Social Work Practitioners and Technology Transfer

Professional Development: The International Journal of Continuing Social Work Education is a refereed journal concerned with publishing scholarly and relevant articles on continuing education, professional development, and training in the field of social welfare. The aims of the journal are to advance the science of professional development and continuing social work education, to foster understanding among educators, practitioners, and researchers, and to promote discussion that represents a broad spectrum of interests in the field. The opinions expressed in this journal are solely those of the contributors and do not necessarily reflect the policy positions of The University of Texas at Austin's School of Social Work or its Center for Social Work Research.

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.

URL: www.profdevjournal.org   **Email: www.profdevjournal.org/contact**

Social Work Practitioners and Technology Transfer

Anna Scheyett, MSW, LCSW, CASWCM; Amelia C. Roberts, PhD; Raymond Kirk, PhD

Introduction

It has been demonstrated that when evidence-based interventions (i.e., practice interventions, which are demonstrated to be effective as a result of empirical evidence) are used, client outcomes improve (Steinberg, Schorske, & Karpf, 1991). Therefore, one of the primary goals of social work research is the identification and evaluation of new practice methods and interventions. However, the implementation of new skills and interventions into the practice community is often slow and haphazard, even when evidence clearly indicates that a new method is superior to the one in practice.

The bridge between research and practice must be strong to maximize the effectiveness of social work practice, and reduce both human suffering and the societal cost of social work services. Yet one of the great challenges to social work researchers, educators, and treatment providers is the process of "technology transfer": the effective transfer of new skills and interventions into practice. Thus, there is a compelling need for social work educators to develop new strategies for technology transfer, and to evaluate those strategies. In addition to traditional research and evaluation, strategies for evaluating technology transfer are essential for education, practice (Pennypacker & Hench, 1997) and prevention (Pentz, 1994).

Traditional means of post-graduate technology transfer, such as journal publications and dissemination of written materials, are variably effective in changing clinician practices (Brown, 1998). In a study of research utilization, Sorenson, et al. (1988) found that journal publication resulted in a 0% adoption of an effective vocational initiative by a group of providers. Even when providers were given detailed written materials and a manual on the initiative, only 4% adopted the strategy. Lehman and Steinwachs (1998) developed a standard of care for patients with schizophrenia, based on published evidence-based medicine. They then compared the conformance of usual care in community mental health centers to that standard, and found that documented evidence-based standards were operationalized in less than 50% of cases. Even when research does influences community based programming, it may be with questionable fidelity to the evidence-based model. (Kalichman, Blecher, Cherry, Williams, 1997). In these cases, programs often select pieces of an intervention without a true understanding of the integrity of the model as a whole, and the potential beneficial impact of the new model on practice is diminished. For example, one study found that after intensive training in a primary prevention model for HIV, the majority of programs had implemented only portions of the prevention model, without full model fidelity (Kalichman, Blecher, Cherry, & Williams, 1997).

Training has often been used as a technology transfer intervention, and has been shown to be more effective than simple publication or distribution of written materials. Sorenson et al. (1988) found that 19% of practitioners adopted their vocational intervention after a training conference. However, even training can fail to produce the breadth and depth of change necessary for significant technology transfer (Beer, Eisenstadt, & Spector, 1990). Brief "one-shot" training experiences may result in practitioner overestimation of skills and result in ineffectual interventions. In a study of mental health practitioners, Kavanaugh (1994) found that after a brief training in cognitive behavioral interventions, practitioners often attempted to implement the model, even though they had not attained full competence in the intervention. Training often focuses on new knowledge, and is evaluated by pre-/post-test strategies that measure knowledge retention and attitude change.

Anna Scheyett, MSW, LCSW, CASWCM, Clinical Assistant Professor; Amelia C. Roberts, PhD, Assistant Professor; and Raymond Kirk, PhD, Clinical Assistant Professor, are on the faculty at the School of Social Work at the University of North Carolina-Chapel Hill.

Correspondence should be addressed to Anna Scheyett, University of North Carolina-Chapel Hill, 301 Pittsboro Street, Chapel Hill, NC 27599-3550.
Telephone: (919) 962-4372; Fax: (919) 962-6562; E-mail: amscheye@email.unc.edu

As noted by Ewan (1983), who examined a number of evaluations of trainings in substance misuse, short-term knowledge gains are easily demonstrated, but probably contribute little to the long-term integration of skills and technologies that the training addresses.

A powerful augment to training, which has been shown to increase technology transfer, is a personal contact, such as post-training intervention, site visits, or consultation. Werner et al. (1994) demonstrated that even a brief, post-training, one-on-one practice intervention strongly affected both learning retention and behavior. Kalichman et al. (1997) found that community based HIV programs were most likely to incorporate evidence-based interventions into their programs when they received direct consultation from a behavioral scientist. Sorenson et al. (1988) found that 28% of practitioners adopted their vocational intervention following training and a site visit by consultants.

