

# Application of diffusion of innovations theory to the TIPs Evaluation Project results and beyond<sup>1</sup>

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## Abstract

This article provides an overall summary of the results from four major studies under the TIPs Evaluation Project. The diffusion of innovations theory is used as a theoretical framework to understand substance abuse treatment providers' awareness, attitudes, and practices (or uses) of TIPs. Recommendations to improve the development and dissemination of TIPs are made. In addition, changes made to the TIPs program based on study findings are highlighted. All the studies within this project are structured around the diffusion of innovations theory framework and demonstrate the efficacy of theory-based program evaluation.

*Keywords:* Treatment Improvement Protocols (TIPs); substance abuse; substance abuse treatment; evaluation; diffusion of innovations theory; diffusion theory; theory based evaluation; substance abuse treatment providers; development, dissemination, adoption, and implementation of best practice guidelines

## 1. Introduction

This section of the special issue of *Evaluation and Program Planning* has been dedicated to the theory driven evaluation work conducted by the Center for Substance Abuse Treatment (CSAT) in its efforts to evaluate the effectiveness of the Federal Government at developing and disseminating best practice guidelines in substance abuse (SA) treatment. This final article of the special issue will discuss the overall results of the TIPs Evaluation Project within the diffusion of innovations theory framework. It will provide a summary of the recommendations made to CSAT, and explain how the results from the TIPs Evaluation Project were used to improve the development and dissemination of all TIPs. Finally, CSAT received considerable attention for its innovative approach to this evaluation project. The results from this project exemplify the use of theory-based program evaluation and have broad application to other agencies that provide knowledge dissemination activities.

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<sup>1</sup>The opinions and assertions contained in this article are the private views of the authors and are not to be construed as official or as reflecting the views of the Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, or the Department of Health and Human Services.

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## **2. Summary of the TIPs Evaluation Project's results within the diffusion of innovations framework**

### *2.1. Knowledge of TIPs*

Diffusion theory asserts that individuals pass through five stages on their way to adopting a new practice or behavior. These stages include: knowledge, persuasion, decision, implementation, and confirmation (Rogers, 1995). Diffusion theory also asserts that although an innovation may be introduced to a community from an outside source (e.g., CSAT introducing TIPs to the SA treatment community), detailed knowledge of that innovation, including the decision to try the innovation in practice, usually occurs through interpersonal communication networks. The TIPs Evaluation Project attempted to capture the knowledge stage of the diffusion process by measuring the extent to which TIPs are reaching their intended target audience (i.e., the degree to which treatment providers are knowledgeable about the TIPs). Results from the TIPs Evaluation Project regarding treatment professionals' knowledge of the TIP series are consistent with a diffusion of innovations interpretation of how individuals become aware of new ideas and practices.

### *2.2. Awareness of the TIP Series*

Just under half of all professionals working in the treatment field are aware of the TIP series. The most commonly cited mechanisms for becoming aware of TIPs (i.e., from the National Clearinghouse for Alcohol and Drug Information [NCADI]; from a conference workshop or training; from a colleague; and from a supervisor) all provide opportunities for interpersonal communication. These findings on how providers first became aware of TIPs are encouraging because they indicate that some of the dissemination mechanisms already employed by CSAT have been successful. One suggestion to improve the dissemination of TIPs would be to use the current dissemination mechanisms more effectively.

Knowing when treatment professionals became aware of TIPs also has implications for increasing awareness of TIPs among treatment professionals. The majority of treatment professionals reported becoming aware of TIPs four years ago or less. This finding indicates that diffusion of TIPs through the treatment field is occurring, however, treatment professionals did not become aware of TIPs when they were originally published.<sup>2</sup> Although these results are consistent with the assumption of diffusion theory which states that the diffusion of an innovation occurs over time, it is important to make treatment professionals aware of TIPs as they are published because research presented in some TIPs is time sensitive.

### *2.3. Dissemination of TIPs within the treatment field*

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<sup>2</sup>TIPs were first published in 1992.

The first step to understanding the diffusion of TIPs throughout treatment field is to identify the mechanisms through which treatment professionals become aware of TIPs. If, detailed knowledge of TIP (including the decision to use TIPs in practice) occurs through interpersonal communication networks as diffusion theory predicts, then it is also important to determine if treatment professionals are disseminating TIPs to other professionals working in the field. The current TIPs dissemination plan includes sending TIPs, directly upon publication, to Single State Agency (SSA) Directors.<sup>3</sup> SSA Directors are then expected to disseminate new TIPs throughout the ranks of the SA treatment field. Results from Wave 2 of the Retrospective Study indicate that the first part of this dissemination plan is occurring. SSA Directors are the most likely of all treatment professionals to report receiving TIPs from CSAT. Furthermore, SSA Directors reported disseminating or sharing TIPs to others more often, and to more individuals, than any other treatment professional. Nevertheless, results from Wave 1 of the Retrospective Study indicate that slightly under half of all treatment professionals are aware of TIPs with Program Counselors having the lowest awareness levels. The question, therefore, remains as to why there are such low TIPs awareness levels throughout the treatment field and especially among Program Counselors if SSA Directors are disseminating TIPs as intended.

