

Evaluation of Cross-System Collaboration

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Introduction

The National Survey of Child and Adolescent Well-Being (NSCAW) recently completed its study of children and families served by the child welfare (CW) system. NSCAW researchers collected a nationally representative sample of 5504 children and have made the survey data available to researchers across the nation. The emerging results from this wide-ranging longitudinal survey have offered new perspectives of child and family well-being outcomes and related multisystemic characteristics. One key relationship that has been reemphasized and expanded by this study is the interconnectedness of the CW and mental health (MH) systems.

While only 1 in 5 youth in the general population have a diagnosable MH disorder (ages 9-17; U.S. DHHS, 1999), researchers have found rates of MH need among youth involved in CW as high as 80% (Farmer et al., 2001; Landsverk et al., 2002). Based on NSCAW data, researchers found that close to half (47.9%) of the youth with completed CW investigations have clinically significant emotional or behavioral problems (ages 2-14; Burns et al., 2004).

Despite the exceptionally high MH needs within this population, discrepancies have also been identified in use of services. In 2006, Glisson and Green reported that approximately 23% of youth in CW and/or youth justice systems receive services despite 64% having MH needs. Hurlburt et al. (2004) similarly found that of the CW youth with clinically elevated impairment (42.4%; in their first wave of analyses), only 28.3% had received specialty MH treatment within a 1 year period. Hurlburt et al. also found that younger children remaining in home placement were least likely to receive MH services. This specific finding also suggests a concerning disparity in the early intervention and prevention efforts among CW youth (Leslie et al., 2005a; Ward et al., 2009; Moxley, Squires, Lindstrom, 2012).

Given the well-documented MH treatment needs and disparities among maltreated youth, the capacity for collaboration between the MH and CW systems has become an area of increasing attention. Past efforts to evaluate and cultivate collaboration across diverse systems will inform contemporary efforts to conceptualize and assess existing community collaborations between the CW and MH systems.

Cross-System Collaboration: Conceptualizations

In the 1960's the Federal Office of Economic Opportunity on the War on Poverty initiated an effort to reduce fragmentation across systems (Kahn & Kamerman, 1992; Coccozza et al., 2000). By 1971, with the launch of the Community Coordinated Child Care (4C) program, cross-system collaboration research was emerging but gaining momentum (Kagan, Goffin, Golub, and Pritchard, 1995; Konrad, 1996). Through the 1970's the U.S. Department of Health, Education, and Welfare (HEW; later the named the Department of Health and Human Services) initiated reform to social service delivery. Collaborative service initiatives continued into the 1990s, though most were imbedded in research focused on broader topics (Knapp, 1995). In hopes of integrating a cohesive conceptualization of service integration research, Konrad offered a thoughtful framework for service integration in 1996. Her qualitative framework includes a level of integration continuum and 12 multidimensional characteristics which contribute to cross-system collaboration.

Konrad's Levels of Integration and Services Integration Dimensions

The Level of Integration continuum (Konrad, 1996) includes 5 levels ranging from informal integration to formal integration. The least formal or lowest intensity stage of integration (slightly more integrated than autonomous operation) is *Information Sharing and Communication*, followed by *Cooperation and Coordination*, then *Collaboration*, *Consolidation*, and finally *Integration*. This final stage is comprehensive in scope and reaches goals in cross-cutting, multipurpose, need-driven, and individualized ways. Funding is pooled and, “eligibility requirements for all services are simple and uniform. Clients’ problems are treated as a whole and individuals are treated as part of family and community systems” (p. 11). Konrad also identified key elements of cross-system collaboration, based on her review of service integration literature (see Figure 1).

Figure 1.

Key Dimensions of Cross-System Collaboration

(Konrad, 1996)

Partners: Who are the major organizations involved?

Population: Toward whom are the programs and services directed?

Goals: What is the collaboration initiative expected to accomplish?

Program policy and legislation: What are the specific features and provisions for each organization?

Governance and authority: Who is responsible for the initiative and decision making?

Service delivery system model: How are the goals of the initiative carried out?

Stakeholders: Are service recipients included in project planning, operations, and oversight?

Planning and budgeting: How are resources requested, allocated, and deployed?

Financing: What types and sources of funding are available?

Outcomes and accountability: How does the initiative define success?

Licensing and contracting: How are providers and services procured?

