

Under Construction:

Linkages Between Youth and Adult Systems After Expanding Transition Services

Report on the Changes in Interrelationships of Agencies in a Center for Mental Health Services Partnerships for Youth Transition Grant Site



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Executive Summary

This report summarizes changes between 2003 and 2007 in relationships among organizations that offer services to individuals in transition to adulthood, ages 14-25, who have serious mental health conditions in Clark County, Washington. In 2002 Clark County received a *Partnerships for Youth Transition* grant from the Center for Mental Health Services (CMHS), Division of Service and Systems Improvement, Child, Adolescent and Family Branch. The purpose of these grants was to plan, design, and implement programs to support the transition to adulthood for youth with serious mental health conditions up to age 25 and their families. Services for these youths span child and adult mental health service systems, and many different systems (e.g., vocational rehabilitation, substance abuse, education). Understanding how this vast array of services and systems interacted and changed over the course of the grant helps to identify whether such grants can positively impact the kinds of interactions that facilitate the process of transition for young people maturing into adulthood. While each locale has its own particular set of services, policies, and organizing forces, it is hoped that the findings in this county provide insight into systems in other sites.

The primary audience for this report includes policy makers, state and regional administrators, program designers, and others interested in improving the network of services and supports for transition age youth (TAY) from mental health and other systems that TAY are involved with during their transition to adulthood. Others who may be interested in these findings include youth, family members, youth allies, and service providers.

The Clark County system was assessed prior to implementation of their *Partnership for Youth Transition* plan (Wave 1 data collection) and again after the grant funding ended (Wave 2 data collection), using comparable methodologies. In both Waves of data collection, a key informant from each of the more than 100 organizations in the system was interviewed using an established technique, called Social Network Analysis (SNA). SNA is used to determine the nature of each organization's relationship with each other organization in the system. Key informants also provided information about their

services, and ratings of the quality of services in their organization and the system generally. The majority of organizations participated at both time points allowing for within organization comparisons. The types of changes that this methodology could have measured included (1) increased communication across demarcations of systems (e.g., child and adult mental health, or child welfare and adult mental health), (2) increased number of organizations with the ability to provide the same treatment across the entire transition age span without requiring a change in therapist or program, and (3) variation in the quality of transition supports in the system. Interviews with a 25% subset of the key informants at Wave 2 were conducted to help clarify contributions to the observed changes. The following is a summary of the findings.

- ◆ The opportunity for an adolescent to continue in a particular service, without a change in program or staff, as they aged from 17-22, was rare both before the grant was implemented and after. The vast majority of organizations and specific services served only a youthful population, or only an adult population, and provided no opportunity to continue the treatment or service across the adult age threshold. This did not change over the course of the grant.
- ◆ Generally, the linkages among these organizations were typical of those found in human services. They made referrals to each other and exchanged information for client planning purposes to the same extent that most human service systems do. The system was moderately centralized (activities typically flowed through a smaller subset of organizations, rather than equally through all subsets). There was a common configuration of “core” organizations that typically interacted with one another, then smaller groups of organizations that interacted together; however, the central core was unusually interconnected and large.
- ◆ The observed changes over the course of the two data collection periods were complex, with changes in the expected direction on a few variables, no changes on some dimensions, and relatively modest changes on others. While some of the changes seem to be consistent with the presence of the grant program, the fluid funding and policy environment for mental health services in Washington State and throughout the United States during that time period offered other viable explanations.

- ◆ The findings suggest a system in flux, one that was moving toward a less hierarchical, less centralized service system with the possibility of more cooperative ventures. This was supported by interviews in which respondents reported increased collaboration and interagency communication. Several respondents also commented on the change in leadership toward a more collaborative problem solving approach.
- ◆ Before the grant was implemented, this network of services was organized into a well interconnected child system, a more isolated adult system, and connections between the two that were largely limited to associating through large funding organizations. Overall, even for client planning purposes, there was little direct communication between the child and adult system.
- ◆ At the end of the grant funding period, the subsystems looked quite different. There was more interchange directly between adult and child services subsystems. Before the grant was implemented, the organizations that interacted with others in a similar fashion (blocks) were largely similar in age group served (i.e., blocks contained only child serving or only adult serving organizations). After the grant, a new type of block appeared which contained all three types of organizations (child only, adult only and both). Further, these “mixed” blocks interacted with all other blocks and served as a hub of exchange.
- ◆ In general, the Wave 2 network was more decentralized with more communication directly between subsystems rather than through two central hubs. This change in the network was also captured in the qualitative data. Most interviewees commented that programs in the county were talking with each other more and were generally more collaborative than before.
- ◆ Interestingly, at Wave 2 respondents rated their own organization lower than they had at baseline in quality or service dimensions that reflected good practice with TAY. Since it was unlikely that the quality of care had deteriorated, it is likely that either they understood more about what TAY services should look like, and recognized they hadn’t yet met that standard well, or their ratings reflected a general frustration with the system.
- ◆ Qualitative data indicated three significant forces during the tenure of the grant. One was the grant activities, which may well have contributed directly to greater

communication across age-defined subsystems in a relatively small number of programs that the grant-funded program interacted with frequently. The second was implementation of a Homeless Council, with significant funding, the goal of which was to increase interagency cooperation around the homeless population. Interagency cooperation around that population likely increased interagency cooperation in general and benefited TAY as well. Third, there was a significant reduction in funding of many services. According to stakeholders this also increased coordination and communication across organizations because resources were fewer and redundancy was unaffordable.

RECOMMENDATIONS

Exemplary practices that support the transition to adulthood call for a developmentally appropriate, comprehensive, and continuous array of services that can support youth across the transition ages. The findings from this report support changes that can be implemented through this type of grant mechanism, but also suggest caution about the impact of such grants. The following recommendations are made for future grant efforts.

◆ **Remove Age Barriers**

- When continuity of services are therapeutically important, services should have the flexibility to continue beyond typical adult/child defining age limits, rather than beginning or ending based on age.
- Adult services would benefit from the capacity to serve those who are underage, as part of a strategy to engage young people in services that they might continue in as they mature into adulthood.

◆ **Increase Intersystem Coordination**

- Staff members of organizations should meet for client planning purposes well in advance of when a young person exits the services of one organization and enters the services of another. Policies incentivizing such practices would be helpful.

- Youth and adult organizations should interact more to exchange the expertise of each system, and to build knowledge about how to serve this age group that spans both systems.

◆ **Support Age Appropriate and Appealing Services**

- Programs like the Partnership for Youth Transitions successfully span the adult and child system and influence the services with which it is closely connected. The success of such programs can be enhanced by infrastructure changes that reduce age barriers.
- Encourage services that can span the child/adult age limitations and allow providers to become expert in serving the entire age span and share that expertise to build necessary bridges for TAY. For example, grant and contract language for services for TAY should promote age spanning as a central goal. Examples of age-spanning programs, and how they were established can be found in
<http://www.umassmed.edu/uploadedFiles/cmhsr/Publications/PioneeringTransitionPrograms.pdf>

Introduction

The difficulties that transition age youth (TAY) with serious mental health conditions (SMHC) have in achieving the milestones of young adulthood are well documented (e.g., Wagner et al., 2005; Davis et al., 2007; Vander Stoep, Beresford et al., 2000).¹ Only about half finish high school, fewer are employed, more are in trouble with the law, and more young women are pregnant than their same age peers. They are also at great risk of homelessness and poverty. Standard services fail these youth, their families, and society.

Transition age youth need access to appealing, developmentally appropriate, and effective services that address their comprehensive needs continuously, as long as they need them, during the transition ages (e.g., Clark et al., 2000; Clark & Unruh, 2009; Wagner & Davis, 2006; Davis, Green, & Hoffman, 2009). Transition ages, in this report, encompass ages 14-25. “Transition support services” are designed to help TAY take on the mantle of adulthood and treat their mental health conditions. Transition support services can be offered in any system that youth are involved with during the transition years. Ideally, they would be available in both the child and the adult systems, since no children’s systems serve individuals beyond age 22 and most end services at age 18 (Davis & Koroloff, 2005).

LIMITED AVAILABILITY OF TRANSITION SUPPORT SERVICES

While there have been many advances in understanding the transition age population and their services needs in the past 15 years (see, for example, Clark & Davis, 2000; Clark & Unruh, 2009), the capacity of service systems to provide the needed services appears to be quite limited (Davis, Geller & Hunt, 2005; Davis & Koroloff, 2005; Davis et al., 2009). Within mental health systems, adult systems are particularly lacking in specialized young adult programming, and while most state children’s systems offer at least one transition support service, most offer these services in no more than two sites (Davis et al., 2005). This is very different than the broad array of services focused on transition supports that are called for in current guidelines (Clark et al., 2000). Outside of the mental health system are child systems whose populations of interest are other, or broader, than those with serious mental health conditions, such as special education and child welfare (which offer various types of services to help prepare youths for

¹ By SMHC we refer to the presence of either a serious emotional disturbance or a serious mental illness.

adulthood). Generally, these supports have not been tailored to the specific needs of youth with SMHC, though some programs in special education show promise (e.g., Cheney, 2004; Bullis & Fredericks, 2002). Further, the behavior or needs of those with SMHC can interfere with their use of or access to these non mental health services. A similar challenge exists in adult non mental health systems; they are not well designed to assist those with SMHC, and often have no special programming for young adults.

BARRIERS TO AVAILABILITY OF TRANSITION SUPPORT SERVICES²

Mental health administrators have listed a variety of factors that impede the development of transition support services. Primary among them is a lack of leadership on the issue (Davis & Hunt, 2005). Commonly, tight budgets, which have become even tighter in recent years, produce an unwillingness to fund what are viewed as specialty groups or services. The transition age population and their needed supports are considered a specialty (Davis, 2001). Without the leadership the “specialty” population doesn’t rise to the highest priority among the many groups competing for that title, and thus funding isn’t issued specifically for these types of programs.

Additional system barriers abound. The basic dichotomy between child and adult systems is one of the largest barriers. Within mental health, funding for the child and adult branches are handled separately, and can be allocated separately, or come from separate sources as well (Davis, 2001). For example, state legislatures may define separate amounts for the child and adult system, and their policies typically define separate populations (Davis & Koroloff, 2005). These types of differences can produce significant barriers to funding services that span the ages of both systems (Davis, 2008). Programs that are age spanners typically secure funding from either child or adult mental health (not both) and need permission to spend the funds on an age group that is typically not covered by that fund source. Coordinating with other systems brings additional hurdles of separate funding, priorities, populations, and cultures.

