

## **Addiction: It Isn't All a Brain Disease – Getting Back to Biopsychosocial**

David Mee-Lee, M.D.      Davis, CA  
(530) 753-4300; Voice mail: (916) 715-5856  
[dmeelee@changecompanies.net](mailto:dmeelee@changecompanies.net)    [www.changecompanies.net](http://www.changecompanies.net)

July 27, 2012      TAAP Conference - San Antonio, Texas

### **A. Current Trends that Focus on Addiction as a Brain Disease**

- New and emerging information about neurobiology, medication assisted treatment and recovery. Addiction affects neurotransmission and interactions within reward structures of the brain, including the nucleus accumbens, anterior cingulate cortex, basal forebrain and amygdala.
- Google - "Addiction as a Brain Disease": about 11 million results in 0.23 seconds.
- Google - "Addiction as a Biopsychosocial Disease": 880,000 results in 0.28 seconds; and George Engel first introduced "biopsychosocial" in 1977 – 35 years ago.

#### **1. Revamped definition of addiction - American Society of Addiction Medicine (ASAM)**

- Short Definition begins: Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry
- In the August 15, 2011 ASAM press release, here are some "talking points" that were highlighted:
- Addiction is a chronic brain disorder and not simply a behavioral problem involving too much alcohol, drugs, gambling or sex.
- Outward behaviors are actually manifestations of an underlying disease that involves various areas of the brain.
- Addiction, at its core, is not just a social problem or a problem of morals. "Addiction is about brains. Not just about behaviors" (Frequently Asked Questions, Question #3).
- A major thrust of the new definition is that it is not the substances a person uses that makes them an addict, nor is it even the quantity or frequency of use. It is about what happens in a person's brain when they are exposed to rewarding substances or rewarding behaviors.
- These substances and behaviors "turn on" the reward circuitry in the brain and related brain structures. (Frequently Asked Questions, Question #1).

#### **2. National Institute on Drug Abuse (NIDA) has promoted addiction as a "brain disease"**

- Dr. Alan Leshner, then NIDA Director, noted in 1999, "Although the onset of addiction begins with the voluntary act of taking drugs, the continued repetition of 'voluntary' drug taking begins to change into 'involuntary' drug taking, ultimately to the point where the behavior is driven by compulsive craving for the drug. This compulsion results from a combination of factors, including in large part dramatic changes in brain function produced by prolonged drug use. This is why addiction is considered a brain disease - one with imbedded behavioral and social context aspects. ("Science-Based Views of Drug Addiction and Its Treatment," can be found in *The Journal of the American Medical Association (JAMA)*, 1999; 282:1314-1316) and October 12, 1999 Press Release on Principles of Drug Addiction Treatment: A Research-Based Guide.)
- "Many people do not realize that addiction is a brain disease. While the path to drug addiction begins with the act of taking drugs, over time a person's ability to choose not to do so becomes compromised, and seeking and consuming the drug becomes compulsive. This behavior results largely from the effects of prolonged drug exposure on brain functioning. Addiction affects multiple brain circuits, including those involved in reward and motivation, learning and memory, and inhibitory control over behavior." (Nora D. Volkow, M.D., Director NIDA – Preface Principles of Drug Addiction Treatment, Second Edition, 2009")
- New breakthroughs in anti-addiction medication, vaccines and biological interventions
- Attempts to improve the public's acceptance of addiction as a primary, chronic disease.
- Promoting screening and brief intervention in general health settings.
- A change in attitudes away from addiction as willful misconduct.

## B. Advantages and Disadvantages of Addiction as a Brain Disease

- Clinical and policy implications

### 1. Advantages

Common and counterproductive attitudes and beliefs about addiction and about those afflicted and affected by addiction that can be addressed by seeing addiction as a brain disease:

(i) If you just look at the behavior of a person with addiction, you may see a person who lies, cheats, breaks laws and appears to lack good moral values.

