The science of addiction has made great strides, largely thanks to the generous funding of federal agencies such as the NIH and SAMHSA, and the vision of their leaders. The empirical knowledge that has resulted from this funding is invaluable to the prevention and treatment of addiction and to informing policy and funding decisions that affect not only the lives of addiction-affected persons but also that of their families, communities and of society at large.

Researchers have made many strides in the science of addiction, some of the most significant of which have led to consistent improvement in the methods used to investigate its etiology and treatment. Looking to other biomedical fields to enhance research and treatment strategies within addictions, we have embraced methodological gold standards such as large-scale randomized clinical trials as well as effective or promising pharmacotherapies that, as an adjunct to traditional treatment, have the potential to improve the lives of millions. These include methadone, buprenorphine, acamprosate, naltrexone, suboxone, and numerous others.

In using the most sophisticated scientific methods to urgently pursue ‘the cure’ to a social ill whose consequences extend well beyond the addicted individual (leading to issues such as HIV/AIDS, Hepatitis C, domestic violence, family disintegration, social instability, and devastated communities), we must not lose sight of the phenomenology of addiction and its solution—‘recovery’ to the individual. One of the most significant ‘discoveries’ within the field is identification of addiction as a chronic (some say ‘relapse-prone’) condition. The cardinal trait of chronicity is that there is no cure; however, symptoms can be managed and the condition arrested or ‘remitted.’ Unlike other biomedical fields and illnesses, we currently lack criteria to recognize or quantify remission from addiction or how that remission is best sustained. This however, is the concern of the addiction professional. Millions of formerly addicted individuals worldwide are living proof that remission—‘recovery’—from addiction is a reality and as many have said to us when preparing this Brief, they do not need a definition or a set of criteria. But scientists do, as they must. Therefore, the task of researchers must be to catch up to this large yet un-quantified and under-investigated group of individuals to learn from their experiences in order to inform services and policy in an increasingly ‘recovery-oriented’ system of care.

As stated later in this Brief, the science of addiction and the science of recovery are complementary, not mutually exclusive. If it is an illness, we must elucidate wellness with the same relentless commitment to the highest scientific standards that guide the science of other ills. We must also recognize that when seeking to elucidate remission or the ‘experience’ of recovery from a bio-psycho-social condition that impairs nearly all areas of functioning and has for many a spiritual component, traditional scientific strategies may fail us at times. The questions we ask may differ from those we address when explaining pathology. The methods we use need to include the lived experience of our ‘subjects.’ Our ultimate task is to develop a science that adheres to the strictest standards of excellence while describing wellness in its many forms to inform services and ultimately improve lives.

This brief was undertaken as a preliminary roadmap to this scientific destination. It is designed to both highlight what is currently known about addiction and recovery and to emphasize the need for research that focuses on recovery—a very real yet largely unexamined phenomenon known currently mostly through personal accounts and an emerging science that cannot progress if held strictly to the questions and methods defined in the science of addiction pathology. This Brief delineates the key questions needed to increase our understanding of recovery as identified by practitioners, researchers, policymakers and the recovery community.

It is our hope that this work will now serve as an open invitation for all to participate in further defining addiction and recovery. By doing so, we can all contribute to expanding our knowledge base informing these topics as well as defining more clearly our understanding of the illness, how it is experienced, and how it can be overcome. The ultimate vision of this work is to provide practitioners with the knowledge necessary to offer addiction-affected individuals better opportunities to achieve and sustain long-term recovery.
n a seminal report on the practice of medicine, especially as it relates to the management of chronic illnesses, the Institute of Medicine (IOM; 2001:1) stated that the “American health care delivery system is in need of fundamental change.” Too often, patients do not receive care that “meets their needs and is based on the best scientific knowledge” (IOM, 2001: 145). Consistent with these statements, in a survey of health care systems in five industrialized nations, adults in the US were “least satisfied with their health care system” (Commonwealth Fund, 2002). The IOM report sparked numerous efforts to examine the healthcare delivery system—both from the physical and behavioral health perspectives.

In 2004, seeking to address the issues identified by the IOM report, the Institute for Research, Education and Training in Addictions (IRETA) convened a group of leaders in addictions to study the delivery of substance abuse treatment services and to develop a common vision for the prevention, intervention, treatment, and recovery from substance use disorders. The guiding concept of this effort was the conceptualization of addiction, in its most severe form, as a chronic disorder. The proceedings of this multi-year effort and the resulting model from the collaborative group process, the “Resiliency, Wellness, and Recovery Model,” was published in 2006 (Flaherty, 2006). The model emphasized the need to adopt a chronic disease continuity of care model to address substance use disorders, and to include early intervention and recovery supports as an integral part of care.

