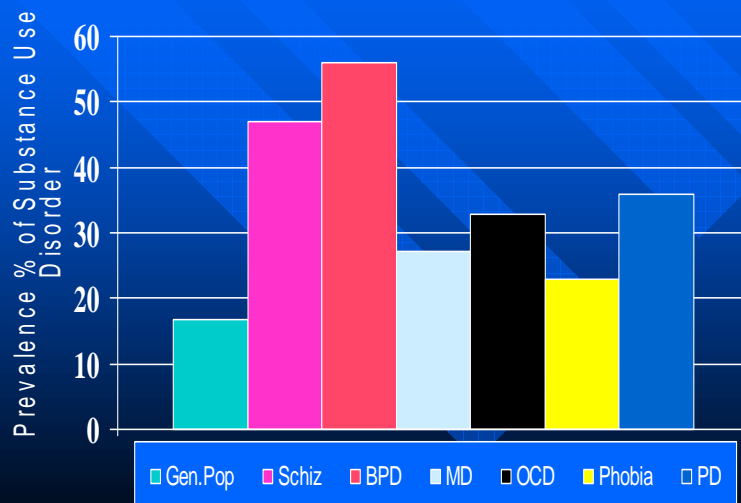


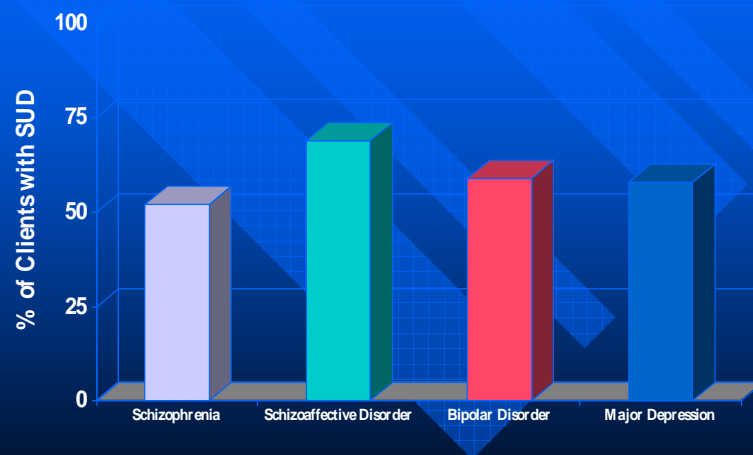
# Psychosis, Substance Misuse, and Antisocial Personality Disorder: Theory, Developmental Pathways, and Treatment

Kim T. Mueser, Ph.D.  
Center for Psychiatric Rehabilitation  
Boston University  
mueser@bu.edu

## Any Substance Use Disorder



## Lifetime Substance Use Disorder (SUD) in Acutely Ill Psychiatric Inpatients (N = 325) (Mueser et al., 2000)



## Correlates of Psychosis and Substance Use

- Males
- Younger
- Lower education
- Single or never married
- Good premorbid functioning
- History of childhood conduct disorder
- Antisocial personality disorder
- Higher affective symptoms
- Family history SUD

## **Models of High Comorbidity Between Psychosis and Addiction**

- Antisocial personality disorder as a 3<sup>rd</sup> common factor
- Supersensitivity hypothesis
- Self-medication hypothesis

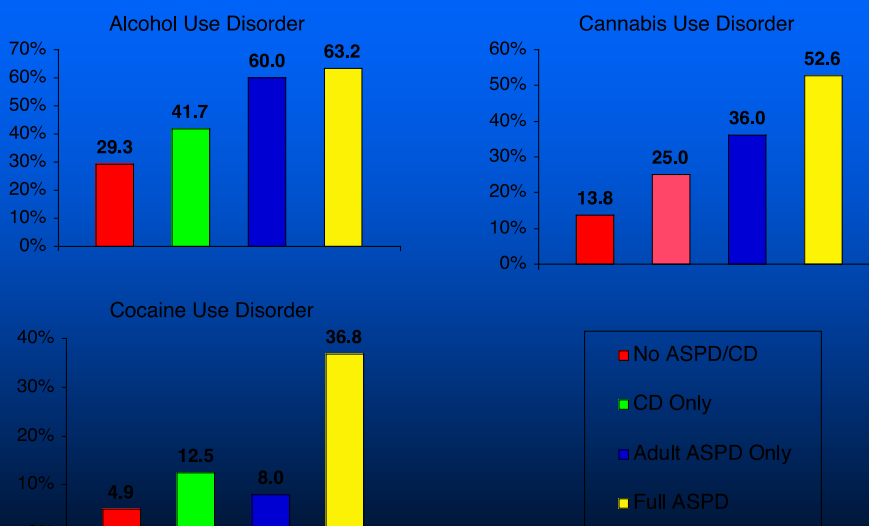
## **Demographic Correlates of ASPD in Psychosis**