One possible explanation for these seemingly contradictory results may be that SSA Directors are disseminating TIPs as they are asked to do; however, they are not disseminating TIPs in a manner that reaches the majority professionals working in the treatment field. Results from the Wave 2 survey provide some evidence to support this interpretation. When asked to report with whom they share and distribute TIPs, SSA Directors were the most likely of all treatment professionals to report sharing TIPs with middle managers; with other treatment programs in the State; with coalitions or professional associations; with universities, students, or faculty; with staff at other State agencies; and with legislators. Due to their administrative positions within the treatment field, SSA Directors are the most likely of all treatment professionals to interact with individuals outside their specific place of employment (e.g., other programs in the State, other State agencies, universities, etc.). Of all treatment professions, SSA Directors are also the most likely to have the budget to attend meetings of various professional associations and coalitions. As a consequence of the fact that neither the SSA Directors themselves, nor the individuals with whom they routinely interact, communicate directly with line staff, Program Counselors are the last to know of TIPs existence.

A second possible explanation for relatively low TIPs awareness levels throughout the treatment field, even though SSA Directors report disseminating TIPs to others, is that SSA Directors may not be the best dissemination agents of TIPs. Approximately three quarters of treatment professionals reported sharing TIPs with others; however, when asked with whom they were most likely to share TIPs, approximately three quarters of treatment professionals reported sharing TIPs with coworkers and colleagues (i.e., their peers). Similarly, ATTC faculty and curriculum developers reported sharing TIPs with their colleagues and with their students (Hayashi, Suzuki, Hubbard, & Cobb, in press), and primary care clinicians reported sharing TIP #24 with other medical professionals (CSAT, 2001). Results from

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<sup>3</sup>Single State Agencies oversee all Federally recognized SA treatment programs in a State. A Director oversees each Single State Agency.

all the studies are encouraging because they suggest that TIPs are being disseminated throughout the treatment field with no outside encouragement. Results also indicate, however, that very few treatment professionals are receiving TIPs directly from SSA Directors as originally planned.

Results regarding the sharing of TIPs with others have direct implications for the dissemination of all TIPs. Consistent with a diffusion of innovations interpretation, results from the TIPs Evaluation Project clearly indicate that TIPs are being disseminated through interpersonal communication channels. TIPs are being disseminated through word of mouth within treatment facilities and among treatment staff. Although TIPs are being shared *within* treatment programs, TIPs are being shared less often *between* treatment programs. Therefore, the TIPs dissemination plan might be expanded to include sending recently published TIPs directly to treatment facilities. Facility Directors and Clinical Supervisors working within treatment programs can then be asked to disseminate TIPs to the Counselors working in their programs. ATTC faculty and curriculum developers can also be enlisted to disseminate TIPs to treatment professionals attending their classes, workshops, and presentations. Because results indicate that Program Counselors tend to share TIPs amongst themselves, another way to increase the awareness of TIPs among Program Counselors is to identify opinion leaders (i.e., respected individuals) within treatment facilities and ask them to disseminate useful TIPs. If opinion leaders within treatment facilities are used to disseminate TIPs, consideration should be given to the fact that opinion leaders who may be useful in increasing awareness of TIPs may not be the same opinion leaders who may be useful in increasing the use of TIPs in practice.

#### *2.4. Attitudes toward TIPs*

According to diffusion theory, once an individual becomes aware of an innovation, that individual starts to form an attitude toward it. This attitude, in turn, helps to determine whether that individual will eventually use that innovation in practice. As a whole, treatment professionals hold positive attitudes toward TIPs. They agree TIPs contain credible and research-based information and agree TIPs provide comprehensive, timely, new, and relevant information that is easy to read and understand. Treatment professionals are uncertain, however, whether they can use TIPs in practice. Furthermore, they are not sure whether TIPs are presented in a culturally sensitive way. When asked about a specific TIP, which they identified as being less useful than the other TIPs, treatment professionals questioned whether that TIP provided new information. Similarly, ATTC faculty and curriculum developers expressed concerns about the cultural sensitivity of TIPs, their ability to implement TIPs into practice, and the up-to-datedness of some TIPs.

