Integrating Behavioral Health into Primary Care through Technology

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UR Medicine

MEDICINE *of* THE HIGHEST ORDER

Introduction

Factors Driving Integration of Behavioral Health

Utilizing Technology

Demonstration of Workflows

Results

By the numbers: University of Rochester

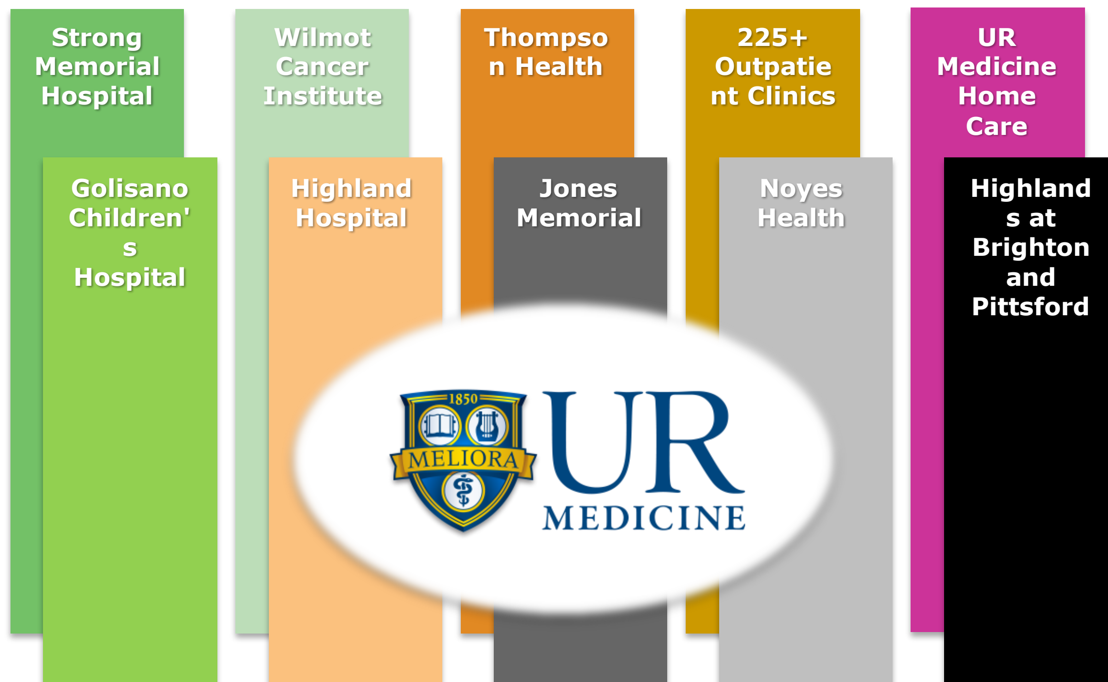
Total faculty and staff
(including health system)
25,600

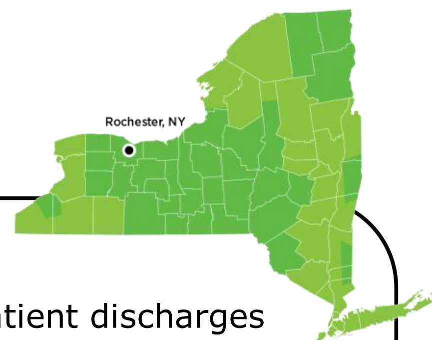
Full-time undergraduate students
6,170

Full-time graduate students
3,446

Largest employer in Rochester, NY and 7th largest private sector employer in Finger Lakes Region

UR Medicine Footprint





- 1,400 beds
- 63,229 inpatient discharges
- 198,473 ED visits
  - 9,225 CPEP visits at Strong
- 50,000 urgent care visits
- 43,000 ambulatory surgeries
- 1,900,000 outpatient visits

