

Preliminary Analysis of Pilot Data  
Integrated Behavioral Health Care Study

Southwest Virginia Community Health Systems, Inc

Submitted by Dr. McFeature

## **INTRODUCTION**

Southwest Virginia Community Health Systems, Incorporated (SVCHS) provides an integral approach with comprehensive services within a primary care setting. Primary care is the provision of continuous and coordinated care to patient populations, undifferentiated with respect to gender, age, or disorder. Primary care delivers accessible, integrated, and biopsychosocial health care services by practitioners accountable for addressing a large majority of personal health care needs. This is accomplished by developing sustainable partnerships with patients within the context of families and area communities. To better meet the needs of patients in primary care settings, there is an urgent need for evaluation of current health care delivery systems, particularly in understudied rural areas.

The goal of this report is to describe preliminary analyses addressing the effectiveness of SVCHS's integrated medical and mental health care program in reducing depressive symptoms in patients with clinically significant depression (CSD). The primary focus of these analyses was to determine the degree to which scores for a self-report depression screening tool – Patient Health Questionnaire-9 (PHQ-9) (Spitzer, Kroenke, & Williams, 1999) – improved from a pre-test to a post-test obtained within six months of initial referral to the program.

### **Behavioral Health Consultation**

Behavioral health care and physical health care are coordinated in co-locating a behavioral health consultant (BHC) within the primary care clinic. The BHC provides disease management services in which acute and chronic problems – such as depression, obesity, pain, diabetes, cardiovascular problems, and asthma/COPD – can be treated. Evidenced-based behavioral assessments and interventions were utilized relevant to medical presentations (i.e., depression and anxiety associated with medical conditions). The BHC will also utilize targeted solutions, such as focused, brief psychotherapies, to address lifestyle stressors. The BHC documents these services giving feedback to the medical provider who referred the patient. The BHC intervention can assist in reducing medical utilization, co-managing psychotropic medication regimes, and providing triage for patients in need of specialty mental health services (Strosahl, 1994).

## **METHODS**

### **Participants**

Of 300 participants providing pre- and post-intervention PHQ-9 scores, 251 met the criteria for Clinically Significant Depression (CSD). Diagnostic categories qualifying as CSD were Depressive Disorder NOS, Adjustment Disorder, Panic Disorder, Major Depressive Disorder, and Generalized Anxiety Disorder. The mean age for CSD participants was 41.20 (SD = 14.02). 62.5% of CSD participants were female (N = 157). 37.5% of participants were male (N = 94).

### **Procedure**

Integrative care research was conducted to determine if behavioral health consultation (BHC) interventions were therapeutically effective in treating “identified clinical depression” within community health centers/ primary care settings. This research was designed to measure the therapeutic effectiveness of utilizing BHC within the primary care/CHC setting. A randomized, controlled trial was conducted with those patients who met the criteria for clinically significant depression. These patients were pre-tested on the self-administered PHQ-9, a questionnaire to measure a patient’s level of depression. Patients were provided, on average, with 4 or more BHC interventions prior to the self-administered PHQ-9 post-test which was given within a six month period. From patients eligible for the study 300 were randomly selected from inclusion in this pilot study.

### **Interventions**

Behavioral health consultation (BHC) interventions utilized four or more 30 minute sessions which took place within a six month period. The first BHC treatment session included an assessment of the patient’s problems, an explanation of the rationale of treatment, establishment of a positive problem orientation, and an initiation of problem-solving treatment. The second session established an achievable goal which could be accomplished prior to next session. Importance was placed on the goal’s addressing the barriers identified in first session. The third session utilized multiple solution alternatives identified for implementation. Each solution presented unique advantages and obstacles, and one or more were chosen for implementation. During the fourth session, a specific plan of action was designed for implementing the solution.

