**Introduction**

Individuals experiencing severe and persistent mental illness (SPMI) frequently utilize

short-term and long-term hospitalization services that are emotionally, mentally, physically, and financially straining for individuals with SPMI and their families, as well as economically

challenging and resource intensive for communities and institutions. SPMI often affects

individuals’ family relations, educational attainment, occupational productivity, and social

functioning over their life. Emergency room visits for mental health issues increased 44.1% from 2006 to 2014, with the average visit costing $520. The rate of visits was approximately 20 per 1,000 population.

**Program Background**

The present program evaluation assesses program outcomes for Southwest Missouri

Psychiatric Rehabilitation Center (SWMPRC), a 16-bed hospital diversion program in El Dorado

Springs, MO operated by Compass Health Network. Individuals are primarily admitted to

SWMPRC voluntarily by guardians. A small number of individuals are admitted with a 21- or

90-day hold, with some extended to a year-long commitment. SWMPRC seeks to reduce

hospitalization and facilitate the goal of safe, independent living for adult individuals

experiencing severe and persistent mental illness (SPMI). Admission criteria for SWMPRC

includes being 18 years of age or older and having been diagnosed with an SPMI such as

schizophrenia, bipolar I, major depression disorder, and borderline personality disorder.

SWMPRC’s goal is to reduce the frequency of hospitalizations among persons in services

and prepare individuals to return to living in the community at their highest level of functioning,

safety, and independence. This is achieved through services and activities such as weekly

individual therapy, daily group therapy, peer support, skills groups, daily medication

management, weekly psychiatrist appointments, weekly case worker appointments, support

system integration, and weekly work therapy participation. Readiness to discharge from the program is determined by a safety level system consisting of six levels and administered by a behavioral health treatment team that meets weekly to assess the safety of persons in service.

**Theoretical Foundation and Program Rationale**

SWMPRC is a hospital diversion program intended to reduce the frequency of psychiatric

inpatient hospitalization among individuals experiencing severe and persistent mental illness

(SPMI). Approximately 5% of adults in the United States have been diagnosed with SPMI, many

of whom will experience hospitalization, frequent emergency room visits, and restrictive living

environments during their lifetime. Research indicates that trauma caused by frequent hospitalization can lead to an exacerbation of an individual’s SPMI symptoms. A 2016 study found that the rate of suicide in the first three months after being discharged from a psychiatric hospital or facility was 178 per 100,000 persons - 15 times higher than the United States suicide rate.

Systems theory posits that behavior is influenced by various factors that work together as

a system, such as family, friends, social settings, economic class, and environment. The systems work together to produce an outcome, which is the behavior and choices that are displayed by an individual. In the SWMPRC program setting, many systems must work in harmony to allow an individual to be successful. The systems model shows the interconnections between the needs of the clients and the support systems that are provided within the program.

Consistent with systems theory, understanding the risk factors for inpatient hospitalization requires considering interacting individual, environmental, and social factors. Risk factors for increased frequency of inpatient hospitalization include suicidal ideation, presence of heightened psychotic symptoms, diminished interpersonal relationship functioning, duration of SPMI, community support levels (i.e. living alone, homelessness, unemployment), and previous psychiatric hospitalizations. Suicidal ideation was the most likely predictor of inpatient hospitalization, as study participants experiencing suicidal ideation were two to three times more likely to enter inpatient hospitalization than participants without suicidal ideation. Protective factors can also be understood through a systems theory lens. For example, on a micro level, research demonstrates that promoting healthy emotion and problem-solving coping skills is related to decreases in suicidal ideation.

The present program evaluation has chosen to examine a micro-level outcome, use of

coping skills, and a meso-level outcome, perceived social support, to assess the effectiveness of

SWMPRC’s efforts to increase protective factors that reduce inpatient hospitalization.

**Evaluation Method**

The present program evaluation of SWMPRC assesses program outcomes for two

intermediate outcomes: use of coping skills and perceived social support.

**Evaluation Hypotheses**

1. Adults who participate in the SWMPRC program will demonstrate significant increase in

frequency of using problem-focused and emotion-focused coping skills and significant decrease

in frequency of using avoidant coping as evidenced by improved scores on the Brief Cope Inventory.

2. Adults who participate in the SWMPRC program will report a significant increase in perceived social support as evidenced by increased scores on the Multidimensional Scale of Perceived Social Support (MSPSS).

