

FOSTERING EFFECTIVE INTEGRATION OF BEHAVIORAL HEALTH AND PRIMARY CARE IN MASSACHUSETTS

Year 1 Report

JULY 2016



FOUNDATION
MASSACHUSETTS

prepared for the
Blue Cross Blue Shield of Massachusetts Foundation by
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TABLE OF CONTENTS

Executive Summary	1
Introduction	3
Description of Funded Grantees	4
Defining Success	7
Access	7
Patient Health	7
Addressing Needs of Complex Patients	7
Value	8
Patient Satisfaction and Experience	8
Sustainability	8
Components of Effective Programs	9
Screening	9
Team-Based Care	9
Care Coordination	10
Integrated Records	10
Risk Stratification	10
Patient Engagement	11
Quality Improvement	11
Use of Registries	12
Barriers to Integration	13
Policy and Regulatory Barriers	13
Electronic Medical Records, Data Collection, and Reporting	13
Multiple Reporting Requirements	14
Lack of Access to Emergency Department and Hospital Use and Cost Data	14
Changes to Organizational Culture	14
Competing Priorities	14
Measures Used for Assessing Integrated Care	15
Conclusion	16
Appendix 1: Phase One Evaluation Framework	17
Appendix 2: Listing of Data Elements Collected by Grantees	18
Appendix 3: Profiles of Grantee Organizations	20

PHOTOS ON COVER (TOP TO BOTTOM):

- Boston Health Care for the Homeless Program
- Brookline Community Mental Health Center (photo © David Binder)
- Cambridge Health Alliance
- Vinfen Corporation
- Boston Health Care for the Homeless Program

EXECUTIVE SUMMARY

From January through December 2015, the Blue Cross Blue Shield of Massachusetts Foundation (the Foundation) supported 10 primary care and behavioral health provider organizations through Phase One of its *Fostering Effective Integration (FEI) of Behavioral Health and Primary Care in Massachusetts* grant initiative. While the grantee organizations were diverse across provider type, population served (e.g., patient age, disease severity, etc.), and integration model, they all had at least three years of experience in implementing integrated care programs for their low-income and vulnerable patient populations.

The Foundation secured John Snow, Inc., (JSI) to evaluate this initiative. Among other objectives, JSI determined how grantees defined “success” related to their integration efforts, identified grantees’ perceptions of the elements of effective integration programs and related barriers, and inventoried measures that grantees used to assess their efforts. The overall purpose of the evaluation was to inform a subsequent longer-term Foundation investment in integrated care delivery (Phase Two).

Defining success

Grantees defined success broadly related to their integrated care programs. All grantees stated that improved access to services was a clear objective and indicator of success. (Primary care organizations referred to access to behavioral health services, and behavioral health organizations referred to access to primary care services.) Strategies for improving access among the grantee cohort included systematic screening, “warm hand-offs” (i.e., one provider directly introducing the patient to another provider), same-day appointments, and assistance by care coordinators in getting to appointments.

All 10 grantees also identified improved patient health—both physical and behavioral health—to be the ultimate marker of success. Health outcomes tracked by grantees in Phase One (e.g., PHQ-9 scores for depression, A1c for patients with diabetes, and blood pressure for patients with hypertension) varied based on the population served and by grantee organization type. All grantees also emphasized the importance of patient satisfaction and credited a team-based approach and having a diverse staff with whom patients could form trusting relationships as critical to patient experience.

Grantees additionally described program sustainability and improved value in health care delivery, as defined by reduced costs to the system or cost offsets resulting from reductions in unnecessary hospital admissions and emergency department visits, as factors for success. However, without access to claims data, many grantees were unable to demonstrate cost-effectiveness or more appropriate health care utilization. Likewise, the inability to bill for some essential elements of integrated care under the traditional fee-for-service payment system challenged many grantees to bring in revenue to cover both up-front and ongoing programmatic costs. As a result, many grantees are exploring opportunities under state and federal payment reform initiatives to further the sustainability of their programs.

Components of effective programs

Grantees shared their perceptions of the elements of effective integrated primary and behavioral health care programs. Screening to identify patients in need of integrated services was universally noted as a critical component. Most grantees used evidence-based tools such as the PHQ-9 for depression and the GAD-7 for anxiety; others developed their own customized tools to identify a broader range of behavioral health conditions and/or to make a more holistic assessment of the patient.

All grantees also highlighted the importance of team-based care. They noted that building a sense of “team” did not occur naturally and required thoughtful planning, reorganization, and ongoing cultivation. Care coordination was described by grantees as a critical function of the team, to promote communication and to ensure that patients receive follow-up support and are linked to appropriate services. Similarly, fostering patient engagement was another primary objective of teams.

The sharing of data and information was also noted by grantees as essential to integrated care. Regulatory and statutory restrictions designed to protect patient privacy, and challenges associated with information technology infrastructure, can make integrating care challenging. Grantees, however, were able to make some strides in this area, including adjusting electronic medical record templates and developing joint treatment plans and integrated care metrics. Two grantees were also able to employ risk stratification systems. Risk stratification served as a means to identify patients at highest risk and then direct them to intensive services. Sharing data and information was finally critical to grantees’ ability to engage in quality improvement activities, such as Plan, Do, Study, Act cycles.

Barriers to integration

The Foundation has commissioned two reports that articulate barriers to integrating physical and behavioral health care and proposed policy solutions. The first, *Barriers to Behavioral and Physical Health Integration in Massachusetts*,¹ focuses on licensing, privacy, and reimbursement barriers. The Phase One grantees participated in a focus group in which most of these barriers were identified. The second report, *Sharing Behavioral Health Information in Massachusetts: Obstacles and Potential Solutions*,² builds on a conversation initiated during an in-person meeting of the Phase One grantees. This report reviews privacy laws, as well as technological and operational challenges, related to information exchange across diverse providers. Additional barriers noted by grantees were challenges associated with developing patient registries for information management, cultural shifts in the ways primary care and behavioral health providers deliver care, multiple reporting measures required by distinct funding or revenue sources, lack of access to claims data to help demonstrate the value of integrated care, and managing multiple health reform initiatives and competing priorities.

Measures used for assessing integrated care

All grantees collected both process and outcomes data, although there was substantial diversity in metrics tracked across the grantee sites. Metrics reflected the range of organizational settings, populations served, and approaches to integration. Data on access measures were the most commonly collected and most grantees also tracked patient health outcomes data. The PHQ-9 for depression was the most common tool used to track behavioral health outcomes. Many behavioral health organizations also tracked physical health indicators, including biomarkers for obesity, diabetes, and hypertension.

Lessons learned from Phase One of the Foundation’s *Fostering Effective Integration* grant initiative can be informative to other providers, policymakers, and funders that are working to advance the integration of primary and behavioral health care for low-income and vulnerable patient populations.

¹ Margaret Houy and Michael Bailit. “Barriers to Behavioral Health and Physical Health Integration in Massachusetts.” *Blue Cross Blue Shield of Massachusetts Foundation and Bailit Health Purchasing, LLC*. June 2015.

² Robert Belfort and Alex Dworkowitz. “Sharing Behavioral Health Information in Massachusetts: Obstacles and Potential Solutions.” *Blue Cross Blue Shield of Massachusetts Foundation and Manatt, Phelps, and Phillips, LLP*. March 2016.

INTRODUCTION

In December 2014, John Snow, Inc., (JSI) began working with the Blue Cross Blue Shield of Massachusetts Foundation (the Foundation) to evaluate Phase One of the *Fostering Effective Integration (FEI) of Behavioral Health and Primary Care in Massachusetts* grant program. The Foundation funded 10 primary care and behavioral health organizations with established integration programs to identify success factors, barriers, challenges, and opportunities for change. These findings subsequently informed a longer-term Foundation investment in and evaluation of integrated care services (Phase Two).

The Foundation established a guiding framework (see Appendix 1) for the Phase One evaluation to identify how it could add value to and advance the agenda for behavioral health and primary care integration in Massachusetts. As per the framework, the Foundation set forth the following questions to guide the evaluation:

- *How is success defined for integration efforts?*
- *What does it take to implement the critical components of effective integration models?*
- *What is the evidence to date on the impact of integration programs?*
- *What types of measures are used to assess impact? Do measures vary by delivery model type? What are the gaps in measurement and assessing impact?*
- *What are the common barriers to integration? How are they being addressed?*
- *Are there programs, or components of programs, that lend themselves to scaling/replication? What are the facilitators and barriers to generalizability?*
- *Are there key opportunities or initiatives in the Massachusetts policy, regulatory, or health care delivery environments that might inform the multiyear investment?*

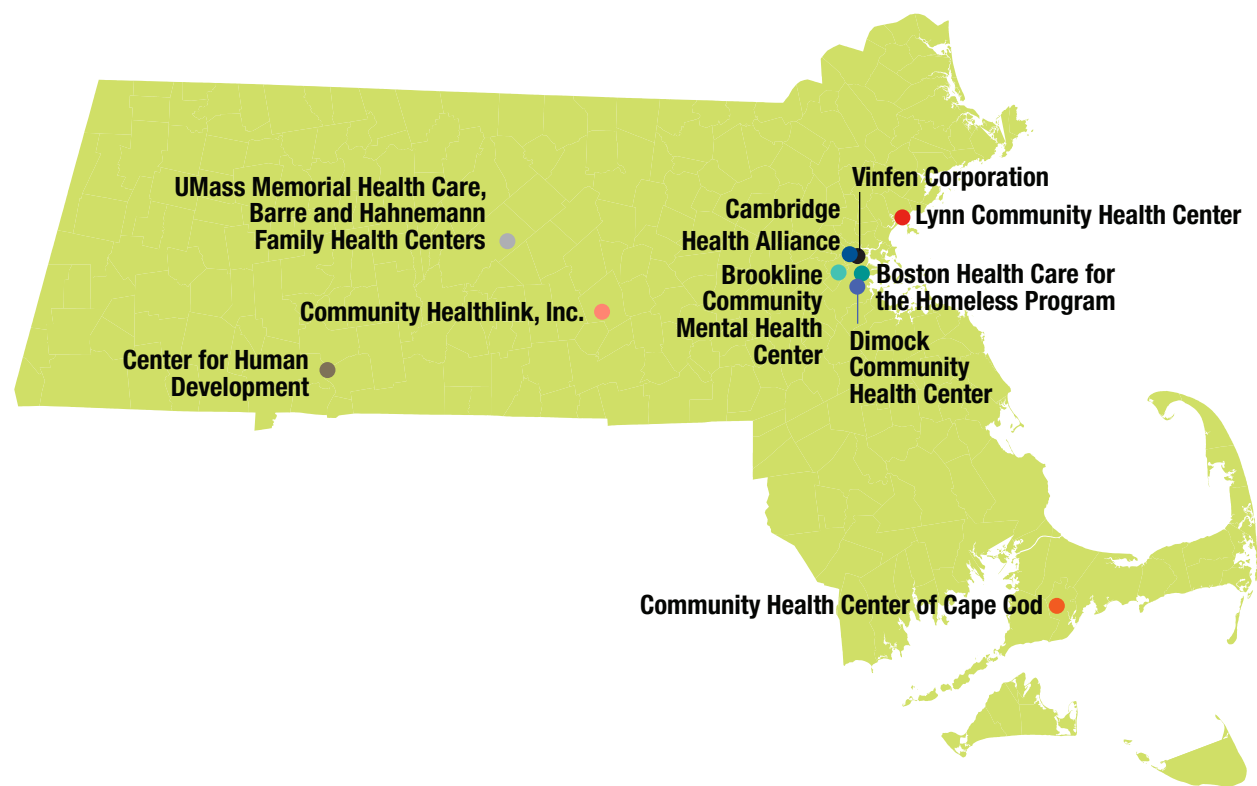
To address these questions, JSI first conducted a review of the literature to identify some of the key unanswered questions in the field of behavioral health and primary care integration. JSI then conducted site visits with each of the 10 grantee organizations in February and March of 2015, interviewing primary care and behavioral health clinicians, managerial staff, and often two or three patients who had experience with integrated care services. JSI finally reviewed and gleaned information from the applications and four quarterly progress reports submitted by all grantees.

