

University of Kansas  
School of Social Welfare  
Twente Hall  
1545 Lilac Lane  
Lawrence, Kansas 66044-3184  
785-864-2269

Task Order #18  
Usefulness of Automated Information Management  
System Data  
and Other Data Sources in Kansas Children's  
Community Based Services  
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Stephen A. Kapp, Ph. D.  
Principal Investigator

Karen Stipp, MSW, LSCSW  
Research Assistant

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## **Executive Summary**

### ***Purpose of the Study***

The University of Kansas, School of Social Welfare developed an automated information management system (AIMS) to report Kansas mental health outcomes for state and federal accountability, and to inform local community mental health center quality improvement. Local outcome evaluation is essential for effective, ongoing mental health services. There is clear documentation that the automated system is used for accountability to external stakeholders, but not of automated system utilization at the local level.

This project expands a 2006/2007 study of AIMS utilization, within community-based services for Kansas children and youth. Community-based services are an arm of the Kansas community mental health system. The study expansion was a tool for member checking, and for garnering further insights into local managers' utilization of AIMS and other data.

### ***Implementation***

The first phase of this study was an analysis of qualitative interviews with 25 of the state's 28 community-based services directors. The first phase indicated that directors use a variety of data to evaluate local outcomes, including AIMS which has some applications for program level decision-making. For this follow-up phase of the study, a further literature review was conducted to examine data utilization by managers not only in nonprofits or social services, but also in the for-profit business sector. The literature review suggested that computerized data are underutilized by managers in all settings. There is a gap between data collection and data utilization, inside as well as outside the community mental health sector.

Approval for implementation of this project was granted in January 2006, by the Human Subject's Committee Lawrence Campus, the University of Kansas Institutional Review Board. Human Subject's Committee updated their approval in September, 2007, to include follow-up interviews and information statements.

Researchers conducted face-to-face or telephone follow-up interviews, with 12 of the study's 25 original participants. Six of the initial interviewees participated in follow-up interviews in October 2007 and seven of the initial interviewees participated in follow-up interviews in May 2008. One of the interviewees participated in both the October and May follow-up interviews.

## ***Study Challenges***

The apparent complexities of data utilization indicated that this further exploration into the many derivations of data used for local outcomes evaluations would be relevant to Kansas children's community-based services, and might have implications for social work practice and mental health management.

## ***Findings***

This study identifies three aspects of data utilization: (1) managing existing data; (2) generating useful new data; and (3) securing cost-beneficial resources for managing and generating data. Managing data requires tools, and managing computer-generated data requires computer-based tools. Generating useful data requires evidence-based practices that link client outcomes to useful treatments. Securing resources for data utilization means allocating finite resources, for which data users need cost beneficial evaluation-committed resources.

The AIMS falls into the utilization equation as a data management tool, invaluable for collecting, aggregating, and disseminating information for state and federal reporting, but less valuable for informing treatment. This study includes directors' recommendations for improving the local utility of AIMS. This study also includes a point of directors' disagreement with the initial study findings, and concerns about the lack of uniformity in service provision throughout the state.

## ***Implications***

Kansas directors of community-based services manage and generate multiple streams of data for informing their multiple decisions. Best practices and technology are among the resources they need for managing and generating useful data. Desktop business intelligence will streamline their work, but is applied too incrementally for supporting access to AIMS. Information contained in AIMS could help directors know who, and when, and what else is going on with clients, if they had the capability to run reports by client, worker, and timeframe. The State of Kansas must explore web-based supports for AIMS applications to inform decision-making by directors of Kansas community-based services for children.

## CONTENTS

<b>1.</b>	<b>BACKGROUND</b>	<b>1</b>
1.1	Outcome Evaluation in Community Mental Health	
1.2	Kansas Children’s Community-Based Services (CBS)	
1.3	Children’s Client Status Reports (CSR)	
1.4	An Automated Information Management System (AIMS)	
1.5	Study Purpose	
<b>2.</b>	<b>LITERATURE REVIEW: DATA UTILIZATION IN A KNOWLEDGE ECONOMY</b>	<b>3</b>
<b>3.</b>	<b>METHODS</b>	<b>6</b>
3.1	Definition of Data	
3.2	Research Question	
3.3	Research Design and Instrumentation	
3.4	Sample and Data Collection	
3.5	Data Analysis	
<b>4.</b>	<b>FINDINGS</b>	<b>9</b>
4.1	Managing Existing Data	
4.1.1	Managing Productivity and Caseload Data	
4.1.2	Managing Client Charts	
4.1.3	Responding to Consumer Satisfaction Survey (CSS) Results	
4.1.4	AIMS Utilization	
4.2	Generating “More and Better Information”	
4.2.1	Generating Best Practice-Linked Outcome Data	
4.2.2	Generating Information about Community Need	
4.2.3	Generating Information about Worker Effectiveness	
4.3	Organizational Culture and Other Resources for Data Utilization	
4.3.1	Technology	
4.3.2	Staffing	
4.3.3	Deconstructing AIMS	
4.4	What is not in the Funnel?	
4.5	Statewide Challenges	

**5. DISCUSSION 27**

- 5.1 Limitations
- 5.2 Implications
- 5.3 Recommendations

**6. REFERENCES 30**

- Appendix A – IRB Project Approval Letter
- Appendix B – Information Statement
- Appendix C– The Funnel

# **Usefulness of Automated Information Management System Data and Other Data Sources in Kansas Children's Community Based Services**

## **1. BACKGROUND**

The Kansas legislature passed the Community Mental Health Centers (CMHCs) Act in 1961 and the Kansas Mental Health Reform Act in 1990, as part of an ongoing movement from institution-based to community-based mental health services. The Kansas community mental health movement paralleled a national movement. A federal CMHC Act was passed in 1963.

The State of Kansas administers mental health services through a system of CMHCs across the state, with each CMHC serving as the gateway to services for its geographical catchment area. CMHC catchment areas provide children's community based-services, including case management, attendant care, psychosocial groups, partial hospitalization, home based family therapy, and respite care (Kansas Social and Rehabilitative Services [SRS], 2005a).

### **1.1 Outcome Evaluation in Community Mental Health**

Outcome evaluation is a cornerstone of community mental health services. Evaluative practice is similarly foundational to ethics in each discipline which provides mental health services, including social work (National Association of Social Workers, 1999), psychology (American Psychological Association, 2002); marriage and family therapy (American Association for Marriage and Family Therapy, 2001); nursing (American Nurses Association, 2001); and medicine (American Medical Association, 2001).

### **1.2 Kansas Children's Community-Based Services (CBS)**

Kansas CBS exist to reduce the risk of state psychiatric hospitalization for children and youth with a serious emotional disturbance (SED). The 1990 Kansas Mental Health Reform Act established SED waivers through Kansas Centers for Medicare and Medicaid Services, extending services to children and youth with limited resources but not otherwise Medicaid-eligible. Kansas CBS intake and ongoing assessment includes evaluating children for SED, as evidenced by substantial disruption to their social, academic, or emotional functioning (Kansas SRS, 2005a).

### **1.3 Children's Client Status Reports (CSR)**

The Kansas Mental Health Authority reports agency-specific and statewide client status to state and federal stakeholders. Client status is the level of restriction in client living situations, measured on a continuum from permanent home to institutional placement. CSR include status movement tables that demonstrate

change in client status within each agency and statewide, as well as tables with educational data, juvenile justice and mental health encounter data, and Child Behavior Checklist (CBCL) (Achenbach, 1991) scores (Kansas SRS, 2005b).