**Measurements**

The 28-item Brief COPE Inventory is composed of 14 2-question sub-scales (i.e. self distraction,

use of emotional support, denial, behavioral disengagement, etc.) that are analyzed separately and used to measure participant frequency of use of a variety of problem-focused coping, emotion-focused coping, and avoidant coping behaviors (see Appendix C). Likert-scale

response options include: 1=I haven’t been doing this at all, 2=a little bit, 3=a medium amount,

4=I’ve been doing this a lot. The Brief COPE Inventory is a pen and paper, self-report measure

(sample item: I’ve been trying to come up with a strategy about what to do.). The measure takes approximately 10 to 20 minutes to complete. Each subscale (14-subscales, 2 questions each) is scored based on an average; the sum of item scores divided by the number of items. The Brief COPE Inventory has good reliability (Cronbach’s alpha = 0.70) and good temporal stability. The Brief COPE Inventory will be administered at participant intake to the SWMPRC program and at discharge.

The 12-item Multidimensional Scale of Perceived Social Support (MSPSS) is a 7-point

Likert scale with options ranging from 1 (very strongly disagree) to 7 (very strongly agree).

Higher scores indicate greater perceived social supports). The MSPSS is a pen and paper, self-report measure (sample item: “I can talk about my problems with my family”).

The measure includes three subscales: 1) Significant other, 2) Family, and 3) Friends. The

measure takes approximately 5 to 10 minutes to complete, and no administration is required. The measure is scored by acquiring the sum of all responses and dividing by the number of items (12 items). Subscales can be scored independently by finding the mean of subscale items (i.e. Significant Other subscale items 1, 2, 5, & 10). The MSPSS has good reliability (Cronbach’s

alpha = 0.87) and good internal consistency and validity. The MSPSS will be administered at participant intake to the SWMPRC program and at discharge.

**Evaluation Hypotheses Results**

Consistent with the hypothesis, scores of both the Brief Cope Inventory and the MSPSS improved from pretest to post-test. For hypothesis 1, based on the results of the paired-sample t-test, with *p* lower than 0.05, we were able to reject the null hypothesis and demonstrate that people who received the SWMPRC program demonstrated significant increase in the use of problem-solving and emotion-focused coping skills and significant decrease in the use of avoidant coping as measured by the Brief Cope Inventory. The average baseline score was 1.933 (*SD*=0.157) with a range of 0.64 (min 1.57, max 2.21) and a mode of 2. Post-test scores significantly increased (*p*=6.6E-07) to the average of 3.125 (*SD*=0.8999) with a range of 2 (min 2, max 4) and a mode of 4. Every participant who took part in the study had a higher post-test score than their baseline. These results proved our hypothesis correct; establishing that the SWMPRC program efficaciously improves coping skills.

**25%**

For hypothesis 2, we were also able to reject the null hypothesis, based on the results ofthe paired-sample t-test, with a *p* lower than 0.05 in perceived social support as measured byMSPSS as compared to baseline. The average baseline score for the MSPSS was 2.243(*SD*=0.614) with a range of 2.167 (min 1.42, max 3.58) and a mode of 1.67. Post-test scoressignificantly increased (*p*=1.54E-09) to the average of 4.01 (*SD*=0.526) with a range of 2.42 (min 2.42, max 4.83) and a mode of 4. The results from this test proved ourhypothesis correct, demonstrating the effectiveness of the program to increase perceived socialsupport.

**Implications**

This study evaluated the Southwest Missouri Psychiatric Rehabilitation Center

(SWMPRC) intermediate outcomes of client coping skills and perceived social support utilizing

a pretest and posttest study design. The results of this evaluation demonstrate the effectiveness of the SWMPRC program in achieving two desired program outcomes that have been shown to correlate with a decrease in frequency of hospitalization among individuals experiencing SPMI. Pretest to posttest Multidimensional Scale of Perceived Social Support (MSPSS) results indicate a statistically significant increase in perceived social support among client participants. Therefore, SWMPRC can continue delivering services to promote social support amongst clients (i.e. peer support groups, family therapy) with confidence that these activities are effective. Similarly, the statistically significant improvement in client coping skills from pretest to posttest demonstrates that SWMPRC can continue delivering services such as individual therapy, case management, and skill building activities in the knowledge that client coping skills are

improving over the course of the program.