Published in final edited form as:

J Behav Health Serv Res. 2016 April ; 43(2): 200–213. doi:10.1007/s11414-014-9409-8.

How Community Organizations Promote Continuity of Care for Young People with Mental Health Problems

By Michael F. Polgar, Ph.D.,

Penn State University, 76 University Dr., Hazleton PA, 18202, USA. mfp11@psu.edu, (570) 450-3103 (phone), (570) 450-3182 (fax)

Leopoldo J. Cabassa, Ph.D., and

Columbia University Department of Psychiatry, 1051 Riverside Drive Rm. 1715 Unit 11, New York, NY 10032. Tel: 212 543-5311. Fax 212 543-6500. Also: Columbia U. School of Social Work, ljc2139@columbia.edu

Joseph P. Morrissey, Ph.D.

University of North Carolina at Chapel Hill, 725 Martin Luther King Jr. Blvd., CB#7590, Chapel Hill, NC 27599-7590. joe_morrissey@unc.edu. (919) 966-5829 (phone), (919) 966-1634 (fax)

Abstract

Young people between the ages of 16 and 25 who experience mental health problems experience transitions and need help from a variety of organizations. Organizations promote continuity of care by assisting young adults with developmental, service, and systemic transitions. Providers offer specific services to help transitions and also form cooperative relationships with other community organizations. Results from a survey of 100 service providers in one community describe organizational attributes and practices which are associated with continuity of care in a regional system for young adults. Data analyses show that full-service organizations which practice cultural competence offer more specific services that foster continuity of care. Larger, full-service organizations are also more likely to have more extensive and collaborative inter-organizational networks that help young adults continue care over time within the regional system of care.

Keywords

Mental Health; Organizations; Young Adults; Continuity of Care; Cultural Competence

Introduction

Epidemiology shows that almost half of all Americans will meet criteria for a mental disorder during their lifetimes, with first onset usually during adolescence.[1] Millions of youth and young adults, including at least 6.5% of people ages 18–26, experience a serious mental illnesses, including about 186,000 who receive public disability benefits from the US Social Security Administration.[2] Across the life-course, the highest rates of most mental health disorders, including substance abuse disorders, occur between the ages of 15–24.[3–5]

Conflict of Interest The authors have no conflict of interest to report.

Concurrently, young adults between 18 and 25 years old have the lowest rates of health insurance coverage and the highest rates of underinsurance.[6, 7]

Prevention and early treatment services include behavioral health care for youth and for young adults, which can be publically funded through Medicaid.[8] Even so, national research finds unmet needs for mental health care in the United States, particularly among underserved groups, including people without health insurance.[9] Declines in the use of mental health care among people who are between 17–18 years old raise particular concern.[10] Mental health service use is associated with insurance coverage, so uninsured and underinsured young people are more likely than others to have unmet needs for care.[11] Publically and privately funded organizations provide help through systems of care that include schools and child welfare organizations, health and mental health agencies.[12]

Unmet needs and delays in behavioral health care can have adverse consequences, worsening health and related problems.[13] Needed care may be absent, constrained, discontinuous, or interrupted due to contextual circumstances and barriers, which may include problems related to cost, insurance, and age. Problems may become even more challenging for people who are undergoing difficult developmental transitions.[10] Potential constraints in public services include age limits on participation in Medicaid, and declining availability of public services for young adults may lead to subsequent decreases in care, along with other age-related limitations in service delivery.[14]

Continuity of health care for people of all ages should involve seamless implementation of effective treatments, with multiple organizations planning for developmental, temporal, and systemic transitions, beyond simply arranging for institutional discharges.[15] Transition planning works better within organizations and systems of care that combine or bridge youth and adult service systems. Leaders in this area have called both for more research and for support to implement effective programs and collaborative systems of care for people with mental health disorders.[16]

Organizational policies and public laws guide mental health service systems, helping to promote smoother transitions into adult services, aiding both young people and their parents.[17] Organizations can reduce fragmentation and promote continuity of mental health care by providing specific services, progressively and comprehensively planning successful transitions that ensure continuity of care, along with support and respect.[15] Specific principles for continuity of behavioral health care include prioritizing transition planning from the start of treatment, coordinating plans based on consumer participation. Culturally sensitive services such as ethnic and linguistic matching also help decrease discontinuities that may occur if members of ethnic groups drop out of needed care.[18] Transition planning should therefore be preventive, accessible, gradual, and culturally sensitive, clarifying personal responsibility and specifying accountability for components of the plan.[15, 19]

Transitions in Young Adulthood

Young adulthood is a distinct life stage following adolescence and preceding independent adulthood.[20] Structural patterns and transitions to young adulthood, such as age at first marriage and educational trajectories, are described by social sciences, including

comparative family demography.[21] Young people frequently undergo developmental, temporal, and systemic transitions, moving between life stages, organizations, and institutions. Transitions during young adulthood affect time use allocation, work, education, and parenting.[22] Multiple types of transitions are associated with more health problems for youth who experience more risk factors, particularly youth who have disruptions in education, work, and family.[23] Transitions are particularly stressful for young people who experience mental health problems.[24] Traumatic events and cumulative adversity increase the rates of mental health and substance abuse problems among young people.[25]

People of all ages, including young people, make use of multiple organizations in a system of care.[26] 'Gateway' care providers help young adults based on perceived need, knowledge of local resources, and their environment, including structural characteristics of organizations.[27] For youth with mental health problems, successful caregivers use a set of proven techniques or competencies, such as a one-on-one relationship with a counselor or other type of transition manager.[28]