- The *counterproductive* reaction of society is to punish such antisocial behaviors and approach a person with addiction as “a bad person” to be punished.
- The *productive* attitude to have is to “realize that good people can do very bad things, and the behaviors of addiction are understandable in the context of the alterations in brain function.” (ASAM Definition Frequently Asked Questions, Question #3).

(ii) So if you say a person has the disease of addiction, are they not still responsible for their behaviors? Or in other words are you letting them off the hook by saying they have a disease?

- The *counterproductive* reaction to understanding addiction as a primary disease is for a person with addiction to say, “Don’t blame me, it was my disease that made me go into the bar and relapse.” They may not be as blatant as that, but even addiction treatment professionals are ambivalent about how to balance responsibility for relapses with addiction as a relapsing disease
- The *productive* attitude to have is to recognize “personal responsibility is important in all aspects of life, including how a person maintains their own health.....You are not responsible for your disease, but you are responsible for your recovery.” Just as people with diabetes and heart disease need to take personal responsibility for how they manage their illness, those with addiction need to do the same. (ASAM Definition Frequently Asked Questions, Question #4).

(iii) If healthcare professionals, facilities and insurance benefits packages only focus on the substance use and related complications, the underlying addiction illness is not treated. As a result, people with addiction keep presenting with complications and can switch in search of other rewarding substances and/or addictive behaviors.

- The *counterproductive* result of focusing just on the substance use and associated complications is that physicians and other healthcare professionals think their work is done when they manage withdrawal symptoms and detox a person. Or stabilize a person’s substance-induced psychosis. Or fix the broken leg from injuries in a drunk driving accident. Insurance benefits may cover only detoxification in a medical facility, as if addiction is an acute illness needing just stabilization of the substance use rather than ongoing treatment like other chronic diseases.
- The *productive* attitude to have is to see the need for comprehensive addiction treatment of the “underlying disease process in the brain that has biological, psychological, social and spiritual manifestations.” (ASAM Definition Frequently Asked Questions, Question #8).

### 2. Disadvantages

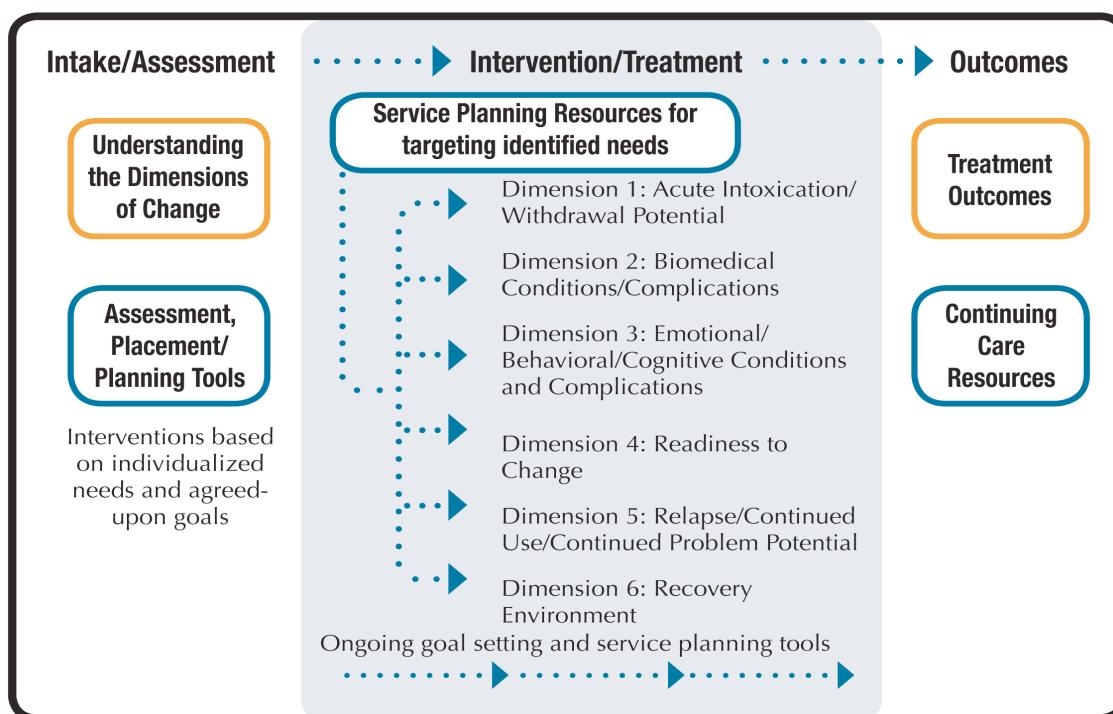
- Overemphasis on anti-addiction medications as the major intervention when medication is just one tool in the clinical toolkit
- Overemphasis on the brain as the *cause* of addiction when there are public health, social, cultural, psychological and psychiatric origins, not just as *results* of addiction as a brain disease.

