

COMMONWEALTH OF MASSACHUSETTS
HEALTH POLICY COMMISSION

CHART Phase 2:
Implementation Plan
Mercy Medical Center

HPC approval: September 1, 2015

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Version: 2



Introduction

This Implementation Plan details the scope and budget for Mercy Medical Center's ("Contractor") Award in Phase 2 of the Health Policy Commission's (HPC) Community Hospital Acceleration, Revitalization, and Transformation (CHART) Investment Program. The Implementation Plan is incorporated by reference into and is subject to the requirements of the Phase 2 Award Contract, including the Phase 2 Terms & Conditions.

Many capitalized terms appearing in the Implementation Plan are defined in the Phase 2 Terms & Conditions or the Phase 2 Request for Proposals (RFP). In addition to capitalized terms, the Implementation Plan may include other acronyms and/or abbreviations whose meaning is understood by Contractor and the HPC in the context of the Implementation Plan. If there is disagreement concerning the meaning of a term, acronym, or abbreviation, the HPC's interpretation shall govern.



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Key personnel

Name	Title	CHART Phase 2 Role
Daniel Moen	President and Chief Executive Officer	
Erin Daley	ED Clinical Nurse Supervisor/Nurse Manager	Clinical Investment Director
Daniel Keenan, Jr.	Senior Vice President Government Relations	Operational Investment Director
Charline Cauley	Manager, Operations Outcomes	Project Manager
Bill Krasin	Director of Accounting and Treasury	Financial Designee

Target population

Definition:

- ED patients with a primary BH* diagnosis
 - HU subpopulation: patients with ≥ 2 ED visits in the last year

Quantification:

- 3,000 ED BH patients with 4,200 ED visits per year
 - HU subpopulation: 500 unique patients

Aim Statement

Primary Aim Statement

Reduce 30-day ED revisits by 20% for patients with a primary BH diagnosis by the end of the 24 month Measurement Period.

Secondary Aim Statement*

Reduce ED LOS by 20% for patients with a primary BH diagnosis by the end of the 24 month Measurement Period.

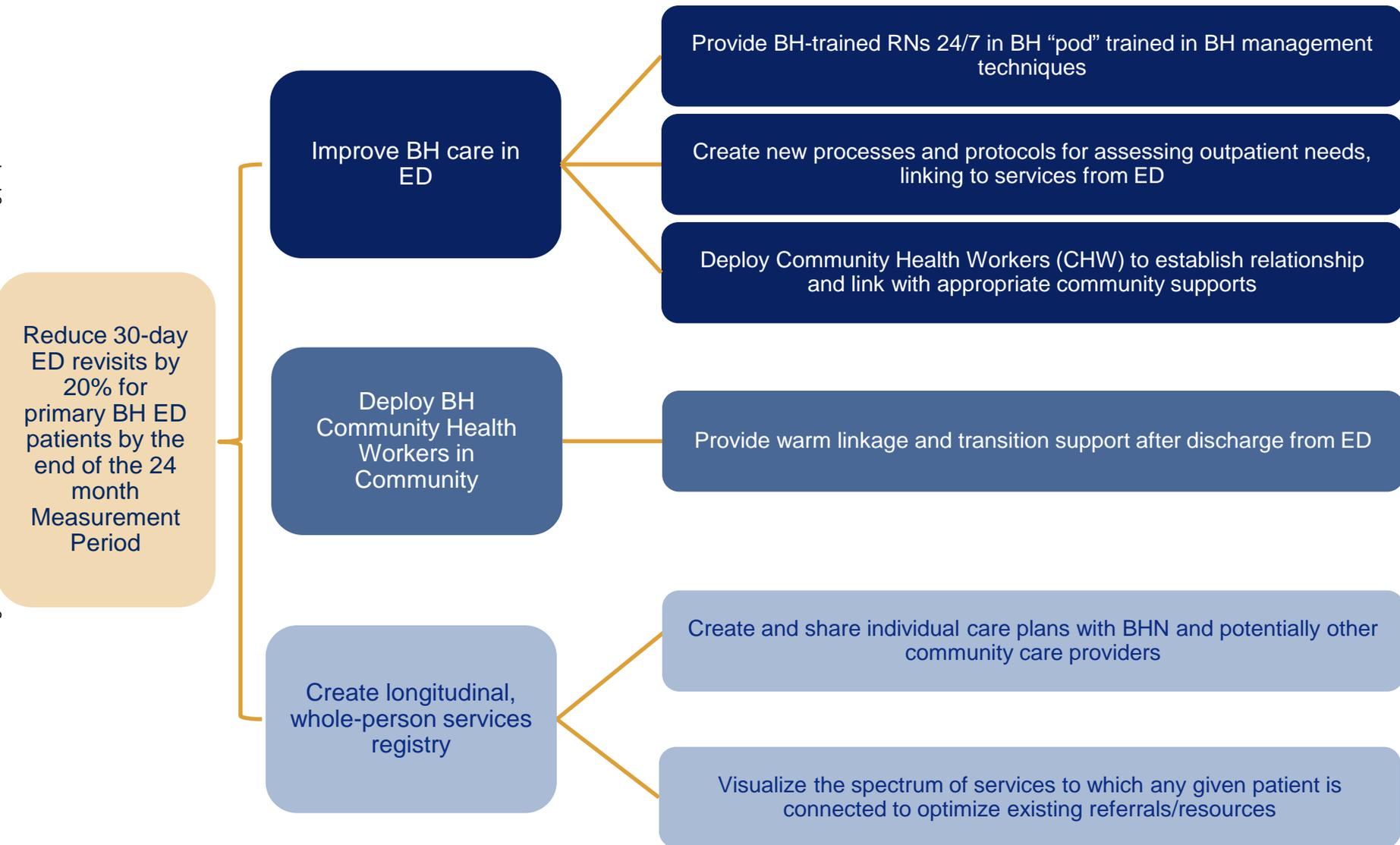
Baseline performance – ED utilization reduction

		Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14	Avg.
All	All ED Visits	5,773	5,126	5,640	5,575	5,824	5,689	6,018	5,992	5,970	6,009	5,323	5,723	5,722
	All ED Revisits	729	1,042	1,113	1,142	1,231	1,195	1,351	1,279	1,303	1,316	1,172	1,178	1,171
	Revisit Rate (%)	13	20	20	20	21	21	22	21	22	22	22	21	20
	LOS (min)	238	234	229	218	220	215	202	209	214	219	213	205	218
Target Pop all BH/ETOH Visits in ED	Target Pop ED Visits	322	302	377	329	378	362	344	375	354	388	355	337	352
	Target Pop ED Revisits	58	77	112	96	113	120	104	110	93	132	115	97	102
	Revisit Rate (%)	18	25	30	29	30	33	30	29	26	34	32	29	29
	LOS (min)	478	590	515	514	506	517	480	572	541	510	489	418	511
BH Visits in ED	Target Pop ED Visits	234	230	271	223	266	255	246	266	245	266	252	241	250
	Target Pop ED Revisits	39	61	81	53	69	76	64	71	57	75	73	56	65
	Revisit Rate (%)	17	27	30	24	26	30	26	27	23	28	29	23	26
	LOS (min)	525	642	568	562	569	584	516	663	622	576	519	449	566
ETOH VISITS in ED	Target Pop ED Visits	88	72	106	106	112	107	98	109	109	122	103	96	102
	Target Pop ED Revisits	19	17	30	42	44	43	40	39	35	55	42	40	37
	Revisit Rate (%)	22	24	28	40	39	40	41	36	32	45	41	42	36
	LOS (min)	354	423	379	413	356	359	391	352	359	366	416	341	376

Estimated monthly impact

	Current Expected Event	Current Expected Event	New Expected Event	New Expected Event
ED BH 30-day revisits	352 ED visits/month	Given an average revisit rate of 29%, we expect $0.29 * 352 = 102$ ED revisits per month	Given a goal of 20% reduction of ED revisits, we expect $0.2 * 102 = 20$ avoided ED revisits	Then, we expect $102 - 20 = 82$ ED revisits per month
ED Length of Stay (LOS)	511 min/visit	n/a	Given a goal of 20% reduction in ED LOS, we expect $0.2 * 511 = 102$ min average decrease	Then, we expect $511 - 102 = 409$ min average ED LOS

Driver Diagram – Reduce ED revisits



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Service model

Narrative description

The Mercy Medical Center CHART service model aims to improve the care of patients presenting to the Mercy Emergency Department with a primary behavioral health (BH) need. The main effector arms of the service model are three-fold: first, improve BH care in the ED; second, provide warm linkage to community-based services following an ED episode; and third, create more effective multi-setting and longitudinal system to meet BH needs over time, utilizing a registry of care plans and service referrals/utilization data. The service model represents a partnership between Mercy Medical Center and Behavioral Health Network.