Young adults with health problems also experience changes in their affiliations, making transitions from youth-centered organizations and insurance systems to new and adult systems of care.[29] These transitions often require young people to develop specialized independent living skills, including caring for a household and managing a budget. Transitions are sometimes complicated by the trend for young people to "boomerang" back home to their families, even though living apart from a family of origin is a primary marker of adulthood.[30] Changing affiliations are a major source of stress for young adults, and coping with this stress takes longer when compounded by illness.[31] For young adults with emotional or behavioral problems, transitions may require specific helpful organizations and resources.[24, 32]

Interagency collaboration among organizations in communities is also necessary to provide effective help and mental health care to young people.[33] Inter-organizational relationships, the basis of structural links and greater integration among mental health care and social service providers, help reduce system fragmentation and assure a better mental health care system, in part because they can reduce or prevent interruptions in care.[34] Inter-organizational linkages often allow continuity of care for young adults, particularly through referral and information networks.[35] Research shows the importance of organizations across multiple sectors, including education, child welfare, juvenile justice, and substance abuse, in addition to specialty mental health care.[29]

Continuity of Care

Experts have reached consensus on the principle that young people with mental health care needs should be ensured continuity of care through smooth transitions to adult service systems as they mature.[24, 36, 37] This consensus extends to many groups with chronic health problems.[38] Individual organizations work both independently and within systems of care to progressively provide and promote continuity of care for people with mental health problems.[15]

Continuity of care is a concept with multiple dimensions.[39] Promoting such continuity involves providing specific services, which have been described as trouble shooting, smoothing transitions, creating flexibility, pinch-hitting, speeding up the system, and contextualizing.[40] Continuity of care also involves maintaining linkages among organizations, cooperating with neighboring and complementary organizations in systems of care. For example, facility-level data from Veterans health care systems show that organizational environment and practices are related to continuity of care.[41]

Continuity of care during transitions improves therapeutic relationships and outcomes, allowing predictable and welcome interactions between young people and their providers.[29] Pathways to care improve when organizations are informed, diverse, and interconnected.[27, 42] Research on organizations in systems of care shows that organizational attributes affect inter-organizational cooperation, and that new forms of organizations evolve, including systemic networks.[43] At the organizational level, continuity of care may be related to organizational variables, including the resources and social capital that organizations bring to behavioral health services.[41] Research in population demography has suggested that organizations which are larger, older, and have more capacity to provide direct services may be more effective in complex and competitive organizational environments.[44, 45]

More recent research shows the importance of model organizational practices, particularly those which develop strong one-on-one relationships and optimize coordination of care across sectors.[28] Organizations can certainly collaborate to better facilitate transitions when they have more extensive and stronger relationships in inter-organizational networks.[34] Continuity of care may be improved when provider organizations have enough knowledge and resources to create extensive inter-organizational networks and relationships through referrals, since these relationships can smooth transitions and help people with mental health problems achieve better outcomes.[46]

Organizations can also be more helpful and successful when they competently and consistently serve larger and more diverse populations. Public and private health care organizations of all kinds are actively involved in reducing disparities and inequalities in both health and care among diverse racial and ethnic groups.[47] In both general and mental health care, the importance of culturally competent health care practices is recognized by the Institute of Medicine[48] and in the Surgeon General's national reports on Mental Health Care.[49, 50] National leaders outline standards for culturally and linguistically appropriate services, while sociological research shows how mental health is related to cultural identity and experiences of discrimination.[51] Some mental health problems may be specifically related to racial stratification.[52] Therefore researchers expect that more culturally competent organizations, as well as those organizations which provide a greater variety of services, should help young adults continue to receive care for mental health problems arising during young adulthood. Organizations which provide a larger variety of services and practice cultural competence may also report stronger connections that help young adults transition successfully within a local system of care. Researchers test these expectations by examining the relationship between culturally competent organizational practices and two measures of continuity of care.

Research Questions and Hypotheses

Building upon previous research, research examines relationships between the attributes and practices of organizations and the extent to which organizations demonstrate continuity of care for people with mental health concerns. In this analysis, researchers test four hypotheses about variations in organizational practices that promote continuity of care, based on two research questions:

Question 1: Which organizational variables predict variation in the extent to which organizational services foster continuity of care?

- (Hypothesis 1) H1: Three organizational attributes (age, size, and clientprovider ratio) are associated with more extensive services to promote continuity of care. Simply: older, larger, and more individualized organizations have more capacity to foster continuity of care.
- H2: Two organizational practices (service variety and cultural competence) are positively associated with more extensive services to promote continuity of care. Simply: organizations with more types of services and greater cultural competence have more services to promote continuity of care.

Question 2: Which variables predict organizational collaboration within community systems for mental health?

- H3: Three organizational attributes (age, size, and client-provider ratio) are associated with higher levels of organizational collaboration within systems of care. Simply: older, larger, and more individualized organizations collaborate more fully with community-based systems of care.
- H4: Two organizational practices, service variety and cultural competence are positively associated with greater organizational collaboration within systems of care. Simply: organizations with more types of services and greater cultural competence collaborate more fully with community-based systems of care.

Methods

Sample

Studying any system of organizations requires defining a bounded region and identifying a set of focal organizations.[53, 54] This research project uses data which describes organizations in a large metropolitan community in the Midwestern United States, including a city and its surrounding suburban county. Researchers carefully and systematically identified a set of organizations whose work includes providing mental health services to young people ages 16–25. Researchers conducted a survey of professionals representing each in a set of 100 community organizations.[26] Research methods involved collecting data on all active organizations of a specific type (those providing mental health care to young people, ages 16–25) within a two-county (urban and suburban) region. Data-collection and analysis

methods were approved and supported by a grant from the National Institute of Mental Health (NIMH, #R03MH59108).