Generally, then, as youth with SMHC transition from adolescence to adulthood, and from utilizing child to utilizing adult services, they access whatever services are available to them and that they are willing to use, whether or not that service is age or disability specific. The degree to which the complex mosaic of existing services can form a complete and attractive picture depends not only on the availability of enough appropriate components, but also on the infrastructure of the system, and in particular,

² For a thorough discussion of barriers to transition support services see the report on the Wave 1 of data collection for this study (Davis et al, 2005; and Davis, Green, & Hoffman, 2009). We summarize the issues here briefly.

on the relationships between programs that promote proper fitting of the pieces. For example, programs need to refer their clients to one another and should communicate about referred clients. Client referral and sharing information for client planning purposes are two kinds of relationships. Examination of these kinds of relationships reveals system “structure,” or how organizations in a system are connected to one another.

When the array of programs that are needed for continuous and comprehensive transition supports do not exist, do not communicate, or are culturally inappropriate, gaps occur. “Culture” here refers to the culture of the program (e.g., the processes, activities and physical environment of a given agency), which for youth in transition, are most commonly inappropriate for a particular age, a kind of disability, or both.

SYSTEM INTERVENTION TO INCREASE TRANSITION SUPPORTS

On October 1, 2002, the Center for Mental Health Services (CMHS) of the Substance Abuse and Mental Health Services Administration, with Federal agency and private foundation partners, funded five sites across the country to build programs that offer comprehensive transition supports that can help adolescents with SMH conditions, and their families, through the age of 25. These kinds of programs did not exist anywhere in the country within state child/adult mental health systems, as of July 2003 (Davis & Sondheimer, 2005; Davis, Geller, & Hunt, 2005). This grant program, called Partnerships for Youth Transition (PYT), was designed to remedy some of the most difficult system barriers that interfere with transition system building. The funded sites all had the kind of leadership and advocacy that is necessary for significant change. The PYT grant program provided those leaders and advocates funding for direct services and infrastructure building, technical assistance to help shape the vision and problem-solve, and time to establish programs and collect data to help bolster arguments that they should continue.

At the end of the grant funded planning year, and before the direct service and infrastructure change activities were launched, the authors studied the network of organizations that provided services that youth with SMHC between the ages of 14 and 25 might access in one of the PYT sites; Clark County. The methods of our study are described in subsequent paragraphs. Briefly, we found a large array of services in this small metro area (103 organizations) that provided mental health, work, living, substance use, housing, education, medical health, child welfare, and delinquency reduction/prevention supports. Those organizations largely functioned as two

subsystems linked by funders (see Davis et al., 2005). The two subsystems consisted primarily of child services in one and adult services in the other system. Referrals, and communication about clients or other shared areas of interest were unlikely to flow directly between the two subsystems, and primarily flowed through the funders. In addition, only a quarter of the organizations had the capacity to serve youth continuously, without a break in programs or staff, across the entire 14-25 year age range. Overall, out of the 756 individual services described (one organization could offer multiple services), only 12% were available continuously. This implied that individuals generally had to move from one organization to another as they matured, and that there was little communication between the child and adult organizations that served them. Organizations also rated themselves as quite consistent with guidelines for good services for TAY.

In addition to establishing and running a new service delivery program for TAY (Options) the program staff also engaged in some activities intended to educate community members about the needs and preferences of youth and young adults and to better connect those programs serving these youth. During the first year, we held a strategic planning retreat that involved most of the youth serving programs in the county. Subsequently, a steering committee for the grant met on a monthly basis and discussed implementation of Options as well as other challenges facing services to this population. During the grant period, project staff identified and changed two significant policy barriers to serving TAY. One involved implementing a previously unknown policy that agencies could service both children and adults under state licensing. The other addressed the need to offer supported employment services, usually reserved for adults, to youth as young as 14. The current study addressed whether the grant activities were associated with:

- (1) improved sharing of information and referrals that should benefit TAY,
- (2) more opportunities to remain in services across the transition ages, and
- (3) practices that were more consistent with guidelines for TAY.

EXAMINING ONE CRITICAL SITE; CLARK COUNTY, WASHINGTON

Clark County, Washington was chosen as the system to study for this project. It was one of the five CMHS PYT grant sites. It is a suburban metropolitan area (pop. 345,000), that had implemented a CMHS children's system of care grant, and that had community

leaders who were clearly interested in creating system change for the transitioning population of youth with SMHC. These characteristics made it a good choice for structural analysis. Being a suburban metropolitan area, rather than a rural or urban area, was felt to render the findings useful to many sites in the country. Having had a CMHS system of care grant also linked the findings from this site to current visions of good system configuration and to the more than 100 such currently or previously funded sites around the country. Dedication to the goal of creating a transition system also increased the likelihood of change over time. Thus, it is hoped that the findings of this study will have implications in other communities. However, the utility of these findings will be strengthened by replications.

Systems, however, are shaped by more than the urbanization of their setting and their grant history. Thus, the following description is offered to aid in the interpretation of the current findings. The Washington State Mental Health Division is located within the State's Department of Health and Social Services (DHSS). Authority for mental health services within the State is decentralized to eight Regional Support Networks (RSN). Each RSN can serve multiple counties and has a single lead RSN administrator. There may be separate staff for children's mental health (MH) and adult MH if the region is large enough. The RSN that serves Clark County primarily provides MH services through contracting with private providers. Access to those contracted services is controlled directly by the RSN, through a staff of care coordinators.

The State's child welfare, vocational rehabilitation, and juvenile justice agencies are also decentralized to the regional or county level, with a local administrator leading each of these agencies. There are eight school districts in the county and 16 high schools. There is one community college in the county, as well as a branch campus of Washington State University serving upperclassmen. The county's population is largely non-Hispanic white (86%), and the median household income in 1999 was \$48,376, with 7% of families living below poverty level. The county borders the Portland, Oregon metropolitan area, and many residents commute to jobs or schools in Portland.

County MH services are funded primarily by Medicaid. At the time of baseline data collection Medicaid funding was undergoing change. At baseline, county MH services were offered to those with Medicaid, and a small number of those without. Shortly after baseline, any client of the county MH system had to be Medicaid eligible, meet medical necessity criteria, and be seeking Medicaid reimbursable services in the MH system.

The RSN director, working with the Director of Community Services, exercises considerable discretion in the disbursement of funds, development of policy and contract language, as long as it is consistent with Federal and State Medicaid regulations.

Thus, Clark County is representative of many local systems that have considerable local autonomy, and whose MH systems are largely shaped by Medicaid funding.

This study's concrete goal was to explore whether grant support of direct services and infrastructure change was associated with increased exchange of information and referrals across the transition network, greater availability of age continuity in services, and better transition services in general.

SOCIAL NETWORK ANALYSIS

Social Network Analysis (SNA) is a methodology that describes the organizations in a network or system, the characteristics of each of those organizations, and the strength and direction of each organization's relationship to the other organizations in the network (Van de Ven & Ferry, 1980; Morrissey et al., 1994). Inter-organizational relationships are described for four dimensions: sending and receiving client referrals, meeting for client planning purposes, and meeting to discuss issues of mutual interest. Briefly, data collection efforts consist of completing a structured interview with one to two informants within each network organization (Van de Ven & Ferry, 1980). Providers' self-report on inter-organizational networks has been shown to be valid and reliable (Calloway et al., 1993).

SNA data collection methodology was established for mental health organizational systems by Morrissey, Calloway, and colleagues (1994 & 1997). It has been used to successfully assess the contribution of service integration to client outcomes for a variety of populations including homeless adults with mental illness (Rosenheck, et al., 2002) and children with serious emotional disturbance (Johnsen, Morrissey, & Calloway, 1996).

Methodology

OVERVIEW

- Administrators from every program and agency that provided any services that could be relevant and accessible to youth with serious mental health conditions (SMHC) during the transition to adulthood were interviewed at the beginning of the grant period (Wave 1).
- The same programs were contacted again four years later and interviewed for a second time (Wave 2). Ten programs had terminated between the two time points and two had merged with other organizations. Fifteen organizations were added at Wave 2, primarily programs that did not exist when the first set of data were collected. Representatives for 85 organizations were interviewed at both data collection points.
- Respondents answered questions about their program or agency, their relationship to other programs or agencies in the transition network, their views of the quality of their services, and those of the broader system.
- Answers about relationships with other agencies or programs were analyzed to describe to what extent possible relationships actually existed, the degree to which the system was centralized, and what kinds of agencies and programs formed subsystems and what subsystem relationships revealed.
- Answers about program or agency services were analyzed to determine the kinds of services available and the degree to which continuity of care was available across ages.
- Answers about quality of services were analyzed to determine to what extent respondents thought their program/agency and the system served youth in transition well.

- Comparisons were made between Wave 1 and Wave 2 data to see what changes in service systems had occurred.
- After completing preliminary analysis of the two waves of data, a team of senior researchers returned to Clark County and conducted interviews with 26 key representatives. Interviewees were asked to reflect on the changes they saw in the services systems and to compare those perceptions with the changes seen in the data.

DETAILS

Identifying Network Members and Interviewing Representatives

An initial task in studying inter-organizational networks involves “bounding the system” or identifying network members. At the beginning of Wave I data collection, knowledgeable community informants (including key informants from the local DCS and from provider and advocacy groups) were provided a list of program types often found in child or adult service delivery networks including; mental health, substance abuse, educational, health and medical, child welfare, housing, vocational, justice system, recreational, and legal/advocacy services. Community informants were then asked to generate a list of the specific agencies or programs (both referred to herein as organizations) in Clark County that served individuals between 14 and 25 years old with SMHC. To qualify for study inclusion, organizations did not have to serve individuals throughout the age range, but needed to serve individuals somewhere within the range. Examining this age range clarifies organizational responses before and after statutorily defined transition points (often at ages 18 and 21). Interviewees were selected from three of the eight school districts in Clark County. Of 107 organizations initially identified in Wave I, four were eliminated that either did not offer services within the identified age range or were in fact contained within other organizations. Thus, the final transition services network in Wave I consisted of 103 organizations, 100% of which participated in interviews.

