

Integrated Behavioral Health Project

Phase I Summative Report

July 2009



IBHP

Integrated Behavioral Health Project

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The California Endowment's mission is to expand access to affordable, quality health care for underserved individuals and communities, and to promote fundamental improvements in the health status of all Californians. www.calendow.org

Table of Contents



I.	Executive Summary	4
II.	Study Overview	6
III.	Instrumentation	7
	Duke Health Profile	
	PHQ-9	
	Patient Satisfaction Survey	
	Provider Satisfaction Survey	
IV.	Outcomes and Findings	13
V.	Repeated Measures	14
	Report on Duke Mean health and Dysfunction Scores	
	Report on Changes in PHQ-9 Mean Scores	
	Patient and Provider Satisfaction Surveys	
	Levels of Integration and Outcomes	
VI.	Summary	26

I. Executive Summary

In March 2006, the Integrative Behavioral Health Project (IBHP) was launched by the Tides Center with funding from The California Endowment. IBHP's purpose was to accelerate integration of behavioral health services in primary care settings. Seven primary care clinics and two clinic-consortia received grants. A combination of standardized and customized instruments was used.

Descriptive data was compiled on more than 5,000 patients and profiling outcome analysis was conducted on those completing one or more instruments. Findings include:

- ▶ Almost 90 percent of patients were either Hispanic/Latino (40.8%) or White (48.6%);
- ▶ Average age of patients was approximately 41 years;
- ▶ During the study period, the average number of visits for either primary care, behavioral health, or both was 2.63; the maximum number of visits was 39;
- ▶ One-third of patients had the same date for their initial clinic visit and entry into the clinic's behavioral health program;
- ▶ Greater than one-half of patients (52.5%) were referred to the clinic's integrated behavioral health program within six months of an initial visit to the clinic;
- ▶ At the time of a patient's initial assessment using the Duke Health Profile, the majority were in the bottom 25th percentile in health and dysfunction measures (indicating highest levels of dysfunction);
- ▶ Mean scores for Duke Health Profile health measures were lower than the normative sample, and mean scores for each of the dysfunction measures were greater than the normative sample;
- ▶ Point of entry PHQ-9 scores of patients with chronic diseases indicated that approximately 80 percent may have needed treatment for their depression; one-third definitely had a need for treatment for depression.
- ▶ With regard to repeated measures using the Duke Health Profile and the PHQ-9, the following was observed:
 - Mean health scores increased (the desired clinical direction) in each of the six health measures from baseline to most recent follow-up, and changes were statistically significant for the measures of physical health, mental health, and general health;
 - Mean dysfunction scores decreased (the desired clinical direction) in each of the four health measures from baseline to most recent follow-up, and were statistically significant for the measures of anxiety and depression;

- Though clinical improvement is apparent for health scores and dysfunction scores, they remain lower than the normative sample for the Duke¹;
 - The mean PHQ-9 depression score for patients decreased significantly (statistically) from baseline to most recent follow-up assessment.
- ▶ Aggregate mean scores and subgroup mean scores (e.g., gender, age, or ethnicity) show strong levels of patient satisfaction; the majority of responses to items on a five-point scale were above 4.50, suggesting high levels of satisfaction with services, model, treatment, and treatment setting.
 - ▶ Greater than 150 primary care providers (PCPs) and more than 40 behavioral health (BH) staff completed an on-line survey on service integration based on a model developed by Miles, Linkins, et.al²: Findings include:
 - Moderate levels of communication was reported by PCPs and BH staff;
 - Although high physical proximity was reported by PCPs and BH staff, PCPs' reported physical proximity as just above the threshold that would be considered high;
 - PCPs and BH staff reported temporal proximity as moderate;
 - While BH staff reported behavioral health expertise/services as high, PCPs reported behavioral health expertise/services as moderate;
 - Moderate levels of institutional stigma (though approaching low levels) were reported by PCPs and BH staff;
 - The overall integration score produced by BH staff ($M = 75.60$) suggests that BH staff view high levels of integration (75 is the threshold level), while the overall integration score by PCPs ($M = 71.58$) was below this threshold;
 - ▶ To assess associations between levels of integration and patient outcomes, five of the seven clinics were reviewed based on similar baseline PHQ-9 score levels, using between group analyses. Three of the five levels of integration domains – communication, physical proximity, and temporal proximity – had statistically significant differences across the clinics;
 - ▶ Testing for an association between the levels of integration and statistically significant patient mean scores, differences from point of entry to the most recent retest for the PHQ-9 did not show a causal link between level of integration and depression improvement. The domain of temporal proximity was linked to improved outcome scores on the PHQ-9 for only one of the two clinics with statistically significant differences between its baseline and most recent re-test.

1 A comparison of scores between the Tides Center study patients and primary care patients on which the Duke was normed showed statistically significant differences.

2 "Conceptualizing and Measuring Dimensions of Integration in Service Models Delivering Mental Health Care to Primary Care Patients." Keith M. Miles, MPA, Karen W. Linkins, PhD, Hongtu Chen, PhD, Cynthia Zubritsky, PhD, JoAnn Kirchner, MD, Eugenie H. Coakley, MA, MPH, Louise Quijano, PhD, and Stephen J. Bartels, MD, MS, 2007.

II. Study Overview

The Integrative Behavioral Health Project (IBHP) was launched in March 2006 as a project of Tides Center with funding from The California Endowment. Its purpose is to accelerate integration of behavioral health services into primary care settings. Its goals are to:

- ▶ Increase access to behavioral health services;
- ▶ Reduce stigma associated with seeking treatment;
- ▶ Improve treatment outcomes; and
- ▶ Strengthen linkages between mental health and primary care.

Phase I of IBHP involved the selection of seven primary care clinics and two clinic consortia to receive grants as demonstration sites. Grants afforded the opportunity to study each organization's operations while also enhancing capacity to track services and outcomes.

The demonstration sites were:

- ▶ Open Door Community Health Centers, Arcata
- ▶ Mendocino Community Health Clinic, Ukiah
- ▶ Sierra Family Medical Clinic, Nevada City
- ▶ Golden Valley Health Center, Merced
- ▶ Family Healthcare Network, Visalia
- ▶ SACHS-Norton Clinic, San Bernardino
- ▶ Family Health Centers of San Diego
- ▶ Northern Sierra Rural Health Network, Nevada City
- ▶ Council of Community Clinics, San Diego

III. Instrumentation

Several concurrent assessment approaches were designed and initiated across the seven demonstration sites. A combination of standardized and customized instruments were introduced to obtain descriptive and outcome data on patients, and attitudinal, performance and satisfaction data on patients, providers and managers. The instruments were used for Phase I, as described below.

The Duke

The Duke Health Profile (Duke) is a 17-item generic self-report standardized instrument containing six health measures (physical, mental, social, general, perceived health, and self-esteem), and four dysfunction measures (anxiety, depression, pain, and disability). A description of each the health measures and dysfunction measures is presented below.

Health Measures

<i>Physical Health</i>	Physical capacity for ambulation (walking and running) and physical symptoms (sleeping, fatigue, and pain).
<i>Mental Health</i>	Psychological symptoms (depressed feelings, nervousness), cognition (concentrating), and personal self-esteem (I like who I am, I give up too easily).
<i>Social Health</i>	Participation in social activities (socializing with friends or relatives, participation in group activities and social self-esteem (getting along with others, family relationships).
<i>General Health</i>	Combination of physical, mental, and social health.
<i>Perceived Health</i>	Self-assessment of overall health (I am basically a healthy person).
<i>Self-Esteem</i>	Personal self-esteem (I like who I am) and social self-esteem (getting along with others, comfortable levels around other people, family relationships).