In reviewing treatment professionals' attitudes toward TIPs, it becomes clear that treatment professionals have two underlying concerns about TIPs: (1) the apparent lack of cultural sensitivity of TIPs, and (2) the actual, or perceived, inability to use TIPs in practice. Because these two factors are potential pre-determinants of TIPs' use, if the goal is to have treatment professionals use TIPs in practice, changes in the TIPs development and dissemination process will need to be made to address these two concerns. First, steps need to be taken to ensure the content of TIPs is culturally relevant and that the materials and tools provided in TIPs are applicable to diverse treatment populations.

Demographic results from the Retrospective Study (Hubbard & Mulvey, in press) indicate the current treatment population is quite diverse. Furthermore, the majority of treatment providers do not possess the same ethnic and racial backgrounds as their clients. The disparity between the racial/ethnic background of the treatment provider and that of the client further reinforces the need for culturally relevant and culturally applicable TIPs.

In addition to improving the cultural sensitivity of TIPs, the results suggest more effort can be directed to making changes to the TIPs development and dissemination program that will make TIPs more useful to treatment professionals. Because the ATTC Study was a qualitative study, it provided the richest data on how to improve the overall quality of TIPs. Recommended changes to the content of TIPs included requests for information on special populations (e.g., rural communities, Native Americans), requests for more information on special topics (e.g., dual diagnosis), and requests to keep the information current. Recommended changes to the format of TIPs included the addition of critical thinking questions, learning objectives, case studies, and examples. In addition, to meet the needs of treatment professionals who work directly with clients, some ATTC faculty and curriculum developers requested additional features be added to TIPs such as tools, instruments, and reproducible copies of worksheets and handouts.

There were also suggestions designed to make TIPs easier to read and use. These suggestions were to add executive summaries, content descriptions, indexes, glossaries, and references or bibliographies. Most importantly, however, both ATTC faculty/curriculum developers and treatment professionals who answered the Retrospective survey requested that changes be made to TIPs that would make them compatible with organizational considerations of the treatment programs (e.g., consistency with Manage Care requirements, staff training, consistency with the organizational structure, etc.). The fact that treatment professionals believe the content contained in TIPs is not compatible with considerations that must be made at the organizational level suggests that no matter how much treatment professionals like TIPs, they will not use TIPs in practice unless the guidance contained in TIPs can be adapted, and used, within a variety of organizational structures.

### *2.5. Practices: Respondents' use of TIPs*

Diffusion theory predicts, and common sense dictates, that individuals with positive attitudes toward an innovation are likely to use that innovation in practice. Results from the TIPs Evaluation Project indicate that treatment professionals generally hold positive attitudes towards TIPs; however, they express concerns about their ability to use TIPs in practice. Although positive attitudes towards TIPs are likely pre-determinants of TIPs' use, research on the diffusion of innovations shows that certain characteristics of the innovation may directly affect an individual's ability to use that innovation in practice (Rogers, 1995). These characteristics include, but are not limited to, the innovation's complexity, its compatibility with current practices, the cost for implementing the innovation, the ability to observe others using the innovation effectively, and the innovation's relative advantage compared to current practices and behaviors. Because treatment professionals hold positive attitudes towards TIPs yet report concerns about their ability to implement TIPs, it is possible that TIPs are incompatible with certain structural aspects of the treatment field, and this incompatibility hinders treatment professionals' ability to use TIPs

in practice. To help explore the nuances of TIPs' use within the SA treatment field, both the Retrospective Study and the ATTC Study examined how treatment professionals use TIPs in their professional lives.

Results regarding treatment professionals' uses of TIPs indicate that for those who are aware of and use TIPs, TIPs are being used often and for a variety of purposes. The most common uses of TIPs are as a resource (both to obtain specific treatment information and as a general resource), for training, and to develop and/or change programs and policies. Differences in the way treatment professionals use TIPs indicate that TIPs are being used in ways consistent with job responsibilities within the SA treatment field. For example, ATTC faculty and curriculum developers use TIPs to develop and deliver classes and trainings; SSA Directors and Facility Directors use TIPs to write grants and proposals; and Clinical Supervisors and Counselors use TIPs to assist with assessing and treating clients. Although treatment professionals report using TIPs in a variety of ways, results from the TIPs Evaluation Project indicate TIPs may be being used in ways different than those originally intended.