Subsequently, IRETA worked with William White and Dr. Ernest Kurtz, to publish a guide for addiction counselors detailing a key aspect of the new model of addiction services,—the integration of recovery support services with treatment (White & Kurtz, 2006). The guide presented a large body of empirical evidence indicating that active linkage and use of recovery support services during and after treatment could significantly enhance treatment and recovery outcomes (Dennis, Scott, & Funk, 2003; Fiorentine & Hillhouse, 2000; McKay, 2005; Moos & Moos, 2005; Scott, Foss, & Dennis, 2005). The integration of recovery support services with treatment as described is just one aspect of a larger system designed to focus on and better support recovery—a recovery-oriented system of care (ROSC) (http://www.pfr.samhsa.gov/rosc.html). ROSC is a “network of formal and informal services developed and mobilized to sustain long-term recovery for individuals and families impacted by severe substance use disorders. The system in ROSC is not a local, state, or federal treatment agency but a macro-level organization of a community, a state, or a nation” (White & Kurtz, 2006: 13). Implementing such a system entails a fundamental paradigmatic shift from the prevalent acute care model where services are delivered in discrete, intense episodes focusing on symptom elimination for a specific problem and directed by professionals, to a continuity of care paradigm where wellness is the goal and long-term recovery is viewed as self-sustainable (White & Kurtz, 2006: 9-10).

As empirical evidence continues to build supporting adoption of this new model, it is beginning to be put into practice. As evidenced by these early implementations and current recovery-related research, the model presents many challenges to service developers, policy makers and researchers, and has generated many questions. These questions need to be addressed to guide the field toward the implementation of this new addiction service vision and addressing them fully has required the involvement and collaboration of all stakeholder groups, including the recovery community as well as more traditional professional partners.

IRETA took the leadership in moving this agenda forward by coordinating two key initiatives in 2008. The first was to organize a Recovery Symposium, held on May 1-2, 2008, that built upon the many national and regional recovery-oriented initiatives and that brought together representatives of all key stakeholder groups. The event featured a half-day working meeting in which a group of diverse leaders representing substance use treatment service providers, researchers, recovery, policy, and funding agency representatives came together to learn from each other’s experiences related to design and implementation of recovery-oriented systems of care including exploration of barriers and lessons learned. The second day of the symposium entailed a full day of presentations addressing numerous aspects of the recovery movement and representing the perspective of the recovery community, federal, state and city agencies, policy makers, service providers and researcher including Dr. H. Westley Clark (Substance Abuse and Mental Health Services Administration/ Center for Substance Abuse Treatment), Dr. George DeLeon (National Development and Research Institutes, Inc.), Karen M. Carpenter-Palumbo (New York State Office of Alcoholism and Substance Abuse Services), and many others. (see Appendix 1; Videos of the Symposium are available at www.ireta.org). This diversity of views is key in creating, funding, delivering and evaluating a recovery oriented service model that can best address the needs of individuals and communities affected by substance use disorders. The day-long symposium included the presentation and discussion of an agenda for the Science of Recovery as detailed below, that was followed by commentaries from national leaders including, Dr. Robert Forman (Alkermes, Inc.), Dr. Mark Willenbring (National
Institute of Alcohol Abuse an Alcoholism), Dr. Timothy Condon (National Institute on Drug Abuse), and Drs. A. Thomas McLellan and Deni Carise (Treatment Research Institute).

IRETA's second initiative to integrate the recovery vision into the addiction field entailed partnering with other organizations (Great Lakes Addiction Technology Transfer Center and Philadelphia Department of Behavioral Health and Mental Retardation Services) to support the preparation of a monograph authored by William White laying out the empirical support for the move to ROSC (White, 2008; http://www.ireta.org/merchant2/). The monograph was published in June of 2008 and is the first and most comprehensive systematic review of the literature to support transition to ROSC and the concrete strategies that will make the vision of ROSC a reality.

This brief grew out of both, planning for the recovery symposium and the clear need, highlighted in William White's 2008 monograph, for transformation of substance abuse service delivery so that it better promotes long-term recovery. Doing so will require a robust and thorough empirical basis—the science of recovery.
INTRODUCTION

In preparation for the recovery symposium described above, the symposium planning group solicited input from various stakeholder groups about the types of questions we need to be able to answer to promote long-term recovery, inform recovery oriented systems of care (ROSC) and recovery management (RM) and to minimize current barriers to recovery-oriented services. We obtained extensive input from the recovery community (based on the national work of Faces and Voices of Recovery in which the organization gathered questions and issues of concern to persons in recovery); surveyed service providers nationwide representing all treatment modalities and therapeutic orientations, funding source (public and private), agency size, and geography (urban and rural); and obtained input from the research community. The resulting feedback was then organized into broad categories that are presented in this brief (“What do we need to know?”). A more detailed list of topics and questions is presented in Appendix 2. A preliminary summary of this brief was presented at a closed pre-symposium meeting of key stakeholders on May 1; audience feedback from this presentation was incorporated in this final version of the brief.