Dysfunction Measures

<i>Anxiety</i>	Anxiety with social self-esteem (getting along with others, comfortable levels around other people, family relationships) and psychological symptoms (nervousness).
<i>Depression</i>	Depression with personal self-esteem (I like who I am, I give up too easily), psychological symptoms (nervousness), and cognition (concentrating).
<i>Pain</i>	Hurting or aching in any part of the body.
<i>Disability</i>	Confinement to home, nursing home, or hospital because of sickness, injury, or other health problems in the preceding week.

PHQ-9

The PHQ-9 is the nine item depression scale of the Patient Health Questionnaire. The PHQ-9 is a standardized tool for assisting for diagnosing depression, as well as selecting and monitoring treatment. The PHQ-9 is based directly on the diagnostic criteria for major depressive disorder in the Diagnostic and Statistical Manual Fourth Edition (DSM-IV). PHQ-9 cut-off scores and corresponding suggested clinical actions are presented below.

Score	Action
≤ 4	Suggests the patient may not need depression treatment.
5 to 14	Use clinical judgment about patient; based on patient's duration of symptoms and functional impairment.
≥ 15	Warrants treatment for depression.

Patient Satisfaction Survey

Based upon the review of integration literature and input from demonstration site representatives, a nine item general satisfaction survey was developed to assess patient satisfaction with services and the model, as well as comfort levels with treatment and treatment setting. Grantees could also add questions specific to their agency or model. Universal items on the patient satisfaction survey are presented on the following page.

Items

I am satisfied with the amount of time staff spent with me during my visit.

My beliefs about health and well-being were considered as part of the help (services) that I received.

I would follow through if I were referred outside this clinic for mental health services.

Any concerns I may have had regarding my mental health treatment plan were quickly taken care of.

Treatment and information were provided to me in a language or way I could easily understand.

I am comfortable receiving mental health services here at this clinic.

I am treated the same as other people who get care at the clinic.

I prefer to receive my mental health services at the location where I receive my medical care.

I feel I am learning the skills I need to deal with my problems.

Provider Satisfaction Survey

Primary care providers (PCPs) and behavioral health (BH) staff completed an on-line survey that addressed such integrated behavioral health issues/areas as PCP effectiveness in addressing needs of patients with mental health disorders, addictions, and/or other psychosocial issues, preferences for kinds of services BH specialists are providing for patients, effectiveness of an integrated behavioral health model to increase ease of patient access to behavioral services, and level of integration of behavioral health services in a primary care setting.

To measure levels of integration, building on research published by Miles et al.¹, PCPs and BH staff were asked to assess their organization's level of development with regard to five domains of integration. They are (a) communication, (b) physical proximity of primary care and behavioral health care, (c) temporal proximity between primary care and behavioral health care, (d) integration of behavioral health expertise/services, and (e) institutional stigma. PCPs, BH staff, and administrators were asked to rank the presence of each domain according to the following scale:

¹ "Conceptualizing and Measuring Dimensions of Integration in Service Models Delivering Mental Health Care to Primary Care Patients." Keith M. Miles, MPA, Karen W. Linkins, PhD, Hongtu Chen, PhD, Cynthia Zubritsky, PhD, JoAnn Kirchner, MD, Eugenie H. Coakley, MA, MPH, Louise Quijano, PhD, and Stephen J. Bartels, MD, MS, 2007.

Levels of Integration of Behavioral Health Services in a Primary Care Setting

Very Low Low Moderate High Very High
0---/---/---/---/---5---/---/---/---/---10---/---/---/---/---15---/---/---/---/---20

An overview of the levels of integration is presented for each of the five domains:

● **COMMUNICATION** (including e-mail or shared records as forms of communication)

0 *Very Low* - PCP and BH specialist very rarely communicate beyond initial referral; includes little feedback about progress and almost no communication about missed appointments;

5 *Low* - PCP and BH staff may communicate occasionally about diagnosis in rare selected cases; feedback is infrequent; communication about missed appointments is irregular and only in special circumstances;

10 *Moderate* - PCP and BH staff sometimes communicate about diagnosis and occasionally about treatment, but not in most cases; may be some feedback about progress and missed appointments;

15 *High* - PCP and BH staff often communicate about diagnosis and treatment choices; information is often shared about progress and outcomes; missed appointments are reported in most cases;

20 *Very High* - PCP and BH staff almost always communicate about diagnosis; communication about treatment in most if not all cases; constant feedback about treatment and progress; missed appointments are almost always shared.

● **PHYSICAL PROXIMITY OF PRIMARY CARE AND BEHAVIORAL HEALTH**

0 *Very Low* - Primary care and BH services are separated by more than four blocks;

5 *Low* - Primary care and BH services are located within 4 blocks but not within the same complex or campus;

10 *Moderate* - Primary care and BH services are in different buildings but within the same campus or complex;

15 *High* - Primary care and BH services are in the same building but in different practice areas;

20 *Very High* - Primary care services are co-located with BH services, in the same practice area;

- **TEMPORAL PROXIMITY PRIMARY AND BEHAVIORAL HEALTH CARE**

0 *Very Low* – Primary care referral and initial BH services are scheduled at distinctly different times, separated on average by more than 21 days;

5 *Low* - Primary care referral and initial BH services are provided at different times, separated by an average of 15 to 21 days;

10 *Moderate* - Primary care referral and initial BH services are usually provided within an average of eight (8) to ten (10) days of each other;

15 *High* - Primary care referral and initial BH services are provided within seven (7) days, but not on the same day;

20 *Very High* - Primary care referral and initial MH services are provided during the same visit, on the same day.

- **BEHAVIORAL HEALTH EXPERTISE/SERVICES**

0 *Very Low* - No specialty BH expertise within clinic; occasional pharmacological interventions may be provided; patients referred off-site for specialty BH care;

5 *Low* - Very limited BH expertise available in clinic; usually provide standard pharmacological interventions; patients with modestly complex problems almost always referred off-site;

10 *Moderate* - Some limited BH expertise available in clinic; trained BH counselor or psychiatrist consultation available by phone; some short-term counseling for routine BH issues provided by PCP; more complex usually referred off-site;

15 *High* - Trained BH counselor or psychiatrist on site for face-to-face consultation; all pharmacological and many counseling services for BH issues are available in clinic setting; only complex problems or treatment resistance usually referred to specialty care;

20 *Very High* - Wide range of specialty BH expertise available in clinic setting; most basic services are provided by fully qualified BH clinicians; minimal need to use outside specialty expertise.

- **INSTITUTIONAL STIGMA** (Reverse Scored)

0 *Very High* - BH services are referred to as a separate entity; staff makes no attempt to treat it as other than a program just for those in need of BH services;

5 *High* - May have name that is indirectly related to BH services, but staff makes little attempt to avoid treating it as a separate program for those in need of BH services;

10 *Moderate* - Program has a distinct separate name not directly related to BH treatment; staff makes some efforts to avoid referring to it as a separate program;

15 *Low* - Minimal distinction is made between the PC and BH settings; staff attempts to avoid treating it as a separate program;

20 *Very Low* - No distinction is made between PC and BH settings in name or setting; staff does not treat as a separate program;

OVERALL INTEGRATION SCORE

Each of the domain scores were totaled, and a score of 75 or greater suggests high levels of integration.