### C. Getting back to “Biopsychosocial” - finding the balance between the “bio” and the “psychosocial”

- George Engel believed “that to understand and respond adequately to patient’s suffering – and to give them a sense of being understood – clinicians must attend simultaneously to the biological, psychological, and social dimensions of illness.” (Borrell-Carrió, Suchman, Epstein, 2004)
- Biopsychosocial model = a holistic alternative to the prevailing biomedical model that had dominated industrialized societies since the mid-20<sup>th</sup> century. (Engel, 1977)
- Engel “formulated his model at a time when science itself was evolving from an exclusively analytic, reductionistic, and specialized endeavor to become more contextual and cross-disciplinary.” (Borrell-Carrió, Suchman, Epstein, 2004)
- Engel championed his ideas both as a scientific proposal and a fundamental ideology that wished to bring more empathy and compassion; empowerment of patients and a more participatory clinician-patient relationship. (Borrell-Carrió, Suchman, Epstein, 2004)

#### 1. Biopsychosocial in Etiology, Clinical Presentation and Treatment

- Addiction is not just a brain disease. It is biopsychosocial in the etiology of addiction; the way addiction manifests itself and affects people and families; and in promoting treatment that is holistic and person-centered that touches the physical, mental, social and spiritual aspects clients.
- There are genetic and biochemical origins to addiction. But there are psychiatric and psychological underpinnings to addiction as well as public health principles that contribute to addiction e.g., the more available a drug and the lower the price, the more widespread are the health and social costs of addiction to those drugs.
- Who crosses the line into addictive illness depends on their own recipe of biopsychosocial factors. Some people can have little genetic predisposition and family history of addiction, but succumb to overwhelming psychosocial factors. Others can have a strong genetic predisposition, multiple family problems and role models for using substances as a way of living; live in a drug “ghetto” with drugs on every corner; and at 20 years old now have a 5-year history of heavy drug problems.
- A holistic, multidimensional perspective in understanding and treating addiction. The American Society of Addiction Medicine’s (ASAM) Criteria describes six assessment dimensions that are holistic, biopsychosocial and multidimensional.