The population of organizations was developed by compiling multiple listings from regional service directories and school systems. After researchers generated a comprehensive list of organizations providing mental health care services for young people, staff carefully reviewed this list with multiple mental health care leaders in the community, including the director and assistant director of the local chapter of the National Alliance for the Mentally Ill (NAMI), a representative of the regional public school system, and several academic leaders teaching about mental health in a nationally prominent school of social work. Staff also double-checked this list during the survey itself, asking respondents if they knew of other organizations which were not included. Staff contacted all known community organizations providing mental health care to young adults, maintaining an organizational data base that included a list of identified representatives within each organization.

Experienced interviewers were carefully selected and prepared to administer a structured questionnaire. Interviewers first contacted an organizational representative and confirmed that the organization provided services to young adults with mental health care needs. Interviewers spoke with a director of the program or agency leader who could describe the organization's work to help young adults with mental health needs. Respondents had jobs including program directors, school leaders, and mental health service providers. Research staff visited and interviewed representatives of each organization face-to-face, first obtaining informed consent and then administering the questionnaire.

The research project began with a set of 103 community organizations. Data was ultimately collected from representatives of 100 different organizations. The few non-participating organizations were excluded from the survey after they reported that they did not provide at least 10% of their clients with mental health services. Identifying an extensive and full organizational set in advance is necessary for measuring inter-organizational variables and analyses of inter-organizational relationships.[55]

Measures, Instruments, and Analyses

Each organizational representative completed a survey interview, providing responses to a detailed questionnaire. Questionnaire sections included an organizational assessment instrument and a matrix to measure of each organization's role within the local inter-organizational network. This provides analysis with information on both organizational attributes and inter-organizational relationships.[56] Research methods and specific measures had been previously tested with mental health care providers serving young adults.[26] Respondents first described each organization's attributes, including its age, size, staffing, budget, and clientele (including numbers of mental health clients and providers). Data analysis calculated an organization's client-provider ratio by dividing the annual number of mental health consumers served by the number of direct mental health service providers on staff during the previous year. Organizations described the variety of services they provided for young people by indicating which of 27 different types of help they provided to clients. Analysis then calculated a service variety index based on the proportion of 27 other possible services provided by each organization, with a possible range from 0–1. Those organizations

which provided a higher-than-average proportion of the 27 possible types of service are henceforth described as “full-service” organizations. Each organizational attribute and practice is summarized in Table 1.

Organizational representatives were asked if their organization offered young adults with mental health problems any or all of four specific types of services which promote continuity of care. These services include case management, transition planning, follow-up on referrals, and long-term planning. Case management involves procedures to plan, seek and monitor services from different social agencies and staff on behalf of a client. Transition planning involves procedures to help clients exit one agency, adjusting to a new situation and often entering into a new agency. Following up with clients involves contacting a client and/or a provider to determine if the client is adhering to a treatment plan or currently seeking and receiving help. Long-term planning involves a system of services provided over a sustained period. Organizations received one point each on a four-point continuity of care index for each of these services provided. Therefore the continuity of care index is simply a sum of the number of these four possible types of services, ranging from zero (none) through four (continuity of care promoted through all four types of service).

Interviewers also measured organizational values and practices that reflected cultural competence.[57, 58] Each organization’s cultural competence was measured using ten questionnaire items on organizational values and organizational practices. Seven specific items on culturally competent practices include services for Spanish speakers, having strong ties in African American and Latino communities, monitoring caseloads, matching African American and Latino clients and staff by ethnicity, and offering training in cultural competence. Three items measure organizational values of understanding and respect for cultural groups, both in general and in particular for African American and Latino people. These and all indices equally weight responses to individual items and ignore non-responses on any individual item.

Inter-item reliability for indices is evaluated using Cronbach’s alpha (Table 1). Data analyses describe both the *overall* index of cultural competence (based on ten items) and the more specific seven-item index (scored as a proportion ranging from zero to one) of culturally competent *practices*. While data show that most organizations score high on the cultural competence index, the extent to which organizational practices reflect these values is a more variable indicator of what they do on a day-to-day basis. Therefore analysis in Table 2 uses the culturally competent practices index in data analyses, including correlation and regression. This is consistent with an emphasis on actual organizational behavior.

Measures of inter-organizational collaboration use the average number of links within a network to summarize an organization’s relationships with all of the 99 other organizations in the regional system. A long series of questions examined the strength of each organization’s relationship with *every* other organization in the region, one method of inter-organizational network analysis. First, respondents simply indicated those organizations with which they had a working relationship that enhanced continuity of care (specifically for young people). Measures of inter-organizational relationships were defined to include case referral sources and destinations, collaboration as a coordinating agency, and organization

involved in service or system transition planning. Using a response scale ranging from zero (no perceived relationship) to 4 (strong perceived relationship), respondents evaluated the strength of each of these inter-organizational relationships. The average strength across all possible linkages constitutes a measure of inter-organizational collaboration, and thus indicates specific organizational behaviors that have occurred in order to promote continuity of care. In this way, researchers created a single indicator for inter-organizational relationships (IORs), and thus the selfreported strength of each organization's collaboration within a system of care is measured empirically rather than estimated euphemistically.

