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## **Enhancing the Effectiveness of Addiction Treatment: An Interview with Dr. Richard Rawson**

### **Introduction**

For the past half century, a select group of progressive psychologists chose to enter the arena of addictions research--in spite of cautions from their professional peers that more worthy and tasteful areas of specialization were surely available and preferable. One of the most productive members of this group is Dr. Richard Rawson who most recently co-directed the Integrated Substance Abuse Programs within the UCLA Department of Psychiatry and Biobehavioral Sciences in Los Angeles, California. Dr. Rawson's research investigations over the past four decades—reflected in three books, 25 book chapters, and more than 200 published research articles, span some of the most important areas of addictions medicine, including medications development and evaluation, development of the Matrix Model for the treatment of stimulant dependence, and national and international efforts to elevate the quality of addiction treatment through the promulgation of evidence-based clinical practices. I recently (2015) had the opportunity to interview Dr. Rawson on the eve of his retirement about his life's work. I think you will find his career reflections, his discussions about the state of addiction treatment in the United States, and the lessons Dr. Rawson has drawn from his international experiences very thought-provoking and inspiring. Please join us in this engaging conversation.

### **Specialization in Addiction**

**Bill White:** Your undergraduate and graduate training in research psychology spanned the early 1970s, when modern addiction treatment was just emerging. How would you characterize the depth of training related to alcohol and other drug problems and attitudes toward such problems in departments of psychology during that era?

**Dr. Rawson:** I had zero academic training on alcohol and drug problems. However, during the 1960s and early 1970s, I had considerable personal experience with drugs and alcohol.

**Bill White:** You became involved in the study of addiction at a time when few psychologists were specializing in this area. How did you come to develop this central focus of your career?

**Dr. Rawson:** In 1974 there were a large number of research psychologists graduating with PhDs, but there were limited employment opportunities. Before being offered my first job at UCLA, I had no particular intention to do work in the field of addiction. My "career choice" was based on the fact that I was recently married, had a baby daughter, and I needed a job. I liked the idea of living in Southern California, and the study of drug addiction seemed to be at a very early stage of development.

**Bill White:** What was the response from your professional peers to your decision to specialize in addiction studies?

**Dr. Rawson:** People believed it was too bad that I had to go into such a distasteful career, where the subjects being studied were mostly criminals and disreputable people. I think people believed I had potential for a good career in respectable research, but that it was being wasted in such a low priority topic.

**Bill White:** You have been affiliated with UCLA throughout a long and productive career. How has your role at UCLA evolved over these years?

**Dr. Rawson:** My career was somewhat usual for an academic researcher. After 5 years at UCLA and at New York Medical College studying naltrexone and behavior therapy for heroin addiction, research funding for drug addiction became scarce in the late Carter White House years and the entire Reagan administration years. Consequently, I left UCLA and moved to directly providing community treatment services for drug and alcohol disorders, so that I could learn more about the treatment of addiction and try to continue my research on medications and outpatient behavioral treatments for addiction. By this point, I was “hooked” on working in the field of addiction. I had spent enough time with people who were struggling with addiction to realize that many of these people truly wanted to stop their drug use and improve their lives, but for some reason, most were unable to successfully stop their drug use and avoid relapse. This was a puzzle to me, and I was really interested in better understanding this behavior.

After about 15 years of working in the community, I reentered UCLA in the mid 1990s. I had some National Institute on Drug Abuse (NIDA) research grants that I brought to UCLA, and together with Walter Ling and Doug Anglin, we established the Integrated Substance Abuse Programs (ISAP) as a large addiction research group within the Department of Psychiatry. We were located off campus, and we essentially operated as an independent group with little involvement with any other part of the Department of Psychiatry or any other group in the UCLA Medical School. We were the “drug addiction guys,” and while we were very involved with NIDA and increasingly with treatment system development in California, we had almost no role at UCLA. Over the 20 years I have been at UCLA, this has changed, only slightly and only recently. As the Affordable Care Act has required large health systems to address the problem of substance use disorders (SUDs), UCLA Health has begun to seek input from ISAP faculty to assist with how SUD services can be added to the health system. In addition, efforts are now underway to better integrate the topic of SUDs into other aspects of medical and psychiatric research at UCLA. This is a very positive change, and I believe this will result in the topic of SUDs being better integrated into the research and service efforts at UCLA.

**Bill White:** Who were some of the important influences during the early years of your career?

**Dr. Rawson:** The people who shaped my thinking about addiction and its treatment were Abraham Wikler, Avram Goldstein, Chuck O’Brien, Herb Kleber, Beny Primm, and Walter Ling (my good friend and colleague). From these folks, I grew to understand that addiction involved changes in the brain that occurred as a result of drug use. Pavlovian conditioning processes created the powerful process of drug craving, Skinnerian conditioning processes shaped and

reinforced drug seeking, acquisition, and consumption, and the brain and its neurotransmitters are altered over the course of addiction. In fact, addiction is a brain disease.