UR Medicine responds to changing trends

Behavioral health driving up costs

NYS Medicaid members diagnosed with BH equal 60% of total cost of care

High prevalence of depression

68% more depression in Finger Lakes region compared to NYS

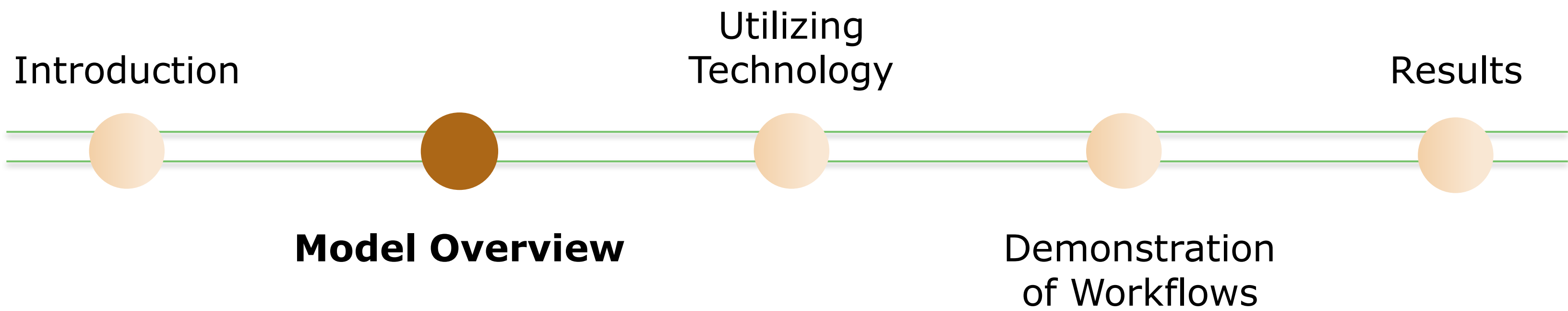
Value-based payment agreements

30% of contracts at shared risk

UR Response

Collaborative Care Model

Integration of behavioral health in primary care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Demonstration of Workflows

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Model Overview

Integrate BH clinicians in primary care

To identify BH diagnoses early and provide rapid, short-term treatment through:

- Psychotherapy
- Psychoeducation
- Cognitive behavioral therapy
- Group therapy

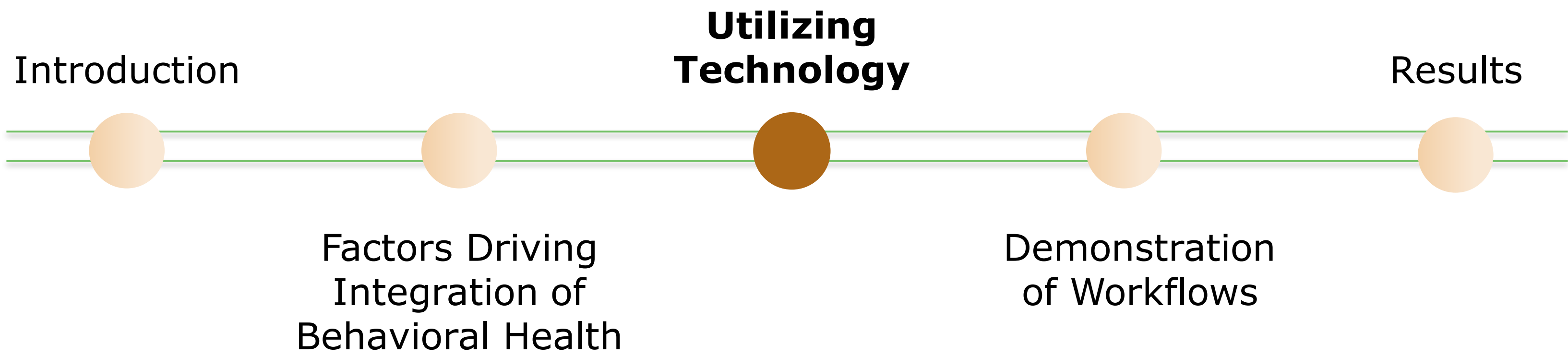
Conduct practice-wide depression screenings

PHQ-2/9
PSC-17
ASQ-SE
Glasgow

Place patient at the center

Ensure compatibility of medical and behavioral health treatment and de-stigmatize treatment for behavioral health diagnoses

Our approach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Challenges by provider type

