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Professional Development: The International Journal of Continuing Social Work Education is published three times a year (Spring, Summer, and Winter) by the Center for Social Work Research at 1 University Station, D3500 Austin, TX 78712. Journal subscriptions are $110. Our website at www.profdevjournal.org contains additional information regarding submission of publications and subscriptions.

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Transfer of Child Welfare Research Findings to the Field: An Internet-Based Training Series

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Improving child welfare practice must remain a priority as millions of children in the United States enter the child welfare system annually (National Clearinghouse on Child Abuse and Neglect, 2002). The Title IV-E Child Welfare Training Program of the Social Security Act, a major federal program, supports this goal through funding state-based research on child welfare, child welfare curriculum development, and stipends for social work students who specialize in child welfare (Zlotnik & Cornelius, 2000). Title IV-E projects are typically partnerships between university social work programs and state and/or local child welfare agencies. In addition to increasing the number of social work graduates who embark upon careers in public child welfare, a major goal of the Title IV-E Program is to provide training for existing child welfare staff.

This paper describes and evaluates the effectiveness of an innovative child welfare training series based on findings from four Title IV-E funded research projects. The Child Welfare Training Series (herein referred to as Training Series or TS) project linked the research findings of Title IV-E child welfare research projects into a free, Internet-based training curriculum designed to improve child welfare practice. In advance of the Child and Family Service Review, the state of Nevada Title IV-E Oversight Committee collaborated with the School of Social Work to provide funds to faculty to conduct research projects designed to improve child welfare practice by informing workers about policies and practices impacting: youth aging out of foster care; siblings in foster care; drug exposed

infants; and child welfare practices appreciated by foster children, foster and adoptive parents.

The Training Series was developed, deployed, utilized and evaluated within 12 months and provided child welfare workers timely access to relevant information, and featured seamless integration of curriculum delivery and project evaluation. The purpose of this paper is to provide information on the development and deployment of the Training Series that may be useful to others contemplating similar projects, and to provide findings on the utilization and effectiveness of the Training Series.

Background and Project Rationale

Child welfare service is a mandated provision prescribed under state statute. Social workers, who comprise the majority of child welfare practitioners, lead the charge in providing care for this vulnerable population. Each of the fifty states has now completed the federally organized Child and Family Services Review (CFSR). As a result of the CFSR, states that are judged out of conformance on any of seven system factors (outcomes) reviewed under the CFSR are subsequently required to develop a Program Improvement Plan (PIP). Among other requirements, the PIP often necessitates extensive mandatory training of child welfare practitioners as a strategy to address non-conformity. The Child Welfare Training Series was designed as a pilot project providing online worker training in anticipation of Program Improvement Plan mandated training.

The production of knowledge relevant to practice, the dissemination of research knowledge, and

the utilization of research-based knowledge are of continuing concern to the social work profession (Herie & Martin, 2002; Lindsey & Kirk, 1992). Past research indicates that practitioners rarely read professional journals (Report of the Task Force on Social Work Research, 1991). Continuing education delivered in seminar-type sessions at specific locations at set times is more commonly utilized by practitioners and thus Title IV-E funds have been used to improve child welfare practice in such traditional continuing education formats (Kessler & Greene, 1999; Rose, 1999; Hopkins, Mudrick, & Rudolph, 1999). However, geographic and scheduling barriers are inherent in this format and may preclude some workers from timely receipt of traditional continuing education courses. In addition, traditional training is not easily repeated for workers who miss it due to personal emergencies or a hire date that occurs after traditional training has been offered.

With the complex demands inherent in the field of child welfare and current federal requirements, social work educators are tasked with conceptualizing and testing new methods of continuing education that can support curriculum sustainability within this core domain of social work practice. Similarly, child welfare administrators are seeking innovative, efficient, and empirically based methods of training child welfare staff. The Internet-based Training Series described here is a promising method for enhancing empirically based knowledge and skill acquisition for child welfare professionals in an innovative and efficient manner.