- Male gender
- Younger
- Lower levels of education
- Less likely to be married

## Prevalence of ASPD in Psychosis

- 20% in New Hampshire co-occurring substance use disorder treatment study (N = 168)
- 21% in Connecticut co-occurring substance use disorder treatment study (N = 178)
- 21% in Boston-Los Angeles co-occurring substance use disorder family treatment study (N = 103)
- 7% in New Hampshire Hospital study of admissions for treatment of acute symptom exacerbation (N = 293)
- These estimates based on self-report, and therefore may underestimate ASPD: Tengström, Hodgins estimate higher rates of ASPD in schizophrenia

## CD, ASPD, and Recent Among Psychiatric Inpatients with Psychosis (N = 293)



Source: Mueser et. al. (1999)

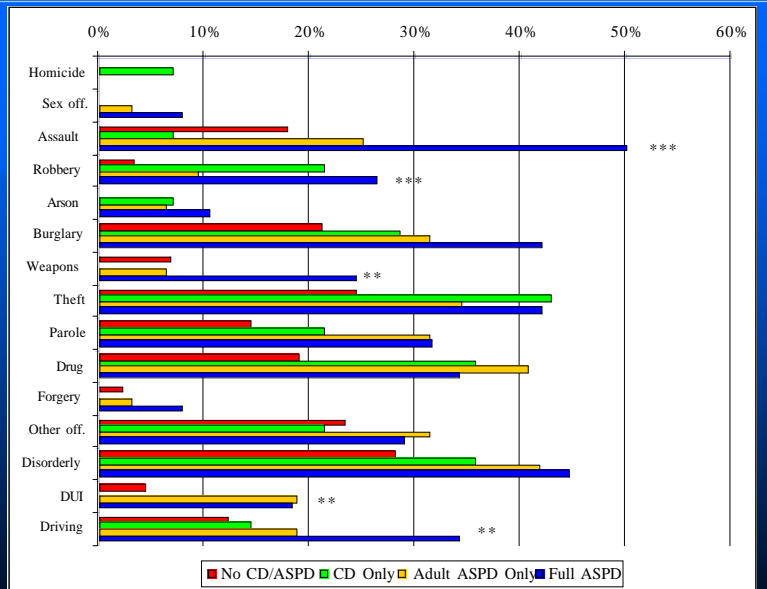
## **Substance Use Correlates of ASPD Among People with Psychosis**

- Higher rates of drug abuse
- Earlier age at onset
- More rapid progression to dependence
- More severe health, social, and legal consequences of substance use
- Stronger history of family substance use disorder

## **Psychiatric and Psychosocial Correlates of ASPD in People with SMI**

- More severe symptoms:
  - Psychosis
  - Depression
- Greater impairment in daily living skills
- Greater functional impairment
- More hospitalizations
- More stress and conflict in family relationships
- Poorer problem solving, more prone to interpersonal violence

## ASPD Status by Offense Type



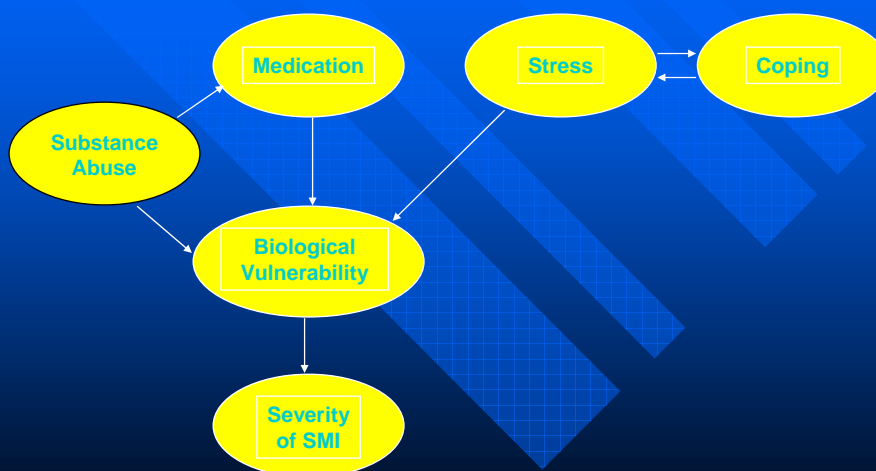
## Common Developmental Pathways between ASPD and Psychosis

- Conduct disorder in childhood
- Social deprivation
- Exposure to trauma, abuse
- Assortive mating contribution: male psychopathy and female schizophrenia

