

Treatment of Schizophrenia

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DSM-5 Criteria for Schizophrenia

A. Two or more symptoms present for at least 1 month

- **Delusions**
- **Hallucinations**
- **Disorganized speech**
- **Grossly disorganized or catatonic behavior**
- **Negative symptoms**

DSM-5 Criteria for Schizophrenia, *continued*

B. Social and occupational functioning:

- significant impairment in work, academic performance, interpersonal relationships, and/or self-care

C. Duration:

- continuous signs of the disturbance for **at least 6 months**
- at least 1 month of this period must include symptoms that meet Criterion A.

Positive (Psychotic) Symptoms

Delusions

- Persecutory
- Delusions of Reference
- Grandiose Delusions
- Delusions of Thought Insertion

Hallucinations

Disorganized Thought and Speech

Disorganized or Catatonic Behavior

Negative Symptoms

Affective Flattening (or Blunted Affect)

- Severe reduction or complete absence of affective (emotional) responses to the environment

Alogia

- Severe reduction or complete absence of speech

Avolition

- Inability to persist at common, goal-oriented tasks

Other Psychotic Disorders

Schizophreniform

Schizoaffective Disorder

Delusional Disorder

Brief Psychotic Disorder

Schizotypal Personality Disorder

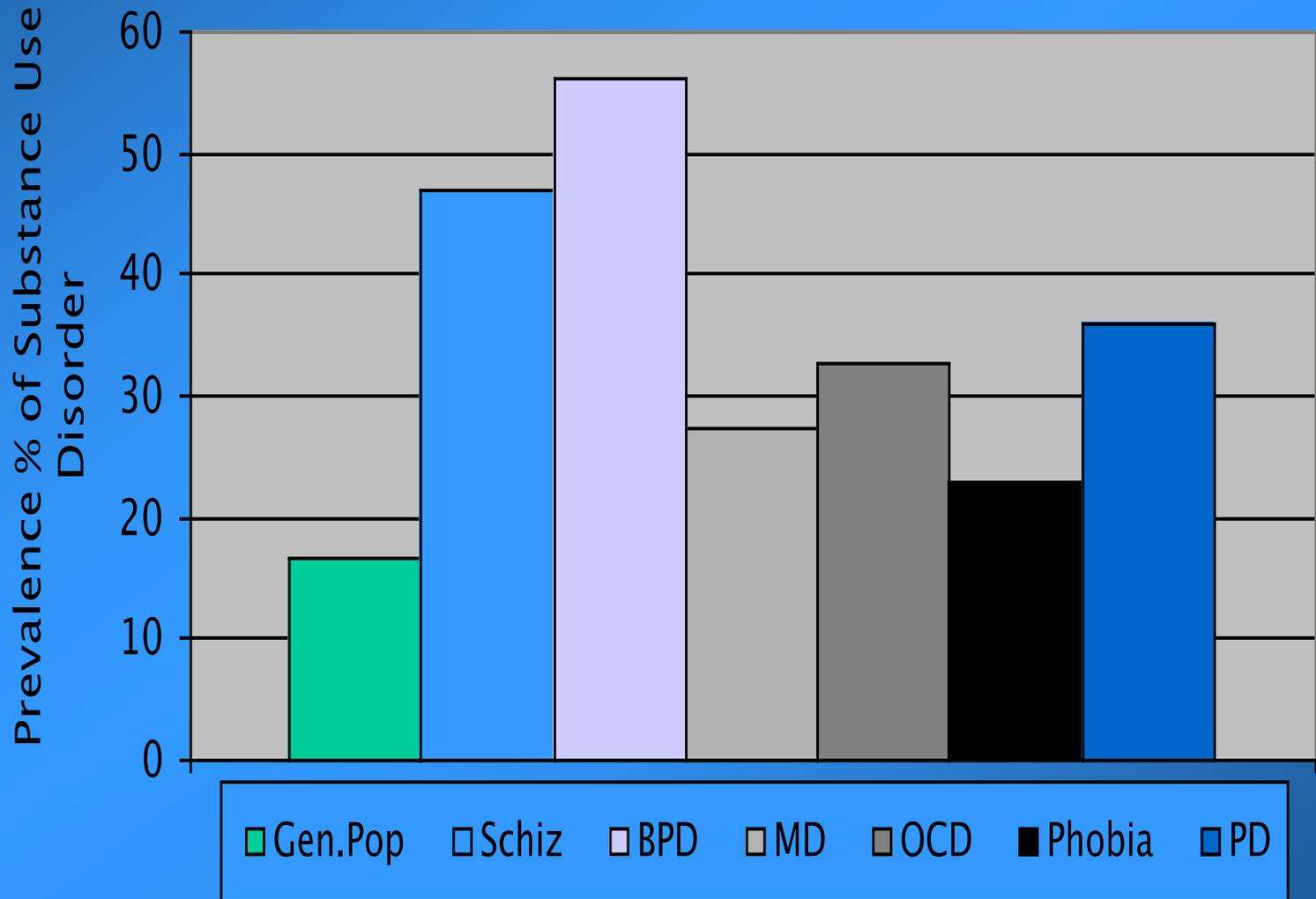
Diagnostic Criteria for Schizoaffective Disorder

