California Social Work Education Center

C A L S W E C

THE EFFECTS OF COMPUTERIZATION ON PUBLIC CHILD WELFARE PRACTICE

An Empirically Based Curriculum Designed for Use in California Child Welfare Training Academies

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ABSTRACT

This training module is one of the outcomes of a research project that studied the impact of the implementation of the Child Welfare Services/Case Management System (CWS/CMS) on child welfare practices.

Research objectives were to specify the casework practices that are affected by computerization, to measure the extent to which these practices are affected by computerization, and to identify organizational and individual factors that influence the effect of computerization on these practices.

A brief overview of the research project is presented together with findings of interest to trainees in preparation for their role as DCFS CSWs. Methodology includes lecture and large group discussion.

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ACKNOWLEDGMENTS

A successful conclusion to this research project and creation of this curriculum would not have been possible without the contributions of a number of people. First we want to thank David Cherin at the University of Southern California School of Social Work, one of the co-principal investigators, for his conceptual contributions to both the content and the design of the study. Paula Gelber Dromi designed, formatted, and produced the empirical curriculum based on the study.

We want to thank Nancy Dickinson and Sherrill Clark, past and current Directors of the California Social Work Education Center, for their support and guidance through the administrative and design changes over the 2-year span of the study. William Donnelly, Margaret Polinsky, and Rick Posten at the Los Angeles Inter-University Consortium donated expertise, resources, and support when most needed.

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Finally, and most important, we want to thank the caseworkers in San Francisco and Los Angeles Counties who took time out of their incredibly busy schedules to participate in this study. We were consistently impressed with their dedication to their jobs and their clients, their flexibility in balancing the many demands of the job, and their unfailing hospitality and good cheer. It is our hope that the conclusions of this study will be of assistance to them in carrying out their jobs.

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DESIGN AND FORMAT

This training has been designed using a modular approach. Aside from the benefits of this approach in shaping learning experiences appropriate for new CSWs, this approach is currently used by the Department of Children and Family Services' Child Welfare Academies throughout the state. Provision of these materials in the same format now used allows for ease of integration into the existing curriculum.

Trainer's Notes and suggested Discussion Questions are boxed and embedded in the text of the module. The Notes are general guidelines to assist the trainer in using the material. Discussion Questions are included to enhance trainee interaction and exchange of information and opinions. They can assist in integration of the materials as well as developing concepts and problem-solving skills. Discussion questions can also offer the trainer valuable feedback as to the understanding of the material presented and the effectiveness of the chosen approach.

Due to the nature of the material, program activities have been limited to structured experiences. These exercises allow for creation of a small group process with specific instructions for students to follow. Such exercises enhance individual participation in a nonthreatening atmosphere, encourage questions and exchange of information, and lead to greater understanding of educational materials. Where appropriate, Small Group Discussion Exercises are included in the module.

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Although there are no specific handouts designed for trainees, you are encouraged to use any or all of the material as handouts. This includes the Glossary of Acronyms, the entire Literature Review, and the Overheads, all of which are found in the Appendixes.

It is hoped that this empirically based curriculum will provide a constructive knowledge base which can be added to your own training knowledge, skills, experience, and creativity.

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OUTLINE

	CONTENT	TIMELINE	METHOD
A.	Introduction	10 Minutes	Participatory Lecture
B.	The Child Welfare System: A Brief History	5 Minutes	Participatory Lecture
C.	Computer Use in Public Child Welfare	5 Minutes	Participatory Lecture
D.	Child Welfare Service Case Management System	15 Minutes	Participatory Lecture
E.	The CWS/CMS Computer System	15 Minutes	Participatory Lecture
	10-Minute Break		
F.	Literature Review	5 - 10 Minutes	Participatory Lecture
G.	Research Findings and Discussion	35 Minutes	Participatory Lecture
H.	Summary and Closure	5 - 10 Minutes	Participatory Lecture

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GOAL, OBJECTIVES, AND PREPARATION

GOAL

Understanding of the Effects of Computerization on Public Child Welfare Practice

OBJECTIVES

At the end of this session, the trainee will:

1. Be knowledgeable about the history of the CWS/CMS system.
2. Be able to describe the CWS/CMS system.
3. Be aware of the changes inherent in moving from a paper-based to a computer-based recording system.
4. Be knowledgeable as to how CSWs use their time.
5. Be knowledgeable about how CWS/CMS affects CSWs' use of time.
6. Understand the sources of information that CSWs use in making casework decisions

PREPARATION

A. Equipment needed:
   1. Blackboard
   2. Flip charts
   3. Markers
   4. Overhead projector or computer/projector and screen (optional)

B. Materials for the Trainer:
   1. Literature Review
   2. Questionnaire – Pre-CWS/CMS Implementation
   3. Questionnaire – Post-CWS/CMS Implementation

C. Prior to the Training
   1. Review the module
   2. Note activities and prepare accordingly
   3. Arrange for needed equipment

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D. Overheads

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TRAINING CONTENT

This module is designed to be presented in 2 hours. It may be included as part of another module or presented alone

A. INTRODUCTION OF TRAINER AND MODULE (10 minutes)

1. Give a few sentences about yourself. Include your experience in working with CWS/CMS. Tell trainees what they will be doing for the next hours. You may do this verbally or refer them to the Module Outline.

2. This training module is based on a research project that studied the impact of the implementation of the Child Welfare Services/Case Management System (CWS/CMS) on child welfare practices. The study was conducted in the Los Angeles County Department of Children and Family Services (DCFS) and the San Francisco City and County Department of Human Services (SF DHS). The study's authors believe it contributes to the understanding of how the implementation of systemwide computerized documentation affects the decisions and practices of frontline workers.

   An attempt was made to answer two research questions;

   - What changes in casework practices occur as a result of the implementation of CWS/CMS and to what degree do these changes occur, and

   - What individual demographic, attitudinal, and proficiency factors contribute to the effects of the implementation of CWS/CMS on casework practice?

   Specific research objectives were:

   1. To specify the casework practices which are affected by computerization,

   2. To measure the extent to which these practices are affected by computerization, and

   3. To identify organizational and individual factors which influence the effect of computerization on these practices.

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TRAINER ATTENTION

This module uses research terminology that may not be familiar to your trainees. You may wish to provide the following information to assist in understanding the research design and findings. The material is formatted as an overhead but may also be used as a handout.

UNDERSTANDING RESEARCH (Overhead 1)

The term **respondent** refers to the research subjects, in this case the CSWs who filled out the research questionnaire.

All measurements referred to in this module were taken **Before CWS/CMS** and again **After CWS/CMS.** They were then compared statistically.

The **mean** score is the average score that is determined for each question by adding all the scores and then dividing them by the number of respondents who answered the specific question.

The **standard deviation** shows how much range there was in answers (i.e., the lower the standard deviation the more respondents were likely to give answers that were close to the mean).

The **t-score** is the measure of how much difference there is statistically between the pre- and postscore. If the t-score is high enough, the difference is statistically significant, which means that the difference is not due to chance. If there is a difference between pre- and postscores that is not statistically significant, it means that another study may not find any difference.

The **statistical significance** tells the researchers if they have found a ***real*** difference between the pre- and postmeasurements, but it does not explain how big the difference is, or if that difference is meaningful. For this, researchers have to examine the actual difference and interpret it themselves. For example, in this study, the percentage of time doing documentation went from 30% before CWS/CMS to 34% after CWS/CMS, a difference of 4%. This difference is **statistically significant,** meaning that we can have confidence that the difference is **really t**here.

However, is this difference big enough to really matter for CSWs on the job? Statistics cannot tell us this.

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The implementation of CWS/CMS provided a natural experiment to study the effects of computerization on child welfare practices. An exploratory longitudinal one-group pre/post design was used. In other words, the same group of workers filled out a questionnaire relating to aspects of worker practices before and after implementation of CWS/CMS. Originally, 9 months after implementation was chosen as the ideal time for the post survey. Due to researchers' concern about turnover among the research subjects, this seemed the minimal amount of time to allow for workers to change their practices in response to the demands of the computer. However, the slow pace of implementation in Los Angeles County necessitated a later postdata collection time.

Data collection was through surveys administered to workers. In addition, a smaller number of workers were directly observed as they went about their work during the initial weeks of the new computer system transition.

Family Maintenance and Reunification (FM&R) workers were chosen as best for exploring the effects of the computer system because they are in the *middle* of the process through which children move through the child welfare system. An overall response rate of approximately 48% was achieved on the survey given before implementation. Sixty-one percent of this group completed the postsurvey, given after implementation of CWS/CMS.

The survey questionnaire (instrument) was developed specifically for this project. It was based on both the literature regarding the use of computers in human services and on conclusions from a focus group with child welfare workers. There are over 200 items on the pre-implementation survey questionnaire, divided into 11 sections. The questionnaire took about 20 minutes for respondents to complete. It was tested with a group of LAC DCFS workers who were not part of the research study. The workers completed the questionnaire then participated in a focus group concerning the instrument, its accuracy, and its completeness. The questionnaire was further revised as a result of this process.

TRAINER

The following paragraph deals with research methodology and may not be appropriate for your trainees. This information is not essential to the module and you may leave it out. If you decide to use it, be prepared to explain the terminology.

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Variables, both scales and individual items that were expected to change, were compared with paired-samples t-tests. Scales used on the pre- and postsample comparisons were derived from factor analysis of the same items on the entire presample. Hierarchical linear regression analysis was used to explore the ways that variables in the study account for the observed pre/post changes in CSWs' work practices and attitudes.

B. THE CHILD WELFARE SYSTEM: A BRIEF HISTORY (5 minutes)

How the child welfare system evolved to its present state as a *child protective services* agency is an interesting history. During the first half of the 20th century, child welfare was concerned primarily with providing financial assistance to impoverished families. However, beginning in the early '60s, as a result of a few highly publicized cases of child abuse, states began passing mandatory child abuse reporting laws. This resulted in a meteoric rise in child abuse reports across the United States. In 1962, there had been only about 10,000 child abuse reports. By 1976, child abuse reports had risen to more than 669,000, and by 1978, to 836,000. By 1992, almost three million reports of child abuse were filed nationwide, including 1,261 child abuse-related fatalities. If current trends continue, it is projected that more than four million children will be reported for abuse annually by the year 2000.

In the last 30 years, the result of this reporting has been that child welfare agencies have shifted from providing services to needy children and families to investigating and intervening in child abuse reports. For every child abuse report received, a child welfare agency worker is sent to investigate. The investigation might take a week, 2 weeks, a month, or longer before sufficient data is collected that will permit a decision on what action should be taken.

As the number of reports has escalated, the need for more investigators has increased. Unfortunately, at the same time the mood in society and government has been turning increasingly skeptical toward social programs.

Throughout the 1980s and 1990s expenditures for social services have been cut. Paradoxically, while the public continues to demand greater efforts to curb child abuse, it is increasingly unwilling to fund those efforts. Thus, child welfare has to confront a steadily growing problem with steadily diminishing resources. The result has been a continual narrowing of focus regarding who should receive child welfare services.

Today, child welfare in California, as elsewhere in the United States, has been transformed into a child protection system. Children enter into it only when they are reported for abuse or neglect (with the exception of voluntary adoptions). Unless allegations can be substantiated, no services are provided. In the

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meantime, the growing number of abuse reports, the growing number of children entering foster care, and the increasing numbers of children living in poverty suggest that rather than getting better, conditions for children are worsening.

DISCUSSION QUESTION

In what ways will computerization benefit child welfare services?

(You may wish to write trainees' answers on the board or flip chart.)

C. COMPUTER USE IN PUBLIC CHILD WELFARE (5 minutes)

Given this brief sketch of the current child welfare system, it is easy to imagine the overwhelming amount of paperwork that the system generates on a daily basis.

TRAINER

At this point, depending on trainee reactions, you may wish to allow time for some ventilation of feelings about the amount of paperwork. Use caution that this does not turn into a gripe session.

For each report of substantiated abuse or neglect, the file created by a CSW will eventually include an ever-growing mountain of facts, details, opinions, testimony, and judgments, all of which will be appended at regular intervals over the next several years while the child is involved with the system. For a large urban area like Los Angeles, New York, or Chicago, the collection of information on bureaucratic forms is unbelievable. The information collected on paper forms often contains timely and critical data that is lost in static storage. The limitations of current paper records become obvious. A stationary paper file cannot easily or efficiently track an abused child or his family as their case moves through the public child welfare system.

Since the creation of the personal computer, we have seen how computer technology has steadily revolutionized information storage, transfer, manipulation, and retrieval. Today, throughout industry and government, one or two workers operating a PC are able to perform in a few minutes routine data storage and retrieval tasks that previously (i.e., throughout all of human

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history) would have taken a battalion of people weeks, months, or even years to accomplish.

Given the amount of paperwork, it is increasingly difficult for CSWs to efficiently process the material without the aid of computerization. This does not include lawyers, judges, psychologists, police, and medical workers, all of whose performance would benefit could they quickly and easily access information vital to a particular case. Only computerization of child welfare records can possibly accomplish this.

The benefits of computerizing child protective services are being recognized on both federal and local levels and progress is slowly being made toward a unified national child welfare database. Automated child welfare information systems have been included in federal legislation establishing criteria for new data collection that dates back to the Child Abuse Prevention and Treatment and Adoption Reform Act (P.L. 95-266) of 1978. Over the years, legislation emphasizing the need for uniform, national information systems regarding children in the public child welfare system have been established. The 1986 amendments to Title IV-E of the Social Security Act mandated the development of a nationwide database—the Adoption and Foster Care Analysis and Reporting System [AFCARS]. The Omnibus Budget Reconciliation Act of 1993 made funding available for the planning, design, development, and installation of statewide, automated child welfare information systems, which can then feed the national database.

D. THE CHILD WELFARE SERVICE/CASE MANAGEMENT SYSTEM (15 minutes)

In California, the Child Welfare Services Case Management System (CWS/CMS) was mandated by Chapter 1294, Statutes of 1989, SB370 as a system to computerize public child welfare services. According to the State's CWS/CMS website, (California State Department of Social Services, n.d.) the purposes of the system are to provide "better case management services" and "comprehensive and current information" to both frontline workers and program administrators. For the first time, the child welfare systems of all 58 California counties are to be linked in one statewide system. Reportedly, the CWS/CMS involves the largest number of people and computer terminals ever involved in a single computer project. Equipment installation began in 1995, and the system cost is estimated at $1.6 billion annually.

For caseworkers, the specific goals of CWS/CMS are (SB370, Sec. 20):

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- "Providing child welfare workers with immediate access to child and family-specific information in order to make appropriate and timely decisions in child abuse and neglect cases."

- "Providing child welfare services workers and supervisors with the case management information needed to effectively and efficiently manage caseloads."

Computer systems in child welfare are expected to "facilitate caseworker decisions by providing caseworkers with immediate access to case file information and reducing the time spent by workers searching for case information" (Statewide Automated Child Welfare Information Systems, 1993, p. 67940). Thus, the key to the ultimate effectiveness of the new computerized system is the way that the increased flow of information is expected to lead to "appropriate and timely decisions." CWS/CMS is designed to collect, store, combine, report, and make available to users information about public child welfare clients, services, and processes. The information system is expected to improve the flow of communication horizontally and vertically within the agency and within the larger child welfare system. Its purpose is to achieve greater efficiency and effectiveness in attaining the goals and objectives of the child protective services system. Ultimately, the goals of public child welfare are achieved through the daily practices of child welfare case managers.

DISCUSSION QUESTION

The benefits of computerization may be different for different populations. What would you consider to be the benefits for each of the following groups?

- CSWs
- Supervisors of child welfare workers
- Clients
- Administrators
- Politicians

ATTENTION TRAINER

This last question may be used as a small group discussion exercise with each group discussing a different population. Depending on the number of trainees, some groups might have the same population assignment.

Be aware of time limitations. This exercise is most effective when adequate time is available for each group to report back to the entire class, which can then discuss the exercise.

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E. THE CWS/CMS COMPUTER SYSTEM (5-10 minutes)

TRAINER

The following material may be known to the trainees. Depending on the place of this module in the core curriculum, the material may be considered primary or used as a review. You may wish to check trainees' level of knowledge with a discussion question.

DISCUSSION QUESTION

Can you describe the CWS/CMS computer system? What does it contain?

Write trainee answers on the board or flip chart.

"The CWS/CMS is a state-of-the-art, PC-based, Windows application." As of May 1999, there were 16,000 active system users, and over 150,000 active cases (California State Department of Social Services, n.d.). CWS/CMS has attracted broad support and has been seen throughout the child welfare profession as a welcome development that will use technology to solve the problems of families reported for child abuse and neglect. Los Angeles County, with one of the largest child welfare services in the country, is in the process of bringing 5000 staff online.

The CWS/CMS Control Panel, the first stop for system users, contains access to each of the system elements. In addition to four icons providing access to system information and to interfaces with other county data systems, there are four applications on the Control Panel. The *Fingerprint* application provides a check for fingerprints on individuals working in foster care, but has not been used and is scheduled to be removed from the system this year. The *Caseload* application, the primary interface between caseworkers and supervisors, is used by supervisors to review requests for approval of court reports and by workers and supervisors to review caseloads. The *Resource Management* application contains lists of organizations providing services needed by clients—an electronic resource manual. This application allows administrators to manage system information and internal organization information in addition to external resources.