In the ED:

1. Patients presenting to the Mercy ED with a primary BH issue will be seen in a dedicated part of the ED, i.e. BH POD
2. Care plan developed or updated (some patients have existing care plans) for patients with ≥ 2 BH ED visits/year.
3. Mercy BH RNs will staff the BH POD in the ED 24/7/365 (prior staffing models did not provide BH-specific nursing care). BH RNs will understand the BH population needs in the ED, create a safe and appropriate clinical environment and milieu, and provide BH clinical care, including medication reconciliation and de-escalation interventions. These interventions are intended to improve the quality and efficiency of the ED experience for BH patients. BH RNs will also work closely with BHN-employed Community Health Workers (CHWs) to support effective assessment and transition to the next appropriate level of care for patients.
4. Patients will be seen by BHN-employed CHWs in the ED (and/or in the hospital, if admitted) to: a) establish relationship based on warm contact; b) assess community based service needs; and c) directly refer and help patients access services to meet those needs.
5. ED Non-HU (fewer than 2 visits/year) – No care plan developed. BHN CHWs refer patient to providers at next level of care, maximizing opportunity for CSP level of care for eligible patients.

For HU (≥ 2 ED BH visits/year) patients following the ED:

1. CHW contacts patient within 48 hours of acute visit
2. CHW engages in telephonic and/or face to face contact with patients, focus on practice outreach and engagement
3. CHW is warm conduit between ED (Mercy) and BHN or other community resources to strengthen communication/coordination about care plans (longitudinal, multidisciplinary multi-setting care plans in this model “live” within BHN)

Creating an Infrastructure for Care Across Settings

1. Mercy, BHN, and others collaborate to create a BH services and plan “registry/repository”.
2. ED will develop “ED-based care plans” to better manage BH (pain, recurrent presentations, de-escalation, medical clearance) in the ED – these care plans are intended for ED clinicians, but may be shared with other Springfield-area EDs, as desirable and appropriate for patient safety and consistency in care.
3. Infrastructure will be used to inform longitudinal care plans, to improve consistency of care delivery, and to leverage existing community services.

Service worksheet

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Service Delivered

- Care transition coaching
- Case finding
- Behavioral health counseling
- **Engagement - X**
- **Follow up - X**
- Transportation
- Meals
- Housing
- In home supports
- Home safety evaluation
- **Logistical needs - X**
- **Whole person needs assessment - X**
- Medication review, reconciliation, & delivery
- **Education - X**
- **Advocacy - X**
- **Navigating - X**
- **Peer support - X**
- **Crisis intervention outside ED - X**
- Detox
- **Motivational interviewing - X**
- **Linkage to community services - X**
- **Individual care planning - X**
- Physician follow up
- Adult Day Health
- Other: _____

Personnel Type

- **Hospital-based BH nurse - X**
- **Hospital-based Milieu worker (CHW) - X**
- Hospital-based social worker
- Hospital-based pharmacist
- Hospital-based NP/APRN
- Hospital-based behavioral health worker
- Hospital based psychiatrist
- Community-based nurse
- Community-based social worker
- Community-based pharmacist
- **Community-based behavioral health worker (CHW) - X**
- Community-based psychiatrist
- Community-based advocate
- Community-based coach
- Community-based peer
- Community agency
- Physician
- Palliative care
- EMS
- Skilled nursing facility
- Home health agency
- Other: _____

Service Availability

- Mon. – Fri.
- Weekends
- **7days (ED work) - X**
- Holidays
- Days
- Evenings
- Nights
- Off-Shift
- Hours _____

CHW coverage is M-F, 9-5.

Weekend coverage will be scheduled so that ED Ps can meet CHW who will facilitate follow-up be Team.