In summary, dependent variables are two different types of indicators that each measure how an organization's behavior promotes continuity of care. The first is a variable index which reflects organizational capacity to promote continuity of mental health care by providing four specific types of services to help young adults make successful transitions. The second is also an index which measures the organization's degree of inter-organizational collaboration, reflecting the aggregate extent and strength of its relationships with other local organizations.

Results

A full set of community organizations, each providing care to young people with mental health needs, are the units of both measurement and data analysis. Mental health specialty organizations were most abundant, making up the majority (n= 65) of the 100 organizations in the community system of care for young adults. These include community mental health centers clinics, psychiatric units in hospitals, rehabilitation clubhouses, and family/consumer groups. Organizations in the educational system (n=20) were also an important provider of services for young people with mental health problems. Educational organizations include private and public high schools, special education programs for urban and suburban (county) residents and special schools for youth with exceptional needs. Specialized substance abuse services for young people include both residential and outpatient programs (n=9). In the public sector, staff surveyed central offices administering juvenile justice (n=3) and child welfare programs (n=2). Researchers also included one general public health organization, which provided mental health services, focusing on care for Hispanic and Spanish speaking people. Most (94%) of the organizations were not-for-profit organizations. A majority of the organizations (53%) served all age groups, 23% served only youth, and 24% only adults.

Descriptive statistics in Table 1 summarize organizational attributes and practices for the five independent variables that are hypothesized to predict variation in two dependent variables, further specifying each statistic across three sectors (subsets of the 100 organizations). Organizational age statistics (X_1) show that responding agencies had been operating for a mean of 37 years (s=38). Organizational size (X_2) varies around an average of 80 (s=107) full time employees (FTEs) and a median of 40 FTEs, reflecting a few larger organizations and a larger number of smaller ones. Organizations served a median of 482 mental health consumers in a year. Full time employees included an average of 35 (s=70) staff who directly provided mental health care. Each year and on average, organizations served 90 (s=130) clients who were mental health consumers for every trained counselor they employed (X_3). While schools in the regional districts were larger and served fewer people

per counselor, on average, these differences by sector were not statistically significant based on t-test for difference of means.

Organizations help young adults through a variety of services, offering an average of 36% of 27 different possible types of service, indicated by a service variety index (X_4) averaging 0.36 (*s*=0.18). Results also show that most organizations strongly value cultural competence, but were variable in how completely they put these values into practice. Analyses summarize two cultural competence indices, both with acceptable inter-item reliabilities, which reflect these variations. The first index uses using a 10-item average and includes responses to three value statements. The second index (X_5) is more precise, variable, and specific to organizational behavior, measuring the proportion of culturally competent practices reported by each organization (alpha = 0.71).

Items show that training in cultural competent practices was offered by most organizations (94%). Some matched African American clients with African American providers (52%) and/or Hispanic clients with Hispanic providers (57%). Many organizations had strong ties with the African American community (75%), but fewer reported having strong ties with the Hispanic community (25%). About half had personnel who were fluent in Spanish (54%), and some (55%) reported monitoring caseloads to ensure proportional representation. Since culturally competent practices had more variation than overall cultural competence (based on the near universal acceptance of cultural competence values), analysis uses this 7-item index of organizational behavior in subsequent multivariate analysis.

To help transition planning for youth with mental health problems, case management was offered by 66% of the organizations, in addition to transitional planning (74%), follow-up on individual referrals (68%), and long term planning (42%). All four of these services were offered by 34% of organizations, and 59% offered at least three of these four. Summarizing the continuity of care index (Y_1) shows that the inter-item correlation among the four services was good (Cronbach's alpha = .77) and organizations provides 2.5 of 4 possible services to promote continuity of care. Overall, substance abuse providers offered greater service variety than organizations in other sectors (t=2.0, p=.02).

Summarizing the index of organizational collaboration within a system of care (Y_2) shows it was also a reliable measure (alpha = .94). The average collaboration index score was 0.8 on a scale of zero to four, reflecting variability in both the proportion and average strength of collaborations with all other organizations providing care for young adults with mental health problems. Schools (organizations in the education sector) were significantly less likely to be involved in collaboration with other organizations in the system of care (t=2.5, p=.01). This also indicates that specialty mental health and substance abuse providers were more active in collaborative relationships.

Respondents representing organizations were most often female (65%). Most were white (80%) and some African American (18%). Respondents had worked in their current positions for an average of 8 years (*s*=7.3), during careers with a mean of 20 years (*s*=9.7) of working in mental health.

Evaluating the first two hypotheses through simple bivariate analyses, statistics show that continuity of care correlates significantly with staff size (r = .27, p =.01), client-provider ratio (r=−.25, p=.01), variety of services (r =.72, p =.00), cultural competence (r =.28, p =.00), and culturally competent practices in particular (r =.38, p =.00). In particular, organizations which monitor their caseloads to ensure proportional racial and ethnic representation score higher on the continuity of care index (r=.32, p=.00).

Evaluating hypotheses three and four through bivariate analyses, statistics show that inter-organizational collaboration was more abundant in larger organizations (r=.43, p=.00) and organizations offering greater service variety (r=.31, p=.00). However collaboration was not significantly related to consumer/provider ratio or to cultural competence and neither dependent variable was related to the age of the organization.

To further evaluate these hypotheses, analysis used multiple regression models to examine the relationships between five independent variables (organizational attributes and practices) and two indices that measure continuity of care and collaboration (Table 2). Tables show standardized (β) regression coefficients and standard errors for each predictive, independent variable. Analysis also calculated regression diagnostics for all equations, confirming that there were no problems with unusually influential data points, normal residuals, homoscedasticity (constant error variance), tolerable multicollinearity, and independence of errors across observations.

