aimed at creating a sustainable complex care model that focuses on a system change approach for behavioral healthcare delivery by serving patients through the already existing Emergency Room enhancement (ERE) program and implementing complex care best practices through patients connected to the ERE program services.

This work is led by Behavioral Health Network (BHN) in strong partnership with major health systems and community-based organizations across the region working together to address the complex challenges our most vulnerable and oftentimes marginalized community members face.

BEACN REGIONAL IMPACT

BEACN's

TARGET POPULATION

BHN partnered with Missouri Hospital Association (MHA) to evaluate observed risk profiles, demographics, geo-distribution, and historical hospital inpatient and emergency department utilization by ERE and BEACN patients (2512 distinct patients) matched and compared to All category (3,611,517 distinct patients) from 2016-2021 using Hospital claims data.

Average number of hospital visits for individual ERE clients was

44.4 VISITS PER YEAR/PER CLIENT.

This was 10 times greater than All-category patients.

Average number of hospital visits for individual BEACN clients was

133.6 VISITS PER YEAR/PER CLIENT.

This was 30 times greater than All-category patients.

Emergency Department (ED)/ Inpatient (IP) days show a similar trend for ERE and BEACN when compared to All patients. BEACN patients also show a greater number of Avg, hospitals visited (11.2 per patient compared to 1.7 per patient in the All-patient category). Avg. Total charges were 14 times more per patient for BEACN clients compared to All patients. This first phase analysis provided stakeholders with a snapshot of the complexity of the patients the teams were managing. This also showed the high needs and challenges these patients presented with at the point of care, which was clearly not resolved after the multiple presentations at local hospitals emergency departments and inpatient units.

FY2016-2021 Utilization	All	ERE	BEACN
Distinct patients after exclusions	3,491,820	2,302	53
Avg. Age	49.6	40.7	39.7
Female	52.8%	36.0%	24.5%
Male	47.2%	64.1%	77.4%
Avg. Visits	4.2	44.4	133.6
Emergency Department	3.8	39.9	120.9
Inpatient	0.9	12.1	36.9
IP Days	12.3	73.1	190.8
ALOS	4.5	6.1	5.7
Avg. Hospitals Visited	1.7	6.6	11.2
Avg. Distance Travelled	12.9	12.1	14.2
Avg. Total Charges	$53,990	$317,803	$737,730
Expired (excluded)	3.31%	3.52%	3.64%

DATA AND ANALYTICS POWERED BY HIDI

Project BEACN piloted infrastructure improvements via the delivery of three current complex care initiatives.

REGIONAL HOSPITAL STRATEGIES

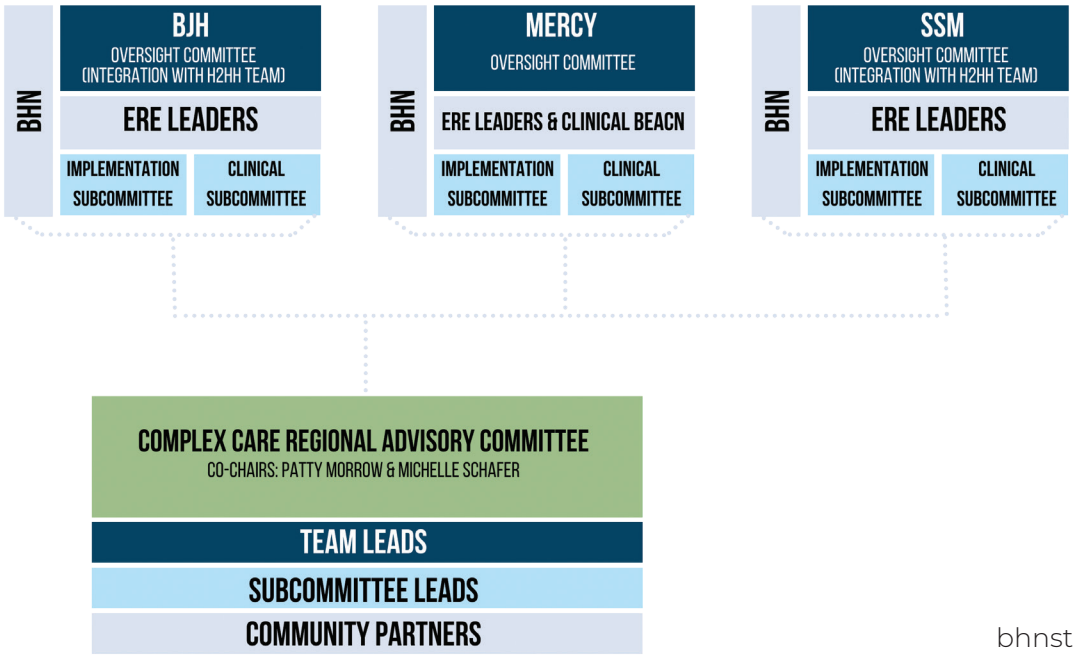
Mercy Clinical BEACN: Project funded by 340B dollars to BHN (July 2020 – June 2023); Sub-contract to Places for People to deliver clinical services and housing support for 35+ targeted complex care patients per year (100+ patients over 3 years).

SSM Health: Project funded by grant funds from Vituity (Feb 2022) to pilot a complex care program and test digital communication with patients through Sympto at SSM DePaul Hospital. Patients are connected to community-based care through the Emergency Room Enhancement program.