During my relatively brief stay at the New York Medical College (NYMC) in the late 1970s, I worked with Richard Resnick, Arnold Washton, and an extraordinary clinical research group. From this experience, I learned that the nature of my interactions with the subjects/patients could greatly influence the benefits they received from our “therapies” and medications. From watching Richard Resnick and the NYMC team interact with long-time, criminally involved heroin addicts, I learned that the ability to express empathy, accept the humanity of the individuals, and positively reinforce behavior changes toward recovery were powerful tools in helping promote behavioral change. Change often happens slowly with missteps along the way, but as long as the individual keeps trying, they deserve to receive assistance. I found this approach, which was in sharp contrast to the confrontational, sarcastic, and frequently punitive standard approach at the time, was a wonderful and effective positive alternative. Of course, within less than a decade, Bill Miller and Steven Rollnick, beautifully articulated a similar perspective with much greater nuance, and they revolutionized and humanized addiction treatment with Motivational Interviewing.

It would be a serious omission to fail to mention a number of my contemporaries who had a considerable impact on me and how I thought about addiction. Maxine Stitzer, Kathleen Carroll, and Tom McLellan have all been big influences on me. Tom, in particular, has been an inspiration to me by challenging us to bring science into the treatment setting and create treatment services that improve outcomes and provide better care. Michael McCann and Al Hasson (my friends and 40-year colleagues) have contributed to all of the work I have done in all of the settings.

## **Medication-Assisted Addiction Treatment**

**Bill White:** You have spent a good portion of your career conducting studies on medications used in the treatment of opioid-, alcohol-, and stimulant-use disorders. What conclusions have you drawn about the potential role of medication in recovery initiation and recovery maintenance?

**Dr. Rawson:**

The first addiction research project I worked on in 1974 was among the first NIDA grants awarded. It was an outpatient trial of naltrexone and behavioral therapy for opiate dependence. We found in that trial and many others since that although naltrexone worked well pharmacologically, it was difficult to induct individuals onto the medication, and retention in treatment was poor (i.e., many dropped out of treatment very quickly). During the past 40 years, the use of naltrexone as a treatment for opioid dependence has been limited, certainly in comparison to buprenorphine and methadone. The extended-release version of naltrexone does help with the retention problem to some degree, but still it appears that opiate-dependent individuals generally don't like having their mu opioid receptors blocked. They prefer agonists and partial agonists. So while we experts may think that a long-acting narcotic antagonist is a wonderful treatment, the bottom line is that each patient should choose the kind of treatment they want. For some individuals, under some circumstances, naltrexone is a useful treatment option.

The use of medication for alcohol use disorders appears to be expanding as new medications are developed and approved for use. Certainly, medications for the treatment of alcohol withdrawal (primarily the benzodiazepines) are well accepted life-saving tools. It seems to me that unlike buprenorphine and methadone for opioid dependence, which produce very robust reductions in opiate use, with or without behavioral treatments, the medications for promoting abstinence and reducing relapse to alcohol use produce more modest effects. It appears that for many people, the medications that are being used (disulfiram, naltrexone, acamprosate, nalmefene) are useful for promoting abstinence for brief periods (disulfiram) or are useful in reducing the amount of alcohol use. Surely these are important benefits, but we need medications that have broader applicability and produce more robust effects.

Regarding medications for the treatment of stimulant-use disorders, we are still at square one. Despite an extensive program of research supported by NIDA for over 20 years, we don't have any medications that have demonstrated efficacy for the treatment of cocaine or methamphetamine dependence.

**Bill White:** There has been a strong anti-medication bias within the history of addiction treatment, and medication-based and abstinence-based treatments have often been portrayed as incompatible. What potential exists in integrating pharmacotherapy with more traditional forms of psychosocial and spiritual support for addiction recovery?

**Dr. Rawson:** The potential for combining medications with other types of treatment is tremendous, and the extent to which this potential is realized is totally in the hands of the organizational leaders and clinicians who work in the existing treatment system. In Los Angeles, we saw a very large effort by public health leaders to promote the use of extended-release naltrexone across the entire publicly funded treatment system. Over a 3-year project, more than 1,500 patients were treated in dozens of treatment programs that previously had refused to prescribe medications. This experience changed the attitudes of many of the clinicians, as well as many patients, who previously were opposed to medication use for treating SUDs. However, in spite of this significant effort, there were a substantial number of organization leaders who refused to participate in this project because, as they said, "We don't believe in medications." However, progress is being made and I expect that organizations that incorporate medications into their treatment plans will flourish in the future, and members of the "We don't believe in medications" club should prepare themselves for their next careers doing something other than SUD treatment.

**Bill White:** There has been a substantial federal investment in studying the neurobiology of addiction and in medications development. What do you see as the promises and limitations of this research on the future of addiction treatment and recovery?

**Dr. Rawson:** Over the past 2 decades, the effort in the areas of neurobiology and medication development has been massive, with NIDA, the National Institute on Alcohol Abuse and Alcoholism (NIAAA), and, to a lesser extent, the National Institute of Mental Health (NIMH) investing many billions of dollars to better understand the brain and to search for and develop new medications for addiction. A good deal of the work I was involved with over this period was in these areas, since our group at UCLA was very involved in the early brain-imaging work

designed to understand the effects of cocaine and methamphetamine on the brain, as well as an extensive effort in the medication-development area.