Information systems and data management: How are data recorded, shared, and used?

The work by Konrad and others helped shape further evaluation and study of cross-system collaboration. Researchers have adapted and utilized Konrad’s key dimensions and offered commentary on the relevance of specific dimensions. For example, Cohen and Ooms (1993) go as far as to suggest that the level of data systems linkage to client eligibility, service use, tracking, payments, and outcomes may be the truest measure of integration.

In the late 1990’s, Coccozza and colleague conducted a study of the ACCESS (Access to Community Care and Effective Services and supports) program. The ACCESS program involved service integration efforts to improve care for homeless mentally ill adults. Coccozza et al. (2000) pointed out that system integration assessment is key in determining reasons for the success or nonsuccess of a given program (i.e., understanding results in terms of implementation or theory). Informed by Konrad and others in the literature and with new information provided in initial applications for sites participating in the study, researchers developed a list of strategies that they assessed throughout the study (see Figure 2).

The key conclusions drawn from this study include the finding that systematic cross-system assessment can be conducted on a broad scale, though the authors note that further conceptual and methodological refinements are necessary. Researchers also concluded that some strategies are more successfully implemented than others, “...the establishment of a local coordinating body, appear to be more likely to be successfully implemented and to require a shorter period of time to achieve implementation than others such as the development of an interagency management information system” (p. 405). Coccozza

et al. also concluded that, with support, communities are able to develop and implement cross-system integration strategies.

Figure 2.

<p><i>ACCESS Program System Integration Strategies</i> <i>(Definitions available in Cocozza et al., 2000)</i></p> <p>Interagency Coordinating Body State-Interagency Coordinating Body (added later in the study) Co-Location of Services Systems Integration Coordinator Position Cross-Training Interagency Agreements/Memorandums of Understanding Interagency Management Information Systems/Client Tracking Systems Pooled/Joint Funding Uniform Applications, Eligibility Criteria, and Intake Assessments Interagency Service Delivery Team/Provider Coalition Flexible Funding Use of Special Waivers</p>
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Collaboration between MH and primary care practitioners has also been an area of interest among researchers. Doherty and colleagues (Doherty, 1995; Doherty, McDaniel, & Baird, 1997) identified 5 levels of collaboration salient for MH and primary care: minimal collaboration, basic collaboration from a distance, basic collaboration on-site, close collaboration in a partly integrated system, and close collaboration in a fully integrated system, and created a list of level of collaboration indicators (see Figure 3). Seaburn, Lorenz, Gunn, Gawinski, and Mauksch (1996) also created a 5 level model that resonate with the levels described by Konrad (1996). These include parallel delivery, informal consultation, formal consultation, co-provision of care, and collaborative networking.

Figure 3.

<p><i>Level of Collaboration Indicators</i> <i>(Doherty, McDaniel, & Baird, 2007)</i></p> <p>Level of communication between behavioral and primary care services Physical proximity of primary care and behavioral services Ease and timeliness of accessing services between behavioral and primary care services Availability of expertise between behavioral and primary care services Amount of cross-training between mental health and primary care services Availability of client information/records between services Level of care referrals between systems Level of understanding of each other's roles and responsibilities between services Degree of sharing/blending fiscal responsibilities</p>

Additional research of MH and primary care integration included conducting factor analyses to identify the organizational and personal relationship patterns related to collaboration in primary care and MH

settings (Gerdes et al., 2001). Organizational patterns were found to consist of co-location, relevant provider specialty, co-employment in the same integrated system, and personal relationships (operationalized as frequency, familiarity, and comfort between practitioners). Interestingly, primary care practitioner workload and “rurality” showed little association with the degree of collaboration in this study. The factors that were most strongly related to higher collaborative care were presence of MH practitioner at the primary care site, positive relationship interactions, higher referral and consultation frequency, provider specialty, higher site size, staff or network co-employment, and MH service accessibility.

Figure 4.