In the first multivariate equation estimating continuity of care (Model 1), there is no statistical evidence to support the hypothesis (H1) that organizational size, age, and client-provider ratio are related to the provision of services that promote continuity of care. However two types of organizational practices, organizational service variety and cultural competence, are related to continuity of care, as hypothesized (H2). The significance of cultural competent practices was initially marginal. In this model, plots and a kernel density estimate show multiple regression residuals are normally distributed, error variance was constant (Cook-Weisberg test p=0.99), and multicollinearity is tolerable (VIF=1.22, tolerance = .82). When organizational attributes are dropped from the predictive equation (Model 2), analysis shows that continuity of care is significantly related to culturally competent practices (p=.04). Service variety and culturally competent practices together explain over half of the variation in continuity of care (R^2=0.51).

Analysis also uses multivariate regression equations to predict variations in inter-organizational collaboration. Organizations with more staff and more service variety are significantly more likely to collaborate with other organizations (Models 3 and 4). This provides partial but not full support for two hypotheses (H3 and H4). Systemic collaboration represents another way in which organizations promote continuity of care for young adults with mental health problems. However a large amount of variation in the index measuring collaboration remains unexplained (Model 4: R^2=0.21). In this model, there are also acceptable regression diagnostics (Cook-Weisberg test p=0.18), and multicollinearity was tolerable (VIF=1.19, tolerance = .84).

Implications for Behavioral Health

A growing body of research shows that young adults with behavioral health problems need help to make the transition into adult systems of care.[8, 10, 14, 28, 59] Developmental, service, and systemic transitions are both necessary and more likely in the wake of insurance reforms (mandated by the Affordable Care Act) that extend health coverage options for young dependents though their mid-twenties. This research suggests that organizations serving young adults promote and provide continuity of care for mental health problems both when they offer more extensive services and when they actively collaborate with other organizations within a community system of care. These and other findings can help understand organizational practices and policies which enable transitions and thus provide gateways to young adults who have mental health problems.[27, 61]

Young people with mental health needs receive care in a variety of clinical and community organizations across multiple service sectors. In the region studied, most of the organizations helping young adults with mental health problems were part of a specialty mental health care sector, staffed by direct service providers including psychologists, psychiatrists, social workers, and nurses. Results show few significant variations in continuity of care or cultural competence across sectors, though secondary schools had a more limited range of services and were less extensively involved in collaborations with other organizations providing help for young people mental health problems.

Hypothesis tests show that certain organizational *practices* are more strongly associated with variations in continuity of care than are hypothesized organizational *attributes*. In other words, what service providers actually do has a stronger association with the pathways that allow continuity of care for young adults; specific organizational behaviors (not attributes of agencies) are most closely associated with continuity of care. Greater service variety and culturally competent practices are significantly associated with greater organizational emphasis on continuity of care for young adults with mental health problems. Findings lend partial support to two other hypotheses, showing that the larger organizations with more extensive variety of services are more actively collaborating to help young people make transitions and work with other providers across the entire system of care. While significant correlations suggested that larger organizations offer more services to promote continuity of care, multiple regressions did not fully support the hypothesis that continuity of care was significantly associated with organizational attributes, above and beyond organizational practices.

The single variable most consistently associated with both continuity of care is the variety of services offered by an organization. Organizations that offered a greater variety of services to young adults were more likely to promote continuity of care, both by offering specific services and by cooperating with regional agencies. This suggests that smaller organizations which narrow their choices of services may not always be as able to help young adults continue to receive help during difficult transitions. In addition, as shown in a substantial and maturing body of research[18], organizations which most fully practice cultural competence were more likely to offer services that promote continuity of care. All organizations work within a system of care, and data show the extent to which organizations

help their clients by providing case management, referrals, and collaborating actively with other organizations.

Research can explore the expectation that there are categorical differences in continuity of care among subgroups of community organizations that serve only children or youth, only adults, or all ages. Such differences in service providers suggest that future researchers elaborate hypothesis tests and use age range as a moderating variable. Researchers in this study examined this possibility and found that both continuity indicators were statistically very similar across the sets of organizations that served youth only, adults only, or both. Therefore, in this study, there is not clear data to support the idea that the hypotheses or results may be mediated by the age range of clients served by an organization. Nonetheless, since youth aging out of systems of care are more likely to face a variety of major transitions, future research should consider how those community organizations serving different age groups effectively collaborate, even if they operate differently with different types of populations, to ensure continuity of care.

This research is based on extensive data collected in a large region, but inferences and methods have clear limitations. Researchers studied only one large Midwestern urban region at one point in time, and findings in this region may or may not be generalizable to systems of care in other parts of the country. Researchers studied organizations but did not have the opportunity to expand the study to assess individual health outcomes or developments over time to measure mental health outcomes for young people. Staff collected data from mental health care organizations, but did not study larger primary health care systems or individual providers, important components in systems of care for mental health.[60] Certainly, the strength and nature of inter-organizational relationships can vary by organizational respondent, over time, and depending on the side of the relationship studied. To address this limitation, research examined two different types of dependent variable indicators for continuity of care, with only one based on inter-organizational data.

Complementary and future research will certainly need to identify aspects of organizations and networks that are related to outcomes for young people, expanding analyses of cultural competency and also examining provider assessments of the quality of mental health care. Authors hope that researchers will continue to study patterns in health care from the perspectives and viewpoints of both organizations and individuals. This will help to advance collaborative efforts to improve public health, informing communities, and enhance the ongoing work of mental health providers within systems of care.