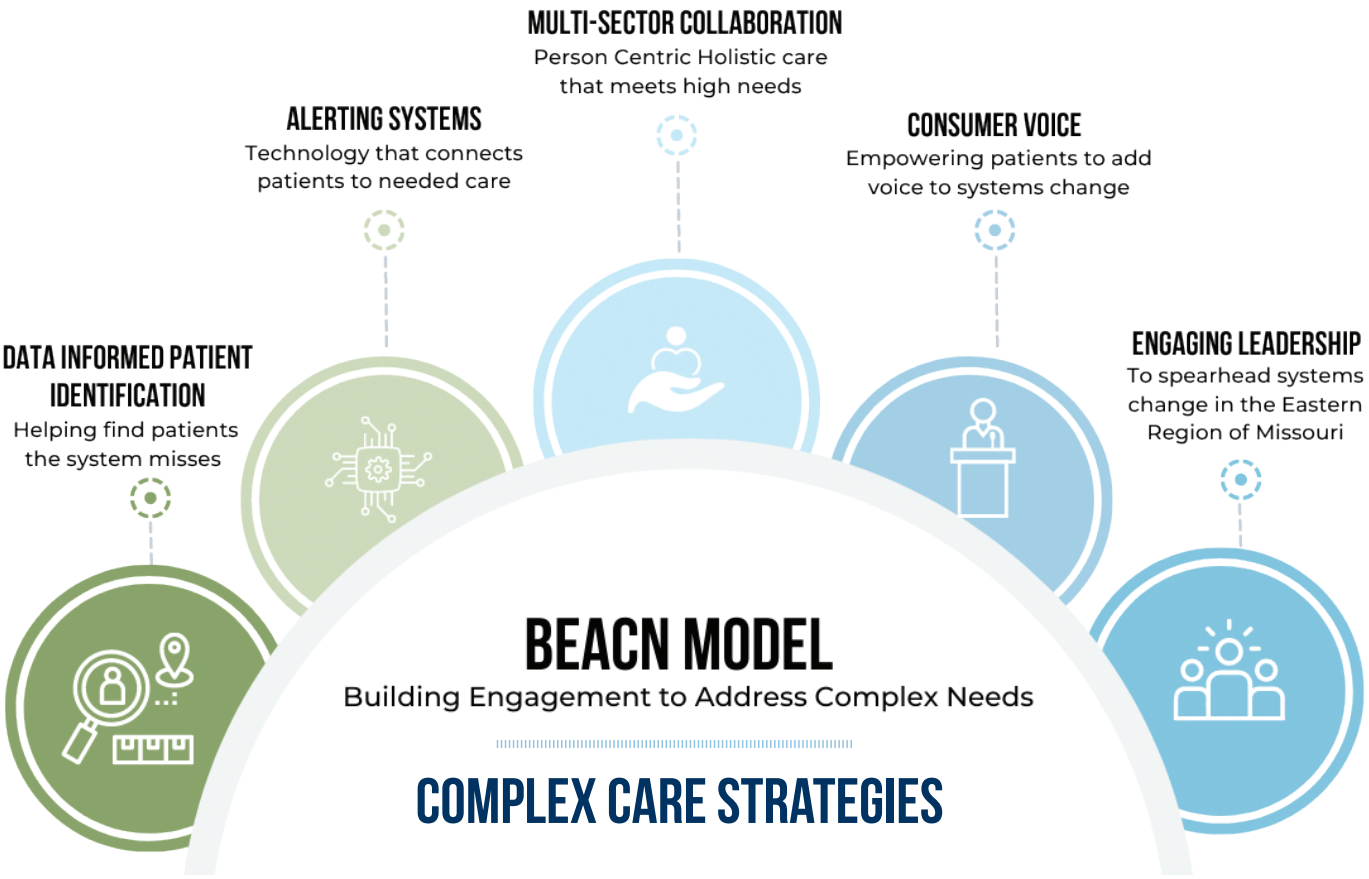
BJH/BJC: Hospital to Health Housing (H2HH); funded by grant from MFFH (February 2021 to February 2023); Led by St. Patrick Center in partnership with Barnes Jewish Hospital, SSM SLU, Mercy, and BHN to provide housing coordination for unhoused patients in the Emergency Room and inpatient setting.

The complex care initiavtive established at Mercy continues to serve as an opportunity to pilot and refine regional strategies and processes. Leadership from all three hospital systems have adopted a complex care structure. While it may vary accross systems, the structure consists of an Oversight Committee, a Clinical Subcommittee and and Implementation Subcommittee focused on intensive outreach, multi-sector complex case staffing, clinical workflow, care coordination, data-driven patient identification, establishing alerting systems, and monitoring impact. Representation from each hospital system serves on a Regional Advisory Committee to share mutual learning, brainstrom new ideas for more robust regional collaboration and explore new funding mechanisms to sustain this work.

COMPLEX CARE SYSTEMS CHANGE



Project
BEACN MODEL



HOW PROJECT BEACN SUPPORTS SYSTEMS CHANGE & IMPROVEMENTS

The BEACN Model borrows from evidence-based best practices of the Camden Core model. This multi-faceted, holistic, person-centered approach to patient care has significantly improved health outcomes and reduced hospital utilization. All three complex care initiatives have yielded excellent results demonstrating that this model, which addresses Housing as a critical care component, is effective.