Internet-based Continuing Education:
An Analytic Framework for Understanding the Training Series Project

Descriptive information on the Training Series project will be presented through an analytical framework derived from a review of relevant literature on continuing education in social work. The framework comprises four major components: development, deployment, utilization, and effectiveness. Each of these components will be discussed as they relate to the Training Series by examining theoretical considerations relevant to

each component and presenting illustrations of how these considerations guided the project. Following this discussion are outcomes on the utilization and effectiveness of the Training Series.

Development

According to social work educators the design of continuing education programs should be guided by three essential elements: collaborative practice (Packard, Jones, Gross, Hohman, & Fong, 2000), humanistic approach of inclusion and shared resources (Shatz & Frey, 1981), and rediscovery and renewal in stimulating knowledge (Shatz & Frey, 1981). These elements were present in developing the Training Series as described below.

Collaborative practice. The Training Series project was developed through collaboration between the state university's social work program and state and local child welfare service agencies. Topics for the Training Series were selected from research projects sponsored by the state that had been identified as priority issues. Collaboration was multi-layered as the school of social work turned to units within the campus for help with the technical aspects of production, digitization, distribution, and administrative support such as advertising and use of a university website for the Training Series. Specifically, a graduate student specializing in computer software engineering was hired to develop the Training Series website, videotaping and digitizing was performed by the distance education department, and office space, advertising, and Internet site support services were purchased from the university's Center for Urban Partnerships. Further, the state social work licensing board approved an application for participants to receive one continuing education unit (CEU) for each hour of online training.

Humanistic approach of inclusion and shared resources. Although the primary intended audience for the trainings was child welfare practitioners, the Training Series was also available and applicable to foster/adoptive parents, and social work students. This inclusion required that content be appealing and relevant to a broad audience. To this end, modules included discussions with former foster care

clients, panel discussions including practitioners, and simulated interviews with clients. The Training Series was offered 24-hours a day free of charge to enhance inclusion of all interested constituent groups.

Rediscovery and renewal of stimulating knowledge. The content and mode of teaching in each module reflected the rediscovery and renewal of stimulating knowledge. Each module disseminated original state-based research conducted by full-time university social work faculty with expertise in the module topic area integrated with content from other relevant studies. The topic for each research based training module was considered a priority issue for the State of Nevada's Division of Child and Family Services in the years prior to the Child and Family Service Review.

The four research based training modules developed were: "Youth Who Age Out of Foster Care" (research on the status of youth who age out of foster care and practice recommendations); "Using Appreciative Inquiry to Improve Child Welfare Services" (an innovative organizational change approach based on identifying positive experiences of children and parents involved in the child welfare system); "Drug-Exposed Infants" (research and practice recommendation on drug-exposed infants in the child welfare system); and "Together or Apart: Nevada's Tale of Siblings in Foster Care" (research and practice recommendations on patterns of sibling placements in foster care homes).

The research base of each module was a Title IV-E funded study on the respective issue. For example, guided by current literature, data presented in "Youth Who Age Out of Foster Care" was collected from a sample of youth in the state about to age out of foster care about preparation for independent living, perceptions of social services, health and mental health problems and ways that workers could better assist them. Dissemination of this knowledge, combined with data from national studies and a video interview with a former foster youth was expected to enhance practitioner response to commonly overlooked needs, stimulate more consistent preparation of youth for independent living, and encourage advocacy for specific program and policy changes.

Each training module consisted of four fifteen-minute video segments supplemented by PowerPoint slides and lists of references and community resources. Module content was digitized and uploaded to the Training Series website. Consistent with adult learning principles, participants were able to select any module of interest, and access all of the educational material on-line and start and stop reviewing the material as convenient to their scheduling needs. Studies on continuing education in social work note that relevance to practice, support from the worker's agency, use of adult learning principles and accessibility increase participant satisfaction (Cauble & Dinkle, 2002; Gullerud & Itzin, 1979; Vinokur-Kaplan, 1986.