Acknowledgements

This research was supported by the National Institutes of Health (NIH), NIMH grant #R03MH59108

References

1. Kessler RC, Berglund P, Demler O, et al. Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry. 2005; 62(6):593–602. [PubMed: 15939837]

2. Ashby, CM. Young Adults with Serious Mental Illness: Some States and Federal Agencies are Taking Steps to Address their Transition Challenges, GAO-08-678. Diane Publishing; 2008. United States Government Accounting Office.

3. Kessler RC, Chiu WT, Demler O, et al. Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry. 2005; 62(6):617–627. [PubMed: 15939839]

4. Kessler, RC.; Zhao, S. The Prevalence of Mental Illness. In: Horwitz, AV.; Scheid, TL., editors. A Handbook for the Sociology of Mental Health. New York: Cambridge University Press; 1999. p. 58-78.

5. Kessler RC. The National Comorbidity Survey of the United States: Preliminary results and future directions. International Journal of Methods in Psychiatric Research. 1994; 4(4):81–94.

6. Rhodes, J.; Chu, M. Health Insurance Status of the civilian non-institutionalized population 1999. Rockville MD: Agency for Healthcare Research and Quality; 2000. MEPS Research Findings #14, AHRQ Pub. No 01-0011

7. Agency for Healthcare Research and Quality. Health insurance coverage of the civilian noninstitutionalized population: Population estimates by type of coverage and selected characteristics, US, 2004 (Table 5). Available online at http://www.meps.ahrq.gov/CompendiumTables/04Ch1/TC04Ch1_TOC.HTM.

8. Heflinger C, Hoffman C. Transition Age Youth in Publicly Funded Systems: Identifying High-Risk Youth for Policy Planning and Improved Service Delivery. The Journal of Behavioral Health Services and Research. 2008; 35(4):390–401. [PubMed: 17187298]

9. Wang PS, Lane M, Olfson M, et al. Twelve-Month Use of Mental Health Services in the United States: Results From the National Comorbidity Survey Replication. Archives of General Psychiatry. 2005; 62(6):629–640. [PubMed: 15939840]

10. Pottick K, Bilder S, Vander Stoep A, et al. US Patterns of Mental Health Service Utilization for Transition-Age Youth and Young Adults. The Journal of Behavioral Health Services and Research. 2008; 35(4):373–389. [PubMed: 18026842]

11. Burns BJ, Costello EJ, Erkanli A, et al. Insurance Coverage and Mental Health Service Use by Adolescents with Serious Emotional Disturbance. Journal of Child and Family Studies. 1997; 6(1): 89–111.

12. Friedman, RM. Mental Health Policy for Children. In: Levin, BL.; Petrila, J., editors. Mental Health Services: A Public Health Perspective. New York: Oxford University Press; 1996.

13. Wang PS, Berglund P, Olfson M, et al. Failure and Delay in Initial Treatment Contact After First Onset of Mental Disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry. 2005; 62(6):603–613. [PubMed: 15939838]

14. Manteuffel B, Stephens R, Sondheimer D, et al. Characteristics, Service Experiences, and Outcomes of Transition-Aged Youth in Systems of Care: Programmatic and Policy Implications. The Journal of Behavioral Health Services and Research. 2008; 35(4):469–487. [PubMed: 18618264]

15. Sowers WE, Rohland B. American Association of Community Psychiatrists' Principles for Managing Transitions in Behavioral Health Services. Psychiatric Services. 2004; 55(11):1271–1275. [PubMed: 15534016]

16. Clark H, Koroloff N, Geller J, et al. Research on Transition to Adulthood: Building the Evidence Base to Inform Services and Supports for Youth and Young Adults with Serious Mental Health Disorders. The Journal of Behavioral Health Services and Research. 2008; 35(4):365–372. [PubMed: 18726695]

17. Davis, M.; Butler, M. Service System Supports During the Transition from Adolescence to Adulthood: Parent Perspectives. Alexandria VA: National Technical Assistance Center (NTAC); 2002 Jun.

18. Takeuchi, DT.; Uehara, E.; Maramba, G. Cultural diversity and mental health treatment. In: Horwitz, AV.; Scheid, TL., editors. A handbook for the study of mental health: Social contexts, theories, and systems. New York: Cambridge University Press; 1999. p. 550-565.

19. Clark, HB.; Hart, K. Navigating the obstacle course: An evidence-supported community transition system. In: Clark, HB.; Unruh, DK., editors. Transition of Youth and Young Adult with Emotional

or Behavioral Difficulties: An Evidence-Supported Handbook. Baltimore: Brookes Publishing; 2009. p. 47-94.