<p><u>Factors of coalition functioning identified in the Literature</u> (Granner & Sharpe, 2004)</p> <p>Member characteristics and perceptions member benefits member participation member satisfaction and commitment member skills and training representativeness of members member recruitment member expectations ownership</p> <p>Organizational or group processes conflict resolution decision making clear mission quality of action plan formalized roles and procedures technical assistance resources available</p> <p>Organizational or group characteristics and climate community context and readiness group relationships/collaboration communication strong leadership</p> <p>Impacts and outcomes linkages to other groups/community policy advocacy/change empowerment/social capital community capacity institutionalization</p>
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The service integration research highlighted in this section seems to show a primary stream of research that generally builds on preceding studies. Most of the progress that has been made includes some influence from Konrad’s key dimensions. However, some researchers have added qualitative methods to

sharpen their approach (Cocozza et al., 2000) and others have used quantitative methods to pinpoint key factors (Gerdes et al., 2001). These various approaches have contributed to a deeper understanding of cross-system collaboration and allowed researchers to more finely define how cross-system collaboration could be promoted across the CW and MH systems.

Cross-System Collaborations: Child Welfare and Mental Health Conceptualizations

While cross-system collaboration has been conceptualized in diverse ways across fields, CW and MH systems have a unique set of policies and academic literature which inform the CW service integration literature. For example, in 2002, the American Academy of Child and Adolescent Psychiatry (AACAP) and Child Welfare League of America (CWLA) Foster Care Mental Health Values Subcommittee council approved a policy calling for the, "integration, collaboration, and coordination of community-based mental health and substance use services and supports with the foster care system." The AACAP/CWLA Foster Care Mental Health Values Subcommittee laid out principles of, "comprehensive and accessible array of services and integrated services," with "coordinated planning across the child-serving system" (retrieved 2013). In addition, a number of researchers have attempted to develop frameworks that explain the main contributors to MH service use or disparities such as the Mental Health Service Utilization Model (Bai, Wells, & Hillemeiera, 2007; Aday & Andersen, 1975; Aday, Gretchen, & Andersen, 1984) the Network-Episode Model (Pescosolido, 1992; Pescosolido, Gardner, & Lubell, 1998), and the Children's Network-Episode Model (Costello, Pescosolido, Angold, & Burns, 1998; Leslie et al., 2005b). These policy and research efforts helped to further the discussion of patterns in MH services and allowed researchers to conduct more thorough assessments of cross-system collaboration.

In one example, Stiffman and colleagues assessed the role of "gateway" providers (i.e., primary health, child welfare, juvenile justice, and education providers) in managing the gap between MH service needs and MH service receipt among youth (2000). Their research supported the Network-Episode Hypothesis among nearly 800 youth and 222 providers in the St. Louis area. Stiffman et al. (2000) also found two key strategies for increasing service access for youth. The first includes, "...increasing provider identification of problems through training, screeners, or emphasizing the importance of youth mental health" (p. 151). Second, knowledge of adolescent mental health and contact with mental health resources can be enhanced with inservice training and will likely lead increased access to services. Contact with mental health resources (conceptualized as familiarity with resources, referral to and from resources, and personal contact with resources) was found to influence (39% of the variance) referral or recommendation to services. Stiffman et al. suggested screening would be a key factor for enhancing access to service but speculated that gateway providers who are unfamiliar with the resources available to address problem may be reluctant to identify problems. However, training was found to promote resource connectivity among gateway providers.

In their study assessing the linkages between CW and MH agencies at the local level, Hurlburt et al. (2004) modified key dimensions developed by Cocozza et al. (2000) to assess ties between CW and MH agencies. Hurlburt et al. found significant patters of reduced disparities when 2 agencies were more closely tied. Specifically, MH treatment disparities for CW youth with clinically significant symptomology and African-American youth were more likely to be reduced when local interagency ties were stronger. The authors concluded, "Increasing coordination between the 2 agencies at the local level may facilitate targeting of scarce service resources to those children with the greatest level of need" (p. 1224).

While researchers and policy makers have initiated efforts to improve cross-system collaboration, some have found mixed evidence for the effectiveness of these collaborations. Glisson and Hemmelgarn

found that high levels of service coordination among organizations in the public children's service system were related to lower quality services (1998). The authors also found no relationship between client outcomes and interorganizational coordination, a finding that has been echoed by others (Bickman, Noser, & Summerfelt, 1999; Bickman, Summerfelt, & Noser, 1997).