This brief summarizes the need for and promise of the Science of Recovery, presents key research questions, and closes with a summary of current obstacles to conducting recovery-oriented research and suggestions for possible future directions.

WHY DO WE NEED A SCIENCE OF RECOVERY?

Decades of federally-funded research have resulted in a vast knowledge base about the nature (etiology, “causes”), patterns, consequences and treatment of addiction. Information on the prevalence of alcohol and drug use in the past month/year is easily accessible with a few mouse clicks, analyzable by age, gender, ethnicity, geographic locale, and employment status. But there is much we do not know—How many people in the US are in recovery? How did they get there?

Treatment can be effective, even though it typically requires multiple episodes of care under the current service model, but rates of reoccurrence are high even after several years. Less than one-third of people with drug or alcohol problems ever seek treatment. How do we “sell” treatment to those who need it?

Medications that can help achieve (and maintain?) abstinence are currently available or in development and testing phases to address dependence on a growing number of substances. The goal of these medications is primary symptom management.

ARE WE CURING ADDICTION?

Addiction is best conceptualized as a chronic brain disorder. As such, it cannot be cured but it can be managed. Comparing addiction to other chronic conditions such as diabetes, hypertension or asthma, McLellan (2002) noted the many similarities in the etiology, course, treatment and treatment outcomes across chronic conditions. However, more than (or perhaps unlike) any other chronic condition, active addiction has deleterious consequences on almost all areas of functioning (physical and mental health, family and social functioning, employment and education, housing, legal status, and overall well-being). Abstinence from drugs and alcohol is likely a prerequisite to improvement in other life domains, but it rarely brings instant relief (Vaillant, 1995). Addicted individuals who address abstinence alone are unlikely to maintain that abstinence for a prolonged period. Individuals need to address “recovery” in the multiple life domains affected by active addiction. Note: For many, the term ‘recovery’ used to denote regaining something that was lost, is a misnomer as relates to ‘externals’ (materials possessions or status). Rather, a recurring theme among persons in recovery is that what is regained is an identity (a self) and a potential that were lost to addiction (Laudet, 2007).

Unlike other chronic conditions, focusing only on the pathology of addiction (symptoms) leads to stigma that translates into discrimination against those who have overcome the disease and represents many obstacles to rebuilding lives—such as in housing, education, labor markets, etc. Many individuals emerge from active addiction with co-occurring mental or physical health conditions that also carry stigma (most notably mental health issues and HIV/AIDS). Many individuals who have overcome active addiction experience enduring shame and guilt about the impact their past substance use had on loved ones and on society. This may result in “spiritual malaise,” depression, and related negative emotions that can hinder recovery. These secondary symptoms of active addiction must be addressed as part of the recovery process. Would a diabetic experience relief from his/her condition by undertaking a “searching fearless moral inventory” (4th step)? Would a hypertensive consider the need to make amends (9th step) for actions taken when s/he was symptomatic? Yet, many individuals in recovery from addiction worldwide do so in the context of working the 12-step recovery program. Thus, while addiction shares many
characteristics with other chronic conditions, it also has a number of unique features that require attention when seeking to elucidate and promote stable remission (recovery).

The World Health Organization defines health as “a resource for everyday life” rather than as the mere “absence of symptoms” (World Health Organization, 1986). In an interview with Bill White, Dr. Clark recently stated that “Recovery is more than abstinence from alcohol and drugs; it is about building a full and productive life in the community. Our treatment systems must reflect and help people achieve this broader understanding of recovery” (Clark, 2007). The call is being heard. State by state, substance use disorder services nationwide are undergoing a historic transformation from the prevalent acute care model to a person-centered, multi-system, continuum of WELLNESS-oriented care: recovery-oriented systems of care (ROSC).

Though this is beginning to change (e.g., Betty Ford Institute; Betty Ford Institute Consensus Panel, 2007), the construct of recovery has yet to be adequately defined, deconstructed, and operationalized. Long-term recovery is virtually uncharted territory. How can we effectively promote something we poorly understand and have not adequately examined?

THUS THE FIRST STEP OF THE ACTION PLAN TO PROMOTE LONG-TERM RECOVERY MUST BE TO DETERMINE WHAT WE NEED TO KNOW AND TO SEEK ANSWERS.

WHAT DO WE NEED TO KNOW?

What is recovery? Specifically what are the required ingredients: abstinence PLUS WHAT? In which domains is improvement required for there to be “recovery” not only in the eyes of society but also for the individual?