Once the network was bounded, project staff identified a key informant within each organization and scheduled interviews. That key informant was an organizational “boundary spanner” who had both extensive knowledge of the organization and global knowledge of inter-organizational relationships between that organization and

organizations in the area. Informants were interviewed by one of four interviewers, the project coordinator, or one of the three trainers. Interviewers were trained by co-investigators Johnsen, Starrett, and Davis. All interviewers received two days of training which included review of each questionnaire item, observation of trainers interviewing actual respondents, supervised interviews of actual respondents, and observation of others' supervised interviews, with debriefing after each interview. This process was repeated with a new set of interviewers for the Wave 2 data collection.

There were several differences in the two samples of organizations between Wave 1 and 2. Several organizations had ended or merged with others, several had started, and a few were identified at Wave 2, through the bounding process, to be part of the network and had failed to be so identified at Wave 1, despite being active at that time (see Table 1). Overall, 85 organizations were sampled at both time points.

Table 1. Changes in Service System Membership Between Wave 1 and Wave 2.

	In Wave 1 Only	In Wave 2 Only	In Both Waves
Program terminated	10		
Program merged	2		
Refused re-interview	4		
New program (after 2003)		9	
Program added (existed in 2003)		6	
No change			85

Each interview lasted one to two hours. The next section describes the interview instrument. Data were collected in September and October, 2003, prior to initiation of the implementation stage of the grant in October, 2003. Wave 2 data were collected in the fall of 2007 after grant funding ended.

Data for Wave 2 were collected in much the same way as for Wave 1. All of the organizations that participated in Wave 1 were re-contacted. Ten organizations had gone out of business or had moved their organization out of Clark County. Two

organizations had merged with other organizations, and four organizations refused to participate in Wave 2 interview. Researchers conferred with county leaders to identify new programs that had been started since the Wave 1 data collection. Nine such organizations were identified as well as six organizations that existed at Wave 1 but were either overlooked or were too new to be included. These 15 organizations were added to the network for Wave 2 interviews. In total, 99 organizations were included in the Wave 2 data collection.

In addition, in Wave 2, two sections of the interview were moved from the face-to-face interview to an online survey instrument to provide the respondent flexibility in time of response, and in some cases, to gather information for accurate response (e.g., what proportion of your clients are Hispanic?). These were Parts I and III (described below).

Instrument

The structured interview consists of three sections.

Part I Asked for information about the organization, the services it provided, and individuals who served within the organization.

Part II

A Asked for information about the interaction of the organization with each organization in the network in: 1) meeting for client planning purposes, 2) meeting to discuss issues of mutual interest, and 3) sending and receiving referrals.

B Addressed the type of services offered by the program and the age continuity of offered services. For example, if a program offered vocational counseling, the interviewee was asked to indicate the age groups that were offered vocational counseling, and then to indicate whether the age groups were served continuously (i.e., if the service was provided to 14-17 year olds and 18-20 year olds, would an individual have to change staff or locations as they matured from the first to the second age group?).

Part III

This section asked for interviewee's ratings of: 1) their own program and 2) the larger system. Ratings were requested on a variety of dimensions that reflect

general quality of care, and some new items that were added to specifically address quality of services for transition-aged youth, that were developed from the guidelines for the Transition to Independence Process system (Clark et al., 2000).

DATA ANALYSIS

SNA requires the generation of organization-by-organization matrices for each of the types of relationships (referrals and information exchanges). Interagency linkages were assessed using responses to questions about the working relationships between the respondent's agency or program and the other organizations in the services network. Respondents answered the following questions using a five-point Likert scale (ranging from 1, Not at All to 5, Very Often): *How often does your agency/program refer clients to (or receive clients from) this other agency/program (the to and from form 2 questions)? How often do staff in your program/agency meet with staff in this other program/agency for client planning purposes? How often do staff or administrators in your agency/program and these agencies/programs meet together to discuss issues of mutual interest?* Answers to these four questions were the basis for describing four types of networks within the transition network;

- 1. Client receive network**
- 2. Client send network**
- 3. Information exchange network**
- 4. Client planning network**

For each type of these four types of relations, the five possible Likert-type responses were dichotomized and arrayed in a 0-or-1 data matrix in which 1 represented the existence of a relationship between the two organizations, and 0 indicated no relationship. A summed 103x103 matrix, in which 103 denotes the number of agencies in the transition network, was created by adding the corresponding cell values for each of the 4 questions. For example, for organization A and B, organization A makes referrals to B (score 1), but B does not refer to A (score 0), they meet for client planning purposes (score 1), but not to discuss issues of mutual interest (score 0). The value for their summed cell would be 2 (1+0+1+0). Cell values in this matrix can range from 0 to 4, with higher numbers indicating stronger interagency linkage. Several measures can be derived from these matrices.

Density is a relatively simple measure of overall network: # of actual ties/ # of possible ties. Density values can range from 0 (no ties) to 1 (all possible ties realized).

Centrality is the degree of hierarchy in an overall network. Centralized systems have an organization or organizations through which activities pass, with less interaction among other organizations, whereas decentralized systems do not have a set of organizations through which most agencies interact, but rather subsystems of the network interact with a limited number of other subsystems with which the remaining subsystems also have few relations, and no subsystem is more important than any other. Like density, system centrality scores range from 0-1 with 0 being highly decentralized and 1 being highly centralized.

K-Cores are a useful technique to identify agencies that are in the core and agencies that are at the periphery of networks (Johnsen et al., 1996). Each K-core identifies a set of organizations with at least k relationships with other members of the set. Organizations in the most central core have the greatest number of ties with other organizations in the central core. Each core then has progressively fewer numbers of ties with other members in their cores, and is increasingly peripheral.

Block Modeling is a technique used to describe large systems with many cores. One way to simplify the relationships in a system is to look for organizations that are structurally equivalent: organizations that tend to relate to other organizations in a similar way and therefore play similar roles within the network in a particular dimension (i.e., meeting for client planning purposes). Organizations within a block do not necessarily interact with each other, the similarity is in the way they interact with other organizations, which may or may not include organizations within the block. This method simplifies a 103x103 matrix into a smaller matrix of 4x4, 8x8, or 16x16. The size of the best fitting matrix is determined by the degree of variance explained balanced by the size of the matrix. For example, if a network can be simplified to a 4x4 matrix, and explains 60% of the variance, it is a better simplification than an 8x8 matrix that explains 65% of the variance.

The density and centralization of the system as a whole was calculated using the UCINET program, a network software program, and block modeling was calculated using a structural equivalence approach (CONCOR).

Descriptive statistics were used to describe the age continuity of services and answers to questions about service quality.

Results

GENERAL DESCRIPTION

Overall, the organizations in the Clark County Transition Network embodied the broad spectrum of service sectors initially identified, with organizations represented in each service delivery sector. Of a menu of 56 services types (e.g., case management, groups homes, parent training) that might be provided to adolescents or young adults, 51 were available in the Clark County area to at least some of those with SMH conditions for some ages between 14 and 25 during Wave 2 of interviews. A single program could offer a variety of services (e.g., case management, vocational supports, and medication management). As measured by the presence of the service (rather than the number of clients served in it) the types of services most commonly available were case management, wraparound services, advocacy, and medication management. State psychiatric hospitalization was least available. Table 2 compares the presence of each type of service at Wave 1 and Wave 2.

We examined changes in the availability of service types. We limited this analysis to those that were offered in more than five organizations during at least one of the Waves (38 service types). The largest increase was seen in medication management services, which increased 25%, and the largest decrease was in psychosocial rehabilitation services, which reduced 73% from Wave 1 to 2. There were also changes in the proportion of school services that were in the transition network. However, since we sampled school-based programs rather than attempting to interview someone from all existing schools and their programs, the changes likely reflect our sampling strategy more than any change in the availability of services. For other service types we attempted to include all those available in Clark County, thus our results for those services should reflect actual changes in their availability to TAY.

Table 2. Proportion of Organizations Offering Services in Waves 1 and 2

Service Type	% Wave		Service Type	% Wave	
	% Wave 1 (n=101)	% Wave 2 (n=99)		% Wave 1 (n=101)	% Wave 2 (n=99)
Mental Health Services			Education Services		
Outpatient	32	25	High school	20	25
Home based	18	20	Vocational school	12	11
Wraparound	35	32	2-year college	2	8
Medication management	24	30	Vocational rehabilitation	14	12
Emergency	22	20	Tutoring	26	22
Drop-in center	10	10	Transition planning	28	25
Respite	15	11	GED preparation	17	21
Partial hospitalization	8	4	Special ed. advocacy	29	21
Inpatient hospitalization	3	5	Vocational Services		
State psychiatric hospital	1	1	Vocational counseling	35	25
Private psych. hospital	1	0	Vocational training	27	18
Case management	39	38	Sheltered employment	5	4
Consumer op. services [†]	4	4	Substance Abuse Services		
Supported employment	19	19	Detox tx [†] /residence	5	5
Psychosocial rehab.	11	3	Inpatient SA [†] tx	2	7
ACT [†] Team	8	9	Comorbid MH/SA svs [†]	19	18
Mentoring	17	16	Health Services		
Therapeutic foster care	5	3	Family planning	11	9
Residential treatment	12	11	Public health clinic	2	3
Residential respite	8	5	Housing/Homeless Services		
Supervised housing	12	5	Homeless shelter	5	4
Group home	4	7	Mobile outreach	7	4
Supported housing	-	6	Justice System Services		
Social Services			Corrections facility/jail	3	2
Child protective services	6	5	Juvenile detention facility	4	5
Foster care	5	7	Probation	4	5
Case management	-	30	Other Services		
Income support	5	4	Recreation programs	31	23
IL [†] preparation	26	21	Advocacy	28	31
Parent training	28	18			

* % = percentage of organizations offering the service

[†] ACT=Assertive Community Treatment, IL=Independent Living, tx=treatment, SA=substance abuse, svs=services

Age Continuity of Services

These analyses focus on information obtained from the list of services in Table 1. For each service that a respondent indicated was offered by their organization, they were asked about ages that were eligible for that service, and the ages that could be served continuously without any break in the service (change of staff/program). Age groups consisted of : (a) 14-17 years, (b) 18-21 years, (c) 22-25 years, and (d) 26 years and older. In order to determine the opportunities for TAY to obtain services continuously as they age, without a break in service because of a change in age, we examined those services that were offered to 14-25 year olds inclusively to determine what proportion offered that service continuously. “Continuously” was operationalized as without a change in program, location, or staff as they aged across the ages served. Thus, age groupings in the services were used to categorize organizations in terms of the primary age of the population served and the continuity of the service:

- **YOUTH ONLY** – *only individuals up to 18 or 21 in all services in the organization,*
- **ADULTS ONLY** – *only individuals 18 or 21 and older in all services in the organization,*
- **14-25 YEAR OLDS CONTINUOUSLY** – *at least half of their services served all age groups without a change in staff or physical location,*
- **14-25 YEAR OLDS DISCONTINUOUSLY** – *services were offered to all age groups but there was a change in staff or programs mandated at certain ages for more than half of the services in the organizations.*

Table 3 presents the distribution of age groupings within each service type for Waves 1 and 2. The columns within each wave add to 100. For example, in Wave 2 of the organizations that offered outpatient mental health treatment, 43% offered that service only to adults, 26% offered that treatment to youth only, 22% to 14-25 year olds continuously, and 9% to 14-25 year olds but with a break in service based on age.