Client Services, the application most relevant to caseworkers, is the computer application that replaces the old paper casework files. It is the effects of this activity that are being studied in this project. Though the other applications and

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links to other databases are all of assistance in casework decisions, workers spend most of their time in *Client Services*. This application is divided into two folders—*Case Folder* and *Referral Folder*—each of which is divided into five sections.

The *Case Folder* includes *Case Management,* where the case plans are documented; *Client Management,* where pertinent case information pertaining to medical, educational, and other needs is recorded; *Court Management,* where court reports are generated and data on hearings and other judicial procedures is recorded; *Placement Management,* where workers record and track placements and complete budgets for foster care placements; and *Service Management,* where information is recorded about contacts, visits, and services to clients and collaterals.

The *Referral Folder* contains the same sections as the *Case Folder* with the exception of *Case Management.* Instead of this section, there is a section entitled *Referral Management* where data recording the original referral allegations are kept. (Formal documents describing the CWS/CMS system were not readily available, as the system and the training needs are rapidly evolving. This description is from training documents provided to the researchers by the Training Division of DCFS, and from conversations with staff of that Division.)

Though the stated purpose of the CWS/CMS is to help workers to make “appropriate and timely decisions in child abuse and neglect cases," commentators with Los Angeles County Department of Children and Family Services have repeatedly stressed that the implementation of CWS/CMS is to have no effect on the nature of decisions made by workers. The extensive legislative and regulatory structure surrounding decisions about the fate of children and their families is untouched by the manner in which relevant information is collected and processed. However, while it is true that the essential elements of client contact and case decision-making remain untouched by this transition, all the auxiliary activities surrounding the core client work have been drastically altered by computerization—activities which account for much of caseworker time and energy. Though decisions should remain the same, the ways in which information is collected, stored, analyzed, and used is changing greatly. It is important to emphasize just what a major change in conducting casework activity is entailed in converting from paper files to the computer.

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F. LITERATURE REVIEW (25 minutes)

Introduction

Most of the empirical literature on technological change in organizations focuses on the ways in which workers adapt to those changes. It is not surprising that the attributes of the new computer system itself are important considerations for workers, especially the ways in which it influences the nature and, especially, the quantity of their work. There is nothing in the literature regarding the effect of ethnicity on response to technological change and little on gender.

DISCUSSION QUESTION

How is worker age likely to relate to acceptance of computer technology?

You may wish to write trainees' answers on the board or flip chart.

ATTENTION TRAINER

This question may raise the issue of ageism. It is important to allow discussion of this and clarify the myths surrounding age-related learning. It also should be emphasized that the research shows that age is not a significant factor in and of itself.

Age-related attributes seem to be the most important factors that workers themselves bring to the technological change, but it is actually both experience with computers and time on the job, rather than age, itself, which are seen as important. The effects of computer proficiency and computer anxiety, both age-related, though of importance initially, tend to diminish over time as workers develop proficiency, reduce anxiety, and adapt to technological change.

Perhaps the most important overall insight from the literature is that attitudes toward technological change and workers' consequent adaptations are embedded in their attitudes toward the job and their agency. The introduction of a new computer system, for workers, is not an event that is separate from other ongoing struggles and projects within the organization.

The way they adapt to a new computer system will be a continuation of existing ways in which agencies and workers adapt to each other. Job satisfaction, the

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nature of work involvement, organizational and professional ideologies, and especially views on the ability of the agency to generally successfully negotiate change all affect the ways in which workers adapt to change. It seems that involving workers in the planning and implementation of change may be the best way to maximize the positive affects of these factors. This may be particularly true in child welfare, given the problems with job satisfaction, the dominance of professional and ethical ideologies pertaining to information technology, and the often bureaucratic nature of these agencies.

Less is known about the effects of computerization on the ways in which workers experience their jobs on a daily basis. Computerization may affect attitudes toward the agency, such as the feeling that the organization has increased its power over workers and its monitoring of their work. The only empirical evidence that bears directly on the effects of computerization on the work of public child welfare suggests that it may increase documentation requirements and therefore workload as a whole. It is generally agreed that computerization has the potential to drastically alter workplace human interactions, but the empirical evidence is mixed on this subject. The best that can be said is that the social effects of computerization are unpredictable for specific situations, indeed depend on the specifics of the technological change and of the existing social relations.

It is of interest, however, to examine the literature in relation to two specific areas where computerization may have an effect on CSWs: use of time and use of information sources.

Child Welfare Workers' Use of Time

One way of describing the effects of computerization is to explore whether or not workers are allocating their time for different work-related tasks in a way that differs from their allocation of time before the implementation of CWS/CMS. It is relevant to know, for example, if workers rate themselves as spending more time in direct communication with clients or collaterals (either face-to-face or via phone) following the implementation of CWS/CMS. This would be one way of measuring an improvement in productivity and quality of work, because it can be assumed that the more time spent in direct communication, the more the worker is in a position to appraise the situation of clients as well as create good working relationships with clients and significant others.

Unfortunately, the literature search yielded no information on the actual percentage of time spent in various work activities that would serve to support findings of a baseline division of time by caseworkers. Vinokur-Kaplan and Hartman (1986) examined the proportion of time which is allocated to various child welfare service areas by child welfare workers nationally, but they did not

examine the allocation of time among workers who specialize in one form of service (e.g., FM&R) with respect to concrete activities such as doing paperwork, spending time on the phone, home visitation with clients, or supervision. They did, however, describe dissatisfaction among workers regarding the allocation of time, with workers wishing to spend less time doing paperwork and much more time working with children in their homes or in placement.

Only one study was found to address the changes to allocation of time for various activities imposed by computerization. Edwards and Reid (1989) studied the way in which direct-line workers in child welfare agencies in New York State experienced and evaluated a structured case recording system (UCR) 1 year after it was widely introduced. The authors found that the UCR actually increased the amount of time social workers spent on case recording. Whereas workers estimated that they spent an average of 14 hours on paperwork before the introduction of UCR, after its implementation, the amount of time increased to 24 hours. This was accompanied by a decrease in actual time spent in direct client services from 24 to 15 hours per week. At the time of the evaluation, workers were spending almost 60% of their work week on case recording. Interestingly, the increase of 9 hours per week for paperwork nearly matched the number of hours that were spent on UCR and so the authors concluded, "apparently, the respondents viewed UCR as added onto rather than replacing existing recording requirements and procedures" (p. 50). This is a potentially worrisome finding in terms of the burden of technological change for caseworkers. Nevertheless, the study did not address how the system impacted usage of time spent in various other job-related activities.

Utilization of Information Sources Among Child Welfare Workers

Another important way of understanding how computerized data systems such as CWS/CMS are integrated into work is to evaluate the extent to which workers rely on the computer for accessing information pertinent to everyday tasks. If the computer is increasingly utilized in support of activities such as identifying and securing resources for clients, then it can be concluded that use of the computer is shifting the relative utility of various information sources for daily tasks. More specifically, if it is found that sources of information for workers are utilized in decision-making differently from the way they were utilized before CWS/CMS, then we can indirectly infer that the computer has had an impact on decision-making processes. A direct indicator of the usefulness of the CWS/CMS is its value in improving access to client-related information. One way of examining this is to measure the use of all of the sources of information used in decision-making before and after the transition to CWS/CMS. Another way is to evaluate changes in the frequency of problems related to insufficient or inadequate information passed on with newly

transferred client cases. Indeed, one of the central aims of the CWS/CMS system is to reduce information gaps in transferred cases so as to ensure better continuity of client care.

Unfortunately, empirical data regarding the extent to which workers use various sources of information in making case-related decisions was not found. Jones (1993) describes the types of information that workers consider pertinent to decision-making. In a critical review of the literature on decision-making in child welfare, he noted the criteria that workers use in making decisions regarding intake of new cases, decisions to substantiate abuse, decisions to remove a child from a home, and decisions to reunify a child with his or her family. The process of utilizing information in decision-making by caseworkers is similar to the manner in which social scientists establish reliability and validity of data (e.g., repeated observations from multiple observers over time, etc.; Gilgun, 1988). Moreover, when respondents are not in agreement with a hypothesized case-related intervention, they tend to make less unwarranted assumptions concerning the case, generate more hypotheses, and request more information. Also, professionals request more information concerning a case and less frequently make unwarranted assumptions than child welfare nonprofessionals (Mandel, Lehman, & Yuille, 1994). Such data are critical in understanding the nature of decision-making and in developing common indicators or procedures for caseworkers. However, knowing the type of criteria is not helpful in understanding the relative importance of such criteria for caseworkers so that we know if the process of computerization changes the emphasis of information sources utilized or not.

TRAINER

The following exercise may be helpful in encouraging movement and interaction among trainees.

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EXERCISE: LITERATURE REVIEW

Materials Needed: None

Time: Approximately 10 minutes

Process:

1. Have trainees divide themselves into small groups of five. They may do this of their own volition or you can ask them to count out loud with all number ones in a group, number twos in another group and so forth. If you have 40 trainees, use number eight. Adjust the number based on group size.

2. Tell the trainees that the literature is uncertain as to the effects of computerization on social interaction in the workplace. The discussion question for all groups is:

   What do you think these effects will entail for CSWs?

   Encourage trainees to consider all types of social interaction ranging from staff meetings to supervisory oversight.

3. Allow about 10-12 minutes for the discussion.

4. Ask the students to return to the large class group and have each group report on their conclusions.

G. RESEARCH FINDINGS AND DISCUSSION (35 minutes)

Each new technological system is unique. The implementation and use of each system is embedded in the unique attributes of the implementing agency. For this reason, it is important not to generalize the conclusions and implications of this study beyond its unique circumstances. For example, CWS/CMS is a particular computer system for public child welfare currently used only in California. Additionally, participation in this research study was limited to FM&R workers in two California counties. Even more, the timing of data collection for this specific study required consideration of the applicability of conclusions over time, even in relation to these workers in these counties. Parsons, Liden, O'Conner, & Nagao (1991) demonstrated in studying a temporal process such as the ways in which workers adapt their practices to new technologies, measurements at multiple times are important. With this, it must be stressed that the timing of pre- and post-CSW/CMS data collections were the best that

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could be accomplished given the time constraints of the research project itself, of the actual implementation of CWS/CMS within DCFS, and of concerns regarding worker turnover.

In addition, steps were taken to measure the degree of computer use and proficiency. With the two-time design of this study, the degree to which the use of computers has become embedded in daily practice, the extent to which its use has supplanted the old paper system, and the extent to which measurable changes in practice and social interactions have stabilized remain uncertain. The changes in practice measured in this study may increase over time, while other important changes may emerge in the long run. At the same time, it is likely that some changes measured in this study may be artifacts of the transition period, likely to diminish or disappear over time.

Overall, the conclusions of this study indicate that the implementation of CWS/CMS has not led to drastic changes in the ways in which CSWs carry out their daily work. This serves to reinforce the view that the computer system, while rendering the flow and use of information more efficient, should not in fact have an impact on core casework activities. At the same time, this study demonstrates that the worst fears of some—that the computer will distract caseworkers from the key elements of their job or will lead to information breakdowns that will put clients at risk—are not coming true. A key finding is that the amount of time that workers spend with clients is unchanged by the computer system. Indeed, in describing the conclusions of the study, it is clear that a significant barometer of CWS/CMS impact is the set of many important measurements, which did not change from pre- to postsurvey.

However, this study does demonstrate that CWS/CMS has led to some modest but crucial changes in how workers spend their time on the job. It has affected the quantity and quality of relationships with others on the job, and it has changed some attitudes of workers toward their agency and their job.

The following material covers the findings related to:

- CSWs and CWS/CMS
- Information Sources
- Use of Time
- Workplace Interactions
- Transferred Cases
- Worker Attitudes Towards DCFS/DHS

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TRAINER NOTE

You may wish to review Understanding Research (Overhead 1) at this point.

CSWs and CWS/CMS

Before the implementation of CWS/CMS, the attitudes of the FM&R workers toward computers was generally positive. Fears about the limits of computers (2.95) was just below the mid-point of the 5-point scale, while beliefs about the usefulness of computers in regards to making information available was high (3.91), as was the expression of positive attitudes toward computers in the profession (3.88). Ambivalence about the overall usefulness of computers, however, is expressed in the lower (2.94) score on feelings about the benefits of computers to professional staff. Perhaps these relatively benign attitudes toward computers are due to the high degree of general computer proficiency that these workers had prior to CWS/CMS. At the pretest, three fourths of the CSWs rated themselves as above beginner on computers, and only a small minority (6%) had no computer experience at all. The observed workers had considerable computer experience and they were using the computers on their desks to a high degree even before CWS/CMS came online. The most evident proficiency problem was a lack of typing ability, a major problem for one of these caseworkers, leading to extra typing courses in the evening.

In examining the use of CWS/CMS at the time of the posttest, it is apparent that this data collection time caught workers well into, but not completely through, the transition from the old paper files to the new system. All the workers in the study were using CWS/CMS for at least the most basic tasks and many were using the system for all of the tasks that were identified. However, many of them were not yet using the system for all tasks. These data, together with other data from DCFS, suggest that, given the gradual implementation process chosen by DCFS, a full 2 years may need to pass from implementation to routine use of the computer system.

Based on their experiences to date with CWS/CMS, CSWs were not satisfied with the system. Satisfaction with the time it takes the computer to accomplish various tasks was only 2.32 on a 5-point scale and satisfaction with the accessibility and quality of information through the system was only 2.83. Considerable time and energy were required by the observed workers to work through their initial transition to CWS/CMS. One worker stated, "It took me an hour just to document three phone calls." These low scores are of concern since saving time and increasing the quality of information are exactly the stated goals of the CWS/CMS. More optimistically, though, it would seem that

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satisfaction is likely to rise both as workers become more proficient in the use of CWS/CMS, and as the system itself is modified to improve performance.

Interestingly, all of the expectations of CSWs regarding the advent of the computer system, positive and negative, were exaggerated beyond the reality, which appeared after the use of CWS/CMS. For example, rating of the actual contribution of CWS/CMS to work was only 2.69 (on a 5-point scale), compared with the expected contribution of 3.25. Likewise the fear that CWS/CMS would lead to more monitoring of work was at 3.96 before implementation, and down to 3.51 afterwards.

The observed workers generally were looking forward to the new system, though they had some concerns. One commented, "In the long run, the new computer system will be great. It will force people to keep the information up. But we spend all our time in the field." Another remarked, "In the long run it will have a positive effect, but it will slow down work at first." The moderate perceptions by workers after the implementation of CWS/CMS reinforced the general observation that the effects of the computer system are not drastic. Certainly, they are not as extreme as the workers themselves had anticipated.

Information Sources

CWS/CMS must, if it is to meet its stated goals, "facilitate worker decisions by providing caseworkers with immediate access to case file information and reducing the time spent by workers searching for case information" (Statewide Automated Child Welfare Information Systems, 1993, p. 67940). There is no evidence from this study that this goal is being achieved. Presumably, the effective use of the CWS/CMS would lead to a shift toward more efficient ways of eliciting and using information. However, no consistent patterns of change emerged in the four sets of items, which measured the relative use of various sources of information before and after CWS/CMS. In fact, though there were some minor differences, the most notable finding is the similarity between the ways in which information was collected before and after CWS/CMS. In particular, the reliance on the computer as a source of information did not change after the implementation of CWS/CMS.

It is here that consideration of the possible effects of the time of data collection needs to be examined. A plausible interpretation is that while workers were struggling to use the computer system for the mandated data entry requirements, their comfort and skill with the system had not progressed to the point where they were enthusiastically and creatively using the system to replace their old ways of doing business. They continued to rely on colleagues, resource directories, and their own knowledge to obtain the information needed for case decisions rather than turning to the new computer system.

Another, perhaps equally plausible, interpretation is that the computer will not in the long run change the ways in which workers obtain and use information—the computer files will simply be used in the same manner as the old paper files. If this is the case, it is not clear how computerized child welfare information systems will lead to more efficient and effective case decisions.

TRAINER

Depending on available time and trainee level of interest and knowledge of research methods and findings, you may wish to use some of the following charts as overheads. They can be found, formatted for overhead use, in Appendix C.

The four sets of items used to measure use of sources of information were:

1. Identifying placement facilities,
2. Identifying resources such as parenting classes or drug treatment programs,
3. Deciding to conduct an unscheduled home visit, and
4. Assessing the level of compliance with court orders.

Table 1 (Slide 2) shows sources of information used when identifying placement facilities. As measured in the presurvey, consultation with colleagues (mean 3.38 on a 5-point scale) is used the most, followed by calling around (mean 3.21) and self-knowledge (mean 3.15). Interestingly, the use of calling around was the only measure that changed in the posttest, with an increase to a mean of 3.60. There was no change in the use of the computer as a source of information.

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Table 1
Means and Standard Deviations of Use of Sources of Information When Identifying Placement Facilities (N = 112)

How often do you use each of the following methods:**	Before	After	t score
Calling around	3.21 (1.27)	3.60 (1.03)	-2.788*
Computer search	2.45 (1.44)	2.32 (1.31)	.886
Consultation with colleagues	3.38 (.97)	3.32 (.79)	.524
Consultation with supervisor	3.01 (1.17)	2.91 (1.05)	.731
Resource directory	2.66 (1.17)	2.74 (1.08)	-.521
Self-knowledge	3.15 (1.16)	3.32 (1.03)	-1.495

* significant at p<.05
** mean scores on a 5-point scale, from *Never* to *Always*

DISCUSSION QUESTION

Would you have expected the responses regarding the sources of information?