The lack of consistency in the research is counterintuitive to the conceptualizations and practical experiences of key contributors to the CW and MH systems. Researchers have speculated a number of explanations for the mixed results. Glisson and Hemmelgarn (1998) hypothesize that high interorganizational coordination may have led to increased diffusion of responsibility which may have eroded the quality of care. Provan and Milward (2001) point to the multidimensionality of organizational collaboration research. They cite a number of inherent methodological and conceptual problems when studying public sector organizational networks. The mixed results in the literature were also studied by Wells (2006), who hypothesized this discrepancy may be linked to overall lack of resources, use of ineffective interventions to begin with, and methodological challenges with measuring the benefits of service coordination. Bai, Wells and Hillemeiera, (2007) speculate that subgroups within the CW population respond differently to varying degrees of cross-system coordination (i.e. neglected youth required increased attention from providers while others may benefit from less).

With these mixed results in mind, Bai, Wells, and Hillemeiera (2007) used NSCAW data to further consider coordination between CW and MH systems. Bai et al. attempted to build on previous research of cross-system collaboration and apply the health care service utilization model to mental health service utilization. They predicted that increased interorganizational relationships (IORs) would be associated with increased use of mental health services (Figure 5). Bai et al. found that agency-level factors (such as location of CW agency in urban or rural settings) were associated with probability of service use and mental health improvement. They were also able to support their hypothesis that IORs were positively associated with likelihood that CW youth would utilize MH service and improvement of MH symptoms.

Again using archival NSCAW data, researchers assessed collaboration or ties between CW, substance abuse providers (a subset of mental health treatment), and schools (Wells et al., 2011). The 5 collaboration domains assessed were shared agency, inter-agency agreements and memoranda of understanding, joint planning/policy formulation for service delivery, cross-training of staff, and joint budgeting or resource allocation. Wells et al. identified 3 main findings in this study. First, when substance abuse and CW providers were in a shared agency, teens were more likely to receive substance abuse treatment. Second, when CW agencies engaged in joint planning with schools, at-risk teens were more likely to receive substance abuse treatment. Finally, the presence of an interagency agreement was associated with lower rates of substance abuse treatment. The authors suggest this unexpected finding is explained by interagency agreements being indicative of problematic collaborations between providers and acknowledge some measurement concerns.

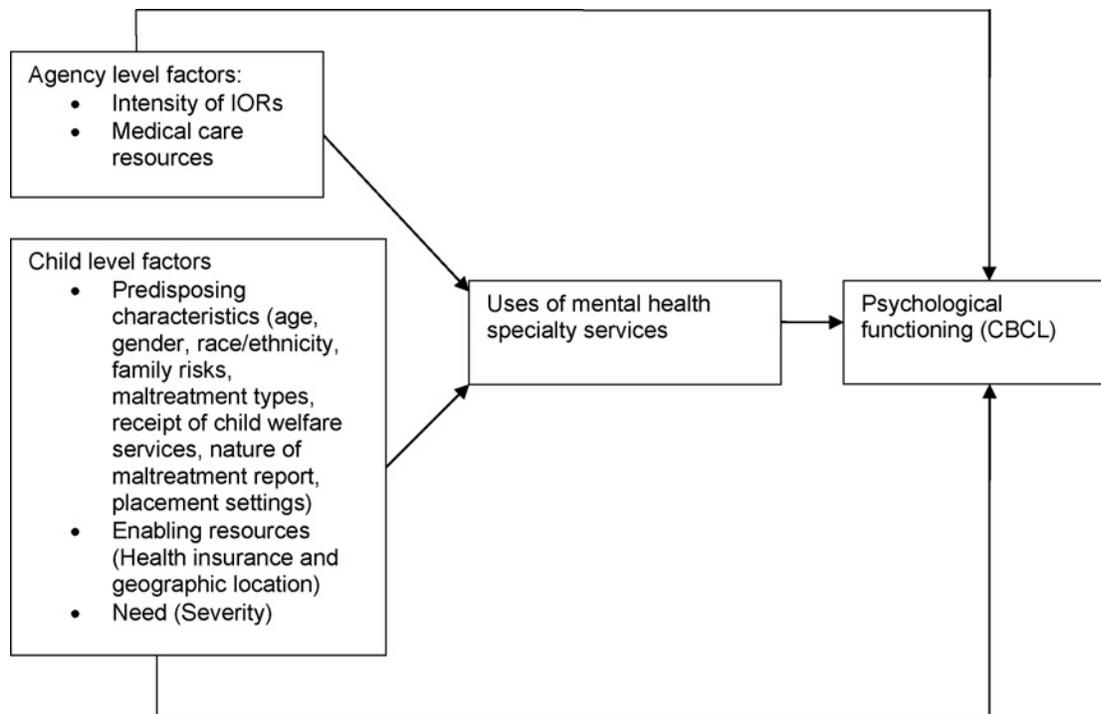


Figure 5. Applying the health services utilization model to mental health utilization and psychological outcomes for children in child welfare (Bai, Wells, & Hillemeiera, 2007).