During the 1990s and early 2000s, the NIDA Director, Alan Leshner, spent much of his time, along with his senior staff, including Tim Condon and Frank Vocci, translating the neuroimaging research for non-scientists, with the message that “Addiction is a brain disease.” I think this work was transformative. I believe that many in the public and the medical community responded to this translational work with an “Aha! experience.” I think NIDA’s effective communication of the research demonstrating that drug use/addiction are, in part, determined by the neurobiological effect of drugs and the impact of drugs on the brain transformed the “disease” concept of addiction from a vague, metaphorical idea to an explicitly defined disorder that can be visualized with pictures of the brain. Over the past 20+ years, I have delivered hundreds of lectures on “Addiction as a Brain Disease” to audiences throughout the United States and around the world and, without exception, this message resonates across cultures, religions, and educational levels. The effort to use neurobiological research to explain the disease of addiction has been a tremendously valuable contribution.

Our initial success in changing the fundamental understanding of the nature of addiction created great optimism about our ability to convert this knowledge into research that would quickly lead to new medications (particularly for treating psychostimulant-use disorders). This optimism was augmented by the FDA approval of buprenorphine and its acceptance into our opiate-addiction treatment efforts. What may have been overlooked by many was that the development of buprenorphine as an opiate-addiction treatment agent began in the mid 1970s. Completing the buprenorphine research and approval process (even with the strong support and participation of a major pharmaceutical company) took about 30 years. Because we then had pictures of the brain that showed the impact of stimulants and pointed us to specific brain structures and potential pharmacotherapies, we naively believed it was just a matter of time before we hit a home run and developed a “methadone” for stimulants. I think we underestimated the mysteries of the brain and the fact that addiction is a very complex disorder.

More recent and current efforts have focused on gaining a better fundamental understanding of how the brain works, how addictive disease develops, and what the general neurobiological (and other) processes are that determine addiction and addiction recovery. This approach involves taking a longer road, and while there is still a search for the “magic pill” or vaccine to treat or prevent addiction, the work now being conducted involves building a foundation of knowledge, including genetics, to guide future treatment-development efforts. This work necessarily requires time and funding, and so the creation of new treatments has been much slower than desired.

## **Cocaine, Methamphetamine, and the Matrix Model**

**Bill White:** You have been a leader in the development of specialized treatments for stimulant use disorders. How did you come to this role?

**Dr. Rawson:**

After 10 years of conducting research and providing treatment for opiate users in the clinics where I was working, Jeanne Obert, Michael McCann, and I started seeing people come into the clinics seeking treatment for cocaine-related problems in the early 1980s. We had no idea why

they were seeking treatment. At the time, the accepted knowledge was that stimulants, specifically cocaine, were not addictive. We literally asked these treatment seekers: “Why do you think you need treatment?” and “Why don’t you just stop using cocaine?”

What we were repeatedly told by these individuals were statements such as the following: “I can stop using cocaine, no problem, but I keep going back to it.” “I don’t have trouble stopping for days/weeks, but I always end up going back to cocaine.” “I try to use in a controlled way, but once I start, I lose control.” “I am spending all my money; I am jeopardizing my job and my family. I must be crazy, self-destructive, or morally deficient.” “I can’t understand my own behavior.”

This was different than what we had seen with opiate users, whose main concern was on avoiding withdrawal symptoms when they stopped using. We began to see more and more of these cocaine (and subsequently methamphetamine) users. Because we had very little information to go on to create treatment plans, we had all of the individuals who wanted to enter treatment with us sign a consent for treatment that basically said: “We don’t have an established treatment for stimulant dependence, so if you enter treatment with us, you are essentially entering a community-based research program. We will give you the best information we have to help you, but no outcomes can be promised.” We felt it was important to be candid with these treatment seekers about the limited nature of the existing knowledge and the absence of information about treatment effectiveness.

As we saw these individuals over time, it became clear that there were issues that seemed to be commonly associated with ongoing stimulant use and/or relapse. As we identified these issues, we attempted to find strategies to address them. One of the first and most obvious was that there were stimuli/cues that were associated with use, and during periods of abstinence, these stimuli/cues became “triggers” for craving. Although this phenomenon of classically conditioned craving had been well established by Abraham Wikler and Chuck O’Brien, as well as others (as well as recognized by sponsors in the 12-Step program, who often cautioned new users to avoid “people, places, and things”), we had very few systematically developed strategies for helping people with these “triggers.” An exception was the relapse prevention work of Alan Marlatt, who addressed the challenge of triggers and craving in his research with people struggling with alcohol use disorders. We borrowed Marlatt’s ideas and began to teach patients about triggers and how to avoid them and/or cope with them.