Implementation of

BEACN STRATEGIES

1. DATA-DRIVEN PATIENT IDENTIFICATION
2. IMPLEMENTING ACUTE EVENT ALERTING SYSTEMS
3. MULTI-SECTOR, MULTI-DISCIPLINARY COLLABORATION, & CASE STAFFING
4. UPLIFTING CONSUMER VOICE
5. ENGAGING LEADERSHIP

STRATEGIC OBJECTIVE 1: Data-driven patient identification

The core of complex care work revolves around community-based care management interventions for SU. To identify the most vulnerable SU presenting in the ED, BHN partnered with hospital systems and set up 3-way data sharing agreements piloted first at Mercy hospital. Mercy and SSM teams, in collaboration with BHN, developed process workflows to data identify high utilizers and connect them to community partner agencies for coordinated care that can meet the high needs of these individuals, including housing, insurance, transportation, and access to behavioral/ medical health care. We found that several individuals who were data identified went unnoticed in previous years as super-utilizers of the ED who needed to be referred to care. Data identification is a proven method to find individuals and link them to needed care.

Implementation of

BEACN STRATEGIES

STRATEGIC OBJECTIVE 2: Implementing acute event alerting systems

TECHNOLOGY THAT CONNECTS CRITICAL CAREGIVERS TO HIGH-NEED PATIENTS

Outreach is a critical component of complex care. Keeping patients with high needs engaged in care is one of the most difficult aspects of complex care. Mercy and BHN partnered with MHA and Collective Medical to develop and integrate a first-of-its-kind alerting system which was piloted at Mercy as part of the systems change grant-BEACN in July 2022.

This alerting tool is being used to augment care coordination by sending alerts to the BEACN Care Transition Team within 2 mins of patient presentation at any participating hospital in the network with Collective Medical. Community partners and BHN portal users receive an electronic Admission Discharge Transfer (ADT) alert of patient presentation at the hospital and are able to log into a portal to get relevant information on the client to provide essential coordinated services in real-time, instead of waiting for a phone call or paper fax as is the routine way to refer patients.

WORKFLOW INTEGRATION: CLINIC EXAMPLE

STRATEGIC OBJECTIVE 3: Multi-sector, multi-disciplinary collaboration, & case staffing

A team of multi-sector, multi-disciplinary individuals and organizations involved in the patient's care participate in weekly collaborative meetings and the development of an individualized care plan. The Care Transition team provides intensive outreach to engage and enroll patients, while securing access to wrap-around services in the complex care ecosystem.

STRATEGIC OBJECTIVE 4: Uplifting consumer voice

Incorporating the client's voice is a critical component to educating providers about the issues impacting a person's care, as well as identifying potential solutions. The BEACN project solicited feedback from consumers to guide the program design and implementation. A long-term goal of this work will be to create structures to facilitate ongoing consumer feedback and input into the model.

STRATEGIC OBJECTIVE 5: Engaging leadership

Engaging regional leadership from hospital and community sectors of care to establish shared objectives is essential to ensure the viability of system change. There is no single model for implementing a program to address the needs of Super-Utilizers (SU). As noted above, the three complex care programs vary slightly in their structure and processes, but they share the common goals of reducing preventable hospital utilization and improving the lives of participants.

Demonstrating the
IMPACT OF MERCY BEACN

PATIENT PROFILES

The majority of patients enrolled in BEACN were super utilizers (more than 11 hospital visits in a year). BHN identified a snapshot of patients served by the care transition team, which resulted in a considerable reduction in utilization of acute care services and cost savings.

Annual Emergency Department visits in 2020-2022 ranged from 424 to 886.
Annual Inpatient Admissions in 2020-2022 ranged from a low of 194 to a high of 250.
Of the 75 enrolled from 2020-2023

- 47 were unhoused. BEACN housed 33.
- 12 were uninsured. BEACN secured insurance for 8.
- 59 had pre-existing insurance upon enrollment.
- 71 had at least one Behavioral illness.
- 61 had a substance use disorder.

DEMONSTRATING THE IMPACT OF BEACN

When building a sustainable model for efficient healthcare delivery for complex patients it is important to consider demonstrating holistic impact including cost impacts, improving quality and access, reduction in utilization of services, and client and provider experience. One of the BEACN project deliverables was to demonstrate true cost savings analysis. Our team was faced with several obstacles in evaluating this such as a lack of data that provided information for the ratio of cost to charges and for payer mix. We present cost savings information that was derived from total charges.

Total adjusted charges pre enrollment:

$6,173,953

Total adjusted charges post enrollment:

$2,580,824

Overall difference pre/post:

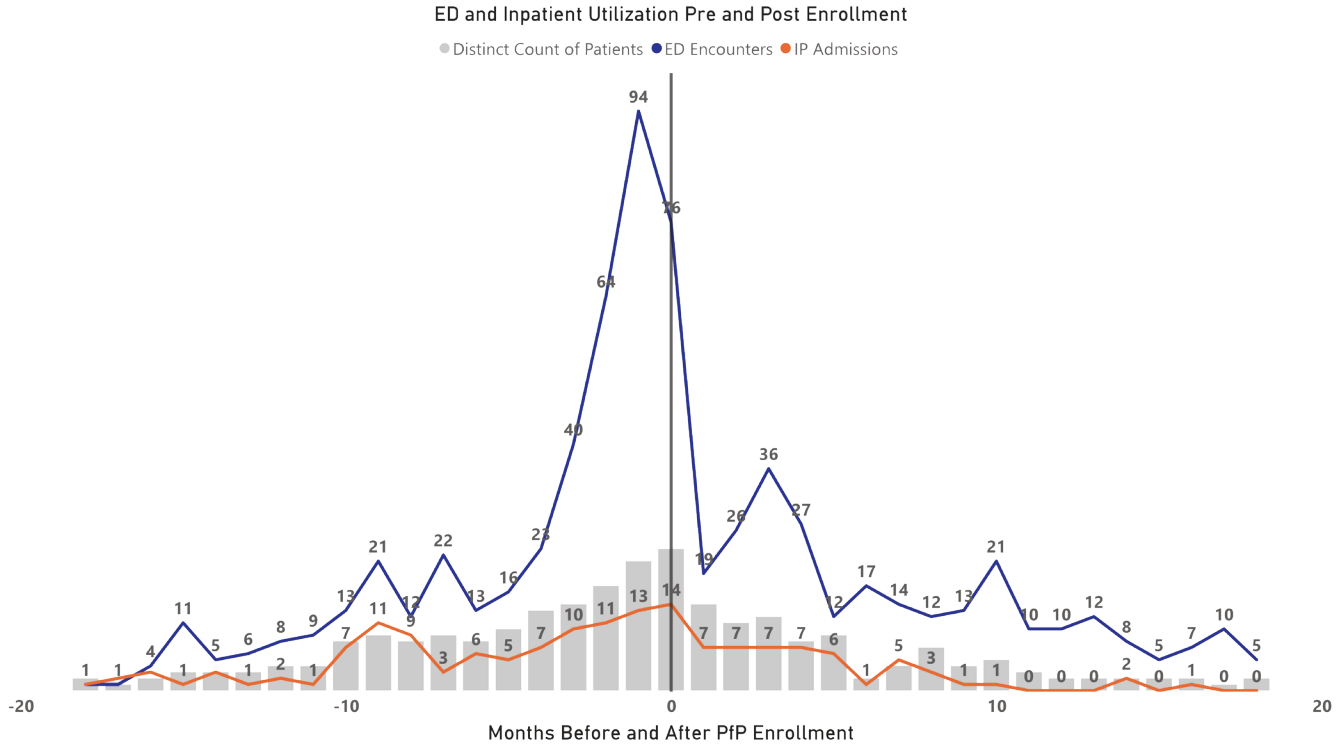
$3,593,129

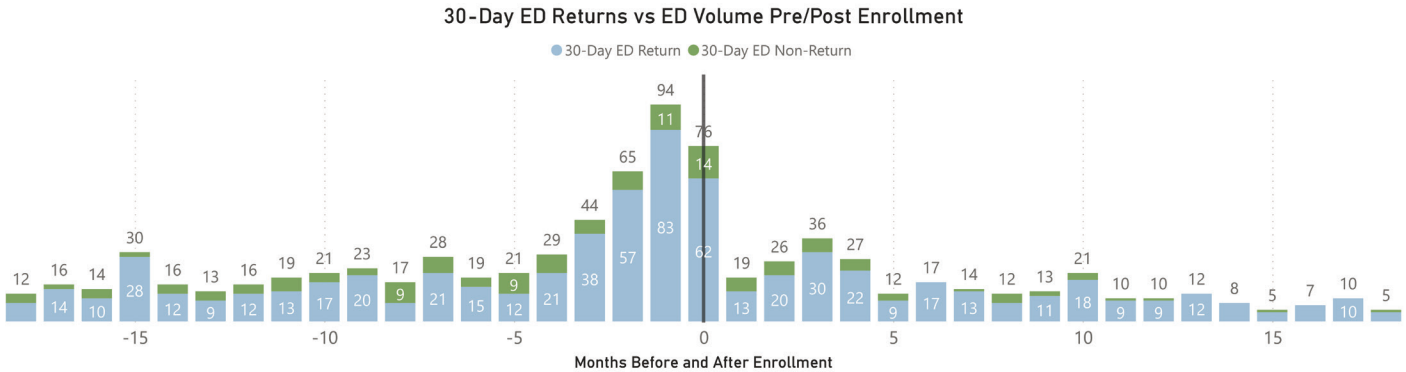
Percentage change pre/post:

58%

REDUCTION IN UTILIZATION OF EMERGENCY SERVICES

Patients currently enrolled in the BEACN cohort have experienced an 80% drop in ED encounters in the 30 days post-enrollment compared to the 30 days prior to intervention. Additionally, they experienced a 42% drop in IP admissions to a Certified Community Behavioral Health Organization over this same time span. The graph below illustrates the dramatic reduction in utilization in the months following BEACN intervention compared to prior encounter levels.





Patient Profile

HIGHEST UTILIZING UNHOUSED

PATIENT 18 is a 42-year-old male who came into the ED frequently from April 2022 to July 2022. BEACN intervention helped him secure housing and behavioral health support. He has had no ED encounters since November 20, 2022.