#### **1.4 An Automated Information Management System (AIMS)**

In 2002, the University of Kansas, School of Social Welfare introduced an automated information management system for calculating and aggregating data for each catchment area and statewide. The AIMS calculates 85 fields with demographic, client status, and social service encounter data (Kansas SRS, 2005b). Kansas AIMS data collection meets and exceeds federal mental health outcome requirements of the Uniform Reporting System Basic and Developmental tables.

#### **1.5 Study Purpose**

The Association of Community Mental Health Centers of Kansas recognizes that “service delivery decisions are best made at the local level, closest to the residents that require mental health treatment” (2007, p. 4). To that end, AIMS was developed not only for reporting to external stakeholders, but also for informing quality improvement within each community mental health center. The 2006/2007 phase of this study indicated that Kansas CBS directors rely on multiple data sources to build their working knowledge, and that CBS directors reported anecdotal (rather than systematic) programmatic applications for AIMS.

This 2007/2008 phase of the study follows up with CBS directors who are data users, for validating and expounding on findings from the 2006/2007 phase of the study. This phase of the study consists of member checking and expanded interviews, which provide greater depth of understanding about CBS data utilization. The study examines the types of data directors use, how they use data, and the types of resources that support data utilization. Useful data helps managers build a working knowledge that informs their local decision-making.

## 2. LITERATURE REVIEW: DATA UTILIZATION IN A KNOWLEDGE ECONOMY

Knowledge management is the principal task of corporate managers in today's knowledge economy (Davenport & Prusak, 2000; Haynes, 2005). Successful corporate boardrooms realize they now conduct business in a new economy, a knowledge economy where knowledge rather than buildings and machinery is the working capital (Drucker, 1988; Haynes). Corporations must invest in knowledge "with the same care paid to getting value from other, more tangible assets. The need to make the most of organizational knowledge, to get as much value as possible from it, is greater now than in the past" (Davenport & Prusak, 2000, p. 12). Despite the demand for knowledge, corporations experience a 'glass wall' between information technology (IT) and local managers. The 'glass wall', which divides data from decision makers, results in missed opportunities and wasted resources (Basu & Jarnigin, 2008; Pettit, 2008).

CMHCs are not knowledge economy newcomers. The CMHC has ever counted its assets in terms of the knowledge and skills that make for client wellness and community stability. CMHCs are likewise not newcomers at the 'glass wall', which separates large-scale program evaluations from managers' working knowledge for informing everyday decisions (Patton, 1997). There is little indication that costly IT-facilitated program evaluations add value to the local knowledge economy.

Neither evaluators nor managers erected the 'glass wall', yet both experience its effects. Computer capabilities developed for use in warfare and the hard sciences, were adopted by business and government with the expectation that computerization would ease the task of management (Drucker, 2008). Program evaluators want their computer-generated data to be useful at the local level, even as local managers search for information with which to build their working knowledge. The 'glass wall' separates computer-generated output from local meaning. Experts predicted that computer capabilities would ease management tasks of strategy, policy and planning, "on none of which the computer has, however, had the slightest impact at all" (Drucker, pp. 331-332).

Computer-generated data, once believed to be the *coup d'état* of business and government decision making, is now a CMHC mainstay but only a small component of the working knowledge managers develop to address organizational complexities.

Firms sometimes pile up data because it is factual and therefore creates an illusion of scientific accuracy. Gather enough data, the argument goes, and objectively correct decisions will automatically suggest themselves. This is false on two counts. First, too much data can make it harder to identify and make sense of the data that matters. Second, and most fundamentally, there is no inherent meaning in data. (Davenport & Prusak, 2000, p. 3)

Mental health managers, educated to “produce and utilize new knowledge” (Rubin, 1979, p. iii), experience data collection for computerized evaluations as an additional duty rather than as additional information gathering (Kapp & Stipp, in press). Mental health managers receive computer output not fully compatible with treatment decisions (Grasso & Epstein, 1993), rather than “more and better information” (Kirkhart & Attkisson, 1986, p. 325) that facilitates knowledge building and decision-making. Despite their devotion of time and resources to computerized program evaluation, managers lay aside computer output to pursue other information, often from informal systems, for which they have immediate applications (Kirkhart & Attkisson).

Managers look for data with meaning, data “endowed with relevance and purpose” (Drucker, 1988, p. 46), with the potential to “make a difference” (Davenport & Prusak, 2000, p. 3), with the capacity to inform in a way that helps managers decide what to do (Grasso & Epstein, 1992). Managers gather information actively, continually, and sometimes unsystematically, to develop a working knowledge that informs their decision making (Kennedy, 1983). Active and continual information gathering gives managers an interactive three-dimensional panorama rather than a one-dimensional snapshot. Corporate managers observe that working knowledge helps them deal with “complexity in a complex way” (Davenport & Prusak, p. 9).

Management complexities are particularly salient in children’s mental health treatment and recovery, where client betterment and decline are influenced by many factors, including physical and intellectual development, familial changes, school and community stressors, and their personal attributes. “The number of contextual (moderating) factors to be taken into account [are] many and too difficult to specify for the field to yield definitive answers to an inquiry as crassly empirical as the ‘Who is likely to benefit?’ question” (Fonagy, Target, Cottrell, Phillips & Kurtz., 2002, p. 33). Managers rely on their working knowledge, developed by continually layering new information atop previously held understanding, to help them tease apart complexity.

Managers develop their working knowledge by reflecting on new information and by synthesizing new information with previously held understanding. Managers assign meaning to new data within the context of their guiding theories and principles, and within the context of practice wisdom ever evolving from their professional experience (Blumentritt & Johnston, 1999; Cousins & Leithwood, 1986; Davenport, 2000; Kennedy, 1983; Krill, 1990; Weiss, 1980). New information supplements but does not supplant working knowledge already in place. The essence of previously held understanding is perceptible in the meaning assigned to new data, as new information flavors but does not overpower prior understanding.

Working knowledge is the process by which managers gather information, build knowledge and generate action. Working knowledge includes information gathering, reflecting on and assimilating information into existing information schemes, and

taking action when cognitively processed findings build the knowledge needed for discrete programmatic decisions (Ryan, 1988). Managers transform locally relevant data into information that broadens what they know, in a way that informs what they do.

This second study phase focuses on CBS directors who gave clear descriptions of their data utilization in the initial interviews. Follow-up interviews provide more in-depth information about the ways directors use data to inform organizational action. The study focuses on the use of information sources including AIMS, for building the working knowledge directors need for decision-making.

### **3. METHODS**

This study was developed in cooperation between Kansas SRS, CBS directors, and the University of Kansas, School of Social Welfare. The Human Subject's Committee, Lawrence, reviews and approves the study's protocols and processes to ensure that all considerations related to protection of human subjects are appropriately addressed according to International Review Board standards. The Human Subject's Committee updated its approval to implement this project on September 19, 2007 (Appendix A). The approved information statement was available to each participant in the follow-up interviews (Appendix B). Identifying information was removed from CBS directors' quotes for the report of findings.

#### **3.1 Definition of Data**

This study defines data as whatever feedback, outcomes, or information CBS directors use to draw conclusions and make decisions.

#### **3.2 Research Question**

The 2006/2007 phase of this study indicated that AIMS was disconnected from local decision-making, leaving researchers to wonder, 'if not AIMS, then what'? In the 2007/2008 phase of the study, researchers sought to discover: (1) how CBS directors access the data they use; (2) what resources are requisite to data utilization; and (3) how to improve local AIMS applications. Expanded interviews included time for interviewees to demonstrate and elaborate on their data utilization.