This report represents a synthesis of these activities. It begins with a description of the grantees and then follows with findings related to: 1) how grantees defined success for their integration efforts, 2) grantee perceptions of the critical components of integrated programs, 3) common barriers to integration, and 4) measures used to assess programs. In addition to the guiding framework for the Phase One evaluation, a listing of the measures used by Phase One grantees for quality improvement and/or evaluation and a two-page profile of each grantee are appended.

DESCRIPTION OF FUNDED GRANTEES

In December 2014, the Foundation funded 10 organizations to participate in Phase One of the *Fostering Effective Integration* grant initiative. The grantees included six primary care organizations, four of which were federally qualified health centers (FQHCs), and four were behavioral health organizations located throughout the Commonwealth (see Figure 1).

FIGURE 1. LOCATION OF PHASE ONE GRANTEES



The Phase One grantees represented a diversity of settings, populations, providers, and partnerships engaged in integrated care as shown in Table 1. Two-page descriptions of the grantees that cover populations served, key staff and roles, key program activities, metrics tracked, sample outcomes achieved, lessons learned, and overall accomplishments are appended to this report.

TABLE 1. PHASE ONE GRANTEES' ORGANIZATIONAL AND INTEGRATED SERVICES CHARACTERISTICS

	BOSTON HEALTH CARE FOR THE HOMELESS PROGRAM	BROOKLINE COMMUNITY MENTAL HEALTH CENTER	CAMBRIDGE HEALTH ALLIANCE	CENTER FOR HUMAN DEVELOPMENT	COMMUNITY HEALTH CENTER OF CAPE COD
LOCATION	Boston	Brookline	Cambridge	Holyoke, Springfield	Mashpee, Bourne, Falmouth
ORGANIZATIONAL SETTING	FQHC, medical respite	Community mental health center	Hospital-affiliated pediatric primary care	Community mental health center	FQHC
BRIEF PROJECT DESCRIPTION*	Co-location (primary care-based); use of regular case conferencing between medical and behavioral health; enhancement of substance use services; pilot testing of risk stratification	Enhanced referral; reverse integration; intensive nurse care management supported by community health workers; patients identified through charts and provider referral	Co-location (primary care-based); on-site psychiatry consult and treatment; community health worker support for at-risk families	Co-location (behavioral health-based); reverse integration; wellness support education	Co-location of primary and behavioral health care; pilot testing of risk stratification for entry of patients into complex case management
PRIMARY POPULATION SERVED	Adults who are homeless or living in public housing	Patients with severe and persistent mental illness (SPMI) and/or with high-risk, complex conditions	Children	Patients with SPMI	Patients with high-risk, complex comorbid conditions
SERVICES PROVIDED	<ul style="list-style-type: none"> • Counseling • Care facilitation/case management • Psychiatry • Substance use treatment 	<ul style="list-style-type: none"> • Counseling • Care facilitation/case management • Psychiatry • Home visiting 	<ul style="list-style-type: none"> • Counseling • Care facilitation/case management • Psychiatry • Home visiting 	<ul style="list-style-type: none"> • Counseling • Care facilitation/case management • Psychiatry • Primary care (reverse integration) • Wellness classes 	<ul style="list-style-type: none"> • Counseling • Care facilitation/case management • Chronic disease self-management • Wellness classes
SCREENING TOOLS	GAD-2, GAD-7, AUDIT	Healthy Lives 5-Axis Measure**	Standard pediatric developmental and mental health screening		Minnesota Tiering Tool (identification of high-risk, complex patients)
GEOGRAPHIC SETTING	Urban	Urban	Urban	Urban	Suburban and rural

**Co-location*: Behavioral health and primary care providers served patients in the same location. Behavioral health providers may have been employees of the hosting organization or may have been contracted from another organization to spend an agreed-upon number of hours at the hosting organization.

Enhanced referral: Formalized referral arrangements and coordination across organizations. Grantees have a strong care/case management infrastructure to support patients and transition their care across medical and behavioral health providers.

**Please see feature on page 9.

(continued)

TABLE 1. PHASE ONE GRANTEES' ORGANIZATIONAL AND INTEGRATED SERVICES CHARACTERISTICS *(continued)*

	COMMUNITY HEALTHLINK, INC.	DIMOCK COMMUNITY HEALTH CENTER	LYNN COMMUNITY HEALTH CENTER	UMASS MEMORIAL HEALTH CARE	VINFEN CORPORATION
LOCATION	Worcester	Boston	Lynn	Barre, Worcester	Cambridge
ORGANIZATIONAL SETTING	Mental health and outpatient addiction treatment clinic	FQHC	FQHC	Hospital-affiliated primary care practices	Health and human services (mental health, disability, brain injury)
BRIEF PROJECT DESCRIPTION*	Co-location of primary care in an outpatient mental health and addiction center; on-site wellness center staffed with a nurse case manager for care coordination and wellness programming	Co-location of primary care and behavioral health; on-site substance use and mental health treatment for patients who need intensive services	Co-location of primary care and behavioral health at main site; embedded primary care in a behavioral health practice at satellite location	Co-location of primary care and behavioral health; building a depression registry	Nurse practitioner and outreach worker connect clients to behavioral health and human services; incorporate evidence-based wellness curriculum and telehealth
PRIMARY POPULATION SERVED	Patients with SPMI and chronic disease	Adult, pediatric, and ob-gyn patients	Low-income adults, including homeless patients	Pediatric and adult patients; family medicine	Patients with SPMI and chronic disease
SERVICES PROVIDED	<ul style="list-style-type: none"> • Care facilitation/case management • Psychiatry • Primary care (reverse integration) • Wellness services • Chronic disease management • Substance use treatment 	<ul style="list-style-type: none"> • Counseling • Care facilitation/case management • Psychiatry • Substance use treatment 	<ul style="list-style-type: none"> • Counseling • Care facilitation/case management • Psychiatry • Substance use treatment 	<ul style="list-style-type: none"> • Counseling • Emphasis on population-based care, particularly patients with depression • Psychiatry • Substance use treatment (Suboxone, Barre clinic) 	<ul style="list-style-type: none"> • Counseling • Care facilitation/case management • Psychiatry • Community-based or home-based support • Telemedicine • Self-management
SCREENING TOOLS	Primary care: health screen, metabolic illness screen; Behavioral health: PHQ-2 and PHQ-9, Behavior and Symptom Identification Scale, BASIS-24 (not routinely)	Pre-School Pediatric Symptom Checklist, MCHAT for pediatrics, YPSC for adolescents, PHQ-9 for ob-gyn and other adults	PHQ-2 and PHQ-9	Patient stress questionnaire (Combination of PHQ-9, AUDIT, GAD, PTSD, SBIRT)	Strengths and Knowledge Inventory (from Illness Management and Recovery Curriculum) and general physical health screen
GEOGRAPHIC SETTING	Urban	Urban	Urban	Rural and urban	Urban

**Co-location*: Behavioral health and primary care providers served patients in the same location. Behavioral health providers may have been employees of the hosting organization or may have been contracted from another organization to spend an agreed-upon number of hours at the hosting organization.

Enhanced referral: Formalized referral arrangements and coordination across organizations. Grantees have a strong care/case management infrastructure to support patients and transition their care across medical and behavioral health providers.

DEFINING SUCCESS

Grantees were asked how they defined success in relation to their integrated care programs. Most grantees defined success broadly with concepts that included improved access to care, patient health, and value. However, they also reported some challenges with quantifiable measurement of these concepts.

ACCESS

All grantees stated that improved access was a clear objective and indicator of success. (Primary care-funded grantees referred to access to behavioral health services, while behavioral health-funded grantees cited access to primary care services.) Better identification of behavioral health and physical health needs through improved and systematic screening was identified as one dimension of improved access; improved patient engagement in needed care, as indicated by adherence to treatment plans was another.

Grantees mentioned several strategies for improving access, including offering patients same-day access to both behavioral and primary care services, “warm hand-offs” (in which one provider directly introduces the patient to another provider), reduced waiting times for appointments, and assistance by community health workers or care coordinators with getting to appointments.

Behavioral health provider grantees also noted that improving access to physical health care for their patients included identifying primary care providers for individuals who did not have established relationships. Grantees serving pediatric populations additionally highlighted the importance of early identification and intervention to prevent further, more complex behavioral health issues from developing; thus, improved prevention was cited as a dimension of improved access.

PATIENT HEALTH

All 10 grantees identified improved patient health—both behavioral and physical health—as the ultimate marker of success. Health outcomes defined by grantees in Phase One varied depending on the population primarily being served through integrated services, and whether or not the grantee was a primary care or behavioral health provider. Some examples include:

- UMass Memorial Health Care focused on improvements in specific behavioral health conditions—depression, anxiety, post-traumatic stress disorder, and high-risk alcohol use.
- Behavioral health providers Vinfen Corporation, Community Healthlink, the Center for Human Development, and Brookline Community Mental Health Center described changes in physical health outcomes resulting from improved self-management of chronic disease, better controlled chronic illness, and engagement in preventive and routine primary care.

ADDRESSING NEEDS OF COMPLEX PATIENTS

Many grantees highlighted the importance of addressing the whole-health needs of their most complex patients. They discussed how the siloed behavioral health and primary care systems inhibit comprehensive care for patients with significant behavioral, physical, and social services needs. Through integrated services, grantees are able to employ strategies that deliver more comprehensive care, including longer visits with patients, the involvement of

additional staff at varying levels (i.e., care/case managers), and more frequent communication across multiple providers. These strategies often resulted in the development of integrated treatment plans for patients and increased assurance that all providers would remain aware of all aspects of patients' health.

VALUE

All grantees cited improved value in health care service delivery to be another factor for success, though most were unable to collect and analyze data related to this element. Few programs had access to total claims data for their patients and, without this information, were unable to assess whether integrated services resulted in reduced costs or cost offsets due to decreased inpatient admissions and emergency department (ED) visits. Patient self-reporting was often used as a proxy for claims data to track ED and hospital utilization, yet it posed limitations in terms of data reliability and validity. Some grantees tried to establish data-sharing relationships with hospitals, but often it was not possible to secure data-sharing commitments from all hospitals and EDs where patients would seek care.