REGIONAL UTILIZATION

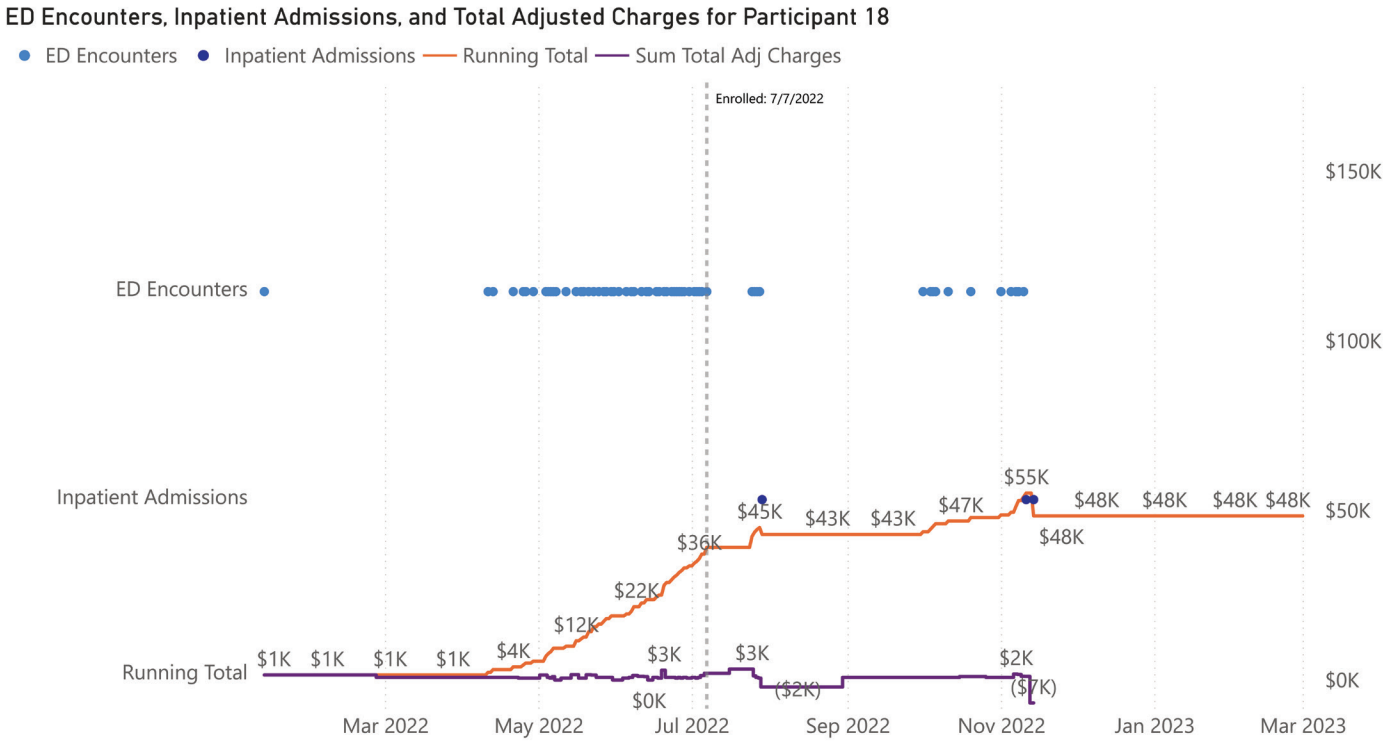
- 142 ED encounters in one year
  - 78 in Mercy system

MEDICAL & SOCIAL RISK FACTORS

- Unhoused
- Chronic Paranoia and Delusions
- Chronic Cellulitis

TOTAL ESTIMATED CHARGE Mercy system: $48,386

PERCENTAGE CHANGE charges pre/post: 70% decrease



LARGEST COST DECREASE

PATIENT 22 is a 57-year-old female who is on the path to recovery with the BEACN intervention, with no ED encounters after September 2022. Running total costs plateaued after the BEACN intervention.

REGIONAL UTILIZATION

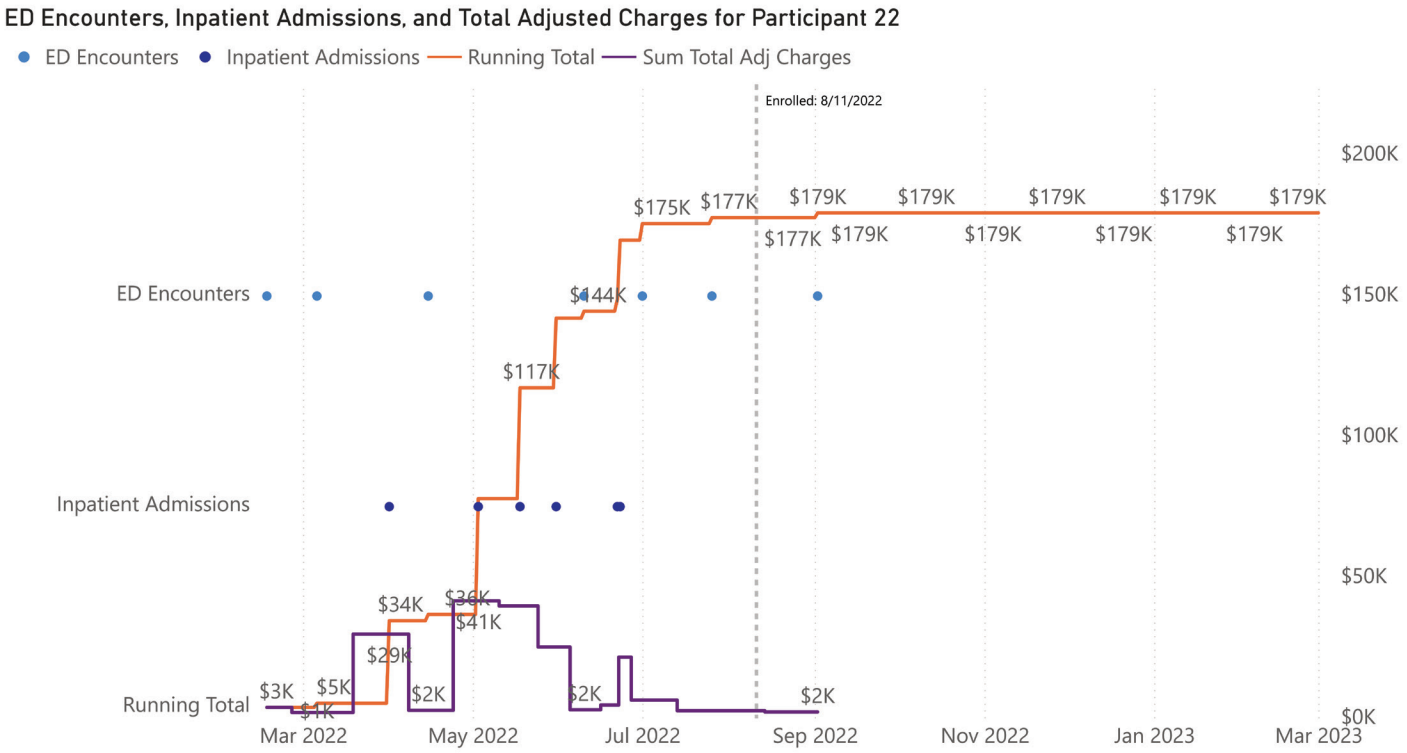
- 25 ED visits in 1 year
  - 10 in the Mercy system