Deployment [1]

A major consideration in the deployment of the Training Series was the creation of a sustainable link between social work education and social work practice in the field, a factor that has historically been a challenge for all involved parties (Gullerud & Itzin, 1979). Aside from traditional field placements, university-sponsored face-to-face training and continuing education are the more contemporary means of cultivating the necessary link between education and practice. Gullerud and Itzin's seminal work reminds us that continuing education must be (1) centrally administered as part of the school's curriculum, and (2) both practitioners and university educators must share equally in planning and implementation of training projects.

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[1]*Additional information regarding the security and design of the registration process, alpha and beta testing procedures, transfer of digitized tapes to the host site, support services such as a user guide, and the method for getting a new password if the original one was forgotten, etc. can be obtained from the Series administrators and authors of this article.*

Viable linkages. To build an ongoing infra-structure linking the university to workers in the field, the Internet site to which the digitized Training Series modules were uploaded was designed as a re-usable site for the delivery of child welfare training. Additional modules may be added with very few modifications being that the registration, orientation and support information can remain the same. The viability of the site was thus enhanced because additional training modules may be added as topics are identified as being consistent with the needs of workers in child welfare practice.

Utilization

In order to ensure maximum utilization of Internet-based continuing child welfare education and training, attention was given to three issues: access, trainee input, and "fit."

Access. Geographic barriers may limit worker attendance at traditional continuing education programs (Cauble & Dinkle, 1999), work schedules may prevent attendance, and participants may be forced to choose between relevant topics if sessions are scheduled concurrently. New distance education technologies that transcend geographic and scheduling barriers include live interactive television, production and distribution of CD-ROMS or videodisks, instruction delivered through the Internet, or some combination of these methods (Freddolino, 2002; Seabury & Maple 1993).

Cauble & Dinkle (2002) chronicle the six-year development of ten videodisk-based trainings targeted specifically for state child welfare workers. They conclude that despite the challenges of managing a multi-disciplinary team needed to produce the videodisks and the considerable time and resources involved, they effectively reached rural workers and cost effectiveness would be achieved over time because most costs are up-front in production rather than in distribution. However, the number of workers who actually receive, view, and integrate the training material is not easily determined when utilizing one-way distribution efforts such as television, CD-ROM and videodisk technology.

To provide access and interactivity, an Internet-based delivery of information was selected for the Training Series as it offers more accessibility and interactivity advantages than those noted for videodisk-based or television-based delivery. Distribution (to anyone with Internet access) is instant, easily updated, and free of mailing costs. Several sources (e.g., learn4health, Homestead Schools, psychceu, NASW WebEd) now offer Internet-based continuing education for social workers that is approved for continuing education credit in some states. Also, as compared to "one-way" distribution efforts (e.g., television, CD-ROM and videodisk) the number of workers who actually receive, view, and demonstrate improvement of their knowledge via the training content can be more easily determined with the web based delivery method.

Trainee input. In addition to the issue of accessibility, curriculum designers must take into account participants' perspectives on the training project in order to increase utilization and relevance. Trainee input in the utilization stage was supported though e-mail access to Training Series staff for any participant need, through the availability of worksite orientations on how to use the Training Series website, and through a process to elicit post-module feedback and comments.

"Fit." Finally, child welfare educational models must ensure "fit," the practicality and usefulness of the training program. Maximum utilization of staff training has been associated with those programs that offer trainee input into developing practical and useful curricula (Gibelman & Champagne, 1981). As previously noted, Training Series modules were selected based on child welfare officials' determination of "fit" with the anticipated state Program Improvement Plan (PIP), agency and staff priorities, and topics relevant to child welfare practice. The final list of Training Series modules emerged after consideration of more than two-dozen potential topics.

Effectiveness

Methodological merit. Generally, the effectiveness of continuing education is rarely measured

except through post-session satisfaction surveys (Schinke, Smith, Gilchrist, & Wong, 1981) or the counting of participant attendance or completion. Further, there is little discussion of the utilization and effectiveness of online continuing education in the professional social work literature (Barnett-Queen, 2003). Many agree that continuing education projects should have the following evaluation features: (1) the improvement of knowledge (Roat, 1988); (2) an increase in participants' ability to recall and recognize practice skills (Schinke, Smith, Gilchirst, & Wong, 1981); and (3) the utilization of an objective test to assess knowledge gain (Barton, Dietz, & Holloway, 2001).

