



**The Center for Policy, Advocacy and Education
of The Mental Health Association of New York City**

CO-OCCURRING SEVERE MENTAL ILLNESS AND SUBSTANCE ABUSE: A POLICY BACKGROUND BOOK

Mary Jane Alexander, Ph.D

Gary Haugland, M.A.

Nathan Kline Institute for Psychiatric Research

Michael B. Friedman, LMSW

Center for Policy, Advocacy and Education
of The Mental Health Association of NYC

June 2007

About This Briefing Book

The problems confronted by people with psychiatric disabilities are magnified when they have co-occurring substance abuse disorders. The purpose of this briefing book is to provide an overview of:

- the extent of co-occurring mental and substance abuse disorders,
- their impact on the lives of people with these disorders, their families, and on society,
- effective interventions,
- hope for recovery,
- barriers to the use of effective interventions, and
- recommendations regarding overcoming barriers.

Although co-occurring disorders can be mild or severe, this briefing book focuses primarily on people with serious mental illnesses and chemical abuse problems (MICA). A great deal of complex information is summarized very briefly in this document. We have provided a selected bibliography for those who want to develop better understanding of the complexities of this field.

Table of Contents

Summary Overview.....	page 4
Prevalence and Demographics of Co-Occurring Disorders	page 14
MICA: Disability and Distress.....	page 23
Course of MICA: Remission and Recovery.....	page 41
Treatment Framework and Strategies for MICA.....	page 49
Strategies for Coordinating Care in Local Systems.....	page 74
Delivering Effective Treatment: Barriers and Solutions.....	page 80
Appendix 1: Data Sources.....	page 89
Appendix 2: Definitions.....	page 90
Appendix 3: Bibliography.....	page 93

SUMMARY OVERVIEW

People With Serious Mental Illness Are At High Risk For Co-occurring Substance Use Problems

- In any given year, about 2.5 million US adults have co-occurring **serious** mental illness and substance abuse disorders.
- 40-60% of those in treatment for mental or substance abuse disorders have co-occurring disorders.
- $\frac{1}{4}$ of US adolescents receive behavioral health services. Almost half of them have a substance use problem.

Co-Occurring Mental and Substance Abuse Disorders Often Have Dire Consequences

- The major cause of long-term disability in women, second to cardiac disease in men
- Increased risks of heart disease, diabetes, pulmonary disease, HIV/AIDS, hepatitis, and more
- High costs of medical and behavioral healthcare due to high inpatient use
- Over \$100 billion of lost productivity each year

Dire Consequences (continued)

- Increased risks of:
 - Suicide
 - Being a crime victim
 - Homelessness
 - Minor violence
 - Incarceration in jails and prisons
 - Juvenile delinquency

Recovery Is Possible For Most People With MICA If They Get Help

- The majority achieve abstinence, or substantially reduce harm, and pursue active, independent lives.
- Recovery often takes place after several relapses.
- Relapse is triggered by stress, availability of drugs and alcohol, and the lack of alternative sources of satisfaction.
- Key elements of recovery include:
 - Stable housing, not contingent on abstinence and compliance
 - Accurate screening
 - Integrated treatment
 - Relapse prevention
 - Social and peer networks that support recovery and abstinence
 - Employment opportunities
 - Hope for a better life

Effective Interventions For MICA

- Integrated Dual Diagnosis Treatment
- Assertive Community Treatment (ACT)
- Case Management
- Treatment keyed to stages of change
- Treatment that takes a person's culture, trauma history, family situation, and health status into account
- Peer supported recovery

Vast Underservice

Only 6% of People with MICA Receive Treatment for Both Disorders

Almost Half of People with MICA do not Receive Services for Either Disorder

Barriers To Recovery

- Shortages of housing
- Shortages of clinically and culturally competent providers
- Unaffordable costs and lack of insurance coverage
- Fragmentation of mental health and substance abuse systems
- Regulations that effectively prohibit integrated treatment
- Funding mechanisms that effectively prohibit integrated treatment
- Shortages of transportation
- Stigma
- Avoidance of treatment/Fear of coercion
- Lack of knowledge about where to get help

Ten Recommendations To Overcome Barriers To Recovery

1. Increase access to stable & safe housing
2. Increase access to integrated treatment and to peer support and self-help
3. Increase outreach and follow-up care management for those who reject or drift away from services
4. Confront transinstitutionalization in jails, prisons, shelters & adult homes
5. Provide additional funding and rework financing models to support essential interventions (including coverage of integrated treatment in health plans)

Ten Recommendations (continued)

6. Make legal and regulatory changes to support integrated treatment including integrated governmental planning structures
7. Develop quality improvement initiatives to support state-of-the art practice based on the best available research
8. Build and sustain a clinically and culturally competent workforce
9. Support public education to overcome stigma and to provide information about effective treatment and where to get it
10. Ensure that leadership – inside and outside of government - is committed to change and quality

Section 1

Prevalence and Demographics of Co- occurring Disorders

Prevalence: Severe Mental Illness and Substance Use Disorders

Elevated Risk of SUD among people with SMI

MICA Rates

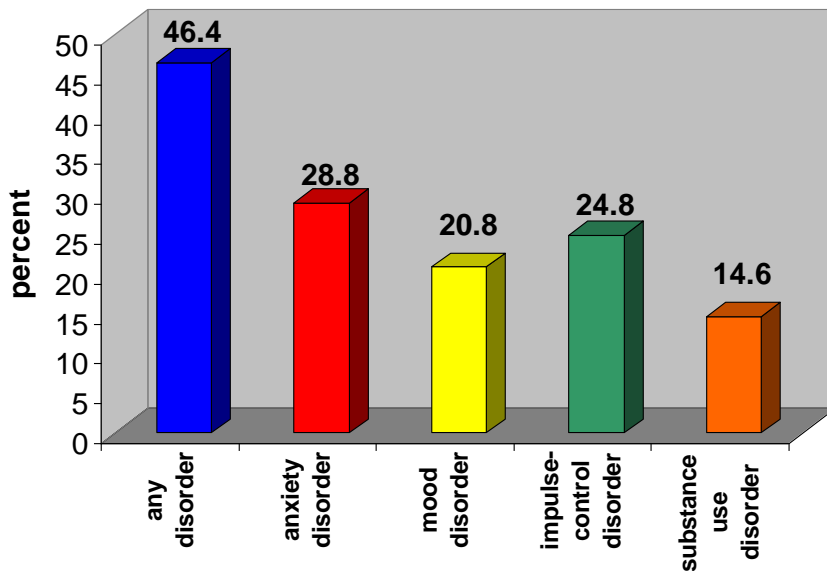
Substances Used

Gender and MICA

Adolescence and MICA

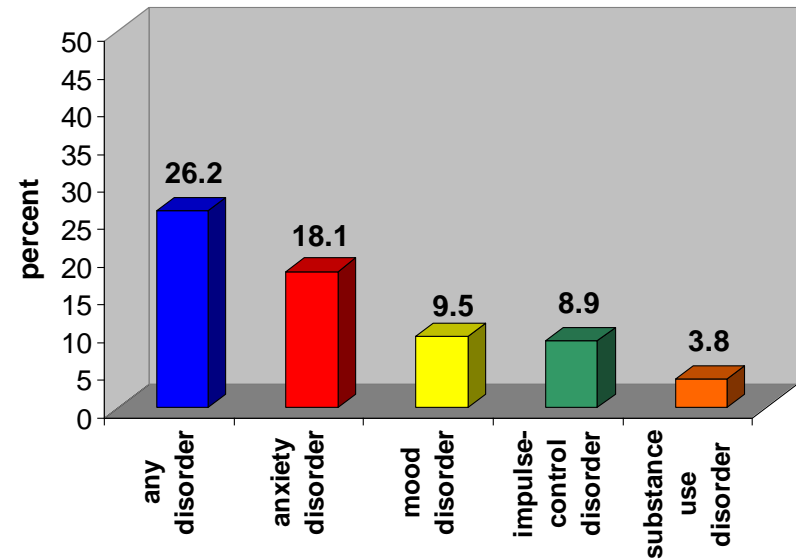
Almost Half The Adult Population Has Had a Mental and/or Substance Abuse Disorder In Their Lifetime, and More Than Quarter In Any Given Year.

Lifetime Rates of Disorders Among US Adults



* Note: Due to co-occurrence of disorders “any disorder” is not the sum of types of disorders

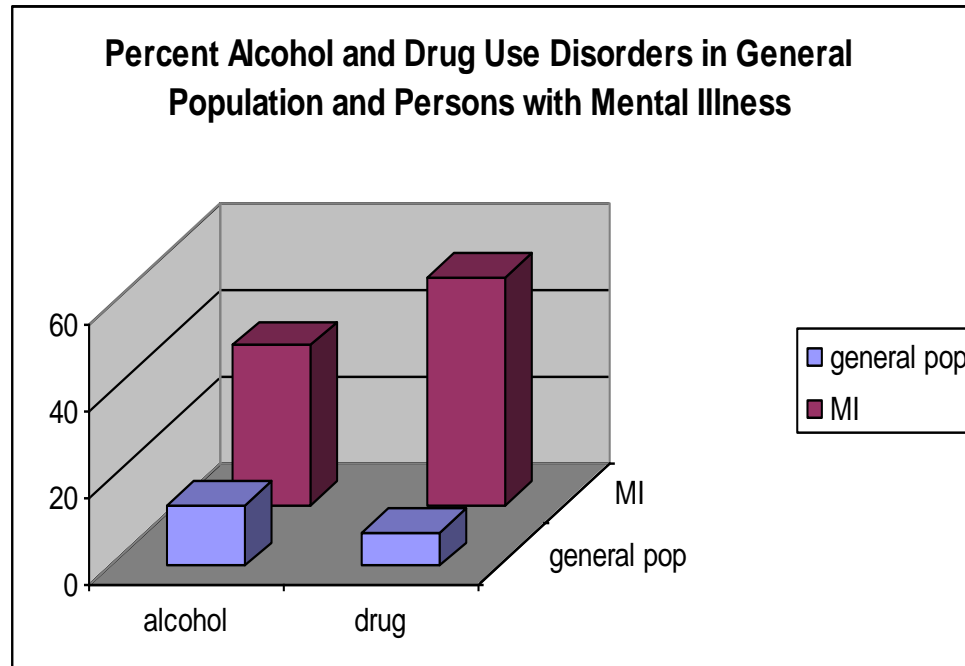
Annual Rates of Disorders Among US Adults



* Note: Due to co-occurrence of disorders “any disorder” is not the sum of types of disorders

People With Mental Illness Have An Elevated Risk For Also Having a Substance Use Disorder.

People with any mental illness are over 2x as likely as others to have an alcohol use disorder, and almost 5x as likely to have a drug use disorder. Among those with a mental illness, those with SMI are at highest risk for co-occurring illegal drug use.



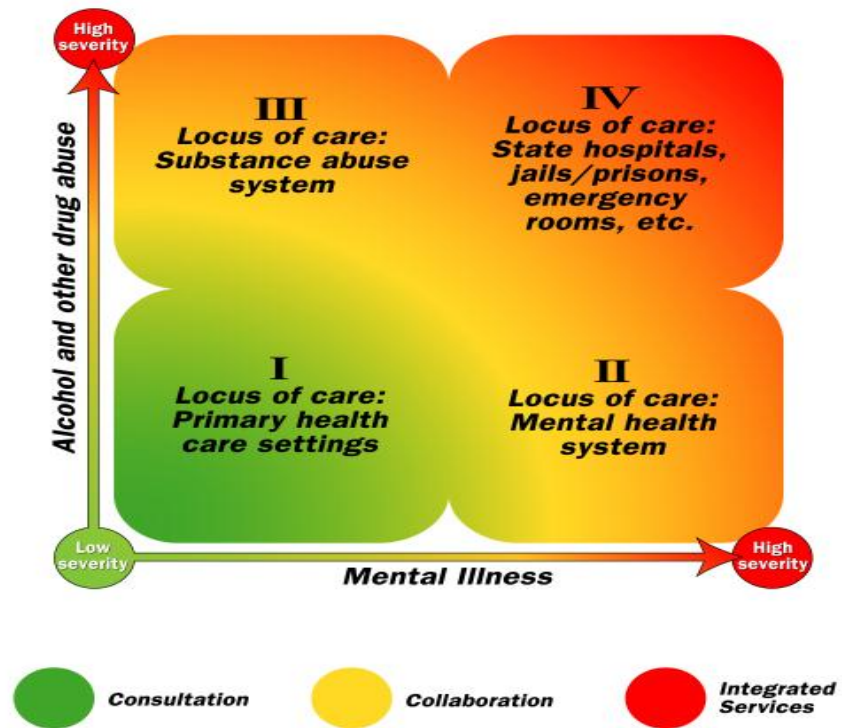
SAMHSA Identifies 4 Different Combinations Of Co-Occurring Mental Illness and Substance Use Disorders:

- I. Mild mental illness and mild substance abuse
- II. Severe mental illness and mild substance abuse
- III. Mild mental illness and severe substance abuse
- IV. Severe mental illness and severe substance abuse

MICA refers to the severity of conditions of persons in II and IV.

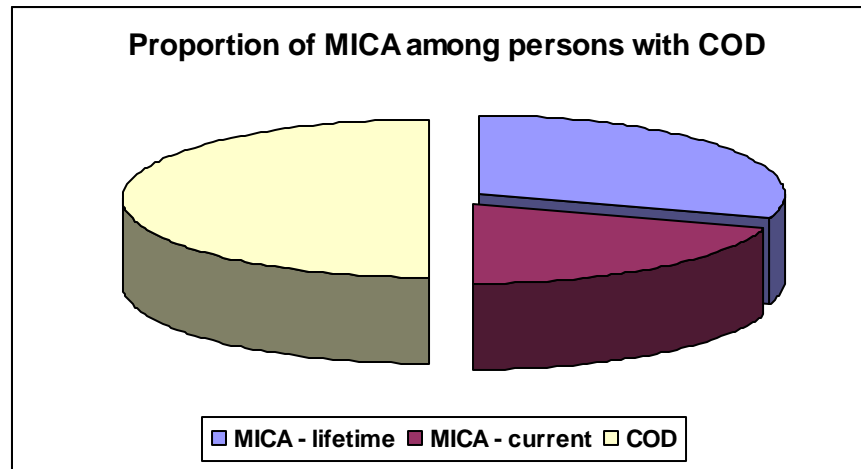
Figure 4

Service coordination by Severity



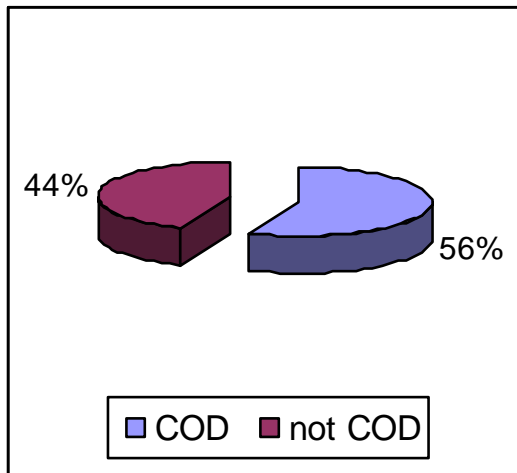
Each Year, 6.75 Million Adult Americans Have Co-Occurring Disorders. About 2.5 Million Have MICA.

Rates are about equal among men and women.