In addition to probing for additional information, the 2007/2008 phase of the study also includes member checking. To serve participants' memory, the interviewer provided participants with a copy of the notes or SurveyMonkey (2006) responses from their initial interview. Interviewers asked questions specific to each participant's initial interview, to probe "deeper into interviewee's responses" (Patton, 2002, p. 372).

#### **3.3 Research Design and Instrumentation**

This is the second phase of a study exploring Kansas CBS directors' data utilization (Kapp & Stipp, 2007). The study's first phase was a qualitative exploration of local mental health service delivery processes, as suggested by Shaw and Gould (2001). This follow-up exploratory study continues in the qualitative tradition which has proven useful in mental health professions including rehabilitation, psychiatry, psychology, and social work, for studying "the point of contact between provider and client" (Luchins, 2003, p. 185). This study expansion was designed to garner further insights into CBS data utilization, into the purposes for which their data were useful, and into supports needed for local

data utilization.

In the 2006/2007 phase of this study, researchers used survey interviews to collect feedback about the streams of information managed by Kansas CBS directors, and about how directors transformed that information into knowledge they could use. Researchers collected survey interview data via telephone and SurveyMonkey.com (2006), depending on respondent preferences. Each set of responses was entered as a primary document into Atlas.ti (Muhr, 2004), a qualitative data analysis software program. A comparative analysis between and within texts was used to detect themes and develop codes.

This 2007/2008 phase of the study began with a refocused literature review, which indicated that managers in the corporate sector experience challenges to large-scale program evaluation utilization similar to challenges faced by Kansas CBS directors. An interviewer subsequently conducted two series of follow-up interviews, for member checking which authenticated and extended upon initial study findings, as suggested by Lincoln and Guba (1985). Expanded interviews create more in-depth study data; member checking augments study credibility by securing the relationship of data to participants and by preserving the role of participants as the sources for a study's findings (Hollway & Jefferson, 2000).

Member checking began at the August 2007 Kansas CBS directors' monthly meeting. The group of CBS directors and stakeholders in attendance at that meeting indicated their overall agreement with the study's initial findings, but the feedback was non-specific. Researchers expanded the member checking to one-on-one interviews in which the interviewer described the study findings and asked participants individually for their reactions to the preliminary findings. Researchers also asked expanded questions, specific to data utilization in each respondent's setting.

### **3.4 Sample and Data Collection**

Twenty-five of the 28 Kansas CBS directors participated in the 2006/2007 phase of this study. For this 2007/2008 follow-up, 12 of the 25 initial participants completed face-to-face or phone interviews with a doctoral student researcher, who took notes on and asked targeted questions to clarify understanding of participant responses.

The first series of expanded and member checking interviews was conducted in October, 2007, with six CBS directors. The interviewer met with each participant in her or his own agency. Interviews lasted an average of 2 hours. The shortest interview lasted an hour; the longest interview lasted more than three hours and included a tour of that CMHC campus. With each director, the interviewer took notes to record participant responses, and probed for additional information about each participant's data utilization processes. Five of the six directors

produced documents relevant to their data utilization, which were included in the study data along with interviewer notes, consistent with Lincoln and Guba's observation that data may include nonhuman "documents and records" (1985, p. 267).

The second series of expanded and member checking interviews was conducted in May 2008, with six additional CBS directors, and with a seventh CBS director who had participated in the first series of expanded and member checking interviews. The interviewer met with three directors in their own agencies and connected with three directors by telephone. The follow-up with the seventh director was via telephone. The shortest interview in the second set lasted 25 minutes, and the longest interview lasted 55 minutes.

### **3.5 Data Analysis**

The research team consisted of a principal investigator and a graduate research assistant. Researchers identified themes and codes from the uniqueness and commonality of CBS director responses. Reading and rereading of expanded responses and member checks was compared against themes and codes developed in the initial data analysis. A second level of codes was developed by open coding, to capture unprecedented themes. from the breadth of directors' approaches to knowledge building. A third code level was developed from the uniqueness and commonality of director responses (Boeije, 2002; Drisko, 2001). Researchers met regularly to discuss patterns and themes, as they moved from specific observations to the phenomenon (Patton, 2002, p. 56), that is, the use of data by Kansas CBS directors. Researchers strove to achieve internal validity from the reflexive influence of anticipated themes on serendipitous themes and of serendipitous themes on anticipated themes (Boeije). Inter-rater agreement was achieved for the second and third levels of coding, through consultations between the doctoral student researcher and the study's principal investigator. Data management was supported with visual representations of families in Atlas.ti (Muhr, 2004).

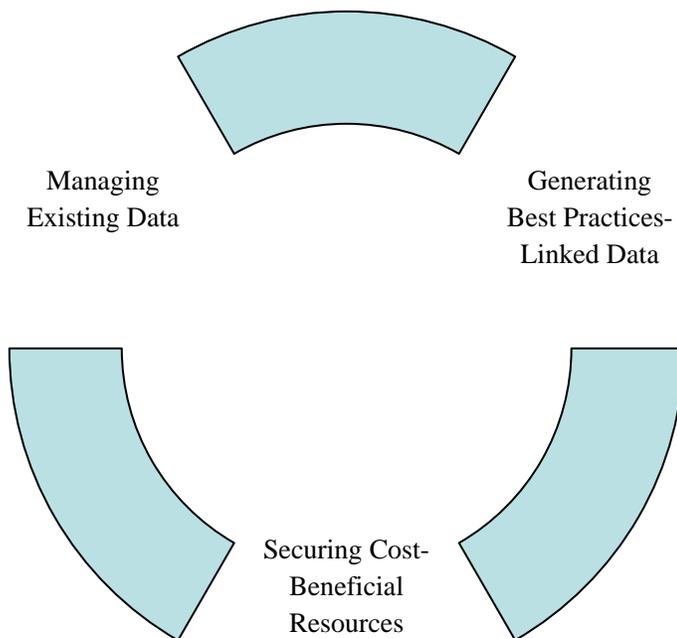
#### 4. FINDINGS

CBS directors manage the data they have and generate the data they need, as their resources allow. This study identifies three aspects of data utilization: (1) managing existing data; (2) generating useful new data; and (3) securing cost-beneficial resources for managing and generating data.

To manage data requires tools, and to manage computer-generated data requires computer-based tools. To generate useful data requires evidence-based practices that link client outcomes to useful treatments. Finally, because data management and data generation require a commitment of finite resources, data utilization requires access to cost-beneficial evaluation-committed resources.

This study reports CBS directors' experience with each of the three aspects of data utilization illustrated in Figure 1. The AIMS falls into the utilization diagram as a data management tool, invaluable for collecting, aggregating, and disseminating information for state and federal reporting, but less valuable for informing treatment. The report includes directors' recommendations for improving the local utility of AIMS; a point of directors' disagreement with the initial study findings; and directors' concerns that there should be greater uniformity of service provision throughout the state.

**Figure 1** Three Aspects of Data Utilization.



## 4.1 Managing Existing Data

“We are inundated with pieces of data!”

Kansas CBS offices are full of data, including state hospital admission and discharge data, consumer satisfaction surveys, psychiatric residential treatment facility screenings, managed care access data, service hours, and AIMS data reported in the quarterly CSR. There is also data generated through face-to-face feedback from parents, youth, and referral sources, and located in client charts.