Relatedly, there is preliminary evidence that quality of life satisfaction prospectively predicts sustained abstinence by maintaining motivation (Laudet, Becker, & White, 2008). What constitutes a satisfying quality of life in recovery? How does that change over time?

For individuals to achieve long-term recovery, they need to initiate recovery. Many individuals with severe problems require multiple attempts before truly initiating the recovery process. What needs to “click” in the person? What is the catalyst? How can professionals (both traditional treatment providers and providers of non-traditional support services) shorten the typical addiction career?

For recovery to become long-term, early recovery has to be sustained and solidified. How do we engage the community and other non-specialty care providers (e.g., primary care physicians) in becoming early interveners to prevent return to active addiction or other life loss that may precipitate relapse?

Research shows differences in dependence and cessation trajectories across drug classes (Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 2008); What are the implications of these findings for recovery-oriented services, specialty care, recovery outcomes, patterns and determinants?

The risk of return to active addiction becomes minimal after 5 or more years of abstinence. What else needs to happen for individuals to achieve and sustain recovery? What is long-term recovery? What degree of improvement in which life domains are required for the individual to have something s/he does not want to lose to active substance use?

Multiple paths to recovery—How do people recover? What works? For whom? When? Under which circumstances (low/high recovery capital, severity, family history, etc.)? Not only to initiate recovery but also to sustain it over five years, ten years, or for life? Though participation in treatment and 12-step fellowship programs appear effective for some, many do not participate in either and reoccurrence rates are high even among those who do participate. Further research is needed on natural recovery, religious and spiritual recovery, secular recovery with and without the assistance of mutual aid involvement and/or professional treatment that may include medications, the use of recovery homes, recovery coaches and other emerging forms of recovery management. Through the multiple pathways available, what are the common themes in recovery?

How effective and cost effective are recovery-oriented systems of care (ROSC) in terms of lives and dollars saved, communities restored, families reunited, employment rates increased (or absenteeism decreased) and demonstration of good “citizenship”—living up to the responsibilities of society? This needs to be measured using a longitudinal approach across isolated episodes of specialty care. It is likely that while ROSC represents a greater investment than an individual treatment episode, the approach will save money and lives when evaluated over the life of an individual’s ‘service career.’
What is the most effective role of peers in recovery services?

How is recovery from addiction similar to and different from recovery from other chronic conditions? From medical conditions (e.g., diabetes and arthritis)? From mental health conditions (e.g., depression and PTSD)? From recovery from other “addictions” (e.g., internet, gambling, food, sex, and shopping)? What can we learn from other fields, and, specifically, for which aspect of addiction recovery must we devise specific interventions, paradigms, and/or measures?

There is a high rate of co-occurring physical and mental health chronic conditions; to date the addictions field has focused almost exclusively on psychiatric comorbidity and on HIV. How do other co-morbid chronic conditions affect the initiation and maintenance of recovery? How do we integrate the multiple systems of care that are required to support wellness for persons with multiple conditions?

How do we disseminate the message of hope and increase the attractiveness of recovery services?

WHAT WILL THE SCIENCE OF RECOVERY TELL US THAT WE DO NOT ALREADY KNOW?

Before asking what the science of recovery will tell us, we must first commit to making the science of recovery a true science. The research questions and methods may differ, but the same high scientific standards must be upheld so that the science of recovery is as good (or better) as the science of addiction.

The ultimate goal of science is to inform clinical practice to improve lives. The science of addiction has and will continue to elucidate “the problem” (the multiple causes of substance use disorders) and to inform strategies to address it. We have a solid understanding of why and how people become substance dependent (e.g., brain studies and biology) that is being translated into therapies to lead substance dependent persons out of addiction. The science of recovery will complement the science of addiction and lead to additional, diverse effective strategies to promote healthy, satisfying, productive lives among formerly dependent individuals.

The science of recovery will inform the recovery community as well as service development, policy and funding and make significant contributions to our nation’s health and its economy. The mere action of making wellness a bona fide outcome will help reinforce the fact that recovery from addiction can be and is a reality for many. By extension, this can give hope to the many individuals and families affected by substance use disorders and support them in their search for the solution that will work for them.

Empirically-derived knowledge about recovery as a multi-dimensional, dynamic construct will provide clinicians, the recovery community, and other stakeholders with realistic expectations and goals. It will inform the development of tools to measure recovery and identify recovery milestones. This will help track change over time (not only in terms of abstinence but also in terms of global functioning), inform changing service/support needs as the process unfolds, help payers and prospective clients to select and evaluate services, and facilitate research to quantify the effectiveness and cost-effectiveness of recovery-focused services. Identifying the benefits of recovery, not only to society but also to the individual, makes recovery-oriented substance abuse services more attractive than those “selling” abstinence alone. This can contribute to increased help-seeking among persons with alcohol and other drug problems, and can ultimately translate into minimizing the many costs of active addiction-quantifiable costs such as those for healthcare, crime, infectious diseases and other medical consequences of addiction, loss of productivity, and less easily quantifiable costs related to families, children, and communities.