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Service mix

Service	By Whom	How Often	For How Long
ED-based BH care	BH-trained RN	Every visit	24/7
ED-based milieu work	BHN CHW	Every visit	prn
Community Health Work	BHN CHW	<48h of ED presentation and titrated to need (estimate 1-10 contacts over 30 days)	30 days minimum

# FTE/units of service hired at my organization	4.2 BH-trained RNs
# FTE/units of service contracted	5 CHWs

List of service providers/community agencies

Type of Service Provider	Community Agency Name	New or Existing Relationship
Community BH Provider	Behavioral Health Network	Existing
Mercy community based affiliate	Mercy Health Care for the Homeless	Existing
FQHC	Caring Health Center	Existing

Summary of services

Clinical service and staffing mix

In the ED:

- Patients presenting to the Mercy ED with a primary BH issue will be seen in a dedicated part of the ED, i.e. BH POD
- These patients will be managed by RNs with BH training.
- Patients will be seen by BHN-employed CHWs in the ED (and/or in the hospital, if admitted) to: a) establish relationship based on warm contact; b) assess community based service needs; and c) directly refer and help patients access services to meet those needs.

Following the ED HU (≥ 2 ED BH visits/year):

- BHN CHW contacts patient within 48 hours of acute visit
- BHN CHW engages in telephonic and/or face to face contact with patients, focus on practice outreach and engagement
- BHN CHW is warm conduit between ED/Mercy and BHN or other community resources to strengthen communication/coordination about care plans (longitudinal, multidisciplinary multi-setting care plans in this model “live” within BHN database)

Following ED for non-HU (fewer than 2 visits/year)

- No care plan developed
- BHN CHW refers patient to providers at next level of care, maximizing opportunity for CSP level of care for eligible patients

Cohort-wide standard measures – Hospital utilization

Data elements	All	Target Population
1. Total Discharges from Inpatient Status (“IN”)		
2. Total Discharges from Observation Status (“OBS”)		
3. SUM: Total Discharges from IN or OBS (“ANY BED”)		
4. Total Number of Unique Patients Discharged from “IN”		
5. Total Number of Unique Patients Discharged from “OBS”		
6. Total Number of Unique Patients Discharged from “ANY BED”		
7. Total number of 30-day Readmissions (“IN” to “IN”)		
8. Total number of 30-day Returns (“ANY BED” to “ANY BED”)		
9. Total number of 30-day Returns to ED from “ANY BED”		
10. Readmission rate (“IN readmissions” divided by “IN”)		
11. Return rate (ANY 30-day Returns divided by “ANY BED”)		

Cohort-wide standard measures – ED utilization

Data Elements	All	Target Population
12. Total number of ED visits	x	x
13. Total number of unique ED patients	x	x
14. Total number of ED visits, primary BH diagnosis		
15. Total number of unique patients with primary BH diagnosis		
16. Total number of ED visits, any BH diagnosis		
17. Total number of unique patients with any BH diagnosis		
18. Total number of 30-day ED revisits (ED to ED)	x	x
19. Total number of 30-day revisits (ED to ED), primary BH diagnosis		
20. Total number of 30-day revisits (ED to ED), any BH diagnosis		
21. ED revisit rate	x	x
22. ED BH revisit rate (primary BH diagnosis only)		
23. ED BH revisit rate (any BH diagnosis)		
24a. Median ED LOS (time from arrival to departure, in minutes)	x	x
24b. Min ED LOS (time from arrival to departure, in minutes)		
24c. Max ED LOS (time from arrival to departure, in minutes)		
25a. Median ED LOS (time from arrival to departure, in minutes), primary BH diagnosis		
25b. Min ED LOS (time from arrival to departure, in minutes), primary BH diagnosis		
25c. Max ED LOS (time from arrival to departure, in minutes), primary BH diagnosis		
26a. Median ED LOS for ED boarders per DPH boarder definition (patients with a primary behavioral health diagnosis who remain in the ED for 12 or more hours from ED arrival to ED departure)		
26b. Min ED LOS for ED boarders per DPH boarder definition (patients with a primary behavioral health diagnosis who remain in the ED for 12 or more hours from ED arrival to ED departure)		
26c. Max ED LOS for ED boarders per DPH boarder definition (patients with a primary behavioral health diagnosis who remain in the ED for 12 or more hours from ED arrival to ED departure)		

Standard exclusions: <18, OB (DRG 765-782), discharged deceased or transfer to acute hospital

Note: Data elements that do not have a population selected are not required for measurement. Not all measures are required for all hospitals.