The distribution of the different ages served was comparable in both waves. As can be seen from the last row of table 2, the most common services were those that served youth only (Wave 1=54%; Wave 2=51%). Services for adults only were the next most common (Wave 1=27%, Wave 2=28%), followed by services that could offer the service across the entire spectrum of transition ages (Wave1=20%, Wave2=21%). The majority of these services, 70% in Wave 1 and 62% in Wave 2, were services that youth could access

continuously throughout the transition years. The remaining services for 14-25 year olds had breaks in service based on age criteria. Some service sectors, such as schools and colleges or social services were predominantly youth services (see Figure 1). Criminal justice programs were largely not sampled, thus the justice system services were predominantly youth only. The substance abuse sector was the only sector that offered more services to adults only than other ages. Mental health and vocational services had services with a mixture of age groupings. Health services were as likely to be offered continuously across ages as they were to be youth services (See Figure 1).

ORGANIZATIONAL AGE CONTINUITY

We categorized each organization by the age typing of the services they offered. Whichever age type formed the majority of their services was used to age type the organization. Thus, if an organization's services were comprised of 57% that were youth only and 43% that were 14-25 continuously, it was categorized as a youth only organization.

In both waves the majority of organizations were Youth Only (see Figure 2), with comparable proportions (around a quarter) for Adults Only, and Both Continuously, and a small proportion for Both Discontinuously.

- For organizations that were included in both waves of data collection, most (69%) did not change in the ages that they served.
- Youth Only serving agencies overwhelmingly remained youth only (90%).
- Adult serving agencies mostly continued to serve only adults (77%).

Interestingly, the two types of organizations that showed the most change were those that served the whole transition age group, both continuously and discontinuously.

- 44% of the continuous organizations remained the same;
- 19% became adult only;
- 19% became youth only;
- and 12% became discontinuous.

The majority (57%) of the small number of organizations (N=7) that reported serving the whole age group discontinuously at baseline reported serving them continuously at follow-up (1 remained the same and 2 became youth only).

Despite this change within the organizations that served the whole transition age, overall, the distribution of age types for organizations remained remarkably the same across the two waves.

Table 3. Distribution of Age Continuity Type Across Service Types in Waves 1 and 2

Service Type	% of Services in Each Age Continuity Type							
	Wave 1 (n=101)				Wave 2 (n=99)			
	Youth*	Adult	14-25	14/25	Youth*	Adult	14-25	14/25
Mental Health Services								
Outpatient	31	25	31	16	26	43	22	9
Home based	28	22	22	22	32	42	11	16
Wraparound	46	29	14	14	53	30	7	10
Medication management	42	29	17	13	54	32	7	7
Emergency	41	14	36	14	42	32	16	11
Drop-in center	50	40	10	0	22	22	11	33
Respite	67	20	7	0	55	18	0	27
Partial hospitalization	0	88	0	13	25	50	25	0
Inpatient hospitalization	0	67	0	33	0	60	20	20
State psychiatric hospital	0	100	0	0	0	0	0	100
Private psych. hospital	0	0	0	100	0	0	0	0
Case management	46	21	21	0	50	33	11	6
Consumer op. services [†]	25	50	0	25	25	50	25	0
Supported employment	21	68	11	5	16	63	21	0
Psychosocial rehab.	0	91	9	0	0	100	0	0
ACT [†] team	13	75	0	13	0	87	13	0
Mentoring	82	0	12	0	73	20	7	0
Therapeutic foster care	80	0	0	0	100	0	0	0
Residential treatment	25	67	0	8	27	45	9	18
Residential respite	75	25	0	0	33	50	0	17
Supervised housing	33	50	0	0	50	17	33	0
Group home	25	50	0	0	71	29	0	0
Supported housing	-	-	-	-	0	57	29	14
Social Services								
Child protective services	83	0	0	17	100	0	0	0
Foster care	100	0	0	0	100	0	0	0
Case management	-	-	-	-	45	31	17	7
Income support	20	60	20	0	25	75	0	0
IL [†] preparation	65	23	8	4	70	20	10	0
Parent training	54	18	32	0	56	22	22	0
Education Services								
High school	105	0	0	0	92	4	4	0
Vocational school	100	0	0	0	64	18	18	0
2-year college	100	0	0	0	37	25	37	0
Vocational rehabilitation	36	57	7	0	25	42	33	0
Tutoring	85	12	0	0	86	5	9	0
Transition planning	79	14	4	0	79	11	11	0
GED preparation	88	12	6	0	68	14	18	0
Special ed. advocacy	86	3	7	3	95	5	0	0
Vocational Services								
Vocational counseling	54	31	14	3	44	32	24	0
Vocational training	52	41	7	4	53	32	5	11
Sheltered employment	60	40	0	0	75	25	0	0
Substance Abuse Services								
Detox tx [†] /residence	0	60	40	0	20	40	0	40
Inpatient SA [†] tx	50	0	50	0	29	43	29	0
Comorbid MH/SA svcs [†]	26	58	11	11	22	56	17	6

Service Type	% of Services in Each Age Continuity Type							
	Wave 1 (n=101)				Wave 2 (n=99)			
	Youth*	Adult	14-25	14/25	Youth*	Adult	14-25	14/25
Health Services								
Family planning	55	9	36	0	56	11	11	22
Public health clinic	0	0	100	0	0	0	67	33
Homeless and Housing Services								
Homeless shelter	80	0	0	20	75	0	25	0
Mobile outreach	29	0	29	43	25	25	50	0
Justice System Services								
Corrections facility/jail	33	33	33	0	0	0	100	0
Juvenile detention facility	100	0	0	0	80	20	0	0
Probation	75	25	0	0	60	40	0	0
Other Services								
Recreation programs	68	16	16	3	43	26	0	30
Advocacy	43	18	32	7	47	20	0	33
TOTAL	54	27	14	6	51	28	13	8

*Individuals are served in age groupings as follows: Youth, up to ages 18 or 21, Adult, over ages 18 or 21, 14-25 all age groups continuously, 14/25 all age groups, but with breaks in staff or program at specific ages

†Consumer Op.=consumer operated, ACT=Assertive Community Treatment, IL=independent living, tx=treatment, SA=substance abuse, svs=services

TRANSITION NETWORK RESULTS

The picture revealed by the SNA suggests that the period of the grant was a time of change on some network dimensions and relative stability on others. While some of the changes appear to be consistent with the goals of the grant, the overall SNA suggests a somewhat more complicated picture: no change on many dimensions, and relatively modest change on others.

Change within the Interorganizational Network

While the transition service networks were bounded using the same criteria at Wave 1 and Wave 2, there was a moderate amount of turnover during the period of the grant. 85 of the original network members present at Wave 1 were interviewed at Wave 2. Of the 16 departing programs, 10 had either terminated services or had left the county. Nine of the programs added for Wave 2 were completely new to the county service system. The degree of turnover (i.e., about 15% change) within a human services network over a four-year period is neither surprising nor larger than expected, given other multi-wave network studies of human service delivery networks. In most human

service delivery systems, there is some change as programs evolve, as some programs close, and others are organized to fill gaps exposed by these closures.