As a hospital-based program, Cambridge Health Alliance (CHA) was able to look more deeply at value and utilization. It compared total expenses over a three-year period for 32 pediatric patients engaged in its integrated care model with expenses for 264 patients who were not in the program. The analysis found that patients in integrated care had a significantly lower cost per member per month than those with a similar profile but not engaged in integrated care. CHA was in a unique position to conduct this analysis because it had both access to claims data and staff expertise to interpret and utilize the information.

PATIENT SATISFACTION AND EXPERIENCE

All grantees tracked patient satisfaction and quality of experience as success factors, and identified improvements in these areas as a result of their integrated programs. They credited a more team-based approach to care and having diverse staff with whom patients could form trusting relationships. Patients interviewed by JSI during grantee site visits also talked about the importance of having a provider who is nonjudgmental and caring, and who spends sufficient time with them. Patients said that finding this type of provider is not easy, and they appreciated the compassion shown by providers working in integrated settings.

SUSTAINABILITY

Integration challenges organizations to develop new workflows and service lines, and to engage in overall practice transformation. Some elements of comprehensive evidence-based programs are not billable under the current fee-for-service payment system. For example, case management and care coordination are critical components of integrated care but are often not reimbursable services. Several alternative payment models in Massachusetts offer new opportunities that traditional fee-for-service models do not, though participation in these are limited and not available to all integrated care programs across the state. Examples of new payment models during the 2015 grant period included medical home per member per month payments, the MassHealth Primary Care Payment Reform Initiative, the Massachusetts Behavioral Health Partnership Practice-Based Care Management Program, and quality incentive payments. Dimock Community Health Center made a concerted effort to track all services billed and monitored denials of claims to become more informed about reimbursement options.

COMPONENTS OF EFFECTIVE PROGRAMS

Grantees shared their perceptions of the elements of effective integrated behavioral health and primary care programs. Their varied responses included components reflecting the evidence base—screening, team-based care, care coordination, integrated records—and those based on their own experiences and customized tools and strategies, such as risk stratification, patient engagement approaches, and quality improvement. This section of the report describes the grantees’ tactics, rationales, and experiences.

SCREENING

Screening is critical for identifying patients in need of integrated services. As shown in Table 1, grantees used a variety of screening tools, with the PHQ-9 for depression and the GAD-7 for anxiety being the most commonly used. Several grantees used shorter versions (PHQ-2 or GAD-2) and followed this with the lengthier PHQ-9 or GAD-7 when the initial screen was positive.

Brookline Community Mental Health Center developed its own Healthy Lives 5-Axis Scale to address what its staff perceived as an inability of other tools to identify the full range of needs of patients living with severe mental illness. UMass Memorial Health Care also developed its own patient stress questionnaire, which is a combination of tools to screen for the practices’ integrated care target conditions of depression, alcohol use disorders, anxiety, and post-traumatic stress disorder.

BROOKLINE COMMUNITY MENTAL HEALTH CENTER

Healthy Lives 5-Axis Scale

This screening, assessment, and outcomes tool covers the following domains:

- Health-related functioning
- Service utilization
- Access to health care
- Basic needs (i.e., social determinants of health)
- Patient activation

Brookline Community Mental Health Center is currently in the process of validating this tool.

TEAM-BASED CARE

All grantees highlighted the importance of team-based care, noting that it is an overall critical element of integration, though not always implemented as rigorously and routinely as desired. Building a sense of “team” did not occur naturally and required thoughtful planning, reorganization, and implementation of strategies. Challenges

CAMBRIDGE HEALTH ALLIANCE

“The day starts with a huddle with all members of the team reviewing the schedule of patients for the day, patient history, and behavioral health recommendations. This is supplemented by curbside consults between the pediatrician and the child psychiatrist. Finally, the providers continually share information on patient progress using the daily huddle and the electronic medical record.”

to promoting team-based care exist as a result of physical space limitations, as well as cultural shifts in the ways that primary care and behavioral health providers deliver care. This cohort of grantees exhibited a fundamental commitment to team-based care and, in several instances, overcame the physical space issues. Lynn Community Health Center was able to design co-located behavioral health and primary care “pods” several years ago when building a new health center. This proximity naturally enables ongoing daily communication about shared patients and their needs.

Dimock Community Health Center staff also created dedicated space for their behavioral health clinicians right next to their primary care providers, enabling more informal communication and collaboration. Staff at Dimock also planned team-building office events to enhance relationships.

Boston Health Care for the Homeless Program (BHCHP) established formal case conferencing among team members for complex patients. Cambridge Health

Alliance noted that huddles are an essential part of team communication as reflected in the quote on the previous page.

CARE COORDINATION

The majority of grantees highlighted care coordination as a critical component of integrated services, noting that having a care coordinator benefits both patients and providers. Providers interviewed during site visits reported feeling more confident managing patients' behavioral health needs when they know they have follow-up support and can be sure their patients are linked to appropriate services. Reimbursement for care coordination, however, remains a challenge.

INTEGRATED RECORDS

Balancing patient confidentiality and privacy, particularly pertaining to behavioral health and substance use notes, with furthering communication across providers and patient safety is an ongoing challenge. However, the grantees noted that having access to both physical and behavioral health records was an essential element for being able to effectively deliver integrated care.

UMass Memorial Health Care has a shared behavioral health and physical health record, yet psychiatrists' notes are blocked from view for all other providers. Substance abuse providers cannot share their notes without a patient consent on file, by federal regulation (42 CFR).

Some grantees have made significant strides with integrating their records, including adjusting templates to incorporate risk stratification tools, joint treatment plans, and integrated care metrics. However, significant challenges and barriers remain based on regulatory and statutory restrictions, as well as on providers' IT infrastructure limitations.

Behavioral health providers that are not co-located with primary care services are usually dependent on sending paper notes between entities. Recently, however, Brookline Community Mental Health Center reached agreement with one of its primary care partners, Beth Israel Deaconess Medical Center, to gain access to some parts of patient records and documents directly from the medical center's system.

RISK STRATIFICATION

Two grantees, Community Health Center of Cape Cod and BHCHP, noted that risk stratification is important to the efficacy of their integrated care programs. Risk stratification served as a means of directing scarce resources toward providing a more intense level of services for the most complex and highest-need patients.

Community Health Center of Cape Cod adapted the Minnesota Tiering Tool, which is intended to assess the overall complexity of patients based on the number of major chronic condition categories.³ The health center was able to embed this tool in its electronic medical record (EMR). Patients are screened at their annual well visits, and those scoring at high levels are referred to a complex care manager. The complex care manager is then responsible for

³ Minnesota Department of Health, accessed March 3, 2016. Available at www.health.state.mn.us/healthreform/homes/payment/training/complexteirtool.pdf.

bringing together the behavioral health and primary care providers for joint treatment planning. The complex care manager maintains close contact with both the patient and the care team throughout the course of care.

BHCHP uses four strategies for identification of patients and risk stratification for its Enhanced Care Program: 1) a customized tool to identify those patients most at risk and with the most complex needs, 2) automatic referral for patients enrolled in One Care (i.e., Medicare- and Medicaid-eligible individuals who selected One Care insurance), 3) automatic referral for the top 10 percent of the most complex patients in the MassHealth Primary Care Payment Reform Initiative, and 4) clinical team assessment and decision. Patients involved with the Enhanced Care Program receive integrated treatment plans, outreach, and mobile engagement services.

PATIENT ENGAGEMENT

Most grantees identified patient engagement as critical to providing good care, overall, including integrated care. They also noted that “engagement” is a broad term with multiple meanings (e.g., good access, patient satisfaction, or patient involvement in decision making). A patient engagement strategy that is unique to integrated care is the warm hand-off between primary care and behavioral health providers practicing within a co-located setting. Some other examples of how grantees defined patient engagement strategies for integrated care include the following:

- Lynn Community Health Center providers take advantage of newborn pediatric appointments to conduct maternal postpartum depression screenings, engaging new mothers at already scheduled appointments.
- BHCHP is experimenting with open-access scheduling as a patient engagement strategy, treating their high-need patients who drop in without a scheduled appointment.
- Vinfen Corporation provides patients with an in-home telehealth device, called Health Buddy, to coach clients on self-management and to more effectively engage them with their care team, as described in the vignette at right.

VINFEN CORPORATION

Kristi has been diagnosed with chronic obstructive pulmonary disease and depression. She is using her in-home telehealth “Health Buddy” device to report symptoms and to learn how to manage her illnesses more independently. The Health Buddy system sent alerts to Vinfen staff because over several days Kristi reported a slight increase in coughing and difficulty breathing, ambulating, and sleeping. Kristi’s nurse practitioner and health outreach worker responded to the symptom pattern with an immediate intervention on-site at her day program. The nurse practitioner diagnosed Kristi with pneumonia and prescribed an antibiotic. Kristi was able to fill the prescription that day with assistance from the health outreach worker, avoiding an emergency department visit.

QUALITY IMPROVEMENT

Having systematic processes in place for quality improvement and an organizational culture that is open to change and continuous reflection is important to undertaking any practice transformation, including integrated care. BHCHP’s quality improvement process is one example. Managers held focus groups with staff and clinicians at all levels of the organization and asked, “How can we provide better-integrated care?” From these focus groups, they developed a systematic transformation plan with five priority action areas, key steps to attain goals within each area, and a time frame for doing so. Lynn Community Health Center’s approach to quality improvement—Plan, Do, Study, Act—allows providers to meet with their teams on a regular basis so that they can identify and work on quality improvement goals.

USE OF REGISTRIES

As health systems and providers move toward a population health focus, they are finding that registries are an important tool for patient information management. The six primary care organizations in this cohort had experience using registries for chronic disease (e.g., diabetes or high blood pressure) and/or preventive health services (e.g., mammography or colorectal screening) but not for integrated care conditions prior to receiving the Foundation's funding. Registries were used to track outcomes, such as A1c levels for diabetic patients, and served as tools for outreach to ensure patients received timely care (e.g., annual mammograms). Phase One Foundation funding enabled some sites to develop and begin to use registries related to integrated care. Community Healthlink included depression, diabetes, and hypertension on its chronic disease registry. UMass Memorial Health Care (as discussed in the example at right) began to include patients with depression, on Suboxone, and using opiate prescriptions, and it intends to combine this data with its existing population health registry.

UMASS MEMORIAL HEALTH CARE

UMass is implementing systematic monitoring and follow-up of patients using clinic-specific versions of depression registries. These registries are updated biweekly, pulling specified data from the EMR and populating it into a registry. Depression case managers (DCMs) then identify and contact patients using an algorithm that prioritizes newly diagnosed patients who have not yet been seen for follow-up by their primary care provider. Following this protocol, the DCMs conduct phone-based assessment, provide structured care management, and make adjustments in treatment plans in collaboration with primary care providers and/or behavioral health clinicians when indicated. The use of medical assistants as DCMs has required a significant initial investment in training, as talking to a patient on the phone about depression requires new competencies.

