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Kathy Winship

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## **Data Mining in Children and Family Services: The Contra Costa County Experience**

KATHY WINSHIP

*Bay Area Social Services Consortium and School of Social Welfare, University of California,  
Berkeley, California, USA*

*Despite access to a comprehensive administrative database that would allow for timely data retrieval and utilization, regular use of data to inform service provision remained infrequent at one children and family services agency. To address this issue, a research and evaluation manager was hired to facilitate regular data use and evidence-informed service provision. This led to a shift in agency culture that moved from viewing data collection as a burden and threat, to now valuing data as a powerful tool for improving programs and outcomes for children and families. This case study presents the experiences of this agency, describing the process by which the research and evaluation manager was hired, how data are now used by the agency, significant changes resulting from the agency's new data use practices, and perspectives of the evaluator and staff on data use and changes in agency culture.*

**KEYWORDS** *Data mining, evaluation, informing practice*

In 1997, the Contra Costa County Children and Family Services (CFS) Bureau began their involvement with the statewide Child Welfare Systems/Case Management System (CWS/CMS) in order to capture a wide range of data related to children and families who were using their services. However, the county's ability to access and utilize this data system was somewhat limited. It was not until late 2004—after the agency had received a federal Systems of Care (SOC) grant that provided the funds for the county to hire a research and evaluation manager—that the CFS Department began to make more active use of the data system that began to affect program and policy

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Address correspondence to Kathy Winship, School of Social Welfare, University of California, 120 Haviland Hall #7400, Berkeley, CA 94720. E-mail: [kwinship@berkeley.edu](mailto:kwinship@berkeley.edu)

changes. Since then, the agency has also experienced a significant cultural shift where staff, who once perceived the collection of data as threatening, now enthusiastically ask to get as much up-to-date information as possible. The information collected has increasingly been shown to be a powerful tool for CFS workers in providing better service and improving outcomes for children and families. This case describes the evolving role and experience of the research and evaluation manager, how the data is being used, highlights of some of the most significant organizational changes, and lastly how the staff reactions to the use of data has changed over time as well as the appreciation of the role of the evaluator.

Prior to the federal SOC grant, the CFS Bureau did not have its own internal staff person for generating and presenting administrative data. To get current information on child welfare statistics, the bureau relied on the data team that served the entire Employment and Human Services Department (the county service agency that oversees CFS). The only other alternative was to pay a consultant to collect and organize data for them. In some cases, staff were able to obtain data from the Child Welfare Data Archive at the University of California at Berkeley's School of Social Welfare, but there was typically considerable lag time to get reports. As a result, and prior to the SOC grant, managers within CFS agreed to hire someone who had the capability to develop internal reports. This consensus was part of a goal to build an evaluation infrastructure that would oversee data entry and collection, and conduct evaluations of CFS projects.

One of the goals of the procurers of the SOC grant was to "increase the capacity of the system to make data-driven decisions," by creating an information system that would include, "(a) automated information sharing of participant data for planning and outcome measurement; (b) common assessment tools; (c) common release of information and participant disclosure forms; and (d) interdisciplinary in-service training for all staff of CFS." The vision was to build a more culturally competent and collaborative child welfare system that would use up-to-the-minute data on where the bureau was doing well and where it needed improvement.

The SOC grant was designed to focus upon three populations of children: (a) children and youth at risk for placement failure (either due to those placed in Emergency Shelter Care due to abuse or neglect or those who need a new placement due to an emergency within the foster family), (b) transition aged youth, and (c) multi-system youth in the child welfare and mental health or juvenile justice systems. Prior to receiving the SOC grant, CFS had received funding from the Annie E. Casey Foundation's Family to Family Initiative to implement a practice known as Team-based Decision Making (TDM), an approach that involves a variety of stakeholders (family members, community members, service providers, and law enforcement) and was linked to existing wraparound services within the county. While CFS had a person assigned to manage evaluation, there was no established

procedure for reporting on the outcomes of the Family-to-Family Initiative. Furthermore, the staff member assigned evaluation duties had a number of other responsibilities and had not been trained to use the county information systems. The SOC grant provided funds to expand the TDM model to include the three client populations noted above and provide funds for hiring an experienced evaluator.