- A. An uninterrupted period of illness during which, at some time, there is either a Major Depressive Episode, a Manic Episode, or a Mixed Episode concurrent with symptoms that meet Criterion A for Schizophrenia.**
- B. During the same period of illness, there have been delusions or hallucinations for at least 2 weeks in the absence of prominent mood symptoms.**

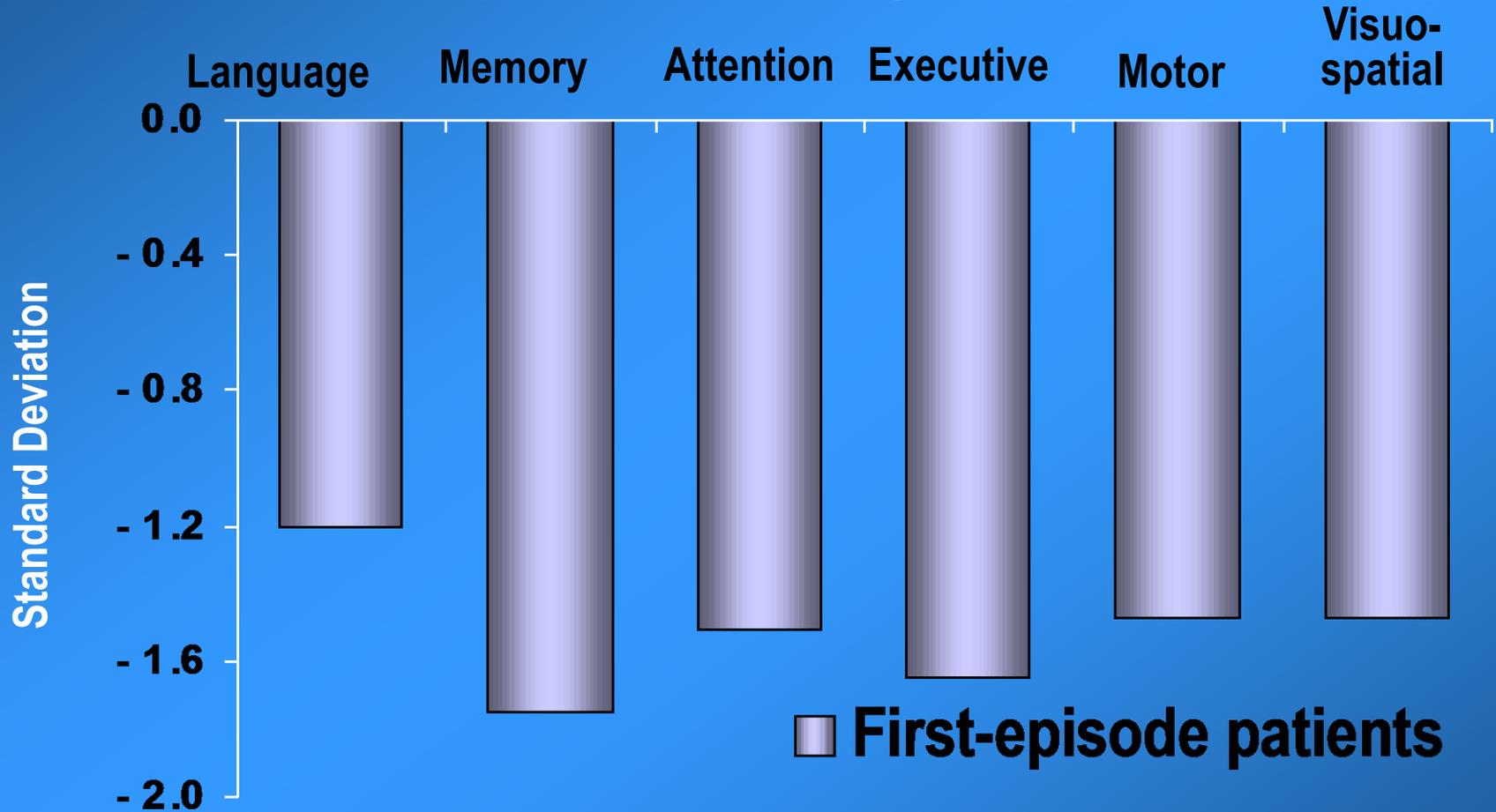
Other Common Comorbid Problems and Disorders