PCP

Determine patients who need screening

Interpret paper-administered results

Facilitate follow up with BH provider

Both

Document to complement both workflows

BH Clinician

Shift from traditional BH culture

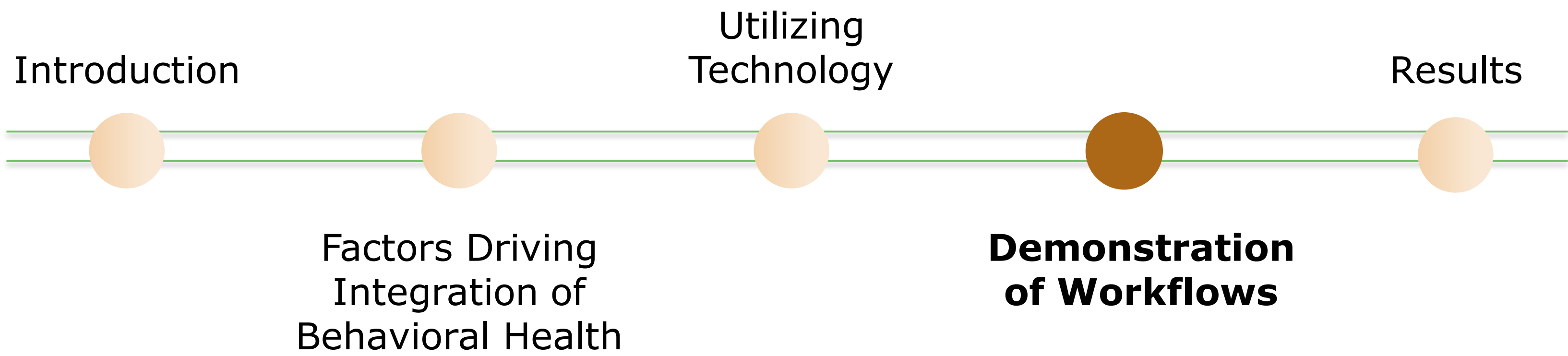
Flex between appointments and real-time handoffs, curbside consults

Technology, the great facilitator

Technology increases opportunity for and facilitates ease of collaboration between primary care and behavioral health.

Issues we needed to address:

- Different workflows throughout the network
- Reporting/ tracking challenges
- Information not captured discretely
- Suboptimal use of screening information
- Screening not given consistently to the right patient at the right time
- Inconsistent notification to BH clinicians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Medical workflow

1
Screening on iPads

2
Data syncs with chart

3
Alerts triggered

4
Automated screening reminders

5
Front end schedule updated

Standardized process

Information captured discretely

Enabling more accurate reporting

Higher information utility

Screening given consistently

Using iPads to screen for depression

Screening Volume Pre and Post iPad Go Live

1200
1000
800
600
400
200
0

PRE

POST

Pre iPad Month 1
Pre iPad Month 2
Pre iPad Month 3
Post iPad Month 1
Post iPad Month 2
Post iPad Month 3