Cohort-wide standard measures – Service delivery

Data elements	Target Population
27. Total number of unique patients in the target population	X
28. Number of acute encounters for target population patients	X
29. For acute encounters in measure #28, number of these with any CHART service provided after discharge and within 48 hours	X
30. Total number of contacts for the target population	X
31. Average number of contacts per patient served	X
32a. Min number of contacts for patients served	X
32b. Max number of contacts for patients served	X
33. Number of units of service provided by service modality (including, e.g., phone call, virtual interaction, face to face in office, face to face in home, etc.)	X
34. Number of units of service provided, by service types (e.g., care coordination, medication optimization, clinical care, counseling, needs assessment, etc.)	X
35. Number of units of service provided, by role type (NP, LICSW, Pharmacist, Community Health Worker, Peer)	X
36. Average time (days, months) enrolled in CHART program per patient	X
37. Range time (days, months) enrolled in CHART program per patient	X
38. Proportion of target population patients with care plan	X

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Standard exclusions: <18, OB (DRG 765-782), discharged deceased or transfer to acute hospital

Note: Data elements that do not have a population selected are not required for measurement. Not all measures are required for all hospitals.

Cohort-wide standard measures – Payer mix

Data elements	Medicare	Medicaid	Commercial
39. Count of patients in the Target Population	x	x	x

Program-specific measures (1 of 3)

Measure	Numerator	Denominator
Service Delivery Measurement		
1. % Target population visits assessed by Community Health Worker (CHW) in ED	# target pop visits seen by CHW in ED	# target pop visits
2. % Target population patients assessed in inpatient setting	# target pop visits seen by CHW in inpatient setting	# target pop visits
3. % target population patients engaged in program	# target pop patients contacted at least once in the community	# target pop patients
4. % target population patients with ED care plans	# target pop patients with ED care plans	# unique patients seen in ED for primary BH
5. % target population patients with longitudinal care plans visible to all	# target pop patients with care plan in registry	# unique patients seen in ED for primary BH
6. % of patients who drop out of the program	# of patients who dropped out of the program	# unique patients served
7. % of patients referred and linked to community program after d/c from the program	# of patients d/c and linked to community program	Total # of patients discharged from the program

Program-specific measures (2 of 3)

Measure	Numerator	Denominator
Utilization Measurement		
1. Inpatient Psych Discharges, "Psych-1"	# patients discharged from psych inpatient facility	# target pop patients
2. Inpatient Psych Readmissions, "Psych-2"	# discharges from psych inpatient facility	# of patients from "Psych-1"
3. Med/Surg Discharges, "Med/Surg-1"	# patients discharged from med/surg unit at Mercy Medical Center	# target pop patients
4. Med/Surg Readmissions, "Med/Surg-2"	# discharges from med/surg unit at Mercy Medical Center	# of patients from "Med-Surg-1"
ED BH RN Measurement		
1. # staff injuries	Total # of staff injuries that occur in the ED	
2. # of patients restraints used	Total # of patients on whom restraints are used	

Program-specific measures (3 of 3)

Measure	Numerator	Denominator
Total number of primary BH ED visits discharged home	Count of ED visits that were discharged to home	N/A
Total number of primary BH ED visits admit to med/surg	Count of ED visits that were admitted to med/surg	N/A
Total number of primary BH ED visits admit/transfer to psych unit	Count of ED visits that were admitted/transferred to psych unit	N/A

Continuous improvement plan

<p>1. How will the team share data? Describe.</p>	<p>Weekly operational meetings with Mercy ED leadership (ED Physician Chief and Nurse Manager) and BHN (Adult Outreach Services Program Manager and Adult Services Senior Program Manager) to review data and consider updates to care management process.</p>
<p>2. How frequently will you (PM, Investment Director) look at the data (e.g., weekly)? Describe.</p>	<p>Project Manager will meet with operations group weekly for the first two months then monthly for the remainder of the project.</p>
<p>3. How often will your executive team (VPs, C-suite) review CHART project reporting (e.g., monthly)? Describe.</p>	<p>The Behavioral Health CHART initiative will be reported on monthly at Senior Leadership Meeting.</p>
<p>4. How often will your front line CHART staff (SW, care team) review reporting (e.g., weekly)? Describe.</p>	<p>The front line CHART staff (Mercy ED BH RNs and BHN CHWs) and Leadership from ED and BHN will meet weekly for the first two months then monthly for the remainder of the project.</p>
<p>5. How often will your community partners review data (e.g., weekly, monthly)? Describe.</p>	<p>See question 4.</p>
<p>6. Which community partners will look at CHART data (specific providers and agencies)? Describe.</p>	<p>Behavioral Health Network – BHN Senior VP, Adult Outreach Services Program Manager and Adult Services Senior Program Manager, and BH CHWs.</p>
<p>7. Will the quality committee of your board review CHART reporting (e.g., quarterly)? Describe.</p>	<p>The Quality Committee of the SPHS/Mercy Board will review CHART ED BH data quarterly.</p>