One form of personal contact that may have promise in technology transfer is coaching. Coaching has been extensively explored in the business literature as an intervention to help executives incorporate new skills (Kilburg, 1996; Witherspoon & White, 1996; Peterson & Hicks, 1996). It is described by Peterson (1996) as a one-on-one intervention consisting of several steps: 1) forging a partnership, 2) inspiring commitment, 3) growing specific skills, 4) promoting persistence, and 5) shaping the environment. Coaching interventions that are similar to clinical supervision, but which focus on the transfer of a specific intervention technology, and also include an 'organizational change' component, could be readily transferred to human service providers (Hagler & McFarlane, 1991) and used as a post-training intervention to improve technology transfer to social workers.

A critical examination of all relevant literature in the field suggests that the traditional means of knowledge transfer, via journal reading and training, have been inadequate in the successful application of new knowledge, which ultimately leads to advances in clinical outcomes for service recipients.

Evidence-Based Research

Over the past two decades, there has been a growing commitment to evidence-based practice in the field of social work. The profession recognizes that there is a pressing need to determine whether the interventions delivered by social work practitioners result in better outcomes for clients. Recent evidence indicates that empirically-based interventions result in better outcomes for individuals and families (Faul, McMurtry, & Hudson, 2001; Corcoran, 2000). Although social workers are resolved to develop and test new knowledge and new practice models, the field is still young; thus, there is a need for expanded empirical study of social work practice (Fortune & Proctor, 2001; Rosen, Proctor, & Staudt, 1999; Thyer, 2001), and a desire to create a professional culture of evidence-based practice among social work practitioners.

Social work educators recognize that there is a compelling need to both develop and evaluate new strategies for technology transfer. Since much of the technology transfer research indicates that little knowledge is integrated over time, we must develop new strategies and practices that might ensure a better integration of new information in both the long- and short-term. We also recognize that strategies for evaluating technology transfer are essential for education, practice (Pennypacker & Hench, 1997), and prevention (Pentz, 1994).

This article will present a model for enhancing traditional technology transfer methods, such as training and dissemination of published materials, through the addition of a coaching intervention, within the framework of a transtheoretical model for change. The authors propose that such an augment could increase the integration of new intervention technologies by social work practitioners, while simultaneously decreasing the amount of time it takes for new evidence-based interventions to be disseminated through the social work practice community.

Coaching

A powerful augment to training, which has been shown to increase technology transfer, is a personal contact, such as post-training intervention, site visits, or consultation. Werner et al. (1994) demonstrated that even a brief, post-training, one-on-one practice intervention strongly affected both learning retention and behavior. Kalichman et al. (1997) found that community based HIV programs were most likely to incorporate evidence-based interventions into their programs when they received direct consultation from a behavioral scientist. Sorenson et al. (1988) found that 28% of practitioners adopted their vocational intervention following training and a site visit by consultants.

One form of personal contact that may have promise in technology transfer is coaching. Coaching, a one-to-one teaching, modeling, and behavioral shaping process, is used for technology transfer in several professional arenas. Health educators have used coaches, including peer coaches, to improve patients' disease management skills for illnesses, such as diabetes and arthritis (Joseph, Griffin, Hall, & Sullivan, 2001).

Coaching is also used effectively in the field of education. It has been identified as an ongoing part of reflective practice and professional development for teachers (Ferraro, 2000). For teachers, reflective practice involves considering one's professional experiences in technology transfer, while receiving coaching from a trained professional (Schon, 1996). A study of coaching, teaching efficacy, and student performance revealed that students of middle school history teachers, who had received coaching, demonstrated higher scores than those of teachers who were not coached (Ross, 1992). Day care teachers receiving coaching demonstrated substantial increases in their behavioral support skills with children, and demonstrated long-term maintenance of these skills (Hendrickson, Gerdner, Kaiser, & Riley, 1993).

Peer coaching is often used in education as well (Hasbrouck, 1997). In one study, teachers receiving training and peer coaching in classroom manage-ment skills demonstrated significant increases in these skill areas compared to a control group receiving only training (Edwards, Green, Lyons, Rogers, & Swords, 1998).

Coaching has been extensively explored in the business literature. It has been shown to be effective in improving performance during employment interviews and in improving on-the-job skills (Maurer, Solamon, & Troxtel, 1998; Maurer, Todd, Solamon, Andrews, & Troxtel, 2001). In the managerial field, coaching is seen as an intervention to help executives incorporate new skills (Hargrove, 1995; Kilburg, 1996; Witherspoon & White, 1996; Peterson & Hicks, 1996; Gould, 1997). Though not yet extensively tested in the business literature, preliminary research is promising. One study of managers in a public agency found that a conventional managerial training program increased productivity by 22%, but when a coaching module followed the training, productivity increased by 88% (Olivero, Bane, & Kopelman, 1997).

Coaching is described by Peterson (1996) as a one-on-one intervention consisting of several steps: 1) forging a partnership, 2) inspiring commitment, 3) growing specific skills, 4) promoting persistence, and 5) shaping the environment. Coaching interventions that are similar to clinical supervision, but which focus on the transfer of a specific intervention technology and include an "organizational change" component, could be readily transferred to human service providers (Hagler & McFarlane, 1991). This coaching model could also be used as a post-training intervention to improve technology transfer to social workers.