20. Settersten, R.; Furstenburg, F.; Rumbaut, R. On the Frontiers of Adulthood: Theory, Research, and Public Policy. Chicago IL: University of Chicago Press; 2005.
21. Furstenburg F. The Sociology of Adolescence and Youth in the 1990s: A Critical Commentary. Journal of Marriage and the Family. 2000; 62(4):896–910.
22. Gauthier A, Furstenburg F. The Transition to Adulthood: A Time Use Perspective. Annals of the American Academy of Political and Social Sciences. 2002 Mar.580:153–171.
23. Wickrama KA, Conger RD, Wallace LE, et al. Linking Early Social Risks to Impaired Physical Health During the Transition to Adulthood. Journal of Health & Social Behavior. 2003; 44(1):61–74. [PubMed: 12751311]
24. Clark, HB.; Davis, M. Transition to Adulthood: A Resource for Assisting Young People with Emotional or Behavioral Difficulties. Baltimore: Paul Brookes; 2000.
25. Turner RJ. The Pursuit of Socially Modifiable Contingencies in Mental Health. Journal of Health & Social Behavior. 2003; 44(1):1–17. [PubMed: 12751307]
26. Morrissey, JP.; Johnsen, M.; Calloway, M. Methods for System-Level Evaluations of Child Mental Health Service Networks. In: Epstein, M.; Kutash, K.; Duchnowski, A., editors. Outcomes for children and youth with emotional and behavioral disorders and their families : programs and evaluations, best practices. Texas: Pro-Ed; 2005. p. 297-307.
27. Stiffman AR, Pescosolido B, Cabassa LJ. Building a Model to Understand Youth Service Access: The Gateway Provider Model. Mental Health Services Research. 2004; 6(4):189–198. [PubMed: 15588030]
28. Haber M, Karpur A, Deschênes N, et al. Predicting Improvement of Transitioning Young People in the Partnerships for Youth Transition Initiative: Findings from a Multisite Demonstration. The Journal of Behavioral Health Services and Research. 2008; 35(4):488–513. [PubMed: 18636333]
29. Vander Stoep, A.; Davis, M.; Collins, D. Transition: A Time of Developmental and Institutional Clashes. In: Hewitt, B.; Clark, DM., editors. Transition to Adulthood. Baltimore: Paul Brookes; 2000. p. 2-28.
30. Furstenburg F, Kennedy S, McLoyd V, et al. Growing up is harder to do. Contexts. 2004; 3(3):33–41.
31. Harnish J, Aseltine R, Gore S. Resolving Episodes of Stress. Journal of Health & Social Behavior. 2000; 41(2):121–136.
32. Rosenberg L. Building a Meaningful Future for Young People with Mental Illness. The Journal of Behavioral Health Services and Research. 2008; 35(4):362–364. [PubMed: 18752071]
33. Farmer EM, Burns BJ, Phillips SD, et al. Pathways Into and Through Mental Health Services for Children and Adolescents. Psychiatric Services. 2003; 54(1):60–66. [PubMed: 12509668]
34. Morrissey JP, Johnsen MC, Calloway MO. Evaluating Performance and Change in the Mental Health Systems Serving Children and Youth: An Interorganizational Network Approach. Journal of Mental Health Administration. 1997; 24(1):4–21. [PubMed: 9033152]
35. Bickman L, Noser K, Summerfelt WT. Long-term effects of a system of care on children and adolescents. Journal of Behavioral Health Services & Research. 1999; 26(2):185–202. [PubMed: 10230146]
36. Friedman, R.; Kutash, D.; Duchnowski, A. The population of concern: Defining the issues . In: Stroul, BA., editor. Children's Mental Health: Creating Systems of Care in a Changing Society. Maryland: Paul H. Brookes Publishing Co., Inc.; 1996. p. 69-98.
37. Stroul, B.; Friedman, R. A System of Care for Children and Adolescents With Severe Emotional Disturbances, Revised Edition. Washington, DC: Georgetown University Child Development Center, National Technical Assistance Center for Children's Mental Health; 1986.
38. Rosen DS, Blum RW, Britto M, et al. Transition to adult health care for adolescents and young adults with chronic conditions : Position paper of the society for adolescent medicine. Journal of Adolescent Health. 2003; 33(4):309–311. [PubMed: 14519573]
39. Johnson S, Prosser D, Bindman J, et al. Continuity of care for the severely mentally ill: concepts and measures. Social Psychiatry and Psychiatric Epidemiology. 1997; 32(3):137–142. [PubMed: 9130865]