Improvement of knowledge. Each faculty member who developed a training module provided ten true or false questions on content essential to meeting the learning objectives of the module. These questions were programmed to appear before participants viewed a module and then again at completion of the viewing. A threshold of 70% correct after completing the module was set as the minimum pass rate in order to receive a certificate of completion and board-approved social work continuing education units. Pre- and post-test scores of users passing a module were immediately recorded and automatically e-mailed to the Project Director. Thus, collection of evaluation information such as number of users and increases in knowledge was integrated within the Internet site design. Such integration provided immediate and on-going information on the utilization and increases in knowledge.

Summary

In summation, the development, deployment, utilization and evaluation of the Training Series was guided by theoretical concepts derived from a review of relevant literature on continuing education in social work. Through collaboration, an Internet-based training series was created and the findings of several Title IV-E funded research studies were made accessible to practitioners in a format that was free, easy to use, and readily available regardless of geographic location or time of day.

The training was based on principles of adult education including interactive learning features, practical application to job performance, participant control over starting and stopping, and case examples. A reusable infrastructure linking the university and the practice community was created that featured automatic capture of data on training utilization and changes in participant knowledge. The next section presents findings on the utilization and training effectiveness of the Training Series.

Evaluation Methodology
Evaluation Questions

Evaluation questions focused on access and impact issues and were as follows: (1) How many people registered for the TS?; (2) What were the demographic characteristics of the people who registered for the TS?; (3) How many modules were successfully completed?; (4) What were the demographic characteristics of the people who completed one or more module?; (5) From what geographic areas were participants?; (6) What times of the day did participants complete the modules?; and most importantly, (7) Did module completion increase participants' child welfare practice knowledge?

Participants

Participants for the Training Series were primarily recruited via brochures sent through regular mail and e-mail to child welfare workers, licensed social workers, university faculty and child welfare students living in the state. The Training Series was also advertised at a child welfare conference and other university-sponsored child welfare events. Data collection was limited to the four-month period from when the Training Series was first available on line to the end of the first year's funding. The resulting sample of participants registering online for the Training Series was 106 persons. Of these registrants, 63 persons (59.4 percent) went on to complete one or more modules. One hundred and forty-one training modules in all were completed.

Measures

Participants were asked demographic profile questions such as gender, age, ethnicity, number of years working in child welfare, job title, and geo-

graphic location. These demographic data were required from each participant prior to allowing them access to the training modules. Demographic characteristics of the sample are provided in the results section.

After a participant selected a module, but prior to viewing it, they were required to answer a ten-question true/false pre-test based on module content developed by the instructor of the module. For example, the module on youth aging out of foster care asked whether the following was true or false: "Many youth who are about to age out of the foster care system have pre-existing health or mental health problems." The software used for the Internet site automatically recorded the percentage correct as a pre-test score. After viewing the training module and supplemental notes posted in the module, participants re-took the quiz with the questions randomly re-ordered, the results of which were again automatically recorded. Comparisons of pre- and post-test scores were the basis for measuring knowledge gained by participating in the Training Series. Participants had to pass the module's post-test with a 70 percent or better score in order to receive a certificate of completion and be awarded one continuing education credit approved by the State Board of Examiners for Social Workers. The pre- and post-test scores, as well as the times and dates of test completion were sent automatically to the Training Series administrators.

Data Analysis

The registration, pre-test and post-test data were initially captured on the website and then transferred to Excel spreadsheets and then to the Statistical Package for the Social Sciences software for analysis. Data on numbers of participants who registered, the number who completed one or more module, total number of modules completed and the time of day each module was completed was generated. Frequencies were computed on demographic characteristics of the whole sample and by completers and non-completers. Pre- and post-test scores overall and for each module were compared using t-tests to evaluate what impact the module had on participant knowledge.