If yes – why?
If no – why?

What other sources would you think could be used?

Write trainee answers on the board or flip chart.

Similar items were used to measure the use of sources of information used by CSWs when identifying resources such as parenting classes or drug treatment programs, as shown in Table 2 (Overhead 3). For this casework function, resource directories were used the most (mean 3.67), followed by consultation with colleagues (mean 3.64), and self-knowledge (mean 3.50). There were a number of statistically significant differences between pre- and postdata. Reliance on resource directories and self-knowledge increased (to means of 3.90 and 3.74 respectively), while the reliance on colleagues decreased to a mean of 3.48.

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Table 2
Means and Standard Deviations of Use of Sources of Information When Identifying Resources
(N = 112)

How often do you use each of the following methods:* **	**Before**	**After**	**t score**
Calling around	3.21 (1.00)	3.19 (1.10)	.148
Computer search	1.76 (.95)	1.64 (.97)	1.157
Consultation with colleagues	3.64 (.93)	3.48 (.78)	1.716**
Consultation with supervisor	2.93 (1.13)	2.82 (1.11)	.888
Resource directory	3.67 (1.14)	3.90 (.95)	-1.924**
Self-knowledge	3.50 (1.04)	3.74 (.89)	-2.110*

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *Never* to *Always*

Table 3 (Overhead 4) shows the measures of the use of sources of information by CSWs when they are deciding about conducting an unscheduled home visit. Observation of the child and family in their home is used most frequently (mean of 4.41 on a 5-point scale), followed by a new report from the hotline (mean of 4.04), review of case files (mean of 3.92), consultation with supervisors (mean of 3.74), contacts with service providers (mean of 3.66), and review of court reports (mean of 3.56). After the implementation of CWS/CMS, workers relied less on consultations with supervisors (to a mean of 3.54) and more on service providers (a postmean of 3.89).

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Table 3
Means and Standard Deviations of Use of Sources of Information When Planning an Unscheduled Home Visit
(N = 112)

How much do you rely on the following sources of information:***	Before	After	t score
Review of court reports	3.56 (1.12)	3.65 (1.06)	-650
Review of case files	3.92 (.99)	3.90 (1.00)	.168
Observation of the child and family	4.41 (.84)	4.44 (.73)	-.303
Contacts with service providers	3.66 (1.05)	3.89 (.89)	-1.960**
Contacts with other community members	2.66 (2.79)	2.79 (1.11)	-1.025
Consultation with coworkers	3.12 (.95)	2.94 (.98)	1.600
Consultation with supervisor	3.74 (1.00)	3.54 (1.06)	1.840**
New report from Child Abuse Hotline	4.04 (1.31)	4.15 (1.14)	-.948

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *Not at All* to *Very Much*

The results of the items measuring the use of sources of information when assessing the level of compliance with court orders are shown in Table 4 (Overhead 5). Again, direct observation of the child and family is the most important source of information (mean = 4.56), followed by contacts with service providers (mean = 4.40), review of case files (mean = 4.37), and review of court reports (mean = 4.36). The only statistically significant difference between pre- and postdata is that reliance of direct observation of child and family decreased (to a mean = 4.34).

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Table 4
Means and Standard Deviations of Use of Sources of Information When Assessing Court Compliance
(N = 112)

How much do you rely on the following sources of information:***	Before	After	t score
Review of court reports	4.36 (.89)	4.27 (.86)	832
Review of case files	4.37 (.79)	4.24 (.84)	1.250
Observation of the child and family	4.56 (.66)	4.34 (.91)	- 2.188*
Contacts with service providers	4.40 (.74)	4.35 (.87)	.565
Contacts with other community members	2.84 (1.10)	2.84 (1.21)	.000
Consultation with coworkers	2.93 (1.02)	2.83 (1.02)	.968
Consultation with supervisor	3.68 (1.09)	3.51 (1.12)	1.427
New report from Child Abuse Hotline	3.71 (1.38)	3.91 (1.19)	-1.453

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *Not At All* to *Very Much*

DISCUSSION QUESTION

Would you have expected the responses regarding the use of sources of information when assessing court compliance?

If yes - why?
If no - why?

What other sources would you think could be used? Write trainees' answers on the board or flip chart.

Use of Time on Casework Activities

It is an important finding of this study that CWS/CMS has led to more time being spent doing documentation related to clients. The literature supports this and it is consistent with Edwards and Reid (1989). The percent of time on paperwork increased from 30% to 34%, or from 4.43 on a 5-point scale to 4.6. Observations during the transition to the CWS/CMS system clearly showed more time and energy devoted to case documentation. Early in the transition much of this was due to simply learning how to use the new system. Another

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important factor, however, is that before CWS/CMS, workers were completing the required documentation in the field during visits with clients and collaterals, then simply filing them when they returned to the office. After CWS/CMS, they must take notes in the field then complete the forms on the computer after returning to the office.

It is important to note that in a related important finding, there was no corresponding decrease in the amount of time spent in direct contact with clients. This remained at about 32%. Interestingly, the increased time spent on paperwork was compensated for in part by a decrease in the percent of time spent on the telephone, which declined from 19.6% to 17.1%. It is not certain exactly how time spent on the telephone diminished, especially since other survey findings showed that the use of the telephone as a source of information actually increased at times. One worker said, "Now I don't want to make any more phone calls. It's turning out to be so much work just to document a phone call." Perhaps, unlike face-to-face contact with clients, some of the telephone work can be reduced in order to eliminate increased documentation.

It should be stressed, as is shown in Table 5 (Overhead 6), that the basic pattern of time spent in different types of communication activities was not drastically altered by the implementation of CWS/CMS.

Table 5
Means and Standard Deviations of Percent of Time Spent in Types of Communications Before and After CWS/CMS
(N = 112)

On average what percent of your work time is spent:	Before	After	t score
In face-to-face contacts related to clients.	31.6 (12.5)	32.4 (15.6)	-.552
In telephone contacts related to clients.	19.6 (9.1)	17.1 (9.2)	2.217*
Doing written contacts related to clients.	11.1 (8.4)	10.9 (9.2)	.246
Doing documentation related to clients.	30.2 (13.3)	34.1 (16.1)	-2.111*
Doing other than above.	7.1 (6.6)	6.8 (5.6)	. 536

*significant at p<.05

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DISCUSSION QUESTION

Would you have expected the responses regarding the percent of time spent in types of communications?

If yes - why?
If no - why?

What do you think is included in the category "Other"?

Write trainees answers on the board or flip chart.

In another way of describing worker activity—with whom they spend their time—again, about one third of their time is spent with clients; while over 40% of their time is spent alone. Use of the new computer system did lead to some changes in interactions between caseworkers and others (Table 6, Overhead 7). After the implementation of CWS/CMS, workers spent significantly more time alone (44.4%) than before the computer system (37.1%), and less time with coworkers (10.3% before and 8.6% after) and others (8.3% before and 6.8% after). Time spent alone includes working on the computer.

Table 6
Means and Standard Deviations of Percent of Time Spent With Others
(N =112)

On average what percent of your work time is spent:	Before		After		t score
Alone	37.1%	(19.2)	44.4%	(17.9)	-3.632*
With co-workers	10.3	(7.6)	8.6	(6.1)	1.882**
With your supervisor	11.3	(7.0)	10.1	(7.2)	1.497
With clients or collaterals	32.1	(15.0)	30.1	(15.3)	.889
With all others	8.3	(6.6)	6.8	(6.5)	1.987**

* significant at p<.05
** significant at p<.10

The allocation of time for specific professional activities was addressed by another set of items. These findings (Table 7, Overhead 8) confirm that the transition to CWS/CMS has resulted in more paperwork (mean of 4.43 on a 5-point scale before CWS/CMS, compared to a mean of 4.61 after). Generally, in spite of the important difference in the amount of paperwork, time allocations for casework activities remain quite similar between pre- and posttests, again

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demonstrating that core casework activities are not drastically altered by the computer system.

It must be noted, however, that less time was spent on staff development and training activities (mean of 2.54 on a 5-point scale before CWS/CMS, compared to a mean of 2.63 after). This finding may somehow be a function of the increased training necessary for CWS/CMS itself. During the transition period to CWS/CMS a great deal of computer-related training was available.

Table 7
Means and Standard Deviations of Allocation of Time for Casework Activities
(N = 112)

In an average week, how much time do you spend:* **	**Before**	**After**	**t score**
Accessing resources	3.21 (.83)	3.22 (.80)	-.109
Working directly with children	3.46 (.86)	3.54 (.89)	-.838
Resolving emergency situations	3.13 (.99)	3.31 (.88)	-1.785**
Seeking placements	2.74 (.90)	2.78 (.77)	-.342
Traveling	3.72 (.93)	3.60 (1.04)	1.204
Appearing in court	2.28 (.94)	2.39 (.94)	-1 .254
Doing paperwork	4.43 (.84)	4.61 (.59)	-2.028*
At supervisory conferences	2.54 (.85)	2.49 (.80)	.422
At staff development activities	2.54 (.84)	2.36 (.70)	1.875**
Doing other case management activities	3.41 (.95)	3.29 (.92)	1.194

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *No Time* to *Quite a Lot of Time*

Workplace Interactions

The key finding that CSWs spent more time alone after CWS/CMS than before, is presumably directly related to the increased time spent in case documentation on the computer. This is consistent with the findings of Bradley, Holm, Steere, & Stromqvist (1993) and Tovey, Savicki, & White (1990). In turn this led to less time spent with others, especially coworkers.

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While observing casework activity, researchers were impressed with the amount of informal teamwork among CSWs. They constantly consulted with each other, translated, shared resources, visited each other's clients, and even helped to move the belongings of other CSWs' clients. These observations reinforced the very high ratings given by CSWs to relationships with coworkers.

CSWs reported spending a mean time of 1.81 hours per day interacting with coworkers. Half (48.8%) of this time was spent on consultation about cases with the remaining time split between discussing work policy (24.1%) and socializing (21.9%). This did not change significantly after the implementation of CWS/CMS, although the amount of time in each category went down slightly. Only the Other category underwent a statistically significant increase (from 3.4% to 5.5%; Table 8, Overhead 9).

Table 8
Means and Standard Deviations of Percent of Time of Activities With Coworkers (N = 112)

Of the time spent with your coworkers, what percent of your work time is spent on:	Before	After	T score
Consultation about cases	48.8% (22.4)	48.5% (22.9)	.136
Discussing work policy	24.1 (15.4)	23.9 (17.0)	.104
Socializing	21.9 (23.5)	21.6 (20.6)	.155
Other	3.4 (6.4)	5.5 (11.5)	-2.005*

* significant at p<.05

While the quality of relationships with coworkers reportedly was not diminished by CWS/CMS, there is evidence of problems in relationships with supervisors. The perceived supportiveness of supervisors diminished from 4.54 on a 5-point scale to 4.3 (still very high). The percent of time with supervisors that was spent discussing work performance increased from 4.1% to 5.7%. These findings suggest that the administrative demands inherent in the implementation of CWS/CMS have led to some increased tension between workers and supervisors. Results from the regression analysis indicate that these tensions are greater for ethnic minorities than for Whites.

In addition, researchers noted the frequency and extent of supervisor involvement with cases. CSWs had up to a dozen brief consultations with supervisors over the course of a day in the office, and at times, called supervisors from the field. At least some of the supervisors observed were

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extremely supportive of the caseworkers, always willing to listen to CSWs' problems and concerns.

Workers met alone with their supervisors about four times per week (mean = 3.95, with a SD of 3.38 in the pretest) both before and after CWS/CMS, and about once a week (mean = .93, SD = .81 in predata) in a group.

Of the time spent with supervisors, most of it (mean = 61.8%) was spent discussing cases, with some time (mean = 16.8%) spent discussing policy and procedures (Table 9, Overhead 10). After CWS/CMS a statistically significant greater percent of time (mean = 5.7% compared with a mean = 4.1% on the pretest) was spent reviewing CSWs' job evaluations.

Table 9
Means and Standard Deviations of Percent of Time of Activities With Supervisors (N = 112)

Of the time spent with your supervisor, what percent of your work time is spent on:	**Before**		**After**		**t score**
Consultation about cases	61.8%	(21.1)	64.0%	(22.9)	-.912
Discussing work policy	16.8	(13.1)	14.6	(11.3)	1.345
Evaluation of work performance	4.1	(5.0)	5.7	(7.6)	-2.549*
Review of unit and department issues	9.2	(9.2)	9.0	(9.3)	.173
Socializing	4.3	(6.0)	4.8	(5.4)	-.658
Other	3.8	(10.5)	2.8	(10.4)	.764

*significant at p<.05

DISCUSSION QUESTION

What do you think accounts for the Table 9 findings regarding the increase in time spent with supervisors on evaluation of work performance after CWS/CMS?

As Table 10 (Overhead 11) shows, CSWs rated the quality of interactions with supervisors and coworkers very high (mean of 4.32 on a 5-point scale in the pretest for relationships with coworkers, and 4.42 for support from coworkers). The reported supportiveness of supervisors decreased significantly subsequent to the implementation of CWS/CMS (from a mean of 4.54 to 4.30).

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Table 10
Means and Standard Deviations of Ratings of Quality of Relationships
(N = 112)

To what extent are:**	Before	After	t score
Relationships with coworkers friendly	4.32 (.76)	4.41 (.73)	-.954
Coworkers supportive	4.42 (.69)	4.32 (.80)	1.364
Supervisor supportive	4.54 (.76)	4.30 (1.01)	2.284*

* significant at p<.05
** on a 5-point scale from *Not At All* to *Very Much*

Transferred Cases

While problems with information in transferred cases generally occurred only sometimes, it is clear that the incidence of these problems increased after CWS/CMS. Many of these problems were observed in the field during the early weeks of the transition to CWS/CMS. For some reason, a number of clients were listed as 97 years old. Another client had two biological fathers. A number of cases were not filled out completely when transferred. One worker did not have all of his cases listed on his caseload, indicating to his supervisor that his caseload was lower than it was. Again, these are worrisome findings regarding a system with the goal of increasing the accuracy and timeliness of information. We believe, however, that these problems are most likely temporary, the result of the need at the onset of any new computer system to input large amounts of data quickly by relatively inexperienced staff.

Both before and after the implementation of CWS/CMS, workers had about nine cases (9.5 mean before implementation) transferred to them each month, though there was a wide range on this item. As Table 11 (Overhead 12) demonstrates, each of the problems concerning information in transferred cases occurred about *Sometimes* (3 on a 5-point scale). These problems occurred more after implementation of CWS/CMS than before, especially a lack of documentation concerning case decisions (2.74 mean before CWS/CMS and 2.96 after), a lack of information about birth parents (2.81 mean before and 3.12 after), and a lack of information needed to locate relatives and other important collateral contacts (3.04 mean before CWS/CMS compared with 3.28 after).

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Table 11
Means and Standard Deviations of the Amount of Occurrence of Problems in Transferred Cases
(N = 112)

How often do these problems occur in cases that are transferred to you:***	Before	After	t score
No documentation on provision of services	2.78 (1.03)	2.93 (.87)	-1.276
No documentation supporting case decisions	2.74 (1.04)	2.96 (.90)	-1.804**
No home address or locating information	2.28 (.92)	2.19 (.94)	.877
Insufficient information about birth parents	2.81 (.98)	3.12 (1.02)	-2.397*
Insufficient information about child's adjustment to current placement	2.93 (1.01)	3.07 (.98)	-1.194
No information about medical status	2.83 (.97)	2.99 (.92)	-1.399
Insufficient information to locate relatives and collaterals	3.04 (.98)	3.28 (.92)	-2.301

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *No Time* to *Quite a Lot of Time*

Attitudes Toward DCFS/DHS

Important attitudes toward the agency were not affected by CWS/CMS. Positive attitudes toward the agency (around 3 - *Neutral*) decreased slightly but not statistically significantly in the posttest. An important finding is that CSWs did not feel that their work was controlled by the agency more after CWS/CMS than before. Apart from beliefs about the agency itself, however, some attitudes toward the job were negatively affected by CWS/CMS. Workers were less likely to like the job and more likely to feel they were not getting enough recognition on the job. Apparently, while not blaming the agency, workers felt the CWS/CMS was making their job more of a struggle in some ways. At the same time, they were more likely to express feelings of accomplishment from the job after CWS/CMS. Perhaps workers felt that overcoming the demands of the computer system is an accomplishment in itself, or perhaps they felt that, in spite of the difficulties, use of CWS/CMS is congruent with their image of themselves as modern professionals.

A factor analysis was performed on the set of variables measuring CSWs' attitudes toward their job and the workplace in general. Two factors—attitudes

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and control—were derived and then used to construct scales related to CSWs' attitudes toward their job.

Attitudes has six items that capture satisfaction with the general purpose of the organization as well as with management's style and purpose. A higher score on this scale reflects greater satisfaction. The items include:

(1) I am proud to represent DCFS/DHS.
(2) I support the goals and values that DCFS/DHS upholds.
(3) I feel that top management can be trusted.
(4) DCFS/DHS's plans are well carried out.
(5) The way this organization puts policies into practice is fair.
(6) I believe that management has the client's best interests in mind when setting policies.

