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**THE INNOVATION DIFFUSION AND ADOPTION RESEARCH PROJECT (IDARP):
MOVING FROM THE DIFFUSION OF RESEARCH RESULTS
TO PROMOTING THE ADOPTION OF EVIDENCE-BASED INNOVATIONS
IN THE OHIO MENTAL HEALTH SYSTEM**

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In the process of implementing its quality agenda, the Ohio Department of Mental Health is taking action in three arenas: consumer Outcomes, quality improvement, and evidence-based practices (EBPs). This project is focused on the EBP component of the implementation process.

The ODMH hopes to improve quality of care by facilitating the adoption and assimilation of EBPs by service providers in Ohio. Coordinating Centers of Excellence (CCOE) have been established as structural mechanisms to accomplish this goal. Each CCOE is seen as the statewide technical expert with regard to the implementation of a specific one of these innovative practices. The major functions of CCOEs are to disseminate information about EBPs to provider organizations, to promote the adoption of EBPs, and to provide the technical assistance, training, and consultation required for the successful implementation of a specific EBP by service providers.

Within the health care domain, evidence-based practices (EBPs) are interventions for which there is consistent scientific evidence that they improve client outcomes (Drake et al., in press). In order for an EBP to be considered an innovation, the EBP must be *perceived* as new by adopting organizations. Given that EBPs tend to represent state-of-the-art practices, it is expected that EBPs will be seen as technical and/or administrative innovations to adopting organizations in this research. However, in contrast to the definition of an EBP, innovations, by definition, do not require consistent scientific evidence that they improve outcomes. For ease of reference and given the assumption that an EBP will be perceived as innovative, the terms EBP and innovation will be used interchangeably in this document.

This research specifically focuses on four CCOEs and therefore, four EBPs which include:

1. The Ohio Medication Algorithm Project (OMAP). The OMAP CCOE disseminates medication algorithms developed through the Texas Medication Algorithm Project. These algorithms promote the use of atypical anti-psychotic medications, new generation antidepressant medications, and mono-therapy as a first line of treatment.
2. Cluster-Based Planning Alliance. This innovation involves the use of a research-based consumer classification scheme to guide staff training, consumer outcomes management, and treatment and service planning within mental health organizations.
3. The Center for Innovative Practices in Youth and Family Mental Health (CIP). CIP provides technical assistance, training and fidelity assessment to agencies adopting the Multi-Systemic Therapy model developed by Scott Henggeler (1999). This approach involves the use of

treatment teams to provide intensive home-based treatment to youth that cuts across key settings and systems, including family, peers, school and neighborhood.

4. Ohio Substance Abuse and Mental Illness (SAMI) CCOE. The Ohio SAMI CCOE provides training, consultation, technical support and fidelity assessments to agencies adopting the New Hampshire-Dartmouth SAMI model, an integrated and comprehensive treatment model for individuals with mental illness and substance abuse.

Research Questions

The project focuses on two broad questions: 1) What factors and processes influence the adoption of innovations by behavioral healthcare provider organizations? 2) What factors and processes contribute to the longer-term assimilation of innovations by adopting organizations? Factors and processes expected to explain variability in the decision to adopt/not adopt and, for adopting organizations, the subsequent assimilation of the innovation, relate to the innovation itself, aspects of the adoption decision process, features of the provider organization, and characteristics of the relationship between the CCOE and the provider organization.

Theoretical and Empirical Framework

Relevant literatures. Numerous literatures contributed to the development of study hypotheses, design, and methods. The organizational change and development literature provided an important foundation because the adoption of innovative practices is seen as a special case of organizational change. In addition, because EBPs are conceptualized as innovative practices, the literature related to the diffusion, adoption and assimilation of innovations (e.g., Rogers, 1995, 1962) contributed in significant ways to the conceptualization of this project. Of particular interest was the research dealing with “user-based” as opposed to “source-based” models of innovation. This is because we are interested in understanding the adoption and implementation of externally developed innovations rather than the process by which innovations are conceived, developed, and disseminated (e.g., Klein & Sorre, 1996). In addition, we focused on studies dealing with the organization rather than the individual as the adopting entity (e.g., Meyer & Goes, 1988; Van de Ven, Angle, & Poole, 2000) because we are primarily interested in adoption and implementation at the organizational level of analyses (by service providers).