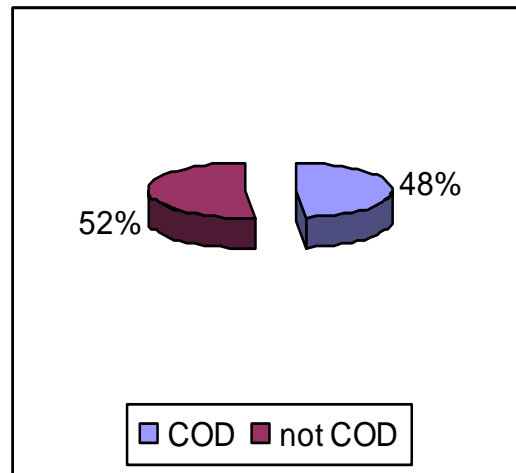


MICA Prevalence Rates Vary By Diagnosis.

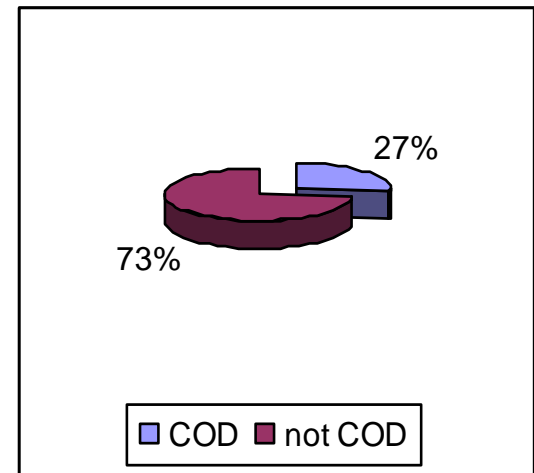
Roughly Half of Those with Bipolar Disorder or Schizophrenia, And a Quarter of Those with Major Depression, Have a Substance Use Disorder in Their Lifetime.



bipolar disorder



schizophrenia

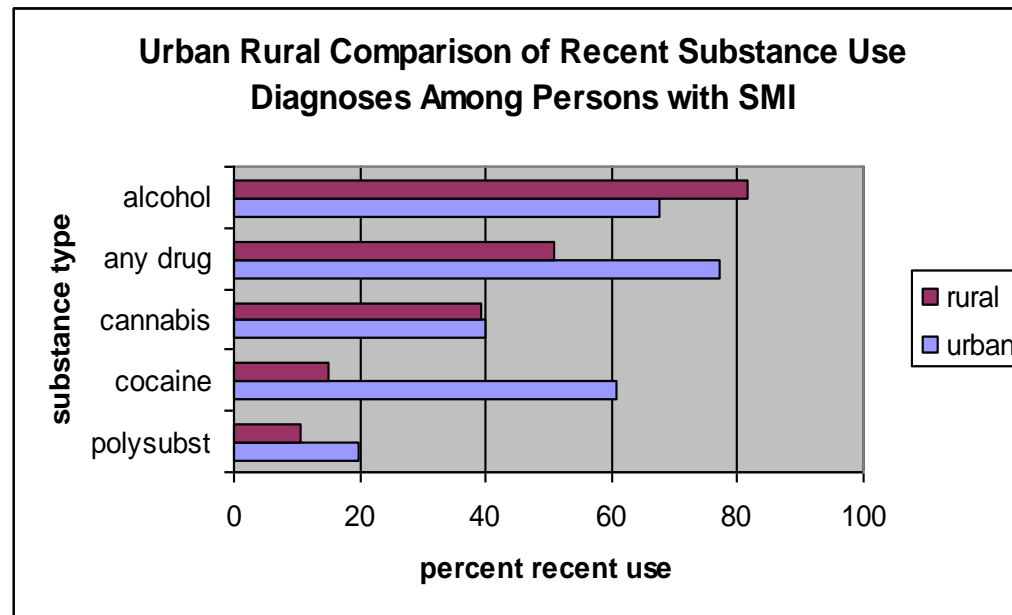


major depression

Source: Regier et al, 1990

Substances Used

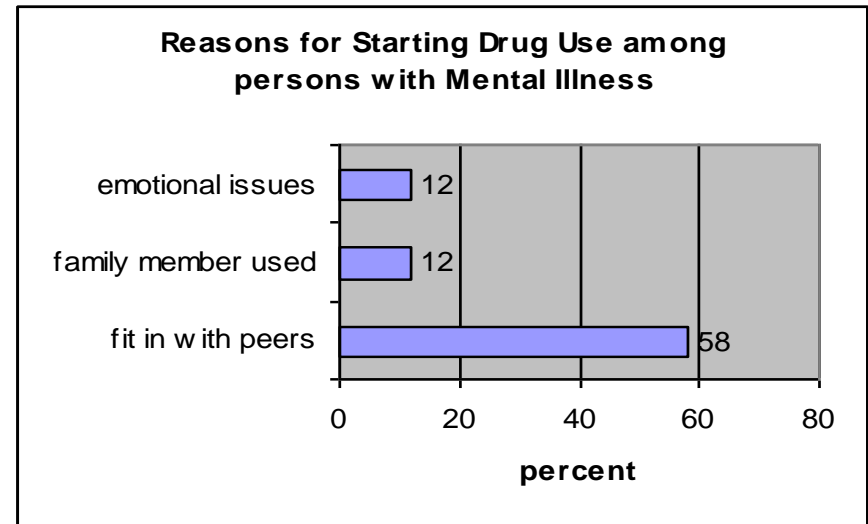
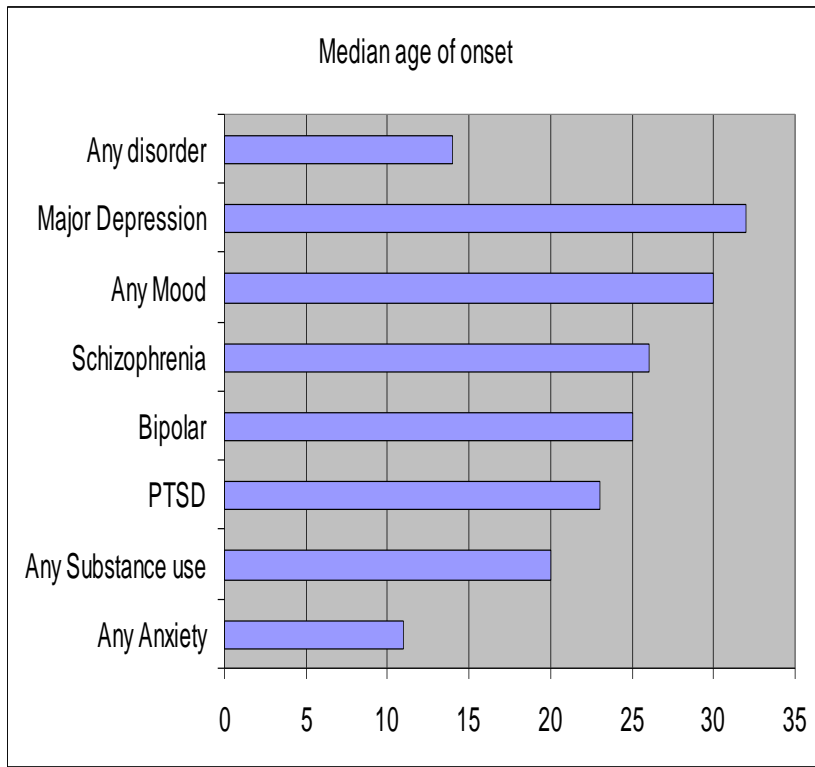
People with severe mental illness use substances that are most available and affordable – alcohol, marijuana and crack/cocaine. Poly-substance use is common.



Source: Mueser, Essock, Drake, et al., 2001

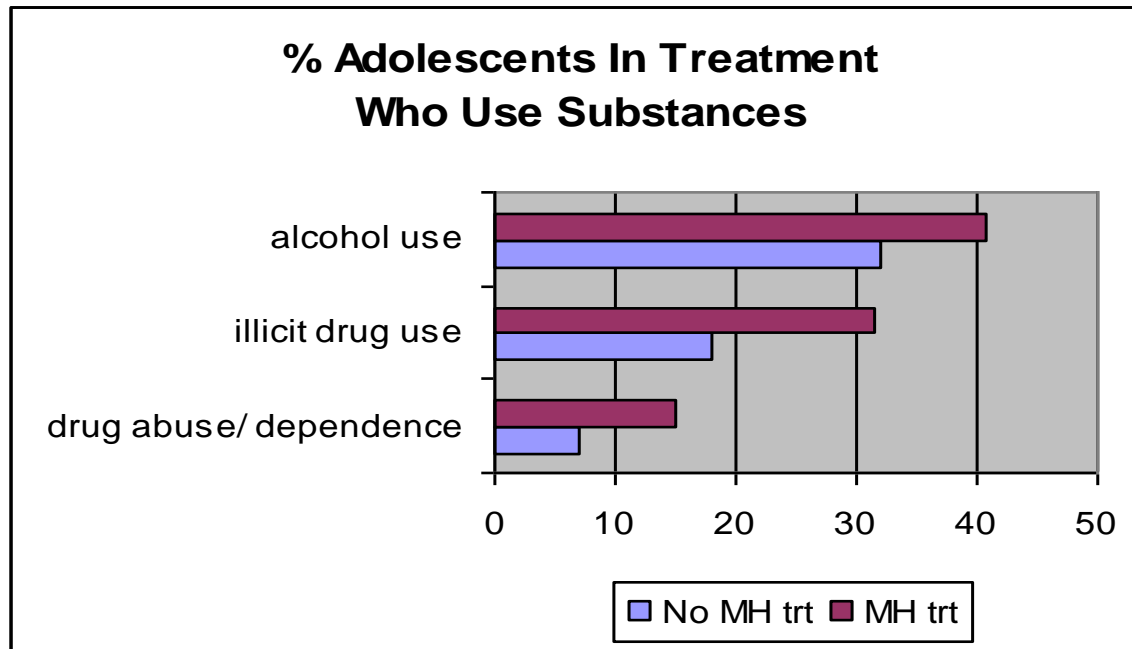
Mental and Substance Use Disorders Usually First Appear In Adolescence and Early Adulthood.

Fitting in with peers is the most common reason for starting to use alcohol or drugs.



Sources: Kessler, 2004; Kessler, 2005; Laudet et al, 2004

In 2004, Almost One Quarter of US Adolescents (5.7 Million) Were Treated For Behavioral or Emotional Problems. Nearly 43% Met Criteria For Substance Abuse/Dependence.



Source: NSDUH 2004

Section 2

MICA:

Disability and Distress

Disability

Poor Health

Family Burden

School Failure

Victimization; Trauma

Homelessness

Violence

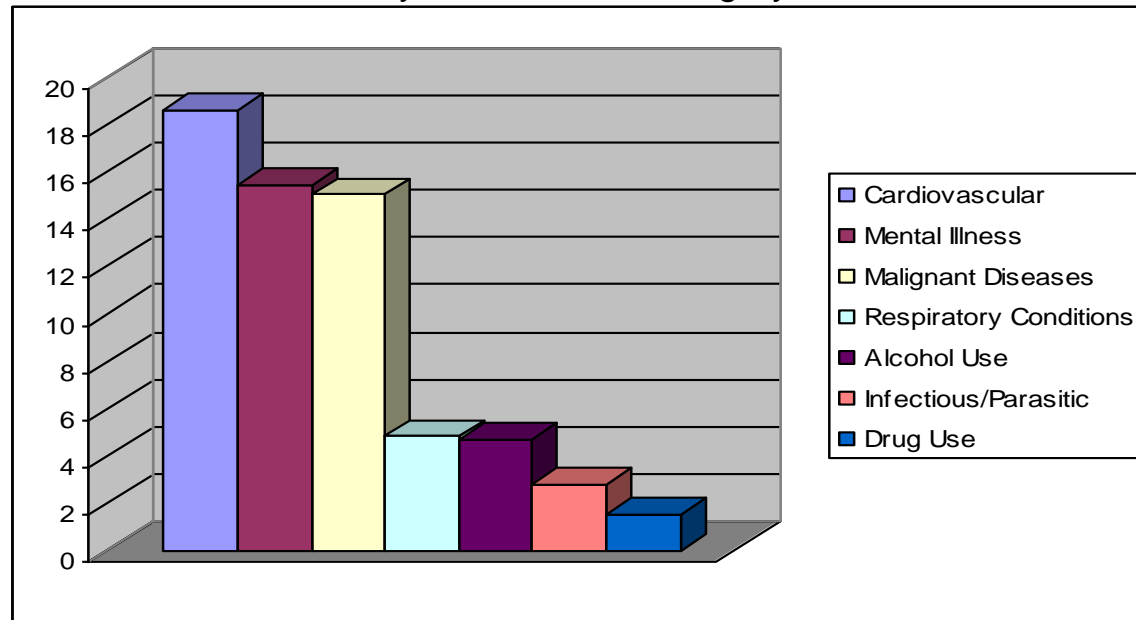
Criminal Justice/Incarceration

Treatment Costs

Prevalence In Developed Economies

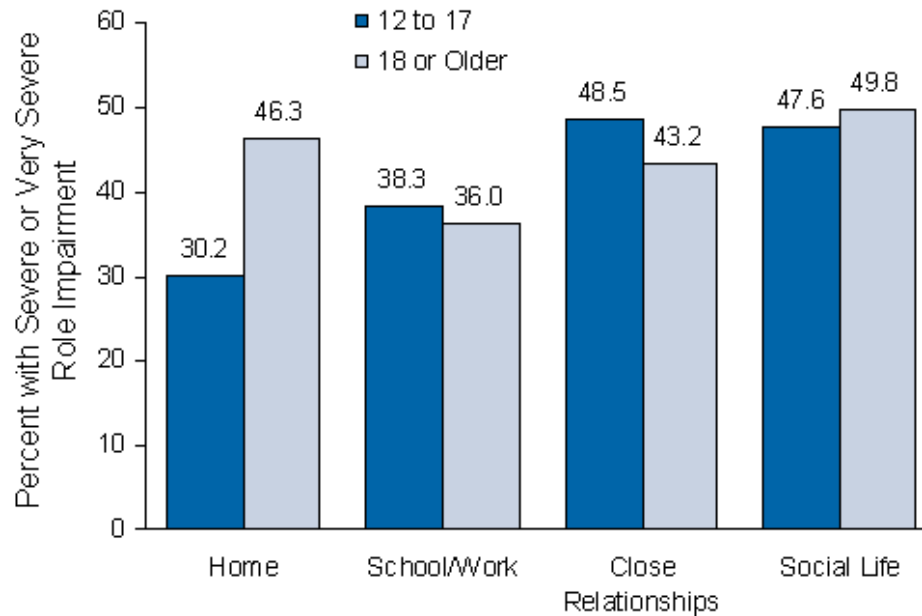
In 1990, in developed economies throughout the world, major depression and alcohol use were among the top five leading causes of disability. Schizophrenia and bipolar disorder were also among the top 10 causes of disability for women.

Percent of Total Disability Adjusted Life Years (DALYs*) Accounted for by Each Illness Category



*DALYs -Disability Adjusted Life Years – Years of life lost due to premature mortality and disability - make it possible to estimate the relative burden of major diseases, injuries and risks across population groups or areas.

1/3 to 1/2 of US Adolescents and Adults With Major Depression Experience Severe Impairment In Their Home Life, School, and/or Intimate and Social Relationships.



Percent adolescents and adults with a prior year major depressive episode experiencing severe/very severe role impairments

Indirect Costs Of Major Mental Disorders

Disability or premature death due to major mental disorder costs the economy over \$100 billion in lost productivity.

Excluding schizophrenia, people disabled due to major mental disorder lose 88 days of normal activity per year.