Practice A
Practice B

Over **100% increase** in screenings observed after iPad implementation

BH workflow

1
PCP identifies BH needs

2
Curbside consult, referral

3
Follow up BH appt made in practice

4
Document BH findings

5
PCP reviews BH findings

Standardized process

Information captured discretely

Enabling more accurate reporting

Flexibility and ease of BH access

Readily assessable, consistent information

Internal BH referral usage

Average Growth Rate of Internal Referrals Made to BH

Practice A: 13%
Practice B: 24%

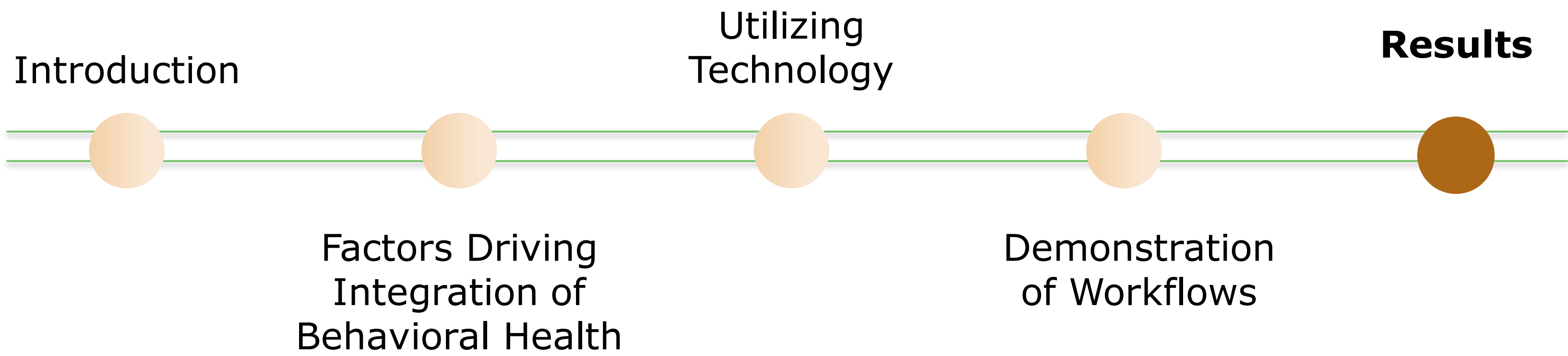
Internal BH Referral Use

60
50
40
30
20
10
0

Apr-16 May-16 Jun-16 Jul-16 Aug-16 Sep-16 Oct-16 Nov-16 Dec-16 Jan-17 Feb-17 Mar-17 Apr-17 May-17 Jun-17

Practice A   Practice B

November 2016 – start of electronic referral at Practice A
June 2016 – start of electronic referral at Practice B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Practice Integration Timeline

Clinical FTE Supported by DSRIP

Practice	FTE	Clinicians
Highland Family Medicine	1.0	depression care manager *(plus Article 31 providers, trainees)*
Golisano Pediatrics	4.0	psychiatrist, NP, psychologists, master's level *(plus trainees)*
Strong Internal Medicine	2.0	Psych NP, LCSW-R
East Ridge Family Medicine	1.0	LCSW-R
Complex Care Center	1.15	psychologist, LCSW
Medicine in Psychiatry	1.2	psychiatrist, LCSW-R
Culver Medical	1.0	LCSW-R
Manhattan Square	1.0	LCSW
Total	**12.35 FTE**	

Flag denotes month clinician started

- **Pre DSRIP**: Highland Family Medicine; Golisano Pediatrics
- **Feb 2016**: Strong Internal Medicine; East Ridge Family Medicine
- **June 2016**: Complex Care Center
- **Feb 2017**: Medicine in Psychiatry
- **Apr 2017**: Culver Medical Group
- **May 2018**: Manhattan Square Family Medicine

2016 2017 2018

PHQ-9 Rates and Depression Remission

Abstract

Objective: Measure effectiveness of intervention using **PHQ-9 depression scores** for patients who received clinical services from integrated BH clinician (minimum visit of 1).

Evaluation: ***Improvement***[1] is defined by a 50% reduction from baseline or a drop from baseline of at least 5 points to less than 10.

Clinical remission[2] is either a PHQ-2 result equal to zero or a PHQ-9 score <5.

Conclusion: Pilot showed significant response to the intervention in the first three months and demonstrated continued positive impact on PHQ-9 scores over a 12-month period regardless of initial severity of depression.

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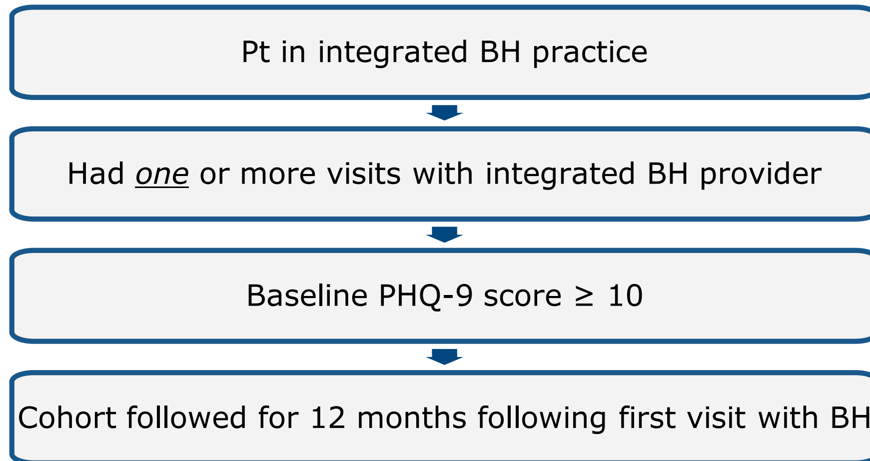
[1] OMH Collaborative Care Medicaid Program Quarterly Data Reporting Metrics
[2] New England Journal of Medicine (NEJM) Catalyst, https://catalyst.nejm.org/rethink-measure-depression-remission/