BARRIERS TO INTEGRATION

During Phase One of the *Fostering Effective Integration* initiative, the Foundation commissioned a report titled *Barriers to Behavioral Health and Physical Health Integration in Massachusetts*,⁴ which provided rich detail on challenges faced by organizations attempting to provide integrated services. The grantees participated in an initial focus group in which many of these barriers were identified. A second report, *Sharing Behavioral Health Information in Massachusetts: Obstacles and Potential Solutions*,⁵ builds on a conversation initiated during an in-person meeting of the Phase One grantees. This report reviews privacy laws, as well as technological and operational challenges, related to information exchange across diverse providers.

POLICY AND REGULATORY BARRIERS

As reflected in the reports mentioned above, Phase One grantees faced licensing, privacy, and reimbursement challenges when establishing, implementing, and working to sustain their integrated programs. Community Healthlink, for instance, was delayed in establishing its co-located integrated services due to the different licensing and facility regulations required to provide physical health and behavioral health services in a single location.

Many grantees were affected by reimbursement barriers—disparities in reimbursement rates between behavioral health and primary care providers. They also observed that they had been unable to bill for key team members whose job titles varied but who were essential to the effective implementation of integration programs: community health workers, community liaisons, complex case managers, peer support specialists, and family support specialists.

ELECTRONIC MEDICAL RECORDS, DATA COLLECTION, AND REPORTING

Nearly all Phase One grantees mentioned EMRs and data collection as interrelated and significant barriers to implementing effective, seamless integrated behavioral health and primary care programs. Key obstacles associated with EMRs included outdated or inappropriate templates for data collection, difficulty changing or customizing templates, inability to extract accurate data from the records for quality improvement or patient tracking, lack of consistent documentation across providers, and the inability to share information between behavioral health and primary care platforms. Some common concerns included:

- Prohibitive amount of time and expense when requesting a new report from an EMR vendor.
- Inability to easily pull longitudinal data, such as historical PHQ-9 scores, to assess patient progress and change over time.
- Key data ends up in text fields or as scanned-in pdf documents, neither of which can be queried.

As a result of these challenges, grantees have learned that it is essential to budget sufficient IT time in the planning and early implementation phases of any type of innovative program. While some organizations were hopeful

⁴ Margaret Houy and Michael Bailit. "Barriers to Behavioral Health and Physical Health Integration in Massachusetts." *Blue Cross Blue Shield of Massachusetts Foundation and Bailit Health Purchasing, LLC*. June 2015.

⁵ Robert Belfort and Alex Dworkowitz. "Sharing Behavioral Health Information in Massachusetts: Obstacles and Potential Solutions." *Blue Cross Blue Shield of Massachusetts Foundation and Manatt, Phelps, and Phillips, LLP*. March 2016.

that implementing a new EMR system would help to resolve many of these issues, continual training, including staff coaching to ensure clear and consistent data entry, is necessary.

MULTIPLE REPORTING REQUIREMENTS

Grantees had multiple reporting requirements, including the MassHealth Primary Care Payment Reform Initiative, the Uniform Data Set (for FQHCs), and grant-specific compliance (e.g., SAMHSA). With the exception of some depression measures and the SAMHSA metrics, the required reporting generally did not include indicators that specifically reflected integrated care processes or outcomes. Given the many challenges (e.g., developing registries, ensuring that EMR templates capture needed data, developing work flows to collect the data), measurement and meeting reporting requirements are resource-intensive. Metrics required for funding or payments are prioritized and often leave little time for implementing other helpful but voluntary measures.

LACK OF ACCESS TO EMERGENCY DEPARTMENT AND HOSPITAL USE AND COST DATA

Most grantees anecdotally, or on the basis of patient self-reporting, believed that integrated care resulted in cost offsets to the health care system by reducing avoidable hospitalizations and inappropriate ED use. However, most did not have access to claims data that would substantiate this belief or demonstrate such savings.

The three programs able to gain access to cost data—BHCHP, Cambridge Health Alliance, and Vinfen—had to expend significant resources to work with it (e.g., understanding file structures, developing analytical files) to gain useful and relevant information. Cambridge Health Alliance undertook a research study to compare total costs of care for patients in their pediatric intervention with costs for pediatric patients not in their intervention and found the integrated care intervention services to be cost-effective. BHCHP reported some descriptive data comparing their average Medicaid patient costs with costs for the general Medicaid population. Other grantee organizations did not have access to the claims data nor the staff resources and expertise required for analysis.

CHANGES TO ORGANIZATIONAL CULTURE

Cultural shifts in the ways primary care and behavioral health providers deliver care are required to fully integrate care delivery. Regular cross-team communication, shared patient management, warm hand-offs, additional screening, and changes to care protocols are all examples of the types of changes required for integrated care implementation. BHCHP initially faced barriers in implementing an integrated program as the concept of integration was unfamiliar to their health care teams. These barriers fell as BHCHP achieved work flow shifts; both behavioral health and primary care providers started to see the benefits of the new model for their patients. At Community Health Center of Cape Cod, one way that staff addressed barriers associated with establishing a team culture was by being more deliberate in developing job descriptions so that everybody knew respective team members' roles and responsibilities.

COMPETING PRIORITIES

Grantees also said that managing multiple initiatives and competing priorities can be challenging. The integration of primary care and behavioral health requires sufficient investment and time for team meetings, review of data, barrier assessments, and the redesign of work flows to accomplish program goals. Several organizations had simultaneous priorities that vied for their time, including implementing new EMRs, starting up other special projects (e.g., the MassHealth Primary Care Payment Reform Initiative), and participating in other Massachusetts and national health reform efforts.

MEASURES USED FOR ASSESSING INTEGRATED CARE

All grantees collected data on process and outcomes measures; however, there was substantial diversity across metrics being tracked given the range of organizational types providing integrated services, populations served, and integrated care models. Appendix 2 is a listing of data elements collected across the grantees.

Data on “access” measures were the most commonly collected, especially screening penetration rates and referrals of positively screened patients to integrated services, but these were not standard across practices because of different integrated care goals. For example, Community Health Center of Cape Cod assessed screening penetration rates and referrals for its high-risk and complex patient population, as identified by employing its risk stratification tool. Dimock Community Health Center tracked screening penetration for its pediatric population, its ob-gyn population, and its adult medicine population separately. Many organizations used the PHQ-2 or PHQ-9 for depression screening, but some tracked PHQ screening penetration rates related to annual checkups, whereas others tracked screening penetration rates only for those patients referred to behavioral health.

Fewer grantees captured “care process” metrics (e.g. number of integrated care plans initiated, number of patients with substance use disorders receiving motivational interviewing), and there was very little consistency in what was collected among the grantees that did. Dimock Community Health Center, for instance, successfully collected provider productivity data.

Grantees also collected patient health outcomes data. In terms of behavioral health outcomes, the PHQ-9 for tracking patients with depression was the most common, followed by the GAD for patients with anxiety. Many organizations, particularly behavioral health providers, also tracked chronic physical disease metrics. In particular, behavioral health grantees that also received SAMSHA funding used the National Outcomes Measurement System reporting tools reflecting biomarkers for obesity, diabetes, hypertension, hyperlipidemia, and hypercholesterolemia. Yet pulling outcomes data from EMRs in a systematic, longitudinal manner that would enable evaluation challenged many grantees. Using a patient registry was one strategy for enabling longitudinal tracking of outcomes.

BROOKLINE COMMUNITY MENTAL HEALTH CENTER

- 50% of patients diagnosed as obese showed a decrease in body mass index.
- 71% of patients diagnosed with diabetes showed a decrease in A1c measures.
- 86% of patients with diagnosed hypertension showed a decrease in blood pressure.

DIMOCK COMMUNITY HEALTH CENTER

In a one-month period, patients presented with 118 social service-related needs, including 52 (44%) for transportation and 14 (12%) for help with utilities, including patients needing shut-off protection.

COMMUNITY HEALTH CENTER OF CAPE COD

Out of 600 patients identified as “high risk,” 100% of highest-risk (level 4) and 60% of level 3 patients have an integrated care plan in place.

CONCLUSION

The integration of primary care and behavioral health has become an important strategy in health reform efforts in Massachusetts and across the nation, especially related to the Triple Aim goals of improved population health, improved patient experience, and reduced costs. Several lessons were learned by evaluating the work of the Foundation's Phase One *Fostering Effective Integration* grantees. The grantees described their integration efforts as "successful" in multiple ways, including improving access, providing better care, offering enhanced value for care, and garnering higher patient satisfaction. They were able to identify core components of their integrated models, including systematic screening, team-based care, care coordination, continuous quality improvement, and integrated records. Grantees were also able to share innovation across primary care and behavioral health disciplines, including risk stratification strategies to identify the most complex patients and registry development and use strategies. Finally, the barriers they reported offer value in understanding the challenges associated with implementation and evaluation of integrated care efforts.

The Foundation has now launched Phase Two of *Fostering Effective Integration*, a multiyear grant initiative running from January 2016 through December 2018. In response to the evolving health reform environment, as well as to lessons learned from Phase One, Phase Two supports organizations experienced in behavioral health and primary care integration to expand the focus of their efforts to a specific patient population, comorbidity, or additional service. In continued partnership with JSI, the Foundation seeks to better understand the effects of integrated services on access to care, clinical outcomes, and patient satisfaction, as well as to document the programmatic costs of integrated services. Lessons learned from the multiyear initiative will help the Foundation, as well as the provider community, policymakers, and other funders, to advance access to primary care and behavioral health services for low-income patient populations across the Commonwealth.

APPENDIX 1: PHASE ONE EVALUATION FRAMEWORK

2015 FRAMEWORK: FOSTERING EFFECTIVE INTEGRATION

GOAL: To augment established behavioral health integration programs and to learn from their implementation, a literature review, and experts in the field to inform a subsequent multiyear investment and a final report that will be broadly disseminated.