Directors manage their data so it is available to inform their decision-making, because “great data makes no difference if it’s not available when I’m making a decision.” Some directors store and access data via spreadsheets, sticky notes, and marker boards. Other directors store and access data via business intelligence software. Members of the former group in this study were in no instance reluctant to use software for data management, and look forward to business intelligence that they foresee multiplying the value of their time devoted to data management.

The AIMS is unique as it is itself a data management tool. This section reports directors’ applications for the CSR, which is the vehicle for making AIMS data available to local decision-making.

### 4.1.1 Managing Productivity and Caseload Data

“I have new workers create a sticky note for all of Johnny’s services, for the next 90 days. We develop the notes, literally, from the treatment plan, and they become a roadmap in your hand for where you are going.”

Directors manage data about staff productivity, services provided, and billing. They are “aligned with realizing and understanding we are a business, that we have to look at outcomes in terms of productivity and paperwork.” They track “monthly stats for staff” including no-shows and how many services each client has received. “If one case manager has a high rate of no-shows, I look at their caseload, at what’s going on. I look at the client list – some clients get services from a lot of people, so we can follow up with no-shows across services.” Directors use data to inform their work with case managers and teams, for supervising productivity and types of services provided.

A marker board method helps a director manage the staff productivity requirements of managed care. In team meetings, each case manager writes her or his direct service hours on the marker board. With the case managers, the director compares billed hours of each worker to the others,

reviewing expectations and case load for the upcoming timeframe. Case managers' paper copies of their service hours become part of their personnel files, for ongoing supervision with individual employees.

The sticky note method helps new case managers visualize action steps across 90 days for each child and youth, and helps the director monitor acuteness of a new worker's caseload. Worker and director can see whether each client is adequately served as defined by the treatment plan, and worker productivity in terms of direct service hours.

Business intelligence software similarly helps directors track "what clinicians and case managers are doing according to service codes, psychosocial groups, drive times, etc., which provides a norm for billable hours against which workers are compared." Software also helps directors reconcile their budgets with the managed care service plan waiver, and supports improved productivity. One director observed that software-generated no-show rates were lowest on Wednesday afternoons. The director realized that Wednesdays were the days schools let out early, and subsequently staffed heaviest on Wednesday afternoons, when no-show rates were lowest. The staffing change was followed by an overall reduction in client no-show rates.

A director used software to supervise a worker with a very active caseload. The software was "a very useful tool for drawing my and the worker's attention to clients with lower needs." Another director similarly tracked services for a client deemed to have a high level of risk, by following notes in the chart and tracking when the client was last seen.

Data management facilitates multiple aspects of CBS supervision, including action steps, client appointments with multiple providers, 90-day treatment plan reviews, worker caseload and service data, and compliance with managed care requirements. Business intelligence software supports directors' simultaneous tracking of treatment authorization, revenues by coverage plan and procedure, billing codes, start and stop dates, and diagnoses.

#### **4.1.2 Managing Client Charts**

"Conversations with parents and teachers are the primary data sources. Outcome measures are conversations. Are they getting better?"

When it is recorded, face-to-face feedback is located in client charts. Client charts are filled with feedback generated by 1:1 contact with clients and their families, with community support systems, with agency providers, and with outside providers. Charts include treatment plans, developed from "consumer input on whether to change or continue goals and objectives."

Some directors review the information located in the charts more frequently than required. One CBS conducts truncated wraparound reviews as needed with parents and their supports systems, for children who are not on the SED waiver.

Directors expressed concern that the new Medicaid plan strips funding for conversations with the parent when the child is not present. Team meetings still allow some of that. Ninety-day treatment plan reviews on each client may include formal data, but consist primarily of face-to-face interactions between CBS providers and parents/guardians and youth. “Teams review the plan of care – goals, objectives and action steps – against what is observed by the team.” For children and youth with an SED waiver, monthly wraparound meetings consist of face-to-face input from people who know and work with the child or youth, including their parents and guardians.

Some CBS directors use business intelligence to monitor scheduling of 90-day reviews, of wraparound meetings, and of treatment plan action steps. Business intelligence also provides some directors with immediate access to charted information, and information exchange between therapists and case managers. Business intelligence supports communication between levels of service such as inpatient and outpatient, because “all of a client’s providers have access to the other providers’ notes.” Case managers can use electronic notification when they want to alert the director to a situation that needs attention. “They post that in the communication section. When I click on the notification, it links me into the client’s chart so I can see what is happening.”

#### **4.1.3 Responding to Consumer Satisfaction Survey (CSS) Results**

“We rely heavily on straight quotes from parents on the CSS from KU.”

The Kansas Department of Social and Rehabilitation Services conducts Consumer Satisfaction Surveys annually, to measure satisfaction with children’s mental health services (Johnson, Barfield, O’Brien & Corrigan, 2008). Four of the 12 participants in this follow-up stated that they use the CSS to begin dialogue with parents. The directors did not use the CSS as a stand-alone document, but CSS-initiated conversations with parents led to programmatic changes, for each of the four directors who mentioned using the CSS.

Direct quotes from the CSS informed a director that parents were concerned about high turnover rates among workers. A second director heard from the CSS that “changes in workers affect the family,” and responded by moving to a team approach for improved worker-family consistency.

A third director looked at the CSS with a parent advisory group, whose feedback does not always agree with the CSS. “The CSS indicated that we were doing a good job with communication, but the group said we were not. We asked small groups of families at the CSS Family Night, ‘How are things going with psychosocial?’ From that input, we changed the system for family communication, in some simple but effective ways.” For a fourth director, the CSS indicated a need for improved crisis response after 10 PM, so “parent support specialists initiated a newsletter for helping parents understand the system – the acronyms, where to go for help, and how to get in.”

#### 4.1.4 AIMS Utilization

“The chief executive officer asks about items that are not at or above the state average.”

The Kansas Mental Health Authority uses AIMS to collect, aggregate, and disseminate information for state and federal reporting. AIMS domains coincide with federal and state mental health goals. AIMS is populated by staff in each catchment area. AIMS data are disseminated in the CSR. CBS directors use the CSR for (1) annual reports and for comparing local outcomes against state goals; (2) for communicating state goals with staff and checking on the accuracy of their AIMS input; and (3) for finding anecdotal information that informs program decisions.

**Annual Reports.** Directors use the CSR for annual state and federal oversight reports, and for reports to their local agency boards. Directors stated that agency boards are interested in the CSR penetration rate data, and in comparing the local agency against “agencies with comparable caseloads and demographics” throughout the state.

**Staff Communication.** Because AIMS domains reflect state and federal targets, outcomes are useful for informing staff about “where we stand in balance to the rest of the state” in meeting those targets, and for keeping staff aware of state goals and objectives. Directors use the CSR to keep federal and state goals in front of staff, as well as to review the accuracy of their input. “We review trends with staff, but also look at how we’re reporting stuff, which isn’t about outcomes but about reporting accurately.”

**Program-Level Outcomes.** Directors who use the CSR sometimes find peripheral indicators of client well-being. They peruse the tables for changes in “custody situations, grades, juvenile justice and police contacts, and days in hospital/permanent home” that might suggest changes in program effectiveness, but do not expect to find client mental health outcomes. One director looks “to see if grades are going up or down. That’s a major thing.

Attendance is pretty useful. The whole school piece of it. Why do we have this percentage of kids way down here? I work closely with case managers.”

**Treatment-Level Outcomes.** One director mentioned using AIMS for informing treatment decisions. That agency had web-based business intelligence, which supported the director’s access to their local AIMS data. The director could generate reports using the software, which were specific to timeframe, worker, program, and client.