Population and Time Frame

Population Cohort[1]



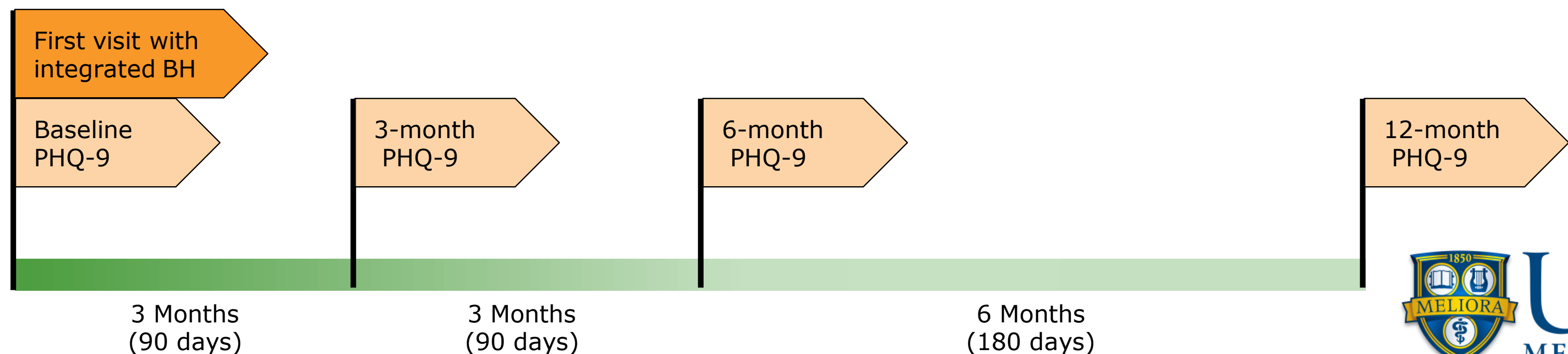
Baseline Depression Level

Total Sample Size (n=843)

Moderate (10 – 14)
n=312

Moderately Severe (15 - 19)
n=298

Severe (20 - 27)
n=233



[1] Practices that onboarded BH clinicians later in the pilot period have fewer patients to include in cohort.

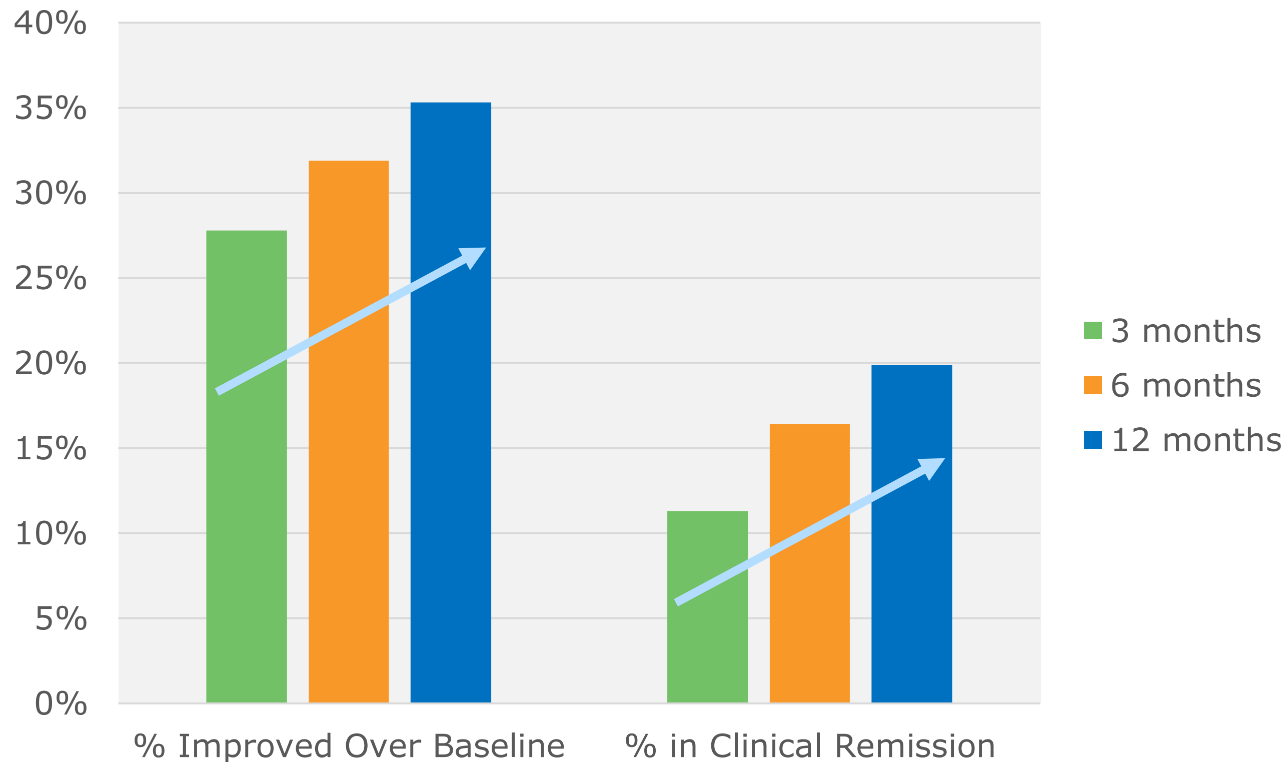
Decrease in PHQ-9 scores over 12-month period at all levels of severity; sharpest decline in first 3 months of intervention.