Additional important literatures that were reviewed include: 1) the healthcare planning and implementation literature (e.g., Hickson et al., 1986; Nutt, 1992) because the innovations of interest are being diffused in the behavioral healthcare arena, 2) the decision making literature (e.g., Daft & Weick, 1984), particularly the literature related to decision making under conditions of risk (e.g., Kahneman & Tversky, 1979; MacCrimmon & Wehrung, 1986; Staw, Sandelands, & Dutton, 1981; Sitkin and Weingart, 1995) because the adoption of EBPs is seen as involving both benefits and costs for organizations, 3) the knowledge creation and utilization literature (e.g., Abrahamson, 1991; Denis et al., 2001; Fitzgerald et al., 2001) because it acknowledges that the extent to which “evidence” is seen as convincing is likely to vary with the beholder, 5) the literature related to the development and growth of inter-organizational relationships (e.g., Ring & Van de Ven, 1994) because it identifies factors that are expected to explain the quality of the working relationship between CCOEs and adopting organizations, and 6) the work related to levels issues in the conduct of organizational research (e.g., Klein, Dansereau, & Hall, 1994; Kumar, Stern & Anderson, 1993; Rousseau, 1985) because our underlying research models are multi-level in nature (i.e., involve predictor variables which span at least four levels of analyses from the innovation itself to the CCOE-adopting organization dyad.)

Guiding assumptions. Reviews of these literatures resulted in the identification of several central assumptions which guide the research. First, organization-level models of the adoption, implementation

and assimilation of innovations are more complex than individual models (Rogers, 1995; Klein & Sorre, 1996; Van de Ven, Angle & Poole, 2000; Meyer & Goes, 1988). Second, scientific evidence in support of the effectiveness of an innovation may be helpful but it is neither necessary nor sufficient for the adoption of innovative practices by organizations (Abrahamson, 1991; Denis et al., 2001). Third, effective approaches for arriving at adoption decisions and implementing new practices are commonly known by managers but are uncommonly practiced (Nutt, 1999). Fourth, variables that explain significant and meaningful variability in the decision to adopt innovations and the success of implementation efforts 1) span multiple levels from the innovation itself to the environment in which adopting organizations conduct business, and 2) include process, perceptual, and attitudinal variables (Damanpour, 1991; Fishbein & Azjen, 1975 ; Meyer & Goes, 1988; Rogers, 1995; Van de Ven, Angle, & Poole, 2000). Fifth, systematic study of the factors and processes impacting adoption decisions and implementation efforts is critical to maximizing functional learning (e.g., self-correcting processes) and minimizing superstitious learning (e.g., proliferation of self-serving explanations of successful and unsuccessful implementation efforts) (Argyris, 1989; Senge, 1990). Finally, the innovation literature suggested that it is important to examine two key phases of user-based innovation processes: the adoption decision-making phase and the implementation phase.

Research models. Study hypotheses are linked to two fundamental models, which in turn, are directly related to the two key phases of user-based models of the innovation process (i.e., the adoption decision phase; the implementation phase.) The phase one model, which focuses on the adoption decision, conceptualizes the decision to adopt as a decision made under conditions of risk. The phase two model, which applies only to organizations that decide to adopt an innovation, regresses the success of the innovation implementation effort on variables which span several levels of analyses. As a result, the phase two model is conceptualized as a hierarchical linear model.

The adoption decision is seen as a decision under risk because adopting an innovation involves both costs (e.g., substantial start-up costs) and benefits (e.g., reduced inpatient or other service costs) to organizations and stakeholders (e.g., employees, consumers). In addition, perceptions of costs and benefits typically vary by stakeholder group (see Table 1 for hypothetical example) (Denis et al., 2001).