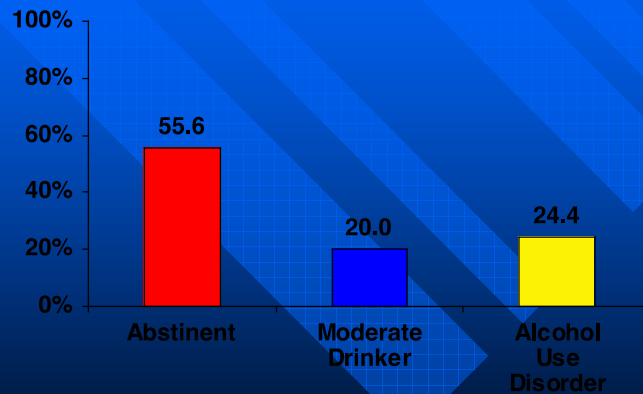
## Supersensitivity Hypothesis

- Biological sensitivity underlies psychosis
- Smaller dosages of psychoactive substances precipitate negative consequences of alcohol and drug use
- “Normal” substance use in vulnerable persons can lead to problems, including abuse and dependence

## Stress-Vulnerability Model



## Status of Moderate Drinkers with Schizophrenia 4 - 7 Years Later (N=45)



Source: Drake & Wallach (1993)

## Self-Medication Hypothesis

- Symptom distress leads to substance misuse in attempt to “self-medicate”
- Specific theory posits type of symptom or diagnosis contributes to type of substance used
- More general dysphoria theory posits substance use is response to unpleasant emotions

## Evidence For and Against Self-Medication Hypothesis

- People with psychosis say they use substances to self-medicate, BUT:
  - Symptom type not related to substance type
  - Psychiatric diagnosis not related to substance type
  - Substance use often precipitates worse symptoms
- Increased depression severity in ASPD and psychosis may contribute to substance use
- Dysphoria related to suboptimal arousal could contribute to sensation-seeking and substance use
- Early onset of psychosis could result in fewer leisure and recreational activities, more vulnerability to substance use

## Prediction of Course

- In NH 10 year longitudinal co-occurring disorder study, ASPD related to worse substance misuse outcomes
- When severity of substance misuse statistically controlled, no effect on illness course
- Unclear whether ASPD predicts substance misuse outcomes above severity of disorder in clients with co-occurring disorders
- Similar question in primary addiction population (e.g., Alterman et al. research)
- Some greater difficulties maintaining ASPD clients in family treatment for DD program (Mueser et al., in press)

## **Integrated Treatment**

- **Mental health and substance abuse treatment**
  - ↓ **Delivered concurrently**
  - ↓ **By the same team or group of clinicians**
  - ↓ **Within the same program**
  - ↓ **The burden of integration is on the clinicians**

## **Other Features of Dual Disorder Programs**

- **No “wrong door”**
- **Comprehensive services**
- **Minimization of treatment-related stress**
- **Harm reduction philosophy**
- **Motivational enhancement (e.g., stages of change, stages of treatment)**
- **Assertive community treatment?**

## Stages of Treatment

1. Based on stages of change, but focus on stages of co-occurring disorder treatment: engagement, persuasion, active treatment, and relapse prevention
2. Behaviorally anchored
3. Stage determines goals
4. Goals determine interventions
5. Multiple options at each stage
6. Specific clinical strategies described in Mueser et al. (2003) book, *Integrated Treatment for DD...*

## What Do We Do During Engagement?

- Goal: To establish a working alliance with the client
- Clinical Strategies
  1. Outreach
  2. Practical assistance
  3. Crisis intervention
  4. Social network support
  5. Legal constraints

## What Do We Do During Persuasion?

- Goal: To motivate the client to address substance abuse as a problem
- Clinical Strategies
  1. Psychiatric stabilization
  2. "Persuasion" groups
  3. Family psychoeducation
  4. Rehabilitation
  5. Structured activity
  6. Education
  7. Motivational interviewing

## What Do We Do During Active Treatment?

- Goal:
  - ↓ To reduce client's use/abuse of substance
- Clinical Strategies
  1. Self-monitoring
  2. Social skills training
  3. Social network interventions
  4. Self-help groups
  5. CBT strategies to address dysphoria, high risk situations, cravings

## What Do We Do During Relapse Prevention?

- Goals:
  - ↓ To maintain awareness of vulnerability and expand recovery to other areas
- Clinical Strategies
  1. Self-help groups
  2. Cognitive-behavioral and supportive interventions to enhance functioning in:
    - ↓ Work, relationships, leisure activities, health, and quality of life

## Basis of Therapeutic Strategies for Working with ASPD and SMI Clients

- Four treatment studies of SMI:
  - 2 RCTs of Assertive Community Treatment vs. standard case management for co-occurring SMI and substance use disorder (1 in New Hampshire, 1 in Connecticut)
  - 1 RCT of family intervention for co-occurring SMI and substance use disorder (in Boston and Los Angeles)
  - 1 open clinical trial of Illness Management and Recovery for SMI clients diverted from jail into community treatment (Bronx, NY)