MEDICAL & SOCIAL RISK FACTORS

- Depression
- Alcohol use
- Opioid use
- Unhoused

TOTAL ESTIMATED CHARGE Mercy system: $178,797

PERCENTAGE CHANGE charges pre/post: 99% decrease



Patient Profile

HIGHEST REGIONAL UTILIZER

PATIENT 8 is a 41-year-old female with the region's highest utilization with a total of 268 ED visits. BEACN team facilitated regional collaborations to staff this patient and management is still ongoing.

UTILIZATION

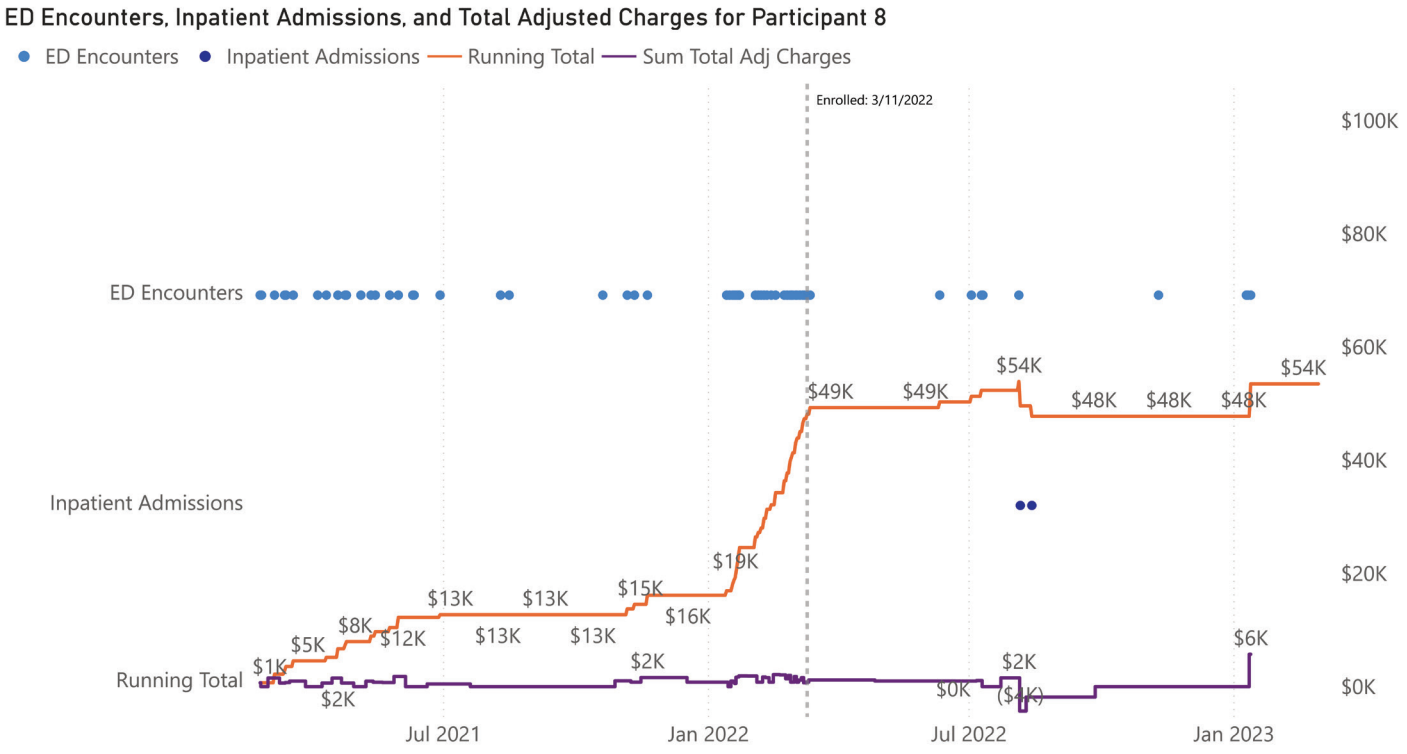
- 268 ED encounters in 1 year
  - 11 in Mercy system

MEDICAL & SOCIAL RISK FACTORS

- Bipolar disorder
- Schizophrenia
- Schizoaffective disorder
- Alcohol abuse
- Unhoused

TOTAL ESTIMATED CHARGE Mercy system: $52,822

PERCENTAGE CHANGE charges pre/post: 87% decrease



SUCCESS STORY

PATIENT 26 is a 52-year-old male. The BEACN team successfully stabilized this patient by securing housing and establishing routine follow-ups with medical appointments, resulting in the fastest turnaround success story.