Empirically-derived knowledge about the phenomenology of long-term recovery (e.g., when is recovery “stable”? “sustained”?) will contribute to minimizing many of the current societal barriers to recovery. As mentioned above, these barriers tend to manifest themselves as discriminating policies and pervasive stigma attached to persons who have a history of addiction related to quality of life issues such as employment, housing, and professional licensures.

The science of recovery will allow us to quantify the likelihood of recovery from substance use disorders regardless of path, and to identify factors that promote and hinder the process. By learning how recovery is attained and sustained, information will emerge about the various “paths” to recovery (professional treatment, self help, religious and spiritual recovery, and others perhaps yet unidentified), help determine whether specific paths are indicated for certain groups of individuals and individuals themselves (depending on severity, substance, gender, comorbidity, recovery or social “capital”). That will provide helping
professionals and persons experiencing substance use disorders a menu of recovery paths from which to choose in the same way physicians and their patients can review and select among strategies to address high cholesterol depending on the individuals’ blood levels, medical and family history, and lifestyle.

Identifying the critical ingredients of recovery at successive stages of the process will inform recovery oriented systems of care, a service model that is likely to be more cost effective than the prevalent acute-care paradigm. Quantifying its effectiveness and cost effectiveness require “recovery criteria” that do not currently exist.

CURRENT BARRIERS TO THE SCIENCE OF RECOVERY

In structure and focus, addiction research funding thus far has mirrored the acute-care model prevalent in clinical practice. This approach is ill-suited to elucidating recovery from a chronic condition. Further, we have looked to other biomedical disciplines for scientific standards, at times compromising external validity (“real world relevance”) in the process. These strategies are well-suited to address some questions and have yielded great advances—e.g., treatment effectiveness studies—but are ill-suited to study recovery.

Key obstacles to conducting (or rather securing funding for) recovery-oriented research currently include:

- Primary focus on symptoms (substance use) and social (public health and safety) which lead to insufficient attention on wellness (e.g., quality of life and global health)
- Primary emphasis on the biomedical aspects of addiction (e.g., brain studies and medication studies) to the detriment of investigating other critical determinants of remission and recovery (e.g., psychosocial and socio-cultural environment in addiction and recovery patterns) in an integrated manner.
- Emphasis on formal treatment services which lead to insufficient attention on the natural history of recovery using various paths; the psychosocial environment; social, personal and social ‘capital;’ socio-cultural resources and obstacles; and family history and community influences on patterns of substance use, paths and patterns of recovery.
- Insufficient long-term studies which lead to emphasis on the initiation of abstinence rather than on promotion of sustained wellness (i.e., long term recovery).
- Most recently: Fiscal austerity favoring shorter studies or large clinical trials of therapeutic interventions to the detriment of long-term observational studies (‘natural history’) that hold great promise to identify paths, patterns and determinants of the broader construct of recovery.
FUTURE DIRECTIONS

Substance abuse services are gradually becoming more “recovery-oriented” and making two significant paradigmatic shifts: (1) From the acute, intense episode of specialty care model to a continuum of multi-system care, and (2) from addressing primary symptoms to promoting global health.

“If addiction is to be studied as a chronic relapsing disease, increased follow-up periods will be necessary to advance our understanding for achieving and sustaining recovery. Advancing science in this arena will require comprehensive, individually based, longitudinal data sets” (Hilton, Chandler, & Compton, 2008: 5).

What research funding agencies can do to promote long-term recovery:

- Include recovery as a bona fide topic and major goal area in agencies’ strategic plans—Recovery can no longer be treated as a secondary outcome or as merely abstinence from drugs and alcohol.
- Earmark research funding (RFA) specifically to elucidate the phenomenology (ingredients) of recovery and long-term recovery processes, patterns and their determinants: Solicit research that:
  - Adopts a longitudinal, naturalistic, developmental, “career” perspective (a la Vaillant, Hser, and Moos/Timko).
  - Considers the multiple paths to recovery—not just treatment.
  - Combines quantitative and qualitative methods to gain in-depth knowledge FROM (and about) persons in recovery.
  - Makes wellness (recovery and global functioning), NOT substance use, criminal involvement and employment only, THE primary outcome.
  - Adopt an ecologically valid “person in environment” approach rather than an individual-level approach only.
  - Addresses research questions developed in partnership with service providers (to maximize technology transfer) and with the recovery community (to maximize relevance).
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ACHIEVING CONSENSUS ON A DEFINITION OF RECOVERY

When “recovery” is “successful” (and that needs to be defined), what actually changes? What is gained (in which life domains are the changes)? Is anything of value lost on the way to recovery? What are the behavioral economics of recovery (gain vs. loss)?