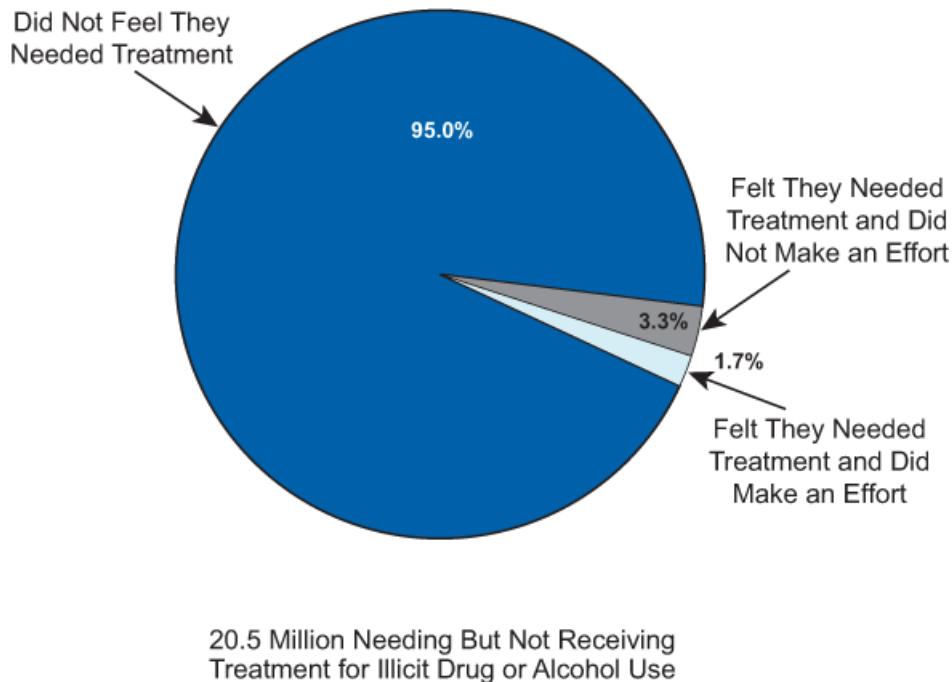


## 2. A Broader Perspective on Substance Use Problems and Addiction Illness

We debate about best treatment methods, medications, 12-Step attendance and biomedical or psychosocial approaches. But the people who actually get to specific addiction treatment program are a tiny sliver of the estimated 20.5 million people 12 years old and above needing, but not receiving addiction treatment.

The huge unmet need for addiction treatment. The latest results of the 2010 National Survey on Drug Use and Health were just released in September 2011. <http://oas.samhsa.gov/nsduhlatest.htm>

Here is the latest pie chart where a picture is worth a thousand words. Note the tiny sliver of 1.7% of people who felt they needed treatment and made an effort to get it:



Past Year Perceived Need for and Effort Made to Receive Specialty Treatment among Persons Aged 12 or Older Needing But Not Receiving Treatment for Illicit Drug or Alcohol Use: 2010

- Most people getting antidepressants for depression get them from primary care physicians because that's where those with depression often are – not in psychiatrists, psychologists and other therapists' offices. The same is true for where people with substance use problems and addiction are.
- Impacting addiction will need much more partnership with primary care and health systems, not just behavioral health integration.

## 3. Balance the “bio” with the “psychosocial-spiritual”

Most of us lean towards one side of the biopsychosocial continuum. This may be by the influence of formal training; personal health and recovery history; family history and attitudes; and clinical experience or lack of it. If you agree that addiction is a multidimensional disorder and that individualized treatment is needed, then consider the following points and practices:

- (i) If you have a visceral negative reaction to give people in addiction recovery medication, it's time to learn more about the "brain disease" aspect of addiction
- (ii) If you have a visceral negative reaction to 12-Step programs like AA or NA, it's time to attend an open meeting and see for yourself.
- (iii) If you think of medication as just "Medication Assisted Treatment or Recovery" (MAT or MAR), as if real treatment is psychosocial treatment and ideally drug-free treatment, then it's time to consider medication one of a menu of treatment options. Medication is in the menu of services along with individual, group, family sessions; cognitive behavioral therapy; motivational enhancement therapy; 12-Step facilitation therapy; multisystemic therapy etc. We don't say "medication-assisted diabetes or hypertension treatment" as if the real treatment is diet, exercise and lifestyle change with medication just assisting the "real treatment". We don't think of antipsychotic medication for schizophrenia treatment as just an adjunct to the "real" psychosocial treatment. Medication is just medication to be used with some clients and not with others.
- (iv) If you are holding out for the someday biomedical treatment that will find the right medication injection, medicine patch or long acting vaccine or medical breakthrough, then it's time to learn more about the power and necessity of social support networks and self/mutual help programs.

#### 4. **SAMHSA's Definition of Recovery**

The Substance Abuse and Mental Health Services Administration (SAMHSA) announced a new working definition of recovery from mental disorders and substance use disorders on December 22, 2011. They recognized that "there are many different pathways to recovery and each individual determines his or her own way."