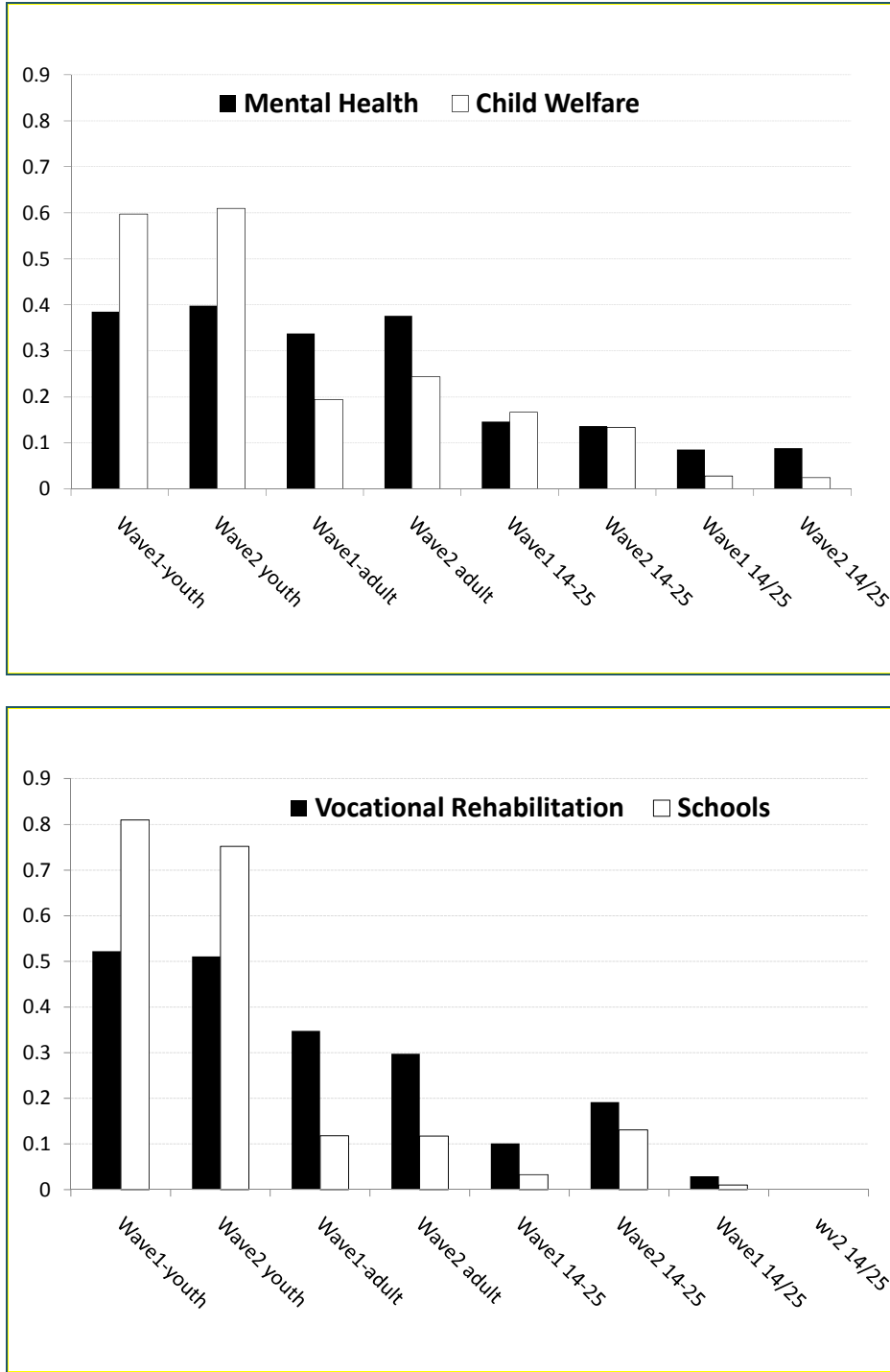


Figure 1a. Age Groupings Within Service Sectors. Proportion of age groupings within the Mental Health, Child Welfare, Vocational Rehabilitation, and School service sectors for organizations in the transition system in Clark County, Washington, at wave 1 (wv-1) and wave 2 (wv-2). *Youth* =up to ages 18 or 21, *Adult* =18 or 21 and older, *Continuous* = ages 14-25 without requiring a break in staff or program based on age, and *Discontinuous* =ages 14-25 but require a change in staff or program based on age.

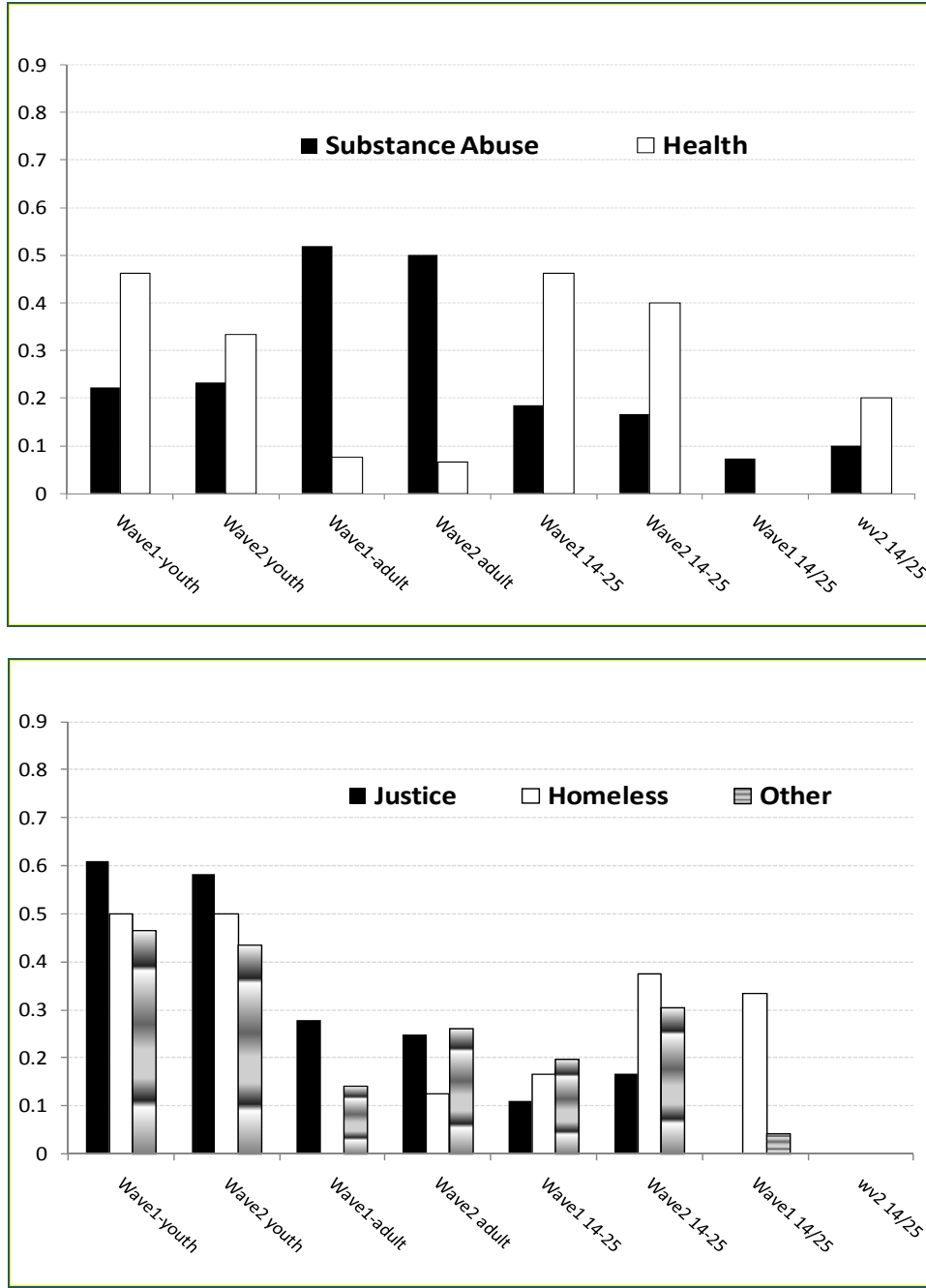


Figure 1b. Age Groupings Within Service Sectors. Proportion of age groupings within the Substance Abuse, Health, Justice, Homeless, and Other service sectors for organizations in the transition system in Clark County, Washington, at wave 1 (wv-1) and wave 2 (wv-2). *Youth* =up to ages 18 or 21, *Adult* =18 or 21 and older, *Continuous* = ages 14-25 without requiring a break in staff or program based on age, and *Discontinuous* =ages 14-25 but require a change in staff or program based on age.

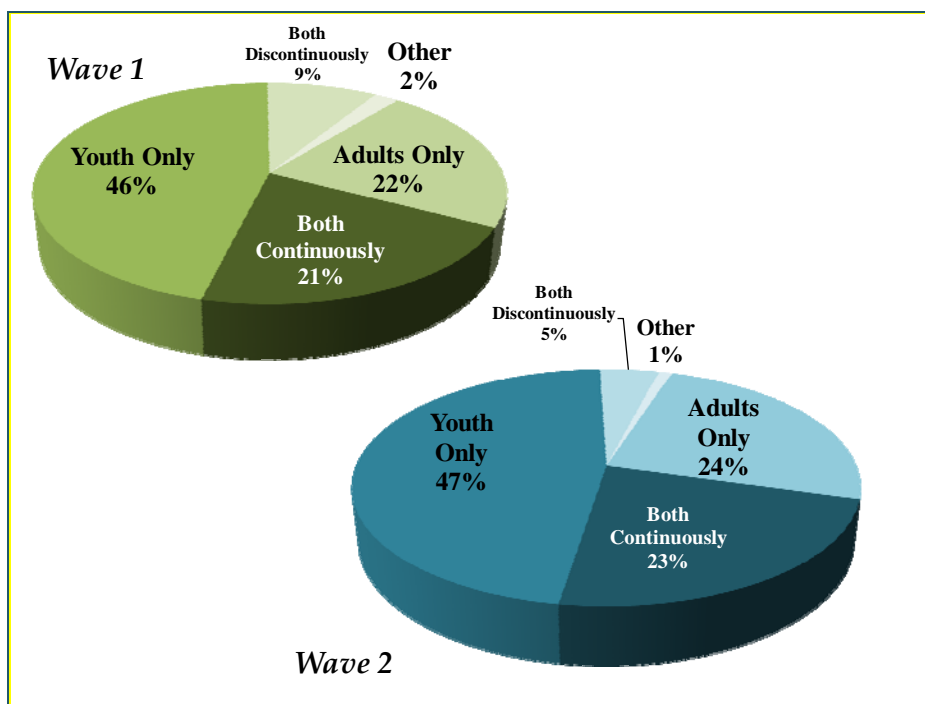


Figure 2. Distribution of Organizations Categorized by Age Groups Served. *Wave 1 and 2* distribution of organizations categorized by age groups served (Wave 1, n=103, Wave 2, n=105). *Youth*=up to ages 18 or 21, *Adult* =18 or 21 and older, *Both Continuously* = ages 14-25 without requiring a break in staff or program based on age, and *Both Discontinuously* =ages 14-25 but require a change in staff or program based on age.

Whole Network Measures

Table 4 provides overall measures for the entire transition network at both time points. The measures suggest modest change in a few areas.

Density: There were no significant changes in the overall density of the transition services network. At Wave 1, the density levels could be characterized as moderate on three of the four measures, and moderately low for the fourth measure (receiving referrals). At Wave 2, the density levels were not significantly different, suggesting that the overall level of connectedness within the transition network was the same at both levels. Of course, it is possible that density may have been higher during the grant project. However, there is no suggestion of this interpretation from the comparative stability of these two sets of measurements.

