Op-Ed/Editorials – The Challenge of Translating Research to Practice: Are We Getting Lost in Translation?

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The theme of the 2006 Institute for Research on Pathological Gambling and Related Disorders annual conference on gambling addiction was *Lost in Translation? The Challenge of Turning Good Research into Best Practice*. During the next few weeks, *The BASIS* is pleased to present a series of editorials from some of the faculty members of that conference. In this week's editorial, Dr. Howard Shaffer discusses The Challenge of Translating Research to Practice: Are We Getting Lost in Translation?

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Like many other areas of health care, the addictions treatment field is pursuing evidence-based treatments. Clinicians, professional associations, health care insurers, and other interested parties are seeking the "best practices." However, developing "best" practices for behavioral (e.g., gambling) and chemical (e.g., alcohol dependence) expressions of addiction (e.g., Shaffer et al., 2004) is not a simple or straightforward task (Nathan, 1998). There are problems on both sides of the gap: clinicians who think they know best, and scientists who, as diligent workers, always will have uncertainty about construct definitions, methodological limitations, and interpretive problems. As a result, what we always have is the best currently available practices – best practices change as new science emerges. The challenge for clinicians and public policy is to translate an evolving set of best practices into better practices. For the discussion that follows, I am viewing addiction treatment and practice generically. So, I will consider alcohol and drug public policy, responsible gaming activities, psychotherapy and counseling, and other interventions as "treatments." Further complicating this translational problem (i.e., that best practices are a moving target) is the fact that there is no accepted standard for identifying the presence of addiction. Addiction

is not a entity within the current diagnostic nosology (American Psychiatric Association, 2000). This circumstance makes treatment strategies and tactics elusive. Without a clear definition, researchers will continue finding it very difficult, for example, to determine addiction prevalence rates, etiology, or the necessary and sufficient causes that stimulate recovery. Also, without a precise definition of addiction, clinicians will encounter diagnostic and treatment matching difficulties, and satisfactory treatment outcome measures will remain lacking. Finally, without an agreed upon definition, public policy makers will find it difficult to establish regulatory legislation, determine treatment need, establish health care systems, and promulgate new guidelines for health care reimbursement (Shaffer & Albanese, 2004).

Developing evidence guided best practices is a difficult and complex task indeed. There are many excellent discussions of best practices and what works in treatment (e.g., Chambless & Ollendick, 2001; Chassin & Galvin, 1998; Kahan, Wilson, & Becker, 1995; Ladouceur & Shaffer, 2005; Lipsey & Wilson, 1993; Sackett, 1997), so I will not attempt to provide a comprehensive review of this topic here. Instead, I will consider how research gets translated into practice, and focus on some of the obstacles that are associated with translating research into practice. Before examining some of these specific obstacles, I am reminded of John F. Kennedy's speech at the American University on June 10, 1963. President Kennedy noted that "Our problems are man-made, therefore they may be solved by man.… No problem of human destiny is beyond human beings." This is a very important thought to keep in mind as I venture into the hazards that keep us from optimal treatment solutions. I agree with Kennedy; we can solve our problems. However, my comments that follow might implicitly suggest the opposite. So, at the outset, I want to say explicitly that, while I believe we can identify optimal treatments for addiction, to be expeditious, I also think that we will need to focus on removing or reducing the many obstacles to better care for addiction.

Let's consider what is involved in translating research into practice. I have identified 7 basic steps in this translation process. Others might see more or fewer steps. My point here is simply to illustrate that there are many turning points where research can fail to translate into effective practice. First, to develop evidence-based practice, stakeholders must review the extant evidence about the problem. They might not have sufficient time in their busy schedules to do this investigative work. Second, they must develop some sort of protocol for applying the treatment or policy. Developing treatment protocols that clinicians can and