TIPs are developed by a consensus panel of SA treatment experts and are reviewed by additional experts in the field. TIPs represent best practices in SA treatment and, as such, they are intended to be used in their entirety as models for best treatment practice. Results indicate that treatment professionals are not using TIPs in their entirety as intended. Instead, they are using TIPs as "guides" to treatment, not as models to follow to improve overall treatment practice. For example, one of the many ways treatment professionals use TIPs is to obtain treatment information. The most frequently reported way treatment professionals use TIPs is as a resource or reference for treatment information. Similarly, treatment professionals report using TIPs in training; however, they do not report using TIPs as the basis for training. Instead, they use the information in TIPs as a reference to assist them in planning training. Furthermore, ATTC faculty/curriculum developers revealed that they rarely base trainings on entire TIPs. Instead, they use TIPs as one of many sources used to develop trainings and to write curriculum.

Results on how treatment professionals use TIPs suggest that treatment professionals may be unclear as to how TIPs are intended to be used. Results regarding whether or not (and how) TIPs are implemented at the organizational level indicate that treatment programs may have difficulties implementing TIPs that go beyond not understanding how to use TIPs in practice. The most common actions taken by organizations attempting to implement TIPs include modifying administrative/clinical practices, planning or initiating new programs, and modifying program policy. Such actions indicate that TIPs have the potential to be used at the organizational level to improve treatment practices. Although these results provide positive evidence of the use of TIPs in practice, the relatively low implementation rates (just over sixty percent) and the fact that SSA Directors were the most likely of all treatment professionals to report implementing the guidance contained in TIPs, indicate that not all treatment professionals are equally successful in implementing TIPs.

Results from the Retrospective Study on barriers experienced while trying to implement the guidance contained in TIPs provide some insights as to why treatment professionals have difficulty implementing TIPs at the organizational level. The top three barriers to implementing TIPs were staff resistance,

financial/cost restrictions, and lack of staff training to implement new treatment guidelines. Similarly, when asked why a significant action they attempted to implement using TIPs was no longer in use, treatment professionals reported practicality/feasibility and financial/cost restrictions as primary reasons for discontinuation. Taken together, these results indicate that some of the guidance recommended in TIPs, although useful, cannot be implemented because it is inconsistent with considerations that need to be made at the organizational level. These results are in accordance with treatment professionals' requests to make TIPs more consistent with agency considerations (see Attitudes section, above).

If a new treatment practice is met with staff resistance it will be difficult to implement regardless of how useful it may be. Many treatment programs are operating with limited staff due to insufficient budgets. At the same time, limited resources make it necessary for treatment providers to take on more clients and more responsibilities. Asking them to learn, and then implement, a new treatment practice may take more time than these professionals can afford. Furthermore, we learned from the demographic results of the Retrospective Study, that many treatment professionals have been in the field for almost twenty years (Mulvey, Hubbard, & Hayashi, submitted for publication). These providers, presumably, have been successful in their treatment careers. Many TIPs present treatment practices that may require a shift in thinking and/or the addition of new skills. Because many treatment professionals have been successful in providing "treatment as usual," they may be reluctant to expend the time and energy needed to learn, and then perfect, new treatment practices under their current work load.

In addition to new treatment practices being met with staff resistance, money, or lack thereof, is a determining factor in whether a TIP is used. As mention above, many treatment programs are operating on limited budgets with concomitant limitations in resources. Many programs simply do not have the financial resources to send staff to trainings or to pay consultants to come to their programs to assist with implementation problems. Furthermore, many programs are limited by State and/or Managed Care regulations and requirements. If the guidance contained in a TIP is too expensive to implement, and/or is inconsistent with requirements made by outside entities, it may simply be impractical or infeasible to implement, regardless of its potential use.

### **3. Recommendations made to CSAT**

Based on the results from the TIPs Evaluation Project, several recommendations were made to CSAT. These recommendations can be summarized into the following categories: development of TIPs, dissemination of TIPs, and use of TIPs in practice.

#### *3.1. Development of TIPs*

Several recommendations were made to CSAT to improve the development of TIPs to make them more useful to treatment professionals. These recommendations included:

- (1) Make changes to the content and format of TIPs that will make them easier to read and use.** Treatment professionals indicated that they wanted TIPs to be faster and easier to read and

use. We recommended condensing the technical information in some TIPs, creating summaries of important points, and including indexes and/or quick reference guides in TIPs. In addition, new, or alternative products (e.g., TIP desk references) that would make TIPs quicker and easier to read could be developed.