The Transtheoretical Model of Change

The transtheoretical change model is rooted in the work of Prochaska, DiClementi, and Norcross (1992), in their research on how people change and on the applications of the model to addictive behavior. Prochaska et al. (1992) identify five stages of readiness for change:

1) **Precontemplation:** The individual is not

considering change, and is not aware of a need to change.

2) **Contemplation:** The individual is beginning to think about the need for change, and the feasibility and costs of such a change.

3) **Determination:** The individual makes the decision to take action and change.

4) **Action:** The individual modifies his/her behavior and changes.

5) **Maintenance:** The individual works to sustain the change after successfully negotiating the action stage.

Though initially developed for work with addictions, the transtheoretical model of change has been shown to be broadly applicable in wider arenas. The transtheoretical model has been: 1) used effectively to understand and augment elders' increase in exercise behavior (Courneya, Nigg, & Estabrook, 2000); 2) shown to be valid in understanding the sexual activity decisions in adolescents (Hulton, 2001); 3) used to demonstrate psychological skill acquisition in athletes (Leffingwell, Rider, & Williams, 2001); and 4) incorporated into treatment readiness interventions for adolescent offenders (Hemphill & Howell, 2000).

In addition, the transtheoretical model has also been used to analyze change at organizational levels. The model has been used to: 1) shape the implementation of a Continuous Quality Improvement process (Levesque, 2001); 2) increase the advocacy focus of a counseling agency (Lewis & Hendrick, 2001); and 3) shift to brief therapy interventions in mental health agencies (Prochaska, 2000).

The authors propose that augmenting training with coaching would result in more effective technology transfer to social work practitioners, when coaching interventions are based in the transtheoretical model of change readiness.

Overview of Novel Coaching Model

The coaching model proposed in this paper is not an ongoing, generalized form of mentoring or clinical supervision. Rather, coaching is described herein as a time-limited process, with the goal of facilitating a social worker's ability to integrate new technology into his/her practice. A coach is someone who is trained and proficient in a particular technology and is recognized as an expert in his/her field. A coach may be a consultant, a hired trainer, or even a practitioner's clinical supervisor. However named, the coach must be skilled both in the new technology and in coaching strategies.

The process of technology transfer begins when a new evidence-based technology is identified as important to the social worker's agency or practice setting. The social worker initially gains knowledge regarding the technology by reading and/or attending trainings. After training or reading, the practitioner has a formal, abstract understanding of an intervention. Following immersion in this new knowledge, the coaching process is offered or accessed as a means to augment the practitioner's learning. Coach and practitioner meet regularly, for a limited period of time, until the goal of technology transfer is met.

Certain activities and elements are present throughout the coaching intervention, while others occur only during particular stages of the coaching process. In accordance with the first element of Peterson's (1996) description of coaching, and in support of the social work value of the primacy of relationships (NASW, 1996), throughout the coaching process, the coach builds a relationship and a sense of collaboration with the practitioner. This is accomplished by using the social work skills of empathic listening, creating dialogue, and providing a supportive environment for discussion of the new technology. By listening to concerns and providing useful feedback and discussion, a coach establishes a trusting alliance with the social work practitioner. A coach also routinely provides the opportunity to process both the practitioner's learning and his/her feelings about transition to the new technology (Bridges, 1982). Finally, through the coaching process, the practitioner is assisted in integrating knowledge of the intervention. During

the first attempts to implement the intervention, the practitioner experiences both affective and attitudinal reactions. Thus, the coaching process helps the practitioner shift his/her understanding of the new technology from one that is academic/explicit, to one that is intuitive/tacit (Nonaka, 1991).

Four steps must be taken to move from a theoretical discussion of coaching to a coaching relationship with a practitioner. The four steps are as follows:

1) Assessment of the practitioner's stage of readiness for change to the new technology;
2) Stage-wise coaching interventions based on the practitioner's stage of readiness for change;
3) Assessment of organizational barriers to implementation of the new technology; and
4) Development of strategies with the practitioner, his/her supervisor, or relevant others to address the identified organizational barriers.

Step 1. Assessment of Stage of Readiness for Change

Assessment of stage of readiness for change, and stage-wise interventions have been used as a model for both individual and system change (Scheyett, 1998). The "readiness for change" model is based on the transtheoretical constructs used by Prochaska, DiClementi, and Norcross (1992) in their research on how people change, and on applications of the constructs to addictive behavior. In this coaching model, the initial task of the coach at each meeting is assessment of the practitioner's current stage of readiness for change and their willingness to integrate the new technology into his/her practice. For example, a practitioner making the claim, "My practice is effective the way it is, and I've never really considered using this new technology," might be assessed at the precontemplation stage. Another stating, "I've read some about this new technology, and the training we went to has me interested," might be at the stage of contemplation. A third saying, "Help me think about how I might use this new technology with my clients," could be in the determination

stage. One who is already using the new technology, but is unclear about how to proceed with a particular client, would be in the action stage. Finally, a practitioner thinking, "How can I maintain what I've learned about this new technology after my coach is gone," would be in the maintenance stage of change.