The evaluator came on board with the initial purpose of managing the evaluation of the system of care grant. The person hired was a researcher with a PhD who had already worked in the county on the outcomes of mental health services for children. Initially, he divided his time between CFS and the Mental Health Service Bureau in the Health Department. However, when the number of requests for data began to increase it became clear that CFS needed an evaluator at or near full-time status.

Among the major factors that contributed to the focus on data analysis was the new California Child Welfare System Improvement and Accountability Act of 2001 (AB 636) and the California Child and Family Services Review (C-CFSR) process that began in Contra Costa in 2004. The System Improvement Plan (SIP) called for a county self-assessment that included county data reports, the quarterly reports on outcome indicators that measure county-level performance in safety, permanency and child and family well-being. The self-assessment also included the following seven systemic factors: (a) use of a management information system, (b) the case review process, (c) recruitment and retention of foster and adoptive parents, (d) quality assurance system, (e) service array, (f) staff and provider training, and (g) lastly, agency collaboration. Contra Costa completed their first self-assessment in 2004 and also produced one in 2006.

A further stipulation of the system improvement program was the need to train county staff to perform regular Peer Quality Case Reviews (PQCR) in order to assess the qualitative aspects of casework. Beginning in 2004, the PQCR team used the results of the case review process to increase the consistency in how each CFS office handled cases involving reunification. Based on the county self-assessment, a SIP was developed as part of the county's agreement with the California Department of Social Services to focus attention and activities on improvements in specific areas utilizing clearly defined outcome indicators. These plans have been updated once a year since 2004 and have been used as a tool to further focus managers, supervisors, line workers, and clerical staff on strategies to achieve positive outcomes for children and families. Thus, in order to be able to meet the requirements of AB 636, it became necessary for CFS to have an internal evaluator who could pull data together quickly to inform these processes. As of 2008, the CDSS information in the state CWS/CMS is sent directly to the county CFS evaluator to analyze and work with CFS managers as part of the annual SIP to be presented in a series of public meetings with social workers, probation, attorneys, youth in the system, and parent partners.

This case describes how the research and evaluation manager compiles information related to the each of the items required by AB 636. One of the major findings in the 2004 self-assessment was the disproportionality of children of color within the child welfare system, especially the finding that African-American children were referred and substantiated at a higher rate than any other ethnic group according to data from CWS/CMS. As a result, in every SIP from 2004–2008, there has been a component of the plan aimed at reducing the over-representation of African-American children in the Child Welfare System using such strategies as Differential Response and Team Decision Making for all one-year-old African-American children who are investigated or at risk of removal. In addition, PQCR meetings were used to assess the factors related to the reunification of African-American children by asking the following questions: (a) Why wasn't the agency more successful at reunifying African-American children sooner?; (b) Are some staff better at working with African-American families than others?; and (c) What factors contributed to their success and how can they be replicated?

In order to address this issue, the research and evaluation manager was asked to pull the relevant information and analyze it to show what was happening in the county both historically and currently. The research and evaluation manager works closely with the CFS manager responsible for compiling the self-assessments and SIP plans. By 2008, the agency's SIP data showed some areas of progress in reducing disproportionality, and also some areas that indicated initial success and then some declines.