Leslie et al. (2005a) grouped program for reducing MH service disparities among youth in foster care into two types. First, there have been efforts to use formal approaches to maximize foster parent advocacy for youth MH services. Utilizing the foster parent as a child advocate helps to utilize the existing supports in the child’s life to maximize linkages across agencies. The most successful of these, Multidimensional Treatment Foster Care (MTFC), started gaining attention as a compelling and cost-effective approach for maximizing foster parent support (Chamberlain, 1996). While MTFC continues to make meaningful reductions in MH problems for some CW youth (Leve, Fisher, & Chamberlain, 2009), there are some limitations to a system-wide reliance on MTFC to promote cross-system collaboration. Primarily, youth in foster care only represent a subset of the CW population and foster caregivers are unable to address the needs of in-home placement youth. This gap is particularly relevant given the research suggesting youth who remain in home placement are at greater risk to have ongoing MH needs (Leslie et al., 2005b; Hurlburt et al., 2004).

The second approach type that was grouped by Leslie et al. (2005a) focuses on identification and linkage to early intervention programs. Leslie et al. (2005a) cite several nation-wide approaches to link children to MH services including using multidisciplinary teams, standardized assessment tools, identification of community partners, provision of case management, state-level policy advocacy, education and training for professionals and foster parents, and the use of memorandums of understanding across agencies. This all-inclusive approach admittedly requires a high level of collaboration and coordination. In some of the examples provided, children entering foster care are systematically evaluated and linked to services when needed via placement coordinators (or a professional in a similar role). Leslie et al. report that the research for these expansive system-wide changes has been more focused on qualitative evaluation, which leaves a great deal to be learned about the key mechanisms, necessary components, and effectiveness.

In sum, researchers have been building on existing models to refine and define the key elements that promote interorganizational relationships and how collaboration contributes to services for youth in the CW system. Despite mixed data for the usefulness of cross-system collaboration, more recent studies have presented consistent conceptualizations and support for the importance of these linkages. The following discussion of methodological approaches to operationalize cross-system collaboration will help to inform future efforts of measuring this construct.

Cross-System Collaborations: Methodology

Examples of cross-system collaboration measures that have been used in more than one study are scarce. Measures of this construct that include an analysis of psychometric characteristics are only slightly less scarce. This may be due to the unique needs of each broad CW system or to the fact that many researchers assess cross-system collaboration as a secondary portion of a much broader project. In the following section, the methods that have been used to examine cross-system collaboration are catalogued with the intention of informing future examinations of collaboration between CW and MH systems.

In the ACCESS project, Coccozza et al. (1990) measured system collaboration using interviews conducted during site visits which focused on 13 intervention strategies (Figure 2). After interviews with key informants (i.e., local project site coordinator, key senior staff, coordinating bodies/task forces, outreach worker, case managers, and other community leaders), visits to service sites (i.e., MH centers, soup kitchens), and review of written reports or phone consultations, researchers coded the degree of change for each of the 13 strategies using a 5-point scale (none, initial, low, moderate, high). There was acceptable inter-rater reliability (81.3%), but in instances of disagreement, researchers collaborated and gathered additional information to arrive at a consensus. In their discussion of the study, the authors acknowledge the need for further conceptual and methodological development for future assessment of cross-system collaboration.

Glisson and Hemmelgarn (1998) used two measures that are related to cross-system collaboration. The first focused on service coordination and was based on key elements (Aiken et al., 1975) and indicators (Mulford & Rogers, 1982) defined in the literature. Authorization, responsibility, and monitoring were the key indicators of service coordination defined by Glisson and Hemmelgarn. Authorization was operationalized as the number of separate authorizations required to provide a child services from multiple systems (fewer authorizations indicated greater coordination). Responsibility was operationalized as the number of individuals needed to make sure a child receives services (the lower the number of individuals, the greater the coordination). To operationalize monitoring, Glisson and Hemmelgarn assessed the proportion on monitoring services for each child who also delivered services to the child (lower proportions suggested greater coordination). Data was collected from the caseworkers of each child who participated in their study.