IV. Outcomes / Findings

Patients Receiving Integrated Services with at Least One Visit During the Study Period

The majority of patients served during the study period, greater than 5,000 in all, were female (70.9%). Almost 90 percent of patients were either Hispanic/Latino (40.8%) or White (48.6%) in origin, with no other ethnic/racial group comprising more than two percent of the population. The average age of patients was approximately 41 years of age, with the youngest, 18 years old, and the oldest, 94 years old.

The average number of visits for either primary care or behavioral health (or both) during the study period was 2.63; the maximum number of visits was 39. One-third of patients had the same date for their initial clinic visit and entry into the clinic's behavioral health program, suggesting a same day "warm hand-off." Greater than one-half of patients (52.5%) were referred to the clinic's integrated behavioral health program within six months of their initial visit to the clinic.

Of those clinics tracking chronic diseases, approximately one-quarter (24.3%) of patients were diagnosed with Type I or Type II diabetes. At the time of a patient's initial assessment using the Duke, the majority of patients were in the bottom 25th percentile in health measures (indicating lowest levels of health status) as well as dysfunction measures (indicating highest levels of dysfunction). Additionally, mean scores for each of the health measures were significantly (statistically) lower than the normative sample² for the Duke of primary care patients, and mean scores for each of the dysfunction measures were significantly (statistically) greater than the normative sample of primary care patients. Initial PHQ-9 scores of patients with chronic diseases indicated that approximately 80 percent of patients may have needed treatment for their depression, with one-third definitely having needed treatment for their depression.

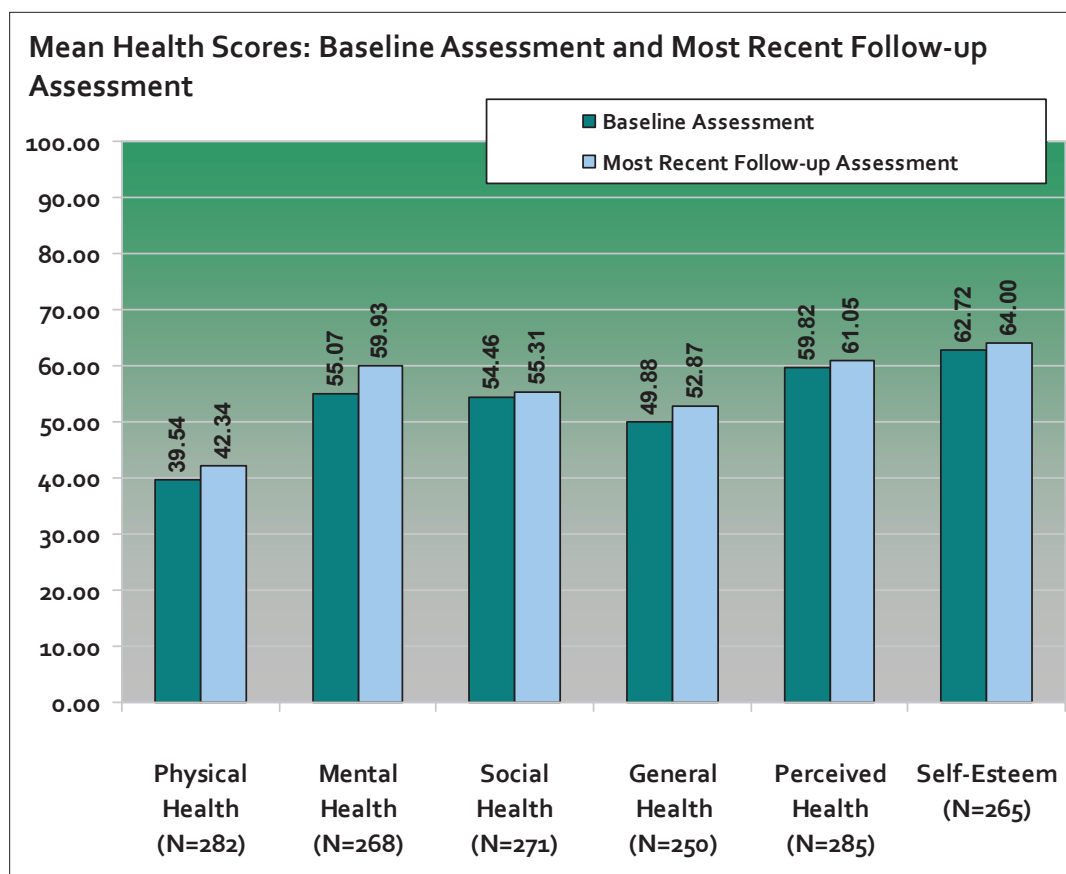
² Normative sample consisted of 1,997 ambulatory primary care patients 18 to 92 years of age (average age of 47.1 years old (SD=16.7)), randomly selected by eight (8) strata. Key characteristics of sample: 1) 66.9% of primary care patients were female; 2) 60.4% were white, 35.9% were African-American; 3) The ten most prevalent health problems: health maintenance, 24.9%; hypertension, 16.1%; diabetes mellitus, 7.3%; hyperlipidemia, 6.9%; depressive disorder, 5.4%; pain in joints, 4.5%; obesity, 3.7%; tobacco abuse, 3.6%; menopausal symptoms, 3.6%; and allergic rhinitis, 3.0%.

V. Repeated Measures

This section of the report presents a comparative analysis of Duke scores and PHQ-9 scores at baseline (the first administration of surveys after commencement of grant) and most recent follow-up assessment (most recent administration of the surveys near the end of the grant period)³. Though a large percentage of patients with at least one visit during the study period were of Hispanic/Latino origin, the majority of those patients completing assessments at least on two occasions were White.

Report on Duke Mean Health and Dysfunction Scores

Mean health scores increased (the desired clinical direction) in each of the six health measures from baseline to most recent follow-up, and changes were statistically significant for the measures of physical health, mental health, and general health⁴.