People With MICA Are At Higher Risk For Serious Medical Conditions Than Other Poor People

	MICA	SMI only	SUD only
Heart Disease	4.2	3.2	2.9
Asthma	3.3	2.0	1.7
Gastrointestinal	2.8	2.3	1.7
Acute respiratory	2.0	1.4	1.4
Skin infections	2.0	1.5	1.6
Malignant neoplasms	1.9	2.1	2.1
Diabetes	1.6	2.6	1.4
Hypertension	1.4	2.1	ns

Odds Ratios - compared to persons without mental illness or substance use disorders

People With MICA Are At Higher Risk For Death From External Causes Than People Without Co-Occurring Disorders

Distribution of Causes of Death of Medicaid Beneficiaries

Causes of Death	MICA	SMI Only	SUD only	Medical Only
Natural Causes	67%	82%	85%	92%
External Causes				
Homicide	<1%	<1%	2%	5%
Suicide	6%	6%	<1%	-
Accident	2%	4%	<1%	<1%
Undetermined	23%	7%	12%	2%
Total External Causes	33%	18%	15%	8%

Source: Dickey et al, 2004

People With MICA Are At Higher Risk For Infectious Diseases Than The General Population

	<u>Rates Per 100,000</u>	
	General Population*	MICA
HBV (Hepatitis B)	0.6	19.0
HCV (Hepatitis C)	1.9	16.2
HIV	0.5	3.0-8.0
AIDS	0.2	not available

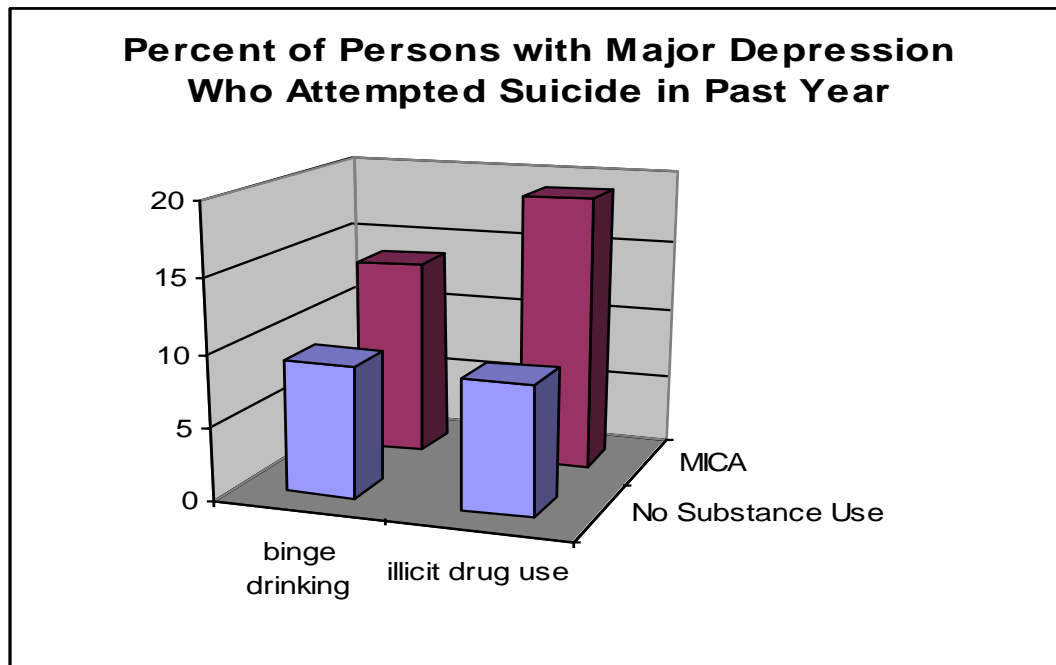
*Rates based on adult population estimate of 212 million in 2005

Sources: Rosenberg, et al 2005; Carey, et al 1995

People With MICA Are At Higher Risk For Suicide Than The General Population

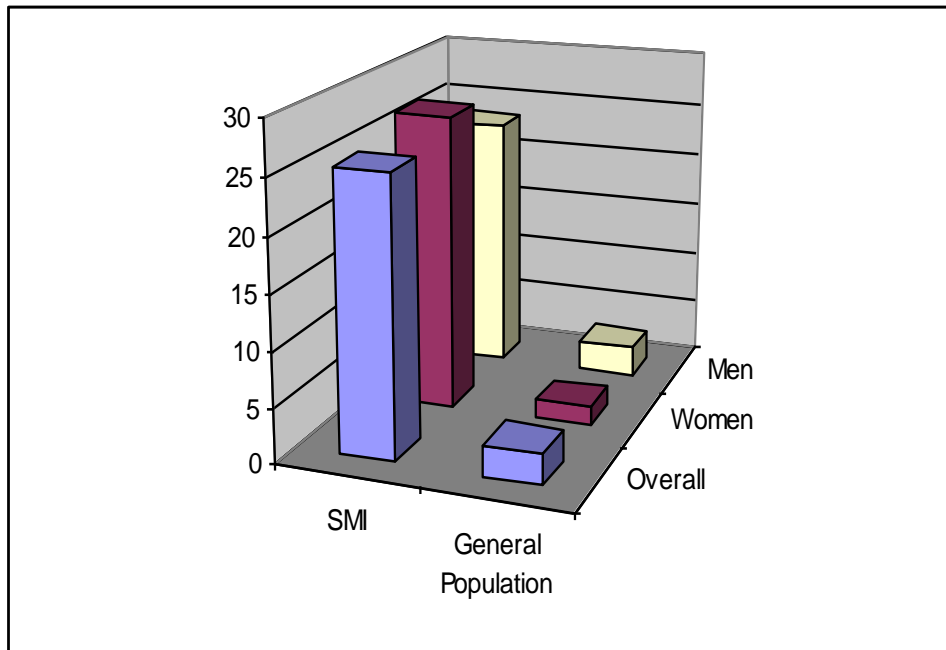
Suicide ideation and attempts are most frequently associated with depression.

Risk of a suicide attempt increases with alcohol and illicit drug abuse.



People With MICA Are At Higher Risk For Being Crime Victims Than Other Poor People

The risk for being the victim of a violent crime is 12x greater for people with SMI compared to other urban poor people. Among those with SMI, women are at much higher risk (16x) than men (8.5x).



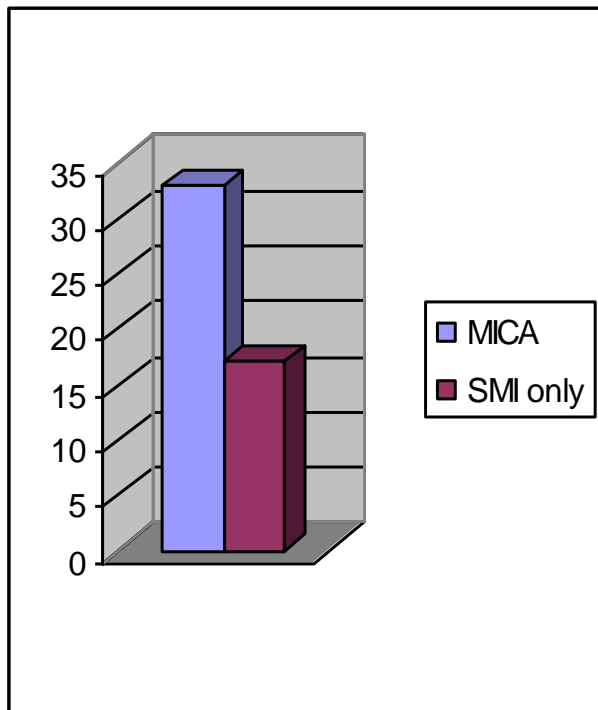
Rates of Victimization		
	SMI	General Population
Total	25.3	2.2
Women	27.1	1.7
Men	23.4	2.7

Source: Teplin et al., 2005

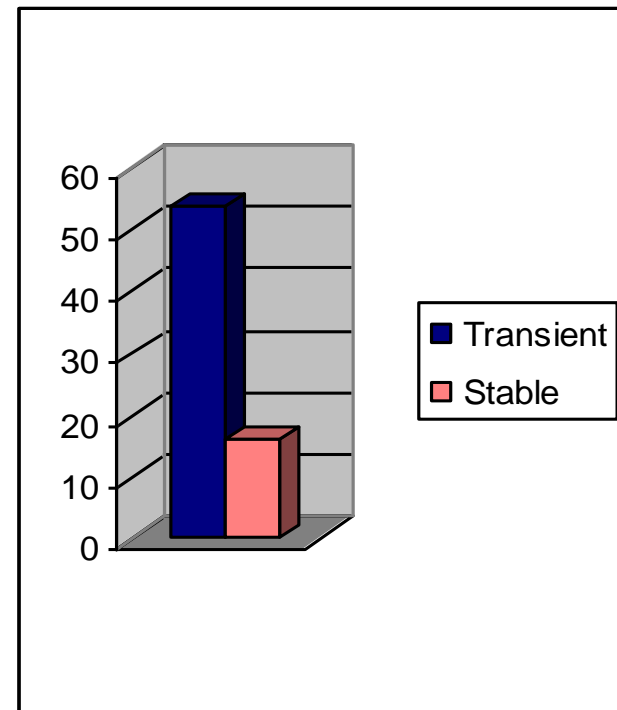
MICA Doubles The Risk, and Transient Housing Triples The Risk, For Criminal Victimization Among Psychiatric Patients

Percent of Persons Reporting Victimization

MICA status

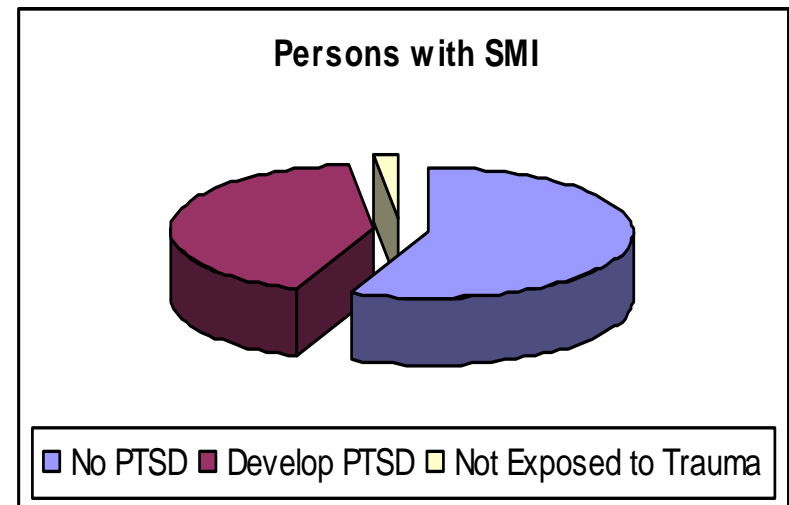
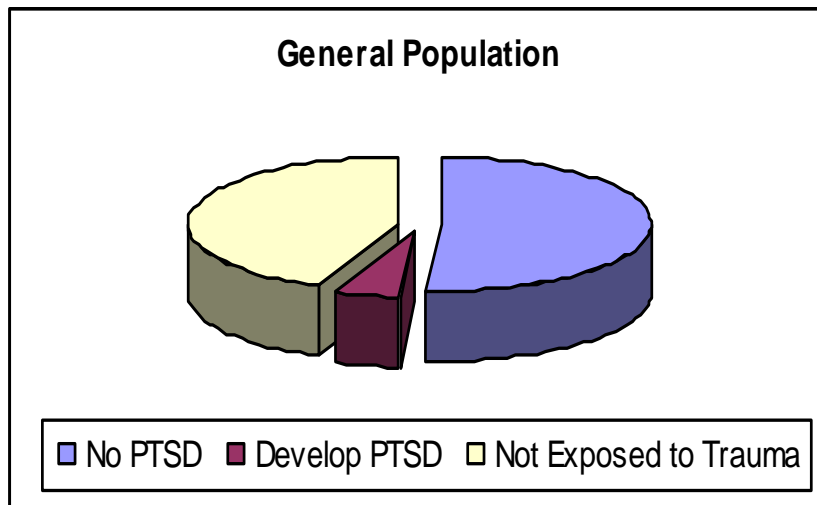


Housing status



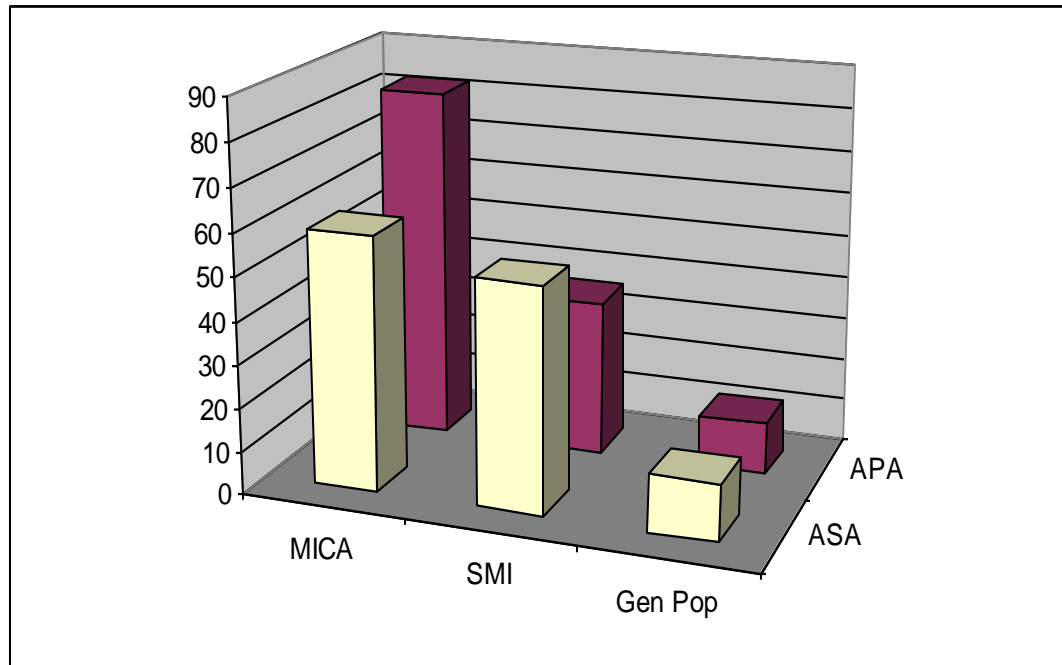
People With MICA and SMI Are More Likely To Experience Trauma Than The General Population and To Develop PTSD As a Result.

People with PTSD commonly use alcohol or drugs to cope. About half of women with MICA have PTSD.



Sources: Kessler, 1995; Mueser et al., 1998; Gearon, 2003

People With MICA and SMI Are More Likely To Experience Physical and Sexual Abuse Than People In The General Population.