PHQ-9 Response Curve

	Baseline	3 Months	6 Months	12 Months
Moderate	11.95	9.21	8.78	8.39
Moderately Severe	16.83	13.61	12.24	12.55
Severe	22.4	16.85	16.54	15.12

PHQ-9 Score (y-axis: 0–25)

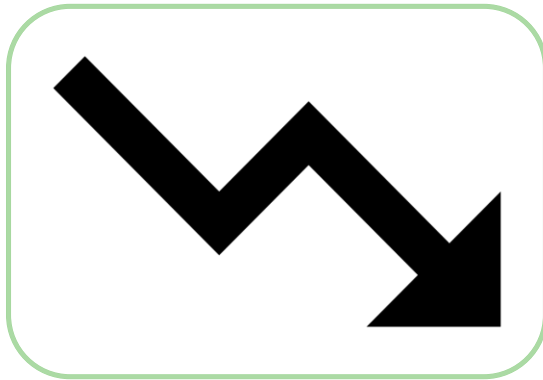
Increase in % of patients achieving improvement and clinical depression remission over 12 months



Improvement is defined by a 50% reduction from baseline or a drop from baseline of at least 5 points to less than 10.

Clinical remission is either a PHQ-2 result equal to zero or a PHQ-9 score <5.

PHQ-9 Results



First 3 months of intervention saw sharpest decrease in PHQ-9 scores across all 3 severity levels

% of patients who improved[1] over baseline score increased every 3 months

% of patients who achieved clinical remission[2] increased every 3 months

[1]*Improvement* is defined by a 50% reduction from baseline or a drop from baseline of at least 5 points to less than 10.

[2]*Clinical remission* is either a PHQ-2 result equal to zero or a PHQ-9 score <5.

ED/Obs/Urgent Care and Inpatient Utilization

Medicine *of* the Highest Order

Abstract

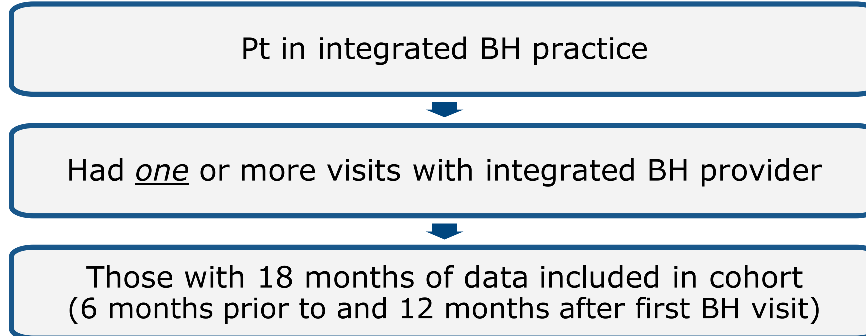
Objective: Measure **ED/Obs/Urgent Care and Inpatient utilization**

Evaluation: Monitor defined cohort of patients receiving at least one visit with integrated BH clinician over a standardized intervention period of 6 months following first BH visit. Assume that the integrated BH intervention is a short and intense 6-month period, so the following 6 months are considered post intervention.