- **Cognitive impairment; some loss in cognitive functioning nearly universal**
- **Depression; lifetime risk of suicide about 7%, comparable to major mood disorders and substance use disorders**
- **Substance use disorders; lifetime prevalence is 50%, compared to 15% in general population**
- **Anxiety disorders, especially PTSD, either due to childhood or adult trauma, or experience of psychosis (rate: 25-40%)**
- **Medical problems, leading to premature mortality (death about 20 years earlier)**

Any Substance Use Disorder



Neuropsychological Scale Scores in First-Episode Patients Compared to Healthy Comparison Group



Filtering out extraneous stimuli. You probably have little difficulty filtering out unimportant stimuli, such as street sounds. But people with schizophrenia may be distracted by irrelevant stimuli and be unable to filter them out. Consequently, they may have difficulty focusing their attention and organizing their thoughts.



Epidemiology

- **1% lifetime prevalence, worldwide**
- **Average age at onset is 20-25 years old, more generally between ages 18-35, but later onset occurs**
- **Approximately same prevalence between men and women**
- **Women have later age at onset, somewhat more benign course**
- **Estrogen may be protective factor**

PRODOMAL PHASE

85% experience

1-2 years before serious symptoms

Less severe, yet unusual

- **Ideas of reference**
- **Magical thinking**
- **Illusions**
- **Increased anxiety/irritability**
- **Attention problems**
- **Social withdrawal**
- **Depression**

Course and Onset

- **Two developmental precursors:**
 - **Socially avoidant, shy, awkward (poor premorbid adjustment)**
 - **Conduct disorder, behavioral dysregulation**
- **Onset sometimes distinguished between rapid and insidious**
- **Development of schizophrenia most often occurs over 2-3 years before frank expression of psychotic symptoms**