INPUTS	ACTIVITIES	LEARNING OBJECTIVES	INTERIM OUTCOMES
<ul style="list-style-type: none"> • One-year \$1.35 million investment across 10 community-based organizations • Two in-person Learning Community opportunities • JSI secured as external evaluation partner • External consultant (TBD) secured to help coordinate and advise Foundation's behavioral health strategic priority • Relationships (existing and new) with key stakeholders with experience and/or expertise in behavioral health integration • Dedicated Foundation staff time and guidance from board 	<p>Grantmaking</p> <ul style="list-style-type: none"> • Support grantees in filling gaps in augmenting their established programs • Enable grantees to strengthen data collection and analysis • Track grantee progress, troubleshoot as needed • Consult with external experts, etc., to inform multiyear investment <p>Technical Assistance</p> <ul style="list-style-type: none"> • Develop two Learning Community meetings to promote sharing across grantees and learning from external experts <p>JSI/Evaluation</p> <ul style="list-style-type: none"> • Conduct literature review • Hold in-person site visits • Devise reporting forms • Inform Foundation's subsequent investment • Develop final report that includes case studies 	<p>What <i>additional value</i> can the Foundation bring to behavioral health integration?</p> <p>What is needed next?</p> <p>How can we advance the agenda?</p> <p>What are the various ways "success" can be defined (e.g., quality, cost, health outcomes)?</p> <p>What are common barriers to integration? How are they—or are they not—being addressed?</p> <p>What does it take to implement critical components of effective programs (including risk stratification)?</p> <p>What is the evidence to date on the impact of integration programs?</p> <p>What types of measures are used to assess impact? Do measures vary by model or patients served? What gaps and challenges are related to measurement?</p> <p>What is working and what special challenges exist surrounding integrated care and substance use?</p> <p>Are there programs, or components of programs, that lend themselves to scaling/replication? Why?</p> <p>Are there opportunities in the MA policy, regulatory, or health care delivery environments? How are payment and delivery system reform affecting integration work?</p>	<ul style="list-style-type: none"> • Grantees have filled gaps in or augmented their established programs • Grantees have stronger data collection and analysis infrastructure • Foundation and JSI have thoroughly explored the learning objectives • Foundation has developed and launched a strategic multiyear investment in integration • JSI has developed a final report that includes case studies that will be disseminated to inform the broader community • Lessons learned are informative to policy and research agendas

APPENDIX 2: LISTING OF DATA ELEMENTS COLLECTED BY GRANTEES

PROCESS DATA

Access

- Percentage screened
(Screening practices and frequencies varied across grantees. For example, at UMass Memorial Health Care adults were generally screened using the Patient Stress Test once a year, but those with diabetes were screened twice a year, and patients engaged in behavioral health care were screened every visit.)
- Percent who screened positive
- Percent who screened positive and were offered integrated services
- 3rd next available appointment—behavioral health and primary care
- Number of patients seeing a primary care provider (or behavioral health provider)
- Number of primary care contacts
- Length of time to follow through on behavioral health appointments (or primary care appointments)
- Percent offered behavioral health services who had a behavioral health visit (also called referral conversion)

Care Processes

- Continuity (seeing the same provider for each visit)
- Engaging in health behavior change (for diabetic patients specifically)
- Percentage of smokers who have contact with a behavioral health provider
- Engagement duration (length of time in integrated services)
- Number of integrated care plans initiated
- Percent of patients with a follow-up visit after psychiatric hospitalization
- Percent of integrated care plan goals met
- Number of patients offered naloxone rescue kits
- Number of patients offered medication-assisted therapy for alcohol use disorder and opiate use disorder
- Number of patients with substance abuse disorders receiving motivational interviewing

Cost

- Number of billed warm hand-offs
- Percent of successful prior authorizations

Productivity

- Average number of visits per week by provider type

Other

- Resource needs by type (e.g., housing, transportation, utility assistance)

OUTCOME DATA

Behavioral Health

- PHQ-9 scores over time
- GAD-7 scores over time
- PTSD Checklist scores over time
- AUDIT scores over time
- My Mood Monitor (M-3) Checklist scores over time

Chronic Disease

- A1c levels for diabetics with depression
- Change in color code (red, yellow, green) for people with asthma and depression (red meaning urgent concern, yellow meaning potential concern, and green meaning no worry)
- Relationship between behavioral health contacts and health outcomes (e.g., does being enrolled in integrated care services have an effect on health outcomes, such as A1c, readmissions, etc.)
- SAMHSA National Outcome Measures data: blood pressure (quarterly), body mass index (quarterly), waist circumference (quarterly), breath carbon monoxide (quarterly), plasma glucose (fasting) and/or A1c (annually), and lipid profile (annually)—biomarkers for obesity, diabetes, hypertension, hyperlipidemia, and hypercholesterolemia

Functional

- European Quality of Life Score

Cost

- Estimated savings in emergency department use, based on the average cost of an ED visit
- Total medical expenses per patient per month in a control group versus the intervention group (based on claims data)

Other

- Healthy Lives 5-Axis Measure—health-related functioning, service utilization, access to health care, basic needs (social determinants of health), and patient activation (developed by Brookline Community Mental Health Center)
- Improvement in Minnesota Tiering Tool Score over time
- Patient satisfaction

APPENDIX 3: PROFILES OF GRANTEE ORGANIZATIONS

BOSTON HEALTH CARE FOR THE HOMELESS PROGRAM (BHCHP)

Location: Boston, MA (BMC Campus Clinic)

Primary and Secondary Populations Served:

Homeless men, women, and children with high rates of behavioral health disorders, mental illness, and substance use disorders; formerly homeless people who have progressed into transitional, permanent, and supportive housing programs.

Key Staff and Roles:

- **Leadership Team:** Establishes an effective and efficient model of integrated care, provides direction and insights in formulating interventions and removing barriers to care:
 - **Medical Director:** Supervises the medical practice of physicians, nurse practitioners, and physician assistants, and a leading voice in efforts to end chronic homelessness.
 - **Medical Director for Behavioral Health:** Oversees psychiatry across all clinical sites, and practices at the BMC Campus.
 - **Chief Medical Officer:** Focuses on measuring and improving the quality and value of clinical services.
 - **Director of Behavioral Health:** Oversees all behavioral health services and programs provided to patients.
 - **BMC Campus Medical Director:** Patient-centered medical home (PCMH) physician champion and promoter of innovation in care delivery among clinical staff.
- **Interdisciplinary Teams:** These teams are each responsible for a panel of patients, and all begin their day with a joint huddle. The teams consist of a group of primary care providers, a psychiatrist, a therapist, two nurses for complex care management and outreach, two case managers, and a medical assistant.
- **Master's Level Behavioral Health Therapists:** Reintegrated open-access time slots in their schedules to improve access to behavioral health care for patients in urgent need or those who struggle to attend scheduled appointments.
- **Data Analysts and Reporting Systems Staff:** Seven staff members in the IT department create new fields and reports.

Key Program Activities:

- PCMH Level 3 recognition received in 2013. Teams developed include behavioral health clinicians located alongside primary care providers. Communication across disciplines has increased significantly due to daily team huddles, weekly case conferencing, and monthly all-clinic meetings.
- Shifted to providing open-access appointments for behavioral health. Providers are able to see an increased number of new patients, meet with patients when their needs present, and quickly ascertain needs for crisis intervention, one-time services, or engagement in ongoing therapy or primary care.
- To address the impact of opioid use disorder, the clinic developed an integrated primary care team dedicated to serving a panel of patients who have a recent history of overdose, set a process goal of prescribing naloxone rescue kits to all patients, and have 13 physicians newly board certified in addiction medicine who are licensed to prescribe Suboxone.
- The clinic expanded the use of integrated care plans and regular case conferencing among the team for the most complex patients. The plans provide a centralized place where each member of the primary care team can view patients' core goals and are used to facilitate case conference conversations. BHCHP also integrated a shared behavioral health note into the EMR, which allows physicians, nurses, and medical assistants to view important behavioral health information while maintaining patient privacy.

- BHCHP expanded the hours of the BMC Campus Clinic to operate 16 hours per day (7 a.m. to 11 p.m.), in order to address the needs of a growing number of patients who seek after-hours care. Behavioral health providers are not yet staffing the extended evening hours. However, there is an effort to engage patients who visit the clinic during the evening hours in integrated care during the day, if they do not do so already.

Data Metrics Tracked:

Access

- % of patients receiving both primary care and behavioral health services
- # of patients screened for depression

Quality Metrics

- % of patients with diagnosis of opioid use disorder receiving medication for opioid use disorder
- % of patients with diagnosis of alcohol use disorder receiving medication for alcohol use disorder
- % of patients with substance use disorder counseled regarding psychosocial and pharmacologic treatment options
- % of patients with opioid use disorder or history of overdose or active prescription for an opioid who are prescribed or offered a naloxone rescue kit
- % of patients 18 or older screened for generalized anxiety disorder using the GAD-2/7

Outcomes

- Trends in how patients score on functional assessments
- Integrating modified GAD tool to gauge improvement in patients' anxiety symptoms

Sample Outcomes:

- Percentage of patients 18 or older screened for generalized anxiety disorder using the GAD-2/7 between 7/7/2015 and 9/30/2015: 36% (406/1134)
- Between 1/1/2015 and 12/31/15, 1,092 of 1,849 patients (59%) at the BMC Campus Clinic were screened for depression using a PHQ-2, PHQ-9, or PHQ-A and, if screened positive for depression, have a documented follow-up plan.
- For Enhanced Care Patients who have been seen within the BMC Campus Clinic between 1/1/2015 and 12/31/2015, 163 of 188 (87%) have a documented integrated care plan.
- For outcomes measures that were newly introduced in calendar year 2015:
 - Percentage of patients with diagnosis of opioid use disorder receiving medical therapy (Suboxone, methadone, or naltrexone) for opioid use disorder: 42% (533/1,279)
 - Percentage of patients with opioid use disorder or history of overdose or active prescription for an opioid who are prescribed or offered a naloxone rescue kit: 30% (513/1,732)

Lessons Learned and Accomplishments

- Enhanced communication across disciplines within the integrated care teams, through integrated care plans, morning huddles, case conferencing, and monthly risk rounds has been extremely beneficial. All members of the care team play an active role in achieving each patient's health goals, including ensuring access to preventive services, such as depression screenings and caring for patients with substance use disorders.
- Due to the success of the program, two of BHCHP's shelter-based clinics have adopted the tenets of this model and submitted for NCQA Level 3 PCMH recognition.⁶
- An adaptable and robust EMR allows for the development of new forms and prompts, enabling the team to regularly address key outcome measures and to develop new methods to evaluate the impact of services. BHCHP added new quality measures to determine effectiveness in addressing primary care and behavioral health needs, using both internally developed measures and standardized quality metrics set forth by entities such as the National Committee for Quality Assurance and the American Society of Addiction Medicine.

6 BHCHP received NCQA recognition in 2016, following the end of the grant period.

BROOKLINE COMMUNITY MENTAL HEALTH CENTER (BCMHC)

Location: Brookline, MA

Primary and Secondary Populations Served:

Patients with severe and persistent mental illness (Healthy Lives Program).

Key Staff and Roles:

- **Project Director:** Psychiatrist who provides clinical and administrative leadership.
- **Project Manager:** Nurse (RN) who provides direct patient care and clinical coordination in addition to project management. This work includes oversight of health outreach workers and serving as a primary liaison to Beth Israel Deaconess Medical Center (BIDMC) and Bowdoin Street Health Center primary care practices.
- **Care Coordination and Case Management:** Health outreach workers are trained by the project director and project manager to provide outreach, care coordination, and case management. They identify resources needed by patients and actively connect them with programs. They also provide health and wellness coaching and education.
- **BIDMC Clinical Champion:** The primary care physician champion is the liaison between the behavioral health team at BIDMC and primary care providers. As part of the clinical team, he evaluates potential referrals to the program, facilitates communication between primary care physicians and the Healthy Lives Program, and supports program planning and implementation.
- **Bowdoin Street Health Center Clinical Champion:** The behavioral health department director for Bowdoin Street is the project manager and liaison between the primary care team at Bowdoin Street and the behavioral health team at BCMHC.
- **Research Assistant:** A research assistant at BIDMC provides data support and data review of the clinical patient registry.