Step 2. Stage-Wise Coaching

In this model, the second step of the coaching intervention is altered to match the practitioner' stage of change readiness. Osher and Koefod (1989) identified five staged interventions to help clients move along the continuum of change readiness: engagement, persuasion, application, active treatment, and relapse prevention. Coaches using this model follow a similar pattern of interventions steps:

1) **Engagement:** All coaching relationships should begin with engagement via relationship building. However, there may be a need to remain in this stage for a longer period of time with practitioners in the precontemplation stage of readiness for change, in order to build trust and increase awareness of the need for change. Skills here include active listening, rapport building, and non-judgmental clinical discussion.

2) **Persuasion:** These techniques are aimed at social work practitioners in the contemplation stage, to provide motivation to move into preparation and action. They include additional education about the new intervention and results from evaluative research, risk communication (i.e., a discussion about the potential risks of changing to the new intervention versus not changing one's practice) (McCallum, 1995), discussions of practitioner perception of the technology, and encouragement of change consideration. It is essential to explore feelings around these transitional stages of the model.

3) **Application:** At this stage, the coach and practitioner discuss how the new technology

might be applied to clients in the abstract. This process assists the practitioner in the determination stage of change readiness. "What if?" and "How could?" are important questions the coach asks, and the coach and practitioner together develop a shared understanding of ways in which the new technology could be used with the practitioner's clients.

4) **Action:** When the practitioner is actively using the new technology, the coach uses more clinical supervisory skills, helping the practitioner continue to use the technology and to problem-solve thorny clinical situations. When the practitioner has reported and demonstrated integration of the new technology, the coach and practitioner begin to plan coaching termination.

5) **Maintenance:** As the coaching intervention ends, the coach and practitioner develop a plan to ensure that model slippage does not occur and that fidelity to the new technology continues after coaching has ceased. For example, a practitioner may call for a follow-up session with the coach in order to discuss the ways in which the practitioner continues to apply this new knowledge.

Step 3. Determining Organizational Barriers
In addition to the stage-readiness of the clinician, and the stage-wise coaching process, the third step focuses on the assessment of organizational barriers to implementation of the new technology. During discussions with the practitioner, the coach notes and explores barriers to implementation that are beyond the practitioner's control. These barriers could include caseloads so excessive the new technology cannot be implemented effectively, colleagues or collateral providers who are not supportive of the new technology, or policies or practices that are incompatible with the new technology.

Step 4. Overcoming Organizational Barriers
The final step in the coaching process is the development of interventions to address these organizational barriers. Given the wide range of possible barriers, coaches will need flexibility to address them, but tactics could include discussions with administrators about changes in paperwork or productivity requirements, process discussions with clinical team members about the new technology, encouraging support from supervisors, or actions appropriate to the individual organizational situation.

Differences Between Coaching and Supervision
Although there are similarities between supervision and coaching, several key concepts distinguish the two. Both supervision and coaching have an educational focus, but supervision involves ongoing teaching opportunities, encompassing most aspects of the practitioner's work responsibilities (Austin, 1979; Shulman, 1996; Wax, 1979). Second, supervisors are primarily concerned with issues of transference and counter-transference, the social worker's emotional development, the social worker's attainment of skill in reaching for and understanding the client's feelings, and manifesting the ability to put the client's feelings into words (Shulman, 1986, 1996). Third, supervision includes an administrative function, wherein the supervisor assumes the role of an authority figure, evaluates the supervisee, and mediates any conflict between staff and administration (Kurkland & Salmon, 1992; Shulman, 1996). Fourth, supervisors assist social workers in implementing agency policies, maintaining professional judgment, and managing practitioner workloads (Wax, 1979). Finally, supervisors are expected to be accessible and available to the staff.

While supervision and coaching both have an educational component, the focus of coaching is the transfer of particular skills and knowledge acquired in a prior training. In contrast to supervision, coaching does not focus on counter-transference, general understanding of practitioner emotional response, practitioner interaction with colleagues, or practitioner performance on administrative tasks. If these issues arise, the coach is expect-

ed to encourage the social work practitioner to address these concerns with his/her supervisor. Yet, the coach is concerned about the organizational barriers that may hinder the transfer of new knowledge, and will address these issues with agency administrators with the hope that change will occur.

In contrast to supervisors, the coaches' contact with the social worker is time-limited. When considering the differences listed above, one can see that the relationship between the supervisor and coach is critical in order to prevent potential role duplication and power struggles. Both the supervisor and the coach must be able to articulate and clearly delineated between the two functions.