Another issue we recognized early on was the fact that users had no idea that part of their struggle with stimulant addiction was that their drug use had, in fact, changed their brain, and that the craving, the depressed mood, the difficulty concentrating, the irritability, etc., that they were experiencing were, in part, a result of brain changes caused by their drug use. As we worked with these individuals over time, it appeared to us that recovering stimulant users went through a period of months during which they were clearly suffering from a “brain fog” that made their life and sobriety difficult. However, from the data we collected we began to recognize that after 3–4 months of abstinence, people began to feel better and function better. We developed materials to explain this to people in treatment. Having this information seemed to provide hope and motivation. We were very pleased when, 10 years after we made these clinical observations, brain imaging data confirmed that stimulants did effect brain structure and brain chemistry. And it was very reassuring to see from this research that over time, many of the brain changes appeared to recover.

Over a period of about 5 years, we made a number of observations and then developed a set of materials for assisting treatment-seeking stimulant users with their problems. We received funding from NIDA via a Small Business Innovation Research (SBIR) grant to develop a manual and test it in a randomized clinical trial, which we did in the early 1990s, just as treatment for stimulant dependence was being developed. We called it the Matrix Model (Matrix Institute on Addictions was the nonprofit organization we established to deliver this treatment) and much of the stimulant-dependence treatment-training work in the United States and internationally has used the materials from this manual.

In addition to the work that went into the development of the Matrix Model, I began work at UCLA with a large group of researchers who were conducting work on stimulant-use disorders. I have been fortunate to have worked with a world-class set of researchers on a wide variety of topics related to stimulant use disorders—from work on the natural history of stimulant use disorders (Yih-Ing Hser, Christine E. Grella, Mary-Lynn Brecht) to cognitive and brain effects (Edythe London, Sara Simon), to medication research (Walter Ling, Steven Shoptaw, Lorie Williams, Valerie Antonini) to the impact of the stimulant epidemic on the criminal justice system (Michael Prendergast, David Farabee, Darren Urada) to the impact of stimulant use disorders on women and children (Alison Hamilton, Nena Messina) and adolescents (Rachel Gonzales), to implications of stimulant use disorders on transmission of HIV among men who have sex with men (Steven Shoptaw, Cathy Reback), to the impact of stimulant use on sexual behavior (Ruth Sodano), to the impact of psychiatric co-morbidity on treatment outcomes (Suzette Glasner-Edwards), to other behavioral treatments, including contingency management and cognitive behavioral therapy (Michael McCann, Steven Shoptaw), exercise (Larissa Mooney, Christopher Cooper, Joy Chudynski), and mindfulness (Suzette Glasner-Edwards). Further, my reputation as an expert in stimulant use disorders has been greatly enhanced by my association with extensive training efforts in stimulant use disorders by the folks at Matrix (Michael McCann, Jeanne Obert, Sam Minsky) and UCLA (Thomas Freese, Sherry Larkins, Albert Hasson, James Peck).

As a result of my collaborations with all of these people and others, I have benefitted in knowledge and friendship as we developed a body of work and expertise in areas related to stimulant use disorders.

**Bill White:** Is it your conclusion that the treatment of cocaine and methamphetamine dependence requires approaches that are substantially different than those used in the treatment of other drug dependencies?

**Dr. Rawson:** There are more similarities than differences to treating substance use disorders of all varieties. In general, drug dependencies are, in many ways, analogous to cancer. Different types of cancers have different etiologies, different treatments, and different prognoses, but all cancers have in common the pathological, uncontrolled growth of cells. Similarly, assorted forms of drug dependency have differences in etiology, treatment, and prognosis but have the commonality of loss of control of use, with serious life-threatening consequences.

I do think that there are differences in the disorders that require variations in emphasis in treatment strategies. For example, for cocaine and methamphetamine users, the issue of acute withdrawal is far less problematic than it is for those withdrawing from opiates or dangerous for those withdrawing from alcohol or benzodiazepines. However, the issue of conditioned cues or “triggers” and relapse is equally, if not more problematic, for stimulant users than it is for users

of those other drugs. In addition, the issues that can trigger craving are different. For example, with stimulant users, sexual stimuli of many types are highly associated with drug use and craving. This is not so much the case for alcohol and opiate users. Further, in the treatment of individuals with opiate use disorders (and to a lesser degree with alcohol users), we have a number of very effective medications. We have zero medications with any kind of established efficacy for treating people with stimulant use disorders. So because we have no pharmacologic tools for treating people with stimulant disorders, we are more reliant on behavioral and psychosocial strategies.

**Bill White:** Could you describe the conclusions drawn from the research studies evaluating the Matrix Model

**Dr. Rawson:** In the responses above, I describe the development of the Matrix Model. We began evaluating pieces of it as we developed the overall model. In 1985, we presented a paper at the College of Problems on Drug Dependence (CPDD) annual meeting comparing outcomes of cocaine users treated with an early version of this model with treatment outcomes of stimulant users treated in a 28-day, inpatient rehab unit. We subsequently published a number of articles on data collection efforts that did not include control groups using the treatment model and several others that suggested positive outcomes.

In 1999, the Substance Abuse and Mental Health Services Administration (SAMHSA) funded a large multisite randomized controlled trial of the Matrix Model for treatment of individuals dependent upon methamphetamine that was conducted at seven sites in the western United States. Approximately 1,000 methamphetamine-dependent individuals were randomly assigned in each of the seven sites to either the Matrix Model or to treatment as usual. This was something of a messy study, as “treatment as usual” was a variety of things that varied greatly across sites. However, SAMHSA supported this trial, both as a study to collect data and as a way of providing treatment funding to western communities in need of treatment services.