Centrality: The measure of centrality employed provides a sense of the degree of hierarchy within the network. Of some interest is the lower centrality levels at time two

for two of the four network questions. At Wave 2, lower centrality was reported for participating in meetings of mutual interest, and for receiving referrals. This suggests that dimensions of the transition services network are somewhat *less* centralized at the second time point. This is consistent with reports of greater interaction between organizations of different types across the transition networks as might be associated with: general information meetings involving adult and child service programs, steering committee participation, increased knowledge about referral requirements of interorganizational partners, and the like. In interviews, these types of activities were reported by respondents within this transition network.

Measures of Core and Periphery: K-cores can be used to look at issues of membership within a relatively densely packed network core, or within a more loosely connected network periphery. Within this measure we can look both at *intensity* (i.e., the number of the highest k-core) and the *extensity* of this core (i.e., the proportion of network members that are members of the highest core). Like measures of centrality, higher proportional membership within the highest core suggests greater inclusivity. Like measures of density, higher k-values suggest a core that is more active (i.e., more ties with other core members.)

For two questions, there are significant differences in the proportion of network members included within the highest k-core, but the interpretations of these differences are somewhat complicated. It appears that the core membership for the referral network for sending referrals is significantly broader at Wave 2, and the intensity of interaction within this core is somewhat greater ($k_1=42$, $k_2=43$). This suggests more widespread interactions within the sending referral networks. For the receiving referrals network, while the membership in the uppermost core is broader, the intensity within that core is somewhat reduced ($k_1=33$, $k_2=29$).

Table 4. Comparison of Whole Network Indicators Across at Wave 1 and 2.

	<i>Wave 1</i>	<i>Wave 2</i>
<i>Density</i>		
<i>Participate in client related meetings</i>	.4403	.4223
<i>Participate in meetings to discuss issues of mutual interest</i>	.3780	.3586
<i>Send referrals</i>	.3871	.3823
<i>Receive referrals</i>	.2819	.2412
<i>Centrality</i>		
<i>Participate in client related meetings</i>	.4156	.4181
<i>Participate in meetings to discuss issues of mutual interest*</i>	.4747	.3550
<i>Send referrals</i>	.4501	.3785
<i>Receive referrals*</i>	.5756	.2388
<i>Highest K-core (Proportion of network in Highest Core)</i>		
<i>Participate in client related meetings</i>	49 (.69)	49 (.71)
<i>Participate in meetings to discuss issues of mutual interest</i>	39 (.60)	43 (.71)
<i>Send referrals*</i>	42 (.66)	43 (.79)
<i>Receive referrals*</i>	33 (.50)	29 (.67)

Structural Equivalence Models of Network Change

The data collected from the interviews allowed us to describe or map the system as it existed at two points in time. We used a type of positional analysis to look for organizations that were structurally equivalent to one another, and these, in turn, were incorporated into a block model. The block model represents a way of representing what are often extremely complicated interorganizational networks in a more comprehensible form. It characterizes organizations that behave in the same way, primarily toward other organizations.

The network picture combines all the information from the four network questions. There are anywhere from 6 to 20 organizations or programs in each of the positions, represented by a circle. All of the organizations in each position tend to send and receive information and referrals with the same pattern. The direction of the arrows tells whether the information is being sent, received or both. Because of the graphing algorithm we used, the distance between positions reflects the centrality of each of these positions – with the most highly connected positions nearest the center, and the least well-connected positions farther from the center.

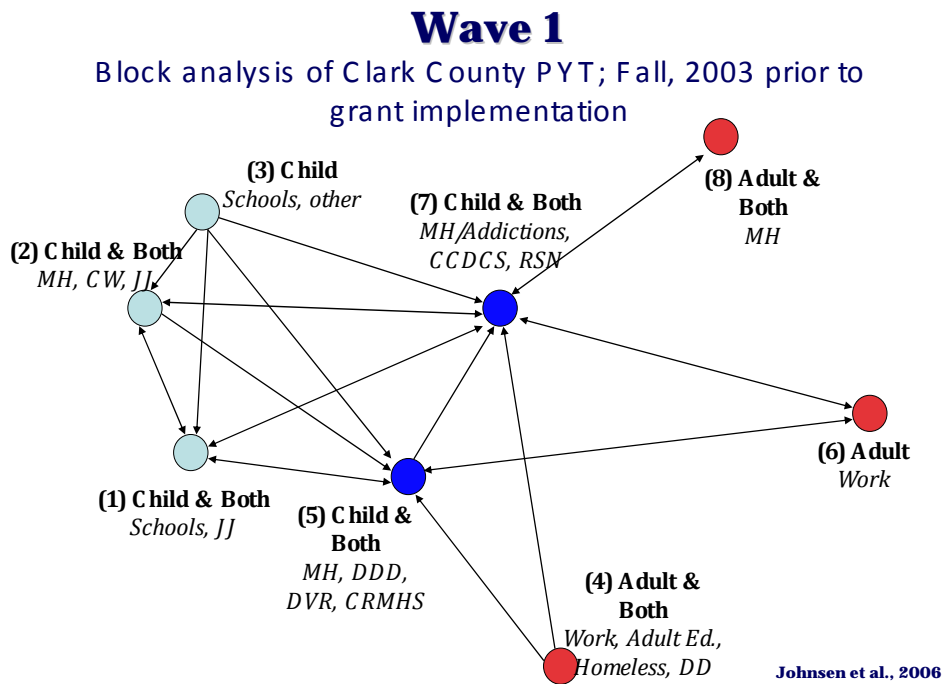
At Wave 1, there were three key findings that emerged from the block models. First, there were two clearly defined networks: a relatively highly connected network serving children and a relatively fragmented network serving adults. Second, there were two positions that served both the adult and child service delivery networks. Third, the connections between the adult and child service delivery networks were sparse or non-existent. At Wave 1, 6 of the 8 network positions were populated primarily or exclusively with either child serving organizations or adult serving organizations. There was very little overlap.

We characterized the ages served by the organizations in each of the positions because we were interested in the transition issues and we realized that we had to understand the child-adult system split. Based on other data we collected about the ages each program served, we were able to categorize each position as either serving primarily children or serving primarily adults or serving both. In Wave 1, Position 5 and Position 7 were categorized as both and were made up of organizations that tended to be large funding or coordinating agencies. Examples are the Department of Community Services, Department of Developmental Disabilities, Vocation Rehabilitation, etc. Most organizations in the network had contact with these two central positions in some way.

There are three positions of primarily adult serving organizations. One of these, (Position 6) is a small group of programs that focused almost exclusively on employment and helping adults find work. Another of these positions (Position 8) contained most of the programs and agencies that support adults with long term and persistent mental illness. This included the state hospital, local inpatient programs, day treatment programs and case management.

The other side of the pictures shows a system of children serving programs that are tightly connected with each other and with Positions 7 and 5. There are ties between each of the positions, and many of these are bidirectional. Each positional member of this child sub network had ties with each of the other positions in the child sub network. However, some programs (primarily Position 3) were linked as sending but not receiving ties – particularly referrals.

Figure 3. Block Analysis of Data from Wave 1.

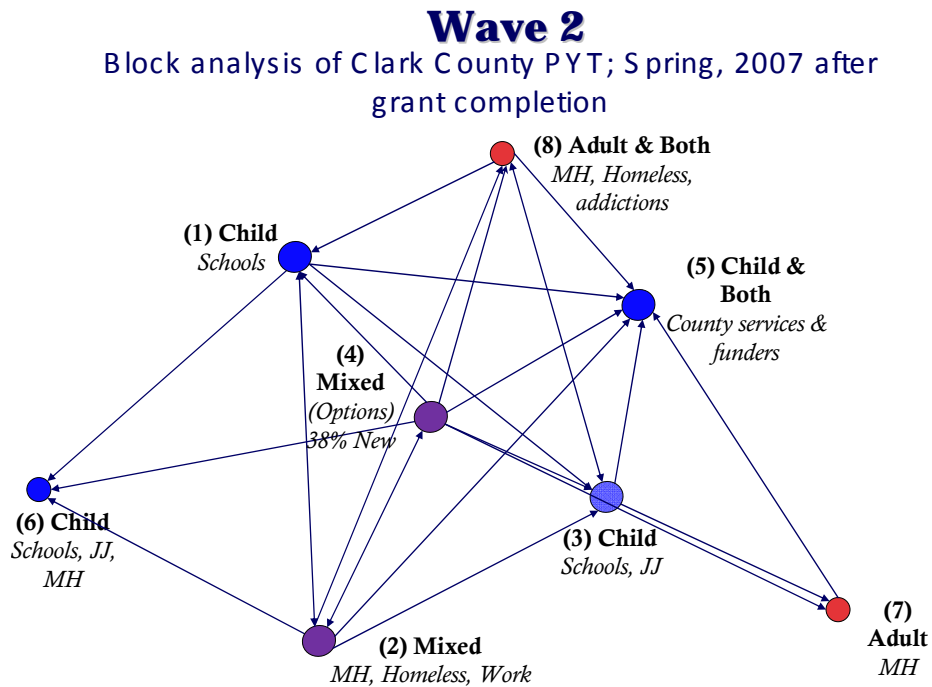


At Wave 2, a different picture emerges. One key difference is that there are positions of adult services that are now relating directly with positions that contain primarily child services. Second, there is a new category of position, labeled mixed as can be seen in Positions 2 and 4. This is a position that contained all three types of organizations, child only, adult only and both. At Wave 1, there were no positions of this type present. Instead, we had positions that were primarily child with some that served both and we had positions that were primarily adult with some that served both but none where all three were mixed together. There is still a distinct set of positions that are primarily adult only but these positions are more connected with the rest of the network. One position of primarily adult serving agencies from Wave 1 has disappeared completely. Many of the 10 programs that went out of business between Wave 1 and Wave 2 were

in that position. There is still a group of positions that are primarily child serving programs but these positions are more connected with rest of the network. One child position (Position 6) seems to be more isolated than before

The diagram from Wave 2 suggests that the rigid separation between the child and adult service system is much less apparent. In addition, it suggests that there is somewhat greater interaction between positions serving children and positions serving adults and children. These would appear to be consistent with the overall goals of the grant.

Figure 4. Block Analysis of Data from Wave 2.



Although many other block models were possible to construct, the block model with 8 positions was the best model because it explained the most variance with the least blocks.