## 4.2 Generating “More and Better Information”

“What kinds of things tell the recovery story?”

Consistent with the literature review, Kansas CBS directors actively seek “more and better information” (Kirkhart & Attkisson, 1986, p. 325). When directors develop their own data, they develop data that “lets me know what to do more or less of, like a gas mileage indicator that tells me my gas mileage at the moment, rather than for the whole tank of gas.” In addition to managing the data that comes to them, directors generate data that provides the information they need. The directors in this study talked about the data they collect, some of which they computerize and some of which they take in informally, to inform their CBS treatment protocols and program development. Directors generate client and program outcome data, community data, and staff data.

### 4.2.1 Generating Best Practice-Linked Outcome Data

“We use the resources wisely in this time of market change. Evidence-based practices can be expensive to implement.”

CBS directors recognize that evidence-based practices are expensive, but also recognize the value of measuring those domains that prior evidence suggests are reflective of mental health recovery. “Data doesn’t give answers,” a director observed, “but it points you in the right direction.” Evidenced-based literature and treatment protocols link client assessments to provider action steps, which is the kind of value-added data directors are pursuing. Collecting measures of domains suggested by best practices as reflective of mental health outcomes come the closest to suggesting to CBS directors what they should do next.

Following are a sampling of measures that CBS directors talked about in the follow-up interviews. Each example fits somewhere on a continuum from piloting evidence suggested by mental health literature, to fully adopted best practice protocols. A key component of each example is that CBS directors

use these to create a stream of immediately applicable data, which provides evidence about what to do next.

Grant funding was a means identified by three directors for bringing evidence-based protocols and measures into their local settings. After grant requirements were satisfied, the CBS expanded the programs and adapted the measures, to embrace populations not originally identified. Some measures reported in this section reflect such evidence-based protocols, while others were developed with a different age group or in a different type of setting. In such cases, directors talked about adapting protocols and measures for what might be thought of as evidence pilots.

- **PSEDRI.** The Preschool Social and Emotional Development Readiness Index (ChildTrauma Academy, 2006) is a behavioral measure developed by Bruce Perry, for measuring outcomes and suggesting treatment protocols in preschool psychosocial groups. The Index gives immediate feedback “for a child on a given day where his behavior was, why things went right or wrong.” One CBS found the Index so useful that clinical staff developed a similar measure for in-house use with school-age children. “They identified behaviors similar to those measured by the PSEDRI, and created psychometric scales to measure those behaviors, to measure the effectiveness of psychosocial groups for older children.”
  
- **CAFAS and PECFAS.** Three directors use assessment tools developed by Kay Hodges, which connect client outcomes with best practice protocols. Directors use the Child & Adolescent Functional Assessment Scale (CAFAS) (2000) for school-age children, and the Preschool and Early Childhood Functional Assessment Scale (PECFAS) (1994) for children not yet in full-day kindergarten. The CAFAS and PECFAS integrate client outcomes with evidence-based treatments, for use in the psychosocial groups.

“For anger management, for example, there is a pre-test post-test for completion by the client, family & teacher.” Based on outcome measures, workers can continue with effective treatments or abandon ineffective protocols for other proven practices.

CAFAS (2000) and PECFAS (1994) help a director track outcomes of a voluntary CBS fostering program, developed to preclude SRS placements. Children are placed in the program for behaviors, “rather like an extended respite care,” while the CBS provides co-parenting for resource parents and families of origin. With the CAFAS, “families say, ‘I can see that on paper.’ No one has ever thanked me for having

them fill out the CBCL (Achenbach, 1991), but we hear that all the time with the CAFAS.”

A third Hodges tool used by one director is the Caregiver Wish List (2004), which is a needs assessment tool for parents. The director explained that CAFAS (Hodges, 2000) and the Wish List are more strengths-based than other tools, such as the CBCL (Achenbach, 1991). “The Wish List lets us say, ‘You have a child with special needs. How can we help you get the skills you need to manage that?’” The Wish List uses “research-based domains such as monitoring activities and encouraging good behavior,” to help the CBS identify need and link resources around what parents are saying they need.

- **Locally Developed Preschool Survey.** A CBS director developed a psychosocial group several years ago, based on best practices an executive director learned about at a staff retreat. The executive director asked CBS to “move away from ‘talk therapy’ which does not work for children. Games, play are how children learn.” The CBS director looked at materials used elsewhere at that time, to create local protocols for their preschoolers. The director recalls that “this was before anyone was talking about ‘best practices’, but that was what it was.”

That director created a feedback survey for parents, staff, and youth junior high and older, for programmatic evaluation. The survey was informal and designed to answer the director’s questions. The director later adapted that survey to meet requirements of a preschool grant. The survey includes questions that provide a historical gauge using evidence-based recovery domains including parent self-efficacy, parent perceptions of the child’s behavior and improvement, and youth perceptions of their own behavior and improvement. That CBS continues to use the survey, and the survey has also been adopted by CBS preschools outside that catchment area.

- **Locally Developed Youth Outcome Measures.** A director has been looking for outcome measures for older youth. Not finding evidence-based practices for that population, the director has adapted treatments and outcome measures designed for borderline adults, with mixed results at this point. “The results are mixed so far.”
- **Locally Developed Treatment Effectiveness Measures.** One CBS operates in a setting with a research staff that has developed standardized metrics for measuring change, based on best practices

that indicate self-efficacy, symptoms and therapeutic relationship are central to mental health recovery. Locally developed tests include:

1. Self-efficacy measures, for parents, for youth, and a pilot for children under 12, which track “perceived competence”
2. A symptoms measure, which tracks symptom severity.
3. A therapeutic relationship measure, which tracks client satisfaction with the relationship with their provider.

Treatment plans in that setting are designed around progress in each area. Progress is not just measured as up or down, but “according to five levels, such as regression, slow progress, moderate progress, etc. Staff chart progress toward goals over time, using standardized outcome measures.”

- **Best Practices Catalog.** A CMHC that covers a geographically large catchment area devoted resources to creating a CBS curriculum catalog. The director developed a needs assessment which is still being piloted as a supervision tool to help case managers “recognize whether they are doing what families need.” The needs assessment is completed by a parent or older youth, at least bi-weekly, for every client. The catalog is coded to match a range of needs indicated by the assessment. The catalog lists curricula according to date, title, author, who has it, its relevance to psychosocial group goals, and age appropriateness.
- **GAF.** A director asks her staff to complete a Global Assessment of Functioning (American Psychological Association, 2000) every 90 days, using templates provided by a GAF trainer. Although the state’s managed care system backed away from the GAF as an outcome measure, “I still look at the GAF, and ask the staff to use it every 90 days,” to track client progress.
- **Technology-supported face-to-face feedback.** A monthly tele-video feed helps a CBS track need for adding or changing services. The conferences are advertised with posters in the waiting rooms and in the CMHC newsletter. “We’ve done this for years, the first Friday of every month. At least two administrators are available via video hook-up,” for listening to input from consumers across the catchment area.
- **Outside System Involvements.** A grant-funded program for juvenile offenders and their families required a CBS to track the number of re-offending incidents, incidence of child welfare involvement, and the length of time clients remained in the program. The director saw declines in outside system involvements and an increase in program

retention. After the grant ended, the CBS dropped the juvenile offender piece of the program, and expanded it to reach a broader spectrum of adolescents and their families. The director continues to measure program outcomes by counting incidents with outside systems and program retention.