The results of the study were published in the journal *Addiction* (Rawson et al., 2004). Results indicated that methamphetamine-dependent individuals treated with the Matrix Model were retained in treatment significantly longer, gave more drug-free urine samples, and had longer periods of sustained abstinence from methamphetamine while in treatment than those in the treatment-as-usual condition. However, the in-treatment benefits of the Matrix approach did not appear to “carry over” to the posttreatment follow-up period. There were no differences between groups at the 6-, 12-, or 36-month follow-up points. The interpretation of these findings and subsequent discussion have suggested that although the “in-treatment” results looked promising, the fact there was no sustained advantage seen for the Matrix group participants meant that there was limited importance in the “in treatment” superiority of the Matrix Model.

Another way to consider these results is to view them as we would view a medication trial. If the Matrix Model were a medication and if it produced significant reduction in drug use during its administration, but not after it was discontinued, the result would be considered an unqualified success. The standard for medications is that in order to be designated as efficacious, they only need to show superiority while the participant is taking the medication. It is not expected that after the medication is discontinued there will be a sustained effect (this is the so-called “birth control pill” reality. The medicine only works when you take it). For many, the expectations of behavioral treatments are different in that they have to produce effects that persist beyond the treatment period to be considered effective. Despite the perceived limitation



of the Matrix Model, the data collected to date on it have been sufficient to have it be included in the SAMHSA National Registry of Evidence-based Programs and Practices (NREP).

### **State of Addiction Science**

**Bill White:** You have served in numerous board and guest editorial positions over the course of your career, spanning such journals as *NIDA Science & Practice Perspectives*, *Addiction*, *Journal of Substance Abuse Treatment*, *Journal of Psychoactive Drugs*, *Journal of Maintenance in the Addictions*, *Journal of Drug Issues*, and *Journal of Addictive Diseases*. How would you characterize the state of addiction science in 2015 and how it has evolved over your career?

**Dr. Rawson:** I think addiction science is in a period of transition. From a considerable distance at this point in my career, it seems to me that NIH has a specific agenda and is far more directive than during the years I was a more active grantee. During my years as an NIH researcher, there was great openness to investigator-initiated ideas, and there was tremendous interest in closing the gap between research and practice. That approach and emphasis appears to have faded in favor of a much more NIH-driven agenda and a desire to build information that cuts across all NIH institutes. There seems to be less emphasis in funding research that addresses practical questions that might impact today's treatment for SUDs. The emphasis seems to be on building knowledge in the areas of neurobiology and genetics to create a foundation for future treatment advancements. I understand this approach, but I do miss the days when a good idea that came from clinical observations and that addressed a question of current relevance could be funded by NIH. The new emphasis on use of "big data" to answer a wide variety of questions has tremendous potential to improve the efficiency of biomedical and behavioral research. However, I would caution that a transition period will be needed and that at present the questions that can be accurately and meaningfully addressed with big data are somewhat limited. It seems to me that as of 2016, there are many practical limitations and gaps in the data in big data systems. However, because big data is the current zeitgeist, there seems to be a rush to answer all questions using it. In some cases, I fear there is an "Emperor's New Clothes" attitude toward the limitation of the meaningfulness of these data. There seems to be an attitude of "Ready, fire, aim" surrounding some of the research being touted with this new and very promising (in the future) approach.

**Bill White:** How effectively have we integrated the findings of addiction research into frontline service practices in addiction treatment?

**Dr. Rawson:** It has been a very, very long and frustrating process. I think at long last, we have been seeing progress in the past 5 to 10 years. The first and most important step was the establishment of the Addiction Technology Transfer Centers (ATTCs) and the Treatment Improvement Protocols (TIPs) and Technical Assistance Publications Series (TAPS). These centers and documents made a difference by giving clinicians useable information and tools to use in treatment. For a long time, the only document used with any regularity in the treatment of alcohol or drug dependence was the Big Book of Alcoholics Anonymous. And while this approach was remarkably valuable for many people, there were many for whom it was not useful (or adequate). However, I think the training and educational efforts that have been led by the ATTCs have made a gradual impact. It seems to me that some version or some aspects of

motivational interviewing and/or motivational enhancement therapy are now routinely used. The use of these approaches as the foundation for interacting with patients in treatment is a major advancement over the longstanding use of abusive and confrontational approaches. In addition, behavioral strategies such as cognitive behavioral therapy (CBT) and contingency management are now widely used, and psychoeducational programs are far more likely to provide patients and families with accurate and evidence-based information about addiction and related issues, including infectious diseases.