From the density matrix associated with the block model, we know that the 8 position model at Wave 1 explained approximately 30% of the variance. This is a respectable level of explanation for this type of model. The 8 position model at Wave 2 explained between 13 and 20% of the variance. We hypothesize that the block model in Wave 2

may be representing a network that is in transition and will continue to move further into a different pattern from Wave 1.

Ratings of Organizations and the System

At both data collection points, respondents were asked to rate both their own organization and their service system on a number of items related to providing services and supports to TAY. Data at Wave 1 were collected during a face-to-face interview. In an attempt to shorten these interviews, during Wave 2 these data were collected via an Internet survey. About 10% of the individuals interviewed at the second data collection point did not respond to the survey, therefore 91 surveys were available for analysis. More significant, large numbers of respondents at Wave 2 did not respond to many items on the survey. The problem presented by missing data will be discussed in this section.

ORGANIZATIONAL RATINGS

At the time that data were collected for Wave 1, respondents reported a consistent perception that their own agency functioned well with regard to services for TAY, but that the system, as a whole did not. For every characteristic that was rated for both the system and the individual's program, the average rating of the system was worse. Even the best average system rating (mean=2.95) was poorer than the worst average program rating (mean=2.90). Respondents rated their organizations and the system most dissimilarly for three items that reflect bureaucratic complications: avoiding wait lists or long delays, minimizing red tape, and providing timely access to clinical records. Respondents rated their organizations and the system most similarly on involving people of different backgrounds in community-wide planning, followed by having mechanisms for input from youth with SMH conditions into program policies, and fostering a big picture understanding of the service system. The first and third of these items wouldn't be expected to be high priorities for individual organizations, and indeed the ratings were most similar with the system because respondents rated themselves relatively poorly on these items.

At Wave 2, we found that the respondents rated their organizations much more poorly than in Wave 1 (see Table 3). The ratings in Wave 1 ranged from a high rating of 1.84 (between fairly well and very well) to a low rating of 2.90 (adequately). By Wave 2, the

respondents' ratings ranged from a high of 3.1 (adequately) to a low of 4.2 (fairly poorly). In general, the respondents' ratings of their organizations were much more similar to their rating of the system by Wave 2. This reverse in organizational rating between Wave 1 and 2 suggests that respondents had received information about the elements of an effective transition service system and were assessing both their organization and the system against this new knowledge. These findings should be interpreted in the context of the number of respondents who responded either "not applicable" or "don't know" in Wave 2. This will be discussed further in a later section.

TRANSITION-RELATED ITEMS

As can be seen from Table 5, nine characteristics were specifically tapped as transition issues (labeled T). These items were selected from the standard procedure for network analysis established by Morrissey and colleagues (1998), with the addition of several items that were created to reflect the unique qualities of services for youth with SMH conditions during the transition to adulthood, using the standards described by Clark and colleagues (2000). Examining these items reveals that respondents feel that the system and their organizations struggle in these areas. One way to examine how well a group of issues is rated is to compare the ratings for those nine items to the "middle" score for all items (in other parlance – are they higher or lower than the average). The median rating for organizations at Wave 1 was 2.3 and at Wave 2, 3.7. For the rating of organization, 7 of 9 transition items rated lower than the median at Wave 1 while 4 of 9 rated below the median at Wave 2. Some of the largest negative changes in these transition items were seen for the organizational ratings, where Wave 1 ratings were around 2.0 and Wave 2 ratings were above 4.0.

SYSTEM RATINGS

The data obtained from respondents regarding system ratings is contained in the Appendix in Table A. This data will not be discussed in any depth because of the large numbers of respondents who said the items were either 'not applicable' or 'don't know'.

Missing Data. In Wave 1, the number of respondents who answered "don't know" or "not applicable" were in a reasonable range (average of 17% for organizational assessment and 27% for system assessment). Data for this section of the survey were collected via a web surveyor in Wave 2. The number of respondents who

did not answer each item was far greater for the survey conducted over the web (average of 31% for organizational and 42% for system). The percent of non response varied by item. In Wave 2, the percentage of missing items ranged as high as 56% for the system items. Respondents were more likely to answer “not applicable” to organizational assessment items and “don’t know” to system assessment items.

The level of non response has led us to interpret this data in a limited way, especially for the system assessment. For some of the organizational assessment items, it makes sense that an organization may not provide that service (e.g., providing outreach to youth...) making “not applicable” a reasonable answer. Other items would seem to apply to all organizations (e.g., making youth feel welcome and at ease). It also makes sense that some of the respondents would not know what was happening at the system level for certain items (e.g., ensuring that other agencies have timely access to records), however, it is surprising that 53% of the respondents did not know whether the system was effective at “establishing grievance mechanisms for youth”. The methodological issue of why the non-response was so high bears further investigation. Our only firm conclusion about using web-based survey data is that it is risky to collect this type of data via this medium because it allows people to not answer the question more frequently than when they are interviewed in person.

Table 5: Respondents' Ratings of Their Own Organization for Wave 1 (n=103) and Wave 2 (n=91)*

How well do your/does the system's transition services for youth with SED perform according to the following criteria?	Wave 1%			Wave 2 %		
	Mean	SD	NA	Mean	S.D	NA
AVAILABILITY						
1. Avoiding excessive waiting lists or long delays in scheduling transition services	1.95	1.08	18	3.9	.87	31
2. Keeping "red tape" to a minimum in enrolling youth with SED into transition services	2.20	.96	15	3.7	.93	32
3. Providing transportation to transition programs and services	2.52	1.26	29	3.6	1.1	51
4. Developing individualized transition services or programs for youth with SED	2.19	1.05	18	3.9	.90	33
ACCESSIBILITY						
5. Placing transition services and supports in accessible locations for youth with SED	2.35	1.00	24	3.7	.98	37
6. Providing transition services and supports at reasonable cost to youth with SED	2.01	1.12	20	4.2	.90	43
7. Preventing "creaming" of higher functioning or less challenging youth, leaving lower functioning or more challenging youth at risk	1.84	0.94	21	4.1	.91	36
8. [T]** Ensuring that youth continue to access appropriate services when their change in age signifies a change in legal or eligibility status	2.28	1.18	22	3.7	1.2	30
9. Providing "unconditional" services and supports despite authority-testing, experimenting or other concerning behavior	2.06	1.08	13	3.9	1.1	23
COORDINATION						
10. Fostering a "big picture" understanding of the service system that provides elements of transition supports for youth with SED in Clark County and the roles and responsibilities of the agencies that constitute that system	2.78	1.06	14	3.6	1.0	20
11. Ensuring that other agencies have timely access to client records in ways that do not violate client confidentiality or the rights of clients	1.94	0.89	17	3.9	.93	21
12. Ensuring meaningful discharge planning that links youth with appropriate services and supports and completed in sufficient time for those linkages to be successful	2.35	0.96	20	3.7	.99	32
QUALITY OF CARE						
13. [T] Making youth with SED ages 14-25 feel welcome and at ease in services settings	1.89	0.96	6	.2	.79	15
14. [T] Giving priority to transition services for youth with SED	2.48	1.07	21	3.5	.98	36
15. Establishing grievance mechanisms for youth with SED ages 14-25	2.31	1.14	16	3.8	.92	31

How well do your/does the system's transition services for youth with SED perform according to the following criteria?	Wave 1%			Wave 2 %		
	Mean	SD	NA	Mean	S.D	NA
16. Attracting people of different backgrounds to participate in community-wide planning of transition services	2.81	1.19	22	3.3	.99	35
17. [T] Emphasizing the strengths of youth with SED during transition ages 14-25	2.14	0.98	11	4.1	.92	19
18. [T] Ensuring that transition services are developmentally appropriate for this age group	2.15	0.94	10	4.0	.81	25
19. [T] Developing formal mechanisms for input from youth with SED ages 14-25 into program development, policies, and practices	2.90	1.22	14	3.1	1.2	27
20. [T] Having individual clients aged 14-25 lead his/her own transition planning process	2.52	0.97	15	3.5	.94	29
21. [T] Developing transition supports and services that are appealing to youth with SED aged 14-25	2.64	0.99	17	3.4	.94	31
22. [T] Offer transition supports and services that address the needs of youth across the complete array of life domains (i.e., housing, vocation, education, MH or SA treatment, social skills etc.)	2.57	1.18	21	3.5	1.0	35
23. [T] Providing outreach to youth with SED aged 14-25 who may be reticent to engage in services	2.86	1.15	17	3.3	1.1	42

**n for individual items varies, due to 'not applicable' and 'don't know' responses*

*** [T] indicates transition-related items.*

Conclusions

Our intent in conducting this research was to further examine the process by which service systems change. We were interested in the system changes in Clark County, Washington, because the grant funding it received had the potential to lead to system change that had not been observed elsewhere; an array of services well suited for this population that would support them as they matured from adolescence to mature adulthood. The bifurcation of adult and child systems observed at baseline in this site is typical of mental health services in the United States.

As the needs and preferences of youth and young adults with mental health disorders become more clearly recognized, the question of how to bridge this two pronged service system becomes more urgent. One of the most frequently cited reasons nationally that transition support services have not developed further is lack of funding (Davis & Hunt, 2005). The grant provided funding for direct service provision, but also funding to gather stakeholders to problem solve system issues. One of the least expensive ways to improve systems for this population is simply to increase communication across organizations that serve adolescents or adults, ensuring exchange of critical information about youth as they move from one type of service to the next. Sharing expertise can also improve these services. For example, information about housing and vocational services from adult services, and working with families and schools from child services can help agencies less familiar with these practices or resources provide better supports around TAY who need a unique blend of supports. Thus, this grant provided the opportunity to make significant system shifts that would be observable in the network of services for this population. The specific goal of this study was to explore whether grant support of direct services and infrastructure change was associated with increased exchange of information and referrals across the transition network, greater availability of age continuity in services and better transition services in general. Although the primary focus of the grant funds was not on changing the way that programs and agencies interacted with each other around this population, the situation provided a naturally occurring opportunity to observe system change.

As described earlier, we collected social network data and other information from programs and agencies that did or could serve this group of youth. The first set of data

(Wave 1) was collected in 2003 at the end of the grants first planning year. The second set of data (Wave 2) was collected in 2007, immediately following the end of the grant funding. The evaluation data for the program, called Options, was positive and supported the conclusion that the program was solidly implemented and that participation resulted in positive outcomes for the youth involved.