UTILIZATION

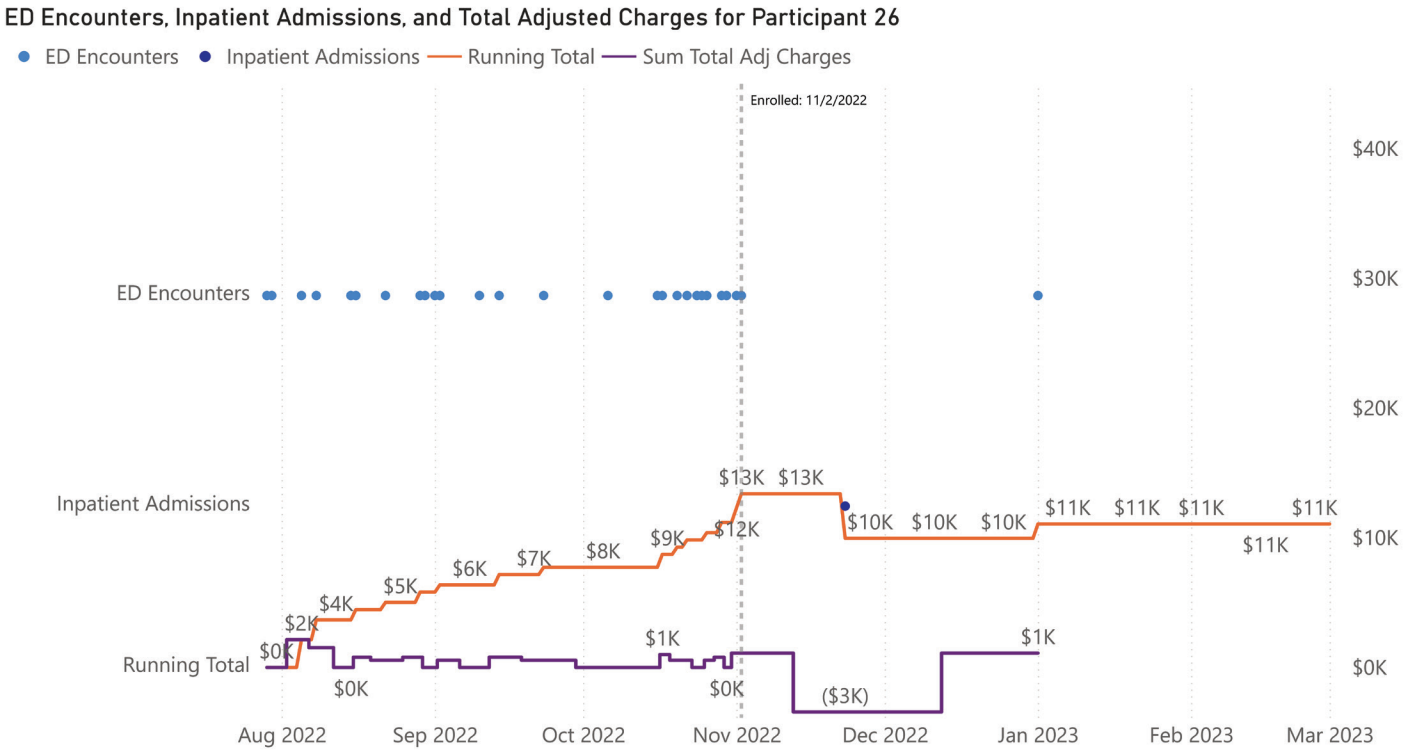
- 42 ED encounters in 1 year
  - 31 in Mercy system

MEDICAL & SOCIAL RISK FACTORS

- Suicidal ideation
- Unhoused

TOTAL ESTIMATED CHARGE Mercy system: $11,064

PERCENTAGE CHANGE charges pre/post: 110% decrease



Addressing disparities &

PROMOTING HEALTH EQUITY

PATIENT SUCCESS STORY

Henry is a 36 y/o male, referred to BEACN initially in September 2021. BEACN outreach staff met with him at Mercy Jefferson during hospitalization, and Henry identified his needs as follows: "I'm at the bottom and want my family back, I want to look in the mirror and be proud of who I am."

In addition to a Bipolar illness, Henry was in the throes of opioid addiction and had recent experiences at treatment facilities with limited success. He had prior experience as a union carpenter and wanted to return to work and repair his relationship with his family. The BEACN team-initiated services but lost contact for a few months after he was discharged to the shelter.

"I AM SOBER NOW FOR 90 DAYS. I HAVE A JOB NOW. I SAW MY KIDS FOR THE FIRST TIME IN TWO YEARS. THE BEACN PROGRAM IS MY RISE & SHINE TEAM!"

The team was able to reconnect with Henry when he was once again hospitalized at Mercy Jefferson for treatment of intoxication and high blood sugar.

From that hospitalization, BEACN helped facilitate inpatient substance treatment at Salvation Army. He left that facility briefly for medical care at SLU, and then returned to treatment for an additional month which significantly extended his time in treatment and his period of abstinence.

He moved into a sober living home in May when he left treatment. BEACN has provided financial support with bus passes, food, clothing and rent at the sober living home. The team also connected him to Affinia for urgent care and Places for People for ongoing psychiatric support and suboxone treatment.

Henry is a week short of 90 days clean and sober and is several weeks into his job at Lowe's. A few weekends ago, he saw his kids for the first time in two years.

Henry's hospital and ED utilization at Mercy include 19 inpatient stays and 13 ED contacts. His last admission was on 3/29/22 and his last ED contact was on 4/24/22. He was transferred to PFP's Rise team, an ITCD (Integrated Treatment for Co-occurring Disorders) team on Monday, 7/11/22. Henry refers to the team as "Rise and Shine."