The second measure from this study related to cross-system collaboration was interorganizational relationships. This seven item assessment was designed to measure relationships between cross-county providers (child welfare, juvenile justice, mental health, education, health agencies). The items included assessment of cross-organization problems in cooperation, "dumping" problem children between organizations, challenges with red tape, blaming across organizations, unreasonable demands across organizations, withholding information across organizations, and disputes between organizations.

Researchers averaged the responses by individuals within each agency to produce a score that was intended to reflect the overall interrelationships for each agency or organization.

Glisson and Hemmelgarn (1998) did not report any psychometric evaluation of these two measures and it is unclear if measurement error contributed to null findings in this study. While the development of these measures was purposefully informed by the literature, future use of these measures would require further evaluation of these two assessment approaches.

In their study of providers' roles in moderating use of MH services, Stiffman et al. (2000) assessed gateway provider resource connectivity. Their provider-completed measure of resource connectivity used average scores of multiple relationships. Providers rated the number of contacts with 20 mental health resource domains (seven inpatient, ten outpatient, and three other) across three domains of connectivity (familiarity with resources, referral to and from resources, and personal contacts with resources). The 222 "gateway" providers who participated in this study were from the education (7.4%), CW (12.4%), health care (7.4%), and juvenile justice (19.4%) sectors in the St. Louis area. Providers averaged approximately 16 contacts (SD = 10.4). Internal consistency was high (Cronbach's alpha = .92) as was test-retest reliability ($r = .84$). Providers reported having personal contact with a quarter of all domains and were not familiar with resources in 37% of the areas in this study.

To measure collaboration between MH and primary care practitioners, Gerdes et al. (2001) administered 2 surveys (a) one asking site directors about site characteristics and (b) a second survey asking primary care practitioners about their collaboration patterns. Survey content was gathered from a literature review of health and non-health related organizational settings and a previous questionnaire developed by Yuen, Gerdes, and Waldfoegel (1999).

The survey completed by site directors had items related to presence of a MH specialist on site, types of MH services available nearby. The practitioner-completed survey included items related to relationships between MH and primary care workers, MH practitioner expertise, patient characteristics, and perceptions of relationship or interactions. The surveys were pilot tested with 3 primary care practitioners and revised for length and clarity. The authors do not report on any psychometric evaluation of the surveys.

Hurlburt et al. (2004) assessed the strength of ties ("linkages") between CW and MH agencies using interview modules. Adapting key indicators from the ACCESS program (Cocozza et al., 1990), researchers created 26 concrete indicators of linkages between 2 agencies. During 2 different interview modules, researchers created a count of these indicators to suggest varying levels of linkages. Hurlburt et al. assessed 2 modules: (1) MH services received by children in the CW system and (2) the relationship between CW and MH agencies in the county (see Tables 1 and 2). The respondents for the interview were CW workers, including program managers, district managers, or children's services directors. In large communities, 2 respondents completed both modules, while in small communities there was typically 1 respondent. Hurlburt et al. do not provide psychometric data regarding this method of assessing linkages.

Table 1: Questions asked about linkages in the Mental Health Services module.

Item	Does your county have any mechanisms in place to facilitate the use of mental health services by children in the CWS?
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1	Scheduled meetings to discuss mental health service use on a case-by-case basis
2	MIS includes space for mental health service use
3	Co-location of Child Welfare and mental health services
4	Demonstration projects (putting a service into practice to see if it works in the community setting)
5	Other projects (research, pilot, etc.)
6	Other (specify)
Item	Are any of the following mechanisms currently in place in your county CWS to coordinate mental health services with the local Mental Health Agency?
7	Caseworker reviews mental health service use on a case-by-case basis
8	Formal CWS committee reviews mental health service use on a case-by-case basis
9	Care coordinator position or committee (circle)
10	Shared records with local mental health agency
11	Shared MIS or access to mental health agency MIS
12	Joint service planning with local mental health agency

In their study of community prevention, Brown et al. (2008) evaluated a measure of cross-organizational collaboration. Their framework of prevention was based on the Communities That Care model (CTC; Hawkins and Catalano 2002) and suggested that collaborative partnerships are composed of networking, coordination, and cooperation. The researchers attempted to establish empirical support for their measure of community-wide collaboration in the context of CTC prevention activities. Researchers compared their measure of *collaboration* with assessments of *levels of adoption* and *sectors of collaboration* in order to support concurrent construct validity for the collaboration measure. While the authors conclude that there was evidence of construct validity, their analyses relied on three separate measures that had no indication of any previous psychometric evaluation, leaving questions about the validity of each of the measures.