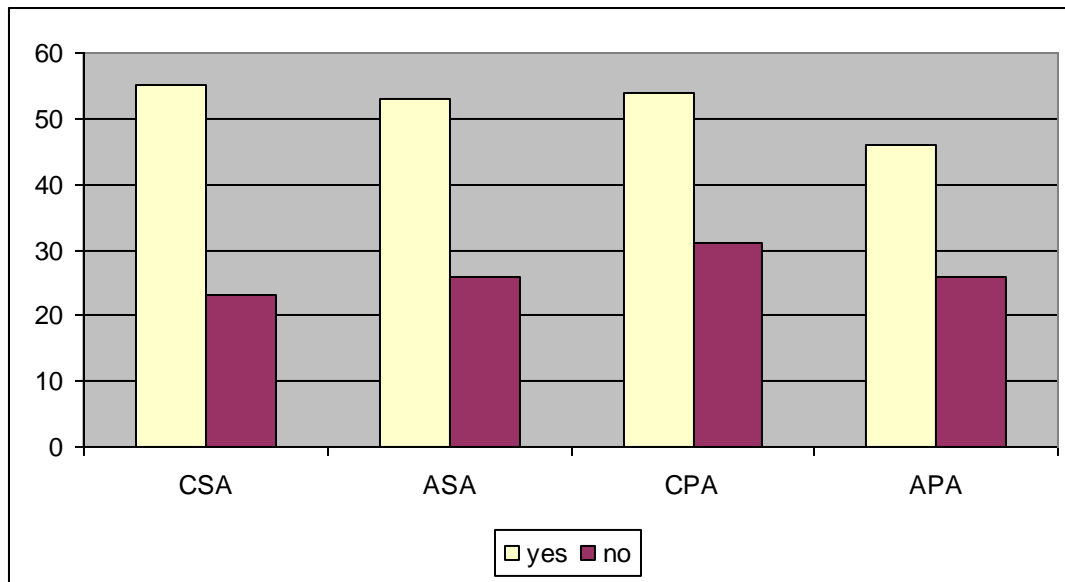
Percent who experience APA and ASA

(APA = adult physical abuse ASA = adult sexual abuse)

Sources: Gearon 2003; Mueser 1998; Kessler 1995; Resnick 1993

Among Women With MICA, PTSD Symptom Severity Is Most Severe Following Intimate Abuse.

PTSD Symptom Severity Scores for persons with and without childhood and adult sexual and physical abuse histories



CSA = childhood sexual abuse
ASA = adult sexual abuse

CPA = childhood physical abuse
APA = adult physical abuse

People With MICA Are At High Risk For Becoming and Remaining Homeless

18-22% of those in shelters have severe mental illness.

People with SMI are 4x as likely to be admitted to a shelter as the general population.

Substance use disorder is a risk factor for becoming homeless among those with and without a severe mental illness.

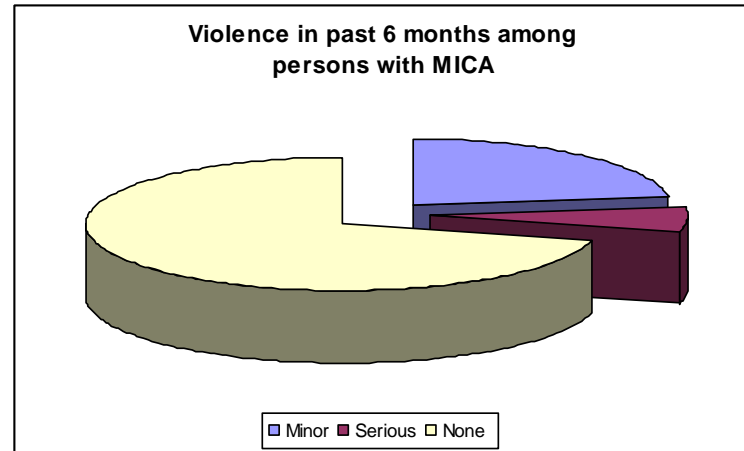
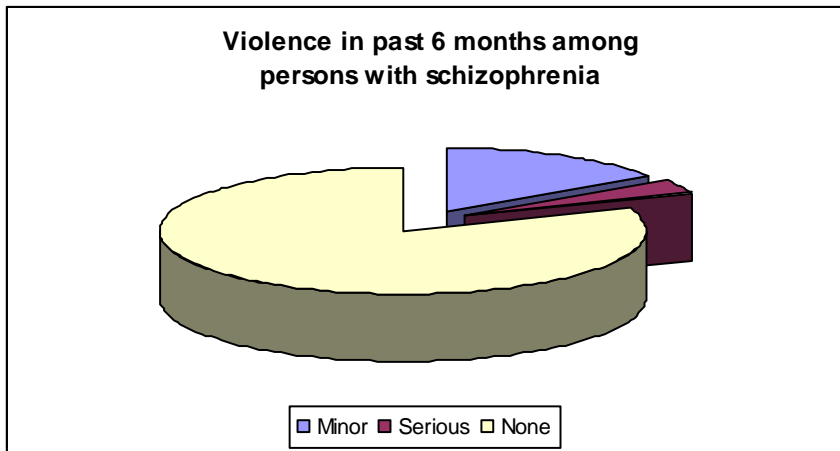
Among shelter users with substance use disorders, those with a severe mental illness stay homeless longer.

People with MICA in shelters are far less likely to use the traditional systems for receiving care. Besides housing, outreach and engagement can minimize the duration of homelessness and support their recovery from MICA.

Sources: Lehman and Cordray, 1993; Culhane 1997; 1998; 1999; Draine, Salzer, Culhane, 2002; Caton, et al., 1994

Substance Use Increases The Likelihood That People With SMI Will Commit a Violent Act

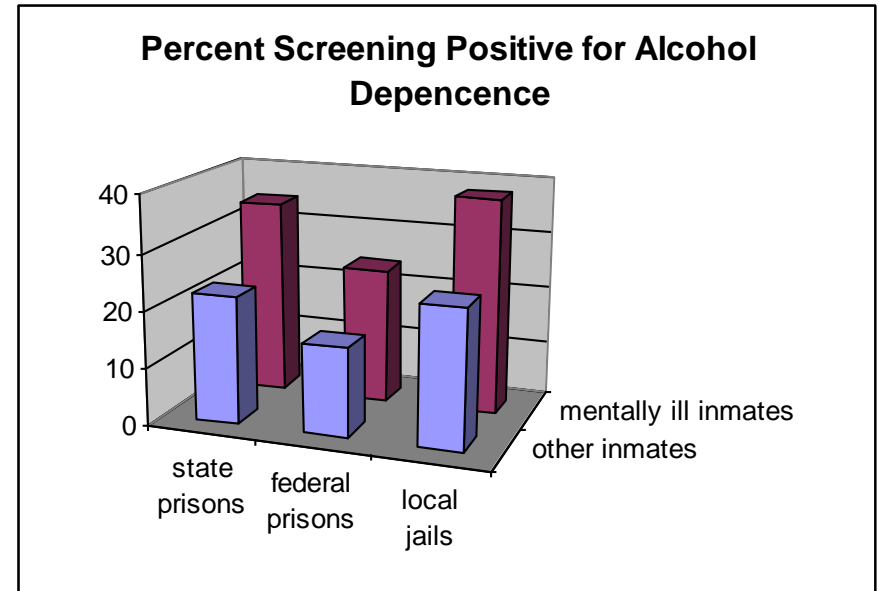
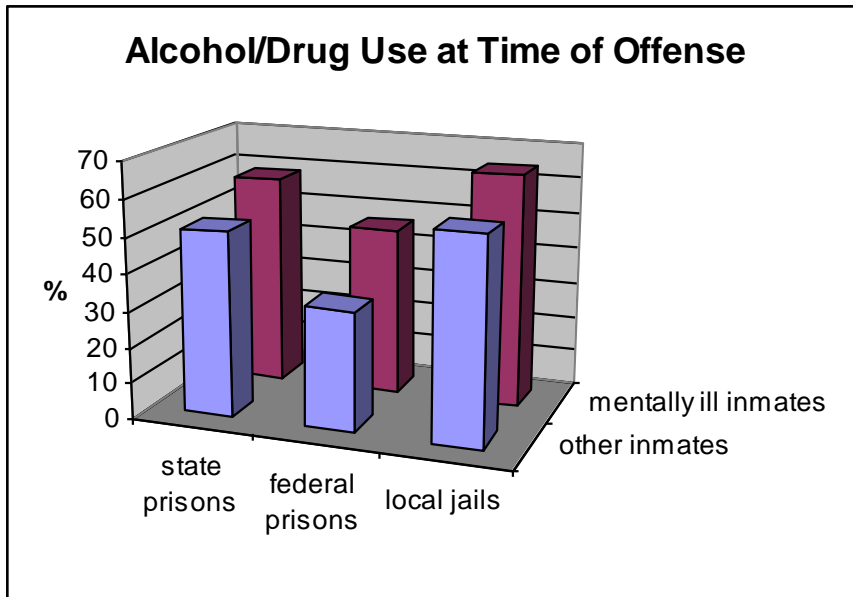
The vast majority of those who do act violently commit minor acts of violence at home, or in family and friendship networks, not against strangers.



Sources: Steadman 1998; Swanson 2006

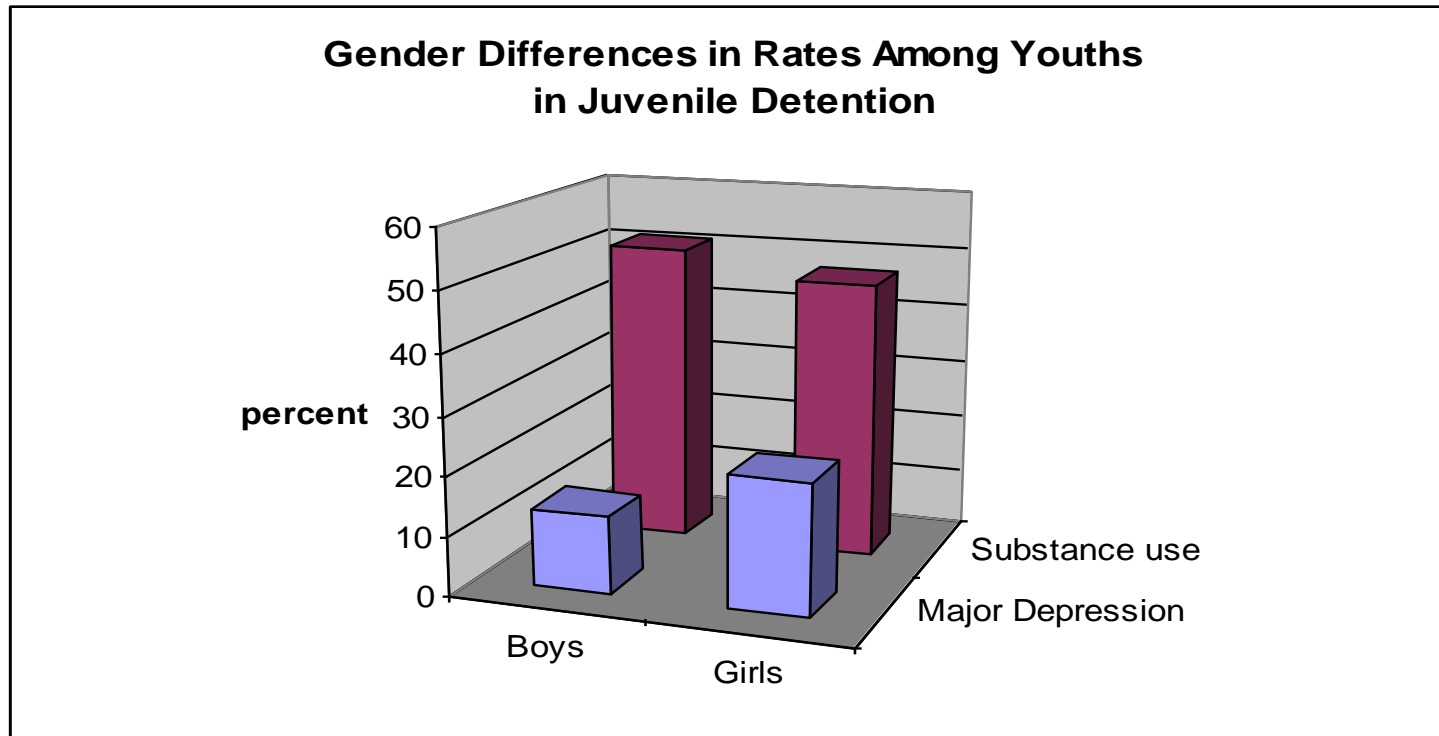
50-60% of Jail and Prison Inmates Have Any Mental Illness, and 11% Have Severe Mental Illness.

They are more likely than other inmates to screen positive for alcohol dependence and to have been using drugs or alcohol when arrested.



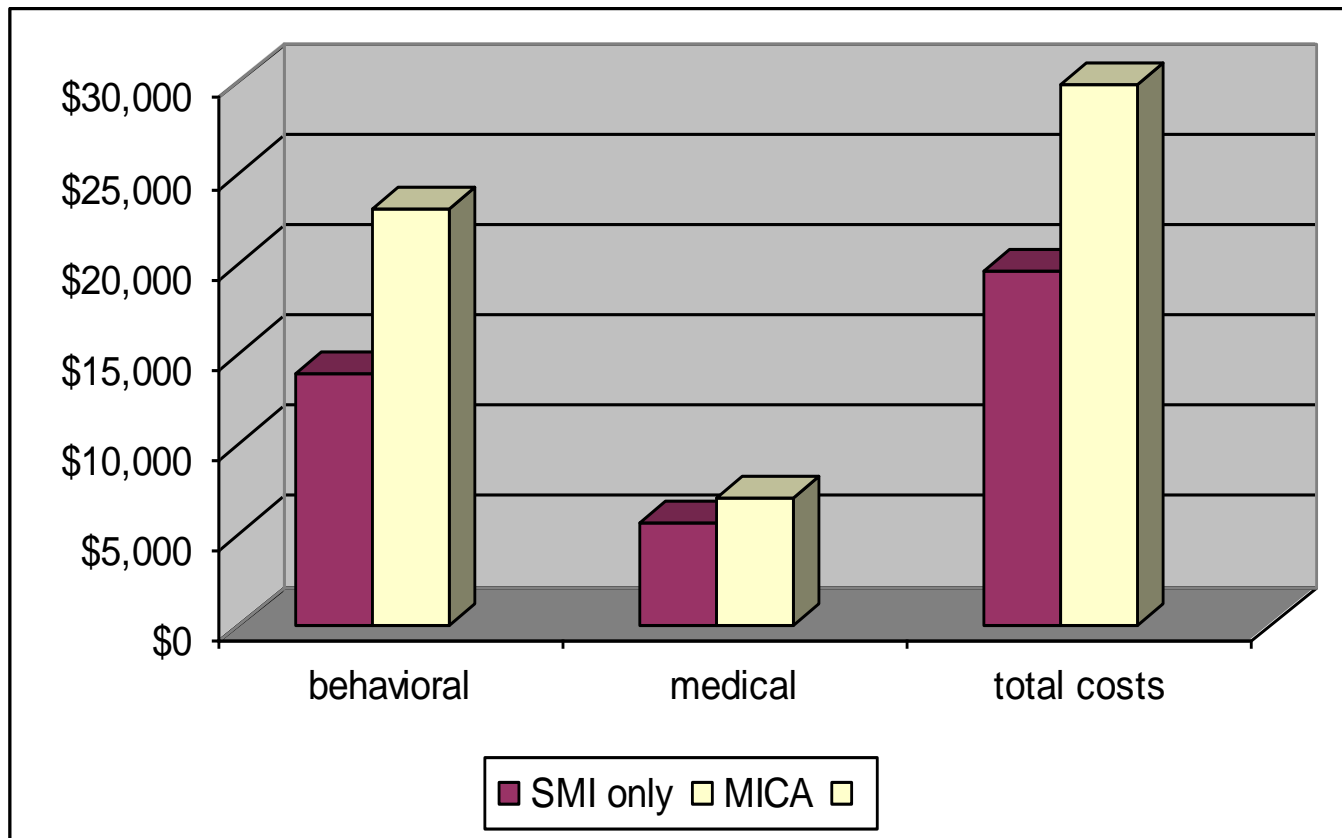
Source: Teplin 1990; US Bureau of Justice Statistics 2006

One Million Youth Have Formal Contact With The Juvenile Justice System, and 2/3 of Them Have At Least One Mental and/or Substance Use Disorder.