The Affordable Care Act has really shaken things up. Increasingly, specialty care providers are now seeing primary care providers learning how to prescribe Suboxone and conduct screening, brief intervention, and referral to treatment (SBIRT) in general medical practices, and it is becoming apparent that specialty care has to develop and use effective approaches in order to stay relevant. However, the bottom line is that more care is being provided in more places to more people. And I think an increasing amount of this care reflects an awareness of the science of addiction. Further, because care for SUDs is being provided in medical settings, there is an increasing acceptance of the need for a diversity of approaches and a diversity in acceptable treatment goals. The days when “abstinence from all drugs and alcohol” was the only acceptable goal for SUD care are fading in the rear view mirror. The recognition that “harm reduction,” including the use of naloxone for overdose prevention, is a critically important concept is long overdue in the United States. The aversion to this approach, as well as an outright ban of the term by the U.S. government until recently, has been a major limitation of SUD efforts in the United States. It is a real relief to see that era of stupidity come to a close.

**Bill White:** What do you see as the most promising frontiers of addiction research?

**Dr. Rawson:** I understand that the areas of neurobiology, genetics, and big data are areas of major emphasis for the future, and I believe these areas will help build important knowledge. I am interested in new types of interventions for addiction. I think research on physical exercise, mindfulness, yoga, and other wellness-oriented approaches fits well with the concept of people becoming more responsible for their own health and their own recovery. Our approaches to addiction have been limited to (1) have people sit in a therapy session or in a circle for some kind of therapy or fellowship support, (2) give people a medicine, or (3) do a combination of (1) and (2). I also like the idea of “patient-centered” research and treatment. I think our approach to addiction care has been, for the most part, paternalistic and developed with very little systematic input from the patient population. We experts have set the goals for treatment, decided what treatment should be, how patients should behave, and historically, if patients don’t respond the way the we dictate, we say they are resistant to treatment. I like that patient-centered research and treatment puts the patient at the center of treatment decision-making.

**Bill White:** Do you see efforts to extend acute care models of addiction treatment to models of sustained recovery management to be a positive development within the field?

**Dr. Rawson:** Yes, I think for people with long-term chronic SUDs, this is a very important development, and the concept begins to address the reality of the need for many people to have long-term recovery support. I do think there is a risk that everyone, no matter how severe their SUD is, will now be told they have a chronic illness that needs long-term, lifetime recovery support. I think for young people, in particular, this message may be inaccurate and may

actually be a deterrent to treatment for some people. The SUD treatment system in the United States does not have a good track record of individualizing care to meet the needs of specific individuals. I hope that as we develop the concept of long-term recovery support, it will be available to all patients who find it acceptable and useful, but not made mandatory for all patients without regard to specific patient needs and preferences.

**Bill White:** You recently reviewed the implementation of peer-based addiction recovery support services in the State of California. Do you see this trend as an important development within the history of addiction treatment?

**Dr. Rawson:** California has a long history of strong recovery support. In the past decade there have been some innovative models and methods for expanding the availability and diversity of recovery support.

**Bill White:** What do you think are the most important next steps in improving the quality of addiction treatment in the United States?

**Dr. Rawson:** Such steps would include: (1) Expanding access to care, by increasing the awareness of SUDs across the healthcare system, (2) Improving the required knowledge and training of the behavioral health workforce, including far more integrated training of SUD, mental health, and public health workers, so that common co-morbid medical and mental health disorders with SUD can be addressed in an integrated manner, (3) Increased implementation of evidence-based treatments, including medications (including naloxone for overdose prevention), and (4) Continued development of medications, especially medications for stimulant use disorders and extended-release preparations of medications such as methadone and buprenorphine.

### **International Work**

**Bill White:** You have consulted extensively with other countries on the development and improvement of systems of addiction treatment. Could you describe the span of these activities and how those opportunities developed?

**Dr. Rawson:** The international work I have been involved in has been incredibly rewarding to me and has allowed me to make many close friends and learn about many societies, their health systems, and the nature and extent of their substance use problems. My work started in the Middle East. I was asked to travel to Israel to help organize a meeting with the Israelis and Palestinians to discuss the drug use situation in their societies. This was soon after the signing of the Oslo Accords, when there was optimism in the region about the possibility of peace and a “two state solution.” We had numerous meetings and training sessions and developed a plan for cooperative service development and research. Unfortunately, just as we were about to implement these plans, the 2001 intifada began and the situation between the Palestinians and Israelis has been in various stages of conflict ever since. However, my Israeli (Richard Isralowitz) and Palestinian (Mohamed Afifi) colleagues have been remarkable in that they have continued their efforts to develop joint research and training projects throughout the past 15 years, despite the lack of cooperation between their governments. Just last year at the CPDD

annual meeting, they were given awards by NIDA for their continuing efforts to work on substance use issues and build a cooperative research effort in that area.

With this introduction to the region, our UCLA group was able to build a similar relationship with a group in Egypt at Cairo University, led by Tarek Abdul Gawad. The work in Egypt has become a major effort over the past 12 years, including several major training efforts in Cairo for the United Nations and a project where we brought teams of Palestinian and Iraqi health professionals to Cairo for training in addiction. We now have an NIH Fogarty Center training grant between Cairo University and UCLA to train young Egyptian addiction psychiatry researchers. We have had many young Egyptian psychiatrists come to UCLA as part of this program and as part of the Humphrey Fellowship Program.