Table 2: Questions asked about linkages in the Mental Health Agency module.

Item	Do Child Welfare and Mental Health share any of the following:
1	Shared Office space
2	Joint meetings
3	Joint documents
4	Joint service provision at the caseworker level

5	Liaison position between CWS and MHA
6	Joint trainings
7	Pooled funds to provide programs
8	Quality Assurance (specify)
Item	Does your county CWS have any mechanisms in place to ensure coordination of care with the Mental Health Agency?
9	Care coordinator position or committee
10	Shared records
11	Shared MIS or access to MIS
12	Co-location of staff
13	Joint service planning
14	Other (specify)

Bai, Wells, and Hillemeier (2009) assessed degree of interorganizational relationships (IORs) also based the total number of “linkages” each CW agency had with MH providers. These linkage types included: “joint budgeting or resource allocation, cross-training of staff, working with the agency on child welfare cases, development of interagency agreement and memoranda of understanding, joint planning/policy formulation for service delivery, discussion and information sharing, and other approaches” (p. 375). The authors do not describe who the respondent was for their measure or any psychometric data for the approach (possibly because the data were archival, based on NSCAW participants), however their approach seems to closely follows that taken by Hurlburt et al. (2004).

To assess CW ties with substance abuse treatment providers and schools, Wells et al. (2011) relied on agency director-completed “yes/no” items. The first item assessed if child protective services and substance abuse treatment were in a common agency. The remaining 4 items assessed the presence or absence of the following with either substance abuse treatment providers, schools, or both: (1) inter-agency agreements and memoranda of understanding; (2) joint planning/policy formulation for service delivery; (3) cross-training of staff; and (4) joint budgeting or resource allocation. In this archival study using NSCAW data, researchers did not report any evaluation of the measure characteristics.

By specifically cataloging the measurement approaches used in assessment of cross-system collaboration in CW and MH systems, three general conclusions can be made. First, there seems to be a primary stream of thought that has led to contemporary cross-system collaboration measurement approaches. This stream seems to have begun with Konrad’s integration of the literature (1996), which informed the approaches used with the ACCESS project (Cocozza et al., 2000). The ACCESS project led to adaptations by Hurlburt et al. (2004) and others who followed (i.e., Bai, Wells, & Hillemeier, 2009). This primary stream has been informed by the literature, but not necessarily by empirical data and there remains an absence of strong psychometric support for a measure of cross-system collaboration.

Limitations in methodology (specifically measurement) may partially explain the mixed evidence for cross-system collaboration affecting the treatment outcomes and quality of care for CW-involved youth.

Second, most of the contemporary research regarding CW and MH collaboration is based on archival studies using NSCAW data. This unprecedented wide-ranging data set has offered rich insights into CW services. However, the reliance on an archival sample may have temporarily constrained methodological innovations for cross-system collaboration assessment in CW. Although there have been unique approaches to measuring collaborations, they have relied on creative solutions in the data analysis process. In other words, the stream of contemporary cross-system collaboration measurement approaches seems to have pooled slightly with the emergence of NSCAW data.

Third, some researchers have deviated slightly from the primary stream of cross-system collaboration measurement, with mixed results. For example, Glisson and Hemmelgarn (1998) took a unique approach to assessing interorganizational relationships, although the approach is accompanied by weak evidence for psychometric value. On the other hand, Stiffman et al. (2000) offer a unique approach and report good levels of internal consistency and test-retest reliability for their measure. Stiffman and colleagues also offer data that vaguely could support construct validity.

It is possible that future efforts in this field will continue to build on the work conducted by Hurlburt et al. (2004), but for meaningful and consistent progress to be established those efforts will need to deviate from the status quo by including use of psychometric analysis. Alternatively, cross-system collaboration measurement research could build on the work of Stiffman et al. (2000), specifically by expanding external validity using samples of greater representativeness. In either case, future research with CW and MH cross-system collaboration measurement is likely to benefit from greater focus on empirically-based methodological approaches.

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