Key Program Activities:

- The program has been successful in engaging complex and challenging patients and ultimately in seeing improved health outcomes for this population. In particular, for patients with co-occurring substance use and homelessness, a key accomplishment is supporting them in securing stable housing.
- The program has established, grown, and solidified relationships between Brookline Community Mental Health Center, BIDMC, and Bowdoin Street Health Center.
- The program has refined and piloted the Healthy Lives 5-Axis Scale, an anchored scale that looks at five key dimensions: health-related functioning, service utilization, access to health care, basic needs (social determinants of health), and patient activation.
- The Healthy Lives Scale has been further refined and tested (including inter-rater reliability) in a broader population through partnership with BIDMC's post-acute care team.

Data Metrics Tracked:

Access

- Patient engagement: % of referred patients who engage in the program
- Frequency of contact with enrolled patients

Outcomes

- # of ED visits per year
- # of inpatient admissions per year
- % of scheduled primary care visits attended
- Blood pressure (for those with hypertension)
- HbA1c (for those with diabetes)
- Patient satisfaction as measured by % who say “yes” they would recommend the program to a family member or friend

Sample Outcomes:

- 86% of referred patients enrolled.
- Patients engaged on average for 10 months, with more frequent contact in early months and more intermittent contact in later months.
- Average ED visits declined from 4.8 to 3.2 in the 12 months pre- versus the 12 months post-intervention.
- Average inpatient admissions declined from 3 to 2.4 in the 12 months pre- versus the 12 months post-intervention.
- 80% of patients improved primary care attendance.
- 86% of patients improved their blood pressure.
- 91% of patients would recommend the program to a family member or friend.

Lessons Learned and Accomplishments

- The Healthy Lives Program recognizes that the patient’s goals and priorities are equally important as the goals of the primary care physician and behavioral health provider. To engage patients effectively, the staff has found that it is important to identify short-term “wins,” or opportunities for success in meeting patient-defined goals, within two to four weeks.
- Electronic information sharing and access to medical records by all members of the care team is essential to timely and effective communication.
- The key strategies the program employs for relationship building with primary care providers include accompanying patients to visits to support a productive visit for patient and provider, following through reliably, and achieving positive outcomes for the most complex patients.
- Healthy Lives Program staff have also informed state-level policy reform through participation in a task force to support payment reform in behavioral health and the Health Policy Commission’s behavioral health integration initiative.

CAMBRIDGE HEALTH ALLIANCE (CHA)

Location: Cambridge, MA

Primary and Secondary Populations Served:

At-risk youth in greater Boston up to age 21, a culturally and linguistically diverse population primarily (80%) insured by Medicaid.

Key Staff and Roles:

- **Child Psychiatrist and Principal Investigator** is the project lead and supports delivery of integrated clinical care at the Windsor Street Pediatrics Clinic. She is an attending physician who jointly supervises child psychiatry fellows and pediatric residents in the project-sponsored outpatient consultation-liaison rotation at the clinic.
- **Family Support Specialists** bring lived experience as caregivers of children with special mental health needs to their interactions with both clinicians and families. They participate from the outset in initial family assessments, interview caregivers individually and together with the child mental health clinicians, and coordinate information gathered with the other team members. They also provide culturally informed guidance and provide outreach by phone or through home visits.
- **Chief of Pediatrics** acts as the liaison to all primary care staff impacted by the project. He also provides training and joint supervision in collaborative practice to both the pediatric residents and the child psychiatry fellows. As a CHA medical director, he champions the project and the value to be gained from the outcomes studies.
- **Primary Care Providers** belong to pediatric and family medicine practice teams, work within CHA's Windsor Street clinic, and access consultation as needed to deliver care collaboratively with the child psychiatrists and family support specialists.
- **Child Psychiatry Supervisor** helps to provides training and supervision of child psychiatry fellows, to ensure acquisition of core child psychiatry skill sets, including principles of consultation-liaison, in collaboration with the project lead, during the fellows' child psychiatry integrated care rotation.

Key Program Activities:

- Developed system for rapid access to comprehensive child and family mental health evaluation and consultation, as well as initiation of brief treatment, when needed, in the pediatric clinic setting.
- Piloted a system for ongoing treatment referrals that involves fewer delays, fewer hand-offs, and more customized service delivery to enhance engagement.
- Supported pediatricians in furthering skill acquisition in diagnostic assessment and specified treatment options for pediatric patients with mental health/substance use needs.
- Shifted away from reliance on grant-funded child psychiatry and family support specialist teams to model the provision of integrated care for children, toward hospital-funded expansion of co-located child mental health resources in the final two quarters of 2015.
- Transformed its traditional referral and evaluation practice so that integrated care can now be delivered to children and families within primary care. Being able to have child mental health evaluations delivered in the comfortable, familiar setting of the pediatric clinic supports trust and openness with sharing information. This, in turn, results in more efficient and accurate assessment and supports individualized treatment recommendations, with greater likelihood of follow-up.

Data Metrics Tracked:

Access

- Demographic characteristics of participants
- No-show rate for mental health evaluations, among participants and control group youth
- Treatment engagement; rates of follow-up with recommendations for pilot participants versus other CHA children and families

Outcomes

- # of emergency room visits per child, pre- and post-participation
 - ER utilization expense for Network Health patients participating in the pilot program
- Total medical expense for patients participating and controls
- Parent care experience
- Primary care provider satisfaction
- Trainee experience (pediatrics and child psychiatry)

Sample Outcomes:

- Among children enrolled in Network Health and in the pilot who have had ER use, the mean number of ER visits per child dropped from 2.2 visits per child in the year before the intervention to 0.75 ER visits per child in the year after the intervention.
- Demographic characteristics of the 154 participants were as follows:
 - Language: 52% English, 44% Spanish, and 4% Haitian Creole
 - Race/ethnicity: 54% Hispanic, 22% white, 20% black, 4% other
 - Gender: 60% male, 40% female
 - Age:
 - 3–5: 14%
 - 6–11: 35%
 - 12–13: 16%
 - 14–17: 19%
 - 18–21: 16%

Lessons Learned and Accomplishments

- In surveying child and adolescent psychiatry fellows and pediatric residents who participated in the program, CHA found that all trainees have chosen post-training work in an outpatient consultation-liaison setting or plan to deliver some version of collaborative practice.
- In a large, complex organization such as CHA, it was challenging to coordinate this integration initiative for children with other practice transformation initiatives and priorities for adults.
- Unrelated, larger CHA program transitions, such as clinic schedules that changed from one day to the next, were difficult for the small pilot team to accommodate. Unlike community health clinics that might pull staff from one project and send them to another, with some internal capacity to cross-cover as needed, the CHA pilot was outside the core line of business and included unique roles, filled by part-time people—so a change in days of the week could create gaps in project personnel (such as with the family support specialists) that were often hard to fill. The establishment of infrastructure to support recruitment and training of staff in the family support role is still nascent in the organization, partly due to restricted reimbursement for family support services on the part of insurers.
- CHA collected data on all patients who participated in the pilot, as well as on a control population of CHA youth who were not involved in the pilot, in order to compare demographics and assess trends in patient outcomes. CHA was unique among the grantees in also being able to obtain direct paid claims expense data (not billed amounts or inferred expense) for all Medicaid members who were enrolled in Network Health.

COMMUNITY HEALTH CENTER OF CAPE COD (CHCCC)

Location: Mashpee, MA (primary location) — with satellites in Bourne and Falmouth, MA

Primary and Secondary Populations Served:

Complex patients with comorbidities and uncontrolled chronic disease, at risk for hospitalization, with frequent emergency or urgent care utilization, and/or other factors according to the CHCCC's risk stratification tool.

Key Staff and Roles:

- **Executive Director and Chief Medical Officer:** These executives provide vision, oversight, and leadership in transition to a new model of integrated behavioral health, including a risk stratification tool to identify highest risk patients.
- **Patient Care Team:** Care teams consist of a primary care provider, nurse, medical assistant, clinical administrator, behavioral health clinician (LCSW), and complex care manager when a patient's risk status so indicates.
- **Complex Care Managers (CCMs):** CCMs are registered nurses who work closely with the patient and coordinate the patient care teams to develop integrated care plans for complex patients (as determined by CHCCC's risk stratification tool). CCMs also run prevention and wellness group sessions in the community.
- **Psychiatrists:** Each provides consultations to several patient care teams.
- **Data Analyst:** This specialist develops monitoring and outcomes reports used for quality improvement.
- **Community Health Worker:** This staff member works directly with the patient care teams and helps facilitate referrals and connections with external community resources.

Key Program Activities:

- Developed and implemented a risk stratification system using an adaptation of the Minnesota Tiering Tool to identify highest risk populations for complex care management.
- Implemented a shared care plan (medical, behavioral health, and other disciplines) and progress note within CHCCC's new EPIC electronic medical record.
- Improved patient and family engagement through training staff on the Stanford Chronic Disease Self-Management (SCDSM) Program.
- Implemented an "e-referral" system to connect patients to community-based wellness services, extending their ability to self-manage toward health goals outside the health center.
- Augmented the capacity of integrated care teams to enhance patient communication and improve community-based referrals through hiring a community health worker.
- Engaged with the Massachusetts League of Community Health Centers' Data Reporting and Visualization System, a resource to monitor outcomes and benchmark against other community health centers across the Commonwealth.
- Increased capacity to organize, abstract, and use data for quality improvement by hiring a data analyst.
- Trained staff in solutions-based therapy as a means of "speaking and documenting the same language" with patients and within the health record.

Data Metrics Tracked:

Access

- % of patients with completed risk stratification assessments and scores
- % of patients with integrated care plans
- # and type of encounters with complex care manager or other patient team members
- % of patients referred to complex care management who have identified self-improvement goals

Outcomes

- % of patients with improved outcomes in relation to screening and self-identified goals
- M3 (behavioral health screening) trend toward improvement
- Rate of ER utilization
- Rates of hospitalization and rehospitalization
- Patient satisfaction/experience

Financial

- Cost per patient (may include hospitalization when available)
- Cost per visit

Sample Outcomes:

- 700 patients risk-stratified for complex care management
- Enrolled over 200 patients in complex care management

Lessons Learned and Accomplishments

- Risk stratification and complex care management were new initiatives. It was critically important to spend time on developing appropriate work flows for all tasks and developing job descriptions to ensure that everyone was aware of roles and responsibilities.
- It was important to have an organizational shared vision and organizational leadership to manage challenges associated with rolling out a new program. Equally important is the focus on quality improvement through running Plan, Do, Study, Act cycles—e.g., to determine the best work flow to introduce the risk stratification tool.
- The ability to incorporate screening tools within the EMR system and the ability of CHCCC's EMR to "push" data to individual provider dashboards facilitated work flows and quality improvement processes.
- Staff are finding that patients like complex care management and anticipate a potential challenge as to how to off-board patients from this service.
- Patient care teams huddle daily and meet at least monthly to review outcomes, barriers, and goals—another important aspect of quality improvement.
- Having a dedicated data analyst has been critical for being able to capture and use data for quality improvement.