Given that fiscal constraints and limited resources are a reality in social work practice, it may be impractical to have a coach, separate from a supervisor, working with practitioners. Supervisors can take on the role of coach and help their supervisees integrate new technology into their practice. However, certain precautions must be taken to ensure the coaching intervention is undiluted in this process. First, and most importantly, the supervisor must him/herself be skilled in the new technology. Supervisors with little experience in a new technology cannot effectively take on the role of coach for the technology. Second, coaching and supervision must be clearly delineated as two separate functions, with different intentions and interactions. The intensity of the coaching intervention cannot be diluted by discussion of other supervisory or administrative issues. Finally, if a supervisor is to also function as a coach, he/she must make every effort to create a safe space where the supervisee can take risks, express resistance and questions about the new technology, and make mistakes, all without fear of negative impact on the supervisee's employment.

Rationale for Coaching Effectiveness

A coaching intervention may be able to address many of the barriers to effective technology transfer experienced by social workers. The literature identifies a number of challenge areas in technology transfer. The coaching intervention will target each of them as discussed below.

Participants' stage of change

Any technology transfer intervention must take into account the practitioners' stage of change, simultaneously assessing knowledge, values, attitudes, and beliefs about the novel intervention (Backer, 1995). Change is a process of stages, rather than an event. Technology transfer interventions may need to consider a staged set of interventions, with each intervention matching the practitioner's stage of change readiness. The coaching model, as a whole, is based on "stage of change readiness."

Participants' sense of collaboration with the change agent implementing technology transfer

Practitioners and change agents must work in partnership if new technology is to be integrated (Kavanaugh, 1995). Forced, "top-down" change, in the absence of meaningful dialogue, is unlikely to result in real practitioner behavior change (Beer, Eisenstadt, & Spector, 1990). The coach must create a sense of collaboration throughout the intervention. The coaching model focuses on establishing the coach as a trustworthy and helpful resource. This sense of collaboration is particularly important during the Engagement stage.

Participants' need for transition time and process during change

Resistance to change is an inevitable part of the human response. Technology transfer is more likely to succeed if provision is made for a transition process, whereby practitioners can "let go" of old ways of treatment, articulate and address their feelings around this transition, then move on to the adoption of a new technology (Diamond, 1995). The creation of a safe organizational space where these issues can be discussed (something Diamond (1996) refers to as "organizational resilience") must be part of the technology transfer process, and this process

must help practitioners move through the transition (Bridges, 1982). Coaching provides an opportunity for the social work practitioner to discuss and explore feelings about moving to the new technology, beginning as early as the Engagement and Persuasion phases, and continuing throughout the coaching intervention. At each stage, new feelings around transition may arise and will need to be addressed.

Participants' view of the risk involved

Practitioners must be provided with a clear picture of the risks involved in both maintaining their current practice, as well as the risks in adopting a new intervention. This risk communication (McCallum, 1995) involves realistic dialogue to help practitioners understand the benefits of movement to the novel intervention, as well as potential risks and difficulties they will encounter. In the Persuasion stage, the coach will explore the risk of using non-evidence-based interventions. The coach will address the practitioner's anxiety about the risk of trying a new intervention by providing support, beginning at the Engagement stage, and continuing throughout the coaching relationship.

Participants' perception of the technology

Acceptance of a novel intervention is increased if it is viewed by participants as relevant, timely, clearly understandable, credible, replicable in the participants' setting, and acceptable to the participants (Brown, 1995). Thus, technology transfer must include both evidence for the effectiveness of the novel intervention and an articulation of why the intervention is beneficial to the practitioner. The practitioner must be helped to see that the intervention can be applied successfully in his/her setting. Finally, the intervention must be presented in such a way that the practitioner finds it syntonic with his/her values and beliefs about social work services. During the Persuasion stage, the coach provides evidence for efficacy, highlighting the advantages and applicability of the new technology, and allows the practitioner to explore concerns

around the technology's "fit" with his/her values and beliefs.

Opportunity for exchange between tacit and explicit knowledge

True integration of knowledge is thought to involve both tacit (i.e. non-formalized/intuitive) knowledge, such as is found in practitioners with "good instincts," and explicit (i.e., formalized/written) knowledge (Nonaka, 1991). Dialogue between practitioners and technology transfer agents must explore the interaction of tacit and explicit information. Helping practitioners internalize novel interventions moves the knowledge from explicit to tacit; helping practitioners identify their "good instinct" skills and incorporate them into the model of the novel intervention, moves tacit knowledge to explicit knowledge. This iterative loop increases the likelihood of integration of the new technology. The coach facilitates the exchange of tacit and explicit knowledge through skill practice and case discussion beginning, in the abstract, during the Application phase, and continuing through the Action phase with concrete applications.

Participants' tendency to return to old models over time ("model slippage")

Research has shown that over time, practitioners may tend to return to older, more familiar interventions (Pill, Stott, Rollnick, & Rees, 1998). Technology transfer interventions must address this issue and develop strategies to prevent model slippage. During the Action phase, the coach will help the practitioner maintain fidelity to the novel technology. The Maintenance phase of coaching helps the practitioner develop a plan for continued fidelity to the technology after coaching has ended.