Sources: SAMHSA, Report to Congress, 2002; Office of Juvenile Justice Fact Sheet, 2001; Teplin et al, 2002

Due To Greater Use Of Inpatient Treatment, Annual Medicaid Direct Treatment Costs For Behavioral and Medical Health Care Are Higher For Individuals With MICA Than With SMI Only.



Section 3

Course of MICA: Remission and Recovery

Recovery Outcomes

Remission: Trajectories and Supporting Factors

Relapse: Contributing Factors

Course Of MICA: **Remission and Recovery**

Recovery is possible for MICA. Over a ten year period, the majority of clients with co-occurring MICA attain full remission and/or substantial harm reduction.

Like other chronic conditions, **recovery from chemical abuse is non-linear, including relapse and acute episodes.** Over half of those initiating integrated treatment attain remission within months, but over a third relapse within the first year.

Relapse prevention is as essential as engagement and achieving initial abstinence. Relapse prevention models should be tailored to individuals' age, and their needs for housing, employment, and a social network.

Services should help people **pursue the aspects of recovery they are ready for,** because recovery from MICA involves many aspects of life that proceed independently.

Consumers Identify Key Dimensions Of Recovery From COD

ACHIEVE

- **Self-management of physical, mental, and substance abuse problems**
- **Independent living**
- **Competitive employment**
- **Regular social contacts (friends, intimate partners) with non-substance abusers**
- **Overall life satisfaction**

AVOID

- **Homelessness and hospitalization**
- **Negative health outcomes like HIV and Hepatitis C**
- **Criminalization, jail / prison**
- **Medication side effects**
- **Victimization, stigma and interpersonal abuse**

Sources: Drake McHugo Xie, et al., 2006; Alverson Alverson Drake 2001; Drake, 2006

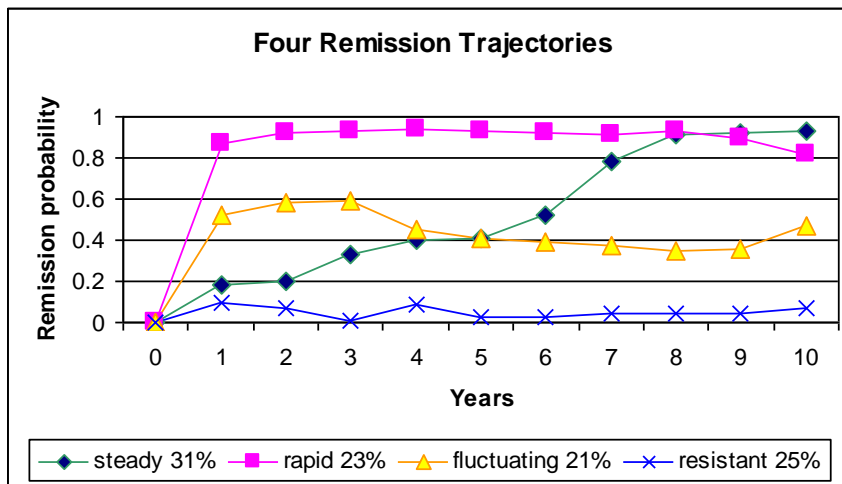
For Some People With MICA, Family Involvement Can Support Recovery

Families contribute substantial amounts of material and caregiving support to MICA family members. Family in-kind provision of food, clothing, housing and transportation is associated with decreased substance use.

Cognitive behavioral therapy (CBT) for people with MICA that includes families produces more efficient clinical and economic outcomes over 18 months for people with MICA than CBT interventions alone.

2/3 of People With MICA Achieve and Sustain Long-Term Remission

Some achieve remission rapidly, some gradually but steadily, and some with many ups and downs. Fewer than 25% are unable to achieve remission in the long term.



1. Steady - Gradual and steady improvement, sustained over time
2. Rapid - Sharp improvements in Yr 1, sustained over time
3. Fluctuating - Immediate improvement that is not steadily sustained over time

Source: Xie et al, 2006

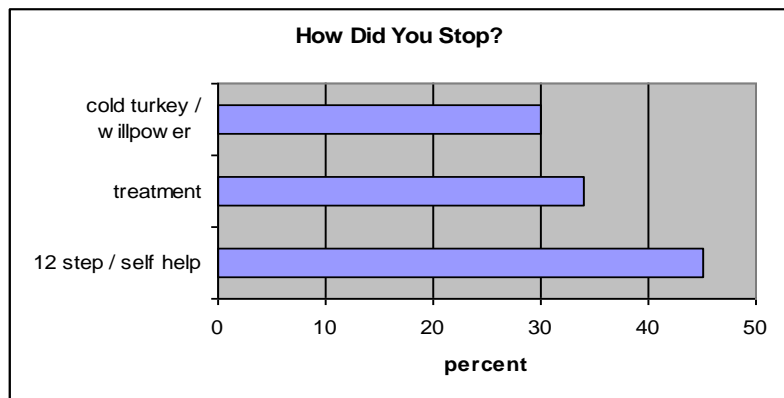
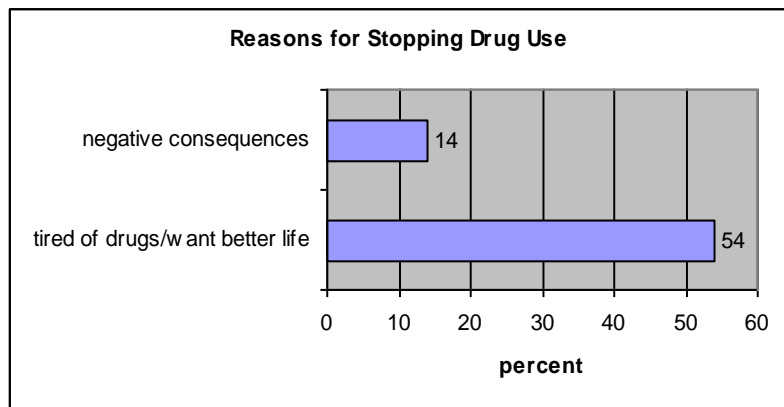
Social Factors Are Key For Sustained Abstinence

Sustained abstinence is associated with:

- Stable Housing
- Integrated COD Services
- Engagement in Substance Abuse Treatment
- Higher levels of Education
- Higher levels of Social Support
- Higher levels of Social Competency
- Employment
- Female Gender

Sources: Xie et al, 2006; Rollins et al, 2005

Hope For A Better Life Motivates People Toward Abstinence



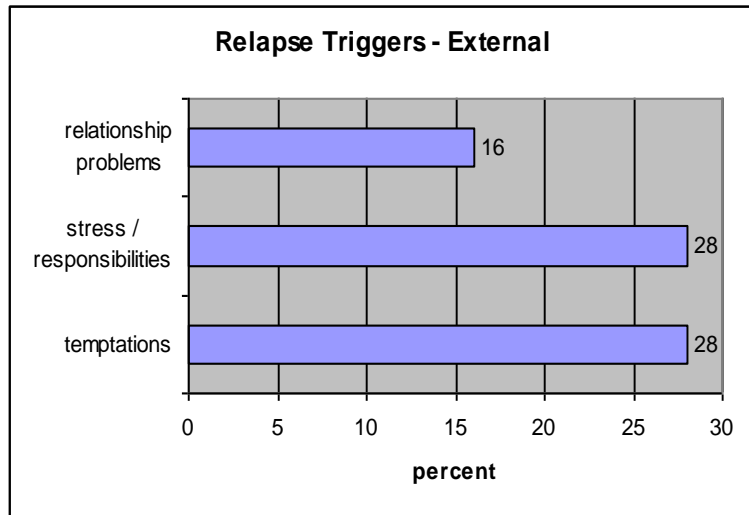
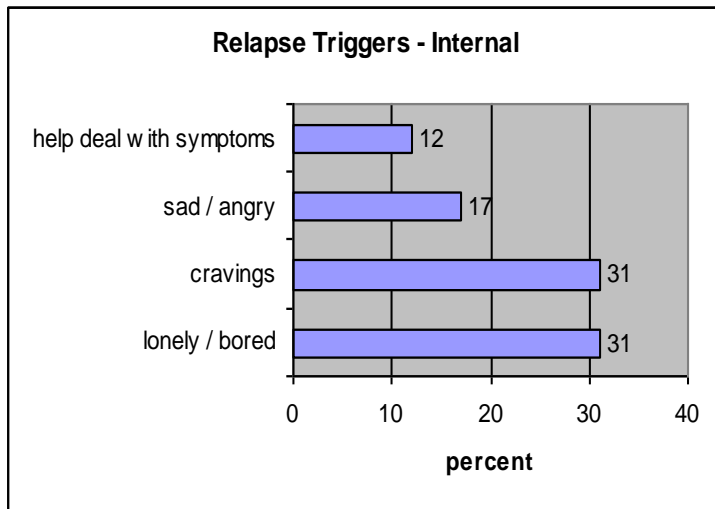
Long term ethnographic data suggests that stopping is also correlated with:

- Regular engagement in enjoyable activities,
- Decent, stable housing,
- A loving relationship with someone who accepts the person's mental illness and
- A positive, valued relationship with a treatment professional.

Sources: Laudet et al 2004; Alverson, Alverson and Drake, 1998

Stress, Strong Emotions, Craving and Temptations, and The Absence Of Alternative Sources Of Satisfaction Are Relapse Triggers

Individual, clinical characteristics, initial severity of substance use, and type of psychiatric diagnosis are NOT associated with relapse.



Sources: Laudet et al., 2004; Rollins, O'Neill, Davis and Devitt 2005

Section 4

Treatment Strategies for MICA

Evidence for Effective Treatment
Approaches to Integrating Services
Staged Approach to Treatment
Harm Reduction
12 Step Programs
Coordinated Care

Key Principles To Effectively Treat Persons With MICA

1. Decent and stable housing is essential to recovery and should not be contingent on treatment compliance.
2. Treatment should be integrated and comprehensive.
3. For people with serious mental illness, a co-occurring substance disorder should be an expectation, not an exception, during screening and assessment.
4. Treatment should be keyed to stages of change: engagement, persuasion, active treatment, and relapse prevention.
5. Long term, alternate residential models for non-responders should be available.

Three Approaches To MICA Treatment

Integrated Treatment

MI and CA are treated concurrently at a single setting (“no wrong door”) preferably by a single, cross trained clinician, or by two clinicians with the relevant specialties who develop an integrated treatment plan. The consumer does not bear responsibility for coordinating treatment or for sorting out contradictory messages about MI or CA.*

Parallel Treatment

MI and CA are concurrently treated by mental health and addiction specialists respectively.

Sequential Treatment

MI and CA are prioritized. Primary disorder is treated by a provider with that specialty before the secondary disorder is treated by a provider with that specialty.

* Parallel and Sequential treatment approaches typically occur at different settings, and the consumer must integrate the treatment cultures which may deliver conflicting messages.

MICA Services Should Be Integrated

Models of Services Integration:

- Integrated Dual Disorder Treatment (IDDT)
- Assertive Community Treatment
- Case Management

Integrated Dual Disorder Treatment (IDDT)

- A long-term, integrated and comprehensive approach to ensures access to adequate service
- The goal is to help people to learn to manage their MI and CA conditions so they can pursue meaningful life goals
- A wide variety of MI and CA treatment interventions and services, keyed to what people need at different stages of recovery
- Services should be offered together, in one setting, at the same time
- NOT a conventional service
- Requires systems changes and re-training of providers and clinicians

(The 12 organizational characteristics and 14 treatment characteristics of the IDDT model – fidelity domains – are described in the sources referenced here.)

Assertive Community Treatment Teams and Standard Case Management Are Equally Effective At Delivering Integrated Services

ACT & Standard Case Management: Equivalent Outcomes

- **Mental Health Symptoms**
- **Quality of Life**
- **Treatment Engagement Toward Recovery**
- **Days of Alcohol Use**
- **Days of Drug Use**

ACT & Standard Case Management: Superior Outcomes for ACT

- **Decreased Days in Institutions (Jail or Hospital)**

ACT and Standard Case Management: Structural Comparison

	ACT	Standard Case Management
Staff to client ratio	1:10 to 1:15	1:25 or greater
Service Location	Community	Clinic
Caseloads	Shared -Team	Individual clinician
Availability	24/7	Clinic hours and emergency contact
Service provision	Direct	Brokered to other providers

Source: Essock et al, 2006

Person-Centered Care Is Comprehensive

Comprehensive MICA treatment takes consumers' life circumstances into account.

Comprehensive treatment includes sensitivity to culture, trauma history, family circumstances and configuration and health conditions.

Tailor Interventions To A Person's Stage Of Treatment Or Recovery

Stage of Change	Stage of Treatment	Provider ensures that people with MICA
Pre Contemplation	Identification	Are welcomed at any point of entry into services
	Engagement	Become involved in a trusting therapeutic relationship during outreach or at intake
Contemplation	Persuasion	Develop motivation to work on substance abuse problem and to manage both conditions
Active Change	Active Treatment	Actively work to reduce substance use and achieve sobriety
Relapse and Recovery	Relapse Prevention	Work to sustain their recovery and expand it into other life dimensions
Not responding	Alternatives available when people are not making progress	Are able to access specific treatment modalities (e.g. PTSD) or settings (e.g. residential)

Sources: Prochaska et al, 1992; Bellack, DiClemente, 1999

Identification: Screening and Assessment

Lack of any screening or assessment to identify COD has historically been a major barrier to effective intervention.

Current national policy explicitly recommends screening for co-occurring MH and SUD and for linking results with integrated treatment strategies.

Screening identifies individuals in crisis or in need of a second level of assessment.

Screening communicates to consumers that a program is able to recognize and address substance use problems.

Useful Screens Are Brief

Accuracy of available screens for chemical abuse that have been validated for people with severe mental illness.

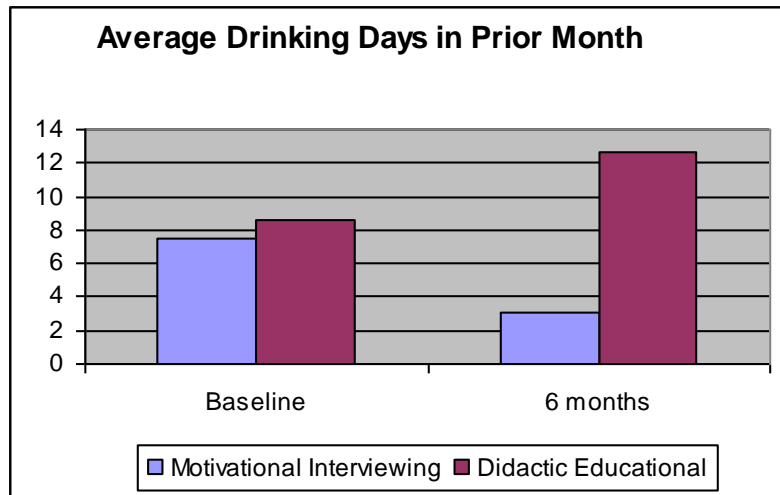
<u>Screen</u>	<u>Accuracy</u>
DALI-14	.81
DAST	.79
TWEAK	.75
MAST	.74
AUDIT	.73
CAGE	.66

Motivational Interviewing Is A Promising Approach To Engagement For People With COD

Motivational interviewing is a brief method that targets ambivalence and intrinsic motivation using client-centered principles and directive goal setting in order to increase a person's commitment to change.

Source: Miller & Rollnick, 2002

Brief (1-3 sessions) Motivational Interviewing (MI), Emphasizing Personal Choice and Responsibility, Effectively Achieves Sustainable Reductions In Substance Use.