Control has five items that capture CSWs' evaluation of the extent they have the authority at work to make independent decisions. A higher score on this scale reflects a greater level of perceived control by the organization over one's work. The items include:

(1) Little action can be taken here until a supervisor approves a decision.
(2) Persons wanting to make their own decisions would be quickly discouraged.
(3) Even small matters have to be referred to someone higher up for final decision.
(4) I have to ask supervisor before I do almost anything.
(5) Any decision I make has to have my supervisor's approval.

Table 12 (Overhead 13) contains the results of the comparisons between pre- and postsurveys on the items which measure attitudes toward the job and the workplace, including both the scales derived from the factor analysis and the individual items not included in the scales. The differences between pre- and postscores are interesting. On one hand, CSWs like the job less after CWS/CMS (mean of 3.90 compared to 4.07 on the pretest), they are more likely to agree that they do not get enough recognition (mean of 3.93 compared to 3.62 on the pretest), and they are more likely to agree that they do not care what happens to the agency itself (1.73 compared to 1.51 on the pretest). On the other hand, they feel a greater sense of accomplishment on the job (4.14 compared to 3.87 on the pretest). The scale of positive attitudes toward the agency did go down at the posttest, and the scale of control by the agency over one's work did go up, but these changes were not statistically significant.

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Table 12
Means and Standard Deviations of Attitudes Toward Job and Agency
(N = 112)

Item***	Before		After		t score
I have positive **Attitudes** toward agency (scale)	2.97	(.86)	2.85	(.74)	1.657
DCFS/DHS has **Control** over my work (scale)	3.06	(.91)	3.15	(.86)	-1.076
My job has a substantial impact on the lives of others (N = 91)	4.54	(.70)	4.63	(.53)	-1.133
In general, I like working here	4.07	(.82)	3.90	(.91)	2.067*
I feel emotionally drained by this job (N = 91)	3.43	(1.14)	3.61	(1.17)	-1.598
I have a lot of opportunities to use my skills	3.81	(.96)	3.90	(.84)	-.944
I do not get enough recognition (N = 91)	3.62	(1.05)	3.93	(.94)	-2.978*
I have accomplished many worthwhile things on this job	3.87	(.70)	4.14	(.69)	-3.631*
I have a good chance of advancement	3.26	(1.15)	3.23	(1.11)	.370
I am very much personal1y involved in my work (N = 91)	3.77	(1.04)	3.70	(.94)	.800
I do not care what happens to DCFS (N = 91)	1.51	(.60)	1.73	(.84)	-2.287*
I easily put thoughts of work out of my mind at the end of the day	2.78	(1.14)	2.73	(1.28)	.467
I try to think of better ways to do my job (N = 91)	4.21	(.61)	4.19	(.65)	.341

* significant at p<.05
** significant at p<.10
*** on a 5-point scale from *Strongly Disagree* to *Strongly Agree*

DISCUSSION QUESTION

What can the organization do to facilitate the introduction of new technology?

TRAINER

The following paragraph explains results based on a specific type of research methodology. Knowledge and understanding of the methodology is not essential to this module. What is important to note are the results of the analysis, which support the solidity of the changes found by the researchers.

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Multivariate Analysis

Significant conclusions from the multivariate analysis do not present a coherent pattern of influences on the important outcomes of the study. The important conclusions from regression analysis lie in nonfindings, indicating the stability of the changes, which were found in pre- and postcomparisons. For the most part, these changes persist regardless of the age, gender, ethnicity, and education of CSWs. They are consistent across counties and regardless of length of time on the job. In addition, computer proficiency and computer use do not predict the effects of CWS/CMS on casework practices.

H. SUMMARY AND CLOSURE (5-10 minutes)

TRAINER

You may wish to begin with the opportunity for trainees to ask questions.

Depending on the time remaining, you can summarize the module, emphasizing the major areas covered.

In summary, this study has made a contribution to our understanding of the ways in which computerization affects the daily practice of caseworkers in public child welfare. We have seen that contemporary workers in the human services are computer proficient and are willing and able to take on the demand of new technologies. However, it remains to be seen whether or not CWS/CMS will meet the goals of more efficient and effective decision-making by CSWs. While it is true that the documentation demands of computers lead to more time spent doing documentation, they do not lead to less time being spent with clients. More time doing documentation at the computer means more time spent alone and less time spent with coworkers and supervisors. In addition, the transition to computerized casework brings some tension to supervisory relationships and enhances some negative attitudes toward the job. Perhaps most important, however, are the conclusions that both the core activities of casework, and the quality of social relationships on the job remain essentially untouched by the transition to computerization.

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GLOSSARY OF ACRONYMS

AFCARS	Adoption and Foster Care Analysis and Reporting System
CSW	Children's Social Worker
CWS/CMS	Child Welfare Services/Case Management System
ER	Emergency Response
FM&R	Family Maintenance and Reunification
HSO	Human Service Organization
LAC DCFS	Los Angeles County Department of Children and Family Services
PC	Personal Computer
RFP	Request for Proposal
SB	Senate Bill
SCSW	Supervising Children's Social Worker
SF DHS	San Francisco City and County Department of Human Services

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THE EFFECTS OF COMPUTERIZATION ON PUBLIC CHILD WELFARE PRACTICE: A LITERATURE REVIEW

INTRODUCTION

The intent of this study is to examine the effects of computerization on the specific ways in which child welfare workers do their job. While studies were found in the literature of management, social psychology, social welfare, and related areas that examine the various aspects and correlates of job satisfaction (Bergmann, Grahn, Hannaford, & Wenner, 1996; Freisen, Holdaway, & Rice, 1983; Fryer, Poland, Bross, & Krugman, 1988; Holdaway 1978; Jorde-Bloom, 1988; Knoop, 1995; Lee & Wilbur, 1985; Weitzel, Pinto, Dawis, & Jury, 1973; Winefield & Barlow, 1995), profiles of social workers in public child welfare (Fryer et al., 1988; Vinokur-Kaplan & Hartman, 1986), adaptation to change (Ferguson & Cheyne, 1995; Sagie, Elizur, & Greenbaum, 1985; Siegall & McDonald, 1995; Staufer, 1992), and adaptation to technological change in work areas including public child welfare (Burkhardt, 1994; Cahill & Feldman, 1993; Edwards & Reid, 1989; Gattiker, Gutek, & Berger, 1988; Mandell, 1989; Monnickendam & Eaglestein, 1993; Norman & Singh, 1989; Prasad & Prasad, 1994; Tovey, Savicki, & White, 1990), no studies were found that directly address the effects of computerized documentation on the actual practice of front-line, public child welfare workers. In other words, we do not know the effects that computerization has on such work-related practices as CSWs' usage of time during the week or reliance on various sources of information for making case-related decisions.

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Most of the research on computerization in human service organizations, such as child welfare agencies, refers to the use of computer expert systems designed to help in case-related decision-making (e.g., Doueck, English, DePanfilis, & Moote, 1993; Fluke & O'Beirne, 1990; Schoech & Schkade, 1980; Schuerman, Mullen, Stranger, & Johnson, 1989; Schuerman & Vogel, 1986; Wick & Schoech, 1988). However, since the practical and ethical issues surrounding the use of computer expert systems differ from those associated with computerized management information systems information, we discuss only studies involving the latter technological change here.

The following literature review is intended to provide a sense of what is currently known about the impact of new technology on workers, including the important individual and organizational factors that influence this process of change. By technological change, we are referring to the introduction of new equipment, hardware, software, etc., which necessitates employees learning how to operate new equipment and how to integrate it into their ongoing work routine. While organizational change manifests itself differently in wide-ranging types of agencies and with respect to specific technologies, here our concern is with the process of change as it is reflected in actual work practices, as well as how it is manifested psychologically and socially among employees.

Case studies that follow the process and outcome of substantial organizational change provide insight about the factors which influence the incorporation or resistance to job-related technological change. Considering the

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cost and investment involved in creating organizational change, especially technological change, we find it important to understand individual characteristics that tend to affect the change process and its success. Indeed, although technological change impacts both the organization as a whole as well as the individuals that comprise it, the unit of analysis for our discussion is limited to individuals and the ways in which they react to change. Ultimately the outcome of change in the workplace hinges on the "behavioral choices made by many people in the organization...choices about effort levels, learning, use and so forth" (Parsons, Liden, O'Conner, & Nagao, 1991, p. 1332).

After describing the difficulties of implementing change in human service organizations, we examine a number of studies that have directly addressed the ways in which workers have responded to the introduction of new technological systems to the workplace. We then consider important factors which are expected to mediate the ways in which new technology affects workers, including: demographic characteristics; attitudes toward computers; proficiency in computer use, and attitudes toward the agency, especially issues of implementation. Finally, we consider what little is known concerning the effects of computerization on the daily practices of child welfare workers. The literature on organizational change in general is vast. In this review, we have focused our attention on human service organizations, and, where possible, on child welfare agencies, while drawing empirical studies and concepts which seem particularly relevant to this study from the general literature.

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TECHNOLOGICAL CHANGE IN HUMAN SERVICE ORGANIZATIONS

As this study is focused upon the impact of computerization on the work of caseworkers in public child welfare agencies, the organizational setting for the technological change falls under the classification of human service organization (HSO). While the dynamics of such change in human service organizations may be similar to the dynamics within other types of organizations, there are features unique to HSOs that warrant attention. In HSOs the change processes may be more difficult because HSOs are known to be highly dependent on their external environment for legitimacy and resources, which makes them more vulnerable and reactive to external, environmental pressures (Hasenfeld, 1983).

This organizational vulnerability is an important consideration with respect to the process of technological change in HSOs, especially the implementation of computerized systems that aim at enhancing agency staff accountability. Such systems are often externally imposed by funding or oversight bodies. In this context, the HSO may face greater challenges in the introduction of change because, in contrast to the business sector where there is usually a well-defined hierarchical structure, the authority and power in HSOs tend to be dispersed informally and formally among direct service personnel, managerial personnel, and policy makers. Consequently, the HSO's organizational leadership promulgating the technological change may not be as effective in incorporating, motivating, or supervising the process of technological change. The process of

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implementing technological change may have strong political, moral, and economic overtones that impact workers' receptivity and adjustment.

Furthermore, because the goods produced in HSOs involve highly individualized, idiosyncratic, and abstract services or evaluations, which are difficult to quantify and concretize while retaining the essence of the transaction, there may be even more difficulty in making the transition to uniform, computerized reporting. HSOs tend to be particularly resistant to change because the human and professional factor is dominant within them and "professionals tend to demand autonomy and expect authority in the making of decisions and the formulation and implementation of strategy" (Bargal & Schmid, 1992, pp. 5-6). As such, in many organizations technological or procedural change may be accompanied by staff resistance, anxiety, and active attempts to maintain the autonomy and discretion of the workers. Whereas proponents of incorporation of technology in HSOs argue that it enhances program effectiveness and accountability, "opponents argue that computerization reinforces the worst, most punitive aspects of bureaucracy for workers and clients and trivializes professional practice" (Grasso & Epstein, 1993, pp. 373-374).

Aside from issues of perceived power (Mandell, 1989), staff resistance in HSOs has also been associated with moral and ethical considerations because the process of computerization involves epistemological and ontological assumptions that reach far beyond their practical attributes (Christensen, 1986; Murphy & Pardeck, 1989). The use of computers involves a "technological ethic"

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which abstracts, through a process hidden to the user, information from the social, moral, and cultural context in which the information naturally provides meaning to both the client and the caseworker (Murphy & Pardeck). These social impacts may lead to feelings of alienation when communication is largely automated. In addition, some have voiced concerns that computerization creates changes in work practices that necessitate measures to protect the autonomy of workers, the privacy of information, and the cultural relevance of the information transmitted (Behar, 1993).

Indeed, organizational change in human services in general, and child welfare agencies in particular, is considered to be difficult. Several authors have referred to child welfare agencies as "monolithic bureaucracies" which are typically resistant to change because of the complexity associated with top-down, mandated change efforts in large HSOs, as well as with the effectiveness of interorganizational relations which mediate the ability to change (Cohen & Austin, 1994). Such considerations, as well as the sunk costs of implementing new technology, may have generally hindered the widespread computerization of HSOs, and may also account for the relative lack of empirical studies examining the process of technological change within such agencies (Bargal & Schmid, 1992).

WORKERS' RESPONSES TO COMPUTER SYSTEMS

We begin our discussion of the empirical literature on the effects of new technologies on workers with descriptions of five major studies (Edwards & Reid,

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1989; Mandell, 1989; Modai, Walevski, Mordechai, Rabinowitz, & Munitz, 1991; Monnickendam & Eaglestein, 1993; Parsons et al., 1991). These studies have generally looked at workers' reactions to new technologies, with an emphasis on HSOs. Parsons et al. studied the reactions of 105 employees to the arrival of new office automation equipment in an insurance trade association over an 18-month period. Questionnaires were administered to employees in three waves, 6 months apart, with the first wave of data collection soon after the set-up of the new system. The primary outcomes studied included the impact of the equipment on work, usage frequency and usage breadth, and the existence of psychological stress and withdrawal symptoms. Respondents' usage amount, usage breadth, and work impact with respect to the office automation equipment were initially significantly negatively associated with both skill deficiency and equipment inconvenience and positively associated with equipment satisfaction. Also, it was found that one's past experience with automation is related to a greater satisfaction with the training as well as with greater utilization of the equipment. In the final evaluation, equipment satisfaction and equipment inconvenience continued to be significant predictors of technology usage, but by the third wave, skill deficiency ceased to be a significant predictor of work impact. In other words, as workers gained more experience and skill in utilizing the office technology, their ability to utilize the machines ceased to be an important factor in understanding their adjustment to the technology. Interestingly, usage amount was negatively associated with involvement; the authors suggested that those employees who

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had the most input in decision-making and planning are most likely higher-level employees who utilize the office automation less frequently than lower-level workers.

In terms of psychological outcomes, stress was negatively associated with satisfaction with agency decision-making, and withdrawal was positively associated with initial training dissatisfaction. Respondents' experiences with technology as well as their organizational level were positively associated with satisfaction levels with initial training as well as with the agency's decision-making regarding the changes. In turn, decision satisfaction at Wave II was negatively related to reported stress at Wave III (Parsons et al., 1991).

Edwards and Reid (1989) studied the way in which direct-line workers in 57 local child welfare agencies in the state of New York experienced and evaluated a structured case recording system (UCR) 1 year after it was widely introduced. The focus was on the perceived utility of the UCR for providing services to children and families and the extent to which these evaluations varied according to such factors as job position and caseload size. Overall, line workers perceived little payoff from the new system: 63% gave the UCR a rating of poor, 29% felt it was fair and only 8% found it to be good. Not surprisingly, there were certain aspects of the UCR that were viewed more positively than others. The functions that were rated as most positive involved assessment and review of child and family progress, whereas the functions with the lowest approval ratings concerned the UCR's control over services and the effect of UCR on the worker/client relationship—the

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ability to develop a helping relationship with clients and the time spent with them. On open-ended questions, the most frequent types of evaluations included repetitiousness, redundancy, fragmentation, management orientation, constraints on recording, and lack of integration with other information systems. Some workers indicated that they were forced to cope with incompatible or irrelevant features of UCR by recording distorted or unsubstantiated information.

Generally, the most important factors found to be predictive of workers' positive or negative perceptions of the UCR were the amount of time spent on paperwork, time spent filling out UCR forms, and time spent on direct services. Ironically, reported decreases in direct service time, noted as a disadvantage of the system, predicted a more favorable attitude toward the UCR. The authors offered the following explanation for this: "...mounting paperwork requirements, with little or no relief in hours spent on direct services perhaps produced the most negative perception of UCR" (Edwards & Reid, 1989, p. 50). Thus, despite a general sense that the transition to the UCR has a negative effect on the client/worker relationship, the workers that were able to somehow compensate for more time spent on the computer with less time spent in direct services, had better perceptions of the system. Interestingly, size of caseload was not associated with the perception of UCR, perhaps because it is not as good a measure of work-related pressures as time spent on paperwork and direct services (Edwards & Reid, 1989).

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Monnickendam and Eaglestein (1993) also sought to uncover what actually goes on in the field upon the introduction of computerization into a human service organization. This is a postintervention study of social workers in an Israeli municipal social service agency, examining the factors that affect computer acceptance and use. The survey was conducted 2 months after the introduction of a computerized case management system and it covered both expectations of computerization and evaluation of the existing system. It was found that the following indices were important (in order of significance): ease and satisfaction with routine implementation process, the intrinsic belief in the ability of the social service agency to adequately implement the computerization process, the extent to which the workers themselves felt involved in the process, and finally, the feeling that the process was well planned out. The social workers felt that the computer did not have an impact on professional discretion, improvement in client therapy, level of change in therapeutic atmosphere, and danger to client treatment. Also, anxiety about computers and factors involving professionalism, ethics, or even a sense that there is a need to computerize were found to be unrelated to workers' receptivity.