- **CBCL as a Posttest Measure.** The Child Behavior Checklist (Achenbach, 1991) is a longitudinal outcome measure for an adolescents and families program. The director only “glances at the CBCL at monthly meetings” as it is not a realistic measure of six weeks’ improvement. But when possible, the families complete the CBCL at treatment close and 6 months post-close, providing a post-test measure of program outcomes.

#### 4.2.2 Generating Information about Community Need

“Last year we had human services dialogues with the schools, SRS, infant & toddler services, and law enforcement. We all shared data about trends in [the] county – teen smoking, alcohol use, early signs of mental health issues and where to go for help.”

CBS directors generate information about community need by networking with and listening to a variety of children’s services providers throughout their catchment area. Such feedback is “data,” using the definition of data adopted for this study. One director attends court-appointed county multidisciplinary team meetings each month, developed to integrate services for “families going down the road of an SRS report.” Monthly meetings help the director track individual clients’ short-term outcomes as well as community-wide trends.

CBS directors commonly hear from schools about community needs, and often pilot CBS programs in response. In one setting, feedback from a school district indicated the need for increased CBS collaboration and outreach. The CBS committed a school liaison to work with six schools, collaborating with teachers and participating in student improvement plans. Upon referral, the liaison contacts the family within 24 hours, and completes intake within a week.

In other settings, CBS in consultation with Headstart, faith-based preschools, community infants’ agencies, and a special education cooperative, initiated preschool programs. One director responded to community feedback by developing a program for preschoolers with behavior problems. Another director developed a collaborative with CBS birth-to-three services, and community-based mental health services for parents of these birth-to-three children.

One director generated in-house data by tracking referrals to look for “stuff that’s out of the ordinary,” and noticed that while referrals had historically been primarily for children ages 2-11, there was a trend of new referrals for older youth. Further inspection of treatment data indicated that the newly referred teens were remaining in treatment longer than were younger children, and that the new referrals were coming from places where the director had been networking. Based on that data, the director increased time devoted to community networking.

Tracking referrals also brought it to the director’s attention that a large proportion of new referrals were juvenile sex offenders. The agency was not ready to devote programmatic resources to the sex offending population, although there were clinicians in the agency to take the juvenile sex offender cases. The director anticipates that tracking referrals will bring this and other emerging issues to the forefront, for allocation of resources where need exists.

#### **4.2.3 Generating Information about Worker Effectiveness**

“We create different ways of knowing about clinical outcomes. That’s the subjective piece – how do clients feel about what we’re doing?”

Worker productivity data is widely available to CBS directors, but gives directors little information about how clients feel about their progress with a worker. The state’s consumer satisfaction surveys indicate parent and youth satisfaction with workers agency-wide, but do not give information about specific workers.

Several CBS directors conduct in-house surveys that target time-limited programs, such as a summer psychosocial group. A director uses one such survey as an indicator of how well they had trained staff, and how they might improve training so staff “can be better coaches and interpersonal helpers.” Another director tracks outcomes with an internally developed end-of-treatment survey, completed by parents or youth prior to termination of services. The director uses the surveys to gather information about worker competency.

One CBS developed a checklist that includes peer endorsements, severity of caseload mix, and effectiveness indicators. The checklist informs bi-annual competency evaluations for the worker, and likewise provides a measure of facility-wide competencies. In another CBS, managers make oversight phone calls, similar to calls made by the State for the CSS, but targeted to particular client psychosocial groups, respite workers, parent support workers, and case managers. “Sometimes parents won’t say

anything till they hear from the managers, then the floodgates open. We use these 'call sheets' for program and employee evaluation."

### 4.3 Organizational Culture and Other Resources for Data Utilization

"It is rare in this system for anyone to be told 'no' to their ideas."

Directors in this study described working in data friendly organizations. Their CMHCs help directors recognize where they are already using data; encourage directors to ask systematic questions that generate data around what they need to know; and encourage directors to find and apply best practices even when the best practices available require further piloting in the local setting. One director observed that "organizational culture is the key, and that can take years to develop." To that end, another director uses worker satisfaction surveys for feedback about organizational culture on several domains, including feelings of effectiveness. That director surmises that access to useful outcome data supports workers' feelings of effectiveness.

A director explained that "the executive director and the board support creativity. There is a permissive atmosphere." That director was allowed to hire "a creative 'dreamer/achiever' to do some case management and help me develop psychosocial groups. We worked on it for several months, tried it out for a summer, made adjustments, and implemented it. . . . Medicaid liked it and approved funding for psychosocial groups." As a result, the piloted psychosocial group has expanded to an after-school program, four days a week, in 10 different schools.

Interviewees were asked about their evaluation wish list, and how they would evaluate given the resources they needed. One director responded, "There's really nothing. If there's something I need, I'll go get it. . . . We collect reports to get knowledge on top of our little internal reports."

Other directors, however, described additional resources they needed for managing existing data, and for generating new data tied to evidence-based mental health recovery domains and related treatments. Directors described their uses of and their need for data-devoted technology and time (staff). Their wish lists included improved accessibility to their data housed in AIMS.

### 4.3.1 Technology

“It appears that some of our really needy folks aren’t getting seen nearly as frequently as the severity of symptoms clinical data suggests, based on the descriptors of concerns that people are having.”

Directors without business intelligence would like the capability to run reports on the data at their disposal, according to client, worker, program and timeframe. Directors with business intelligence would like enhanced capabilities.

The interviewee whose CMHC developed the self-efficacy and therapeutic relationship metrics, wanted computer capabilities throughout the CBS that would support further utilization. With improved computer capabilities, the self-efficacy measure could be “completed on the computer at the beginning of each session, to help workers and clients decide on the focus for that day.” The therapeutic relationship measure “could be completed the close of each session as immediate feedback to workers about their effectiveness.” Despite heavy agency commitment of resources to measuring evidence-based domains, the CBS director stated that because the outcomes are not computerized, they are used in psychosocial groups only and not with individual clients.

Four of the 12 directors in the follow-up surveys said they would like computer support that would allow them to act on CAFAS (Hodges, 2000) outcomes more systematically. Computerization would allow directors to look at results for all children at initial evaluation and reviews, to inform treatment and to support client voice.

### 4.3.2 Staffing

“We have somebody dedicated to bringing in best practices that we use for training and increasing our skill base.”

CBS directors need staff to support best practice research by developing local measures reflecting best practice domains; by developing measurement instruments; by collecting data; and by disseminating outcomes. The director who sometimes used AIMS to inform treatment decisions (see section 4.1.4), further observed it is useful only “if there’s staff to pull the reports.”

Several interviewees were asked about the data they had been using during the preliminary interviews, but responded that the practice had been discontinued because of staffing constraints. One director said that the data

generation, although valuable, was too much of an “arduous task” with the resources that are available for data utilization.

Data sources abandoned for lack of data-devoted staff include:

- Tracking referrals as a way of documenting community need
- Monthly utilization review on a random sampling of 5% - 10% of all charts, which “got us moved away from counting numbers to thinking in terms of a qualitative review of progress.”
- “Supervisor Wellness Checks” with every family every six months, to track client satisfaction with services
- Surveys for participants in summer programs
- An in-house consumer satisfaction survey, with “friendlier to answer questions, and the results are easier to understand” than the CSS.