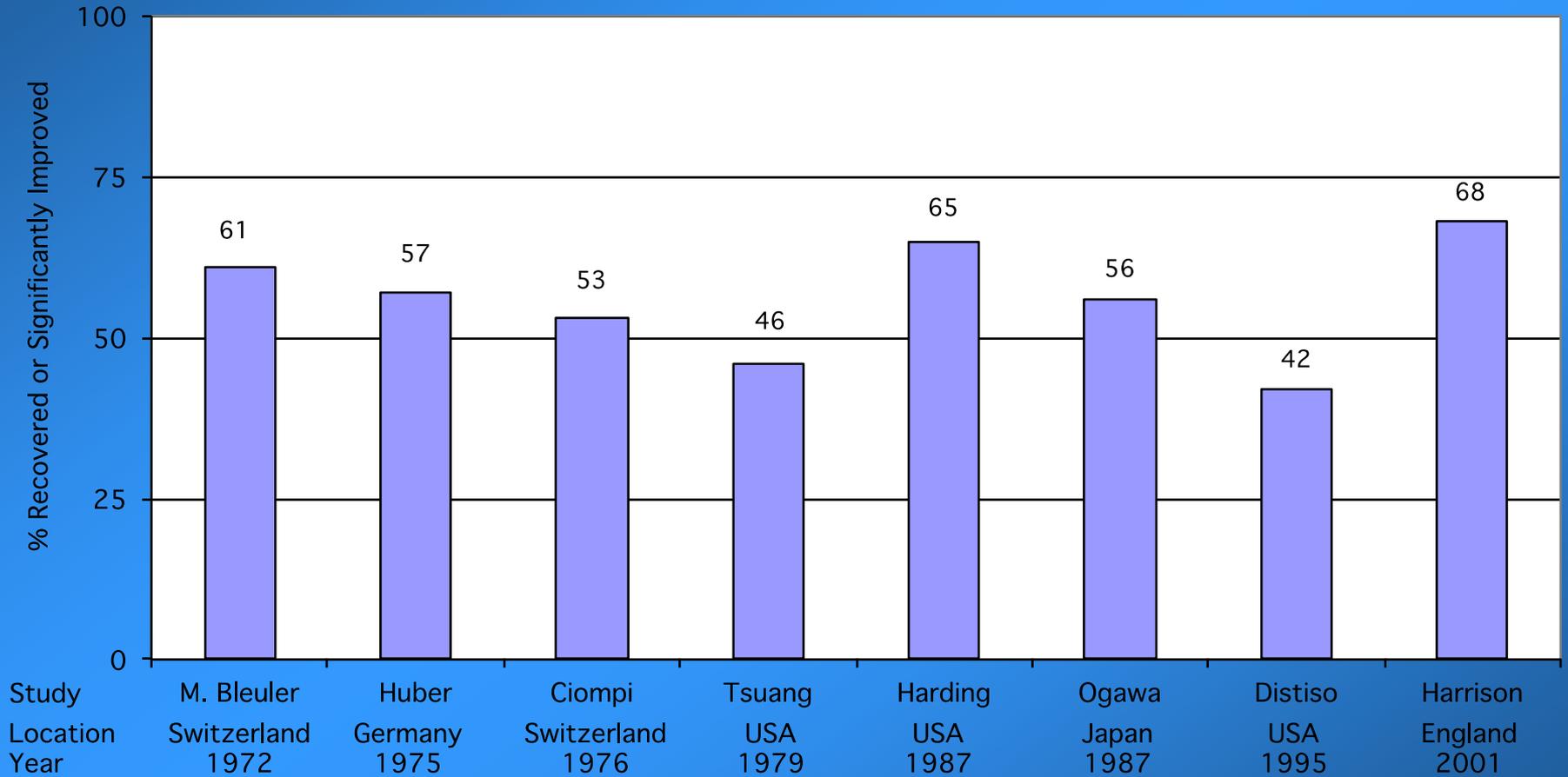
Duration of Untreated Psychosis (DUP)

- **Duration between onset of psychosis and treatment critical to stabilization and social functioning**
- **Longer DUP associated with longer time to stabilize symptoms and poorer social outcome (multiple studies)**
- **Possible more gradual onset is correlated with later DUP and contributes to worse outcome**
- **Reduction in DUP is major goal of first episode psychosis programs**

Long-term Course

- **Significant psychosocial impairment over the lifetime**
- **Fluctuating course of psychotic symptoms, at times requiring hospitalization for treatment**
- **Top 10 disease burdens of all diseases, both in developing and developed countries**
- **High cost of treatment**
- **Gradual improvement over the long-term, with significant rates of functional recovery**