As a result of this very productive relationship with our colleagues at Cairo University, our UCLA group has been introduced to addiction professionals throughout the Middle East region. Consequently, we have had the opportunity to work with the National Rehabilitation Center in Abu Dhabi, United Arab Emirates, with the Skoun and Marsa centers in Beirut, Lebanon, and with the governmental treatment centers in Oman and Qatar. My UCLA colleagues and I have conducted an extensive amount of addiction training in the Kingdom of Saudi Arabia (KSA), and as a result of our relationship and friendship with Dr. Abdullah Sharkey, we have been involved in advising and helping with the establishment of the Substance Abuse Research Center (SARC) at Jazan University, Jazan, Saudi Arabia. Additionally, we now host visiting scholars from KSA who come to UCLA for 12-month stays to learn current clinical practices and develop addiction research agendas for their work in KSA. We have now had about 15 of these young psychiatrists who will be the leaders of addiction treatment in the future.

In 2004, I had the opportunity to meet with Dr. Solomon Rataemane, a leading addiction psychiatrist in the Republic of South Africa (RSA). My colleague Donnie Watson and I went to South Africa and developed a 5-year NIDA grant with Solly and his colleagues to test several methods of training for psychologists, social workers, and counselors in the use of CBT as a treatment strategy in 36 treatment clinics throughout RSA. Our trips to RSA allowed us to meet many of the leaders of the SUD treatment system and many of the clinicians working in treatment settings.

Beginning in 2011, we conducted a training program with a team from Baghdad University School of Medicine, in Baghdad, Iraq, led by Salih Hasnawi and Nesif Al Diwan, with support from the U.S. State Department. We conducted training with a team of MDs and social workers in the United States, as well as during extended training visits to Cairo and Beirut. We also helped organize with our Iraqi colleagues the first Epidemiological Workgroup meeting in Baghdad in 2012. This project was followed by our partnership with Iraqi colleagues in conducting the first national survey on drug use in Iraq. This survey was conducted in 2014 at the time ISIS/Daesh was emerging in Iraq. Despite extreme conditions, we were able to conduct training for the surveyors in Erbil (the Kurdish part of Iraq), and the surveyors were able to carry out the household survey with over 3,500 participants. This survey has been presented to the Iraq government and is now being prepared for publication.

In 2007, our UCLA group, led by Darren Urada, applied for and received funding from the U.S. Institute of Peace (IoP) to hold a regional conference on addiction treatment systems in Istanbul, Turkey. Using the IoP money as a starting point, we were able to get additional funds from the World Health Organization (WHO), United Nations Office of Drugs and Crime (UNODC), NIDA, and SAMHSA to make this a large 3-day meeting with representatives from 23 countries in the Middle East, Africa, and Europe. This meeting was intended to educate

individuals from these areas on the various models for delivery of SUD services and help them consider steps that could be taken in their countries. But the overarching purpose of the meeting was to bring together professionals from countries across the region. We had representatives from Iraq, Iran, Israel, Palestine, and many other countries whose governments do not interact. This was an event that created long-lasting relationships and partnerships. For myself, this meeting allowed me to be introduced to leaders of WHO and UNODC. The WHO introductions have led to opportunities to serve as a WHO consultant to the governments of Oman, Egypt, and Iran on their addiction systems and an invitation to be part of the advisory group on the development of the WHO Mental Health Guidelines (mhGAP).

My introduction to the representatives from the UNODC led to our involvement in the Treatnet program. Treatnet is a program initiated by Dr. Juana Tomás-Roselló, who led the UNODC efforts to establish a worldwide network of addiction training centers. Our UCLA group led an international consortium of 10 universities in the development of a comprehensive training package to provide foundational training in addiction treatment that could be used by professionals around the world. A very large and labor-intensive effort was made to create and refine these materials for translation into the five UN languages. The materials, while now somewhat dated and in need of revision and updating, are still being used around the world. In addition to development of the materials, the UCLA group was involved in training the first generation of 40 Treatnet trainers to use the materials and subsequently to train the first group of trainers of trainers for dissemination of these training materials. This was a wonderful effort, and it is great to see the ongoing impact of this work.

On an entirely different track, in the late 1990s, my colleagues at Matrix Institute and I were asked by the U.S. Embassy in Bangkok, Thailand, to train a group of Thai doctors and social workers in the use of outpatient treatment materials for treating methamphetamine users. Subsequently, we were invited by SAMHSA to travel to Vietnam to work with funds from the President's Emergency Plan AIDS Relief (PEPFAR) to establish Vietnam HIV-Addiction Technology Transfer Centers (VH-ATTCs) at Hanoi Medical University and the University of Pharmacy and Medicine in Ho Chi Minh City, Vietnam. This work, conducted with guidance from Kevin Mulvey and in collaboration with Le Minh Giang has produced valuable training resources for building the Vietnam addiction treatment system. This work is still underway, led by Sherry Larkins.