Mandell (1989) focused his study on the perceptions of social service workers regarding changes to the interpersonal structure of power in a department of social services following the introduction of computerization. The author operationalized the concept of power as including such factors as perceived control over one's work, supervision, organizational monitoring of worker's

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caseload and performance, and the increased value of a worker's status when a worker has good computing skills. In terms of attitudes about the effects of computerization on power relations, the author found a solid rejection of the idea that computerization had reduced the social workers' control over their work. In other words, the workers did not feel that computers were a threat to their personal control or authority, nor was there anxiety that computers would threaten jobs or positions. However, many respondents also believed that their organization places too much emphasis on the power of the computer and that computerization allows for greater control over their work as well as centralization of power. In terms of the social workers' beliefs regarding the association between computerization and evaluation of their personal performance, while the majority of respondents believed that decisions about their performance would be based on the computerized data, most did not believe that their work could be accurately judged via computerized data. Overall, the implications of the data, according to Mandell, are that even when there are favorable attitudes toward computers in principle, resistance can become evident if the workers feel that the organization has greater power to monitor performance.

Modai et al. (1991) describe the introduction of a computerized case record system to an open ward of a psychiatric hospital in Israel in terms of the stages of workers' responses. When computers replaced paperwork on the wards, anxiety and resistance were common among staff that needed to change their work style, learn to use word processing, and achieve skills in program operation while

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maintaining quality patient care. As in Mandell (1989), organizational monitoring was an important factor, as computerization was perceived as interfering with their status and their control over some work-related functions as they became subject to more monitoring. Four stages in workers' reaction to the computerization are noted: intrigue, anticipation/doubt, testing and mastery, and acceptance and understanding of the computer's benefits.

Overall, these few studies demonstrate some of the complexity of how workers relate to the process of computerization in HSOs. Satisfaction with the computer system may change over time and is associated with the perceived quality of the functional features of the computer program and the extent to which it either enhances efficiency at work or adds to existing workloads. It is clear that worker acceptance of new technologies is generally embedded in their attitudes toward their agency, especially their views on the capacity of the agency to effectively implement the change. Including workers in the implementation decision-making process may be the best way for an agency to elicit positive views from workers. However, it is not clear whether certain factors generally assumed to be important to acceptance of new technologies are indeed associated with evaluation of technological changes, such as the perceived effect in client/worker relationship, the perceived level of management control via computerization, workers' level of computer literacy, ethical issues surrounding computerization of human service-oriented work, general attitudes about computers, and subjective fear of computers on the part of workers.

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DEMOGRAPHIC CHARACTERISTICS

Individual characteristics, such as ethnicity, gender, age, time on the job, and work experience need to be understood as they relate to anticipated reactions to the introduction of new computer systems. In particular, age-related characteristics are seen to be relevant because they reflect elements of personal experience that individual workers bring to the new technology. Because technological, especially computer, change is so rapid in our society, it is widely assumed that older workers are less knowledgeable about, and less adapted to, new technologies. Younger workers have grown up with computers in their homes and classrooms, and therefore are less likely to be intimidated by the introduction of computers on the job. Age also includes the degree of job tenure. The longer one has been at the current job, the more one is adapted to the older technology and the more one has developed particular attitudes toward the agency itself.

Sagie et al. (1985) conducted an experimental study with 60 high school subjects, in part to investigate the effect of experience with a style of working on resistance to change in a simulated work environment where the participants are asked to assemble a product while varying the length of exposure time. They operationalized job experience in terms of the extent of repetition in performing certain work procedures (not job tenure). It was found that longer experience with manual procedures led to much more resistance on the part of individuals to adopt automated processes. These findings may have implications for the adoption of technological work processes by workers who have longer prechange tenure.

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Staufer (1992) studied the effects of employees' age on their coping with technological change. The assumption was that older employees would be at a disadvantage in terms of incorporating work-related technological change and have a more difficult time or a more negative attitude toward working with changed technology. Several possible disadvantages of old age were mentioned including lack of educational experience or socialization with computers, age-related decline in certain functions such as vision or cognitive processing, and sociocultural related factors such as negative stereotyping or reaching a plateau in terms of career advancement. The study found that older employees could be divided among three groups depending on their view of computers as either a threat, a challenge, or as irrelevant. Employees perceiving computers as a challenge tended to favor computer-related activities. Employees perceiving the computer as a threat reacted passively and complained frequently about increasing time stresses and health-related troubles as results of the technological change. Lastly, employees who perceived computers to be irrelevant were quite satisfied with their work and hardly talked about any new coping. While this study cannot claim that employee age is or is not a factor that relates to the success of technological change, it would seem that age alone would not capture the effect and that attitudes or perceptions need to be examined as well.

Rafaeli (1986), as described below, found that age, education, and tenure at work were not associated with either the amount of usage of a computer or attitude towards the computer. However, she did find gender differences, with

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women reporting greater usage of computers as well as more positive attitudes. In contrast, in Parsons et al. (1991), as a set, individual characteristics accounted for outcomes related to equipment usage and work impact, but not negative psychological variables. Age, gender, and organizational level were not found to be associated with a negative experience of technological change.

COMPUTER ATTITUDES AND PROFICIENCY

In part related to age and job tenure, attitudes towards computers, in particular fears about the effects of their use, is seen to be an important factor affecting worker acceptance of new computer systems, as is the degree of proficiency which workers bring to the new system. Rafaeli (1986) reinforces the point that attitudes toward technology affect workers' reactions to technological change. This study examined the relationships between employees' attitudes toward working with computers and various employee-related factors, including level of job involvement, organizational commitment, and extent of usage of computers at work among 284 white-collar employees in manufacturing organizations. It was found that employees who made the most extensive use of computers on their job reported a more positive attitude toward working with computers. The author suggests that "increased usage of technology on one's job is tantamount to commitment to using it and is likely to generate cognitive consistency dynamics" (p. 102). Moreover, in testing the effects of possible mediating variables, she discovered that age, education, and tenure at work were not associated with either the amount of usage of a computer or attitude towards

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the latter. However, she did find gender differences in that women reported greater usage of computers as well as more positive attitudes.

In addition, it was found that the extent of an employee's job involvement is positively correlated with positive attitudes (Rafaeli, 1986). It may be that computers increase employees' productivity or control over their work and this may create an increase in the level of job involvement. Alternatively, it may be that employees who were inclined to be more involved with their job in the first place were more inclined to attempt to use computers. The relationship between high commitment to the organization and positive attitudes was not statistically significant. However, the correlation between the commitment and negative expectations was found to be significant. Also, significant interactive effects were found. Job involvement moderates the relationship between use of computers and attitudes toward working with a computer: Among employees with a high level of job involvement, the association between usage and attitudes is stronger than the association for their coworkers with a lower level of organizational commitment. Thus, although this study does not examine reactions to technological change, but rather attitudes towards already existing computers, it reinforces the importance of examining workers' attitudes toward the job and computers when studying the impact of technological change. Interestingly, though, Monnickendam and Eaglestein (1993) found subjective fear and anxiety regarding computers to be unrelated to the attitudes toward the actual computerization process in the agency and to the evaluation of the computer's usage in the social service agency.

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Traditionally, social workers have been considered to be particularly resistant to the computerization of services (Cnaan, 1989; Roosenboom, 1995) because of the unique nature of work with human clients, the desired independence associated with professionalism, and the difficulties of implementing change within HSOs. Presumably, since computer use is associated with positive attitudes toward computers, computer proficiency has been low among social workers, compared with other professions. In 1989, Mandell found that the majority (90%) of the study sample reported that they were beginners in the use of computers and expressed some ambivalence toward computers. On the one hand, social workers felt that computers offer benefits to the social work profession, are appropriately used by professionals, and are highly reliable tools. On the other hand, a considerable number viewed computers as dehumanizing in nature and a threat to the provision of quality services. However, in a more recent study, Park (1998) found that computer use and literacy were very high among a group of social work students. In this sample, while 32% described themselves as beginners, over 90% reported consistent and routine use of computers.

The proliferation of computers throughout society, not excluding the social services, is proceeding so rapidly that published empirical literature can capture neither the degree of computer proficiency among current subjects, nor the extent of fears regarding computers. However, it seems clear that computer fears and computer use are inextricably linked: While computer fears may retard computer use, increased computer use, frequently mandated on the job, will eventually

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reduce the fear of computers. As noted above, (Parsons et al., 1991), skill deficiency diminishes over time as a factor in worker acceptance of new computer systems.

ATTITUDES TOWARD THE AGENCY

One of the areas expected to impact workers' adjustment to the implementation of the CWS/CMS is the way in which individuals regard the organization as a whole. These attitudes include workers' satisfaction both with their jobs and conditions of work, their assessments of the capacity of the organization to effectively implement technological change, and perceptions of their power to function independently as professionals in the face of mandated change.

Ideology, Work Involvement, and Technological Change.

As described above (Rafaeli, 1986), the extent of an employee's job involvement is positively correlated with positive attitudes toward computers. In another study, Siegall and McDonald (1995) focused on the effects of 205 telecommunication technicians' central life interests, organizational commitment, and job involvement as these impact employees' reactions to job-related change in job design and technology. This study offers support for the expectation that employees' focus of attention impacts how they react to job-related changes both attitudinally and behaviorally. It was found that technicians who focused highly on their jobs reported fewer excused absences and were more involved in their job as time passed after the technological change, in comparison with the respondents

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low in job focus. In fact, with time, workers who were highly focused on life outside of work reacted more strongly to change than those who were low in off-job focus; they became less committed, less involved in their jobs, less satisfied, and more likely to leave. Interestingly, however, job focus was not significantly related to other behaviorally oriented measures (job performance, tardiness). In other words, one's job focus was associated only with other attitudinal measures and not observed in practice.

Another variable relevant to the study of workers' adaptation to technological change is the extent to which employees' expectations or belief systems are aligned with the ideology of the workplace as a whole regarding technological change. Along this line of inquiry, Prasad and Prasad (1994) conducted a qualitative study of technological change in a health maintenance organization and examined the extent that the institution's ideology of professionalization affected employees' reaction to the new computerization. The ideology of professionalism that sets the normative standards, prestige, and status related to any particular field was the focus of the study, for it is particularly relevant to the introduction of technology to an organizational environment. The general findings of this study were that the ideology of professionalism promoted a greater acceptance of the computerization process, increased the commitment to the technology, and was partly responsible for the suppression of individual concerns regarding the demands or consequences of computerization. It was found that the computers "were a presence" in the organization long before they

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were actually implemented because the organization's members talked about and anticipated their arrival. Professionalization was viewed as synonymous with "real medical care" and computer technology was viewed as professional to the extent that it promotes the ability to provide that service. Also, it seemed that computerization appeared to represent "expertise" in the sense of providing ready access to needed patient-related information. Before the advent of the computers, members felt compromised in terms of their professionalization when interacting with members of other organizations that were already computerized. Similarly, members attributed professionalizing attributes to the computer indicating that it is progressive, advanced, or modern.

The attribution of positive professional attributes to the computer was reflected in the way members dealt with the inevitable challenges that accompany technological change. In general, the employees tended to minimize inconveniences or problems experienced with the computer, expressing the sentiment that these are a small price to pay relative to the benefits of advanced professionalization. For example, after several months post implementation when the workers realized that more information had not necessarily resulted in greater services to patients, the employees still maintained that computers transformed them into real professionals. In effect their ideology seemed to mitigate their irritation, disappointment, and concerns and this held up even when the system caused major problems on the job (Prasad & Prasad, 1994). Consequently, this

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study demonstrates the role that ideology can play in mediating employee acceptance in regard to technological change.

Job Satisfaction and Organizational Change.

The extent to which an employee likes his or her job and finds fulfillment in it is expected to mediate the acceptability and overall evaluation of computerization. If one likes one's job and wants to keep it, one will more likely take a positive stance toward technological change and will attempt to master the new tasks so as to continue to experience satisfaction at work. In order to examine effects related to job satisfaction in the context of organizational change, Ferguson and Cheyne (1995) studied responses of 245 staff from various departments of a large British university following a substantial change to the structure of teaching. The results of this study are that organizational position and size of department were significantly associated with job satisfaction. Specifically, staff in academic positions and staff who came from smaller departments reported higher levels of job satisfaction. In addition, it was found that those who reported feeling more anxious or experiencing a rise in caseload and/or the feeling that the organizational changes were forced upon them reported less job satisfaction. A negative relationship was found between employees' general attitudes toward change and job satisfaction, indicating that employees with a negative attitude about the change reported less job satisfaction. As other studies have demonstrated, those employees who were pleased with the level of their inclusion in the planning/ implementation of the changes reported greater job satisfaction.

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Finally, a significant interaction effect was found between workload and organizational position which indicated that for the academic staff, as workload increased, job satisfaction decreased, while for support staff, as workload increased, job satisfaction increased. The authors surmise that for support staff who are accustomed to dealing with administration, the organizational change may have resulted in a perception that the job is more interesting and satisfying. At any rate, these findings underscore the point that individuals with various roles may be impacted quite differently by technological change.

In regard to technological change and worker satisfaction, Monnickendam and Eaglestein (1993) found that workers' satisfaction with a new computerized system was positively related to satisfaction with a number of job aspects including routine implementation processes within the agency, the ability of the social service agency to adequately implement the computerization process, the extent to which the workers themselves felt involved in the process, and finally, the feeling that the change process was well planned out. The intrinsic belief in the ability of the agency to computerize was found to have an effect on computer acceptance, as was the commitment of top management to the change process. Thus, in general, it is expected that positive attitudes toward the job itself and toward the effectiveness of the agency to implement change will lead to greater acceptance of computerization. This may be a particular problem in public child welfare where job satisfaction is not always high.

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Job Satisfaction in Public Child Welfare.

The field of child protective services has been notorious for high worker turnover and low worker satisfaction, although the results regarding job satisfaction are somewhat inconsistent. On one hand, some studies find the majority of workers to be satisfied with their work, although the number varies. Jayaratne and Chess (1984), in a sample of 60 NASW members practicing in child welfare, found as many as 84% of the workers to be "very satisfied" or "somewhat satisfied." In a larger sample of 413 child welfare workers, a smaller majority (66%) was found to be "very satisfied" or "quite satisfied" (Vinokur-Kaplan, 1991). Using a small agency sample, Winefield and Barlow (1995) also identified little evidence for burnout, disillusionment, or dissatisfaction among child protective workers. In general, workers were satisfied with the quality of the interpersonal relationships and supervision. However, the latter authors found an association between job dissatisfaction and higher caseloads.

On the other hand, Fryer et al. (1988), who studied the prevailing attitudes and attributes of county child protective workers, found a low sense of job satisfaction in general. Workers reported feeling overwhelmed, to the point of resignation, by large caseloads, the lack of consultative sources, and inability to help the clients. Further, when compared with other human service workers, child welfare workers indicated a greater level of stress and the highest rate of intent to find a new job (45%, compared with 39% for family service workers and 43% for community mental health workers; Jayaratne & Chess, 1984). Child welfare

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workers reported the significantly worst scores on job dimensions such as role conflict, value conflict, physical comfort at work, and the sense of being challenged or given the opportunity for personal growth (Jayaratne & Chess). In terms of the factors which most contribute to job satisfaction among public child welfare workers, Vinokur-Kaplan (1991) found that the important factors were working conditions and salary as well as workers' sense of accomplishment with the work. Interestingly, this study found that only very small percentages of the workers reported that their job satisfaction is influenced by work with clients. Vinokur-Kaplan and Hartman (1986) provide more detailed information about the attributes of social workers and their job satisfaction. In relation to satisfaction with the work, social workers reported a large discrepancy between the way they actually utilize their time at work and the way they think they ought to be spending it. In general, the workers wished they could spend less time doing paperwork, meeting emergencies, general case management activities, and job related travel, and much more time working with children in their homes or in placement.

The individual demographic variables related to job satisfaction in general were investigated by Lee and Wilbur (1985), who conducted a multivariate analysis of age, education, job tenure, salary, job characteristics, and job satisfaction in a large sample of public governmental employees. This study found that total job satisfaction increases with age and that younger workers were less satisfied with the intrinsic characteristics of the work (e.g., task significance, autonomy, skill variety, feedback on the job). In contrast, Fryer et al. (1988) found

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that workers with longer tenure in child protective services reported more dissatisfaction than newer workers.

Implementation Issues

Authors in the field tend to agree that whereas the typical organization will spend most of its time on technological aspects of a computer application, one area that needs the most attention is the adjustment of the people and the organization to the change (e.g., Cahill & Feldman, 1993; Carrillo, Kasser, & Moretto, 1985). Indeed, the manner in which staff understand why a revision is being made in their work operations and what needs the computer system is intended to meet is vitally important for the acceptability and implementation of the system (Streat, 1987). If the workers are supportive of the real purposes of the pending computerization changes, it is more likely that the system will be positively evaluated at posttest. For example, if the workers express the beliefs that the computer is intended primarily to serve as a policing device to make them more accountable for their time and services or is a quality control system that meets legal mandates which are irrelevant to their ongoing needs, it is expected that the evaluation of the computer system at posttest will not be favorable (Mutschler & Hasenfeld, 1986). However, if workers express the expectations that the changes are primarily intended to aid in their casework planning, to provide access to vital information, and to assist in the accountability of the workers to the clients, it is expected that the evaluation of a computer system will be more positive. Research that has been conducted on the integration of Management

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Information Systems (MIS) in HSOs has indicated that threats to individual autonomy, fear of change in relation to the power hierarchy of the organization, and fears of punitive responses to ratings of poor productivity on the part of the worker can result in negative implementation results (Carrillo et al., 1985). Monnickendam and Eaglestein (1993) found that the intrinsic belief in the ability of the agency to adequately implement the computerization process, the extent to which the workers themselves felt involved in the process, and finally, the feeling that the process was well planned out, contributed strongly to postimplementation satisfaction with the computer system. In Ferguson and Cheyne (1995), employees who were pleased with the level of their inclusion in the planning and implementation of the changes reported greater job satisfaction. Parsons et al. (1991) found that involvement in planning and decision-making were important predictors of perceived skill deficiency, satisfaction with agency decisions, and general impact on work.