Organizational barriers to technology implementation

In addition to participant characteristics, a number of significant organizational barriers must be assessed and addressed if a novel intervention is to be adopted. Organizational barriers can include:

lack of support from leadership (Hall, Rosenthal, & Wake, 1993); lack of support from colleagues and the work culture (Baum, 1995); external barriers, such as documentation or billing requirements; and other contextual variables. During the entire intervention, the coach and the practitioner identify organizational barriers that may impede implementation of the new technology, and collaborate to provide solutions to overcome these barriers.

Potential Advantages of the Coaching Model

There are many potential benefits of using a coaching model to augment training and clinical supervision. The most important benefit is the potential for increased efficacy of social work practice. For the individual social work practitioner, a coach may be of help in learning and integrating a new, more effective technology into practice quickly and accurately. In fact, the integration of more effective technology into practice is an ethical responsibility of social workers, and is outlined in the NASW Code of Ethics (1996): "Social workers continually strive to increase their professional knowledge and skills and apply them in practice."

Coaching may also provide an advantage to the social work profession as a whole. By using coaching to augment traditional technology transfer, the social work field may more rapidly shift its practice to newer research and evidence-based interventions, thus increasing the effectiveness and professional impact of the discipline in its entirety.

Another potential benefit of the coaching model is that it parallels the clinical concepts and values of the social work profession. This coaching model is based in a clinical model employing principles of behavioral change, and many interventions in the model are patterned after clinical motivational and change techniques. Thus, the activities within the coaching model are based, in part, on skills social workers already possess, and should be easily learned and implemented by potential social work coaches. This intervention would demystify change and make social workers less apprehensive about trying new approaches.

The social work field can implement no intervention if it is not syntonic with social work values and the Code of Ethics. The coaching model is, at its foundation, based on a relationship between the coach and practitioner. As stated in the NASW Code of Ethics (1996): "Social workers understand that relationships between and among people are an important vehicle for change." This coaching relationship is non-confrontational and respectful of the practitioner's opinions and feelings, supporting the social work value of treating each individual in a caring and respectful manner. The stage-wise nature of the coaching intervention ensures that the coach "starts where the person is at," and intervenes with each practitioner in an individualized manner. Finally, by focusing on both the organization and the individual practitioner, the coaching model parallels the values inherent in the person-in-environment social work approach (Hepworth, Rooney, & Larsen, 1997). A focus that includes the organizational challenges and supports to technology transfer is a more holistic stance for the coach/practitioner dyad.

Potential Challenges in the Implementation of the Coaching Model

Though it appears promising, it must be acknowledged that there may be challenges in implementing the coaching model proposed in this paper. Social work agencies may be short-staffed, or may require that staff spend the vast majority of their time in (reimbursable) client contact. Gaining administrative support for giving staff the time needed for a coaching intervention may be difficult, and administrators will need to be helped in understanding that the time is an investment, which can result in increased staff effectiveness and better clinical outcomes.

A second challenge could involve a scarcity of social workers knowledgeable and skilled enough to provide coaching in an evidence-based intervention. Finding a coach for new and effective inter-

ventions may require hiring a potentially costly expert consultant. To minimize this cost, agencies need to be "smart shoppers," and choose to provide coaching for only those evidence-based interventions, that will have the greatest impact on their client population, thus maximizing the impact of the investment. In addition, agencies may wish to use an external coach consultant to develop skills in a few internal social work staff, who then could become in-house coaches on an ongoing basis.

Finally, this model is limited by the knowledge base of the field. It is only effective for those interventions that have been empirically tested. There may be client populations, problem situations, or disorders for which no clear, evidence-based best practice yet exists. In this situation, the proposed coaching model could not be used.

Conclusion

The coaching model presented in this article holds promise as an effective addition to education, supervision, training, and other traditional forms of technology transfer. The implications for social work practice are numerous, including the potential for increased effectiveness and more rapid dissemination of new evidence-based interventions throughout the field. In addition, the coaching focus on organizational barriers in technology transfer may provide significant information on larger systems issues that block best practice dissemination and implementation. This information may also be useful to social work administrators and policymakers as they strive to shape systems to maximize effectiveness of service.

In order to demonstrate the effectiveness of this coaching model in technology transfer, a number of controlled evaluations are needed. Initial research could explore the effectiveness of simple training versus training plus coaching in the integration of new technology in social workers' practice. With an initial demonstration of effectiveness, the model could then be adapted and evaluated in a number of social work settings.

References

Austin, L. N. (1979). Basic principles of supervision. In Carlton E. Munson (Ed.). *Social work supervision: Classic statements and critical issues.* (pp. 56-69). New York: The Free Press

Backer, T. (1995). Assessing and enhancing readiness for change: Implications for technology transfer. In Backer, T., David, S. and Soucy, G. (eds.) *Reviewing the behavioral science knowledge base of technology transfer.* NIDA Monograph Series 155, Rockville, MD.

Baum, H. (1995). Interorganizational planning and coordination as technology transfer: Lessons from a case study. In Backer, T., David, S. and Soucy, G. (eds.) *Reviewing the behavioral science knowledge base of technology transfer.* NIDA Monograph Series 155, Rockville, MD.

Beer, M., Eisenstadt, R., & Spector, B. (1990). Why change programs don't produce change. *Harvard Business Review, Nov./Dec.*: 158-166.