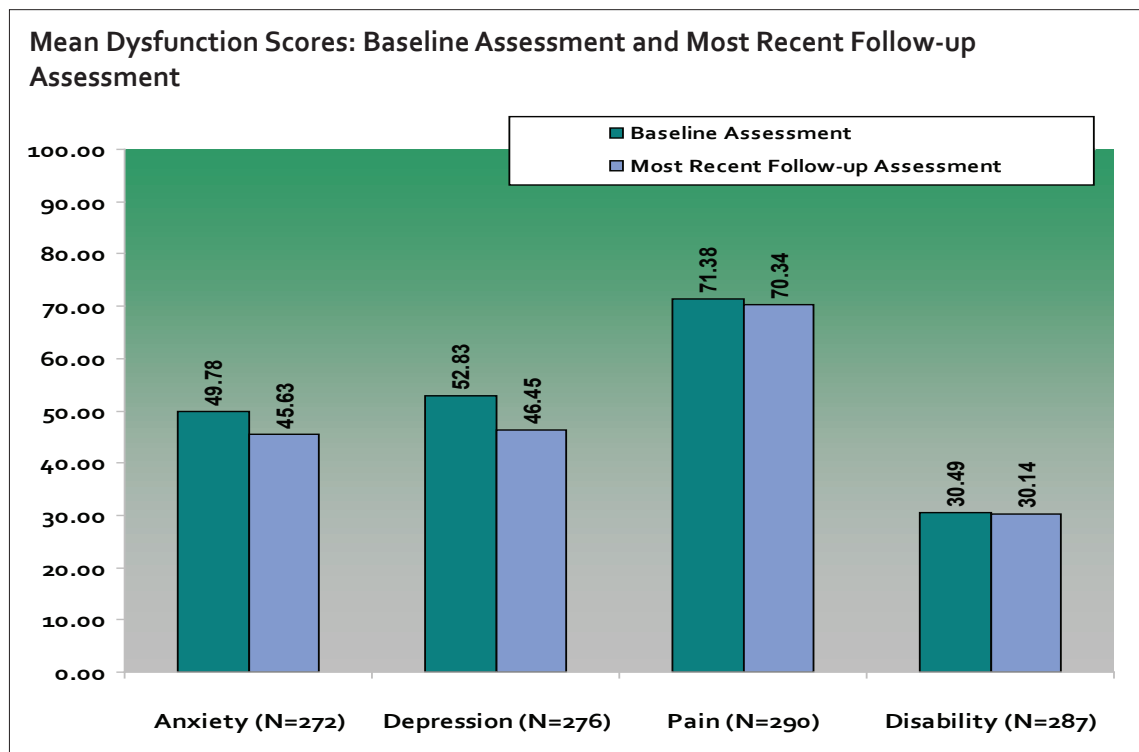
³ The average number of days between baseline administration and most recent administration of the DUKE was 144.26 days (4.5 months), with the minimum, three (3) days, and the maximum, 284 days. The mean number of days between baseline administration and most recent administration of the PHQ-9 was 127.14 days, with the minimum, one (1) day, and the maximum, 284 days.

⁴ Based on Ns that ranged from 250 to 290.

Though clinical improvement is apparent for each of the health scores at the time of the most recent assessment, they remain lower than the normative sample for the Duke⁵.

Subgroups showing the greatest increase in health scores (subgroups with sizeable or statistically significant increases in the majority of health scores from baseline to most recent follow-up) included female patients, patients 50 to 59 years old, white patients, patients whose entry in to a behavioral health program was after the start of the study, with greater 10 visits during the study period, and patients with at least one missed visit.

Mean dysfunction scores decreased (the desired clinical direction) in each of the four health measures from baseline to most recent follow-up, and were statistically significant for the measures of anxiety and depression.

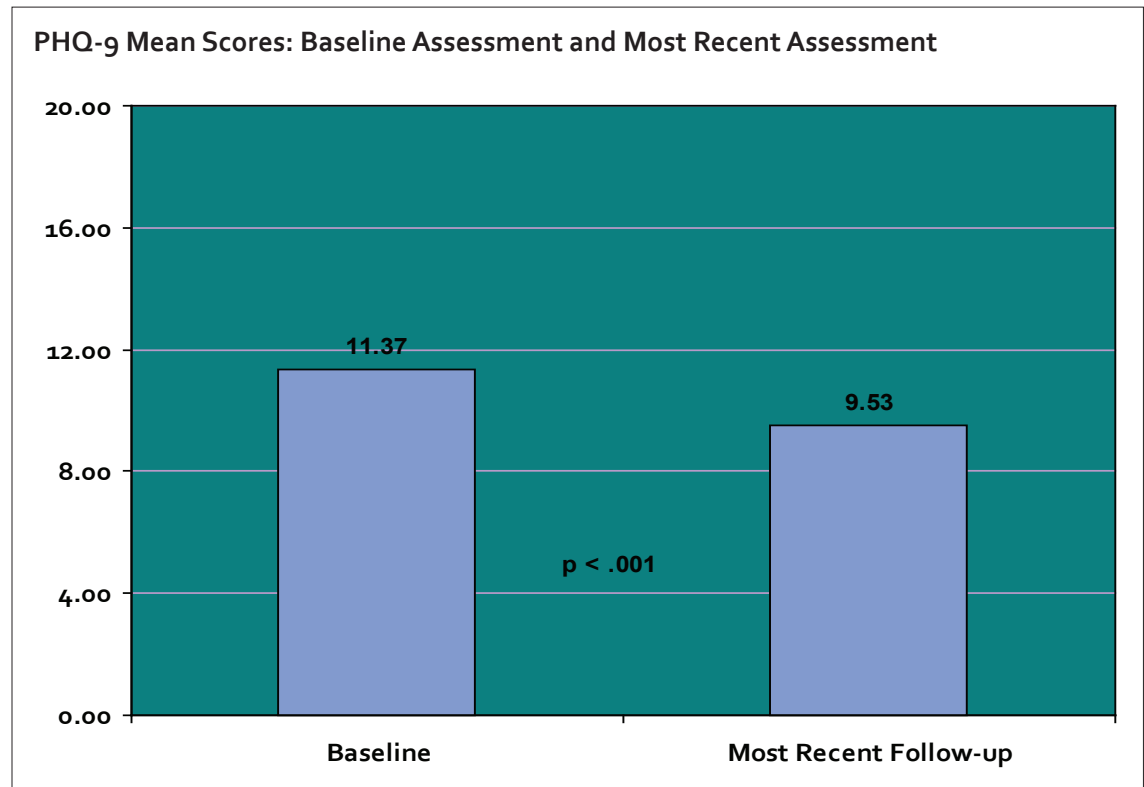


Like health scores, each of the dysfunction scores at the time of the most recent health scores, however, were greater than the normative sample at statistically significant levels. Subgroups showing the greatest decrease in dysfunction scores (those subgroups with sizeable or statistically significant increases in the majority of dysfunction scores from baseline to most recent follow-up) included female patients, patients less than 40 years old, non-White patients, patients whose entry in to a behavioral health program was after the start of the study, patients with greater 10 visits during the study period, and patients with at least one missed visit.

⁵ A comparison of scores between the Tides Center study patients and primary care patients on which the Duke was normed showed statistically significant differences.

Report on Changes in PHQ-9 Mean Scores

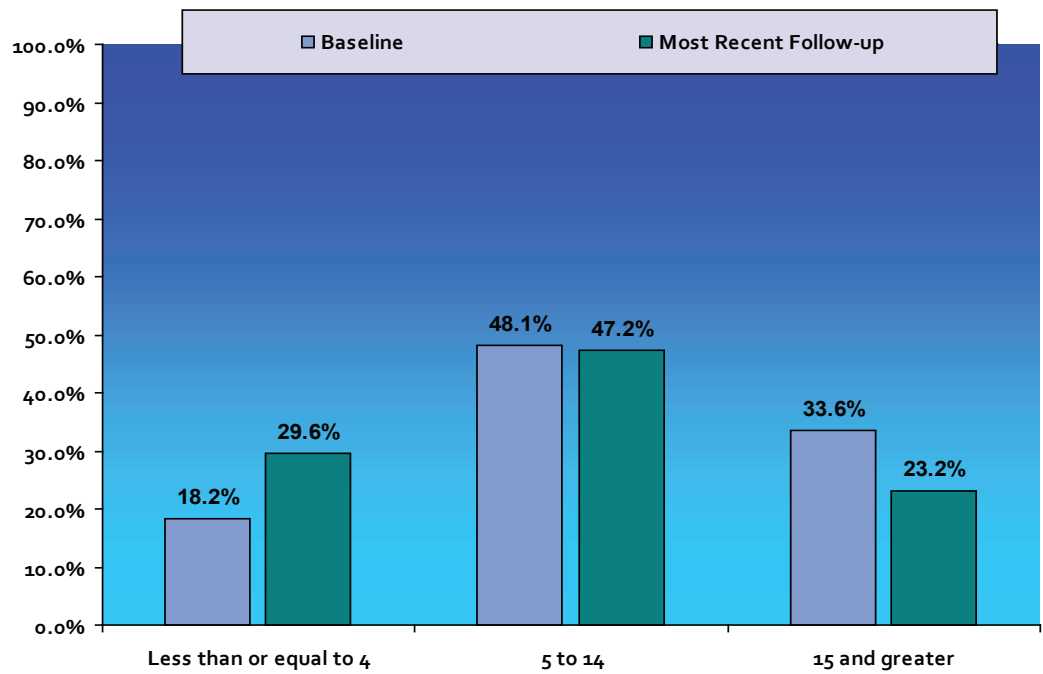
The mean PHQ-9 depression score for patients decreased significantly (statistically) from baseline to most recent follow-up assessment⁶ at statistically significant levels.