What are the critical ingredients/required elements of sustained recovery?

In terms of substance use AND global health, i.e., other key functioning/life areas—mental health; physical health; social/family; employment/finances; living conditions; access to care; leisure/recreation; spirituality; and what else? This needs to be examined across subpopulations, primary substances, and by “recovery stages”, among others.

DESCRIBING THE RECOVERY PROCESS

- What is the phenomenology of recovery over time—What changes? How does it change?
- What is the relationship among the critical life domains—Are they independent? Are they cumulative? Is abstinence in addition to a fantastic family life, mediocre health and no job as predictive of sustained “recovery” as abstinence plus a mediocre family life and a mediocre job?
- What is the absolute and relative importance of each of the life domains/components: To the individual (importance ratings)? To predicting recovery maintenance? e.g., (a) is abstinence critical to initiate change in the other domains or vice versa?; (b) is long term abstinence (say 3 years) in the absence of other positive changes enough to sustain recovery or are such persons at increased risks for relapse relative to someone with the same abstinence duration plus positive changes in global functioning? (i.e., is abstinence enough?)
- Do the relationships and rankings of multiple life domains change over time? For example, the first few months one may really enjoy waking up with a clear head or regaining the trust of family members. Then one wants a job, social relationships, a larger house, a sense of purpose, etc. At that stage, does absence of desired/needed change increase the risk of return to substance use?
- Conversely, what is the phenomenology of loss/deterioration in these domains? Does deterioration in key life domains (e.g., mental health or social functioning) lead to loss of abstinence or is abstinence lost first? Does that vary by gender, age, ethnic subgroup, or recovery stage? Could we use this information to develop a more attractive recovery sales package to various subgroups? How would selling wellness rather than abstinence influence service utilization and, ultimately, the nation’s health?
- Is there a “point of no return” to active addiction/dependence—where the odds of return to active use are essentially zero—or is it really “once an addict always an addict”? If there is a “point of no return”, what is the set of criteria (e.g., a given duration of continuous abstinence plus a given “level” of functioning in key domains) that allows us to predict and promote arriving at that point? This speaks to whether dependence/addiction is a lifelong illness (and restoring any “rights” or privileges, professional or otherwise, to persons with a dependence history).

DESCRIBING THE RECOVERY PROCESS: CHRONOLOGY

- What is “long-term recovery”—specifically how long or does it vary and, if so, according to what?
- What are the stages of recovery? What are the important milestones in recovery?
- What are typical longitudinal patterns of recovery, and what are the critical points when people are vulnerable to relapse—e.g., late-stage relapse-after multiple years of abstinence?
BENEFITS AND ECONOMICS OF RECOVERY

- What are the psychosocial, medical, and neuro-cognitive changes (improvements) that result from sustained abstinence?
- For the community and for society at large, what are the “benefits” of promoting long-term recovery in terms of financial cost savings (specialty care, other social services, criminal justice system); public health and safety (crime and infectious disease transmission); productivity/employment; family/community health; and civic participation?
- How do we use this information to “sell” treatment and promote wellness?
- How does that compare to the current care model?

MEASURING RECOVERY—BEYOND ABSTINENCE

Review existing measures (e.g. Quality of Life) and identify or develop a wellness-based comprehensive, multi-dimensional, psychometrically sound measure of recovery that incorporates all relevant life domains, is sensitive to change, and meaningful to the recovery community. For ‘recovery-oriented systems of care,’ such a measure is necessary for external accountability purposes as well as for internal quality assurance and monitoring, and to guide service development and planning.