Cahill and Feldman (1993) describe a computerization project in a New Jersey public child protective agency in terms of the importance of carefully managing the process of introduction of technological change. The project was intended as an intervention strategy to ameliorate some persistent sources of stress reported by social workers as well as administrators, which was associated with a high volume of paperwork and low volume of direct services, as well as a poorly functioning existing computer system. The process of technological change was designed keeping in mind the resistance likely to be encountered by staff

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trying to maintain some control over their workload. The following resources were invested in this context: (a) preparation of staff via extensive meetings to explain the project and to explore workers' concerns prior to the arrival of the new system, (b) voluntary usage of the computer (in part because the computers were in short supply and so only the most receptive staff were initially involved), (c) positive marketing of the first program in order to set a positive climate of receptivity to the project, and (d) to avoid alienating union and staff involvement, not using the new technology as a staff reduction strategy even when the cost of the equipment would have justified doing so. The authors note that only when the new software applications successfully met the needs for user friendliness and increased efficiency as well as support by the workers' union, did the agency decide to implement the new computer system on a statewide level. In other words, the agency management came to realize that "the real cost of computerization" includes not only software and hardware, but also the cost of education, collaboration, and support and that the process of change is at least as important as the specifics of the actual technology.

SOCIAL INTERACTION AND TECHNOLOGICAL CHANGE

So far we have discussed workers' reactions to technological change and the various factors that are expected to affect those reactions. This is of importance because workers' reactions are certain to be directly related to the ways in which computers affect their work. We now turn to the consideration of the

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specific ways in which the implementation of a new computer system is likely to change the reality of their daily work.

The effects of technological change on the social interactions of employees is of interest. Often the shift to computerization in any agency creates a shift in focus from the individual as the fundamental unit in the workplace to the group as a whole, with a renewed focus on work groups and teams (Herndon, 1997). In terms of the social effects of computerization in the workplace, there has been an academic debate over whether or not social communication is thwarted or made more accessible and democratic. Ferguson and Cheyne (1995) caution against generalizing findings from one study to the next, as does Mantovani (1994): "computer mediated communication is deeply situated, its social and technological contexts being always highly specific" (p. 46). Regardless of the specific context of the computerization change process and the specific parameters of the computerized communication, researchers generally expect that computerization is capable of altering interaction patterns as well as organizational relationships. Knowledge-based systems, in short, affect human communication quantitatively, qualitatively, and structurally.

Bradley et al. (1993) studied the perceived effects of computerization upon interpersonal communication or interaction with coworkers in an electronics industry. They found that, in general, respondents believed the individual to be the main factor contributing to good communication, rather than the content of the information being communicated. When asked what are the obstacles to personal

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contact that existed at work, the stress and time pressures of work overload were considered to be the main causes. This in part contributed to the derived hypothesis of this exploratory inquiry that human/human interaction will decrease when expert systems are in use. Tovey et al. (1990), who described the process of new electronic networking within several nonprofit human service organizations in a local rural area, suggested that unintended social changes do occur as a result of technological implementation. They found that workers changed in interpersonal relations insofar as new social groupings and forms of social interaction were sometimes created based upon the new pathways of communication. Not surprisingly, there were different demands placed on one's time and attention (needing to learn new skills). Importantly, there were changes in how people made decisions. Before electronic networking, staff made decisions mostly through face-to-face contact with others. Following the change, decisions were sometimes made through the use of a computer, again suggesting that human/human interaction is likely to diminish after the introduction of computers. The authors stated that "the face to face meeting and decision process can never be eliminated, but it will be influenced and changed by telecommunication" (p. 126).

Another study reversed the causal direction between social interaction and computers by considering the effect of interpersonal relationships in the workplace on the adoption of technology. Burkhardt (1994) conducted a longitudinal study examining the ways by which alternative sources of social influence as well as

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interpersonal relationships at work impact the beliefs, attitudes, and behaviors in an organization following a technological change. The author surmised that social interaction would affect the frequency by which individuals used computers, their attitudes toward computers, and their sense of self-efficacy regarding their usage. The idea is that in terms of incorporating computerization into their everyday work, people would most likely do what others around them were doing. Attitudes toward computers, which were emphasized as a crucial aspect of successful human/computer relationship, were hypothesized to be a function of the individuals' own opinions or experience with computers as well as the expressed opinions of coworkers. Using network analysis techniques, this study found that as individuals changed their work operations, they depended on others in their immediate environment (especially structurally equivalent coworkers) to inform their own behaviors, attitudes, and beliefs. Interestingly, it was found that while attitudes and beliefs were more subject to the social context effects, employees' frequency of utilization of the computer was more subject to job requirements, which have a greater role in determining how much workers will use the technology. "In fact, individuals use their organizational roles to help determine how they should act and what attitudes to adopt within a work-place" (Katz & Kahn 1976, cited in Burkhardt, p. 893).

CHILD WELFARE WORKERS' USE OF TIME

One way of describing the effects of computerization is to explore whether or not caseworkers are allocating their time for different work-related tasks in a

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way that differs from their allocation of time previous to the implementation of CWS/CMS. It is relevant to know, for example, if caseworkers rate themselves as spending more time in direct communication with clients or collaterals (either face-to-face or via phone) following the implementation of CWS/CMS. This would be one way of measuring an improvement in productivity and quality of work, because it can be assumed that the more time spent in direct communication, the more the caseworker is in a position to appraise the situation of clients, as well as create good working relationships with clients and significant others. Unfortunately, a literature search yielded no information on the actual percentage of time spent in various work activities that would serve to support our findings of baseline division of time by caseworkers.

Vinokur-Kaplan and Hartman (1986) examined the proportion of time which is allocated to various child welfare service areas by child welfare workers nationally, but they did not examine the allocation of time among workers who specialize in one form of service (e.g., Family Maintenance and Reunification) with respect to concrete activities such as doing paperwork, spending time on the phone, home visitation with clients, or supervision. They did, however, as mentioned above, describe dissatisfaction among workers regarding the allocation of time, with workers wishing to spend less time doing paperwork and much more time working with children in their homes or in placement.

Only one study was found to address the changes to allocation of time for various activities imposed by computerization. As mentioned above, Edwards and

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Reid (1989) studied the way in which direct line workers in child welfare agencies in New York State experienced and evaluated a structured case recording system (UCR) one year after it was widely introduced. The authors found that the UCR actually increased the amount of time social workers spent on case recording. Whereas workers estimated that they spent an average of 14 hours on paperwork before the introduction of UCR, after its implementation, the amount of time increased to 24 hours. This was accompanied by a decrease in actual time spent in direct client services from 24 to 15 hours per week. At the time of the evaluation, workers were spending almost 60% of their work week on case recording. Interestingly, the increase of 9 hours per week for paperwork nearly matched the number of hours that were spent on UCR and so the authors concluded, "apparently, the respondents viewed UCR as added onto rather than replacing existing recording requirements and procedures" (p. 50). This is a potentially worrisome finding in terms of the burden of technological change for caseworkers. Nevertheless, the study did not address how the system impacted usage of time spent in various other job-related activities.

UTILIZATION OF INFORMATION SOURCES AMONG CHILD WELFARE WORKERS

Another important way of understanding how computerized data systems such as CWS/CMS are integrated into work is to evaluate the extent to which caseworkers rely on the computer for accessing information pertinent to everyday tasks. If the computer is increasingly utilized in support of activities such as identifying and securing resources for clients, then it can be concluded that use of

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the computer is shifting the relative utility of various information sources for daily tasks. More specifically, if it is found that sources of information for caseworkers are utilized in decision-making differently from the way they were utilized before CWS/CMS, then we can indirectly infer that the computer has had an impact on decision-making processes. A direct indicator of the usefulness of the CWS/CMS is its value in improving access to client-related information. One way of examining this is to measure the use of all of the sources of information used in decision-making before and after the transition to CWS/CMS. Another way is to evaluate changes in the frequency of problems related to insufficient or inadequate information passed on with newly transferred client cases. Indeed, one of the central aims of the CWS/CMS system is to reduce information gaps on transferred cases so as to ensure better continuity of client care.

Unfortunately, empirical data regarding the extent to which caseworkers use various sources of information in making case-related decisions was not found. Jones (1993) describes the types of information that caseworkers consider pertinent to decision-making. In a critical review of the literature on decision-making in child welfare, he noted the criteria that caseworkers use in making decisions regarding intake of new cases, decisions to substantiate abuse, decisions to remove a child from a home, and decisions to reunify a child with his/her family. The process of utilizing information in decision-making by caseworkers is similar to the manner in which social scientists establish reliability and validity of data (e.g., repeated observations from multiple observers over time,

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etc.; Gilgun, 1988). Moreover, when respondents are not in agreement with a hypothesized case-related intervention, they tend to make less unwarranted assumptions concerning the case, generate more hypotheses, and request more information. Also, professionals request more information concerning a case and less frequently make unwarranted assumptions than do child welfare nonprofessionals (Mandel, Lehman, & Yuille, 1994). Such data are critical in understanding the nature of decision-making and in developing common indicators or procedures for caseworkers. However, knowing the type of criteria is not helpful in understanding the relative importance of such criteria for caseworkers so that we know if the process of computerization changes the emphasis of information sources utilized or not.

CONCLUSION

As we have seen, most of the empirical literature on technological change in organizations focuses on the ways in which workers adapt to those changes. It is not surprising that the attributes of the new computer system itself are important considerations for workers, especially the ways in which it effects the nature and, especially, the quantity of their work. There is nothing in the literature regarding the effect of ethnicity on response to technological change, and little on gender. Age-related attributes seem to be the most important factors which workers themselves bring to the technological change, but we have seen that it is actually both experience with computers and time on the job, rather than age itself, which are seen as important. The effects of computer proficiency and computer anxiety,

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both age-related, though of importance initially, tend to diminish over time as workers develop proficiency, reduce anxiety, and adapt to technological change.

Perhaps the most important overall insight from the literature is that attitudes toward technological change and workers' consequent adaptations are embedded in their attitudes toward the job and the workplace. The introduction of a new computer system, for workers, is not an event that is separate from other ongoing struggles and projects within the organization. The way they adapt to a new computer system will be a continuation of existing ways in which agencies and workers adapt to each other. Job satisfaction, the nature of work involvement, organizational and professional ideologies, and especially, views on the ability of the agency generally to successfully negotiate change all affect the ways in which workers adapt to change. It seems that involving workers in the planning and implementation of change may be the best way to maximize the positive effects of these factors. This may be particularly true in child welfare, given the problems with job satisfaction, the dominance of professional and ethical ideologies pertaining to information technology, and the often bureaucratic nature of these agencies.

Less is known about the effects of computerization on the ways in which workers experience their jobs daily. Computerization may affect attitudes toward the agency, such as the feeling that the organization has increased its power over workers and its monitoring of work. The only empirical evidence which bears directly on the effects of computerization on the work of public child welfare

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suggests that it may increase documentation requirements and, therefore, workload as a whole. It is generally agreed that computerization has the potential to drastically alter workplace human interactions, but the empirical evidence is mixed on this subject. The best that can be said is that the social effects of computerization are unpredictable for specific situations, indeed depend on the specifics of the technological change and of the existing social relations.

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UNDERSTANDING RESEARCH

The term **respondents**, refers to the research subjects, in this case the CSWs who filled out the research questionnaire.

All measurements referred to in this module were taken **Before CWS/CMS** and again **After CWS/CMS**. They were then compared statistically.

The **mean score** is the average score, which is determined for each question by adding all scores and then dividing them by the number of respondents who answered the specific question.

The **standard deviation** shows how much range there was in answers (i.e., the lower the standard deviation the more respondents were likely to give answers that were close to the mean).

The **t-score** is the measure of how much difference there is statistically between the pre- and postscore. If the t-score is high enough, the difference is statistically significant, which means that the difference is not due to chance. If there is a difference between pre- and postscores that is not statistically significant, it means that another study may not find any difference.

The **statistical significance** tells the researchers if they have found a ***real*** difference between the pre- and postmeasurements, but it does not explain how big the difference is, or if that difference is meaningful. For this, the researchers have to examine the actual difference and interpret it themselves.

For example, in this study, the percent of time doing documentation went from 30% before CWS/CMS to 34% after CWS/CMS, a difference of 4%. This difference is **statistically significant**, meaning that we can have confidence that the difference is ***really*** there. However, is this difference big enough to really matter for CSWs on the job? Statistics cannot tell us this.

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Table 1
Means and Standard Deviations of Use of Sources of Information When Identifying Placement Facilities (N = 112)

How often do you use each of the following methods:***	Before	After	t score
Calling around	3.21 (1.27)	3.60 (1.03)	-2.788*
Computer search	2.45 (1.44)	2.32 (1.31)	.886
Consultation with colleagues	3.38 (.97)	3.32 (.79)	.524
Consultation with supervisor	3.01 (1.17)	2.91 (1.05)	.731
Resource directory	2.66 (1.17)	2.74 (1.08)	-.521
Self-knowledge	3.15 (1.16)	3.32 (1.03)	-1.495

* significant at p<.05
*** mean scores on a 5-point scale, from *Never* to *Always*

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Table 2
Means and Standard Deviations of Use of Sources of Information When Identifying Resources
(N = 112)

How often do you use each of the following methods:***	Before	After	t score
Calling around	3.21 (1.00)	3.19 (1.10)	.148
Computer search	1.76 (.95)	1.64 (.97)	1.157
Consultation with colleagues	3.64 (.93)	3.48 (.78)	1.716**
Consultation with supervisor	2.93 (1.13)	2.82 (1.11)	.888
Resource directory	3.67 (1.14)	3.90 (.95)	-1.924**
Self-knowledge	3.50 (1.04)	3.74 (.89)	-2.110*

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *Never* to *Always*

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Table 3
Means and Standard Deviations of Use of Sources of Information When Planning an Unscheduled Home Visit
(N = 112)

How much do you rely on the following sources of information:***	Before	After	t score
Review of court reports	3.56 (1.12)	3.65 (1.06)	-650
Review of case files	3.92 (.99)	3.90 (1.00)	.168
Observation of the child and family	4.41 (.84)	4.44 (.73)	-.303
Contacts with service providers	3.66 (1.05)	3.89 (.89)	-1.960**
Contacts with other community members	2.66 (2.79)	2.79 (1.11)	-1.025
Consultation with co-workers	3.12 (.95)	2.94 (.98)	1.600
Consultation with supervisor	3.74 (1.00)	3.54 (1.06)	1.840**
New report from Child Abuse Hotline	4.04 (1.31)	4.15 (1.14)	-.948

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *Not At All* to *Very Much*

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Table 4
Means and Standard Deviations of Use of Sources of Information When Assessing Court Compliance
(N = 112)

How much do you rely on the following sources of information:***	Before	After	t score
Review of court reports	4.36 (.89)	4.27 (.86)	832
Review of case files	4.37 (.79)	4.24 (.84)	1.250
Observation of the child and family	4.56 (.66)	4.34 (.91)	2.188*
Contacts with service providers	4.40 (.74)	4.35 (.87)	.565
Contacts with other community members	2.84 (1.10)	2.84 (1.21)	.000
Consultation with coworkers	2.93 (1.02)	2.83 (1.02)	.968
Consultation with supervisor	3.68 (1.09)	3.51 (1.12)	1.427
New report from Child Abuse Hotline	3.71 (1.38)	3.91 (1.19)	-1.453

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *Not At All* to *Very Much*

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Table 5
Means and Standard Deviations of Percent of Time Spent in Types of Communications Before and After CWS/CMS
(N = 112)

On average what percent of your work time is spent:	Before	After	t score
In face-to-face contacts related to clients	31.6% (12.5)	32.4% (15.6)	-.552
In telephone contacts related to clients	19.6 (9.1)	17.1 (9.2)	2.217*
Doing written contacts related to clients.	11.1 (8.4)	10.9 (9.2)	.246
Doing documentation related to clients.	30.2 (13.3)	34.1 (16.1)	-2.111 *
Doing other than above.	7.1 (6.6)	6.8 (5.6)	.536

* significant at p<.05

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Table 6
Means and Standard Deviations of Percent of Time Spent With Others
(N = 112)

On average what percent of your work time is spent:	Before	After	t score
Alone	37.1% (19.2)	44.4% (17.9)	-3.632*
With co-workers	10.3 (7.6)	8.6 (6.1)	1.882**
With your supervisor	11.3 (7.0)	10.1 (7.2)	1.497
With clients or collaterals	32.1 (15.0)	30.1 (15.3)	.889
With all others	8.3 (6.6)	6.8 (6.5)	1.987**

* significant at p<.05
** significant at p<.10

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Table 7
Means and Standard Deviations of Allocation of Time for Casework Activities
(N = 112)