DEMONSTRATING A VARIETY OF VALUE-BASED OUTCOMES

As the East Region continues to grapple with the impact of the COVID-19 pandemic programs and interventions that collaborate across multiple sectors, including housing, behavioral health, and healthcare, demonstrate the regional stakeholders 'commitment to racial, social, and economic equity through innovative programming focused on high need, high-cost populations.

Within the field of complex care, there is an active discussion of how to define value and appropriate metrics to evaluate the effectiveness of interventions for people living with medical and social complexity. This dialogue comes from the recognition that measuring cost and utilization alone do not cover the breadth and depth of change and quality of life improvement clients experience as a result of complex case management interventions.

While the programmatic outcomes listed above exceed the national threshold of success for complex care management interventions, our goal in the St. Louis region is broader: We seek to establish long-term, sustainable change, in our behavioral health ecosystem.

BHN adopted from the National Center for Complex Health and Social Needs published briefs. One such white paper, "Rethinking Value, The benefits of cross-sector collaboratives serving populations with complex health and social needs" proposed a new framework for measuring value when partnering across sectors for the good of complex patients.

FOUR THEMES EMERGED AS THE MOST VALUABLE TO COMMUNITIES ENGAGED IN CROSS-SECTOR, ECOSYSTEM-BUILDING WORK:

- The intrinsic benefit of collaboration around a shared purpose
- Intentional engagement of those with lived experience as co-designers and aligning ecosystem priorities with those of the lived-experience community members
- Demonstrated outcomes at the individual level, population health, and organizational levels
- Long-term, sustainable, community-wide improvements for individuals with complex health and social needs

Evolving the region's

COMPLEX CARE ECOSYSTEM

PROGRAMMATIC RECOMMENDATIONS

Standardize complex care assessment, complex case staffing procedures, and care planning with SSM, Mercy, BJC, ERE project coordinator, and partnering community mental health agencies.

Establish data sharing agreements and consents for hospitals to provide access to real-time utilization data for SU patients and current and historical charge, payment and cost data for SU patients.

Consider additional support from the Camden team to model how to effectively navigate the most complex cases where there is organizational conflict in direction of care or a lack of patient interest in engaging in care management support.

Ensure meaningful participation of patients and people with lived experience by implementing patient advisory mechanisms such as committees and regularly surveying stakeholder groups.

Support ERE project coordinators to expand their capability to lead intervention across multiple community mental health centers and hospital systems.

Focus on clinical outcomes, medication management, routing to the correct level of care, root cause analysis of acute utilization, unmet needs, and rapid linkages to supportive services that will accelerate stabilization.

Investigate the inclusion of human and social service providers in HIPPA compliant manner and with the consent of the client.

Continue implementing regional alerting systems to locate SU who frequent multiple hospital systems.

A diversity of tactics for

FUNDING COMPLEX CARE

BHN and key regional stakeholders are encouraged to consider a combination of the recommendations below to strategically fund current and future complex care initiatives.

- Align with State leadership, payers, and providers of MO Behavioral and Primary Care Health Homes with a focus on the value added from BEACN wrap-around service model.
- Leverage 340 B funds to resource community mental health providers and allow utilization of flexible funds for housing supports to address SDOH.
- Engage Medicaid Managed Care Plans focused on population health management initiatives to impact high-cost, high-need members to share programmatic outcomes and work toward innovative care reimbursement payment structures and claim-based return on investment analysis.
- Apply a blending and braiding of DMH, MFH, and other grant-based funding to support and offset infrastructure, staffing, and service provision costs across organizations
- Establish a model of care that focuses on the collective region's top super-utilizers and establish a program and funding mechanism to implement, considering payment mechanisms through the prospective payment system of community mental health partners.
- Utilize health system community benefit funds and charity care programs to staff programs focused on un/underinsured populations, historically marginalized populations (SPMI), or high-risk populations
- Work collaboratively with Missouri Medicaid Managed Care Organizations to create tailored and targeted population health management programs for high-risk, high-need high-cost member populations.
- Engage technical assistance to establish an ROI equation which is a combination of cost, utilization, revenue, and quality variables connected to the specific target population.
- Define the acceptable ROI threshold for viability with the major financial stakeholders and organizations that could eventually pay for this type of intervention.
- Create a use case for ROI in multiple directions leveraging revenue gain from non-physicians in addition to cost avoidance.
- Use detailed case examples for hospital, payer, and other organizational leadership to gain initial buy-in, especially in the "proof of concept" phase.

Conclusions &
ACKNOWLEDGEMENT

CONCLUSION

Lessons learned through the work of each hospital system, and through sharing best practices, patient data, and cost-saving strategies, will continue to transform the healthcare delivery system in the Greater St. Louis region. We will continue to work together through multi-sector collaboration and partnerships to re-strategize investments in community-based organizations and patient funds to address social determinants of health such as housing to fill systemic gaps in care. As members of BHN, we will continue to create long-term, sustained process improvements in the community by addressing super utilizers through a coordinated, regional model of complex care and smartly investing in those areas that most impact the people we serve.

ACKNOWLEDGEMENT

This report reflects an overview of the progress achieved in developing an innovative, model of care to address the needs of the most complex, vulnerable patients in our region. We are grateful to receive BH Systems Change funds from the Missouri Foundation for Health which allowed us to establish this model of care, and to Mercy Hospital for being early adopters of the work by further investing in a data-driven clinical model that has significantly advanced this work. In partnership with our hospital and community partners below, we have established a framework to continue building upon to impact regional change.

Special thanks to

OUR PARTNERS

Behavioral Health Network of Greater St. Louis

BEHAVIORAL HEALTH NETWORK OF GREATER ST. LOUIS

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