RECOVERY PATHS

- What are the various paths used to initiate and sustain recovery? These may include but are not limited to:
  - Natural recovery (no use of professional services or self-help)
  - Different modalities and models of professional/specialty services (alone or in combination with 12-step or other mutual aid). This includes psychosocial and pharmacotherapy.
  - 12-step (alone or in combination with specialty care)
  - Non 12-step mutual aid/self-help (e.g., Secular Organization for Sobriety)
  - Culture-specific approaches (e.g., Wellbriety/White Bison)
  - Religion and spirituality
  - Alternative methods (alone or in combination with any of the above). This may include acupuncture, hypnosis, yoga, and meditation.
- Are determinants (factors that promote and/or hinder) of recovery initiation and maintenance-promoting similar or different? How can this best be translated into recovery-oriented systems?
- If determinants differ by recovery “stage” (milestone), at which point in the process do recovery support service needs change to maximize sustained recovery?
- Given the desire to quit using, why and how does someone select a given path?
- What is the prevalence of different pathways out of addiction?
- Which “path” is more effective at engaging someone and achieving early recovery (initiation) given the person’s individual, clinical, or other characteristics?
- Which “path” is more attractive to and effective for going from early to intermediate or sustained recovery?
- Assuming each of the “paths” promotes abstinence, do they “automatically” produce increases in the other components (global functioning)?
- Is abstinence phenomenologically and neuro-cognitively the same regardless of path—e.g., voluntary, medication-assisted, and forced abstinence (controlled environment)?
- Given an equal duration of various “paths”, what is the prospective effectiveness of each (or combination thereof) to lead to sustain continued abstinence and global functioning?
- Is there an optimal combination among complementary paths, e.g., professional treatment to initiate recovery in addition to 12-step participation both during treatment and as aftercare?
Do specific paths/combinations work best for specific groups of individuals (by severity, pre-recovery capital, gender, etc.)?

Compare/contrast the phenomenology and longitudinal patterns of recovery across various pathways, e.g., with and without active 12-step involvement and/or a spiritual foundation.

Can we identify a typology of recovery styles that can guide individual-level recommendations to maximize the attractiveness of recovery, e.g., not everyone wants to be a 12-stepper. This may be an issue of recovery “culture”.

**SPECIFIC SERVICES/RECOVERY RESOURCES**

**PROFESSIONAL TREATMENT/SPECIALTY CARE**

- Is specialty care necessary? For whom? Which level of care? Then what?

- How can we best identify when/how to move clients from different levels of care (residential to IOP, IOP to OP) to keep people engaged in the change process?

- Participation in treatment can enhance protective resources (e.g., family support, goal direction, monitoring, friend and peer norms and models, and rewarding activities) that sustain recovery (Moos & Moos, 2007). How can this be promoted systematically?

**12-STEP**

- What are the critical active ingredients of 12-step participation (meeting attendance and involvement such as working the steps or doing service) at successive stages of recovery?

- Deconstructing the 12-steps: What are the processes underlying the influence of each of these ingredients on abstinence (initiation and maintenance) and on global health and functioning?

- Is there a 12-stepper profile? What are the clinical, recovery capital, and demographics of persons who benefit from 12-step? (These issues have been investigated most among alcohol-dependent persons. Do findings generalize to drug-dependent persons as well?)

- Unlike professional treatment that is often “evaluated” months after services end (e.g., 6 months post discharge—outcome data), most studies on 12-step are conducted among individuals who are currently participating (performance data). What is the “effectiveness” of 12-step in sustaining abstinence and the other components of recovery after someone stops going (outcome)? Does 12-step “stay” with you after you stop going? Specifically what stays with you? Can we “bottle” this for persons who choose not to go to 12-step?

**OTHER SELF-HELP/MUTUAL AID**

- “Inventory” of non 12-step addiction recovery support groups

- What are the reasons for participation in non 12-step groups instead of 12-step groups? What are the benefits derived? Are they different than benefits derived from 12-step groups? Is there a certain type of individual attracted to these groups (to inform menu of recovery options)?

- What is the effectiveness of other self-help/mutual aid organizations?

- What are the underlying mechanisms of action for non 12-step groups? Are they different than 12-step groups? (what are the “universals” of recovery support groups? What is specific to each? For whom is each best indicated?)

**PEER RECOVERY SUPPORT SERVICES (PRSS) AND RECOVERY SUPPORT SERVICES (RSS)**

- What is the effectiveness of each at promoting entry into treatment (when indicated), abstinence, and global health?

- What is the effectiveness of each in keeping people engaged in the change process?

- Conduct clinical trials comparing PRSS and RSS vs. standard treatment.

- What is the cost effectiveness of PRSS and RSS compared to standard treatment?

- Are PRSS and RSS really different? (does “peerness” matter?)

- Are PRSS and RSS more or less effective when they are offered in treatment centers?
What strategies are most successful in linking individuals leaving treatment (community-based or in jail/prison) to recovery community resources, including recovery support services?

OTHER

What is the effectiveness and cost effectiveness of participation in recovery community institutions (e.g., recovery homes, recovery schools, recovery industries, recovery support centers, recovery ministries/churches) in enhancing long-term recovery?

What is the potential of new technologies to support individual recovery alone or in combination with specialty care or other services? For example, telephone or web-based recovery coaches, online support groups, recovery support text messages. What is feasible? For whom? What is the effectiveness and cost-effectiveness of these technologies?