All of this international work has been incredibly interesting and rewarding. I have learned far more than I have contributed. I have become friends with many of the people I have worked with and continue to consider them some of my closest friends. Many of them are working in challenging political and social environments and many have limited resources. However, the common thread is a tremendous commitment to the people of their societies and an extraordinary thirst for knowledge. I have been struck by how much respect for scientifically supported information there is around the world and the extent to which much of that knowledge has been created in the United States. I think we should be proud of our leadership in creating knowledge about SUDs and effective treatments for SUDs. Paradoxically, I sometime marvel at the fact that in many of the international locations where I have worked the uptake of evidence-based practices (EBPs) has been done quickly, and the services developed make extensive use of these EBPs as the foundation of their evolving treatment systems. In the United States, on the other hand, we have spent decades fighting ideological battles about whose views are "right." Unfortunately, these arguments have slowed the application of EBPs and have resulted in an addiction workforce that is far less well educated in EBPs than in many of these newly

developing systems. Hopefully, as discussed above, as a result of the Affordable Care Act and ATTC training efforts, that is improving in the United States.

**Bill White:** Is there a “big picture” that has emerged about the development and resolution of drug-related problems that has arisen from this work in so many countries and in such diverse contexts?

**Dr. Rawson:** I have been struck by two major “big picture” themes as I have traveled and talked and worked with people on the development of their treatment system for SUDs. First, it is remarkable how clearly many people outside the United States recognize SUDs as health problems and not as criminal justice issues. The U.S. “War on Drugs” and massive incarceration of addicted people (primarily young men of color) is recognized by most leaders in most parts of the world as the example of how not to address SUDs in their country. Until the recent Obama administration policy changes, WHO leaders have viewed the U.S. approach as very backward and regressive. Despite the fact that we have produced much, if not most, of the scientific knowledge about the nature and treatment of SUDs, the U.S. policy of criminalizing people who struggle with SUDs has been viewed by much of the world as absurd and a shameful aspect of our society.

The other major theme I have experienced is the reality that most other societies recognize SUDs as life-threatening illnesses that cause overdose deaths and transmission of infectious disease, including HIV (especially from injection drug use). As a result of this perspective, other societies appear to prioritize strategies that save lives and reduce the severe health consequences of SUDs. The fact that in the United States, as mentioned above, the term “harm reduction” was verboten until recently, was, upon reflection, an extraordinary and bizarre development. That the U.S. government felt it was necessary to ban the use of this term (and therefore delayed the implementation of many useful strategies, such as needle distribution and naloxone distribution) because these strategies somehow “encouraged” or “permitted” drug use is mind boggling. The Obama administration deserves credit (however belated) for addressing this issue and moving things in a positive direction, so that the United States can “catch up” with the rest of the world.

**Bill White:** Are there lessons we could learn here in the United States from the experience of the countries with whom you have consulted?

**Dr. Rawson:** I think I addressed that above.

### **Personal Legacy**

**Bill White:** What aspects of your work in this field over the past four decades have been most personally fulfilling?

**Dr. Rawson:** When I think back to my first experience at an addiction treatment program (“The Family” at Camarillo State Hospital), where people were degraded by shaving their heads (a shaved head was not cool in 1974), having them wear self-disparaging signs, having them dress in pajamas, and yelling at them in abusive group “therapy” sessions, and I contrast that now to visiting a primary care clinic in Vermont, where patients sit in a general medical practice

waiting room and are treated like other medical patients as they receive their assessment, medication, and counseling—I think amazing progress has been made. We have a ways to go to continue the mainstreaming of addiction care, but things are moving in the right direction.

Similarly, in 1974, there were the beginnings of a core group of researchers at top universities, and addiction science got a great start with the establishment of NIDA and NIAAA. However, for clinicians/practitioners it was different. In order to be a counselor or physician in a treatment facility it was considered necessary to have a personal history in alcoholism/addiction. And in most cases, this personal history of alcoholism and/or addiction and hopefully (but not necessarily) a personal history of recovery was considered all the training needed to qualify you as an expert in treating people with alcohol and/or drug dependence. Further, very few MDs, psychologists, and social workers who were not in recovery viewed treatment of SUDs as a “respectable” career. This has changed. The American Society of Addiction Medicine (ASAM), American Academy of Addiction Psychiatry (AAAP), International Society of Addiction Medicine (ISAM), and credentialing efforts with counselors have created a workforce that is becoming comparable to that of other areas of healthcare. It is a very positive experience to go to current conferences and training sessions and hear high level information being shared with bright young clinicians/practitioners who ask excellent questions and are prepared to deliver high quality, compassionate, evidence-based treatment.

**Bill White:** What do you hope will be the most important legacy you leave the field?

**Dr. Rawson:** When we sit down and talk to any individual who is struggling with drug and alcohol, we have no way of knowing if they are “ready” for recovery. So we always have to give our best effort to every patient, just as we would if they were one of our family members.

Work hard, stay open to new ideas and new evidence, be kind, and remain hopeful.

**Bill White:** What advice or guidance would you offer a young psychologist today considering a career in addiction-related research?

**Dr. Rawson:** It’s a great career. Lots of wonderful people and a chance to really make a difference.

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## **Appendix**

### **Selected Reading**

#### Books

Roll, J., Rawson, R.A., Shoptaw, S., & Ling, W. (Eds.) (2009). *Methamphetamine addiction: From basic science to treatment*. New York: Guilford Press.

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#### Articles of Particular Interest for Addiction Counselors

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