## **Therapeutic Strategy #1: Adopt an Empathic Stance**

- ASPD associated with more severe symptoms, including depression and anxiety (presumably greater trauma exposure)
- Greater functional impairment
- More impulse control and mood regulation problems, but not necessarily more superficial or interpersonally exploitative
- Empathy plays critical role in understanding, developing goals, establishing working alliance

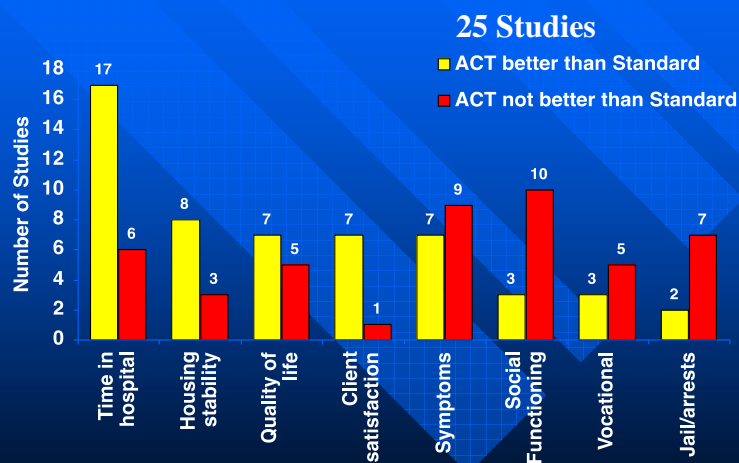
## **Therapeutic Strategy #2: Assertive Outreach**

- Greater severity of problems points to need for more intensive, community-based services
- Assertive Community Treatment (ACT) model found beneficial for reducing high rates of hospitalization and homeless
- ACT often used for forensic psychiatric patients, especially in Europe
- Unclear role for ACT in co-occurring disorders

## ACT Program Characteristics

- Low case manager to client ratio (1:10)
- Services provided in clients' natural settings
- 24-hour coverage
- Shared caseloads among clinicians
- Direct, not brokered services
- Time unlimited services

## Controlled ACT Research



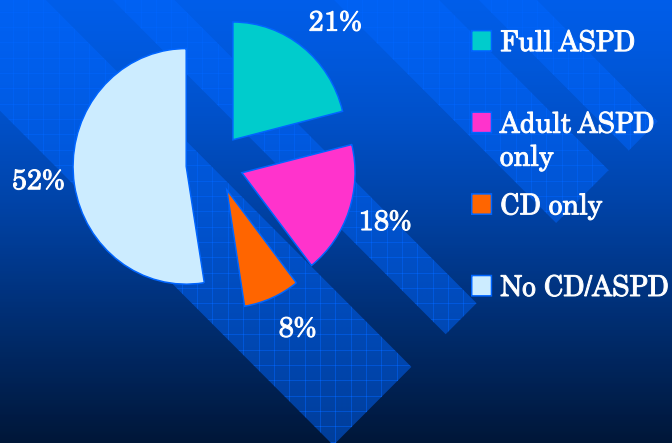
## **Integrated Treatment for Co-Occurring Disorders**

- **Concurrent treatment of psychiatric and substance use disorders by same treatment providers**
- **Motivational enhancement strategies**
- **Comprehensive assessment and treatment**
- **Minimization of treatment-related stress**
- **Harm reduction philosophy**
- **Role of assertive outreach unclear**

## **Study of ACT Delivery of Integrated Treatment for Co-Occurring Disorders**

- **198 clients with SMI (75% schizophrenia or schizoaffective)**
- **2 sites in Connecticut: Hartford & Bridgeport**
- **3 year follow-up period with assessments every 6 months**
- **Randomized to ACT (N = 99) or standard case management (SCM) (N = 99)**
- **Everyone received integrated treatment for co-occurring disorders**