will follow isn't at all easy or straightforward; clinicians tend to stick with what is comfortable, and things that are comfortable tend to reflect what they already know. Third, interested parties must determine whether the treatment is effective (i.e., does what is it supposed to do, and has empirical support for this efficacy), and attracts people (i.e., has impact; if no one was willing to experience a treatment, then it would be useless despite being effective). This step is complicated further because many clinicians are unfamiliar with the scientific process and its tendency to meander through topic areas while revising them at the same time. Fourth, the developers must disseminate the treatment. This assumes that clinicians have the resources necessary to consume the disseminated treatment-related information. Fifth, during the dissemination process, researchers must determine effective treatment training methods that permit practitioners to acquire and practice the necessary skills so that they can use the treatment. Such acquisition and practice requires the clinicians to allocate resources (e.g., time and money) to the task; this is less than likely when it competes with an already busy schedule of activities. Sixth, once learned, investigators must determine if these new skills can be sustained in practice. Seventh, researchers must then determine if trained providers with the new treatment can yield effective outcomes; after all, real world applications are quite different from clinical trials. For example, a review of the addiction treatment training methods research (e.g., steps 4, 5, and 6 above) show mixed results that weaken my confidence in treatment training (Shaffer & Costikyan, 2002).

There are many other more social and political obstacles that also can interfere with the development of optimal treatment practices. For example, research proponents and critics alike tend to forget or willfully disregard the ultimate treatment objective: to prevent, reduce, and ameliorate addiction-related suffering. Instead of focusing on people with addiction and their suffering, these stakeholders often get sidetracked into public debates about evidence because the current research findings might not seem advantageous to their political positions. It is not unusual for these debates to distill into ad hominum attacks, which further distract researchers and clinicians from their purposeful work. Similarly, researchers and clinicians working toward the same objectives can become distracted by the natural debates that are corollary to the bench to bedside translation process. For example, some treatment providers think that THEY know the best practices despite having little or no scientific evidence to support their claims; this should not come as a surprise because people tend to do

what they know, not what is known. I wish that I had a nickel for every time I heard someone say that they knew exactly how to treat a problem and could guarantee the positive outcome of such treatment.

Scientific evidence about addiction treatment is growing unevenly. Some areas of addiction treatment have more mature scientific evidence upon which to rest than others. To illustrate, knowing what is best in the gambling treatment field is complicated by the recent explosive growth of gambling research. My colleagues and I (Shaffer, Stanton, & Nelson, in press) demonstrated that 97% of gambling-related articles have been published since 1963; moreover, 33% of all the gambling-related citations have been published between 1999 and 2003. This growth of knowledge is exponential and makes it difficult for anyone to know it all. The panoply of research-to-practice translation problems has yielded less than gold standard treatment protocols for addiction. Consequently, researchers have noted that providers with certain personal attributes (e.g., empathy, compassion, interpersonal warmth) have generated the best treatment outcomes (e.g., Hubble, Duncan, & Miller, 1999; Weiner, 1975). It is debatable whether these personal traits are malleable over the long run.

Each of the obstacles I have described makes it difficult and perhaps risky to try to identify best practices. Research often yields complex results that require careful interpretation. “Nothing leads the scientist so astray as a premature truth” (Jean Rostand, Pensées d’un Biologiste (1939; repr. in The Substance of Man, “A Biologist’s Thoughts,” ch. 7, 1962). To illustrate, researchers focusing on the psychiatric epidemiology of gambling disorders have been unable to agree on the distribution (i.e., prevalence) and determinants (i.e., causes) of gambling disorders among young people (National Research Council, 1999). Early evidence suggested that the prevalence rate was higher among adolescents than the adults (Shaffer & Hall, 2001; Shaffer, Hall, & Vander Bilt, 1997; Shaffer, Hall, & Vander Bilt, 1999; Shaffer, Hall, Vander Bilt, & George, 2003; Shaffer & Korn, 2002); this is not surprising because the rate of other addictive behaviors tends to be higher among young people compared to their adult counterparts. However, from the first scholarly review of the evidence (National Research Council, 1999), scientists had significant doubts about the integrity of the youth data. New rates obtained from better selected samples have yielded national estimates that suggest the rate of gambling disorders among young people might be lower than first thought (LaBrie, Shaffer, LaPlante, & Wechsler, 2003). Additional research is necessary to clarify the issue. If we cannot agree on the extent of the problem, it

is less likely that we will agree on the optimal treatment practices.