Results
Participation and Demographic Characteristics
As Table 1 shows, the 106 registrants were primarily female (84 percent). Most participants (87 percent) were in the middle three age categories of 26-55 years old, with seven participants in each of the youngest or oldest age categories. Half of the participants indicated they were of European American ethnicity, over one-quarter indicated they were Biracial or of some other ethnicity than those listed, 12.3 percent were African American and about 10 percent indicated they were either Latino or Native American. About one quarter of the registrants were from rural parts of the state. An analysis of job titles indicated that at least 75 percent of the participants were social workers (N=78). Participants not counted as social workers included those who gave job titles such as "victim advocate," "student success advocate" and "substance abuse counselor."

Table 1: Demographic Characteristics

	All Registrants N=106		Completers N=63		Non-Completers N=43	
Gender	n	%	n	%	n	%
Female	89	84	52	82.5	37	86
Male	17	16	11	17.5	6	14
Age						
18-25	7.0	6.6	3	4.8	4	9.3
26-35	27	25.5	16	25.4	11	25.6
36-45	28	26.4	17	27	11	25.6
46-55	37	34.9	23	36.5	14	32.6
56 or older	7	6.6	4	6.3	3	7.0
Ethnicity						
African American	13	12.3	8	12.7	5	11.6
European American	53	50	31	49.2	22	51.2
Hispanic/Latino	6	5.7	5	7.9	1	2.3
Native American	5	4.7	2	3.2	3	7.0
Other/Biracial	29	27.4	17	27	12	27.9
Region						
Metropolitan South	69	65	45	71	24	56
Metropolitan North	12	11	6	10	6	14
Rural Areas	25	24	12	19	13	30

The demographic characteristics of successful completers (N=63) versus non-completers (N=43) appear quite similar. In both groups, over 80 percent were females, most were aged 26-55 and approximately half were European American. Rural registrants appear to be less likely to successfully complete a module as compared to those from southern metropolitan area. Among completers, approximately 79 percent gave job titles indicating

they were social workers or worked with children and families in some capacity. Fewer (65 percent) of non-completers had job titles indicating they were social workers or worked with children and families in some capacity.

As shown in Table 2, just over half (56 percent) of the 141 modules completed were passed during a time of the day that would normally be considered typical work hours (8 a.m.-5 p.m.). About 20 percent of the modules were passed in early to mid-evening (6 p.m. to 8 p.m.), and another 12 percent in the late evening (9 p.m. to 11 p.m.). Just over 10 percent of the modules were passed either in the very early morning hours of midnight to 4:00 a.m. or the early morning hours between 5:00 a.m. to 7:00 a.m. Also shown in Table 2 is that most participants (54 percent) completed more than one module.

Table 2: Time Module was Passed and Number of Modules Passed per Participant

	N	%
Time Module was Passed		
8am to 5pm	80	56.7
6pm to 8pm	28	19.9
9pm to 11pm	17	12.1
Midnight to 4am	13	9.2
5am to 7am	3	2.1
Number of Modules Passed per Participant		
One	29	46
Two	7	11.1
Three	11	17.5
Four	16	25.4

Changes in Knowledge

The average pre-test score over all modules was approximately 62 percent, a failing score. The average post-test score was 85 percent, a score well above the benchmark of 70 percent for a passing score. A t-test of this difference between the pre-test and post-test scores was statistically significant ($p > .000$).

Table 3 displays the pre- and post-test scores for each module and the results of a t-test comparing the pre- and post-test scores. Each individual module showed an increase between pre- and post-test knowledge, and in each case the difference was statistically significant.

Table 3: Pre-test and Post-test Scores for Each Module

MODULE	N	Pre-test	Post-test	P
Youth Aging Out	57	58.07	87.37	.000
Appreciative Inquiry	28	73.93	88.93	.000
Drug Exposed Infants	35	54.57	78.83	.000
Siblings	21	69.05	85.24	.000
All Modules	141	61.99	85.24	.000

Discussion

Development and Deployment

The Training Series proved to be an innovative and effective means by which to disseminate Title IV-E training curriculum to child welfare practitioners, students and others invested in child welfare. Collaboration, inclusion, and offering stimulating information were clearly key factors that contributed favorably to the development of the Training Series. A lesson learned from this project was that to achieve project development and deployment within one calendar year, collaboration must be constant and proactive. The Project Director consistently consulted with various project staff such as the Co-PI's, training instructors, production studio personnel, computer software engineer and administrative support staff. A proactive project leader was pivotal to coordinating planning meetings on various topics such as timelines, delegation of duties, studio taping procedures and appointments, website design and testing, and the design and distribution of flyers or other means (conference and workplace demonstrations) of promoting the Training Series.