CENTER FOR HUMAN DEVELOPMENT (CHD)

Location: Holyoke and Springfield, MA

Primary and Secondary Populations Served:

People with serious mental illness and chronic disease, targeting those with diabetes, pre-metabolic syndrome, and cardiovascular disease.

Key Staff and Roles:

- **Project Director:** A researcher-practitioner leads the project and participates in the local hospital high-utilizer task force.
- **Project Manager:** The project manager supervises care managers and is responsible for quality assurance and quality improvement.
- **Care Managers:** Licensed clinical social workers provide intensive care management.
- **Nurse Practitioners:** Clinical providers from Holyoke Health Center and Caring Health Center provide on-site medical care at the Center for Human Development.
- **Evaluation Partner:** The Center for Addiction Recovery led a cross-site analysis of four SAMHSA-funded program in Massachusetts.

Key Program Activities:

- Provision of on-site medical management is supported by wellness programming, advocacy, and health education to individuals with serious mental illness participating in adult mental health treatment programs.
- The Partner Self-Assessment (PSA) is a tool for assessing the degree of behavioral health/primary care integration and was implemented to understand how measures of integration may vary between the CHD sites.
- Wellness programming, including chronic disease self-management, yoga, nutrition, dance, and massage are available on-site at the clinics. Supportive home visits by peer specialists and community health workers are also available.
- Behavioral health services, substance abuse treatment, psychotherapy, and primary care are all key services. Care managers facilitate communication between the primary care providers and psychiatric prescribers. They are the hub of the operation and are able to transfer data from one EMR and the other.
- Some patients say that they are more comfortable receiving care at CHD, as they are more familiar with the staff, and the environment can be less chaotic than in other offices. Care managers are there to welcome them and talk about other things going on in their lives. The care provided is consistent, which is important for CHD's patients.

Data Metrics Tracked:

Access

- Services received

Outcomes

- Blood pressure
- BMI
- Waist circumference
- Breath carbon monoxide
- Plasma glucose (fasting)
- HbA1c
- Lipid
- Perception of care
- Functioning
- Stability of housing
- Education and employment
- Social connectedness

Sample Outcomes:

- Outcomes were analyzed for CHD and three other SAMHSA-funded programs using BCBSMA Foundation funding for further evaluation.
- Physical health outcomes did not show significant declines for the four SAMHSA-funded programs over a 12-month period.
- Mental health outcomes showed improved mental health functioning across most measures for three of the four programs. The measures that showed improvement included nervousness, restlessness, depression, and feelings of hopelessness.

Lessons Learned and Accomplishments

- The staffing model is very important. Medical providers in mental health settings need more time per visit than the traditional 15 minutes. Providers need time to be able to just sit down with patients, practice active listening, and let the patient guide the visit.
- Better reimbursement is needed for the essential care management function.
- Without connected electronic record systems, the care manager must spend a lot of time transferring information between providers.

COMMUNITY HEALTHLINK, INC. (CHL)

Location: Worcester, MA

Primary and Secondary Populations Served:

Adults with serious mental illnesses who attend CHL's outpatient mental health and substance use clinics in Worcester.

Key Staff and Roles:

- **Chief Medical Officer:** Serves as project director, as well as psychiatric consultant to the wellness clinic.
- **Primary Care Providers:** One internal medicine physician (1 day/week) and one nurse practitioner (2 days/week) provide primary care in the wellness clinic (4 rooms located in the outpatient mental health and addiction treatment clinic).
- **Nurse Case Manager:** Develops individual wellness plans, including nutrition, activity, and smoking cessation; supports coordination among providers; and conducts educational/support groups for patients.
- **Peer Support Worker:** Assists patients with motivation and wellness activities, and helps with educational/support groups for patients.
- **Medical Assistant/LPN:** Works with the primary care providers to room patients, take vitals, perform initial medication reconciliations, and get records from other providers.
- **Data Analyst:** Added in Quarter 4 to help support data collection, registry development, and reporting in the new EMR.

Key Program Activities:

- Won a workforce training grant to train the entire workforce (administration, management, and behavioral health and primary care clinical staff) in the tenets of integrated care. This training was provided by the National Council for Behavioral Health. A second wave of training focused on specific tasks involved in establishing integrated care processes and on cultural diversity; this training lasted several months.
- New integrated processes were put in place: (1) As of Quarter 3, all treatment plans in the behavioral health clinic were required to have a medical goal, and each primary care patient was evaluated for substance use issues and depression at every visit. (2) As of Quarter 4, administrative staff were reorganized to support both behavioral health and primary care services, in terms of check-ins, appointment scheduling, and referral scheduling.
- During the grant period, CHL converted its EMR to E-Clinical Works. PMG, Inc., was hired to perform a data audit over concerns that data had not been keyed into the old system consistently (audit results will be used for future training). CHL also hired a data analyst to pull data, check data quality, and create registries and reports.

Data Metrics Tracked:

Access

- New enrollments in the wellness clinic

Outcomes

- Improvements in physical health
- Improvements in psychological stress

Operational

- # of patients screened for metabolic syndrome

Sample Outcomes:

- Enrollment in the wellness clinic was approximately 437 people at the start of the grant year and was approximately 562 people at the end of the year, a net growth of 125 people, or 29%.
- Approximately 40 new enrollments occurred each quarter (except Quarter 2, when there were only 6 enrollments, due to the loss of a primary care provider).

Lessons Learned and Accomplishments

- Realized that training is crucial for all staff to understand integrated care; training has to be in-depth and takes time (several months). Similarly, hiring staff who were amenable to integrated care required making changes to how candidates were interviewed. A new primary care doctor was hired during the course of the project.
- Recognized that data collection requires a compatible electronic medical record (switched to E-Clinical Works), training of staff on how to enter information consistently, and having data analytic staff to ensure data quality and the usability of the information (for quality improvement and population health management).

DIMOCK COMMUNITY HEALTH CENTER

Location: Roxbury, MA

Primary and Secondary Populations Served:

Primary populations are adults seen in internal medicine and children seen in pediatrics; secondary population is women receiving prenatal care in ob-gyn department.

Key Staff and Roles:

- **Director of Behavioral Health Integration:** Psychiatrist and pediatrician responsible for overall vision of integrated care services.
- **Quality Improvement Lead:** Physician dedicated to identifying the metrics and methods for measuring the clinical, operational, and financial aspects of the integrated care project.
- **Medical Director of Health Services:** Physician building clinical and organizational support for integrated programs.
- **Medical Social Worker:** Clinician conducting warm handoffs and intakes, providing appropriate triage, and facilitating rapid access to care.
- **Behavioral Health Providers:** Social workers and licensed mental health clinicians integrated into the adult, pediatric, and obstetric medicine clinics. These staff provide short- and long-term behavioral health treatments.
- **Resource Coordinators:** Community members/layperson staff who support patients in accessing community resources through the Health Leads Reach software.
- **Family Partners:** Peers supporting patients in completing social and behavioral health self-assessments and with patient navigation.

Key Program Activities:

- Improved screening rates by integrating electronic PHQ-9 depression screening into EHR.
- Hired and trained resource coordinators/family partners to improve resource coordination and patient engagement through peer support.
- Identified and trained bilingual peer specialists to assist with the PHQ-9 and serve as patient advocates.
- Improved population health management registries.
- Built teams, conducted mentorship, and redesigned space to further the integration of the adult medicine behavioral providers with the medical team.
- Trained behavioral health providers on the EHR.
- Facilitated improved communication between primary care and behavioral health providers.
- Used a patient portal paired with family partners in the waiting room to have patients complete behavioral health screens online.
- Centralized prior authorizations with a referral coordinator for both behavioral health and medical patients in each clinic for financial sustainability of the program.

Data Metrics Tracked:

Access

- # of warm handoffs billed after positive screen
- Time to first appointment and # of appointments kept after positive screen and warm handoff
- Visits per week for adult and pediatric behavioral health therapists

Outcomes

- % of eligible visits with a recorded behavioral health screen (ob-gyn, pediatric, and adult medicine)

Operational

- # of patients screened positive for at least one resource need
- % of resource requests resolved

Financial

- % of successfully completed prior authorizations
- # of claims denied

Sample Outcomes:

- 233 out of 1,453 pediatric patients (16.0%) seen by behavioral health providers; 100% seen for therapy and 27.5% seen in psychiatry.
- 342 out of 2,206 adult medicine patients (15.5%) seen by behavioral health providers; 89.8% seen for therapy and 51.2% seen in psychiatry.
- Pediatric visit volume: 1,138 therapy and 118 psychiatry visits, for an average of 4.8 therapy visits/child and 1.8 psychiatry visits/child.
- Adult visit volume: 1,141 therapy and 313 psychiatry visits, for an average of 3.3 therapy visits/adult and 1.8 psychiatry visits/adult.
- Out of 302 eligible ob-gyn visits, 215 screens (71%) were completed.
- 8 of 273 parents self-reported drug use (2.9%), 7 of 332 (2%) patients self-reported domestic violence.

Lessons Learned and Accomplishments

- Sufficient IT staff time during the planning and implementation phases and dedicated staff for data reporting are important to ensure that data collection is consistent and reporting is effective for rapid cycle improvement.
- Renovation of space helped the adult medicine and ob-gyn practices to integrate successfully by allowing the behavioral health clinicians to become an integrated part of the primary care team and by greatly enhancing communication.
- Resource coordinators/family partners have been essential to Dimock's program. A narrowly defined scope, including support with transportation, utility payments, and health benefits, in adult medicine has allowed them to serve a larger population. Data reported shows that resolution of requests is on target for all the resource coordinators/ family partners in adult medicine and pediatrics.
- Using a patient portal for behavioral health screening combined with support from family partners is a unique component of the program's approach, and it has the potential to enhance the screening experience and access to behavioral health services.
- Centralizing prior authorizations with a referral coordinator for both behavioral health and medical patients in each clinic has improved the use of appropriate codes and processes to maximize reimbursement.
- As primary care providers have improved behavioral health screening rates and begun to feel comfortable with behavioral health referrals, wait times for behavioral health clinical intakes in adult medicine have been increasing. As a result, both behavioral health clinicians and the adult psychiatrist are overbooking to meet patient needs. Dimock plans to hire an additional psychiatrist to meet patient demand.

LYNN COMMUNITY HEALTH CENTER (LCHC)

Location: Lynn, MA

Primary and Secondary Populations Served:

Low-income minority immigrants and refugees; limited-English-speaking populations that experience high rates of behavioral health problems and face significant barriers to accessing care; patients with substance use disorders (heroin in particular), chronic disease burden, serious mental illness, and depression.

Key Staff and Roles:

- **Executive Director:** Champions integration at LCHC and pursues sustainability and advancement of the model.
- **Chief Behavioral Health Officer and Chief Medical Officer:** Shared responsibility for implementation of the integration model; chair monthly organization-wide integration meetings.
- **Lead Behavioral Health Clinicians:** Provide leadership to the five integrated care teams at 269 Union Street and guide implementation of the model (1/2 day per week protected time).
- **Quality Improvement Integration Project Manager:** Standardizes work flows, provides coaching on integration processes.
- **Data Analysts:** One analyst develops quality improvement and population health management reports from the new EPIC EMR (and trained staff to run reports) and another analyst was hired for more complex programming (e.g., for registries).
- **Quality Improvement Integration Assistant:** Organizes focus groups, conducts patient and staff surveys, and does data entry.