Bridges, W. (1982). *Managing Organizational Transition.* Mill Valley: William Bridges and Associates.

Brown, B. (1995). Reducing impediments to technology transfer in drug abuse programs. In Backer, T., David, S. and Soucy, G. (eds.) *Reviewing the behavioral science knowledge base of technology transfer.* NIDA Monograph Series 155, Rockville, MD.

Brown, B. (1998). Making a difference—Is journal publication enough? *Journal of Substance Abuse Treatment 15(2)*: 87-88.

Cocoran, J. *Evidence based social work practice with families: A lifespan approach.* New York: Springer.

Courneya, K., Nigg, C., Estabrook, P. (2000). Relationship among the theory of planned behavior, stages of change, and exercise behavior in older persons over a three year period. In P. Norman, C. Abraham, M. Conner (Eds.) *Understanding and changing health behavior: From health belief to self-regulation.* Amerstdam: Harwood Academic Publishers.

Diamond, M. (1995). Organizational change as human process, not technique. In Backer, T., David, S. and Soucy, G. (eds.) *Reviewing the behavioral science knowledge base of technology transfer.* NIDA Monograph Series 155, Rockville, MD.

Diamond, M. (1996). Innovation and diffusion of technology: A human process. *Consulting Psychology Journal: Practice and Research 48(4)*: 221-229.

Edwards, J., Green, K., Lyons, C., Rogers, M., Swords, M. (1998). *The effects of cognitive coaching and nonverbal classroom management on teacher efficacy and perceptions of school culture.* Paper presented at the Annual Meeting of the American Educational Research Association (San Diego, CA, April 13-17, 1998).

Ewan, C., & Whaite, M. (1983). Evaluation of training programs for health professionals in substance misuse: A review. *Journal of Studies on Alcohol 44(5)*: 885-899.

Faul, A. C., McMurtry, S. L., & Hudson, W. W. (2001). Can empirical clinical practice techniques improve social work outcomes? *Research on Social Work Practice, 11 (3)*, 277-299.

Ferraro, J. (2000). Reflective practice and professional development. *ERIC Clearinghouse on Teaching and Teacher Education.* [Online] http://orders.edrs.com/members/sp.cfm?AN=ED449120.

Fortune, A.E., & Proctor, E. K. (2001). Research on social work interventions. *Social Work Research, 25 (2)*, 67-69.

Gould, D. (1997). Developing directors through personal coaching. *Long Range Planning, 30(1)*: 29-37.

Hagler, P., & McFarlane, L. (1991). Achieving maximum student potential: The supervisor as coach. *Canadian Journal of Rehabilitation 5(1)*: 5-16

Hall, G., Rosenthal, J., & Wake, J. (1993). How to make reengineering really work. *Harvard Business Review Nov./Dec.*: 119-131.

Hargrove, R. (1995). *Masterful coaching.* San Francisco: Jossey-Bass, Inc.

Hasbrouck, J. (1997). Mediated peer coaching for training preservice teachers. *Journal of Special Education, 31(2)*: 251-271.

Hemphill, J., Howell, A. (2000). Adolescent offenders and stages of change. *Psychological Assessment, 12(4)*: 371-381.

Hendrickson, J., Gardner, N., Kaiser, A., Riley, A. (1993). Evaluation of a social interaction coaching program in an integrated day care setting. *Journal of Applied Behavioral Analysis, 26(2)*: 213-225.

Hepworth, D., Rooney, R., Larsen, J. (1997). *Direct Social Work Practice: Theory and Skills, Fifth Edition.* Pacific Grove, CA: Brooks/Cole Publishing Company.

Hulton, L. (2001). Application of the transtehoretical model of change to adolescent decision-making. *Issues in Comprehensive Pediatric Nursing, 24(2)*: 95-115.

Joseph, D, Grinni, M., Hall, R., and Sullivan, E. (2001). Peer coaching: An intervention for individuals struggling with diabetes. *Diabetes Educator, 27(5)*: 703-710.

Kalichman, S., Blecher, L., Cherry, C., & Williams, E. (1997). Primary prevention of HIV infections: Transferring behavioral research technology to community programs. *Journal of Primary Prevention 18(2)*: 149-172.

Kavanaugh, D. (1994). Issues in multidisciplinary training of cognitive behavioral interventions. *Behaviour Change 11(1)*: 38-44.

Kavanaugh, K. (1995). Collaboration and diversity in technology transfer. In Backer, T., David, S. and Soucy, G. (eds.) *Reviewing the behavioral science knowledge base of technology transfer.* NIDA Monograph Series 155, Rockville, MD.

Kilburg, R. (1996). Towards a conceptual understanding and definition of executive coaching. *Consulting Psychology Journal: Practice and Research 48(2)*: 134-144.

Kurkland, R., & Salmon, R. (1992). When problems seem overwhelming: Emphasis in teaching, supervision, and consultation. *Social Work, 37*, 240-244.