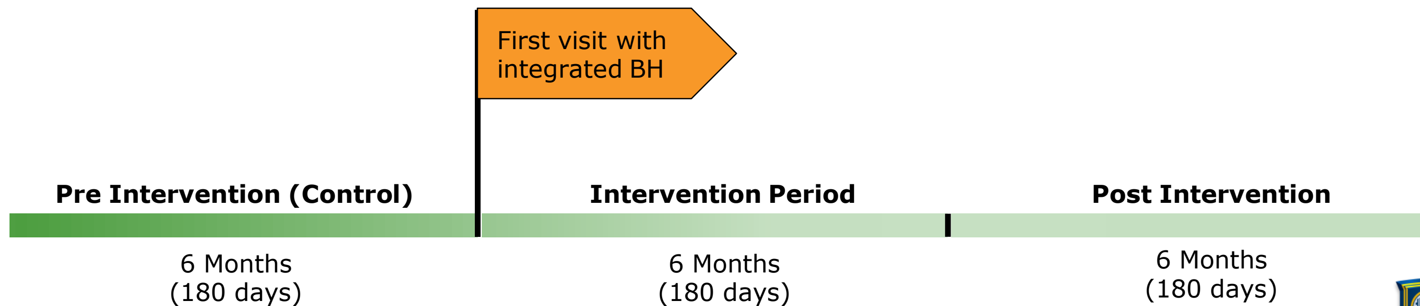
Conclusion: Observed decrease in both ED/UC/Obs and Inpatient utilization for 360 days following first visit with integrated BH clinician compared to utilization before intervention. Both ED/UC/Obs and Inpatient values before and after initial intervention are significant at $p<0.01$[1]

Population and Time Frame

Population Cohort[1]



Sample Size n=1,145



[1] Practices that onboarded BH clinicians later in the pilot period have fewer patients to include in cohort.

Decrease in utilization from pre to post intervention

Medical Reason for Utilization

**each period is 6 mos.*

Decrease in ED/UC/Obs utilization from pre to post intervention; uptick in inpatient admissions during intervention period that returns to baseline

Behavioral Health Reason for Utilization

Decrease in utilization from pre to post intervention

Total Utilization Medical/Behavioral Health

Number of Services

1200
1000
800
600
400
200
0

27% decrease

36% decrease

ED/UC/Obs visits

Inpatient

- Pre Intervention
- Intervention
- Post Intervention

each period is 6 mos.

Significant decrease in utilization from pre to post intervention among pts with 3 or more ED visits during pre intervention period

Impact on high utilizer population:

3+ ED visits 6 mo prior to intervention

Number of Services

500
450
400
350
300
250
200
150
100
50
0

54% decrease

60% decrease

ED/UC/Obs visits

Inpatient

Pre Intervention
Intervention
Post Intervention

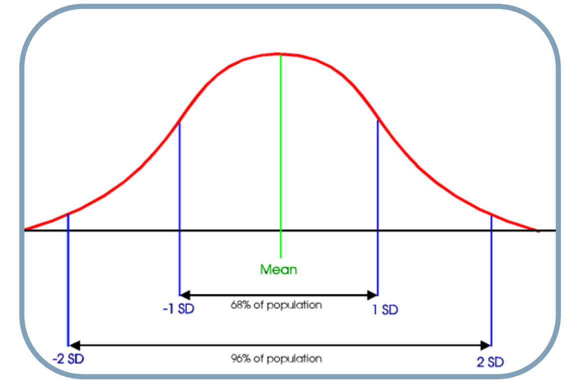
**each period is 6 mos.*

***ED High Utilizers comprise of 7% of cohort*

Utilization Results

Intervention correlates to reduction in physical AND behavioral reason for visits