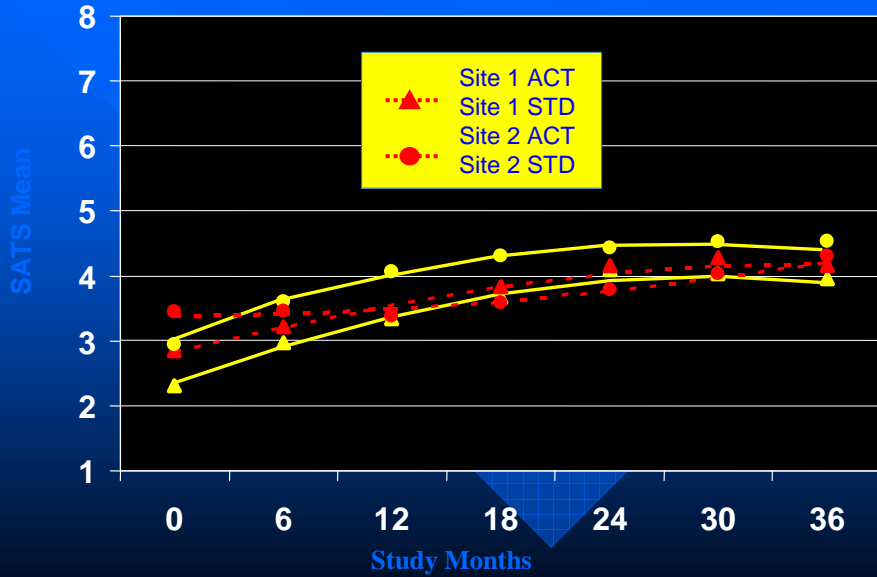
## ASPD Status



*Which approach was better at decreasing substance use?*

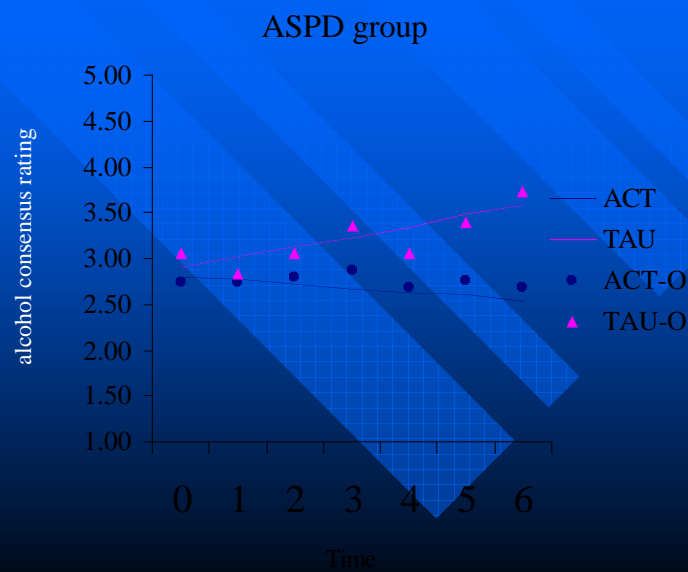
*Did ASPD interact with the beneficial effects of ACT vs. SCM on substance use and criminal justice outcomes?*

## Substance Abuse Treatment Outcomes

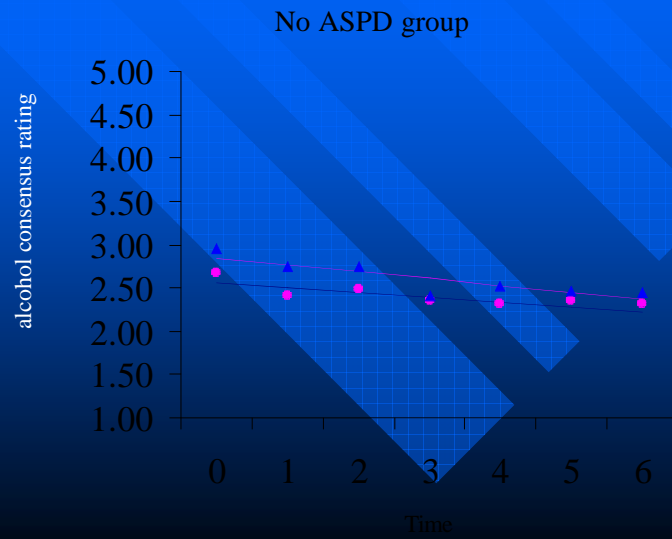


Essock, Mueser, Drake et al. *Psychiatr Serv.* 2006

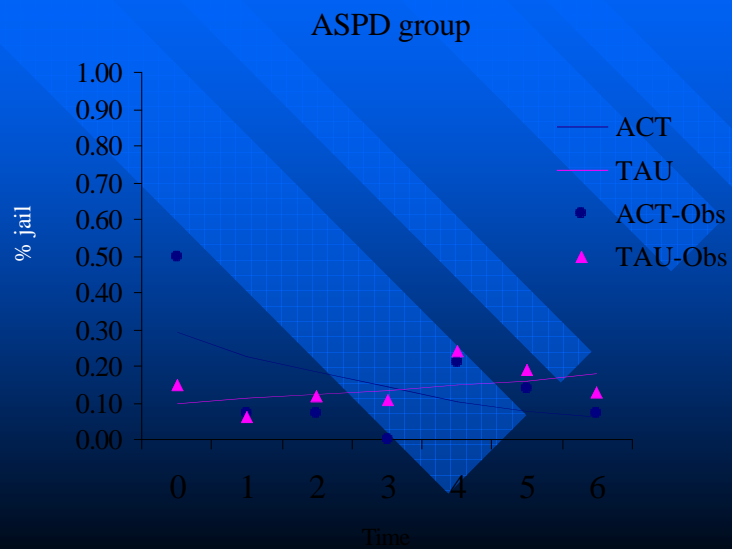
## Alcohol Consensus Ratings Over Time for ASPD Clients by Treatment Group