The research and evaluation manager also assisted CFS by providing evidence to highlight the differences in the three service delivery regions within the county. West County is diverse, urbanized, and afflicted with many social problems. Central County has become a major commercial and financial center struggling with growth and gentrification. East County has rapidly transformed itself from an agricultural area into a series of sprawling bedroom communities. Using data analysis, CFS wanted to evaluate the geographic assignment of emergency response to immediate and 10-day referrals to see if it would lead to more timely investigations. A baseline of information related to timely visits and level of client/stakeholder satisfaction was identified in each region. Using this data, staff members were assigned to smaller geographic areas (e.g., in East County by neighborhood). The practice was first piloted using 10-day referrals within a three-month period. At the end of the trial period, CFS discovered an increase in timely responses, increased positive responses from community partners and staff, and higher client satisfaction. When this same geographical assignment was later applied to immediate investigations, there was a decrease in timely investigations as well as a decrease in staff satisfaction. Thus, having the research and evaluation manager on staff has allowed CFS to not only assess administrative changes but also see how those changes might affect other service areas/programs.

When the research and evaluation manager came to CFS, he worked primarily with the CWS/CMS data system in order to create the needed client statistic reports. He was trained on the CalWIN data system—which is used for handling financial transactions as well as programs such as CalWorks, as a way to complement his understanding of the CWS/CMS data. These databases enabled him to examine the effects and efficacy of certain programs, using both descriptive and analytic statistics. For example, by comparing CWS/CMS data with CalWINS data, staff could see the number of mothers with children in foster care who are engaged in welfare to work activities in order to explore such questions such as: “Will the speed in which a mother gets a job affect the timing of reunification with her child?” By developing at least three to four different ways of presenting data, the research and evaluation manager was able to reach different audiences as well as inform agency decision making.

Since becoming a full-time staff member, the research and evaluation manager has continued to participate in the various workgroups within the agency by attending meetings conducted by the Children Services Administrative Team, the Children’s Leadership Team, the All Supervisors/Director Advisory Team, Program Committee, the Project Management Team and monthly Community Partner meetings. This type of participation was crucial to the culture change with regard to how staff perceived data. Because the evaluator often attended the meetings where issues were discussed, he had an increased understanding of the issues and the data that he was being asked to generate. He was also informed as to the best method to present the data in order to reach the intended recipient.

When he came to CFS, the evaluator noted that many staff (line and administrative team) were “starved” for data. However he also noted that staff resisted the use of data. His first major challenge was to clean up the erroneous county data reflected in the statewide database. However, once he figured out ways to address the state system errors and presented his initial findings, some staff still questioned the accuracy of the data. Eventually, CFS staff did come around to appreciate data accuracy. Once accepted, the Research and Evaluation Manager began to receive more data requests from staff than could be handled in a timely fashion. Furthermore once social workers, supervisors, and managers caught on to the fact they could ask for data, the requests became more complicated. As a result, the research and evaluation manager would prioritize the requests, in order to produce the most vital information first.

In addition to working with internal agency committees, the research and evaluation manager was also called upon to present data for the press, community meetings, neighborhood newsletters, as well as professional journals. However, the capacity to present data to outside audiences is still somewhat limited by the demands of internal reports. He identified this as one area where there could be improvement. In addition, he noted that the

current structure of his position focused more on reporting to supervisors and upper management than on sharing data with line staff and the general public.

Based on the perceptions of those interviewed for this case study, it is clear that the incorporation of the research and evaluation manager at CFS has contributed to an important change in the agency's culture. For example, one long time staff person noted the following:

I have worked for CFS for 22 years and for the first time we are actually able to see the data that gives us a better picture of what we are doing. When you can talk to staff and present evidence to support the need for a culture shift, it is always more effective. In the past, each new set of administrators would come on board with their own vision for the system. Now the visions are based more on hard facts and outcome expectations.

The staff's previous resistance to data related more to its distraction from a focus on clients and a fear that data would reduce the importance of the service delivery. In addition, some staff were unhappy to hear that the agency's numbers were not as high or significant as they had thought and tended to perceive the information to be correct. However, the evaluator continued to attend staff meetings to present data that kept telling the same story. As a result, there was a growing realization that he was trying to help them in their work with clients. With the consistent and repeated data, staff moved to accept the data as an important part of practice by using it to come up with ways to improve services.