At baseline, approximately one-third of patients had a PHQ-9 depression score that indicated treatment for depression. At the time of the most recent follow-up assessment, less than one-quarter of patients had a score (≥ 15) that indicated treatment.

⁶ Based on N=422.

Change in PHQ-9 Scores: Baseline Assessment and Most Recent Assessment

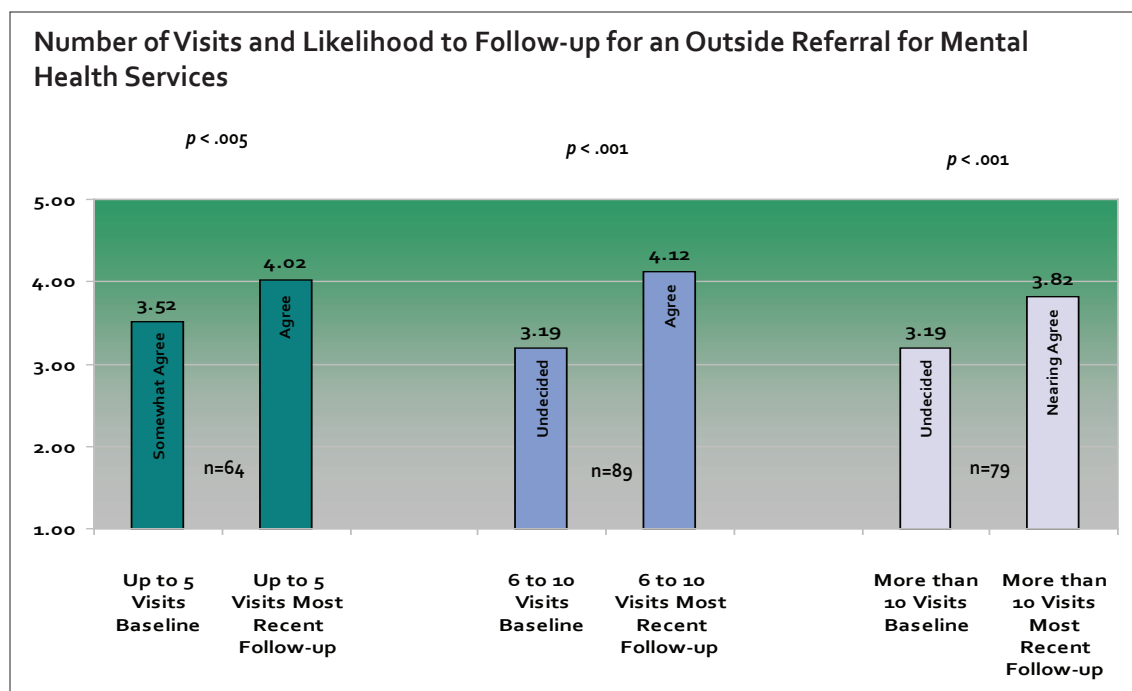


Statistically significant decreases in the PHQ-9 depression score from baseline to most recent follow-up assessment occurred for male and female patients; patients 50 years old or greater; white and non-white patients; patients whose entry into a behavioral health program was prior to study and patients whose entry into a behavioral health program was after study commencement; patients with diabetes; patients with more than one visit during the study period; patients without a missed visit during the study period; and patients with at least one missed visit during the study period.

Patient and Provider Satisfaction Surveys

Patient Satisfaction

Patients⁷ were asked to respond to a nine item general satisfaction survey assessing their satisfaction with services and the model and comfort levels with treatment and treatment setting utilizing the following scale: 1 = *Strongly Disagree*; 2 = *Disagree*; 3 = *Neither Disagree Nor Agree*; 4 = *Agree*; and 5 = *Strongly Agree*. Aggregate mean scores and subgroup mean scores (e.g., mean scores by gender, age, or ethnicity) for the majority of the items were above 4.50 on the five-level scale, suggesting high levels of satisfaction with services, model, treatment, and treatment setting⁸. However, patients were mixed in reference to the item "I would follow through if I were referred outside this clinic for mental health services", though patients reported they would be more likely to follow through with an outside referral for mental health services after having been engaged for a period with their clinic. The figure below suggests that within five visits after completing their initial patient satisfaction survey (and completing a second satisfaction survey), patients display a greater likelihood of accepting an outside referral for mental health services.



⁷ Though Ns varied for each inquiry, Ns were at least 250 for each inquiry. Only patients that completed a patient satisfaction survey during the study period on at least two occasions were included in the analyses.

⁸ There were statistically significant variances in mean scores between some subgroups; mean scores for all subgroups suggest high levels of satisfaction.

Provider Satisfaction Survey

Greater than 150 primary care provider (PCPs) and more than 40 behavioral health (BH) staff completed an on-line survey on at least one occasion⁹. Key findings from the survey include:

- ▶ PCPs and BH staff perceived PCPs as mostly effective in addressing the needs of patients with mental health disorders, addictions, and/or other psychosocial issues;
- ▶ PCPs and BH staff were not in agreement about the suitability of services that BH staff were providing for patients, with PCPs in general agreement that the type behavioral health services provided were what they (the medical providers) wanted for their patients, and BH staff were not in concurrence concerning the suitability of services they provided to patients¹⁰;
- ▶ Overall, BH staff reported that behavioral health consultation were more helpful for patients than did PCPs¹¹;
- ▶ Overall, PCPs and BH staff reported that an integrated health model increases ease of patient access to behavioral services at their clinic; however, BH staff reported greater increase in ease of access of patient access than did PCPs¹².

With regard to levels of integration:

- ▶ Moderate communication was reported by PCPs and BH staff—e.g., *PCPs and BH staff sometimes communicate about diagnosis and occasionally about treatment, but not in most cases; may be some feedback about progress and missed appointments*;

⁹ The on-line survey was completed at the start of grant period and the end of grant period. Since mean scores did NOT vary significantly (statistically) between the two points in time, and since respondents could NOT be linked with their responses between the two points in time (surveys were anonymous), all responses from both points in time were used; thus, creating a more robust sample.

¹⁰ Variances in mean scores between PCPs ($M = 4.21$) and BH staff ($M = 3.50$) in regard to query were statistically significant ($p < .001$). Mean scores were based on the following scale: 1 = *Strong Disagree*; 2 = *Disagree*; 3 = *Neither Disagree Nor Agree*; 4 = *Agree*; and 5 = *Strongly Agree*.