Compared to an educational intervention, the MI group:

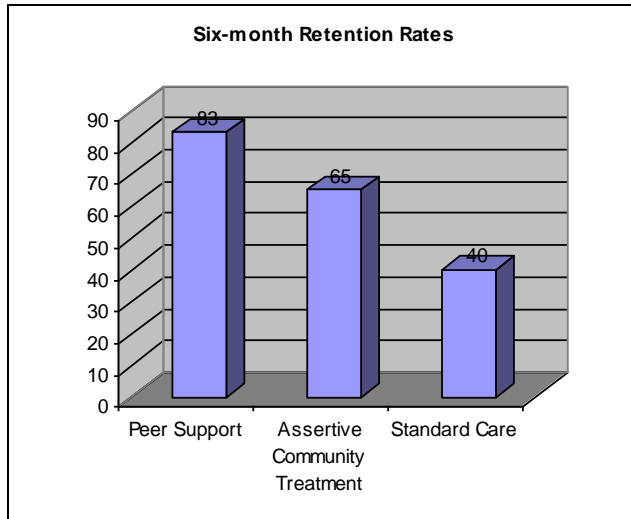
- Maintained abstinence at 6 months (68% v 7%)
- Had significantly fewer drinking days (3 v 12)
- However, intensity and amount of drinking did not decrease for those in MI who did drink.

Though highly effective for a large majority of clients, some cannot achieve and sustain remission with MI alone.

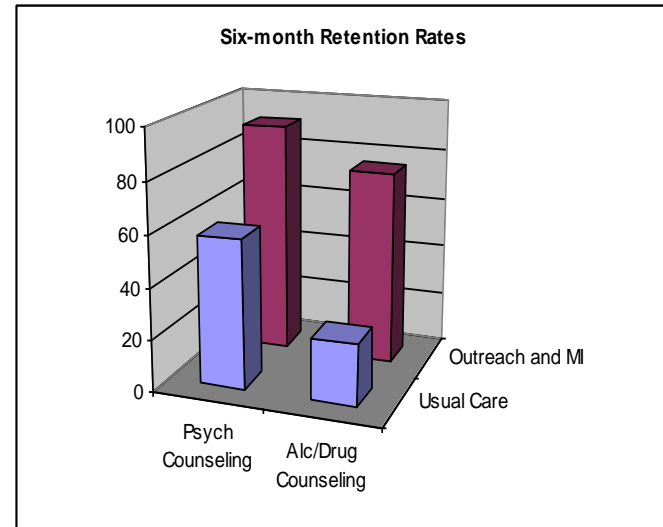
Source: Haddock, et al, 2003

Group interventions Are Effective At Engaging Clients With MICA In Treatment.

In one study, a group focused on engagement and peer support was more successful than ACT or standard care in engaging clients at 6 months.



In another, combined active outreach and motivational intervention increased engagement and retention in mental health and substance abuse counseling after six months.



Sources: Bond et al, 1991; Hellerstein 1995; Drake et al, 1997

Active Treatment

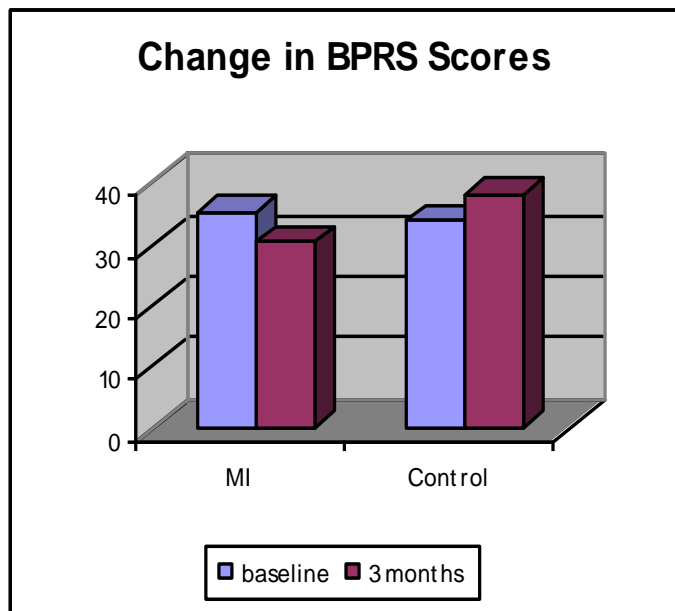
A wide range of specific intervention models can be effective for people with MICA. Here we describe individual and group approaches demonstrated to decrease substance use. Rigorous study of specific approaches with promise is in process.

Treatment Approaches For Persons With MICA

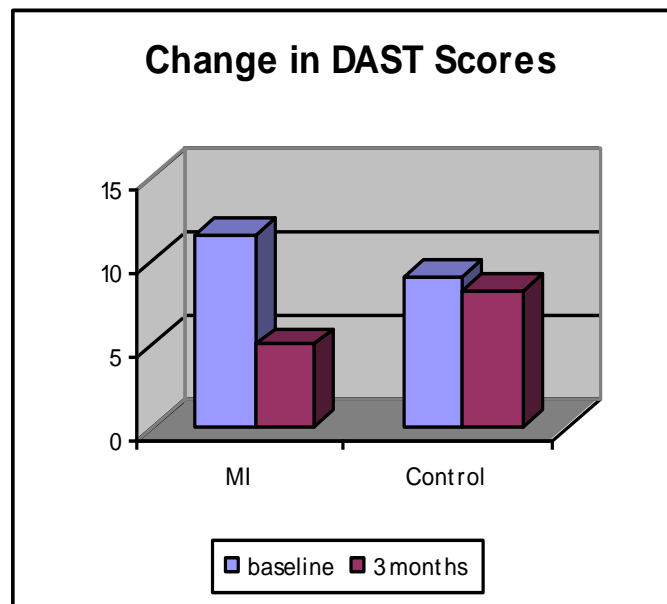
Approach	Target
Motivational Interviewing (MI); Cognitive Behavioral Therapy (CBT)	MH, CD, Trauma symptoms
Case Management (CM)	MH, CD symptoms, hospitalization
Intensive Case Management (ICM) Assertive Community Treatment (ACT)	Housing stability
12-Step	Relapse prevention
Mutual Aid	Social support, illness self- management
Contingency Management (CM) Token Economies	MH behavioral symptoms, Substance use, cigarette use
Family Interventions	Global functioning, hospitalization

Longer Motivational Interviewing Protocols Improve a Wider Range of Outcomes, Including Mental Health and Substance Abuse Symptoms and Hospitalization.

In a randomized clinical trial comparing MI to usual care, mental health symptoms (BPRS) and drug use (DAST) decreased significantly for those participating in MI, as did inpatient admissions.



BPRS: Brief Psychiatric Rating Scale



DAST: Drug Abuse Screening Test.

Residential Treatment Approaches

- Short-term (< 6 months) MICA residential treatment programs are NOT different from outpatient MICA treatment in helping clients achieve or maintain abstinence.
- An exception is the 6 month post-prison release Modified Therapeutic Community which combines MICA treatment with traditional criminal justice approaches. These programs successfully decrease criminal activity, arrest, and incarceration rates at 1 year.
- Long term (1 year or more) MICA Residential Treatment Programs have extremely high attrition rates. Among those who stay, mental health and substance use outcomes improve significantly compared to controls. Low intensity, MICA integrated programs are most successful. Costs and selectivity make these programs best suited for people for whom other approaches are not successful.

Sources: Drake and Brunette, 2005; Sacks et al, 2004

Harm Reduction

- Harm reduction is any effort to reduce the negative consequences associated with substance use without abstinence.
- Negative consequences include adverse effects of substance use on individual users, their families and communities, or on society.
- Harm reduction acknowledges that some individuals may be unable or unwilling to refrain from use and that unrealistic goals may act as barriers to treatment.

Types of Peer Recovery

- Traditional 12-Step Programs
- Dual Recovery Programs
- Staff-Supported Mutual Self-Help Programs

Traditional 12-Step Programs

Roughly 80% of people with MICA participate in 12-step programs after discharge from an acute hospitalization. This is about the same rates as those with only a substance use disorder.

For those with MICA, 12-step participation is associated with improvement in both MI problem severity and in substance use.

80% of people with MICA combine 12-step participation with professional treatment.

Source: Bogenschutz et al, 2006

Two Self-Help Approaches For Dual Recovery

Dual Recovery Fellowships

- **Peer directed fellowship where members help each other achieve and maintain dual recovery**
- **Members carry the message of recovery to others with COD**
- **Members take turns chairing meetings**
- **Anonymity is preserved**
- **Use step study meetings; topic discussion meetings; sponsorship; outreach**

Staff Supported Self Help

- **A psycho-education model aimed at stimulating discussion and group interaction around recovery**
- **Trained facilitators initiate and sustain groups and encourage clients to develop leadership skills**
- **Anonymity is preserved, so model implementation may vary, but details are not available**
- **Has been use more extensively in rural areas**

Some Dual Recovery Programs

Double Trouble in Recovery Dual Disorders Anonymous	12 steps adhere closely to the traditional steps, using language appropriate to COD
Dual Recovery Anonymous	More adaptation of the 12 steps to COD. Positive and 'no fault' approach – e.g. assets and liabilities rather than character defects
Dual Diagnosis Anonymous	Adds 5 steps that underscore potential need for medical management, clinical intervention and therapies.
Support Together for Emotional Mental Serenity and Sobriety (STEMMS)	A 6-step, supported mutual self help group designed to be used alone or in parallel with a fellowship approach. Professional or paraprofessional facilitators initiate, lead and sustain groups

Some People With MICA Prefer Dual Recovery Groups To Traditional 12-Step Groups For The Following Reasons:

Traditional 12-Step Groups

- Reflect general stigma and misunderstandings about mental illness and medications
- Lack peer models for Dual Recovery
- Have a confrontational style that intimidates people with MICA
- Often have little in common with mentally ill group members.

Special Dual Recovery Groups

- Engender trust
- Provide a safe place to share ideas and feelings
- Provide a place to focus on recovery from both illnesses
- Provide a sense of emotional acceptance, support and empowerment
- Are in short supply

In one study, MI and CA symptoms and personal well being improved for participants in a specialized Dual Recovery program compared to a traditional 12-step group.

Peer Support In Dual Recovery Groups Has Sustainable Effects On Recovery

High levels of social support over 2 years in a mutual fellowship group (DTR) are associated with:

- Abstinence and health promoting behavior
- Adherence to prescribed medications
- Lower levels of psychiatric symptoms
- Fewer re-hospitalizations

Sources: Laudet Magura Cleland 2004; Laudet Cleland Magura Vogel Knight 2004; Magura, Laudet, Mahmood, Rosenblum, Knight 2002

Section 5

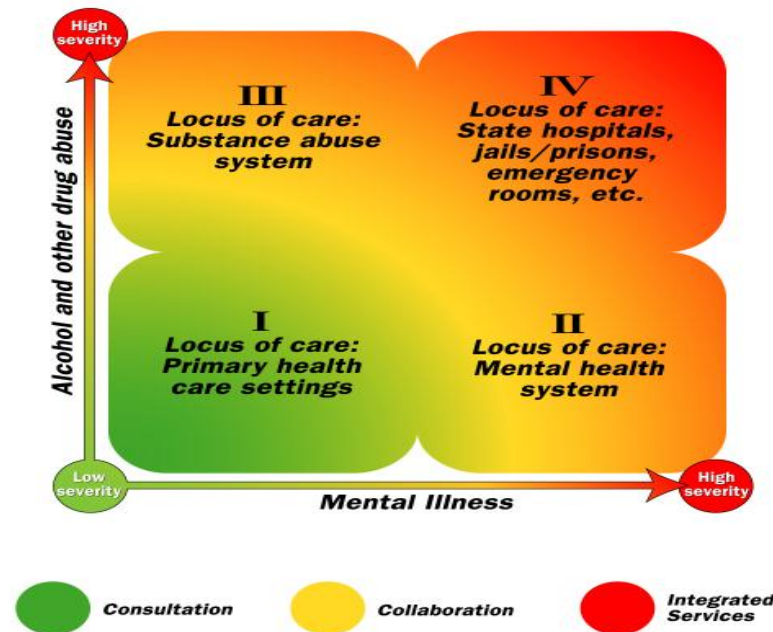
Strategies for Coordinating Care in Local Systems

Integrated Person-Centered Care Requires Coordinated Services and Systems

Services for individuals must be coordinated across providers and service systems. Ideally, fully integrated person-centered care should be available in any setting. When this is not feasible or possible, consultation and collaboration across service providers is essential. Workable local coordinating strategies depend on available resources, the structure of local systems, and committed leadership.

Figure 4

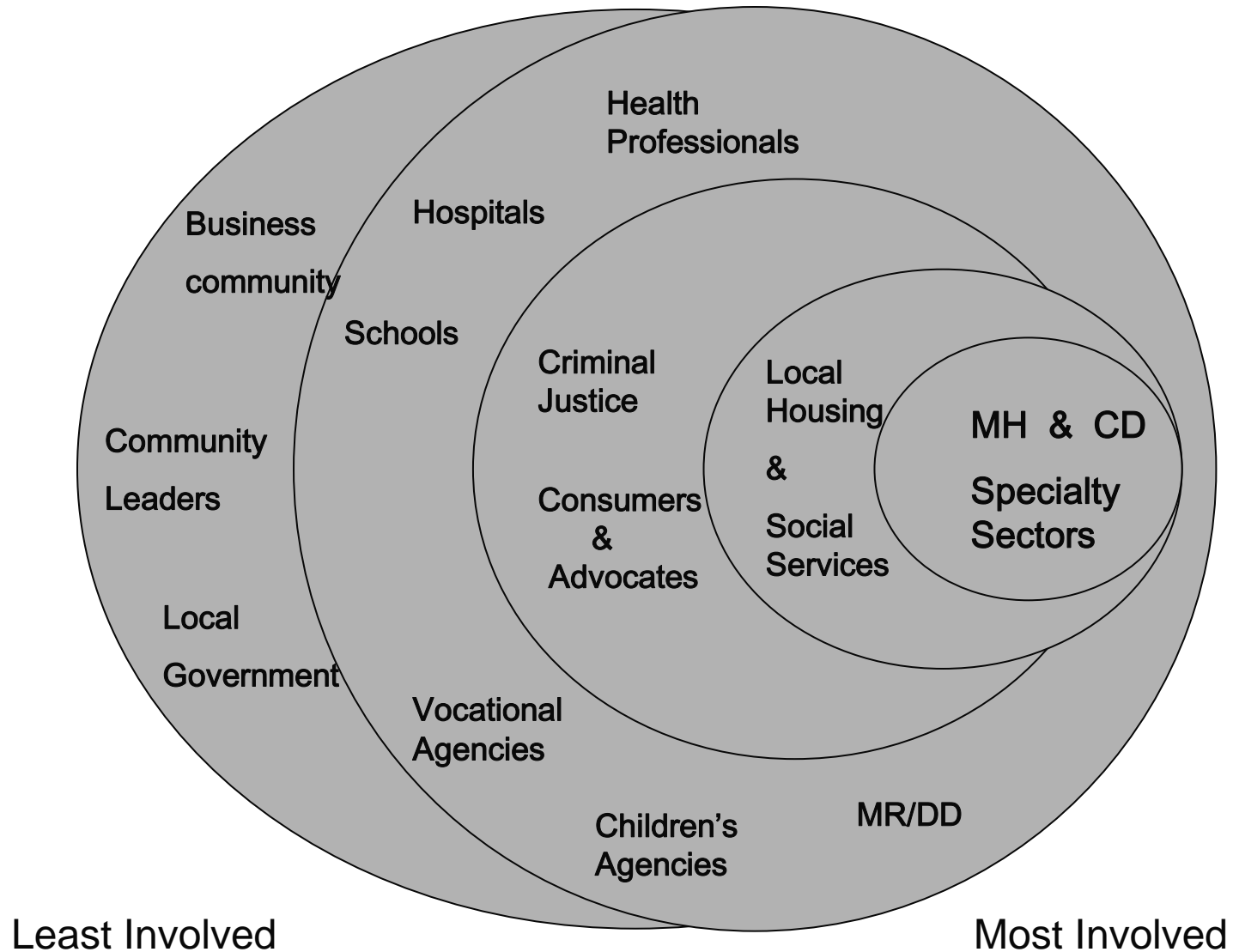
Service coordination by Severity



A Separate System Of Care For People With Co-Occurring Disorders Is Neither Desirable Nor Necessary

- Local, complex networks should be built and sustained.
- Local networks should, at a minimum, bridge existing mental health and substance abuse treatment programs and systems.
- Ideally, local networks should also involve providers from other systems, including social services, housing, criminal justice and primary health care.