As supervisors and line staff were presented with data, they devised creative responses to address the issues located in the data, representing another way of engaging in evidence-informed practice. The use of data can also help supervisors take a more active role in policy formation. For example, in the 2008 SIP, the supervisors assumed a bigger role in the coordination, planning, and implementation of strategies and activities with clients. The collective decision making and ideas generated by supervisors have helped upper management determine next steps in creating and revising policy. For instance, one SIP workgroup focused on compliance with regular home visits and came up with a schedule to limit visit exceptions with the goal of not allowing any exceptions over the course of the next two years. This plan was actually more stringent than what upper management intended, but given the supervisor's commitment, it has been implemented.

Some of the success generated by the new research and evaluation manager can be seen by the shift from denying the relevance of data to an agency culture where nearly every discussion has some data supporting it. In addition, there were some unexpected benefits of data mining that included: (a) increased sense of data accuracy and accountability, (b) increased identification of gaps in service data, and (c) increased attention to areas that needed to be seriously addressed. As a CFS employee noted, "data

mining” led to an increased capacity of line workers to engage in both good practice and effective case management by using client population data. This realization had become particularly evident with the statistics collected on Differential Response, where the increases in these services effectively contributed to preventing the removal of children from their homes. The agency’s experience with increasing TDMs with emancipating foster youth provided another example of the effective use of data.

The involvement of an evaluator on staff has also led to an increase in staff attention to documentation and data accuracy. This came about, over time, as the line workers began to see how accurate data made a difference in their work and thus became more likely to spend time on data entry. Data has also come to be used as a way to evaluate staff performance and determine promotions. Moreover, data is being used in the training of new staff to help make the sessions more relevant. For example, mandated reporter training now includes statistics in order to help the new staff better internalize what is at stake and when to report. Other benefits of data mining include: (a) more information to include in grant proposals; (b) better outcome measures to report to funders; (c) more information to provide to community partners who appreciate the transparency; (d) increased ability to identify agency wide trends and training needs; and (e) better analysis of worker caseloads and supervisorial span of control.

Although line staff might be interested in data presentations, this group has rarely been involved in the data presentations that are usually shared at the supervisor level and above. As a result, there is still a tendency for supervisors to devise a policy without sharing the evidence that supports the new policy with line staff. Consequently, a more widespread inclusion of workers in the presentation of data and outcomes is an area for continuous improvement. While line workers have the capacity to serve on a SIP committee (where most evidence gets presented), few chose to do so because there are no allowances made for the time taken away from their normal duties.

## CONCLUSION AND NEXT STEPS

While the federal SOC grant funding ended in September of 2008, the agency took measures to ensure that the data-mining work would continue by making the research and evaluation manager position permanent and to seek additional resources to hire a second evaluator because other projects required the use of data related to program evaluation. For example, the county anticipates receiving a no-cost extension of SOC funds in order to continue their Parent Partner Program, which matches parents who have successfully reunified with their children to parents newly engaged in the child welfare system. The evaluator has collected and analyzed data that



shows very promising results that enable the county to promote the program as an effective model. In addition, the county is one of five in the country receiving a federal Comprehensive Family Assessment Grant that will assess the outcomes of a more comprehensive assessment of a child/families involvement with CFS throughout the life of a case. With these successes, there appears to be no end in sight for the work of the research and evaluation manager.

## APPENDIX A: SOURCES OF INFORMATION

### Interviews

Valerie Earley, Director, Contra Costa County's Children and Family Services Bureau, CA

Gloria Halverson, Program Manager, Contra Costa County's Children and Family Services Bureau, CA

Patrick Harrington, Program Manager, Contra Costa County's Children and Family Services Bureau, CA

Patricia Perkins, Program Manager, Contra Costa County's Children and Family Services Bureau, CA

Stefanie Thomas, Program Manager, Contra Costa County's Children and Family Services Bureau, CA

### Documents

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