- (2) Focus on improving the cultural sensitivity of TIPs.** Lack of cultural sensitivity of TIPs was identified as a primary concern among treatment professionals. Because treatment clients are from diverse racial and ethnic backgrounds whereas treatment providers are not (i.e., the majority of providers are White), lack of culturally relevant and applicable treatment materials is problematic to the field. Therefore, we recommended improving the overall cultural sensitivity of TIPs and developing methods to assist treatment professionals in implementing TIPs in culturally sensitive ways.
- (3) Keep TIPs current.** Treatment providers expressed a concern that some of the information contained in TIPs is outdated. Furthermore, several TIPs identified by project participants as less useful than other TIPs were published almost ten years ago. Because knowledge of best practices in SA treatment is changing at a rapid rate, we recommended the implementation of strategies to keep the information in TIPs up-to-date. In addition, we recommended that the information in all TIPs be monitored to ensure the information contained in them does not become obsolete. When the guidance contained in an entire TIP is no longer considered a “best practice” in SA treatment, we recommended revision of the TIP to reflect current best practices in the field. When only a portion of a TIP becomes out-dated, we recommended that the outdated portion of the TIP be supplemented, or replaced, with best practice “updates.”

### *3.2. Dissemination of TIPs*

Results from the TIPs Evaluation Project indicated that TIPs awareness levels among treatment professionals are relatively low. Therefore, increasing awareness of TIPs throughout the SA treatment field was identified as a top priority. To do this, we recommended an aggressive marketing strategy. Results indicate several mechanisms that might be included in such a strategy. These mechanisms include:

- (1) Target individual treatment programs.** Because of high job mobility within the treatment field, targeting individual providers for increased awareness is not likely to be effective. Instead of targeting individual treatment providers, we recommended targeting treatment programs in an effort to increase TIPs awareness levels among all treatment professionals. New TIPs can be sent to Facility Directors and/or Clinical Supervisors of treatment programs and these individuals can be asked to disseminate TIPs to the Program Counselors working at their facilities.
- (2) Capitalize on interpersonal communication networks.** Interpersonal communication is the most common channel treatment professionals use to share TIPs within the treatment field. Therefore, we recommended capitalizing on the use of interpersonal communication networks. Treatment

professionals share TIPs with their coworkers, colleagues, counselors, with middle managers, and with supervisors. Treatment professionals share TIPs with individuals who work within their organizations, but share TIPs less frequently with individuals who work outside their organizations. If opinion leaders within organizations can be identified, then these individuals can be enlisted as dissemination agents for TIPs.

- (3) Identify appropriate opinion leaders to be used as dissemination agents for TIPs.** As discussed, the current TIPs dissemination plan includes sending TIPs, directly upon publication, to SSA Directors and asking the SSA Directors to disseminate TIPs among the ranks of the SA treatment field. Results indicated that although SSA Directors are sharing TIPs with others, they are not sharing TIPs with the line staff working at treatment programs in their State. Program Counselors should be targeted for increased awareness because they have the lowest TIPs awareness levels. However, SSA Directors may not be the best dissemination agents for TIPs for this group. Because all treatment professionals report sharing TIPs most often with their colleagues and coworkers, we recommended opinion leaders be identified within specific treatment programs and that these individuals be enlisted as dissemination agents for TIPs.

### *3.3 Use of TIPs*

The primary concern treatment providers have regarding TIPs is their uncertainty as to whether they are able to put into practice the information contained in TIPs. Barriers to implementing TIPs such as lack of money, the questionable cultural sensitivity of TIPs, and considerations that need to be made at the organizational level were cited as reasons for this uncertainty. To increase the use of TIPs in practice, providers need assistance moving beyond the barriers to implementation and need to be instructed on how the information contained in TIPs can be implemented within their organizations. The following recommendations were made on how to increase the use of TIPs within the SA treatment field:

- (1) Develop TIPs-based trainings.** Before treatment professionals can use TIPs in practice, they must learn the skills necessary to implement the guidance contained in TIPs. Lack of staff training to implement a given treatment practice is one of the primary barriers reported by treatment professionals when trying to implement TIPs. As a first step to teaching treatment professionals best practices in SA treatment, we recommended the development of TIPs-based trainings and the dissemination of these trainings to the field. One way of doing this is to send the curriculum (i.e., training) directly to treatment programs with instructions on how to use it. In addition, train-the-trainer workshops using the TIPs-based trainings can be conducted. When professional trainers learn how to teach best practices in SA treatment, they can return to their States, or to their programs, to teach larger numbers of treatment professionals what they learned. TIPs-based trainings can also be conducted at conferences and workshops routinely attended by treatment providers (e.g., the National Association for Alcohol and Drug Abuse Counselors [NADAAC]). Finally, to conserve valuable resources, we recommended working within the treatment programs themselves to train staff on new treatment practices.