Key Program Activities:

- Screening, Brief Intervention, and Referral to Treatment successfully implemented in three integrated care teams. Universal screening conducted using DAST, Audit-C, and PHQ-2 and PHQ-9.
- Converted from NextGen integrated EMR to EPIC integrated EMR to improve ability to evaluate the impact of integrated care and support universal care planning. Hired a director of decision support and two data analysts to support report writing and registry development, train providers on developing their own reports, and monitor data integrity.
- Implemented a universal care plan in EPIC; a multidisciplinary team (clinical oversight group) was charged with creating the specific components of the plan, standards for use, and training staff on using the universal care plan.
- The quality improvement integration project manager developed standardized work flows for integrated care. Multidisciplinary teams at management and clinical levels met regularly to ensure implementation of the new work flows and to continually clarify roles and responsibilities.
- A newly formed quality and business improvement committee has implemented a business intelligence solution that uses claims data to identify and analyze high-risk, high-cost patients and/or conditions, and can report costs by provider.

Data Metrics Tracked:

Access

- # of warm handoffs
- # of PHQ-2 screens completed

Outcomes

- # of patients with diabetes or hypertension
- # of patients with A1c in 7–9 range, >9 range
- # of patients with blood pressure >130/85, no blood pressure measure in past year

Operational

- Of those with a positive PHQ-2, % with an appointment within one month
- # of patients and visits by type of service (individual therapy, psychopharmacology, group therapy)

Sample Outcomes:

- There were approximately 140 warm handoffs per quarter.
- The rate of PHQ-2 screening increased from 6,510 patients in the 1st quarter to 10,581 patients in the 4th quarter. The screen positive rate ranged from 7% to 11% each quarter.
- Each quarter, there were over 8,000 visits (>3,000 patients) for individual therapy, over 4,000 visits (>2,000 patients) for psychopharmacology, and over 1,500 visits (>300 patients) for group therapy.
- Between 20 and 90 clients with diabetes or hypertension were seen by an integrated behavioral health provider in each of the first 3 quarters. In the 4th quarter, the numbers were much higher: 132 for diabetes and 225 for hypertension.

Lessons Learned and Accomplishments

- The standardization process takes time. In addition to work flow redesign, it involves ongoing review of roles and responsibilities, training, conversations about definitions of terms, and developing shared language (e.g., for shared treatment planning).
- The data analytic support required to maximize use of the EMR for assessing impact of integrated care, for quality improvement, and for population health management is substantial.
- During the transition to EPIC, Lynn recognized it is hard work to consistently record all elements in the right place. In response, work flows and data entry standards were created and all staff trained.

UNIVERSITY OF MASSACHUSETTS (UMASS) MEMORIAL HEALTH CARE

Location: Barre and Worcester, MA (Barre and Hahnemann Family Health Centers)

Primary and Secondary Populations Served:

Economically disadvantaged complex patients.

Key Staff and Roles:

- **Director, Center for Integrated Primary Care:** The center provides leadership and training across UMass and to external parties related to integrated care; for this grant, the director provides leadership and vision.
- **Lead Behavioral Health Clinicians:** Train and supervise depression care managers; are members of integrated care teams.
- **Depression Care Managers (DCMs):** Medical assistants (at Barre) and a licensed clinical social worker (at Hahnemann) act as DCMs; they reach out to and track patients with depression using the depression registry.

Key Program Activities:

- Built Depression Care Management Registry, which facilitates patient outreach.
- Hired DCMs and trained them in the IMPACT model, as well as outreach techniques to track patients in the depression registry.
- Established criteria for inclusion in the registry as patients with an active diagnosis of depression (from EMR) or patients with a PHQ-9 score greater than or equal to 15.
- Enhanced the utility of the depression registry by transitioning from Excel to Tableau. Tableau updates weekly and provides the DCMs with a more user-friendly format. It presents a quick snapshot of critical data, extracted from the EMR, and saves time compared with mining all of this information from patients' charts.
- Refined algorithms for the DCMs that prioritize patients for contact as follows: 1) patients with a recent diagnosis of depression without a subsequent follow-up encounter, 2) patients with no planned follow-up, and 3) patients with worsening PHQ-9 scores at follow-up.
- Planned for a Web-based registry to be established, which will further enhance the utility of the registry (will occur after completion of the grant).

Data Metrics Tracked:

Access

- # of patients in registry
- # of new depression diagnoses in past 6 months
- % still in need of depression assessment
- % with last PHQ-9 more than 12 months ago
- % screened
- % screened positive
- % who screened positive and were offered behavioral health services
- % of those offered behavioral health services who accepted

Outcomes

- Patient stress questionnaire (includes PHQ-9, GAD-7, AUDIT, and PTSD)
- A1c levels among PHQ-9 positive patients
- Asthma levels among PHQ-9 positive patients
- Patient satisfaction

Operational

- No-show rates
- Time to next available appointment
- # of new vs. existing patients
- Outreach rates
- Cancellations

Sample Outcomes:

- 94% of patients in one quarter agreed to statement: “care provider listened carefully to your questions and concerns.”
- 93% of patients in one quarter agreed to statement: “care provider explained things in a way that was easy to understand.”
- 34% no-show rate for behavioral health over approximately an 8-month period, with a 68% “fill” rate of these no-show appointments.

Lessons Learned and Accomplishments

- While gaining agreement to the concept of a registry was not overly difficult, it was hard to find time in busy schedules to decide on the details of a depression registry, frequency of reports, and who would need to access collected data.
- Training on the patient outreach component was essential. There is more sensitivity to reaching out to patients with depression than to patients with other chronic disease. For example, the DCMs needed to be trained on crisis management, including how to manage suicidal ideation.
- DCMs reported that engaging patients who may be resistant to care, which is sometimes inherent with depression, was the most challenging aspect of this work.
- Phone-based care management for depression is challenging, with many patients not answering the phone or phone numbers changing. Less than 25% of calls made by the DCMs reached the patient.
- It is important to allocate protected time for staff training. The medical assistants, especially, were often called away from training to cover clinic practices.
- UMass was able to draw on rich in-house resources that facilitated the building of the registry, including the UMass Memorial Information Systems team and the Office of Clinical Integration, both with knowledge of the EMR and experience in building specialty registries and reports.
- The registry highlighted variability in provider practices in depression management (e.g., follow-up plans after initial depression medication), informing future needed trainings in the health centers.

VINFEN CORPORATION

Location: Cambridge, MA

Primary and Secondary Populations Served:

People with psychiatric conditions, intellectual and developmental disabilities, brain injuries, and behavioral health challenges.

Key Staff and Roles:

- **Vinfen President and CEO:** Serves as the principal investigator of the larger, multi-agency (Vinfen, Dartmouth College, Commonwealth Care Alliance, Brookline Community Mental Health Center, North Suffolk Mental Health Center, BayCove Human Services, and Bosch) project funded by the Centers for Medicare and Medicaid Innovation, of which this BCBSMA Foundation project is a part.
- **Project Manager:** Oversees project, provides supervision, and coordinates with partner organizations.
- **Project Trainer:** Supports workforce development, including training and support on Integrated Illness Management and Recovery curriculum.
- **Community-Based Flexible Support Teams:** Consist of clinical and nonclinical staff providing rehabilitation and recovery outreach services.
- **Health Outreach Workers and Nurse Practitioner Teams:** Nurse practitioners, in partnership with Commonwealth Care Alliance, embedded in community-based flexible support teams provide clinical care management, primary care, and urgent episodic care in the community. Health outreach workers support the nurse practitioners and provide self-management skills building to clients, train and support clients in use of telehealth (Health Buddy system), and support the Integrated Illness Management and Recovery (IIMR) curriculum.
- **Evaluation and Outcomes Coordinator:** Works with nurse practitioners and primary care providers to collect and assess clinical and qualitative data and obtains informed consent from project participants to share information.
- **Dartmouth Research Staff:** Collect and analyze data from all participating agencies for the Centers for Medicare and Medicaid Innovation grant.

Key Program Activities:

- Fielded health outreach workers and nurse practitioners to provide primary care, coordinate clinical care management, and support the development of self-management skills for clients struggling with severe mental illness and/or other challenging behavioral health conditions.
- Trained and supervised staff in the delivery of the evidence-based IIMR curriculum to clients.
- Encouraged and trained clients to use Health Buddy, a telehealth home monitoring and educational device for better self-management of chronic disease.
- Enhanced the usefulness of Health Buddy by being one of the first agencies in the nation to support a mobile phone application of the telehealth system.
- Used claims data to analyze costs of program.

Data Metrics Tracked:

Access

- Participation rates in interventions

Outcomes

- % change in inpatient admissions
- % change in ER visits
- % change in health status associated with particular physical health conditions (diabetes, asthma, heart disease)
- Post-discharge visits and rehospitalization rates
- Participant satisfaction
 - Functional assessment (SF-12)
 - 11-item self-efficacy survey

Operational

- # of staff trained
- Staff satisfaction
- Staff turnover

Financial

- Per member per month costs
- Physical and behavioral health payments
- ER costs
- Rehospitalization costs

Sample Outcomes:

- 5.6% decrease in total cost of care per member per month from 2011 to 2014, saving \$1,920 per patient per year, according to claims data.
- A cost of \$1,780 per patient per year for the intervention team, resulting in a 7.9% return on investment, according to Vinfen financials.
- 16.6% increase in physical health payments and 40.1% drop in behavioral health payments from 2011 to 2014, indicating improved access to physical health care for this historically underserved population.
- 17.9% decrease in ER visits in the intervention group, compared with 16.7% increase in the control group from Year 1 to Year 3.
- 11% decrease in claims for rehospitalizations between 2012 and 2014.
- 54% decrease in claims for home health skilled nursing services between 2012 and 2014.
- 76% of Health Buddy users met adherence targets.

Lessons Learned and Accomplishments

- Matching service delivery options to clients' stage of change was essential, given the significant cognitive impairment that Vinfen's clients often experience. These disabilities affected clients' ability to engage with new providers and embrace new strategies.
- Developing communication strategies between care team members was important for ensuring collaboration and coordination. Nurse practitioner/health outreach worker pairs consulted daily regarding participant interventions, attended community-based recovery team meetings, and met monthly with the project manager to establish best practices.
- Lack of care coordination and inadequate primary care services over the years had resulted in complex medical needs for many participants. The nurse practitioners had to identify, define, and prioritize competing complex needs, which demanded extensive hours and expertise.
- Extensive training and supervision was required to implement the IIMR curriculum with fidelity.
- The new role of a health outreach worker, who connects with patients wherever they are (e.g., home, community, shelter), is critical to connecting patients to the larger health system.
- Having a staff technology "super-user" was critical to the rollout of the Health Buddy technology.
- A comparison of the claims data with project data verified suspected underreporting of emergency room visits through patient self-reporting. Claims data showed a per patient per year rate that was on average approximately 5 times greater than self-reported.

15
years



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