Given that we do not yet have best practices in youthful fields, such as gambling treatment, it is very important to remember what treatment factors historically have contributed to best practices – and likely will continue to work best. These are the "**common factors**" (Hubble, Duncan, & Miller, 1999). As Hubble et al. show, reviews of the psychological treatment literature reveal that specific therapeutic techniques or procedures account for about 15-30% of treatment outcomes; the patient's extra-therapeutic factors (e.g., family, personality, education, economics) accounts for about 40% of treatment outcomes; relationship characteristics (e.g., empathy, interpersonal warmth, encouragement) accounts for about 30% of treatment outcome; and placebo effects such as hope and expectancies account for about 15-30% of treatment outcomes. This evidence reveals that the technique and protocol components of treatment influence the outcome less than the relationship and hopefulness components. This might be surprising to some, but it likely is not surprising to those who understand the healing power of "faith," which might be understood as expectancy or placebo effects (Fish, 1973). Great healers have sufficient charisma to overcome the limitations of specific treatment techniques (Frank, 1961). Sometimes, very little treatment can yield large effects (Miller, 2000).

For example, in a recent study of cognitive behavior therapy, Petry et al. (2006) compared the outcome of (1) referral to Gamblers Anonymous (GA), (2) referral to GA combined with a cognitive behavioral (CB) workbook, and (3) referral to GA plus 8 sessions of face to face cognitive behavioral treatment. There were differences between GA and both CB conditions at 1-month and 2-months after baseline. More specifically, there was significant improvement in number of days gambled, number of consecutive non-heavy gambling days (<$5/day), SOGS scores, and abstinence for those in the CB conditions when compared to the GA referral condition. However, after 12 months, there was no significant difference between conditions in the proportions of participants who abstained, substantially reduced, somewhat reduced, or had no change in their gambling behavior. Furthermore, at the 12-month follow-up, the percentages of participants classified as abstinent or having substantially reduced gambling were 60.5%, 60.0%, and 65.7% in GA referral, CB workbook, and CB therapy conditions, respectively. The relatively high levels of success obtained, regardless of treatment modality, are impressive—perhaps even surprising—considering that 41.3% of participants in the GA condition never attended any GA meetings and 28.9 % of participants in

the CB workbook condition never completed any chapters. Given the limited participation in these "treatments," people seemed to get better anyhow. We can only wonder whether they might have gotten better with even less treatment!

With addiction, brief interventions often do as well as extensive treatment (e.g., Fleming, 1993; Gustafson, 1995; Higgins-Biddle & Babor, 1996; Kahan, Wilson, & Becker, 1995; Miller, 1996, 2000; Walitzer, Dermen, & Connors, 1999). Perhaps more surprising, many people are able to stop their addictive behavior without any formal treatment (Schachter, 1982; Shaffer & Jones, 1989; Waldorf & Biernacki, 1979, 1981; Waldorf, Reinarman, & Murphy, 1991). For example, most people who have stopped smoking became abstinent without formal treatment—despite nicotine dependence being among the most difficult addictions to stop (e.g., Breslau, Johnson, Hiripi, & Kessler, 2001; Cohen et al., 1989; Hunt, Barnett, & Branch, 1971; Schachter, 1982). Maybe more people than we recognize have discovered the very things that treatment providers offer so that what seems to be recovering without treatment really is just a path of clinical enlightenment. In the midst of these uncertainties, we must remember the first principle of medical ethics, to do no harm. Sometimes treatment can slow the healing process; sometimes it facilitates healing. The job of research and clinicians is to know the difference. Some people are attracted to treatment, others repelled. These circumstances might have as much to do with the treatments we offer as with the people to whom we offer treatment. With so many different issues and influences affecting research and treatment, it just isn't a simple task to translate good research into best practices.

As we move slowly and steadily down the meandering path of scientific discovery—a path that will inexorably offer better treatments for addiction – we need to provide for those who need our help now. Although some people can recover on their own, others who are struggling with addiction need our help now. They cannot wait for the optimal treatments that lie inevitably ahead. They cannot wait for the tedious translation process that science requires for taking research and turning it into best practices. We cannot afford to lose our friends and family to the debates that necessarily associate with scientific advances. However, just as we cannot lose our loved ones to scientific debate, we must not obviate or interrupt the debate. This is how science progresses; this is how we will achieve better clinical practices.

What do you think? Comments on this article can be addressed to Dr. Howard J.

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