¹¹ Variances in mean scores between PCPs ($M = 4.20$) and BH staff ($M = 4.55$) in regard to query were statistically significant ($p < .001$). Mean scores were based on the following scale: 1 = *NOT At All Helpful*; 2 = *Slightly Helpful*; 3 = *Somewhat Helpful*; 4 = *Pretty Helpful*; and 5 = *Extremely Helpful*.

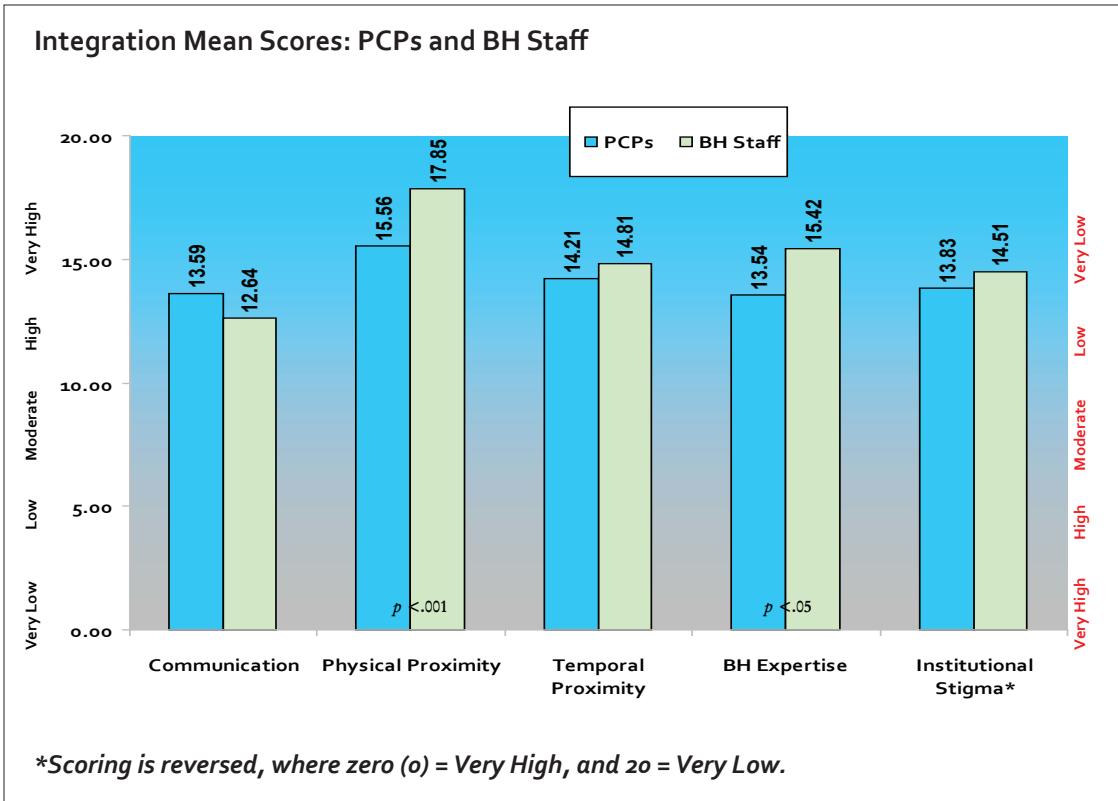
¹² Variances in mean scores between PCPs ($M = 4.49$) and BH staff ($M = 4.75$) in regard to query were statistically significant ($p < .05$). Mean scores were based on the following scale: 1 = *Strong Disagree*; 2 = *Disagree*; 3 = *Neither Disagree Nor Agree*; 4 = *Agree*; and 5 = *Strongly Agree*.

- ▶ Although high physical proximity was reported by PCPs and BH staff – e.g., *primary care and BH services are in different buildings but within the same campus or complex*, PCPs' reported physical proximity was just above the threshold that would be considered high¹³;
- ▶ PCPs and BH staff reported temporal proximity as moderate (e.g., *primary care referral and initial BH services are usually provided within an average of eight (8) to ten (10) days of each other*);
- ▶ While BH staff reported behavioral health expertise/services as high (e.g., *trained BH counselor or psychiatrist on site for face-to-face consultation; all pharmacological and many counseling services for BH issues are available in clinic setting; only complex problems or treatment resistance usually referred to specialty care*), PCPs reported behavioral health expertise/services as moderate (*some limited BH expertise available in clinic; trained BH counselor or psychiatrist consultation available by phone; some short-term counseling for routine BH issues provided by PCP; more complex usually referred off-site*)¹⁴;
- ▶ Moderate levels of institutional stigma (though approaching low levels of institutional stigma) were reported by communication was reported by PCPs and BH staff—e.g., *program has a distinct separate name not directly related to BH treatment; staff makes some efforts to avoid referring to it as a separate program*; and
- ▶ The overall integration score generated by BH staff ($M = 75.60$) suggests that BH staff reported high levels of integration (75 is the threshold score). The overall integration score generated by PCPs ($M = 71.58$) was below the threshold score of 75.

¹³ Variances in *physical proximity* mean scores between PCPs ($M = 15.75$) and BH staff ($M = 17.59$) were statistically significant ($p < .005$).

¹⁴ Variances in *behavioral health expertise/services* mean scores between PCPs ($M = 13.83$) and BH staff ($M = 15.46$) were statistically significant ($p < .01$).

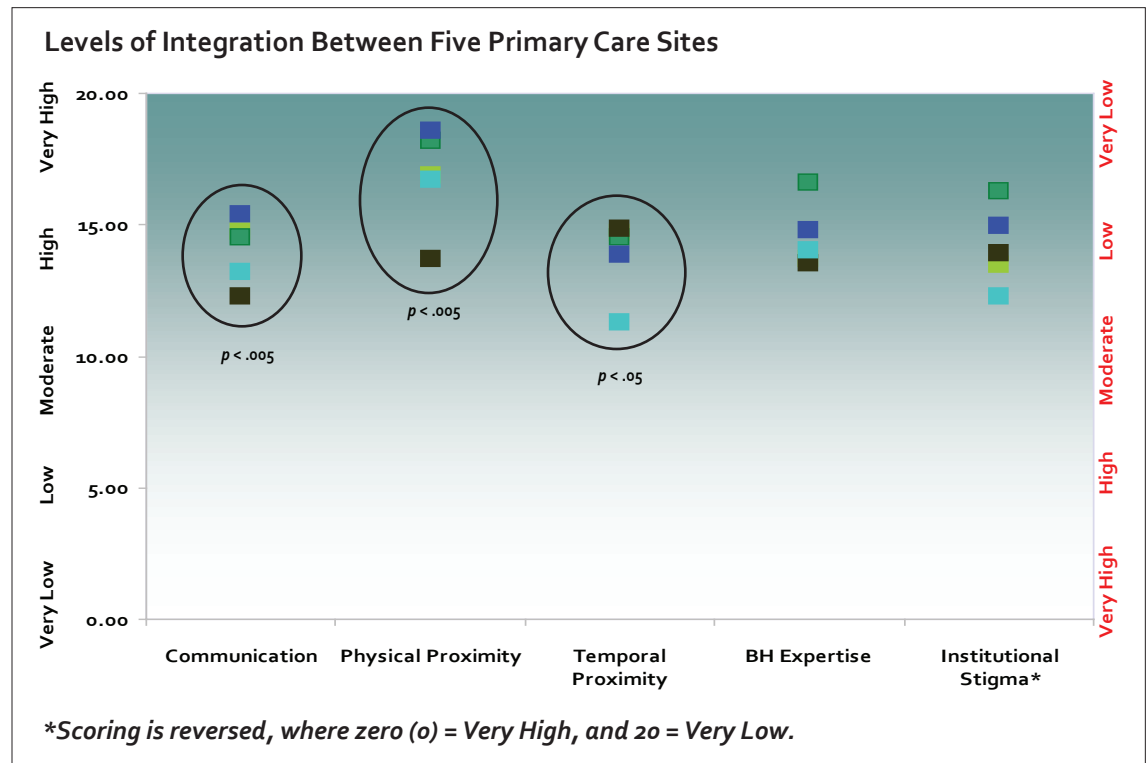
A graph of integration mean scores is presented for PCPs and BH staff¹⁵. Higher mean scores suggest greater levels of integration within domains.