In addition to the data generation that directors have had to abandon, there is data management and data generation directors would like data-devoted staffing to develop:

- “School-based stuff – we are increasingly getting embedded in schools. Something that would allow us to evaluate that work would be useful, but I have no idea how to design that.”
- “Correlating outpatient medical and clinical services, with the CBS and client outcomes. I would like to look at raw data, such as contact information. Is there something that suggests that contact with not only outpatient services but also community-based services is effective in terms of individual clinical outcomes?”
- “Fidelity testing on programs, perhaps toolboxes developed by KU for best practices fidelity. What kinds of outcomes do we get from [best practice] protocols?”
- “Briefer scales than the CBCL (Achenbach, 1991), to see whether there’s a correlation between contact and outcomes. CBCL is attached to the waiver, which influences parent responses. CBCLs are an annoyance and create bad feelings. Five percent of parents actually refuse to do it.”
- “Someone to track electronic medical records and . . . pull data based on staff, outcomes & interventions. What interventions and staff are correlated with what outcomes?”
- “Evidence-based practice stuff. For instance, strengths-based best practices are adult only, so we do strengths-based in adult community-based services.”

### 4.3.3 Deconstructing AIMS

“It’s hard to say whether clients are making progress.”

AIMS is effective in its task of managing a surfeit of data for contract reporting, but data collection and input errors, and information lost to aggregation and time, create problems with using the CSR to inform local decision-making. Aggregated and time-distanced data loses the ability to capture meaningful variance. “We’ve had really consistent outcomes with children in a permanent home and have for the 10 years since I’ve been the CBS director” recalled one director, “and, if there were a problem, finding out about it six months later would be too late.” Aggregating creates groups that are too heterogeneous to be locally useful. If directors are to use AIMS successfully, they need to be able “to delineate, so we know what kind of data we are really looking at.”

CBS directors want a greater cost benefit from their AIMS-dedicated resources. The bulk of CBS data-devoted resources are applied to gathering and inputting data for AIMS. Although directors sometimes happen upon useful information or ideas about their programs in the CSR, they want group-specific and client-specific information from AIMS. A juvenile justice program, for instance, “targets children with juvenile justice involvement. It would be helpful for us to know about juvenile justice involvement for all of the other groups, without the juvenile justice program scores included.” A director observed that the CSR is:

. . . redundant to what we already knew, but three months ago. Our conversations tell us what we want to know immediately. How can AIMS helps us by feeding that back to us three months later? We have a clinical sense about what is happening long before we see the reports. The staff already know what’s happening, and feed that into the reports.” Another director likes the information in the CSR but it comes so late that “what I tend to do is go in myself and tabulate the information that I want. I get the raw data from case managers. That lets me track patterns and trends, so I can use the information for training staff. I pinpoint things from the AIMS and ask them to focus on that.

Another director believes the CSR provides a way for them to “track things. AIMS outcomes are telling me something. They are good targets for reporting. They are not a measure of mental health recovery, but I do need to know who is living outside their permanent home, for instance.”

CSR utilization requires corroborating data. When AIMS outcomes appeared to have local implications, directors verify the data entry against local records and school district records. If the data appears accurate, directors further verify its meaning by comparing it to less formal but more dynamic data, because “whatever the source of data, computer-generated or otherwise, it matters that

the data [source] is changing to meet the need.” Directors corroborated AIMS outcomes against face-to-face and survey feedback from clients and community stakeholders, including schools and child welfare, and against clinical measures such as the GAF (American Psychological Association, 2000), the CBCL (Achenbach, 1991), and the CAFAS (Hodges, 2000). Directors wanted time and resources for developing additional data sources with which they could further evaluate outcomes and corroborate AIMS reports. What Kansas CBS directors recognized about how to use computerized outcomes is consistent with observations by Grasso (1994) and Grasso and Epstein (1988), that even the best targets and standards quickly become static, losing their salience as measures of actual client progress.

State and federal targets differ from client goals, so the CSR primarily provides program information rather than clinical outcomes. Some directors could report a programmatic insight they had developed anecdotally from examining the CSR, which had informed their decision-making in some way. One director looks at the penetration rate figure, because “it tells us something about what we’ve done for a long time, and the delay in receiving back the data is not as problematic as in the other categories.” No director, however, reported any systematic applications of the CSR to inform their decision-making. Three directors were concerned that AIMS measures outcomes that are outside the purview of CBS, “things that we have no control of.” One observed that it does not seem fair to evaluate case managers in areas where they have no control. Another director commented that “it’s not that there are not good questions asked in the CSRs and the CBCLs [Achenbach, 1991], but the data is not presented in a way that we can impact the outcomes. There are too many external factors.” The way grades are reported, for instance, varies from classroom to classroom. “I’ve got kids who have every day attendance and are doing poorly, and kids who attend 2/3 of the year and are doing well in school. When we’re looking at data like that, I don’t think it has any relevance to programmatic or clinical decision-making.”

The fact that directors peruse the CSR, however, indicates they understand the potential value of their data amassed within the AIMS database. Directors believe that business intelligence holds potential for improving AIMS cost benefit, allowing them to “drill down individually to look at teams, case management performance, section it out to look at timeframes.” Directors want to be able to look at AIMS differently, as new questions arise. “What I look at depends on what the issue is at the time. Last year the issue was foster care, because we saw an increase in that.” One director, with business intelligence software that made it possible to store local AIMS data and run reports according to client, worker and timeframe, did report using AIMS to inform client-level work. Others reported their expectation that technology will support both program-level and client-level AIMS applications. No CBS currently has business intelligence for directly accessing local data from the AIMS database.

There are enhancements that directors believe would improve the local cost benefit of AIMS.

- **A Metric.** Directors would like a metric that would help them make sense of their outcomes, to know “what do the state averages really mean? Is ‘average’ any good? Maybe we’re all doing very well, or very poorly.” Another director tries to compare children and youth considered SED, but “a number 4 on AIMS as opposed to a 6, it’s hard stuff to compare. If we can look and see that SED kids with CBS have better, more enduring, more rapid outcomes, that supports my concern about the penetration rate and improves awareness of the need for referral.” Another director asked about how children and youth with SED labels compare to the general population. “We don’t know how kids without SED are doing, so there’s no baseline. Lots of kids not in the mental health system are doing poorly.”
- **Decision-Making Strategies.** In addition to a metric, directors would like decision-making strategies attached to AIMS outcomes. “As it is, you either hit the mark or you don’t, but there’s no discussion about why. . . . If you don’t hit the targets, you’re on the ‘bad list’ and it’s up to you get off. The State should be asking, ‘how can we help you meet the standard?’ Instead, they say, ‘you didn’t meet the mark, how are you going to fix it?’
- **Improved categories and definitions.** Directors would like:
  1. An improved definition of school placement, such as alternative school with intensive psychosocial;
  2. A GED category, since the only options are “graduated” or “dropped out.”
  3. An out-of-home placement category for kinship placement, when a child is in SRS custody but still living within a familiar home setting or with a relative.
  4. Input from schools and parents about their perception of a youth’s progress.

#### 4.4 What is not in “the Funnel”?

For member checking, researchers developed a diagram to represent the ways that CBS directors transform new data or information, into working knowledge, which informs practice (see Appendix C). The diagram was shaped like a funnel filled with three objects, labeled “new outcomes, continually gathered; practice wisdom continually improved; and theories and best practices continually developed.