**(2) Develop implementation trainings.** Treatment providers reported difficulty in implementing the guidance contained in TIPs when the guidance is inconsistent with organizational level considerations. Because treatment professionals will not use TIPs unless the information contained in them is consistent with the regulations, resources, and philosophy of their particular organization, we recommended moving beyond training treatment professionals in best practices to training treatment professionals *how* to implement the practice guidelines once they have learned them. One way to do this is to develop TIPs-based implementation trainings. If this method proves cost prohibitive, we recommended incorporating implementation modules within the TIPs-based trainings discussed above.

**(3) Conduct research to determine the best mechanisms to assist treatment professionals in implementing TIPs.** Treatment programs are likely to need assistance (e.g., hands-on technical assistance) beyond trainings to implement TIPs in practice. To truly understand the best mechanisms for assisting treatment programs with implementing TIPs, we recommended additional research be conducted. The TIP #35 Prospective Study (Melzer, et al., in press) will be instrumental in identifying the most cost effective level of support needed by treatment professionals to implement TIPs. Once final results from this study are released, we will make additional recommendations regarding how best to allocate Federal resources to assist treatment professionals in implementing TIPs.

#### **(4) Changes to the TIPs development and dissemination program based on the TIPs Evaluation Project's results**

CSAT used the information garnered from the results of the TIPs Evaluation Project results to make significant changes to its TIPs development and dissemination program. To ensure TIPs continue to meet the needs of the treatment field, CSAT altered the way it develops TIPs, disseminates TIPs, and encourages treatment professionals to use TIPs in practice. These changes are funded under CSAT's Knowledge Application Program (KAP), which is responsible for the development and dissemination of all CSAT products including the TIPs.

In terms of the development of TIPs, treatment professionals requested new TIP topics and that older TIPs be revised and/or kept current. Treatment professionals also indicated they wanted changes made to the content and format of TIPs that would make them quicker and easier to read. Finally, project participants requested alternative formats to the book versions of the TIPs. CSAT made several changes to the development of TIPs that address these requests. Since the inception of the TIPs Evaluation Project in the Fall of 1998, an additional ten TIPs have been published on a variety of topics of particular relevance to the treatment field (e.g., SA treatment for persons with HIV/AIDS). It is now recognized that treatment practices discussed in many of the early TIPs have changed dramatically in the past decade. Because these TIPs are likely to be outdated, some of the early TIPs have been revised and others will be revised as they become outdated.

To meet treatment professionals' needs for TIPs that are quicker and easier to read, changes have been made to how TIPs are conceptualized, and several TIP-alternative, or collateral, products are now available. Because TIPs represent best practices in SA treatment, there is a hesitancy to shorten the content of TIPs for fear that valuable information will be lost. Instead, executive summaries have been incorporated in the TIPs and the addition of a table of contents and indices are being considered. For treatment professionals who have neither the time nor the desire to sift through an entire TIP for relevant information, a series of collateral products have been developed. These products are to be used in conjunction with the more detailed book version of a TIP and include desk references, pamphlets, fact sheets, and quick guides for clinicians. These alternative products contain highlights of the most important information contained in each TIP and can be quickly and easily used with clients during a treatment session.

In addition to requesting changes to content and format of TIPs to make them quicker and easier to read, the top concern among treatment professionals regarding the content of TIPs was whether they contained culturally relevant information. Since the release of the TIPs Evaluation Project results, significant changes were made in the TIPs development process to ensure the cultural sensitivity of all TIPs. These changes include the development, and use, of a Cultural Competency Network (CCN). The CCN, which consists of treatment experts who work with clients from a variety of ethnic and racial backgrounds, has been asked to review all new TIPs and to provide feedback on how the cultural sensitivity of TIPs can be improved. Several diversity work groups were also established to ensure the cultural relevancy of all CSAT products. Currently, CSAT sponsors African American; Hispanic/Latino; Asian/Pacific Islander; and Gay, Lesbian, Bi-sexual and Transgendered work groups. Like the CCN, these work groups meet periodically to discuss ways in which to make new and existing products culturally sensitive. Feedback from the CCN and the diversity work groups is then incorporated into all CSAT products including the TIPs.

Changes were also made in the way TIPs are being disseminated to the treatment field. CSAT continues to send TIPs to Single State Agencies and routinely disseminates TIPs at conferences; however, a more aggressive dissemination plan is now being followed which includes press releases announcing the publication of new TIPs; sending new and revised "TIP previews" to treatment facilities; and sending copies of new TIPs directly to professionals working within various treatment programs.