¹⁵ Ns for PCPs range from 163 to 183 and Ns for BH staff range from 46 to 49.

Levels of Integration and Outcomes

To assess the associations between levels of integration and patient outcomes, an analysis was conducted using five of the seven vanguard primary clinics. Their selection was based upon comparable baseline PHQ-9 score levels, utilizing between-group analyses.^{16, 17} Three of the five domains on the level-of-integration scale, which were completed by providers—communication, physical proximity, and temporal proximity—had statistically significant differences across the clinics. The following graph shows variances among primary care clinics.



The majority of integration scores produced by the five primary care clinics suggests a moderate level of integration overall; two sites, however, had a score in the 75th percentile, suggesting a high level of integration. Integration scores between groups were also found to be statistically significant ($p < .01$), demonstrating the variability of integration across clinics.

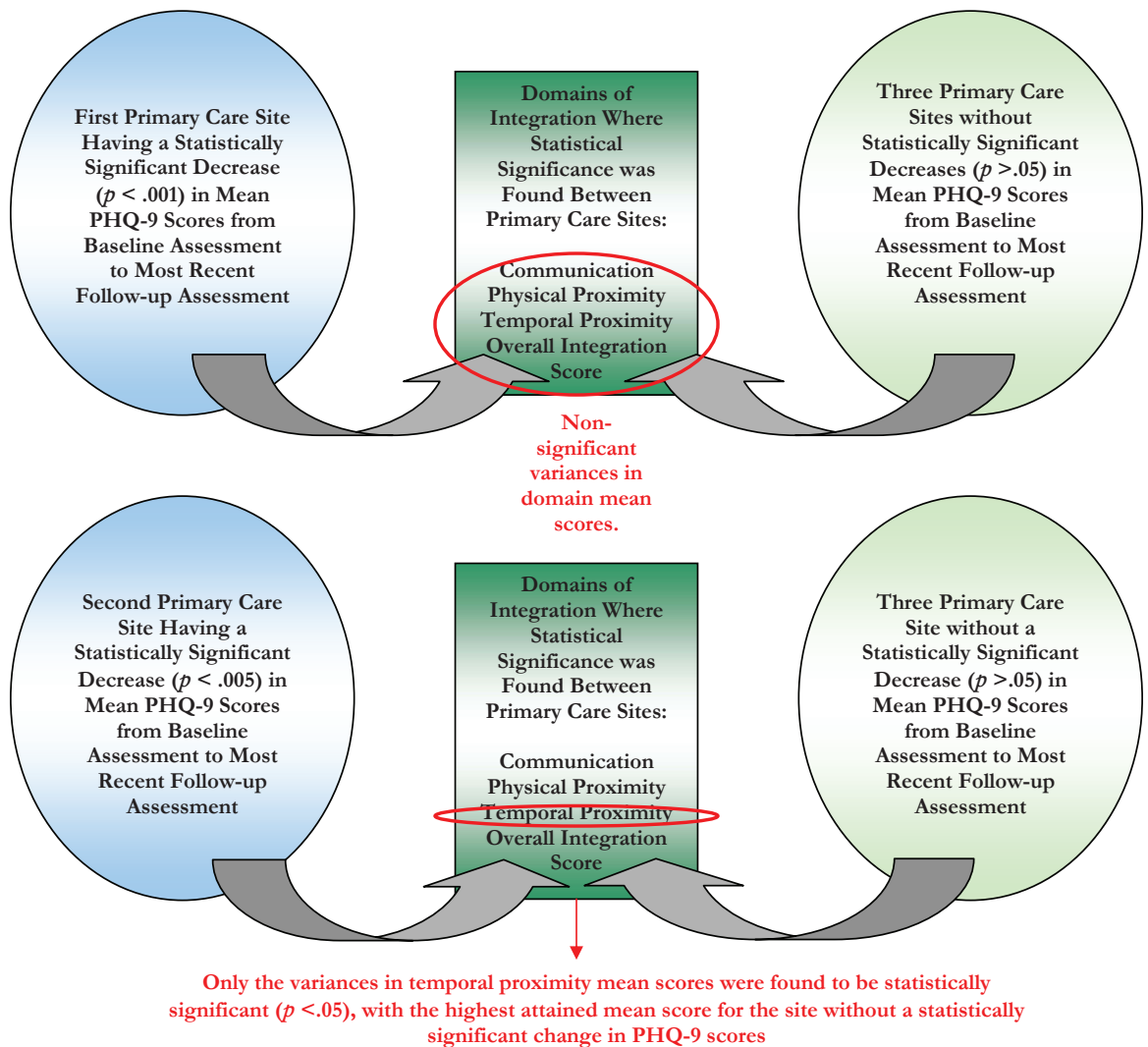
In two of the selected primary care sites, there was a statistically significant decrease in mean PHQ-9 patient scores from baseline assessments to the most recent follow-up assessment. For one of these sites, mean scores in the level of integration domains of communication, physical proximity, and temporal proximity, as well as overall integration, were *not* different from clinics without statistically significant decreases in PHQ-9 mean

16 One-Way ANOVA

17 The Duke was not included because only two sites had attained a sufficiently robust sample size for between group analysis.

scores.¹⁸ For the other primary care site with a statistically different PHQ-9 score,, there was a statistically significant variance ($p < .05$) in temporal proximity compared to those clinics without statistically significant changes in PHQ-9 scores. Interestingly, one of other three sites without statistically significant differences in PHQ-9 patient scores had an even higher temporal proximity rating. A model for this analysis is presented below.