In an average week, how much time do you spend:***	Before	After	t score
Accessing resources	3.21 (.83)	3.22 (.80)	-.109
Working directly with children	3.46 (.86)	3.54 (.89)	-.838
Resolving emergency situations	3.13 (.99)	3.31 (.88)	-1.785**
Seeking placements	2.74 (.90)	2.78 (.77)	-.342
Traveling	3.72 (.93)	3.60 (1.04)	1.204
Appearing in court	2.28 (.94)	2.39 (.94)	-1.254
Doing paperwork	4.43 (.84)	4.61 (.59)	-2.028*
At supervisory conferences	2.54 (.85)	2.49 (.80)	.422
At staff development activities	2.54 (.84)	2.36 (.70)	1.875**
Doing other case management activities	3.41 (.95)	3.29 (.92)	1.194

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *No Time* to *Quite a Lot of Time*

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Table 8
Means and Standard Deviations of Percent of Time of Activities With Co-Workers
(N = 112)

Of the time spent with your coworkers, what percent of your work time is spent on:	Before	After	t score
Consultation about cases	48.8% (22.4)	48.5% (22.9)	.136
Discussing work policy	24.1 (15.4)	23.9 (17.0)	.104
Socializing	21.9 (23.5)	21.6 (20.6)	.155
Other	3.4 (6.4)	5.5 (11.5)	-2.005*

* significant at p<.05

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Table 9
Means and Standard Deviations of Percent of Time of Activities With Supervisors
(N = 112)

Of the time spent with your supervisor, what percent of your work time is spent on:	Before	After	t score
Consultation about cases	61.8% (21.1)	64.0% (22.9)	-.912
Discussing work policy	16.8 (13.1)	14.6 (11.3)	1.345
Evaluation of work performance	4.1 (5.0)	5.7 (7.6)	-2.549*
Review of unit and department issues	9.2 (9.2)	9.0 (9.3)	.173
Socializing	4.3 (6.0)	4.8 (5.4)	-.658
Other	3.8 (10.5)	2.8 (10.4)	.764

* significant at p<.05

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Table 10
Means and Standard Deviations of Ratings of Quality of Relationships
(N = 112)

To what extent are:***	Before	After	t score
Relationships with coworkers friendly	4.32 (.76)	4.41 (.73)	-.954
Coworkers supportive	4.42 (.69)	4.32 (.80)	1.364
Supervisor supportive	4.54 (.76)	4.30 (1.01)	2.284*

* significant at p<.05
*** on a 5-point scale from *Not At All* to *Very Much*

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Table 11
Means and Standard Deviations of the Amount of Occurrence of Problems in Transferred Cases
(N = 112)

How often do these problems occur in cases that are transferred to you:***	Before	After	t score
No documentation on provision of services	2.78 (1.03)	2.93 (.87)	-1.276
No documentation supporting case decisions	2.74 (1.04)	2.96 (.90)	-1.804**
No home address or locating information	2.28 (.92)	2.19 (.94)	.877
Insufficient information about birth parents	2.81 (.98)	3.12 (1.02)	-2.397*
Insufficient information about child's adjustment to current placement	2.93 (1.01)	3.07 (.98)	-1.194
No information about medical status	2.83 (.97)	2.99 (.92)	-1.399
Insufficient information to locate relatives and collaterals	3.04 (.98)	3.28 (.92)	-2.301*

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *No Time* to *Quite a Lot of Time*

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Table 12
Means and Standard Deviations of Attitudes Toward Job and Agency
(N = 112)

Item***	Before	After	t score
I have positive Attitudes toward agency (scale)	2.97 (.86)	2.85 (.74)	1.657
DCFS/DHS has Control over my work (scale)	3.06 (.91)	3.15 (.86)	-1.076
My job has a substantial impact on the lives of others (N = 91)	4.54 (.70)	4.63 (.53)	-1.133
In general, I like working here	4.07 (.82)	3.90 (.91)	2.067*
I feel emotionally drained by this job (N = 91)	3.43 (1.14)	3.61 (1.17)	-1.598
I have a lot of opportunities to use my skills	3.81 (.96)	3.90 (.84)	-.944
I do not get enough recognition (N = 91)	3.62 (1.05)	3.93 (.94)	-2.978*
I have accomplished many worthwhile things on this job	3.87 (.70)	4.14 (.69)	-3.631 *
I have a good chance of advancement	3.26 (1.15)	3.23 (1.11)	.370
I am very much personally involved in my work (N = 91)	3.77 (1.04)	3.70 (.94)	.800
I do not care what happens to DCFS (N = 91)	1.51 (.60)	1.73 (.84)	-2.287*
I easily put thoughts of work out of my mind at the end of the day	2.78 (1.14)	2.73 (1.28)	.467
I try to think of better ways to do my job (N = 91)	4.21 (.61)	4.19 (.65)	.341

* significant at p<.05
** significant at p<.10
*** on a 5-point scale from *Strongly Disagree* to *Strongly Agree*

Weaver, D., Furman, W., Moses, T., & Lindsey, D. (1999). *The effects of computerization on public child welfare practice: An empirically based curriculum designed for use in California child welfare training academies.* Berkeley: University of California at Berkeley, California Social Work Education Center.

CWS/CMS EFFECT ON PRACTICE STUDY
CWS QUESTIONNAIRE (1/98)

NAME:

DATE:

JOB TITLE:

EMPLOYEE NUMBER:

TELEPHONE NUMBER:
(Area Code) Number

NAME OF SUPERVISOR:

REGION:

OFFICE:

PLEASE REMOVE THIS SHEET FROM THE FRONT OF YOUR QUESTIONNAIRE AND ENCLOSE IT IN THE ENVELOPE PROVIDED.

WE WILL CONTACT YOU AGAIN IN ABOUT NINE MONTHS.

THANK YOU

IUC CWS/CMS Questionnaire (LA)
ID#

Weaver, D., Furman, W., Moses, T., & Lindsey, D. (1999). *The effects of computerization on public child welfare practice: An empirically based curriculum.* Berkeley: University of California at Berkeley, California Social Work Education Center.

CWS/CMS: EFFECT ON PRACTICE STUDY
CSW QUESTIONNAIRE (1/98)

A. Background and Demographics

A-1. How long have you been a CSW with DCSF? _____/_____
Years Months

A-2. Date of Birth: _____/_____/_____
Month Day Year

A-3. Gender: ☐ Female ☐ Male

A-4. Ethnicity: *(check one)*
- ☐ African American/Black
- ☐ Hispanic/Latino
- ☐ White/Caucasian
- ☐ Native American
- ☐ Asian/Pacific Islander
- ☐ Other (please specify)

A-5. Years of post-high school education: _____ years

A-6. Diplomas, degrees *(check all that apply):*
- ☐ Bachelor's Degree (BA, BS)
- ☐ Master's in Social Work (MSW)
- ☐ Master's Degree (all others)
- ☐ Doctorate (PhD, DSW)
- ☐ Other *(please specify)*

A-7. Program types (service components) you are **primarily** involved with *(check all that apply):*
- ☐ Adoptions
- ☐ FM/FR
- ☐ ER
- ☐ PP
- ☐ Other (please specify):

A-8. Job title *(check one):*
☐ CSW Trainee ☐ CSW I ☐ CSW II ☐ CSW III

A-9. Your caseload size as of today:

Number of children:

Weaver, D., Furman, W., Moses, T., & Lindsey, D. (1999). *The effects of computerization on public child welfare practice: An empirically based curriculum.* Berkeley: University of California at Berkeley, California Social Work Education Center.

B. Type of Communication

INSTRUCTIONS: WRITE IN THE PERCENT OF YOUR TIME YOU SPEND ON B-1 -- B-5. THE TOTAL SHOULD EQUAL l00%.

ON AVERAGE, WHAT PERCENT OF YOUR WORK TIME IS SPENT:

B-1. In **face-to-face** contacts related to clients: _____ % of my time

B-2. In **telephone** contacts related to clients: _____ % of my time

B-3. Developing and sending **written** contacts related to clients (e.g., e-mail, FAX, letters, notices, etc.): _____ % of my time

B-4. Doing documentation related to clients (e.g., court reports) _____ % of my time

B-5. Doing something other than 1-4 above: (e.g., training, staff meetings, talking with colleagues) _____ % of my time

TOTAL: 100%

C. Manner of Work

INSTRUCTIONS: WRITE IN THE PERCENT OF YOUR TIME YOU SPEND IN EACH SITUATION ON C-1 -- C-5. THE TOTAL SHOULD EQUAL 100%.

ON AVERAGE, WHAT PERCENT OF YOUR WORK TIME IS SPENT:

C-1. Alone (e.g., driving, writing, or on the phone) _____ % of my time

C-2. With coworkers _____ % of my time

C-3. With your supervisor _____ % of my time

C-4. With clients (e.g., face-to-face with children/families, and/or collaterals) _____ % of my time

C-5. With all others (e.g., DCFS management, clerical staff, trainers, etc.) _____ % of my time

TOTAL: 100%

Weaver, D., Furman, W., Moses, T., & Lindsey, D. (1999). *The effects of computerization on public child welfare practice: An empirically based curriculum.* Berkeley: University of California at Berkeley, California Social Work Education Center.

D. Allocation of Time for Professional Activities

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE.

IN AN AVERAGE WORK WEEK, HOW MUCH TIME DO YOU SPEND ON THE FOLLOWING ACTIVITIES:

		No time	Not much time	Some time	A lot of time	Quite a lot of time
D-1.	Accessing resources for child welfare clients	1	2	3	4	5
D-2.	Working with children in their homes or in placement	1	2	3	4	5
D-3.	Resolving emergency situations	1	2	3	4	5
D-4.	Seeking placement for children	1	2	3	4	5
D-5.	Job-related travel	1	2	3	4	5
D-6.	Appearing in court	1	2	3	4	5
D-7.	Doing paperwork (including court reports) on child welfare cases	1	2	3	4	5
D-8.	Supervisory conferences	1	2	3	4	5
D-9.	Participation in staff development/ training activities	1	2	3	4	5
D-10.	Other case management activities	1	2	3	4	5

E. Information Sources Utilized in Support of Current Practice Activities

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE (Leave section BLANK if you <u>never</u> do this activity).

Issue E-1: How often do you use each of the following methods to **identify placement facilities for children** in your caseload?

	Never	Rarely	Some-times	Often	Always
1. Calling around	1	2	3	4	5
2. Computer search	1	2	3	4	5
3. Consultation with colleagues	1	2	3	4	5

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	Never	Rarely	Some-times	Often	Always
4. Consultation with supervisor	1	2	3	4	5
5. Resource directories	1	2	3	4	5
6. Self-knowledge	1	2	3	4	5

Issue E-2: How often do you use each of the following methods to **identify resources—such as parenting classes, drug/alcohol treatment providers or food/housing—**for client referral?

	Never	Rarely	Some-times	Often	Always
1. Calling around	1	2	3	4	5
2. Computer search	1	2	3	4	5
3. Consultation with colleagues	1	2	3	4	5
4. Consultation with supervisor	1	2	3	4	5
5. Resource directories	1	2	3	4	5
6. Self-knowledge	1	2	3	4	5

Issue E-3: To what extent do you rely on each of the following sources of information when using your professional judgment to conduct an **unscheduled home visit?**

	Not at all	A little	Some	Much	Very much
1. Review of court report/orders	1	2	3	4	5
2. Review of case files	1	2	3	4	5
1. Observations of the child and family during home calls	1	2	3	4	5
4. Through contacts with service providers	1	2	3	4	5
5. Through contacts with other community members (neighbors, etc.)	1	2	3	4	5
6. Discussion/consultation with coworkers	1	2	3	4	5
7. Consultation with supervisor	1	2	3	4	5
8. New report from Child Abuse Hotline	1	2	3	4	5

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Issue E-4. To what extent do you rely on each of the following sources of information to assess the level of clients' **compliance with court orders?**

	Never	Rarely	Some-times	Often	Always
1. Review of court reports/orders	1	2	3	4	5
2. Review of case files	1	2	3	4	5
3. Observation of the child and family during home calls	1	2	3	4	5
4. Through contacts with service providers	1	2	3	4	5
5. Through contacts with other community members (neighbors, etc.)	1	2	3	4	5
6. Discussion/consultation with coworkers	1	2	3	4	5
7. Consultation with supervisor	1	2	3	4	5
8. New report from Child Abuse Hotline	1	2	3	4	5

F. Transferred Cases

F-1. About how many open cases have been transferred to you during the last **three months**?

F-2. How often do the following problems occur with cases that are transferred to you: *(circle one number on each line)*

	Never	Rarely	Some-times	Often	Always
1. No documentation regarding past/current provision of services	1	2	3	4	5
2. No documentation supporting the decisions made on the case	1	2	3	4	5
3. No home address or locating information	1	2	3	4	5
4. Insufficient information about birth parents	1	2	3	4	5
5. Insufficient information about child's adjustment to current caretaker/ environment	1	2	3	4	5
6. No information about the child's current medical status	1	2	3	4	5
7. Insufficient information to locate child's relatives or significant collaterals	1	2	3	4	5

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G. Workplace Interactions

INTERACTIONS WITH YOUR **SUPERVISOR** IN AN AVERAGE WORK WEEK:

G-1. How many times do you meet **alone** with your supervisor? *(Enter number of times)*

_____ times per average work week

G-2. How many times do you meet with your supervisor in a **group?** (e.g., staff meetings) *(Enter number of times)*

_____ times per average work week

G-3. Of the time you spend with your supervisor, what % of the time is spent on: *(Enter* %—*total should equal 100%)*

Consultation about clients and cases	_____%
Discussing policy/work procedures	_____%
Evaluation of your job performance	_____%
Review of unit/departmental issues	_____%
Socializing	_____%
Other	_____%
TOTAL:	**100%**

G-4. On an average work day, how much time do you spend interacting with coworkers? (Including the lunch hour.) *(Enter answer as hours and minutes, e.g., 90 minutes = 1 hour, 30 minutes)*

_____hours _____minutes

G-5. Of the time you spend in interaction with your coworkers, what % of the time is spent on:

Consultation about clients and cases	_____%
Discussing policy/work procedures	_____%
Socializing	_____%
Other	_____%
TOTAL:	**100%**

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PLEASE RATE THE GENERAL QUALITY OF YOUR RELATIONSHIP WITH YOUR SUPERVISOR AND COWORKERS: *(circle one)*

	Not at all	A little	Some	Much	Very much
G-6. To what extent is your relationship with your coworkers friendly?	1	2	3	4	5
G-7. To what extent are your coworkers helpful and supportive to you and your work?	1	2	3	4	5
G-8. To what extent is your supervisor supportive of you and your work?	1	2	3	4	5

H. Job and Workplace

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE

PLEASE RATE THE LEVEL OF YOUR AGREEMENT WITH EACH OF THE FOLLOWING STATEMENTS ABOUT YOUR JOB AS A CSW

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
H-1. I believe my job has a substantial impact on the lives of other people	1	2	3	4	5
H-2. In general, I like working here	1	2	3	4	5
H-3. I feel emotionally drained by this job	1	2	3	4	5
H-4. As a CSW, I have a lot of opportunities to use my abilities and skills	1	2	3	4	5
H-5. I do not get enough recognition for the work I do	1	2	3	4	5
H-6. I have accomplished many worthwhile things on this job	1	2	3	4	5
H-7. I have a good chance for advancement in my agency	1	2	3	4	5
H-8. As a CSW, I am very much personally involved in my work	1	2	3	4	5
H-9. I do not care what happens to DCFS as long as I get my paycheck	1	2	3	4	5

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	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
H-10. I easily put thoughts about work out of my mind at the end of the day	1	2	3	4	5
H-11. I try to think of better ways of doing my job	1	2	3	4	5
H-12. There can be little action taken here until a supervisor approves a decision	1	2	3	4	5
H-13. Persons wanting to make their own decisions would be quickly discouraged here	1	2	3	4	5
H-14. Even small matters have to be referred to someone higher up for a final decision	1	2	3	4	5
H-15. I have to ask my supervisor before I do almost anything	1	2	3	4	5
H-16. Any decision I make has to have my supervisor's approval	1	2	3	4	5
H-17. I am proud to represent DCFS	1	2	3	4	5
H-18. I support the goals and values which DHS upholds	1	2	3	4	5
H-19. I feel that top management can be trusted	1	2	3	4	5
H-20. DCFS's plans are well carried out	1	2	3	4	5
H-21. I think the way this organization puts policies into practice is fair	1	2	3	4	5
H-22. I believe that the management has the clients' best interests in mind when setting policies	1	2	3	4	5

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I. CWS/CMS: Expectations

INSTRUCTIONS: ALTHOUGH THE CWS/CMS COMPUTERIZATION HAS NOT YET BEEN IMPLEMENTED IN YOUR UNIT, PLEASE TELL US HOW YOU EXPECT IT WILL AFFECT YOU ON AN ONGOING BASIS.