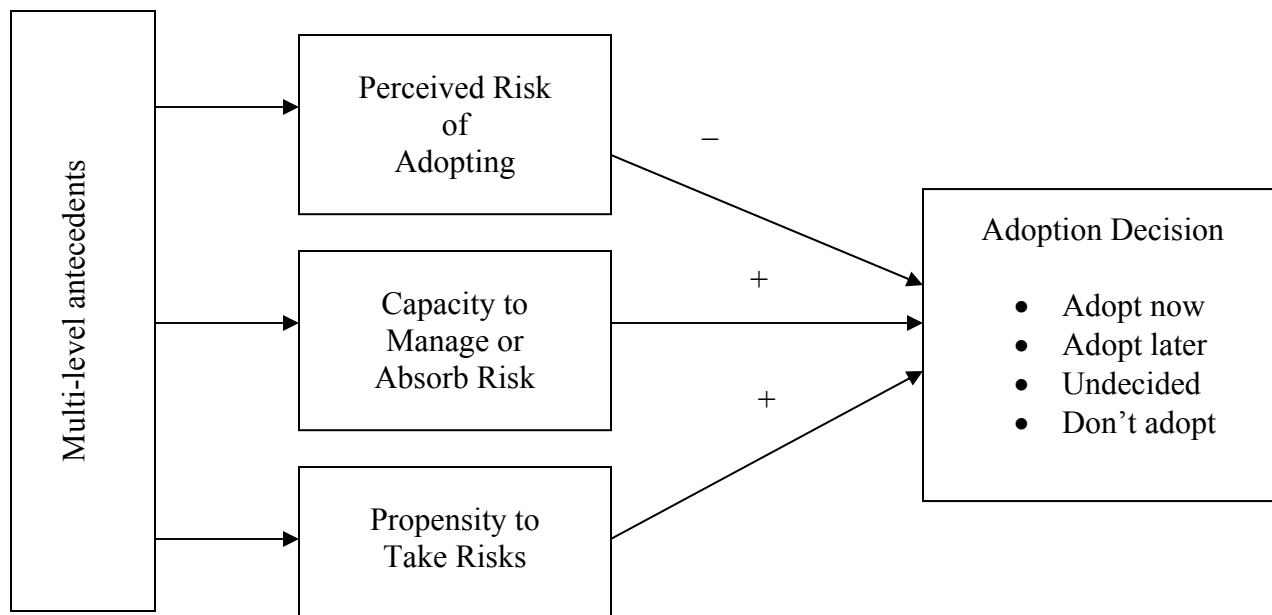
Table 1. Cost/Benefit Map for Hypothetical Innovation

Stakeholder	Benefits	Costs
Provider organization	Reduce inpatient or other costs	High start-up costs; difficulty hiring staff
Direct care staff	More effective service	Inconvenient hours; burnout
MIS staff	Increased power for department	Heavier workload
Consumer	Fewer hospitalizations	Less freedom

All else equal, the likelihood of deciding to adopt an innovation increases with the extent to which perceived benefits outweigh costs. When this occurs, the perceived risk of adoption is likely to be low (see Figure 1) and a decision to adopt is likely to be made.

As shown below, a decision to adopt also is more likely when an organization has the capacity to manage down-side risk (e.g., slack resources are available) and when the organization has a past history or propensity to take risks.

Figure 1. Phase I: The decision to adopt an innovation as a decision under risk.



Finally, as indicated in Figure 1, the variability in the perceived risk of adopting, the capacity to manage adoption-related risks, and the propensity to take risks is expected to be explained by a host of antecedent variables that span multiple levels of analysis. These constructs as well as their antecedents will be measured in the research.

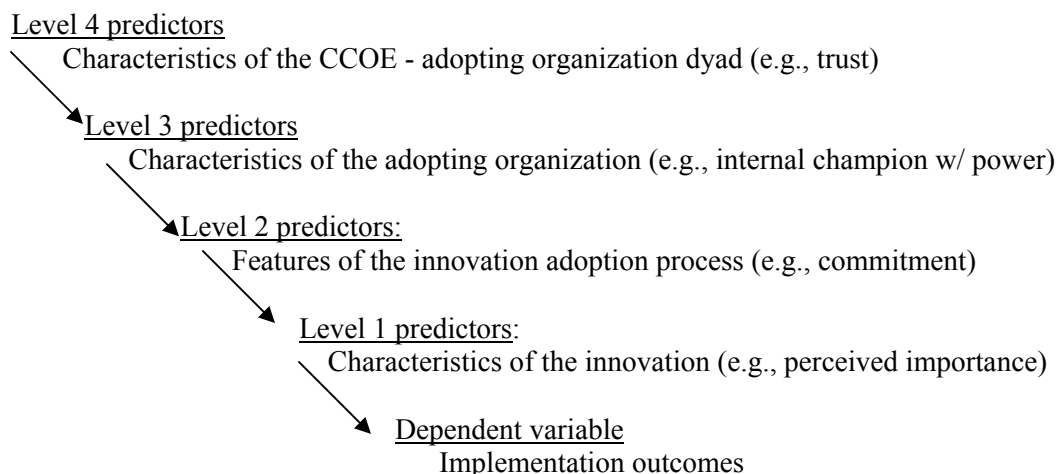
For those organizations that choose to adopt an innovation, the next phase of the process is the implementation of the innovation (see Figure 2). As depicted in Figure 2, variables that explain the outcomes of the implementation process are likely to span several levels from the innovation itself to characteristics of the dyadic relationship between the CCOE and the adopting organization. The examples provided in Figure 2 for Level 1 through Level 4 predictors of implementation outcomes all are expected to be positively linked to the success of implementation efforts.