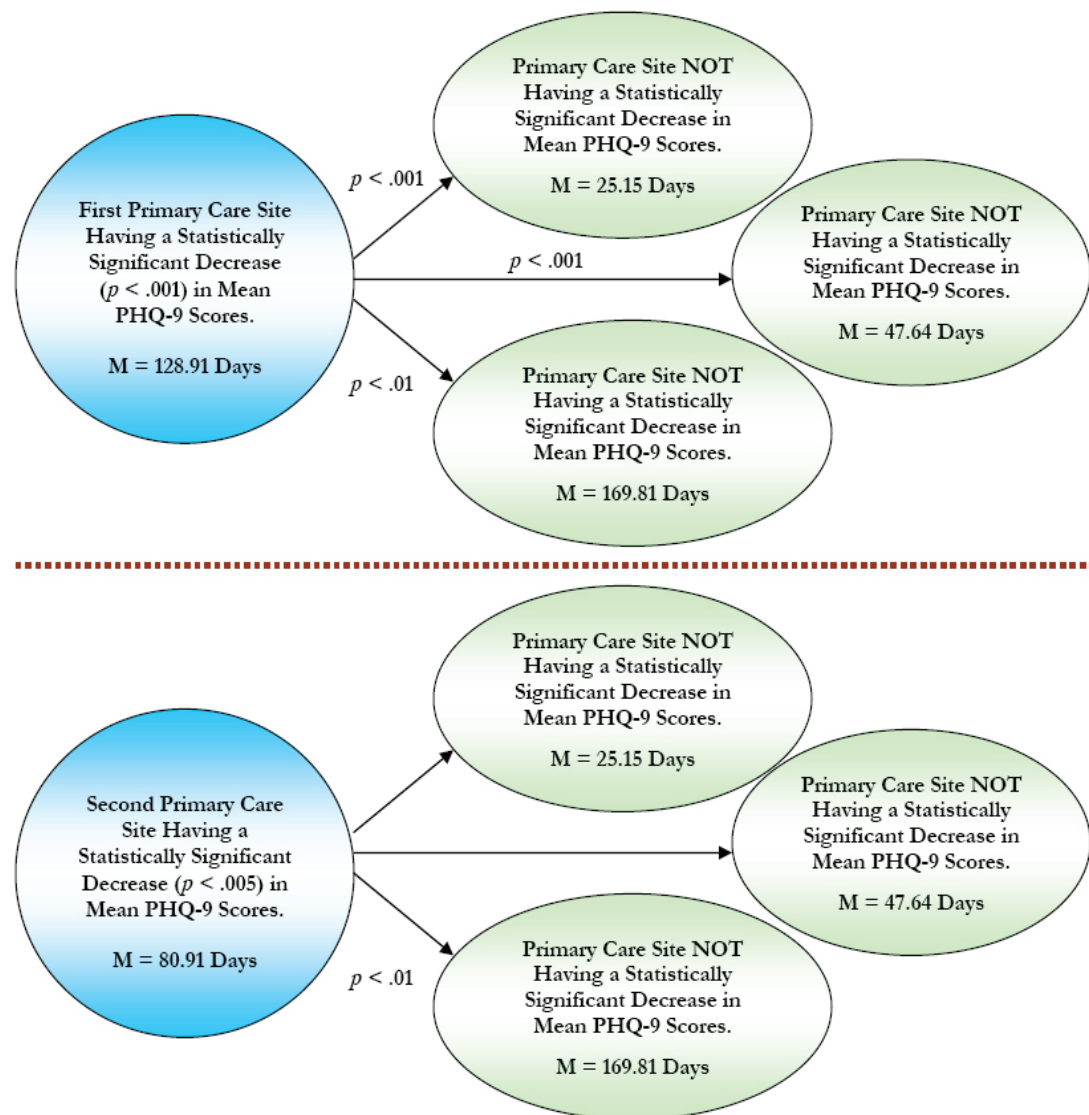
PHQ-9 Outcomes and Levels of Integration



18 One of the primary care sites had a non-statistically significant ($p > .05$) increase in PHQ-9 mean scores from baseline assessment to most recent follow-up assessment.

A separate analysis of statistically significant decreases in PHQ-9 mean scores between the baseline assessment and most recent follow-up assessment found that a greater number of days between assessments seemed to produce better outcomes. The two primary care sites with significant decreases in PHQ-9 mean scores also had a greater number of days between assessments, which presumably is an indication of lengthier patient engagement, when compared with PHQ-9 sites not yielding statistically significant differences in PHQ-9 scores. The graph below shows the variances in the mean number of days between assessments for the two primary care sites with significant decreases in PHQ-9 mean scores and the PHQ-9 sites not yielding statistically significant differences.

Mean Number of Days Between PHQ-9 Baseline Assessment and Most Recent Follow-up Assessment of the PHQ-9 Assessment



Testing for an association between the levels of integration and the attainment of statistically significant patient mean scores differences from point of entry to the most recent retest for the PHQ-9 did not show a causal link between the two. The domain of temporal proximity was linked to improved outcome scores on the PHQ-9 for only one of the two clinics with statistically significant differences between its baseline and most recent re-test. It may be that measurement of integration needs to be refined, as well as the model's components or assessment instruments, or it may be that additional elements are present that contribute to patient outcomes in primary care settings that are yet to be recognized. The very receipt of services for those that otherwise would not have access to behavioral health services or would utilize behavioral health services outside of a primary care setting may in and of itself be a determining factor, or results may be influenced by variations in user profiles, different clinical approaches, lengths of treatment, and/or staffing patterns. At this point, it is at least clear that greater systematic investigation into inputs (integration domains and models of activity), and outcomes (patient improvements) is necessary.

VI. Summary

Undergirding the first phase of the Integrative Behavioral Health Project (IBHP) was an exploratory assessment of measures across community clinics and health centers that were regarded as *vanguards* for integration in California. Data collection was initiated with grantees in June 2007 and continued through May 2008.

Though improvement was shown in patient functioning within health and dysfunction measures for the Duke, a standardized instrument, and although it is widely used in primary care settings, it appears, even after an intervention that patient functioning was at a statistically significant level lower than the Duke's normative thresholds of functioning. It was also observed that the mean PHQ-9 depression scores for patients decreased from baseline to most recent follow-up assessment at statistically significant levels. With data supporting high levels of depression (upwards to 80 percent) among primary care patients in clinic settings, it appears that short-term therapy, as also shown in other studies of depression, can reduce depressive symptoms. Over the course of treatment, a shifting of depression scores across the three PHQ-9 levels was observed, whereby at point of entry one-third (33.6%) of patients scored at a level of 15 or greater (strongly suggesting treatment for depression), while only 23.2 percent – less than one quarter – scored at this level after services were rendered. Conversely, a shift from 18.2% to 29.6% occurred at the lowest level (4 or less) for depressive symptomology (suggesting there may not be a need for depression treatment).

Patients appeared to be universally satisfied with the integrated behavioral health services that they received and with the model of integrated care. Though surveys of this type generally show high levels of satisfaction, it remains important to test for possible disaffection. Among subgroups of patients (e.g., men and women, whites and non-white, varied age levels), satisfaction also remained “high”; within levels 4 and 5 on a five point ordinal scale. Receptivity to the idea of accepting a referral to a mental health provider outside of the clinic was shown to increase upon the patient's engagement and receipt of behavioral health services. This may be a reflection of changes in the patient's perception of the value of behavioral health services and a reduction in perceptions of stigma associated with behavioral health services.

Phase I also compared and contrasted provider perspectives on integration within their clinic organizations. Similarities and differences were noted (some at statistically significant levels), and overall, assuming that a fully integrated model yields the highest quality care, it was observed that based on provider input, these vanguard organizations were generally at a “high” level of integration (a mean score of 15 or greater on a scale of 1 to 20). There were two notable exceptions, however; communication between PCPs and BH staff and institutional stigma, where these levels were below this threshold. A comparison of provider perspectives in clinics with primary care and behavioral health services and yet without integration would shed additional light on how integration is manifested in settings where it is encouraged

This report is the tip of the proverbial *iceberg* on integration of behavioral health service in primary care settings. More studies are needed along a continuum of integration models and across patient populations. The IBHP is currently engaged in a Phase II study where additional information will be compiled and reported, some complementary to this report and other data that expands the scope through specialty care patient services analysis (e.g., chronic disease management) and that addresses specific issues in integrated care, such as “no show” rates.



IBHP

Integrated Behavioral Health Project