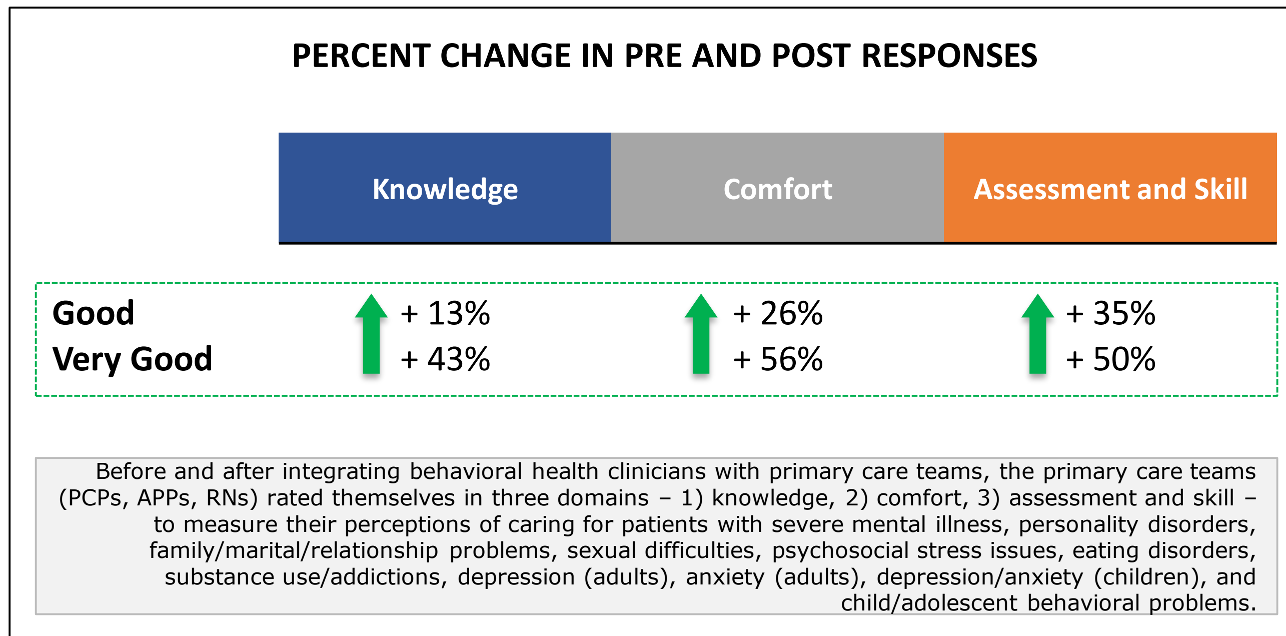
ED High Utilizers (3+ visits in pre intervention period) saw greatest reduction in utilization



Both ED/UC/Obs and Inpatient values before and after initial intervention are significant at $p<0.01$[1]

[1] Statistical significance was calculated for ED/UC/Obs and Inpatient before and after utilization rates from a relative risk regression model, using the Huber-White robust variance estimator.

Primary care teams report self-improvement after integration of behavioral health



UR primary care physician survey data collected February 2016 – February 2017
25% response rate (24 out of 95 team members responded to both pre and post surveys)

Summarizing preliminary results

Technology-assisted integration of behavioral health in primary care leads to:

Collaboration

More **opportunity** identified through **increased screening** with tablets

Facilitation

Easy to **engage** with BH providers and **access** BH information

Effectiveness

True integration of services resulting in **efficient** and **timely** interventions

Impact on patient care

Patient Story

A patient (38-year-old female) presented to a primary care office with complaint of chest tightness, shortness of breath and last screened positive for depression. After PCP ruled out cardiac issues, PCP consulted with integrated behavioral health therapist and determined patient should be seen that same day for an urgent visit. There, it was discovered that several recent life changes (divorce, job termination, separation from children) were impacting the patient's well-being. A week off from work to engage in self care, a follow-up appointment to see the integrated therapist and medical NP along with restarting antidepressant medication all played a role in this patient returning to work the following week while remaining engaged in care.

With collaboration and timely intervention aided by the use of technology, this patient received the proper amount of care needed in a cost effective setting, avoiding an unnecessary ED visit or long wait times for an outside psychiatric evaluation.

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