The new working definition of recovery from mental and substance use disorders is as follows:

***A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential.***

SAMHSA has delineated four major dimensions that support a life in recovery:

- **Health:** overcoming or managing one's disease(s) as well as living in a physically and emotionally healthy way;
- **Home:** a stable and safe place to live;
- **Purpose:** meaningful daily activities, such as a job, school, volunteerism, family caretaking, or creative endeavors, and the independence, income and resources to participate in society; and
- **Community:** relationships and social networks that provide support, friendship, love, and hope.

Specific steps this recovery definition and dimensions highlight:

1. Clinicians and providers need to be focused on facilitating a *process of change*.
2. The goal of treatment and recovery services is to *improve health and wellness*, not just stabilize signs and symptoms. Thus the focus is not just on pathology and sickness, but also on strengths, skills and resources for wellness.
3. Patients, clients, consumers, and participants are actively involved to *live a self-directed life*, not a passive recipient of a treatment plan with which they must comply.
4. The ultimate outcome of our partnership with participants is to have them *reach their full potential* involved in *meaningful daily activities* that provide a sense of *purpose* in the safety of their *home* and *community* of friends and loved ones.

## 5. Clinical Application

To apply the biopsychosocial approach to clinical practice the clinician should:

- (i) Recognize that relationships are central to providing health care
- (ii) Use self-awareness as a diagnostic and therapeutic tool
- (iii) Elicit the patient's history in the context of life circumstances
- (iv) Decide which aspects of biological, psychological, and social domains are most important to understanding and promoting the patient's health
- (v) Provide multidimensional treatment  
([www.urmc.rochester.edu/.../biopsychosocial-model-approach.pdf](http://www.urmc.rochester.edu/.../biopsychosocial-model-approach.pdf))

### Clinical Vignettes:

- A client wants disulfiram (Antabuse) or naltrexone (Vivitrol) but doesn't want to go to Alcoholics Anonymous (AA) or addiction psychoeducation or therapy groups. Would you give him the medication if he does not agree to go to meetings or psychosocial treatments?
- A patient is in an inpatient addiction treatment setting experiencing uncomfortable withdrawal symptoms, would you keep the person in a hospital bed gown and stay in bed? Or dress in regular clothes and still attend group? (Think about social detox settings Level III.2D)
- A person is anxious and wants a PRN antianxiety medication. Do you provide it? Or ask them to practice progressive relaxation or call some of their names or numbers?
- The parents call to see if there is a bed for their 16 year old? At the very first meeting do you see the youth with the parents? Or do you ask the family to wait in the waiting room?
- The client is diagnosed with Bipolar Disorder and is on medication prescribed when he was admitted to the acute psychiatric unit. Now that he is discharged and was only given a week's supply, he wants a refill. He still uses marijuana, wants to stop cocaine and alcohol that he has been using for three years. Do you refill his medication that he wants for his "mood swings"?

## LITERATURE REFERENCES AND RESOURCES

Engel GL (1977): The need for a new medical model: a challenge for biomedicine. *Science* 196:129-136.

Engel GL (1980): The clinical application of the biopsychosocial model. *Am J Psychiatry* 137:535-544.

Fava, G.A. and Sonino, N. (2008): The Biopsychosocial Model Thirty Years Later. *Psychother Psychosom* 2008;77:1-2

<http://www.sciencedaily.com/releases/2008/01/080121115422.htm>

Frankel RM, Quill TE, McDaniel SH (Eds.) (2003): The Biopsychosocial Approach: Past, Present, Future. University of Rochester Press, Rochester, NY.

Borrell-Carrió F, Suchman AL, Epstein RM (2004): The biopsychosocial model 25 years later: principles, practice, and scientific inquiry. *Ann Fam Med* 2004;2:576-582.

Cohen J, Brown Clark S: John Romano and George Engel (2010): Their Lives and Work. University of Rochester Press, Rochester, NY, and Boydell and Brewer Limited, Suffolk UK.