Local Network Participants



Coordinated Care and Integrated Services: A Standards-Driven Model For Integrating Care

- Not all providers have the resources to provide fully integrated treatment, though all should be competent to identify and refer people with a co-occurring disorder. The American Society for Addiction Medicine has developed standards that identify programs as “dual diagnosis competent” or “dual diagnosis enhanced.”
- Coordinated Care and Integrated Services for Co-occurring Disorders (CCISC) is a systems model that is useful for localities or large provider organizations to integrate care across local providers and systems.
- CCISC includes clear indicators and benchmarks for service integration at system and provider levels.
- CCISC includes clear standards clinician competence.

The Dual Recovery Coordinator: A Local Idea Champion For Integrating Care

21 counties in New York State use the Dual Recovery Coordinator (DRC) model to build and sustain local provider networks for co-occurring disorders.

DRCs are idea champions who use general principles of behavior change to promote and support changes in local systems.

DRCs use the local service ecology to foster cross-system and cross-provider collaboration that is focused on locally-identified problems.

DRCs provide training opportunities, integrated case conflict resolution and up-to-date information for service providers.

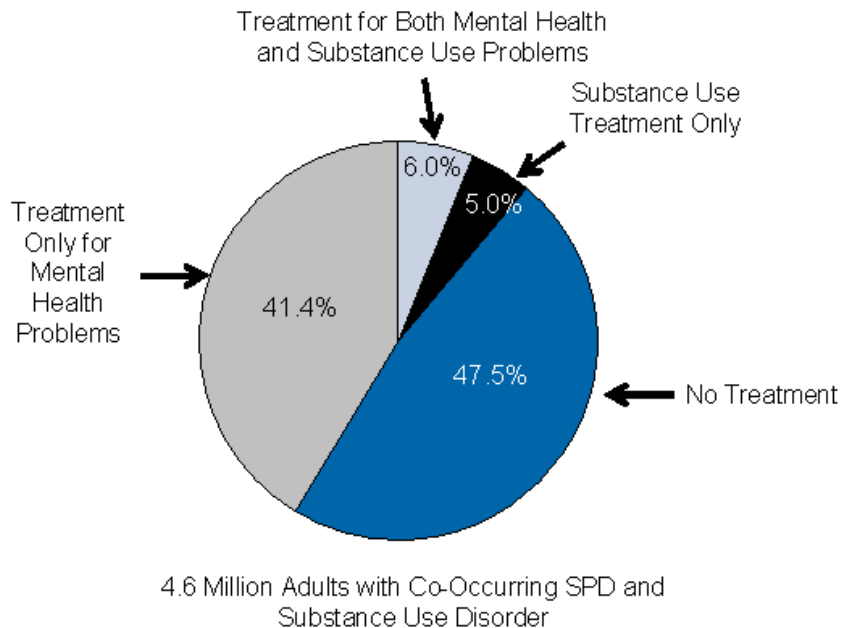
DRCs work with “ready” providers and draw in additional providers and systems over time.

Section 6

Delivering Effective Treatment for MICA: Barriers & Solutions

Gap between Evidence and Practice
Barriers to Integrated Treatment
Workforce Issues
Systems Integration
Solutions

Although Research Shows That Treatment For COD Is Effective, Very Few (11%) Of Those With COD Receive Treatment For Their Substance Abuse. Only 6% Receive Treatment For Both MI and SUD.

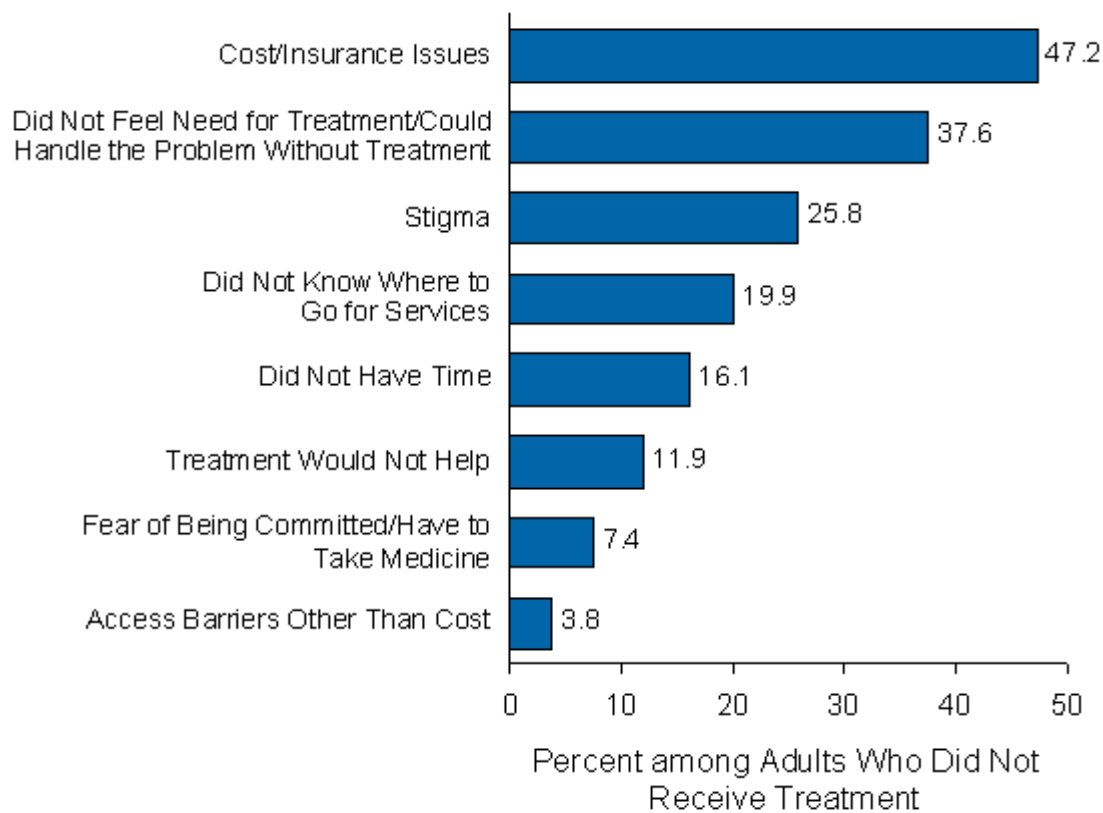


Note: Due to rounding, these percentages do not add to 100 percent.

Past Year Treatment among Adults with Both Serious Psychological Distress and a Substance Use Disorder

- Almost half of adults with COD do not receive any treatment
- Only 11% receive any treatment for their substance abuse
- Over 70% of those with less severe MI and SUD do not receive any treatment
- Most treatment received is for mental health problems

Consumers Identify Systemic and Individual Reasons For The Low Treatment Rates



Source: NSDUH 2004

System Leaders Identify Fiscal/Regulatory, Staff-Related and Local Barriers As Reasons For Low Treatment Rates

Fiscal/Regulatory Barriers

- Increasingly rigid Medicaid reimbursement
- Conflicts of OMH/OASAS Regulations
- Welfare reform sanctions
- Administrative burden of dual record keeping
- Inflexible Services
- Greater number of linkages needed between clinicians, organizations and systems

Staff-related Barriers

- Training/certification of diverse workforce
- Treatment cultures/philosophies
- Resistance to change
- Less widespread use of information technology

Local Circumstances

- Transportation
- Housing
- Isolation
- Employment Opportunities

Other Barriers

- Less developed infrastructure for QI
- More frequent coercion into treatment
- Greater stigma attached to multiple disorders

Barriers To Developing A Behavioral Health Workforce With Competencies To Identify, Assess, Treat & Prevent the Range Of Mental Health & Substance Use Problems

- Shortage of behavioral health providers, especially in rural areas
- Inadequate professional education
- Inadequate continuing training opportunities
- High turnover: The system loses the skills of “high performers” in their first year and the experience of retirees
- Shortage of trained supervisory staff without active caseloads
- Organizational instability: Closures, mergers, reorganizations

Ten Recommendations To Overcome Barriers To Recovery

1. Increase access to stable & safe housing
2. Increase access to integrated treatment and to peer support and self-help
3. Increase outreach and follow-up care management for those who reject or drift away from services
4. Confront trans-institutionalization in jails, prisons, shelters & adult homes
5. Provide additional funding and rework financing models to support essential interventions (including coverage of integrated treatment in health plans)

Ten Recommendations (continued)

6. Make legal and regulatory changes to support integrated treatment including integrated governmental planning structures
7. Develop quality improvement initiatives to support state-of-the art practice based on the best available research
8. Build and sustain a clinically and culturally competent workforce
9. Support public education to overcome stigma and to provide information about effective treatment and where to get it
10. Ensure that leadership – inside and outside of government - is committed to change and quality

Conclusion

- It has been twenty five years since co-occurring MICA was first described by Bert Pepper. In that time, people with severe mental illness have faced similar social and health risks as other poor people but have been more vulnerable because of their psychiatric illness.
- Enormous progress has been made in understanding the clinical complexities of this population and the systemic challenges in adequately serving them.
- Early data shows that stable housing and effective treatments, including peer-driven self help groups can help people achieve and sustain remission, and ultimately, recovery.
- There is a gap between what we know and the treatment actually available to people with MICA. Implementing innovative and effective approaches in busy and resource-limited treatment settings presents a new set of challenges, as does working at multiple system levels.

Appendices

Data Sources

Definitions

Bibliography

Epidemiological Data Sources

Survey	Date	N	Age	Measure Interview; Diagnostic Criteria	Severe mental illness Inclusion: Settings/ Diagnoses
ECA ¹	1982	20,291	18+	DIS; DSM-III	Excludes Institutions Includes Schizophrenia
NCS ²	1990-92	8,098	18-54	CIDI; DSM-III-R	Separate schizophrenia sample
NCS-R ³	2001-03	9,282	18+	CIDI DSM IV	Excludes institutions and shelters. Excludes Schizophrenia
NSDUH ⁴	Annually, 1999 - present. 2004 cited in Briefing Book	67,760	12+	DSM-IV criteria for Substance Use Disorder; K-6 for Severe Psychological Distress	Excludes institutions and street Homeless; Psychiatric disability, not diagnosis

¹Regier et al., 1009; ²Kessler, et al., 1994; ³Kessler, et al., 2005; ⁴NSDUH, 2004

Mental Illness Terms Used In Surveys

MD	Mental Disorder	Any psychiatric diagnosis
SMI	Severe Mental Illness	Based on Diagnostic (schizophrenia spectrum disorders, major depression, bipolar disorder, other psychosis) and Functional (disabling) criteria
MMI	Major Mental Illness	Based on Diagnostic criteria only: schizophrenia spectrum disorders, major depression, bipolar disorder, other psychosis
SPD	Severe Psychological Distress	High level of distress due to any type of mental problem. Measured by K-6
SED	Severe Emotional Disorders	Any behavioral, emotional, or mental health disorders, ranging from mild depression or ADHD or OCD to developmental disorders like autism

Drug and Alcohol Use Terms

Substance Use Disorder (SUD). A DSM diagnosis that includes alcohol, illicit drugs, and improperly used prescription medications.

- **Substance Abuse**

- Impairment or distress manifest by (1 or more of) the following:
 - Failure to fulfill role obligations (work, school, home)
 - Continued use in hazardous situations
 - Recurrent legal problems
 - Recurrent social and interpersonal problems

- **Substance Dependence** (also commonly referred to as addiction)

- Impairment or distress manifest by (3 or more of) the following:
 - Tolerance (need for increased amounts for intoxication)
 - Withdrawal (physiological symptoms, vary by drug/alcohol)
 - Use of larger amounts or over longer periods of time
 - Unsuccessful efforts to control use
 - Time spent in activities related to obtaining and using substance
 - Social, occupational and recreational activities reduced/abandoned
 - Continued use despite known physical and mental health risks

Common Terms For Co-Occurring Mental Illness and Substance Use Disorders

- **COD** – Co-occurring (psychiatric and substance use) Disorders
- **Dually Diagnosed/Dually Disordered** – Having both a psychiatric and a substance use disorder (sometimes used to encompass other diagnosed conditions, such as mental retardation or medical illnesses)
- **MICA** – Mental Illness and Chemical Abuse, where both conditions are severe
- **CAMI** – Chemical abuse and mental illness, where both conditions are severe
 - Note: the above terms should not be used to refer to persons, but to the coexistence of disorders
- **Co-morbid or Co-occurring Conditions**

Bibliography

Alexander MJ, Haugland G (1997). *Gender, mental illness and addiction: Rates, indicators and service use*. Indianapolis, In: One hundred and twenty fifth Annual Meeting of the American Public Health Association

Alexander MJ, Haugland G (2000). *Integrating services for co-occurring disorders: Final report prepared for the New York State Conference of Local Mental Hygiene Directors*. Orangeburg, NY: Nathan S. Kline Institute for Psychiatric Research

Alexander MJ, Haugland G (2004). *The New York State Dual Recovery Coordinator Initiative: A Process Evaluation*. Albany, NY: NYS OASAS (CSAT #270-99-7070)

Alexander MJ, Haugland G, Lin SP, Bertollo DN, McCorry FA (2006). Screening for co-occurring mental illness in substance abuse treatment and other settings: Validating the 22-item MMS. *International Journal on Addiction*. Submitted for publication Dec 2006

Alverson H, Alverson M, Drake RE (2000). An ethnographic study of the longitudinal course of substance abuse among people with severe mental illness. *Community Mental Health Journal* 36(6):557-69

American Society of Addiction Medicine (2001). *The Revised Second Edition of the ASAM Patient Placement Criteria*. Chevy Chase, MD: Publication ASAM PPC-2R, April.