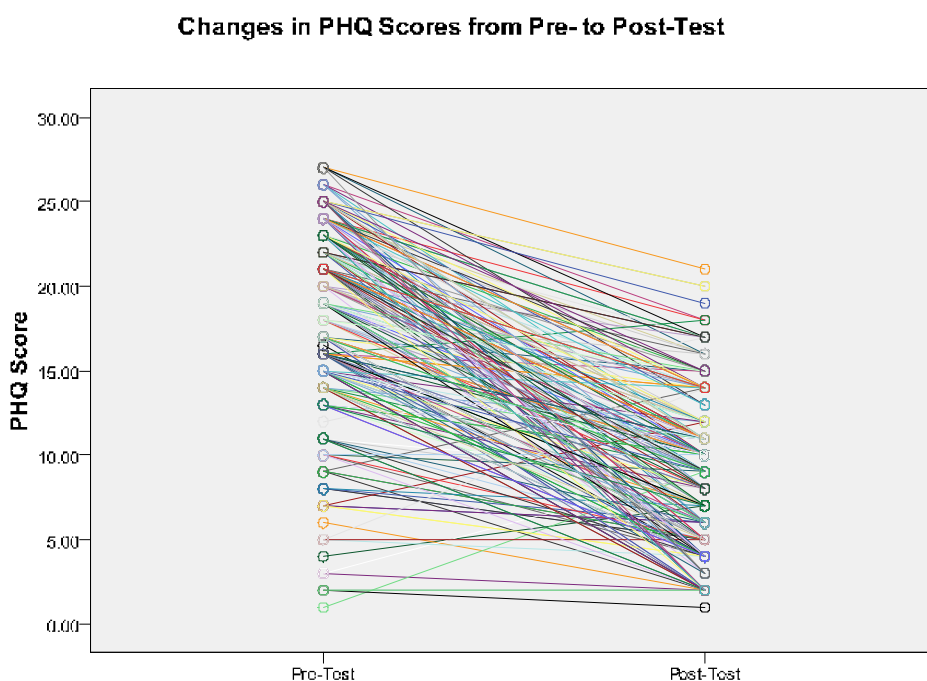
### **Measure**

We used the Patient Health Questionnaire-9 (PHQ-9), a valid standardized tool with 9 items for the detection of depressive symptoms (response categories range from “not at all =0,” to nearly every day=3). This tool is commonly used within community health centers in assessing patients with depressive disorders.

## **RESULTS**

### **Percentage of CSD participants who displayed at least a 50% improvement in PHQ scores**

49.8% ( $N = 125$ ) of CSD participants experienced at least a 50% improvement in PHQ scores from pre- to post test. 50.2% ( $N = 126$ ) of CSD participants did not display at least a 50% improvement in PHQ scores. The percentage of participants who met the goal of 50% improvement **exceeded the HRSA target of 40% of participants**. This pattern did not change significantly as a function of the gender of participants. Participants experiencing at least a 50% improvement in PHQ scores were significantly younger ( $M = 39.18$  years;  $SD = 14.43$ ) than participants who did not experience this degree of improvement ( $M = 43.21$ ;  $SD = 13.34$ ),  $t(249) = -2.29$ ,  $p = .023$ . However, Age only accounted for 2.1% of the variability in whether or not participants experienced at least a 50% improvement in PHQ scores (i.e.,  $R^2_{50\% \text{ Imp} - \text{Age}} = .021$ ), indicating the presence of a weak effect. Changes in PHQ scores from Pre- to Post-test are displayed below.



#### **Percentage of CSD participants who displayed at least a 5 point improvement in PHQ scores**

80.5% ( $N = 202$ ) of CSD participants experienced at least a 5 point improvement in PHQ scores from pre- to post test. 19.5% ( $N = 49$ ) of CSD participants did not display at least a 5 point improvement in PHQ scores. The percentage of participants who met the goal of 50% improvement **exceeded the HRSA target of 50% of participants**. This pattern did not change significantly as a function of either the age or the gender of participants. The mean change in PHQ scores from Pre- to Post-test was a reduction of 9.04 points ( $SD = 5.87$ ).

### **Percentage of CSD participants who displayed at least some improvement in PHQ scores**

94.8% ( $N = 238$ ) of CSD participants experienced at least some improvement in PHQ scores from pre- to post test (Post-test PHQ scores – Pre-test PHQ score  $< 0$ ). 5.2% ( $N = 13$ ) of CSD participants did not display at least some improvement in PHQ scores. This pattern did not change significantly as a function of either the age or the gender of participants.

### **Other analyses conducted:**

Changes in PHQ scores from Pre- to Post-test were not significantly correlated with the number of mental health visits ( $R$ s approximately equal to .10). The number of medical visits variable was also uncorrelated with PHQ change scores ( $R$ s approximately equal to .10).

### **GENERAL CONCLUSIONS**

Analysis of these pilot data revealed significant improvements in PHQ-0 scores within a six month period in patients with a mental health diagnosis of clinically significant depression. Specifically, a reduction of at least five points on the PHQ was observed in 80.5% of patients and 50% reductions in PHQ-9 scores were observed in 49.8% of CSD patients. Furthermore, at least some reduction in PHQ-9 scores was seen in 94.8% of CSD patients. This pattern of results did not change as a function of the gender or age of the patient.

### **REFERENCES**

Spitzer, B and Pierce, T. (1999). Validation and utility of a self-report version of PRIME-MD: The HQ Primary Care Study. *Journal of the American Medical Association*, 282, 1737-1744.

Strosahl, K : New dimensions in behavioral health/primary care integration. *HMO Practice* ,1994; 8:176-179.

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