Finally, one of the most consistent findings of the TIPs Evaluation Project is that treatment professionals question their ability to use TIPs in practice. Several changes were made to the TIPs' program that are intended to assist treatment professionals in implementing TIPs. At this time, TIPs-based curricula and trainings are being developed under the KAP initiative. These curricula/trainings are conceptualized as core alternative TIP products. In addition to using these curricula/trainings as educational tools to help treatment professionals learn about best practices contained in TIPs, these curricula can be used as models, or examples, for curriculum developers to follow when developing trainings based on TIP topic areas. Online in-service training curricula as well as TIP-based implementation workshops (presented at conferences) have also been developed.

CSAT should be commended for the speed with which it used evaluation results to make changes to its policies and procedures regarding TIPs. As with all good evaluation projects, however, CSAT will need to conduct future research to determine if the changes made to its TIPs program will make TIPs more useful to the treatment field. The iterative nature of the evaluation process will ensure that Federal funds allocated to the TIPs program are used efficiently.

## **5. The Use of diffusion theory as an evaluation method**

Considerable attention has been given to the TIPs Evaluation Project for its use of diffusion of innovations theory to drive the evaluation of the TIPs program. We believe other agencies can use diffusion of innovations theory, as well as other theories, to effectively evaluate the success of their products and services. Specifically, diffusion of innovations theory: (1) provided a well-researched conceptual framework which was used to develop the project's measurement instruments; (2) allowed for a multi-method approach to evaluation which lead to triangulation of the project's results; and (3) provided insight into the conduct of research using theory as a conceptual framework.

First, diffusion of innovations theory provided a well-researched conceptual framework which was used to develop the project's measurement instruments. The process of diffusion has been documented for many different types of innovations (Anderson & Jay 1985; Carlson, 1965; Coleman, Katz, & Menzel, 1957; Greer, 1977; Griliches, 1957; Hamblin, Jacobson, & Miller, 1973; Rogers, 1995; Ryan & Gross, 1943; and Walker, 1966). Thus, the researchers were confident that the diffusion of TIPs within the treatment field would follow a similar path and that the key concepts and dependent measures of the theory could be used to design the measurement instruments for the project. For example, the key dependent measures of diffusion theory are an individual's knowledge, attitudes, and practices regarding a new innovation or practice. These dependent measures were employed as the framework for all the studies under this project regardless of the target audience and/or the methodology being used. The use of these three dependent measures, made it possible to identify the pattern and rate of the diffusion of TIPs within the treatment field. The results show that awareness of TIPs is relatively low, attitudes toward TIPs are mostly positive, and the use of TIPs in practice is relatively low despite positive attitudes. Research from diffusion theory regarding the characteristics of an innovation, which may affect its use (e.g., the innovation's complexity, its compatibility with current practices, the cost for implementing the innovation, etc.) led to questions that helped identify barriers to implementing TIPs despite positive attitudes. This information can be used to help treatment professionals implement TIPs. Therefore, the use of diffusion theory assisted in using Federal evaluation funds effectively without needing additional resources to gain a deeper understanding of the TIPs diffusion process.

Diffusion theory was also helpful in identifying the importance of interpersonal communication channels in the dissemination of information and products; however, a limitation of the TIPs Evaluation Project is that it did not include a network analysis (Valente, 1995) of the treatment field to identify opinion leaders who could be recruited to champion TIPs. Should other agencies choose to use diffusion theory to evaluate the dissemination of their products and services, we recommend a network analysis be included in their original evaluation efforts to identify opinion leaders within their fields who can be used

as dissemination agents for the agency's products or services. As discussed earlier, if a network analysis is used, the analysis should be designed to identify opinion leaders who can be used as dissemination agents to: (1) increase awareness of products and services, and (2) increase the use of products and services in practice.

