Service Use Implications of a Peer-Run Respite Program

Bevin Croft, M.P.P., Nilufer Isvan, Ph.D., Clifton Chow, Ph.D., Deborah Peterson, M.B.A., M.Ed.
Human Services Research Institute, Cambridge, MA

Background

Designed to serve as alternatives to traditional acute and inpatient psychiatric emergency services, peer-run respites are hypothesized to lower system costs through reductions in inpatient and emergency care. This analysis tested that hypothesis, examining whether inpatient and emergency service use differs for individuals who did and did not use the program over a two-year period.

The peer-run respite in this study offers short-term 24-hour residential support for mental health service users experiencing self-defined crises. The program is staffed entirely by individuals with lived experience of mental health issues who are trained in Intentional Peer Support, a trauma-informed service delivery paradigm emphasizing mutuality, reciprocity, and growth. It is administered through a community mental health agency and overseen by a County mental health authority. The program is the recipient of a five-year Mental Health Transformation Grant from the Substance Abuse and Mental Health Service Administration Center for Mental Health Services.

Methods

Sample and Data

To be eligible for respite services, individuals must be adults enrolled in the publicly funded mental health system. 141 individuals used the peer-run respite between May 2011 and June 2013. Evaluators used County-derived demographic, assessment, and service use data to construct a comparison group and conduct the service use analysis.

Because we hypothesized that respite guests would use fewer inpatient and emergency services – but not necessarily fewer community-based services – we separated out service hours to examine inpatient and emergency services separately from community-based services. In this analysis, inpatient and emergency services are those associated with sub-acute, crisis, inpatient and locked institutional services.

Propensity Score Matching

By accounting for multiple observed factors that may influence selection into an intervention group simultaneously, the propensity score method minimizes the effects of confounders associated with selection and mimics randomization by generating a sample that is comparable to the intervention group. A propensity score is the predicted probability of receiving versus not receiving an intervention and was calculated using logistic regression.

The final propensity score model included the following covariates: Substance use diagnosis, Axis 2 diagnosis, age, education, sex, and the use of employment, homelessness, care coordination, inpatient, jail, locked, low income, medication support, substance use, and sub-acute services. We used simple nearest neighbor matching to construct a comparison group based on propensity scores and assigned a match to 114 of the 141 respite users. In future analyses, we will try other methods such as caliper and kernel-based matching, and a combination of exact matching and propensity scores.

We examined model fit and compared descriptive statistics using t-tests for continuous variables and chi-square tests for categorical variables. Final sample characteristics are displayed in Table 1. Groups were comparable along multiple demographic dimensions, although those in the respite group were more likely to have voluntary legal status and less likely to be homeless or living in a board and care program during the study period.

Table 1: Mean Sample Characteristics

Characteristic	Respite (n=114)	Non-Respite (n=114)
Number of respite stays	2.3	-
Days spent in respite	29.8	-
Age, years	45.1	45.8
Female	48.2	46.5
Education, years	12.6	12.0
Age of first hospitalization, years	32.5	35.5
Voluntary legal status*	98.1	90.2
Has a care coordinator	76.3	78.1
GAF score	46.0	45.6
Schizophrenia diagnosis	41.2	52.8
Substance use diagnosis	14.9	15.8
Living in board and care*	3.4	12.6
Homeless*	2.2	9.5

Values are expressed as percentages unless otherwise indicated
**p < .05*

Analytic Model and Results

We compared total hours of inpatient and emergency use for the two groups over a two-year period using ordinary least squares regression to take into account individual characteristics such as age, sex, education, diagnosis, and mental health service use. The preliminary analyses (outlined in Table 2) found total inpatient and emergency service hours appear to be somewhat lower for respite users compared with non-users. Other drivers of inpatient and emergency service use involve mental health functioning and service use (the receipt of care coordination, substance use and board and care services).

Table 2: Total Hours of Inpatient and Emergency Services for Respite and Non-Respite Users

Predictors	Coefficient (SE)	p
Respite use	-445.9 (302.8)	.143
Age in years	-28.4 (20.8)	.173
Years of education	-72.8 (68.7)	.291
Female	267.3 (308.6)	.388
Age of first hospitalization	24.6 (21.9)	.264
Schizophrenia diagnosis	-446.237 (337.0)	.188
GAF score	-31.3 (15.2)	.041
Has a care coordinator	1012.1 (480.2)	.037
Received substance use services	1115.6 (372.4)	.003
Received board & care services	1087.6 (349.4)	.002

n=153
R^2=.206

Limitations and Plans for Future Analysis

- *Sample size.* Although results approached statistical significance, small numbers likely contributed to a lack of power to examine the respite's impact on service use. These preliminary analyses involved two years of service use data with a limited number of respite users. At the close of the evaluation, we will have access to five years of data with several hundred respite users. Analyses will be repeated as numbers grow.
- *Data quality.* Important demographic variables, including race and ethnicity, marital status, and employment status, were not included in the models because of a high number of missing values. In June of this year, the County underwent improvements to its data system. Hopefully future datasets will be of higher quality so that these important variables can be included.
- *Propensity score matching.* The propensity score matching method carries significant limitations, chief among them the fact that propensity scores can only account for observed covariates; unobserved covariates that might influence selection into the respite group remain unaccounted for.
- *Alternative analytic approaches.* For this early analysis, simple techniques were used to explore the program's impact on aggregate service use. Although these analyses are cross-sectional, there is a time dimension to the data. In future analyses, we may use two-stage regression, random and fixed effects, and other multi-level modeling techniques.
- *Cost and cost-effectiveness.* Because of the limitations outlined above, cost was not a focus of this particular analysis. However, future analyses will examine cost data alongside service use. Further, we may take program operating costs into account to gauge cost-effectiveness.

Conclusions and Policy Implications

This analysis adds to the limited body of literature on the cost and service use implications of peer-run crisis alternatives. The peer-run respite model is understudied. Although the methods used here carry significant limitations, these preliminary examinations provide a much-needed glimpse into the impact of this innovative program model.

Findings suggest the peer-run respite model may be an effective alternative to traditional crisis services. Expanding the availability of the peer-run respite model in community mental health systems could lead to reductions in overall service costs, particularly through the decreases in the use of costly inpatient and emergency services. Respites may have the potential to reduce costs while also increasing meaningful choices for recovery and decreasing the mental health system's reliance on more coercive, less person-centered modes of service delivery.

For Further Information

Please contact Bevin Croft at Human Services Research Institute
Phone: 617-844-2536 Email: bcroft@hsri.org

Acknowledgements

This research was funded by a Mental Health Transformation Grant from the Substance Abuse and Mental Health Services Administration Center for Mental Health Services