## Alcohol Consensus Ratings Over Time for Non-ASPD Clients by Treatment Group

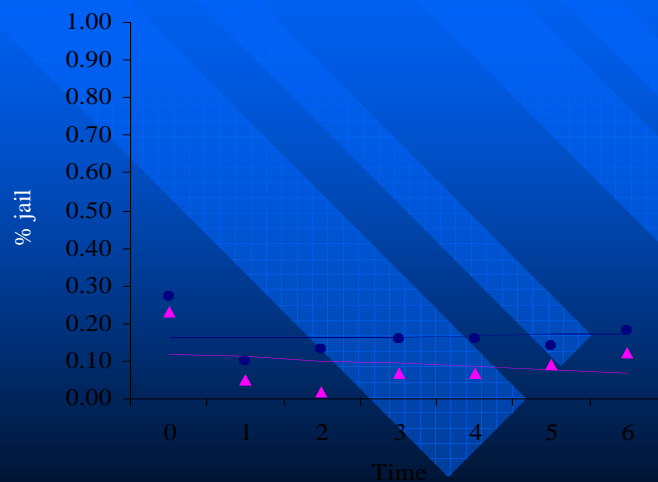


## Percent Jailed Over Time for ASPD Clients by Treatment Group



## Percent Jailed Over Time for Non-ASPD Clients by Treatment Group

No ASPD group



## Therapeutic Strategy #3: Contingent Reinforcement

- People with ASPD tend to respond well to contingent reinforcement
- Families often provide money non-contingently to relatives with co-occurring disorders, fueling substance abuse and worsening family stress
- Teaching families rudiments of contingent reinforcement can increase incentives for sobriety and prosocial behavior
- Facilitates more strategic use of family resources

## **Family Intervention for Dual Disorders (FIDD) Study**

- Education about co-occurring disorders, followed by communication and problem solving training
- Long-term (9-18 months), client and relative(s) included
- Contingent reinforcement used selectively with clients whose substance use persisted 3-6 months into FIDD
- Clinical examples:
  - Mother reinforced 24 year old son for clean urine screens from stimulant abuse by depositing money in savings account to enroll in technical school program
  - Father reinforced 19 year old daughter with first episode psychosis for clean alcohol swab tests after spending evenings with friends with allowance at end of week
  - Based on mutual agreement, wife provided discretionary spending money to husband for each week he was successful abstaining from cannabis use with friends

## **Therapeutic Strategies #4-7: Drawn from IMR Jail Diversion Project**

- Clients SMI & misdemeanor convictions could opt for release from jail in Bronx, NY
- Illness Management and Recovery (IMR) program was core mental health service
- Residential services, dual disorder services provided
- N = 150 open clinical trial
- Adaptations made to IMR model (Gingerich & Mueser) for forensic population

## **Illness Self-Management and Forensic Patients**

- **Illness self-management = ability to make informed decisions about treatment, reduce impact of symptoms, & prevent relapses & rehospitalizations**
- **Long-term goal is to minimize impact of mental illness on person's life & achieve sense of wellness & destiny over one's life**

## **Disease Management**

- **Teaching about nature of disease**
- **Lifestyle changes to promote better disease management**
- **Monitoring illness & use of self-administrative treatments**
- **Knowing when to contact treatment providers to avoid compromised health & emergencies**
- **Shared decision-making**

## **Illness Management Research**

- Mueser et al. (2002) reviewed 40 randomized controlled studies of illness self-management programs, not including CBT for psychosis
- Identified 5 effective components of successful programs

## **Effective components of Illness Self-Management Programs**

- Psychoeducation
- Behavioral tailoring for medication
- Relapse prevention training
- Coping skills training
- Social skills training

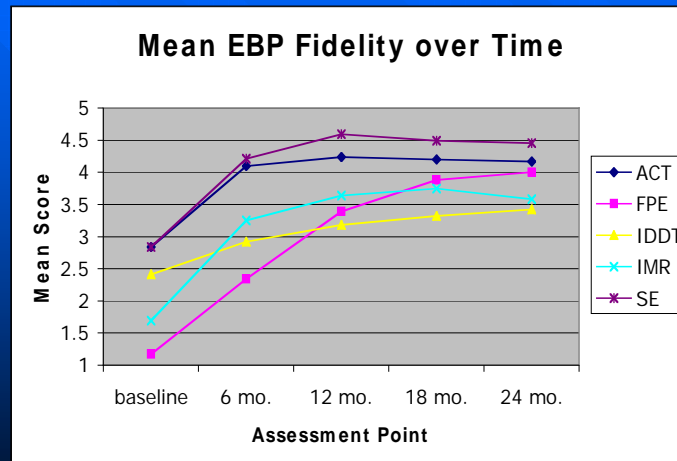
## **Illness Management and Recovery Program (IMR)**