One of the most significant aspects of the deployment of the Training Series was the establishment of a viable, cost-effective, sustainable infrastructure to facilitate the flow of research and information between the university and child welfare agencies. The initial investment to create this website infrastructure required around $50,000 for expenses such as computer software design, studio production costs (e.g., $140 per hour), computers and printers, postage to mail certificates of completion, and training project administrator and evaluator salaries. Ongoing expenses include minimal expenses related to website revisions and maintenance, taping of new trainings, and associated

administrative costs. The Training Series consists of trainings that are video taped and archived online, and thus conveniently available on an ongoing basis to the hundreds of state child welfare workers. In contrast, traditional training requires workers to suspend work activities on a specific day to travel to a specified location, and to incur travel expenses such as mileage, parking, hotel, per diem, and air-fare (e.g., $100 on average for each worker per training).

Utilization and Effectiveness

Although trainee input and the selection of relevant topics that "fit" the needs of child welfare workers were important factors in the utilization of the Training Series, increased worker access to training was the most significant contribution of the project. The impressive number of participants who voluntarily accessed the site within four months, their state-wide geographic distribution, the varied times of day that modules were complet-ed, and the frequent completion of more than one module suggest that Internet-based information delivery removed significant barriers to transfer-ring research-based information to child welfare workers. As Internet-based information transfer becomes more common (and worker documenta-tion of learning from training becomes part of agency quality improvement measures) it is proba-ble that participation in on-line training will increase.

A surprising finding was the diversity in time of day that the modules were accessed. This is another dimension to consider when evaluating the cost effectiveness of Internet-based knowledge transfer. Not only were travel costs eliminated for training participants, but some participants used their time after scheduled work hours to participate in the Training Series. Thus, workers using the Training Series benefited from having more flexi-bility in scheduling time for on-line training as compared to scheduling time to attend a face-to-face training. Also, data indicate that some people prefer to gain information at times of the evening and early morning that no standard training would

ever be held. This 24-hour availability factor is one more innovative way in which the Internet-based format can best meet the needs and preferences of the user.

An area for concern regarding participant access is that over one-third of the registrants did not go on to successfully complete a module. Possible explanations are computer capacity related (e.g., limited RAM, slow modems, lack of external computer speakers), lack of encouragement from supervisors to complete the training, or some other factor. These possible explanations should be inves-tigated by gathering data from registrants who did not complete modules. Also, both registrants and completers were more commonly from metropoli-tan areas. It may be important to direct extra pub-licity and support efforts to workers in rural areas as they likely have the most to benefit from tech-nology that reduces the geographic and scheduling barriers associated with attending face-to-face training.

The method selected for data collection and the actual outcomes of the Training Series project evaluation both yielded positive results. The auto-matic capture of utilization and impact data through the Internet-based format greatly enhanced the efficiency of evaluation efforts. Integrated eval-uation eliminated the need for a number of process-es that would normally be done separately. For example, sampling and re-contacting participants was unnecessary as we were able to capture data on everyone who registered for the Training Series. Participant burden in taking part in an outcome evaluation was greatly reduced because most of the information gathered for evaluation was also neces-sary for processing certificates of completion and continuing education credits.

The results from the pre-test post-test compari-son were clear. Participants began the Training Series demonstrating a level of knowledge below an acceptable criteria and ended the Training Series demonstrating a level knowledge exceeding a 70% competency rate. The post-test improvement in scores was robust across all modules and thus sug-gests that the format, design and deployment of the

Training Series was successful in its goal of improving child welfare knowledge among users of the Training Series.