Leffingwell, T., Rider, S., Williams, J. (2001). Application of the transtheoretical model to psychological skills training. *Sports Psychologist, 15(2)*: 168-187.

Lehman, A. Steinwachs, D. (1998). At issue: Translating research into practice: The schizophrenia patient outcomes research team (PORT) treatment recommendations. *Schizophrenia Bulletin 24(1)*: 1-10.

Levesque, D. (2001). Organizational stages and processes of change for continuous quality improvement in health care. *Consulting Psychology Journal: Practice and Research, 53(3)*: 139-153.

Lewis, J., Cheek, J., Hendricks, C. (2001) Advocacy in supervision. In L. Bradley, N. Ladany (Eds.) *Counselor supervision: Principles, process, and practice.* Philadelphia: Brunner-Routledge.

Maurer, T., Solamon, J., Troxtel, D. (1998). Relationship of coaching with performance in situational employment interviews. *Journal of Applied Psychology, 83(1)*: 128-136.

Maurer, T., Todd, J., Solamon, J., Andrews, K., Troxtel, D. (2001). Interviewing coaching, preparation strategies, and response strategies in relation to performance in situational employment interviews. *Journal of Applied Psychology, 86(4)*: 709-717.

McCallum, D. (1995). Risk communication: A tool for behavioral change. In Backer, T., David, S. and Soucy, G. (eds.) *Reviewing the behavioral science knowledge base of technology transfer.* NIDA Monograph Series 155, Rockville, MD.

National Association of Social Workers. (1996). *Code of Ethics.* Washington, D.C.: NASW Press.

Nonaka, I. (1991). The knowledge creating company. *Harvard Business Review Nov/Dec*: 96-111.

Olivero, G., Bane, K., Kopelman, R. (1997). Executive coaching as a transfer of training tool: Effects on productivity in a public agency. *Public Personnel Management, 26(4)*: 461-469.

Osher, F., & Koefod, L. (1989). Treatment of patients with psychiatric and psychoactive substance use disorders. *Hospital and Community Psychiatry 40*: 1025-1030.

Pennypacker, H., & Hench, L. (1997). Making behavioral technology transferable. *Behavior Analyst, 20(2)*: 97-108.

Pentz, M. (1994). Directions for future research in drug abuse prevention. *Preventive Medicine, 23(5)*: 646-652.

Peterson, D., & Hicks, M. (1996). *Leader as Coach.* Minneapolis, MN: Personnel Decisions.

Peterson, D. (1996). Executive coaching at work: The art of one-on-one change. *Consulting Psychology Journal: Practice and Research, 48(2)*: 78-86.

Pill, R., Stott, N., Rollnick, S., & Rees, M. (1998). A randomized controlled trial of an intervention designed to improve the care given in general practice to Type II diabetic patients. *Family Practice, 15(3)*: 229-235.

Prochaska, J. (2000). A transtheoretical model for assessing organizational change: A study of family service agencies' movement to time-limited therapy. *Families in Society, 81(1)*: 76-84.

Prochaska, J., DiClementi, C., & Norcross, J. (1992). In search of how people change. *American Psychologist, Sept.*: 1102-1114.

Rosen, A., Proctor, E. K., & Staudt, M. M. (1999). Social work research and the quest for effective practice. *Social Work Research, 23*, 4-14.

Ross, j. (1992). Teacher efficacy and the effects of coaching on student achievement. *Canadian Journal of Education, 17(1)*: 51-65.

Scheyett, A. (1998). *Working with clients with substance use and mental disorders: A curriculum and organizational change strategy.* Chapel Hill: University of North Carolina School of Social Work.

Schon, D. (1996). *Educating the reflective practitioner: Towards a new design for teaching and learning in the profession.* San Francisco: Jossey-Bass, Inc.

Shulman, L. (1996). Supervision and consultation. In Richard L. Edwards and June Gary Hopps(Eds.). *Encyclopedia of Social Work, 19th Edition.* (pp.) Washington, DC: NASW Press.

Sorenson, J., Hall, S., Loeb, P., Allen, T., Glaser, E., & Greenberg, P. (1988). Dissemination of a job seeker's workshop to drug treatment programs. *Behavior Therapy, 19*: 143-155.

Steinberg, B., Schorske, B., & Karpf, L. (1991). Technology transfer as an impetus for systems change: Evaluation of an inner-city demonstration project. *Psychosocial Rehabilitation Journal, 15(2)*: 103-106.

Thyer, B. (2001). A decade of research on social work practice. *Research on Social Work Practice, 10 (1)*, 5-8.

Wax, J. (1979). Time-limited supervision. In Cartlon E. Munson (Ed.). *Social work supervision: Classic statements and critical issues.* (pp. 111-121). New York: The Free Press.

Werner, J., O'Leary, A., Baldwin, T., & Wexley, K. (1994). Augmenting behavior-modeling training: The effects of pre- and post-training. *Human Resource Development Quarterly, 5(2)*: 169-183.

Witherspoon, R. & White, R. (1996). Executive Coaching: A continuum of roles. *Consulting Psychology Journal: Practice and Research, 48(2)*: 124-133.