"Disease Model of Addiction versus – Biopsychosocial Model of Addiction" August 9, 2010  
<http://articlime.com/article091043-disease-model-addiction-verses-biopsychosocial-model-addiction.html>

Donovan, DM (1988): "Assessment of addictive behaviors: Implications of an emerging biopsychosocial model". In DM Donovan & GA Marlatt (eds.) *Assessment of Addictive Behaviors*.

Griffiths, Mark (2005): “A ‘components’ model of addiction within a biopsychosocial framework”  
Journal of Substance Use, 2005, Vol. 10, No. 4 : Pages 191-197  
<http://informahealthcare.com/doi/abs/10.1080/14659890500114359>

Mee-Lee D, Shulman GD, Fishman M, Gastfriend DR, and Griffith JH, eds. (2001). ASAM Patient Placement Criteria for the Treatment of Substance-Related Disorders, Second Edition-Revised (ASAM PPC-2R). Chevy Chase, MD: American Society of Addiction Medicine, Inc.  
American Society of Addiction Medicine - [www.asam.org](http://www.asam.org); To order ASAM PPC-2R: (800) 844-8948.

Miller, S.D., Mee-Lee, D., Plum, B. & Hubble, M (2005): “Making Treatment Count: Client-Directed, Outcome Informed Clinical Work with Problem Drinkers.” In J. Lebow (ed.). *Handbook of Clinical Family Therapy*. New York: Wiley.  
Reprinted in Psychotherapy in Australia, Vol.11 No. 4 August 2005.  
[www.scottdmiller.com/uploadedFiles/documents/MakingTreatmentCountPsychOz.pdf](http://www.scottdmiller.com/uploadedFiles/documents/MakingTreatmentCountPsychOz.pdf)

National Institute on Drug Abuse. “Principles of Drug Addiction Treatment: A Research Based Guide” (Second Edition). April 2009.  
[www.nida.nih.gov/podat/Principles.html](http://www.nida.nih.gov/podat/Principles.html)

Substance Abuse and Mental Health Services (SAMHSA) Definition of Recovery. For further detailed information about the new working recovery definition or the guiding principles of recovery, visit:  
<http://www.samhsa.gov/newsroom/advisories/1112223420.aspx>

“The Definition of Addiction” Adopted April 12, 2011. American Society of Addiction Medicine Public Policy Statement. [www.asam.org/DefinitionofAddiction-LongVersion.html](http://www.asam.org/DefinitionofAddiction-LongVersion.html)  
[www.asam.org/pdf/Advocacy/PressReleases/20110815\\_DefofAddiction-PR.pdf](http://www.asam.org/pdf/Advocacy/PressReleases/20110815_DefofAddiction-PR.pdf)  
[www.asam.org/DefinitionofAddiction-LongVersion.html](http://www.asam.org/DefinitionofAddiction-LongVersion.html)  
[www.asam.org/1DEFINITION\\_OF\\_ADDICTION\\_SHORT\\_4-11.pdf](http://www.asam.org/1DEFINITION_OF_ADDICTION_SHORT_4-11.pdf)  
[www.asam.org/pdf/Advocacy/20110816\\_DefofAddiction-FAQs.pdf](http://www.asam.org/pdf/Advocacy/20110816_DefofAddiction-FAQs.pdf)

Wallace, J (1990): “The new disease model of alcoholism” *Western Journal of Medicine*.152:502-505.

## **RESOURCE FOR E-LEARNING AND INTERACTIVE JOURNALS**

E-learning module on ASAM Multidimensional Assessment – 5 CE credits  
“Understanding the Dimensions of Change” – Creating an effective service plan” – Interactive Journaling  
“Moving Forward” – Guiding individualized service planning” – Interactive Journaling

To order: The Change Companies at 888-889-8866; [www.changecompanies.net](http://www.changecompanies.net)

## **FREE MONTHLY NEWSLETTER**

“TIPS and TOPICS” – Three sections: Savvy, Skills and Soul and additional sections vary from month to month: Stump the Shrink; Success Stories and Shameless Selling. Sign up on [www.changecompanies.net](http://www.changecompanies.net).