The directors confirmed that the funnel was a fair representation of the movement from working knowledge to decision making, but asked the interviewer to go back to the drawing board. “Talk about what we can’t put into

the funnel,” admonished one director. “I can point to great outcomes from [evidence-based practices] but there’s not the funding for that so it won’t go in the funnel. . . . Think of the energy that goes into collecting AIMS.” Another director questioned the value of practice wisdom unaided by best practices and data measurement. “I value practice wisdom and pass it along myself, but one of the things that gets passed along with practice wisdom is practice bias. There isn’t any way to filter practice wisdom.”

#### **4.5 Statewide Challenges**

CBS directors across Kansas face a wide variety of population challenges. They may be in urban or semi-urban catchment areas that provide community-based services over a small geographical area, or they may be in rural or frontier catchment areas that provide community-based services across hundreds of miles. Ten of the 12 directors interviewed for the follow-up study have a clinical background. A director in an urban catchment area indicated that “clinical licensure is required for the CBS director.” A director in a smaller catchment area not only supervises the teams, but also stated that “we don’t have qualified mental health professionals as team leaders, so my supervision is important for that requirement.” That director served as a qualified mental health professional for both children’s and adult’s community-based services. One of the two directors who does not have a clinical background, however, has a business background and works in a sparsely populated region of the state. That director explained: “There’s such a shortage of knowledge and data dedication that we didn’t want our clinical people spending time looking at data and numbers, we wanted the application of their knowledge with clients. We have business people looking at numbers, Medicaid, compliance, data, then I pass that along to my clinical people about how that will work and fit into best practices with clients.”

One director observed that the dissimilarity in catchment areas and even in CBS roles is more than a curiosity, but that it creates a problem for transient children and youth. The director observed that “as we develop best practices, we need to look at the way the system, the state, institutes best practices, so that it’s not confusing for the family and child who move around. There still need to be pilot projects because best practices change and emerge into new practices, but there also needs to be overall consistency. We do need leeway for best practices to fit our culture and area . . . but we also need unifying strategies.”

## 5. DISCUSSION

### 5.1 Limitations.

Face-to-face and telephone interactions with the interviewer can support understanding between researchers and participants. Personal connections can also, however, encourage participants to provide what they believe to be socially desirable responses, or telling researchers what participants perceive the researchers want to hear (Dillman, 2000). Social desirability may be particularly salient in studies such as the present study, in which the interviewee works for the University of Kansas, School of Social Welfare, which is involved in agency evaluation. The personal connection seemed to help interviewees separate the interviewer from the University, however, thereby eliciting forthright responses.

Some participants preferred not to be audio-recorded. Transcribed quotes therefore constituted the data for this study, for consistent data gathering. Note taking is a means of data collection in qualitative research (Kvale, 1996) but audio and video recording are preferred as they allow researchers to review inflections and the context of the interview conversation during data analysis (Patton, 2002).

The research teams asked CBS Directors to recall what data they have used to inform decisions. Reid & Fortune (1992) suggest that it is difficult to recall data use after the fact. An *in vivo* study, in which directors record the decisions they make daily and the data that inform those decisions, would provide a more accurate picture of data utilization. It would likewise be useful for an observer to spend time with directors to catalog their data utilization, as observations are considered more reliable than self-reports.

This follow-up phase study provides in-depth information about data utilization in 12 Kansas CBS, which may be applicable to other children's community mental health services settings with contextual similarity (Lincoln & Guba, 1985). The methodology supports transferability, if not generalizability, to other children's community-based mental health settings.

Directors' responses to interview questions in the study's first phase defined the study's follow-up questions and the first level of follow-up coding. There may have been unasked questions and undeveloped codes. It is possible that there are internal uses of outcome information that were not captured by this study.

### 5.2 Implications

This study explored data utilization through conversations with 12 Kansas CBS directors who are data users, and details a data utilization conundrum faced by those directors. AIMS plays a vital data management role in that it aggregates and disseminates data in the CSR, about how children and youth are doing as a group. The CSR gives information to community, state, and federal stakeholders that is vital to predicting community stability, such as whether youth are going to school and preparing to enter the workforce.

What AIMS does not do, at least in a systematic way, is help CBS directors know how to make that happen any better. Directors recognize that program evaluation data cannot be rolled into treatment plans, that it is but a beginning point that shows “us what direction to look, but cannot tell us what to do.” Yet reports of aggregated data from prior timeframes, can tell directors where they should have been looking yesterday without necessarily pointing out where to look now. “We’d like some way to really find out about . . . why more kids are going into the juvenile justice system or psychiatric residential treatment facilities. I’d like to follow the cycles and see what’s disrupted, what’s happened to make the change, so we could try to develop what we need to help those kids, to see what we need to do more.”

The data use stories told by directors in this study, are stories of workers in a knowledge economy, and of their tenacity in developing knowledge that makes for client wellness and community stability. Participants described the data they manage and generate, and the best practices that guide them in knowing what to measure. Interviewees creatively applied available resources to finding the answers they needed about community need, client outcomes, and staff productivity/effectiveness. Directors recognized the potential value of further data-devoted technology and staffing.

When encouraged to talk about data utilization using the broad definition of data adopted for this study, CBS directors have a lot to say. Nonetheless, AIMS is ever the ‘elephant in the room’, for its cost in evaluation resources and for its influence with external stakeholders. AIMS data collection consumes the bulk of CBS data-devoted resources, but collected AIMS data is inaccessible for building local knowledge. CBS directors, like corporate managers, look forward to when the ‘glass wall’ comes down, so they can access information languishing on the other side.

If local AIMS data were locally accessible, directors could run reports on homogeneous groups to search for patterns, observe cycles, and determine where to intervene. “With AIMS, everybody is lumped together, new clients with old clients. Maybe grades went down, but maybe we had 100 new clients that quarter.” It may be interesting to know how many CBS kids missed school last quarter, but it is salient to know who was missing school last month, and whether those kids were from the same school; whether they were six-year-olds

or 14-year-olds; whether they had an IEP; what community-based services they received. There is little indication that costly IT-facilitated program evaluations add value to the CMHC knowledge economy.

### **5.3 Recommendations**

Study participants use data when they have organizational support for managing existing data and for generating data that builds knowledge for local decision-making. Generating useful data requires access to best practices and data-devoted staff. Managing multiple streams of data requires business intelligence software and data-devoted staff. Managing data such as AIMS that is housed apart from local decision-makers requires web-based business intelligence systems that support direct access to local data.

#### **5.3.1 Best Practices**

Measuring outcomes suggested by best practices provides CBS directors with direct and immediate support from mental health literature for planning interventions. Best practices can be expensive to adopt, but best practice-linked outcomes are value-added outcomes. Access to best practices includes staffing to develop local outcome measures and pilots.

#### **5.3.1 Technology**

Sticky notes and marker boards are adequate for managing a data source that trickles out slowly, but CBS directors are responsible for multiple streams of data that inform multiple decisions. Technology optimizes time spent on data management and facilitates collection of locally generated outcome measures. Access to technology includes staffing for technology utilization, including development and training.

#### **5.3.3 Web-Based Business Intelligence Support for AIMS**

CBS directors need computer-based tools to manage computer-generated data. Few CBS directors work in agencies that provide business intelligence software, and fewer still have business intelligence that supports AIMS utilization. The State of Kansas must explore web-based business intelligence that will make local AIMS accessible to every CBS director in the state, and that will create reports about who, and when, and what else might be going on, according to client, team and timeframe. It may be that web-based intelligence will be a vehicle for lowering the 'glass wall' that has too long separated data from decision-makers.

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**Appendix A**  
**IRB Project Approval Letter**



**Appendix B**  
**Information Statement**



## **Appendix C**

### **The Funnel**