- Step-by-step program to help people set meaningful goals for themselves, acquire information and skills to manage their psychiatric illness, and make progress towards their own personal recovery
- Effectiveness supported in 3 RCTs
- Feasibility supported in large implementation trial in usual care settings
- Currently recommended in Swedish treatment guidelines for schizophrenia

## **National Implementing EBPs Study**

- Evaluated whether 5 EBPs (including IMR) could be implemented in routine treatment settings
- 53 mental health centers in 8 states implemented 1 or 2 EBPs: IMR implemented in 12 centers
- Training for each EBP: initial morning “kickoff” training followed by 2 day skills training
- Monthly consultation for 2 years
- Fidelity assessments every 6 months for 2 years
- Publication: McHugo et al. (2007)

## Implementing EBPs Project



## Components of IMR Program

- Standardized curriculum (10 modules)
- Individual or small group format
- 5 to 10 months of weekly or twice weekly sessions
- Structured and step-by-step
- People set personal recovery goals and pursue them throughout the program

IMR Goal Tracking Sheet (Review at least monthly)		
Name: _____	Date that Long-term Goal was Set: _____	
Long-term (Meaningful) Goal: _____		
Achieved (date): _____	Modified* (date): _____	
* Start a new Goal Tracking Sheet if the Long-term Goal is modified or a new goal is set		
Short-term Goals (place a √ after steps achieved):		
1. _____	2. _____	3. _____
Steps:	Steps:	Steps:
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
3. _____	3. _____	3. _____
4. _____	4. _____	4. _____
Start date: _____	Start date: _____	Start date: _____
Date Reviewed: _____	Date Reviewed _____	Date reviewed _____
Achieved: Fully Partially Not at all	Achieved: Fully Partially Not at all	Achieved: Fully Partially Not at all
Modified/Next Steps:	Modified/Next Steps:	Modified/Next Steps:
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
3. _____	3. _____	3. _____
4. _____	4. _____	4. _____

Example of an IMR Goal Tracking Sheet		
Name: <u>Jane Doe</u>	Date that Long-term Goal was Set: <u>Oct. 31, 2006</u>	
Long-term (Meaningful) Goal: <u>Have a boyfriend</u>		
Achieved (date): _____	Modified* (date): _____	
* Start a new Goal Tracking Sheet if the Long-term Goal is modified or a new goal is set		
Short-term Goals (place a √ after steps achieved):		
1. <u>Lose weight</u>	2. <u>Improve hygiene</u>	3. <u>Improve conversations</u>
Steps:	Steps:	Steps:
1. <u>Eat 1 bag of chips (versus 2) √</u>	1. <u>Separate clean/dirty laundry √</u>	1. <u>Draft list of possible topics √</u>
2. <u>Drink diet soda instead of regular √</u>	2. <u>Do laundry 2X per week</u>	2. <u>Pract. start. conversations √</u>
3. <u>Walk around my block daily</u>	3. <u>Brush teeth a.m./p.m. √</u>	3. <u>Pract. ending " √</u>
4. <u>Use splenda in coffee</u>	4. <u>Shower daily √</u>	4. <u>Conversations w/neighbors √</u>
Start date: <u>10/31/06</u>	Start date: <u>11/13/06</u>	Start date: <u>12/1/06</u>
Date Reviewed: <u>12/1/06</u>	Date Reviewed: <u>12/15/06</u>	Date reviewed: <u>1/3/07</u>
Achieved: Fully <u>Partially</u> Not at all	Achieved: Fully <u>Partially</u> Not at all	Achieved: <u>Fully</u> Partially Not at all
Modified/Next Steps:	Modified/Next Steps:	Modified/Next Steps:
1. <u>Eat 1 bag of pretzels (instead of chips)</u>	1. <u>Do laundry 1X per week</u>	1. _____
2. <u>Walk around block every other day</u>	2. <u>Comb hair each morning</u>	2. _____
3. <u>Use splenda in coffee</u>	3. _____	3. _____
4. _____	4. _____	4. _____

## **In IMR**

- People practice strategies and skills in sessions
- People develop individualized home assignments to practice strategies and skills in the real world
- Significant others are invited to participate in some sessions (with permission)
- **EVERYTHING IS TAILORED TO THE INDIVIDUAL**

## **Curriculum: Topics of Modules**

1. Recovery Strategies
2. Practical Facts about Mental Illness
3. The Stress-Vulnerability Model
4. Building Social Support
5. Using Medication Effectively

## **Topics of Modules, cont'd**

6. Drug and Alcohol Use
7. Reducing Relapses
8. Coping with Stress
9. Coping with Problems and Symptoms
10. Getting Your Needs Met in the Mental Health System