Continuous improvement plan

8. Who will collect measures and produce reporting for Cohort-wide and program specific measure (e.g., Data Analyst, PM, ID)? Describe.	Cohort-Wide	Program specific
	Mercy Operations Outcomes Manager	Mercy Operations Outcomes Manager
9. What is your approximate level of effort to collect these metrics? Describe.	Cohort-Wide	Program specific
	Estimate about 5-15 minutes setup time for each measure. Monthly effort (after initial process setup) = 30 minutes – 1 hour to compile each set of metrics	Estimate about 5-15 minutes setup time for each measure. Monthly effort (after initial process setup) = 30 minutes – 1 hour to compile each set of metrics
10. How will you ensure that you are able to collect both your program specific and the cohort-wide measures? Describe.	Program specific and cohort-wide measures will be collected through Meditech, Midas and Carelogic and aggregated into an intermediary database created and managed by the Mercy Operations Outcomes Managers for reports on all required measures.	
11. How will you know when to make a change in your service model or operational tactics? Describe.	Utilizing Lean in Healthcare (Mercy CHART 1 Initiative) and PDSA methodologies, the Mercy Operations Outcomes Manager will lead a review of weekly (start of initiative) and monthly data to inform rapid cycle improvements to the services model.	
12. Other details:		

Enabling Technologies plan

Functionality	User	Vendor	Cost
Monthly extract; upload, merge and validate MMC, BHN and combined data; creation of monthly combined metric reports; training for CHWs in Meditech	ED and CHW staff	Analyst	\$34,240

Enabling Technologies plan – Q&A

1. How are you going to identify target population patients in real-time?
 - Assessment by triage nurse will determine behavioral health primary diagnosis which is the trigger for the CHART intervention.
2. How will you measure what services were delivered by what staff?
 - Mercy = Meditech, BHN = Carelogic EMR and the intermediary technology which will be updated with services offered/accepted
3. How will you measure outcome measures monthly?
 - Standard measures for MMC will continue to occur and we will track our overall BH population volumes in ED to determine if the project is having an effect on overall volume/utilizers/target population tagged for service interventions – this is from Meditech. Identifying services provided post ED visit, and tracking statistics would need to come from the intermediary system updates for patients within the target population that do not return to the ED.
4. What tool/platform will you use to facilitate cross-setting and multi-disciplinary coordination of care?
 - Meditech for Mercy and Carelogic for BHN. An enabling technology investment will be used to create an effective interface. (An intermediary system will be used in which the ‘shared’ target population data would be accessible for updates by all involved participants.)
5. Where will individual care plans reside, and what is the plan for making them available on a need-to-know basis 24/7 in the ED, hospital, and ambulatory settings?
 - Care Plans will reside in Meditech with access to Mercy ED and Hospital staff, as well as BHN community health workers
6. Do you have a method for identifying what clinical services your target population accesses? Do we know if they access outside services?
 - BHN community health worker will track those clinical services provided and update into the intermediary system. A standing update meeting between the BHN and Mercy Team will need to take place in order to keep all aspects up-to-date.

Key dates

Key milestone	Date
Launch date (beginning of your 24 month Measurement Period)	10/1/15
Post jobs	8/8/15
New hires made	9/15-10/15
Execute contracts with service delivery partner: BHN	10/1/15
ED revisit reduction staff and initiatives support 50% of planned patient capacity	10/1/15
ED revisit reduction staff and initiatives support 100% of planned patient capacity	10/31/15
First test report of services, measures from Mercy and BHN	9/25/15
Trainings completed: BHN staff trained in Meditech, ED staff trained in assessment instrument(s), RN training in BH interventions	9/15-10/15
First patient seen	10/1/15
Mercy ED staff and community-based staff orientation, on-going informal team-building	9/28/15-10/2/15

Community partners/subcontractors

Name	Business Address	Website	Contact Name	Contact Title	Contact Phone Number	Contact Email Address
Behavioral Health Network, Inc.	417 Liberty Street, Springfield, MA 01104	bhninc.org	Steven Winn	Vice President	413-747-0705	Steven.winn@bhninc
Analyst for Intermediary Technology - TBD						