In addition to using diffusion theory to design the evaluation project's measurement instruments, the use of diffusion theory allowed for a multi-method approach to evaluation, which led to triangulation of the project's results. Although methodological triangulation is not unique to the use of diffusion theory to drive evaluation work, the use of a multi-method approach by the TIPs Evaluation Project contributed to a more complete understanding of how TIPs are being diffused throughout the treatment field. Regardless of the methodology employed, the three key dependent measures of diffusion theory were consistently used and provided a more complete understanding of the diffusion of TIPs. For example, the use of a survey methodology by both the Retrospective Study and the TIP #24 Study facilitated the identification of trends in treatment professionals' knowledge, attitudes, and practices regarding TIPs. The use of in-depth interviews by the ATTC Study contributed to a deeper understanding of treatment providers' attitudes regarding TIPs and the reasons why TIPs are not being used in practice despite positive attitudes. The use of a qualitative methodology by the ATTC Study also allowed for the identification of specific recommendations to improve the development and dissemination of TIPs that could not be adequately identified by the use of survey alone. Lastly, the use of an experimental methodology by the Prospective Study provides experimental control and confidence in the validity of project results. The TIPs Evaluation Project is, thus, a fitting example of how methodological triangulation can be used in conjunction with theory to obtain a comprehensive picture of the effectiveness of an agency's products and services. Because methodological triangulation can be a costly undertaking, data triangulation or investigator triangulation (Quinn Patton, 1990) may be a more cost effective alternative to achieving similar results within a single evaluation methodology for those programs with more limited budgets or resources.

Finally, the use of diffusion theory to design and implement the TIPs Evaluation Project offers insight into the value of using a theoretical framework in conducting evaluation research. Specifically, we learned that even the most well researched theory will not work well as a conceptual framework for an evaluation unless factors unique to the project are taken into consideration. For example, for diffusion theory to work effectively for this project, it was necessary to identify the most effective methods to reach the target audiences for the evaluation. These methods included approaches to increase project response rates and pilot work to obtain detailed knowledge of one's target audience. Dillman's (1978, 2000) Tailored Design Method was used to implement all surveys for the project. The Dillman approach is a multi-stage effort proven to yield high response rates. This effort includes follow-up mailings, reminder post-cards, and follow-up telephone contact with participants. Although these methods proved successful in obtaining high response rates for the Retrospective surveys (80.1% and 74.1% response rates for the Wave 1 and Wave 2 surveys, respectively), the use of the same methodology did not prove as successful for the TIP #24 survey (22.8% response rate). One reason for the high response rates for the Retrospective Study may have been the effective use of follow-up calls. In survey research it is a common practice to hire temporary employees or graduate students to

make follow-up calls to potential participants. Many believe that all follow-up callers are equally effective as long as they are trained using a script. This assumption may not be true. In both the Retrospective Study and the TIP #24 Study, a trained actor was hired to make the majority of follow-up calls. His communication skills, his ability to listen critically, and his sensitivity to the nuances of human interactions, appear to have contributed to him being far more successful in persuading people to respond than any of the other follow-up callers. His success is evidenced by the increase in the response rate before and after the follow-up calls. Specifically, before follow-up calls began for the Wave 1 survey, the response rate was 49.4%; after follow-up calls were completed the response rate increased to 80.1%.

Although the follow-up caller appeared to be instrumental in increasing the response rates for the Retrospective Study, his skills as a follow-up caller did not yield similar results in the TIP #24 Study. One explanation for this apparent inconsistency is the lack of sufficient information regarding the target audience for the TIP #24 Study (i.e., primary care clinicians) when designing and implementing that survey. This lack of knowledge about the target audience may have had a profound negative impact on the ability to achieve a high response rate for that study. CSAT is very knowledgeable about the SA treatment field and therefore knows the appropriate methods to reach treatment professionals. CSAT is much less knowledgeable about primary care clinicians and the other treatment professionals who made up the target audience for the TIPs #24 Study. Routine pilot work allowable under Federal guidelines for the conduct of research did not reveal systemic limitations within this latter group with regard to gate-keeper issues, schedule conflicts, lack of relevant incentives, and the large number of surveys that are competing for the attention of the primary care physicians (Huang, Hubbard, & Mulvey, in press). As a result of these limitations, many potential participants for the TIP #24 Study could not be contacted and effective follow-up could not be achieved. Therefore, we recommended the use of extensive pilot work, in conjunction with the use of theory, when attempting evaluation work with unfamiliar audiences. Although extensive pilot work is time consuming and may require additional resources, the added effort will ensure that valid research results are obtained and may, in the long run, reduce the overall cost of the evaluation.

In conclusion, we believe diffusion theory offers an excellent conceptual framework for any project evaluating the dissemination and use of products and services. The simplicity of diffusion theory's concepts (e.g., knowledge, attitudes, practices) allows for the construction of measurement instruments which clearly identify the rate of diffusion of a product/service within a target audience. The proven heuristic nature of the theory leads to confidence that valid patterns of dissemination have been identified, barriers to adoption have been isolated, and steps taken to overcome these barriers will be effective. Finally, the broad scope and flexibility of diffusion theory make it an amenable tool to use to evaluate a variety of products and services as well as an appropriate tool to use at any stage (i.e., formative, process, outcome) of the evaluation process.

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