Annapolis Coalition on the Behavioral Health Workforce www.annapoliscoalition.org (accessed Jan 15, 2007)

Bogenschutz MP, Geppert CMA, George J (2006). The role of twelve step approaches in dual diagnosis treatment and recovery. *American Journal on Addictions* 15: 50-60

Bellack AS, DiClemente CC (1999). Treating substance abuse among patients with schizophrenia. *Psychiatric Services*, 50: 75-80

Bond GR, Witheridge TF, Dincin J, Wasmer D (1991). Assertive community treatment: correcting some misconceptions. *American Journal of Community Psychology* 19(1): 41-51

- Brunette MF, Mueser KT, Drake RE (2004). A review of research on residential programs for people with severe mental illness and co-occurring substance use disorders. *Drug Alcohol Review* 23(4): 471-81
- Bureau of Justice Statistics (2006). *Special Report: Mental health problems of prison and jail inmates*. US Department of Justice, Office of Justice Programs, September (#NCJ 213600)
- Carey MP, Weinhardt L, Carey KB (1995). Prevalence of infection with HIV among the seriously mentally ill: Review of research and implications for practice. *Professional Psychology: Research and Practice* 26: 262-268
- Caton CL, Shrout PE, Eagle PF, Opler LA, Felix A, Dominguez B (1994). Risk factors for homelessness among schizophrenic men: a case control study. *American Journal of Public Health* 84: 265-270
- Caton CL, Shrout PE, Dominguez B, Eagle PF, Opler LA, Cournos F (1995). Risk factors for homelessness among women with schizophrenia. *American Journal of Public Health* 85: 1153-1156
- Caton CLM, Dominguez B, Schanzer B, Hasin DS, Shrout PE, Felix A, McQuiston H, Opler LA, Hsu E (2005). Risk factors for long-term homelessness: Findings from a longitudinal study of first-time homeless single adults. *American Journal of Public Health* 95(10): 1753-1759
- Clarke, RE (2001) Family support and substance use outcomes for persons with mental illness and substance use disorders. *Schizophrenia Bulletin* 27: 93-101
- Culhane DP, Avery JM, Hadley TR (1997). The rate of public shelter admission among Medicaid-reimbursed users of behavioral health services. *Psychiatric Services* 48(3): 390-392
- Culhane DP, Avery J, Hadley TR (1998). The prevalence of treated behavioral disorders among adult shelter users. *American Journal of Orthopsychiatry* 26: 207-232
- Culhane DP, Metraux SM (1999). One-year rates of public shelter utilization in NYC (1990, 1995) and Philadelphia (1995). *Population Research and Policy Review* 18: 219-236
- Dickey B, Azeni H (1996). Persons with dual diagnoses of substance abuse and major mental illness: Their excess costs of psychiatric care. *American Journal of Public Health* 86: 973-977

- Dickey B, Azeni H, Weiss R, Sederer L (2000). Schizophrenia, substance use disorders and medical co-morbidity. *Journal of Mental Health Policy and Economics* 3: 27-33
- Dickey B, Normand S-LT, Weiss RD, Drake RE, Azeni H (2002). Medical morbidity, mental illness and substance use disorders. *Psychiatric Services* 53(7): 861-867
- Dickey B, Dembling B, Azeni H, Normand S-L (2004). Externally caused deaths for adults with substance use and mental disorders. *Journal of Behavioral Health Services and Research* 31(1): 75-85
- Draine J, Salzer MS, Culhane DP, Hadley TR (2002). Role of social disadvantage in crime, joblessness, and homelessness among persons with serious mental illness. *Psychiatric Services* 53: 565-73
- Drake RE, Yovetich NA, Bebout RR, Harris M, McHugo GJ (1997). Integrated treatment for dually diagnosed homeless adults. *Journal of Nervous and Mental Disease* 185(5): 298-305
- Drake RE, Essock SM, Shaner A, Carey KB, Minkoff K, Kola L, Lynde D, Osher FC, Clark RE, Rickards L (2001). Implementing dual diagnosis services for clients with severe mental illness. *Psychiatric Services* 52(4): 469-476
- Drake RE, Wallach MA, McGovern MP (2005). Future directions in preventing relapse to substance abuse among clients with severe mental illness. *Psychiatric Services* 56: 1297-1302
- Drake RE, McHugo, Xie H, Fox M, Packard J, Helmstetter B (2006) Ten- Year recovery outcomes for clients with co occurring schizophrenia and substance use disorders. *Schizophrenia Bulletin* 32: 464-473
- Drake RE, Yovetich NA, Bebout RR, Harris M, McHugo GJ (1997). Integrated treatment for dually diagnosed homeless adults. *Journal of Nervous and Mental Disease* 185(5): 298-305
- Drake RE, Mueser KT, Brunette MF, McHugo GJ (2004). A review of treatments for people with severe mental illnesses and co-occurring substance use disorders. *Psychiatric Rehabilitation Journal* 27(4): 360-74
- Essock SM, Mueser KT, Drake RE, Covell NH, McHugo GJ, Frisman LK, Kontos NJ, Jackson CT, Townsend F, Swain K (2006). Comparison of ACT and standard case management for delivering integrated treatment for co-occurring disorders. *Psychiatric Services* 57: 185-196

Gearon JS, Kaltman SI, Brown C, Bellack AS (2003). Traumatic life events and PTSD among women with substance use disorders and schizophrenia. *Psychiatric Services* 54: 523-528

Graham HL (2004). Implementing integrated treatment for co-existing substance use and severe mental health problems in assertive outreach teams: training issues. *Drug and Alcohol Review* 23(4): 463-470

Haddock G, Barrowclough C, Tarrier N, Moring J, O'Brien R, Schofield N, Quinn J, Palmer S, Davies L, Lowens I, McGovern J, Lewis S (2003). Randomised controlled trial of cognitive-behavioural therapy and motivational intervention for schizophrenia and substance use. Carer and economic outcomes at 18 months. *British Journal of Psychiatry* 183: 418 –426

Haugland G, Alexander MJ (2004). *Utility of DALI screen for co-occurring disorders in diverse settings*. Presented at NIDA/NIAAA/NIMH Conference on Complexities of Co-occurring Conditions, Washington DC.

Hellerstein DJ, Rosenthal RN, Miner CR (1995). A prospective study of integrated OP treatment for substance abusing schizophrenic outpatients. *American Journal on Addictions* 4: 33-42

Hiday VA, Swartz MS, Swanson JW, Borum R, Wagner HR (1999). Criminal victimization of persons with severe mental illness. *Psychiatric Services* 50: 62-68

[IDDT Toolkit] Implementing IDDT: A step by step guide to stages of organizational change. www.ohiosamcicoe.case.edu (accessed Jan 11, 2007)

Institute of Medicine, Committee on Quality Health Care in America (2001). *Crossing the Quality Chasm: A new health system for the 21st century*. National Academy Press: Washington DC

James W, Preston NJ, Koh G, Spencer C, Kisely SR, Castle DJ (2004). A group intervention which assists patients with dual diagnosis reduce their drug use: a randomized controlled trial. *Psychological Medicine* 34: 983-990

Kessler RC, Berglund P, Zhao S (1996). The twelve-month prevalence and correlates of serious mental illness (SMI). In: Manderscheid RW, Sonnenschein MA, eds. *Mental health, United States, 1996*. Washington DC: U.S. Department of Health and Human Services, pp 59-70

Kessler RC, Chiu WT, Demler O, Walters EE (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry* 62: 617-27

Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, Wittchen HU, Kendler KS (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. *Archives of General Psychiatry* 51: 8-19

Kessler RC, Nelson CB, McGonagle KA, Edlund MJ, Frank RG, Leaf PJ (1996). The epidemiology of co-occurring addictive and mental disorders: Implications for prevention and service utilization. *American Journal of Orthopsychiatry* 66: 17-31

Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry* 62(6): 593-602

Kessler RC (2004). The epidemiology of dual diagnosis. *Biological Psychiatry* 56(10): 730-737

Laudet AB, Magura S, Vogel HS, Knight E (2000). Support, mutual aid and recovery from dual diagnosis. *Community Mental Health Journal* 36: 457-475

Laudet AB, Cleland, CM, Magura S, Vogel HS, Knight EL (2004). Social support mediates the effects of dual-focus mutual aid groups on abstinence from substance use. *American Journal of Community Psychology* 34: 175-185

Laudet AB, Magura S, Vogel HS, Knight EL (2004). Perceived reasons for substance misuse among persons with a psychiatric disorder. *American Journal of Orthopsychiatry* 74(3): 365-75

Lehman AF, Cordray DS (1993). Prevalence of alcohol, drug, and mental disorders among the homeless: one more time. *Contemporary Drug Problems* 20: 355-383

Magura S, Laudet AB, Mahmood D, Rosenblum A, Knight E (2002). Adherence to medication regimens and participation in dual-focus self-help groups. *Psychiatric Services* 53: 310-316

Maisto SA, Carey MP, Carey KB, Gordon CM, Gleason JR (2000). Use of the AUDIT and the DAST-10 to identify alcohol and drug use disorders among adults with a severe and persistent mental illness. *Psychological Assessment* 12(2): 186-192

McHugo GJ, Drake RE, Brunette MF, Xie H, Essock SM, Green AI (2006). Enhancing validity in co-occurring disorders treatment research. *Schizophrenia Bulletin* 32(4): 655-665

Michaud CM, Murray CJL, Bloom BR (2001). Burden of disease – Implications for future research. *JAMA* 285: 535-539

Miller WR, Rollnick S (2002). *Motivational Interviewing, Second Edition: Preparing People for Change*. New York, NY: The Guilford Press

Minkoff K (2000). An integrated model for the management of co occurring psychiatric and substance use disorders in managed care systems. *Disease Management and Health Outcomes* 8: 251-257

Minkoff K (2001). Developing standards of care for individuals with co-occurring psychiatric and substance use disorders. *Psychiatric Services* 52: 597-599

Mueser KT, Essock SM, Drake RE, Wolfe RS, Frisman L (2001). Rural and urban differences in patients with a dual diagnosis. *Schizophrenia Research* 48(1): 93-107

Mueser KT, Drake RE, Sigmon SC, Brunette MF (2005). Psychosocial interventions for adults with severe mental illnesses and co-occurring substance use disorders: A review of specific interventions. *Journal of Dual Diagnosis* 1(2): 57–82

Mueser KT, Goodman LB, Trumbetta SL, Rosenberg SD, Osher C, Vidaver R, Auciello P, Foy DW (1998). Trauma and posttraumatic stress disorder in severe mental illness. *Journal of Consulting and Clinical Psychology* 66(3): 493-499

Mueser KT, Aalto S, Becker DR, Ogden JS, Wolfe RS, Schiavo D, Wallace CJ, Xie H (2005). The effectiveness of skills training for improving outcomes in supported employment. *Psychiatric Services* 56(10): 1254-60

Murray CJL, Lopez AD (1996). *The global burden of disease and injury series, volume 1: A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Cambridge, MA, Harvard School of Public Health on behalf of the World Health Organization and World Bank, Harvard University Press

Narrow WE, Rae DS, Robins LN, Regier DA (2002). Revised prevalence estimates of mental disorders in the United States: Using a clinical significance criterion to reconcile 2 surveys' estimates. *Archives of General Psychiatry* 59: 115-123

National Association of State Mental Health Program Directors/National Association of State Alcohol and Drug Abuse Directors (1998). *The new conceptual framework for co-occurring mental health and substance use disorders*. Washington, DC. NASMHPD/NASADAD http://www.nasadad.org/index.php?base_id=100 (accessed June 1, 2007)

New Freedom Commission on Mental Health (2003). *Achieving the Promise: Transforming Mental Health Care in America. Final Report* (DHHS publication SMA-03-3832). Rockville, MD

NSDUH 2004 Substance Abuse and Mental Health Services Administration (2005). *Results from the 2004 National Survey on Drug Use and Health: National Findings*. (Office of Applied Studies, NSDUH Series H-28, DHHS Publication No. SMA 05-4062). Rockville, MD

NSDUH 2005 Substance Abuse and Mental Health Services Administration (2006). *Results from the 2005 National Survey on Drug Use and Health: National Findings*. (Office of Applied Studies, NSDUH Series H-30, DHHS Publication No. SMA 06-4194). Rockville, MD

Office of Juvenile Justice and Delinquency Prevention (2001). *Assessing alcohol, drug, and mental disorders in juvenile detainees*. www.ncjrs.gov/pdffiles1/ojjdp/fs200102.pdf (accessed Jan 16, 2007)

Osher FC, Drake RE (1996). Reversing a history of unmet needs: Approaches to care for persons with co-occurring addictive and mental disorders. *American Journal of Orthopsychiatry* 66: 4-11

Prochaska JO, DiClemente CC, Norcross JC (1992). In search of how people change: Applications to addictive Behaviors. *American Psychologist* 47: 1102-1114

Regier DA, Farmer ME, Rae DS, Locke BZ, Keith SJ, Judd LL, Goodwin FK (1990). Comorbidity of mental disorders with alcohol and other drug abuse. Results from the Epidemiologic Catchment Area (ECA) Study. *JAMA* 264: 2511-2518

Rice DP, Kelman S, Miller LS, Dunmeyer S. *The economic costs of alcohol and drug abuse and mental illness: 1985*. Report submitted to the Office of Financing and Coverage Policy of the Alcohol, Drug Abuse and Mental Health Administration of the DHHS. Publication No (ADM) 90-1694.

Rollins AL, O'Neill SJ, Davis KE, Devitt TS (2005). Substance abuse relapse and factors associated with relapse in an inner city sample of patients with dual diagnoses. *Psychiatric Services* 56(10): 1274-1281

Rosenberg SD, Drake RE, Brunette MF, Wolford GL, Marsh BJ (2005). Hepatitis C virus and HIV co-infection in people with severe mental illness and substance use disorders. *AIDS* 19 (suppl 3): S26-S33

Rosenberg SD, Drake RE, Wolford GL, Mueser KT, Oxman TE, Vidaver RM, Carrieri KL, Luckoor R (1998). Dartmouth Assessment of Lifestyle Instrument (DALI): a substance use disorder screen for people with severe mental illness. *American Journal of Psychiatry* 155(2): 232-238

Sacks S, Sacks JY, McKendrick K, Banks S, Stommel J (2004). Modified TC for MICA offenders: crime outcomes. *Behavioral Science and Law* 22(4): 477-501

Steadman HJ, Mulvey EP, Monahan J, Clark-Robbins P, Applebaum PS, Grisso T, Roth LH, Silver E (1998). Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods. *Archives of General Psychiatry* 55: 393-401

Substance Abuse and Mental Health Services Administration (2002). *Report to Congress on the Prevention and Treatment of Co-occurring Substance Abuse Disorders and Mental Disorders* U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration

Swanson JW, Swartz MS, Van Dorn RA, Elbogen EB, Wagner HR, Rosenheck RA, Stroup TS, McEvoy JP, Lieberman JA (2006). A national study of violent behavior in persons with schizophrenia. *Archives of General Psychiatry* 63: 490-499

Teplin LA (1990). The prevalence of severe mental disorder among male urban jail detainees: comparison with the Epidemiologic Catchment Area Program. *American Journal of Public Health*. 80(6), 663-669.

Teplin LA, Abram KM, McClelland GM, Dulcan MK, Mericle AA (2002). Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry*. 59(12): 1133-1143

Teplin LA, McClelland GM, Abram KA, Weiner DA (2005). Crime victimization in adults with severe mental illness. *Archives of General Psychiatry* 62: 911-921

[TIP-42.] Center for Substance Abuse Treatment (2005). *Substance Abuse Treatment for Persons with Co-Occurring Disorders*. Treatment Improvement Protocol (TIP) Series 42. DHHS Publication No. (SMA) 05-3992. Rockville, MD: Substance Abuse and Mental Health Services Administration

Wolford GL, Rosenberg SD, Drake RE, Mueser KT, Oxman TE, Hoffman D, Vidaver RM, Luckoor R, Carrieri KL (1999). Evaluation of methods for detecting substance use disorder in persons with severe mental illness. *Psychology of Addictive Behaviors* 13(4): 313-326, 238

Xie H, McHugo GJ, Fox MB, Drake RE (2005). Substance abuse relapse in a ten year prospective follow up of clients with mental and substance abuse disorders. *Psychiatric Services* 56: 1282-1287

Xie H, Drake RE, McHugo GJ (2006). Are there distinctive trajectory groups in substance abuse remission over 10 years? An application of the group-based modeling approach. *Administration and Policy in Mental Health* 33(4): 423-432