In summary, two models provide the framework for hypothesis testing. The Phase 1 model (i.e., adoption decision) will be tested with all willing organizations that have been approached by one or more of the four CCOEs. The Phase 2 implementation model will be tested with organizations that have decided to adopt one of the four innovations of interest in this research.

Methodology

A longitudinal design is being utilized to follow the adoption and implementation processes as they occur. Data are going to be gathered at six-month intervals over a two-year period. The initial sample includes approximately 45 provider organizations that have had contact with one or more CCOEs. Additional sites will be added to the sample as CCOEs make contact with other organizations during the two years.

Figure 2. Phase II: Hierarchical model of factors and processes influencing implementation outcomes.



Data will be collected from organizations that are at various states of adoption and implementation. This includes organizations that have decided to adopt an EBP, as well as organizations that have decided not to adopt an EBP and organizations that have decided that they may reconsider adopting the EBP in the future (“wait and see” group). Data will also be collected from organizations that have implemented the EBP and organizations that implemented the EBP and later decided to discontinue implementation (“de-adopters”).

At each organization, data are being gathered from four or five key informants: one or two staff involved in the adoption decision (e.g., executive director, medical director, clinical supervisor); one or two staff involved in planning and implementing the EBP (e.g., case managers, supervisors, psychiatrists); and one or two administrative staff who can provide general information related to organizational structure and resources. Finally, representatives of the four CCOEs as well as organizational informants are providing data about the working relationship between the CCOE and the organization.

Several data gathering approaches are being used to obtain quantitative and qualitative data. Interviews are conducted with key informants and representatives from each CCOE. These interviews include structured and open-ended questions. A “process reconstruction approach” developed by Paul Nutt (1992) is being used to systematically track project planning and implementation processes through planning stages. Participants are asked to describe the steps taken from the point at which they initially heard about the innovation to their current level of implementation. At each step, participants are asked to describe what took place, people involved, and how the work was carried out.

Surveys are being administered to key informants at each organization and to representatives from each CCOE to gather additional data related to variables in the adoption decision and implementation models. Archival data related to organizational structure, size and budget are obtained from administrative and fiscal staff.

Progress to Date

Selection of the CCOEs was completed in spring, 2001. A diverse group of CCOEs was identified in order to maximize the generalizability of the findings. The EBPs disseminated by participating CCOEs vary on a number of key characteristics (e.g., evidence, salience, perceived complexity, level of coordination and consensus required to implement, visibility of outcomes).

In order to become familiar with each CCOE and organizations adopting the four EBPs, IDARP research team members attended a variety of meetings between the CCOEs and organizations. For example, the research team observed presentations by CCOE representatives to organizations that were considering adopting various EBPs. The research team also attended needs assessments and trainings for organizations that were in various stages of implementation.

Interview protocols and survey instruments were finalized in November, 2001. Established scales were identified from relevant literature and individual questions were adapted for application to a mental health organization context. Measures were also adapted to suit organizations at various adoption/implementation states.

Data collection was initiated in December 2001. As of June, 2002, data have been collected from about 30 organizations plus the four CCOEs. Between two and four staff members have been interviewed at each of these organizations and nearly one hundred and fifty surveys have been received. The current sample includes organizations that have been implementing for a while, organizations that recently decided to adopt, organizations that have decided not to adopt, plus a handful of organizations that have discontinued the practice (i.e., de-adopters).

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