## **Therapeutic Strategy #4: Process Jail/Prison Experiences**

- Shame/blame associated with jail/prison
- Avoidance of processing experience
- Limited motivation to set recovery goals and avoid re-incarceration
- Facilitate active processing jail/prison experience(s) during recovery strategies component of IMR
- Narrative approach, with focused exploration of upsetting events
- Exploration of motivation to avoid recurrence of incarceration

### **Therapeutic Strategy #5: Address Counterproductive Adaptations to Prison/Jail**

- **Not revealing personal problems to others**
- **Emphasis on self-reliance and avoidance of depending on others**
- **Distrust of other people**
- **Aggression in the face of threat**
- **Taking one day at a time instead of planning for the long-term**

### **Counterproductive Adaptations to Prison/Jail**

- **Sensitivity to behaviors suggesting counterproductive adaptations (e.g., reluctance to reveal personal weaknesses)**
- **Explore presence of adaptations by Socratic questioning**
- **Contrast prison/jail environment with community**

## **Therapeutic Strategy #6: Address Criminogenic Thinking Styles**

- Other people don't matter
- Looking after #1 is the only thing that is important
- Entitlement
- Externalization of blams

## **Modifying Criminogenic Thinking**

- Use of cognitive restructuring
- Employment of Socratic questioning rather than confrontation to:
  - Identify core belief
  - Evaluate evidence for/against
  - Develop alternative, more accurate & adaptive belief

## Therapeutic Strategy #8: Improve Skills for Dealing with Negative Feelings

- Anger --> aggression
- Frustration --> giving up, impulsive behaviors
- Boredom --> sensation-seeking, substance abuse

## What is Motivation?

“Motivation can be understood not as something that one has, but as something that one does. It involves recognizing a problem, searching for a way to change, and then beginning and sticking with that change strategy.”

- W.R. Miller

# Motivational Interviewing

## Goal:

- To create a salient dissonance or discrepancy between the person's current substance abuse behavior and important personal goals.

## Core Principles

1. Express empathy
2. Establish personal goals
3. Develop discrepancy
4. Roll with resistance
5. Support self-efficacy

# Expressing Empathy

## Goal:

- ↓ To understand the client's world

## Strategies

- ↓ Active listening skills
  - » Good eye contact
  - » Responsive facial expression
  - » Body orientation
  - » Verbal and non-verbal "encouragers"
- ↓ Reflective listening
- ↓ Asking clarifying questions
- ↓ Avoiding challenges, expressing doubt, judgment, and unsolicited advice

## Establishing Personal Goals

### Goal:

- ↓ To establish personal, meaningful goals that the client wants to work towards

### Strategies

- ↓ Talk with clients about their:
  - » Aspirations
  - » Thoughts about how things could be different
  - » Fantasies

- ↓ Get to know what the client was like in the past, such as:

- Preferred activities
- Admired people
- Personal ambitions

- ↓ Don't discourage ambitious goals

## Examples of Goals

- Finding a job
- Completing high school
- Finding a girlfriend
- Getting married
- Rekindling a relationship with an old friend
- Going fishing with one's father
- Getting one's own apartment
- Resuming parenting responsibilities
- Re-establishing relationships with siblings
- Handling one's own money
- Buying a car

## Developing Discrepancy

### Goal:

- ↓ To develop a salient discrepancy between the client's personal goals and current substance abuse behavior

### Strategies

- ↓ Use the Socratic Method to help clients reach their own conclusions
- ↓ Break large, long-term goals into smaller, more manageable steps
- ↓ Use questions to explore with clients how substance abuse may interfere with achieving personal goals
- ↓ Avoid direct argumentation

## Rolling with Resistance

### Goal:

- ↓ To overcome resistance to change in substance abuse behavior

### Strategies

- ↓ Avoid over-pathologizing: resistance is normal
- ↓ Rather than opposing resistance, explore it
- ↓ Identify specific concerns about attaining sobriety and problem solve about these concerns

## Supporting-Efficacy

### Goal:

- ↓ To foster hope in clients that they can achieve desired changes

### Clinical Strategies

- ↓ Express optimism that change is possible
- ↓ Reframe prior “failures” as examples of clients’ personal strengths and resourcefulness to cope with problems such as:

- » Homelessness
- » Trauma
- » Persistent psychotic symptoms
- » Time spent in jail
- ↓ Acknowledged past setbacks while remaining positive about possible change
- ↓ Review examples of client's achievements in other areas

## Conclusions

- ASPD is common in people with SMI
- ASPD associated with more severe substance abuse, psychiatric symptoms, and functional impairment in SMI
- People with SMI and ASPD are treatable, and can live more productive lives
- Therapeutic nihilism can be avoided by attending to special therapeutic strategies for this population