RECOVERY-ORIENTED SYSTEM OF CARE (ROSC): SERVICE DEVELOPMENT AND FUNDING

What needs to happen to transition from the acute-care model to a recovery-oriented system of care (ROSC) at the system level (e.g., statewide)? At the program level? Within the payment system (reimbursement structures)? At the clinical level as impacts services from clinicians and other service providers to individuals?

What do service developers need to know to move a recovery-oriented system of care forward?

How do we implement and “sell” a recovery-oriented system of care in the current beleaguered and deficit-focused system of care?

What can the substance use disorder treatment field learn from the mental health field and other fields addressing chronic conditions about recovery-based care (wellness promotion)?

How does the effectiveness and cost-effectiveness of ROSC compare to the prevalent acute-care model?

Specifically what training do staff (program directors, counselors, others) need to transition to a recovery-oriented continuum of care without alienating them by implying that what they have been doing may not be working as well as we hoped?

Can this training be streamlined (e.g., web-based) for enhanced efficiency?

What is the feasibility and effectiveness of building performance-contracting into ROSC (assuming we arrive at recovery measure and criteria)?

MULTISYSTEMS/SERVICE INTEGRATION

What is the best way to coordinate the provision of a spectrum of ancillary services (housing, legal problems, etc.) with specialty care to provide a truly person-centered system that promotes and sustains long term recovery?

What is the best way to integrate professional services (specialty care, social services, etc.) with the use of peers and volunteers?

How can we foster the creation of multi-agency, multi-disciplinary service teams?

What are the systemic barriers to flexible systems that can accommodate the changing needs as recovery progresses?

Can we learn from other systems or fields that have identified and successfully effected service integration—e.g., mental health, disabilities?

RECOVERY RESOURCES (OTHER THAN PATHS) AND OBSTACLES

Resources and obstacles can be within and/or outside of the individual

Psychosocial resources are often investigated but not in an integrated fashion (e.g., cognitions, social environment and support, spirituality/faith)

Obstacles can include characteristics of the individual, his or her sociocultural environment, as well as policies
**KEY QUESTIONS:**

- Does the individual believe recovery is attainable? Are there successful role models (individuals in recovery or persons who do not have a substance abuse problem) in the immediate environment and in the prevalent culture (e.g., media)?
- What are the factors that promote and hinder the initiation and maintenance of long-term recovery?
- How do they interact at various stages and for different populations (e.g., high/low severity, recovery capital etc.)?
- At any given recovery “stage” (early, intermediate, or sustained), what is the power (explanatory value) of each domain to predict recovery, and how do they interact (is there a cumulative effect?)
- Are factors promoting/hindering initiation and maintenance the same or different? If different, how do they differ, and what services and other support are needed for initiation and maintenance?
- What is the role of family in the individual recovery process?
- What are the stages (and needs) of family recovery?
- Do stigma and discrimination hinder recovery initiation? Recovery maintenance? How so? What policy changes are needed?

**“SPECIAL” POPULATIONS AND SOCIOCULTURAL ISSUES**

Where feasible, the key questions addressed in a comprehensive recovery-focused research agenda must be considered for large subgroups to determine where differences and similarities lie. This will guide policy and services. Subgroups include but are not limited to:

- Youth, women, Native Americans, Latinos, dually-diagnosed (co-occurring), people in medically-assisted recovery, veterans, “older” (over 50!), rural populations, ex-offenders, incarcerated individuals, trauma survivors, persons who are HIV+ and/or HepC+, persons with multiple dependences or addictions (e.g., substance use and gambling or food).
- Identify cross-cultural as well as culture-specific patterns and processes of long term remission as a function of different socio-political and service delivery contexts. Stated differently: what is the role of the sociopolitical context in how recovery is conceptualized, sought, attained and experienced?

**DISSEMINATING THE MESSAGE OF HOPE/PROMOTING RECOVERY: HOW DO WE SELL RECOVERY?**

- How many people in the US are in recovery (assuming we have a definition)? How many are in long-term recovery? (this would give the recovery movement a “constituency” to advocate for services, funding and policy change.)
- How do we disseminate the message that long-term recovery is attainable and there are multiple paths to achieve it?
- Are there ways to think about the styles of recovery (identity and relational patterns) that will encourage more individuals to seek and sustain their recovery given that current treatment is not attractive to many who need it?
- What are effective ways/venues to communicate with people needing-seeking recovery, to engage and sustain them in that pursuit? What “sells” recovery? What sells treatment? Clearly the promise of abstinence is not enough.
- What are effective ways to communicate with people about how to evaluate and use information about pathways to recovery to make informed choices?
- What role does the media portrayal of people with addiction problems and the coverage of addiction issues have in encouraging (or not) people to seek and sustain their recovery?
REFERENCE LIST


World Health Organization—European Regional Office. (1986). Copenhagen, Denmark: WHO.