An increase in knowledge at the conclusion of continuing education is only a first step toward improving child welfare practice based on transfer of research-based knowledge. Documenting an increase in knowledge does not guarantee that practice with children and families will improve or even that such increases in knowledge persist over time. Documenting these types of effects would require more extensive evaluation techniques such as pre- and post-training observation of practice, supervisory evaluation of worker performance standards, case record review, and/or analysis of improvement in select child welfare program outcomes.

Researchers note that it is important to incorporate follow-up measures in order to evaluate the long-term impact of continuing professional education in social work on participants' actual practice (Dietz, 1998; Rooney, 1988). We are implementing a follow-up study wherein participants are contacted several months after completing training modules and asked questions related to the impact of the Training Series on their actual practice with children and families. Future studies would ideally include a triangulated gathering of subjective and objective data on training impact on child welfare practice as documented by child welfare workers, supervisors, case records and consumers of child welfare services.

Limitations

A limitation of this study is that the site was only initially operational for four months and thus those data reported herein only reflect this relatively small time frame and limited number of participants. Ideally, evaluation of access and impact could be studied over a longer period of time with more participants to ascertain whether the trends of widespread access and positive changes in knowledge as seen in these data would be replicated. As noted above, additional measures of impact on actual long-term practice with children and families

would also strengthen claims that Internet-based transfer of knowledge to improve child welfare practice is effective.

Recommendations

The critical need to improve child welfare practices and the encouraging results from this Internet-based transfer of knowledge lead us to recommend continued development and deployment of this innovative method. The potential for other states that receive IV-E funds for research and curriculum development to successfully initiate this type of program is great, especially where collaborations between state workers and university faculty are facilitated. With time, more workers will become familiar with this type of training, and additionally the capacity of computer hardware and Internet connections (such as widespread wireless access) will likely improve, thus increasing the effectiveness and utilization of Internet-based child welfare training.

Another recommendation is that future designers of Internet-based child welfare training projects take advantage of the opportunity to present packages of related modules. Offering several modules dealing with different aspects of a major child welfare issue could maximize this option. Beyond continuing education credits, this type of packaging could support holistic knowledge gains in specific areas of knowledge and perhaps could be acknowledged through a child welfare certificate.

Further Research

The next step in our evaluation process is to collect and analyze data from follow-up interviews on the impact of the Training Series on work performance. Participants will be asked how the Training Series information has affected their practice. As discussed earlier, more extensive measures of the impact of the knowledge transfer should be undertaken to confirm changes at the practice level. Research should be conducted on the question of what deters workers from participating in on-line transfer of knowledge or why they don't follow

through once they have registered for web-based training. Until further research is conducted, we can only speculate as to whether computer hardware or software, worker skill deficits, or some other reason deters successful completion of on-line training. Once these factors are identified, it may be possible to address them and thus increase use of on-line training. These technologies are no longer the wave of the future, but are present opportunities that reduce significant barriers to training access and knowledge transfer.

Conclusion

This was the first documented use of Internet-based transfer of knowledge from Title IV-E funded research. Title IV-E funnels millions of dollars to social work education programs to improve child welfare practice (Zlotnik & Cornelius, 2000). The results of this project indicate that an Internet-based format can overcome geographic and scheduling barriers, can increase knowledge levels, and can incorporate access and impact evaluation meas-
ures through an infrastructure that can serve as a continuous link between university social work programs and the child welfare community.

Developing and deploying an Internet site to successfully transfer knowledge to child welfare practitioners, while challenging, was achievable and successful within a twelve-month period. This Child Welfare Training Series serves as a pivotal point of departure from other less accessible and less evaluated (e.g. journal articles and conference workshops) methods to transfer research-based knowledge to child welfare practitioners and students. Advances in technology, federal mandates to provide training which improves practice, and federal support for training are factors which create a golden opportunity for universities and child welfare agencies to collaborate to design innovative and sustainable ways to improve worker knowledge and skills and thus ultimately to improve the welfare of millions of children and families involved in the public child welfare system.

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