INCREASED EXCHANGE OF INFORMATION AND REFERRALS ACROSS THE TRANSITION NETWORK

The network of agencies and programs identified stayed remarkably stable over the four years of the study. Eighty-five of the agencies were interviewed in both Wave 1 and Wave 2. Ten of the programs in Wave 1 were no longer in existence by Wave 2, they had either gone out of business or no longer were serving consumers in Clark County. Within the network identified for Wave 2, nine new programs were identified that had not been present in the county in 2003. This is a turnover rate of approximately 10%, a rate comparable to that found in other multi-wave studies. At Wave 1, the types of services most frequently available were case management, wraparound services, and advocacy and medication management. Least available was state psychiatric hospitalization. By Wave 2, the largest increase was seen in medication management, and the largest decrease was in psychosocial rehabilitation.

The changes in many dimensions of the network is complex, with changes in the expected direction on a few variables, no changes on some dimensions and relatively modest changes on others. While some of the changes seem to be consistent with the presence of the grant program, the fluid funding and policy environment for mental health services in the United States during that time period offers other viable explanations.

Density. There was no significant change in the overall density of the transition services network between Wave 1 and Wave 2. The density of this network was moderate on three dimensions and moderately low on “receiving referrals.”

Centrality: Two of the four dimensions showed significant change toward a more decentralized service system. A third dimension showed a decline that did not reach significance. This suggests a change toward a less hierarchical, less centralized service system with the possibility of more cooperative ventures. This is supported by

the interviews in which respondents reported increased collaboration and interagency communication. Several respondents also commented on the change in leadership toward a more collaborative problem solving approach.

Extensivity: Extensivity is a measure of the proportion of people in highest (biggest) k-core as compared to the number of members in the network. This proportion increased for all four network measures and increased significantly for two. These were the questions related to sending and receiving referrals.

Intensity: Intensity is measured by looking at the number of ties between members in the highest (biggest) k-core. Over the time between Wave 1 and Wave 2, the intensity of relationships associated with sending referrals increased slightly from 42 ties (each member of the core group has ties with 42 other members) to 43 ties. The intensity for receiving referrals is somewhat lower, 33 ties at Wave 1 which declines to 29 ties at Wave 2. Other multi-wave network analyses have reported a similar pattern in which the referrals received are about 80% of those sent.

Block Modeling. The block model pictured at Wave 1 suggests two somewhat separate groups of blocks, one that primarily served children and one that primarily served adults. The child serving blocks appeared more interconnected, while the adult serving blocks appeared more isolated both from each other and the rest of the network. These two groups of blocks were connected by two blocks that contain most of the funders and coordinating organizations in the network. There is very little evidence of communication directly between the adult blocks and the child blocks other than through these connecting blocks. This model accounts for 30% of the variance in the network.

The block model pictured at Wave 2 suggests several differences. One is that there is more interchange directly between the blocks of adult services with blocks that contain primarily child services. Second, a new type of block (“mixed”) appeared. This type of block contains all three types of organizations, child only, adult only and both. Further, these “mixed” blocks are situated in the center of the network and are as connected to the outer blocks in the same way the funders were in Wave 1. In general, the network pictured in Wave 2 is more decentralized with more communication directly between blocks rather than through two central blocks. This change in the network is supported by the interview data. Most interviewees commented that programs in the county were talking with each other more and were generally more collaborative than before.

In addition to the major findings above, it is useful to note that one of the adult only blocks from Wave 1 had completely disappeared by Wave 2. This was the block that contained many of the small private employment services; many had gone out of business during the four year hiatus. One of the child blocks had become more isolated from the rest of the child network.

LITTLE CHANGE IN AGE CONTINUITY

At both data collection points, network members were asked to identify the age ranges of individuals that could access each of their services. The availability of services by age group is comparable from Wave 1 to Wave 2. Around 50% of the services were provided for youth only, over 25% were provided for adults only, fewer (13-14%) served youth continuously across the entire age range, and the smallest proportion (6-8%) served the entire age range but with a break in service based on age. Thus, at both time points, it was rare for individuals to be able to remain in a program or service once they reached the upper age range

From a different perspective, each program or agency participating in the network analysis was categorized based on the age availability for the majority of the services they provided. For those organizations included in both waves of data collection, most (69%) did not change in the ages they served. Most change was seen in those agencies that served TAY. Forty-four percent of those agencies who served youth continuously at Wave 1 continued to do so, whereas more than half of the seven agencies who served youth discontinuously at Wave 1 now reported serving them continuously. Overall, however, the group of organizations that served 14-25 year olds continuously was small, thus the overall impact on the system was minor.

SELF-RATING OF QUALITY OF TRANSITION PROGRAMS MORE CRITICAL

The concept of whether services are provided in a way that is consistent with known principles accepted to be developmentally appropriate is not one that has been measured before. Here we used a set of items associated with measuring quality of care in general and specifically quality of care for TAY. In general, ratings of how well the respondent felt their organization was serving TAY declined from Wave 1 to Wave 2. In Wave 1, network members felt their organization was doing between fairly well and

adequately on most aspects of quality of care. By Wave 2, respondents were rating their program between adequately and fairly poorly. For the transition specific items, respondents tended to rate their organization lower than the median score for all items. Although there is no other set of data to compare this to, our impression was that the Wave 1 respondents were overly optimistic. Given the amount of information and planning that occurred in the community during the four years of the grant (sparked by this grant and others) it is our interpretation that network members became more realistic and perhaps some what gloomy about how well their organization was serving youth by Wave 2.

Although we asked the respondents to rate both their organization and the system as a whole, they had a much more difficult time rating the system. Non responses (either don't know or not applicable) ranged up to 50% and thus no conclusion or interpretation is drawn here. It is notable that so many respondents felt incapable of assessing the quality of care provided by the system as a whole.

LIMITATIONS

This network analysis was conducted as case study of a single site over two points in time. Thus it is constrained by all of the limitations associated with case study methodology. The leading challenge in interpreting cases study results is that there is no way to compare the results to a similar site without the PYT grant program. Thus the findings must be interpreted as associated with the presences of the grant program not caused by it. A second limitation results from the process of bounding the network. No matter how diligent the researchers are, it is always possible to leave out programs that should have been included. In this case, we did not included programs from the adult criminal justice system, an oversight that may have affected the outcomes. Despite these limitations, the results from this case study illuminate the ways that networks change over time.

RECOMMENDATIONS

Exemplary practices that support the transition to adulthood call for a developmentally appropriate, comprehensive, and continuous array of services that can support youth across the transition ages. The findings from this report are supportive of changes that

can be implemented through a specific demonstration project or directive grant mechanism. The following recommendations are made for future system change efforts:

- **Remove Age Barriers:** When continuity of services are therapeutically important, services should have the flexibility to continue beyond typical adult/child defining age limits, rather than beginning or ending based on age. Adult services would benefit from the capacity to serve those who are underage, as part of a strategy to engage young people in services which they might continue in as they mature into adulthood.
- **Increase Intersystem Coordination:** Staff members of organizations should meet for client planning purposes well in advance of when a young person exits the services of one organization and enters the services of another. Policies incentivizing such practices would be helpful. Youth and adult organizations should interact more to exchange the expertise of each system, and to build knowledge about how to serve this age group that spans both systems.
- **Support Age Appropriate and Appealing Services:** Programs like the Partnership for Youth Transition successfully span the adult and child system and influence the services with which it is most closely connected. The success of such programs can be enhanced by infrastructure changes that reduce age barriers, allow providers to become expert in serving the entire age span, and share that expertise to build necessary bridges for TAY. For example, grant and contract language for services for TAY should encourage that the services requested promote age spanning as a central goal. Examples of age-spanning programs, and how they were established can be found in Davis (2007) (<http://www.umassmed.edu/uploadedFiles/cmhsr/Publications/PioneeringTransitionPrograms.pdf>).

The purpose of conducting this network analysis was to add to the knowledge about how service systems change as a result of introducing a program to better meet the service needs of transition age youth and young adults. Although the purpose of the Partnership for Youth Transition Program was not directly focused on changing the relationship between organizations, we took this initiative as an opportunity to test one potential model. Providing resources to establishing a direct service program that models the best practices available for the transition aged population is one approach to

changing the service system. The process of planning for such a program and the presence of well trained staff and available services could, theoretically, have a ripple effect in the community. This could lead to other service providers having more information about the needs and preferences of TAY and be more willing to expand or flex their services to serve them in a developmentally appropriate way. We saw some evidence that suggests that this approach may have a modest impact on other parts of the network. Although there were substantial changes in the network between Wave 1 and Wave 2, it is not possible to attribute these changes directly to the presence of the Options program. The interview data supports the conclusion that the Options program and its related activities did have an impact on those child serving organizations most involved with this age group. An alternative possibility is that establishing a model program could have the effect of reducing the pressure on other network members. For some programs that have a less direct vested interest in seeing these youth served appropriately, the availability of the Options program allowed them to think that the problem was taken care of. This may have reduced the pressure to change their own services and make them more developmentally appropriate or available continuously. These and other outcomes of establishing a targeted, model program need to be the subject of research.

While examining the other changes going on in this county at the same time as the PYT initiative, another Federal funding initiative emerged as an example of a different strategy for changing the interaction within the service system. The Ten Year Plan to End Homeless initiative was discussed in a number of the interviews. That initiative includes a heavy emphasis on bringing a broad array of organizations together to focus on the goal of ending homelessness. It is reported to emphasize organizing the service delivery system at least equally if not more so that funding direct services. Several respondent describe how this initiative had changed the way their program was responding to homeless youth and families.

How initiatives from outside funders (state, Federal foundation) can best bring about a targeted change in a service delivery system is poorly understood at best. The specific change that is needed to better serve TAY and young adults, that of increasing age continuity in services, provides us with a concrete and measurable way to assess various strategies for helping service systems become more developmentally appropriate. It is clear that considerable system change is needed to improve services

for TAY, and that efforts like the Partnership for Youth Transitions, and other grants that target both infrastructure and direct service changes can help significantly in that effort.

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