Please rate your level of agreement with each of the following statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I-1. I expect CWS/CMS to change my job	1	2	3	4	5
I-2. CWS/CMS will allow more monitoring of my work	1	2	3	4	5
I-3. CWS/CMS will give me better information to work with	1	2	3	4	5
I-4. CWS/CMS will control my behavior at work	1	2	3	4	5
I-5. Using the computer will make me more productive	1	2	3	4	5
I-6. CWS/CMS will improve communication with others within DHS	1	2	3	4	5
I-7. CWS/CMS will save time on paperwork	1	2	3	4	5
I-8. I am threatened by the thought of using CWS/CMS	1	2	3	4	5
I-9. CWS/CMS will make my job easier in the long run	1	2	3	4	5
I-10. CWS/CMS will benefit my clients	1	2	3	4	5
I-11. My performance will be judged more accurately with CWS/CMS	1	2	3	4	5
I-12. I expect to be able to use CWS/CMS effectively	1	2	3	4	5
I-13. CWS/CMS will make confidential client information *too* widely available	1	2	3	4	5
I-14. I think that the CWS/CMS will change my interactions with:					
a. my clients	1	2	3	4	5
b. my supervisor	1	2	3	4	5
c. my coworkers	1	2	3	4	5
d. DCFS administration/management	1	2	3	4	5
I-15. I am well informed about CWS/CMS	1	2	3	4	5

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J. Your Computer Proficiency

(Check one for J-1 through J-4.)

J-1. How often do you use a computer at work?
- ☐ Never
- ☐ Once a month
- ☐ A few times a month
- ☐ A few times a week
- ☐ Once a day or more

J-2. How well can you type on the computer?
- ☐ Non-typist
- ☐ Up to 10 wpm
- ☐ 11-25 wpm
- ☐ 25+ wpm

J-3. Rate your computer skills *(Please check one box):*
- ☐ No Skills: have never used a computer
- ☐ Beginner: can use some programs when shown exactly what to do
- ☐ Beginner Plus: can use a computer regularly, usually need help to get unstuck
- ☐ Somewhat Competent: use a computer regularly, sometimes need help to get unstuck
- ☐ Competent: use a computer regularly, usually know how to fix problems that arise

J-4. Have you received training on CWS/CMS?
- ☐ No
- ☐ Yes

If yes, about how many hours: _____

K. Computerization in General

INSTRUCTIONS: CIRCLE THE ANSWER THAT BEST DESCRIBES YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
K-1. Computers increases the flow of communication within an agency	1	2	3	4	5
K-2. The type of information usually available through computer information systems is useful	1	2	3	4	5
K-3. I think computer information systems are generally complex and difficult to understand	1	2	3	4	5

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	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
K-4. Computer systems generally limit the flexibility that individual employees have within an organization	1	2	3	4	5
K-5. Computer systems impose artificial precision and categorization in my profession	1	2	3	4	5
K-6. Computers help employees achieve their maximum potential	1	2	3	4	5
K-7. Computers tend to dehumanize the work situation	1	2	3	4	5
K-8. I have a positive attitude towards the use of computers in my profession	1	2	3	4	5
K-9. The usage of computers will increase the employment opportunities in my profession	1	2	3	4	5
K-10. Computerization in the workplace tends to hinder the development of friendships among employees	1	2	3	4	5
K-11. The introduction of computers has the potential to change the whole social environment in an organization	1	2	3	4	5

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CWS/CMS: EFFECT ON PRACTICE STUDY
CSW QUESTIONNAIRE (4/99)

NAME: _____

EMPLOYEE NUMBER: _____

REGION: _____

OFFICE: _____

DATE: _____

PLEASE RETURN THE COMPLETED QUESTIONNAIRE IN THE ENVELOPE PROVIDED.

THANK YOU.

Weaver, D., Furman, W., Moses, T., & Lindsey, D. (1999). *The effects of computerization on public child welfare practice: An empirically based curriculum.* Berkeley: University of California at Berkeley, California Social Work Education Center.

CWS/CMS: EFFECT ON PRACTICE STUDY
CSW QUESTIONNAIRE (4/99)

A. Work Status

A-1. Program types (service components) you are **primarily** involved with *(check all that apply):*

☐ Adoptions
☐ FM/FR
☐ ER
☐ PP
☐ Other (please specify): _____

A-2. Job title *(check one):*

☐ CSW Trainee ☐ CSW I ☐ CSW II ☐ CSW III

A-3. Your caseload size as of today:

Number of children: _____

B. Type of Communication

INSTRUCTIONS: WRITE IN THE PERCENT OF YOUR TIME YOU SPEND ON B-1 -- B-5. THE TOTAL SHOULD EQUAL l00%.

ON AVERAGE, WHAT PERCENT OF YOUR WORK TIME IS SPENT:

B-1. In **face-to-face** contacts related to clients: _____ % of my time

B-2. In **telephone** contacts related to clients: _____ % of my time

B-3. Developing and sending **written** contacts related to clients (e.g., e-mail, FAX, letters, notices, etc.): _____ % of my time

B-4. Doing documentation related to clients (e.g., court reports): _____ % of my time

B-5. Doing something other than 1-4 above (e.g., training, staff meetings, talking with colleagues): _____ % of my time

TOTAL: 100%

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C. Manner of Work

INSTRUCTIONS: WRITE IN THE PERCENT OF YOUR TIME YOU SPEND IN EACH SITUATION ON C-1 -- C-5. THE TOTAL SHOULD EQUAL 100%.

ON AVERAGE, WHAT PERCENT OF YOUR WORK TIME IS SPENT:

C-1. Alone (e.g., driving, writing, or on the phone) _____ % of my time

C-2. With coworkers _____ % of my time

C-3. With your supervisor _____ % of my time

C-4. With clients (e.g., face-to-face with children/families, and/or collaterals) _____ % of my time

C-5. With all others (e.g., DCFS management, clerical staff, trainers, etc.) _____ % of my time

TOTAL: 100%

D. Allocation of Time for Professional Activities

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE.

IN AN AVERAGE WORK WEEK, HOW MUCH TIME DO YOU SPEND ON THE FOLLOWING ACTIVITIES:

	No time	Not much time	Some time	A lot of time	Quite a lot of time
D-1. Accessing resources for child welfare clients	1	2	3	4	5
D-2. Working with children in their homes or in placement	1	2	3	4	5
D-3. Resolving emergency situations	1	2	3	4	5
D-4. Seeking placement for children	1	2	3	4	5
D-5. Job-related travel	1	2	3	4	5
D-6. Appearing in court	1	2	3	4	5
D-7. Doing paperwork (including court reports) on child welfare cases	1	2	3	4	5
D-8. Supervisory conferences	1	2	3	4	5
D-9. Participation in staff development/ training activities	1	2	3	4	5
D-10. Other case management activities	1	2	3	4	5

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E. Information Sources Utilized in Support of Current Practice Activities

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE

Issue E-1: How often do you use each of the following methods to **identify placement facilities for children** in your caseload?

	Never	Rarely	Some-times	Often	Always
1. Calling around	1	2	3	4	5
2. Computer search	1	2	3	4	5
3. Consultation with colleagues	1	2	3	4	5
4. Consultation with supervisor	1	2	3	4	5
5. Resource directories	1	2	3	4	5
6. Self-knowledge	1	2	3	4	5

Issue E-2: How often do you use each of the following methods to **identify resources—such as parenting classes, drug/alcohol treatment providers or food/housing—**for client referral?

	Never	Rarely	Some-times	Often	Always
1. Calling around	1	2	3	4	5
2. Computer search	1	2	3	4	5
3. Consultation with colleagues	1	2	3	4	5
4. Consultation with supervisor	1	2	3	4	5
5. Resource directories	1	2	3	4	5
6. Self-knowledge	1	2	3	4	5

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Issue E-3: To what extent do you rely on each of the following sources of information when using your professional judgment to conduct an **unscheduled home visit?**

	Not at all	A little	Some	Much	Very much
1. Review of court report/orders	1	2	3	4	5
2. Review of case files	1	2	3	4	5
3. Observations of the child and family during home calls	1	2	3	4	5
4. Through contacts with service providers	1	2	3	4	5
5. Through contacts with other community members (neighbors, etc.)	1	2	3	4	5
6. Discussion/consultation with coworkers	1	2	3	4	5
7. Consultation with supervisor	1	2	3	4	5
8. New report from Child Abuse Hotline	1	2	3	4	5

Issue E-4. To what extent do you rely on each of the following sources of information to assess the level of clients' **compliance with court orders?**

	Never	Rarely	Some-times	Often	Always
1. Review of court reports/orders	1	2	3	4	5
2. Review of case files	1	2	3	4	5
3. Observation of the child and family during home calls	1	2	3	4	5
4. Through contacts with service providers	1	2	3	4	5
5. Through contacts with other community members (neighbors, etc.)	1	2	3	4	5
6. Discussion/consultation with coworkers	1	2	3	4	5
7. Consultation with supervisor	1	2	3	4	5
8. New report from Child Abuse Hotline	1	2	3	4	5

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F. Transferred Cases

F-1. About how many open cases have been transferred to you during the last **three months?**

F-2. How often do the following problems occur with cases that are transferred to you: *(circle one number on each line)*

	Never	Rarely	Some-times	Often	Always
1. No documentation regarding past/current provision of services	1	2	3	4	5
2. No documentation supporting the decisions made on the case	1	2	3	4	5
3. No home address or locating information	1	2	3	4	5
4. Insufficient information about birth parents	1	2	3	4	5
5. Insufficient information about child's adjustment to current caretaker/ environment	1	2	3	4	5
6. No information about the child's current medical status	1	2	3	4	5
7. Insufficient information to locate child's relatives or significant collaterals	1	2	3	4	5

G. Workplace Interactions

INTERACTIONS WITH YOUR **SUPERVISOR** IN AN AVERAGE WORK WEEK:

G-1. How many times do you meet **alone** with your supervisor? *(Enter number of times)*

_____ times per average work week

G-2. How many times do you meet with your supervisor in a **group?** (e.g., staff meetings) *(Enter number of times)*

_____ times per average work week

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G-3. Of the time you spend with your supervisor, what percent of the time is spent on: *(Enter %--total should equal 100%)*

Consultation about clients and cases	_____%
Discussing policy/work procedures	_____%
Evaluation of your job performance	_____%
Review of unit/departmental issues	_____%
Socializing	_____%
Other	_____%
TOTAL:	**100%**

G-4. On an average work day, how much time do you spend interacting with coworkers? (Including the lunch hour.) *(Enter answer as hours and minutes, e.g., 90 minutes = 1 hour, 30 minutes)*

_____hours _____minutes

G-5. Of the time you spend in interaction with your coworkers, what percent of the time is spent on:

Consultation about clients and cases	_____%
Discussing policy/work procedures	_____%
Socializing	_____%
Other	_____%
TOTAL:	**100%**

PLEASE RATE THE GENERAL QUALITY OF YOUR RELATIONSHIP WITH YOUR SUPERVISOR AND COWORKERS: *(circle one)*

	Not at all	A little	Some	Much	Very much
G-6. To what extent is your relationship with your coworkers friendly?	1	2	3	4	5
G-7. To what extent are your coworkers helpful and supportive to you and your work?	1	2	3	4	5
G-8. To what extent is your supervisor supportive of you and your work?	1	2	3	4	5

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H. Job and Workplace

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE

PLEASE RATE THE LEVEL OF YOUR AGREEMENT WITH EACH OF THE FOLLOWING STATEMENTS ABOUT YOUR JOB AS A CSW

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
H-1. I believe my job has a substantial impact on the lives of other people	1	2	3	4	5
H-2. In general, I like working here	1	2	3	4	5
H-3. I feel emotionally drained by this job	1	2	3	4	5
H-4. As a CSW, I have a lot of opportunities to use my abilities and skills	1	2	3	4	5
H-5. I do not get enough recognition for the work I do	1	2	3	4	5
H-6. I have accomplished many worthwhile things on this job	1	2	3	4	5
H-7. I have a good chance for advancement in my agency	1	2	3	4	5
H-8. As a CSW, I am very much personally involved in my work	1	2	3	4	5
H-9. I do not care what happens to DCFS as long as I get my paycheck	1	2	3	4	5
H-10. I easily put thoughts about work out of my mind at the end of the day	1	2	3	4	5
H-11. I try to think of better ways of doing my job	1	2	3	4	5
H-12. There can be little action taken here until a supervisor approves a decision	1	2	3	4	5

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		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
H-13.	Persons wanting to make their own decisions would be quickly discouraged here	1	2	3	4	5
H-14.	Even small matters have to be referred to someone higher up for a final decision	1	2	3	4	5
H-15.	I have to ask my supervisor before I do almost anything	1	2	3	4	5
H-16.	Any decision I make has to have my supervisor's approval	1	2	3	4	5
H-17.	I am proud to represent DCFS	1	2	3	4	5
H-18.	I support the goals and values which DCFS upholds	1	2	3	4	5
H-19.	I feel that top management can be trusted	1	2	3	4	5
H-20.	DCFS's plans are well carried out	1	2	3	4	5
H-21.	I think the way this organization puts policies into practice is fair	1	2	3	4	5
H-22.	I believe that the management has the clients' best interests in mind when setting policies	1	2	3	4	5

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I. CWS/CMS: Expectations

INSTRUCTIONS: ALTHOUGH THE CWS/CMS COMPUTERIZATION HAS NOT YET BEEN IMPLEMENTED IN YOUR UNIT, PLEASE TELL US HOW YOU EXPECT IT WILL AFFECT YOU ON AN ONGOING BASIS:

PLEASE RATE YOUR LEVEL OF AGREEMENT WITH EACH OF THE FOLLOWING STATEMENTS.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I-1. I expect CWS/CMS to change my job	1	2	3	4	5
I-2. CWS/CMS will allow more monitoring of my work	1	2	3	4	5
I-3. CWS/CMS will give me better information to work with	1	2	3	4	5
I-4. CWS/CMS will control my behavior at work	1	2	3	4	5
I-5. Using the computer will make me more productive	1	2	3	4	5
I-6. CWS/CMS will improve communication with others within DHS	1	2	3	4	5
I-7. CWS/CMS will save time on paperwork	1	2	3	4	5
I-8. I am threatened by the thought of using CWS/CMS	1	2	3	4	5
I-9. CWS/CMS will make my job easier in the long run	1	2	3	4	5
I-10. CWS/CMS will benefit my clients	1	2	3	4	5
I-11. My performance will be judged more accurately with CWS/CMS	1	2	3	4	5
I-12. I expect to be able to use CWS/CMS effectively	1	2	3	4	5
I-13. CWS/CMS will make confidential client information *too* widely available	1	2	3	4	5
I-14. I think that the CWS/CMS will change my interactions with:					
a. my clients	1	1	1	1	1
b. my supervisor	1	1	1	1	1
c. my coworkers	1	1	1	1	1
d. DCFS administration/management	1	1	1	1	1
I-15. I am well informed about CWS/CMS	1	2	3	4	5

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K. CWS/CMS Proficiency

INSTRUCTIONS: PLEASE CHECK OR CIRCLE THE ANSWER THAT BEST DESCRIBES WHICH JOB-RELATED TASKS YOU DO ON THE COMPUTER AND HOW PROFICIENT YOU ARE IN DOING THEM.

	Have you done it?	**If yes, rate your proficiency in this task**				
		Poor	Fairly low	Moderate	Good	Very good
K-1. Copy and paste MS Word documents in CWS	No ☐ Yes ☐	1	2	3	4	5
K-2. Do case plans on CWS	No ☐ Yes ☐	1	2	3	4	5
K-3. Gather information for case planning on CWS	No ☐ Yes ☐	1	2	3	4	5
K-4. Write court reports on CWS	No ☐ Yes ☐	1	2	3	4	5
K-5. Record contacts with clients on CWS	No ☐ Yes ☐	1	2	3	4	5
K-6. Record contacts with service providers on CWS	No ☐ Yes ☐	1	2	3	4	5
K-7. Create (or use) client information notebooks in CWS	No ☐ Yes ☐	1	2	3	4	5
K-8. Create (or use) education notebooks in CWS	No ☐ Yes ☐	1	2	3	4	5

K-9. How many hours of training have you received on CWS/CMS? ___ hours in total.

K-10. If you answered "yes" to having done case plans on CWS/CMS (K-2 above), please indicate for how long you have been doing so (in months): _____months

☐ Not applicable

K-11. If you answered "yes" to having written court reports on CWS/CMS (K-4 above), please indicate for how long you have been doing so (in months): _____months

☐ Not applicable

K-12. If you answered "yes" to having recorded client contact on CWS/CMS (K-5 above), please indicate for how long you have been doing so (in months): _____months

☐ Not applicable

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L. Satisfaction With CWS/CMS

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE.

PLEASE RATE YOUR LEVEL OF SATISFACTION WITH EACH OF THE FOLLOWING ASPECTS OF USING CWS/CMS IN YOUR JOB AS A CSW.

	Very unsatisfied	Unsatisfied	Neutral	Satisfied	Very satisfied
L-1. Access to a computer	1	2	3	4	5
L-2. CSW's reminders of schedules and upcoming deadlines	1	2	3	4	5
L-3. Time it takes to start work on CWS	1	2	3	4	5
L-4. Ability to locate information on clients	1	2	3	4	5
L-5. Quality of current information on cases	1	2	3	4	5
L-6. The amount of time it takes to save documents	1	2	3	4	5
L-7. Access to information when away from the office	1	2	3	4	5
L-8. Access to a printer	1	2	3	4	5
L-9. Time it takes to document field activity	1	2	3	4	5
L-10. The frequency with which the system goes down and work is lost	1	2	3	4	5
L-11. Quality of information on case history	1	2	3	4	5
L-12. Ability to input information when away from the office	1	2	3	4	5

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