40. Ware NC, Tugenberg T, Dickey B, et al. An Ethnographic Study of the Meaning of Continuity of Care in Mental Health Services. Psychiatric Services. 1999; 50(3):395–400. [PubMed: 10096646]
41. Greenberg GA, Rosenheck RA. Managerial and Environmental Factors in the Continuity of Mental Health Care Across Institutions. Psychiatric Services. 2003; 54(4):529–534. 2003. [PubMed: 12663841]
42. Stiffman A, Hadley-Ives E, Dore P, et al. Youths' Access to Mental Health Services: The Role of Providers' Training, Resource Connectivity, and Assessment of Need. Mental Health Services Research. 2000; 2(3)
43. Alter, C.; Hage, J. Organizations working together. Newbury Park: Sage Publications; 1993.
44. Aldrich SD, Boustead R, Heskett J. Implications of integrated, school-linked human services for state systems. Journal of Educational and Psychological Consultation. 1999; 10(3):269–279.
45. Carroll, GR.; Hannan, MT. The demography of corporations and industries. Princeton, NJ: Princeton University Press; 2000.
46. Lehman AF, Postrado LT, Roth D, et al. Continuity of Care and Client Outcomes in the Robert-Wood- Johnson-Foundation-Program-on-Chronic-Mental-Illness. Milbank Quarterly. 1994; 72(1): 105–122. [PubMed: 8164604]
47. Betancourt J, Green A, Carrillo EE, et al. Defining Cultural Competence. Public Health Reports. 2003; 118(4):293–302. [PubMed: 12815076]
48. Smedley, B.; Stith, A.; Nelson, A. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Washington DC: National Academies Press; 2003.
49. United States Department of Health and Human Services. Integrating Mental Health and Substance Abuse Services for Homeless People with Co-occuring. Rockville, MD: 1999.
50. United States Department of Health and Human Services. Mental Health: Culture, Race, and Ethnicity - A Supplement to Mental Health: A Report of the Surgeon General. Rockville, MD: USDHHS, SAMHSA, CMHS; 2001.
51. Takeuchi DT, Williams DR. Race, Ethnicity and Mental Health: Introduction to the Special Issue. Journal of Health and Social Behavior. 2003; 44(3):233–236.
52. Brown TN. Critical Race Theory Speaks to the Sociology of Mental Health: Mental Health Problems Produced by Racial Stratification. Journal of Health and Social Behavior. 2003; 44(3): 292–301. [PubMed: 14582309]
53. Van De Ven, A.; Ferry, D. Measuring and assessing organizations. New York: John Wiley & Sons; 1980.
54. Morrissey JP, Ridgely SM, Goldman HH, et al. Assessment of Community Mental Health Support Systems: A Key Informant Approach. Community Mental Health Journal. 1994; 30(6):565–579. [PubMed: 7835042]
55. Wasserman, S.; Faust, K. Social Network Analysis. New York: Cambridge University Press; 1994.
56. Morrissey JP, Calloway M, Bartko WT, et al. Local mental health authorities and service system change: evidence from the Robert Wood Johnson program on chronic mental illness. Milbank Quarterly. 1994; 72(1):49–80. [PubMed: 8164612]
57. Dana RH. Cultural competence in three service agencies. Psychological Reports. 1998; 83:107–112. [PubMed: 9775668]
58. Hernandez, M.; Isaacs, MR.; Nesman, T., et al. Perspectives on culturally competent systems of care. In: Hernandez, M.; Isaacs, MR., editors. Promoting Cultural Competence in Children's Mental Health Services. Baltimore, Maryland: Paul H. Brooks Publishing Co.; 1998. p. 1-25.
59. Hitchings WE, Retish P, Horvath M. Academic Preparation of Adolescents With Disabilities for Postsecondary Education. Career Development for Exceptional Individuals. 2005; 28(1):26–35. 2005.
60. Olfson M, Fireman B, Weissman M, et al. Mental disorders and disability among patients in a primary care group practice. American Journal of Psychiatry. 1997; 154(12):1734–1740. [PubMed: 9396954]
61. Pottick K, Warner L, Stoep A, et al. Clinical Characteristics and Outpatient Mental Health Service Use of Transition-Age Youth in the USA. Journal of Behavioral Health Services & Research. 2014; 41(2):230–243. [PubMed: 24198086]

Table 1

Organizational Attributes and Practices Across Three Sectors

	Units, types of measurement	Range	Inter-item Reliability (alpha)	Full set of community organizations	Mental health sector organizations	Education sector	Substance abuse sector
				n=100	**n=65**	**n=20**	**n=9**
Organizational Attributes				**Mean (*s*)**	**Mean (*se*)**	**Mean (*se*)**	**Mean (*se*)**
Age of organization (X_1)	Years	2–158	-	37 (38)	40 (5)	35 (8)	23 (5)
Size of organization (X_2)	FTEs	1–615	-	80 (107)	77 (15)	95 (12)	35 (6)
Clients per provider (X_3)	Ratio	1–780	-	90 (130)	103 (20)	56 (17)	69 (14)
Organizational Practices							
Continuity of Care (Y_1)	Index	0–4	0.77	2.5 (1.4)	2.3 (0.2)	2.5 (0.3)	2.9 (0.4)
Collaboration (Y_2)	Index	0–4	0.94	0.8 (0.4)	0.8 (0.1)	0.6 (0.1)*	0.8 (0.1)
Service Variety (X_4)	Proportion	0–1	0.83	0.4 (0.2)	0.4 (0.1)	0.3 (0.1)*	0.5 (0.1)*
Cultural Competence	Index	0–10	0.72	6.6 (1.3)	6.4 (0.2)	6.5 (0.3)	7.4 (0.4)
Culturally Competent Practices (X_5)	Proportion	0–1	0.71	0.60 (0.2)	0.58 (0.2)	0.62 (0.3)	0.66 (0.1)

* sector average is significantly different from organizations in all other sectors, based on t-test for difference of means ($p<.05$)

Table 2

Predicting Organizational Variations in Continuity of Care

	Y_1 Continuity of care		Y_2: Interorganizational Collaboration	
	Model 1	**Model 2**	**Model 3**	**Model 4**
	β, s_e (p)	**β, s_e (p)**	**β, s_e (p)**	**β, s_e (p)**
Age of organization (X_1)	0.01, .01 (.90)	-	−0.01, .01 (.40)	-
Size of organization (X_2)	0.01, .01 (.80)	−	0.01, .01 (.00)*	0.01, .01 (.00)*
Clients per provider (X_3)	−0.01, .01 (.14)	-	0.01, .01 (.24)	-
Service Variety (X_4)	4.9, .66 (.00)*	5.1, .60 (.00)*	0.53, .25 (.04)*	0.43, .22 (.05)*
Culturally competent practices (X_5)	0.80, .45 (.08)	0.88, .43 (.04)*	−0.18, .17 (.29)	-
Model statistics	R^2=.52, n=91 constant=0.49	R^2 =.51, n=99 constant=0.17	R^2=.24, n=91 constant=0.56	R^2=.21, n=95 constant=0.50

Statistics for each multivariate regression model variable include standardized regression coefficients (Beta coefficients), the standard errors (*se*) for each estimated coefficient, and p-values in parentheses.

An asterisk (*) indicates that a variable has a significant (p<.05) relationship with a dependent variable.