Long-Term Follow-up Studies (Over 20 or More Years) of the Longitudinal Course of Schizophrenia



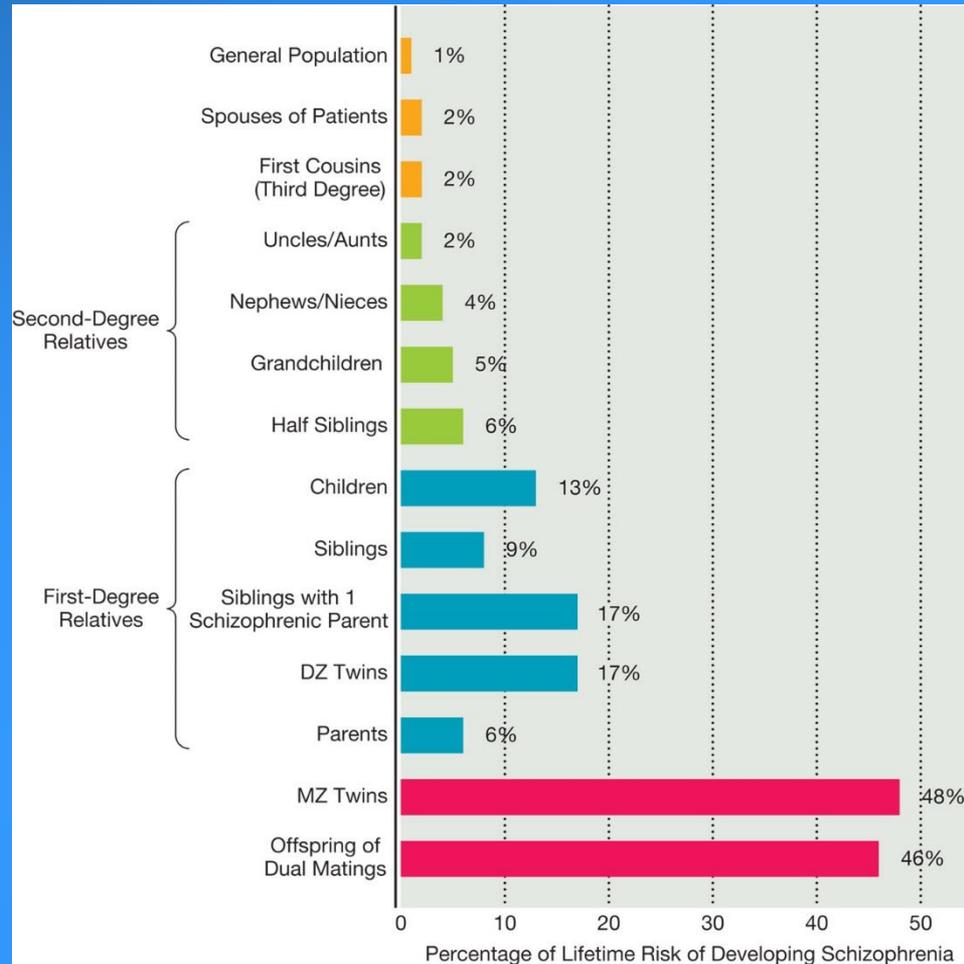
Etiology

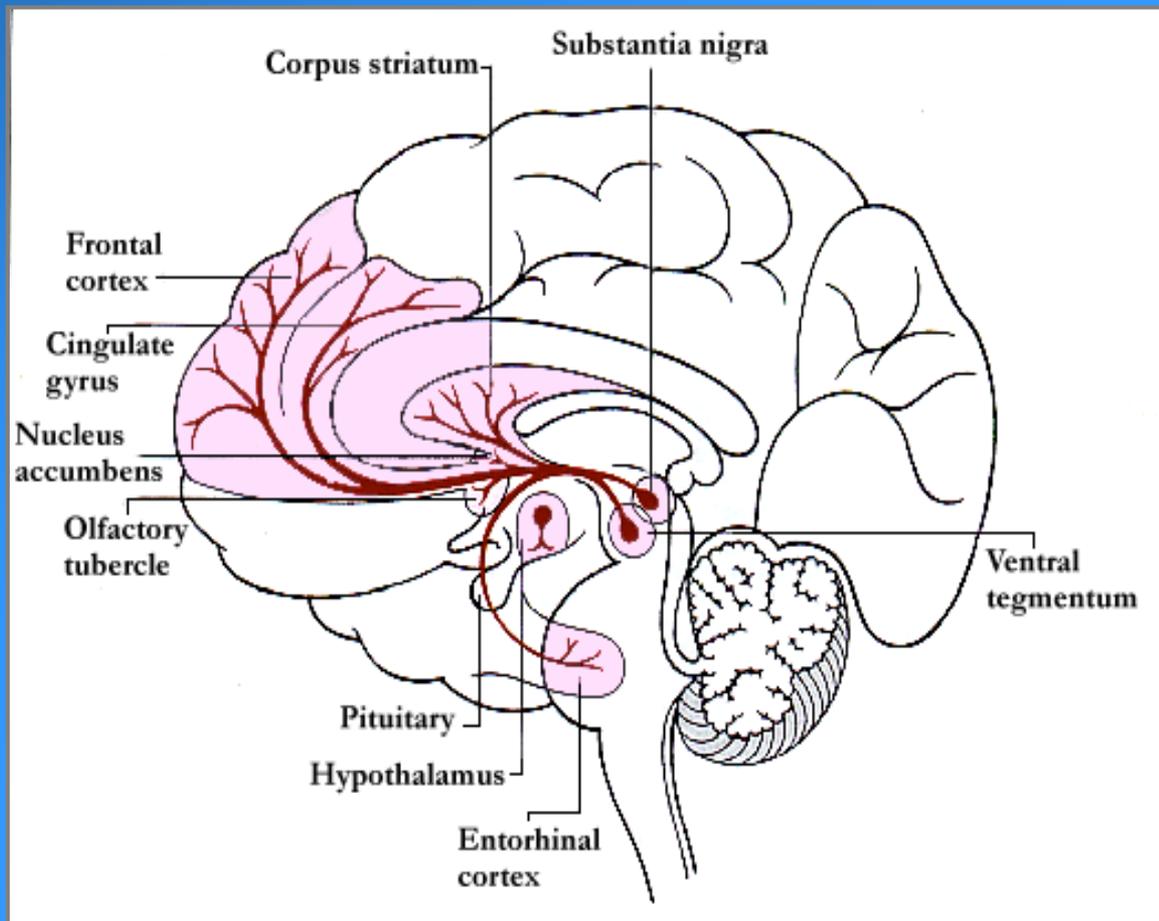
- **Genetic and psychosocial factors contribute to schizophrenia**
- **“Neurodevelopmental” hypothesis: vulnerability to disorder set at early age by combination of genetic and environmental-biological influences**
- **Risk of developing schizophrenia increases from 1% in general population to 10% in people with afflicted 1st degree relative; risk if monozygotic twin has disorder is 50%**
- **Prevailing biological theory of schizophrenia: dopamine hypothesis**

FIGURE 11.1

The familial risk of schizophrenia. Generally speaking, the more closely one is related to people who have developed schizophrenia, the greater the risk of developing schizophrenia oneself. Monozygotic (MZ) or identical twins, whose genetic heritages are identical, are much more likely than dizygotic (DZ) or fraternal twins, whose genes overlap by 50%, to be concordant for schizophrenia.

Source: Adapted from Gottesman et al., 1987.





Psychosocial Risk Factors

- **Obstetric complications**
- **Exposure to early life trauma (e.g., childhood sexual abuse) or adversity**
- **Birth and living in urban area**
- **Being ethnic/cultural minority**
- **Living in less cohesive, socially supportive neighborhood**
- **Poor family functioning?**

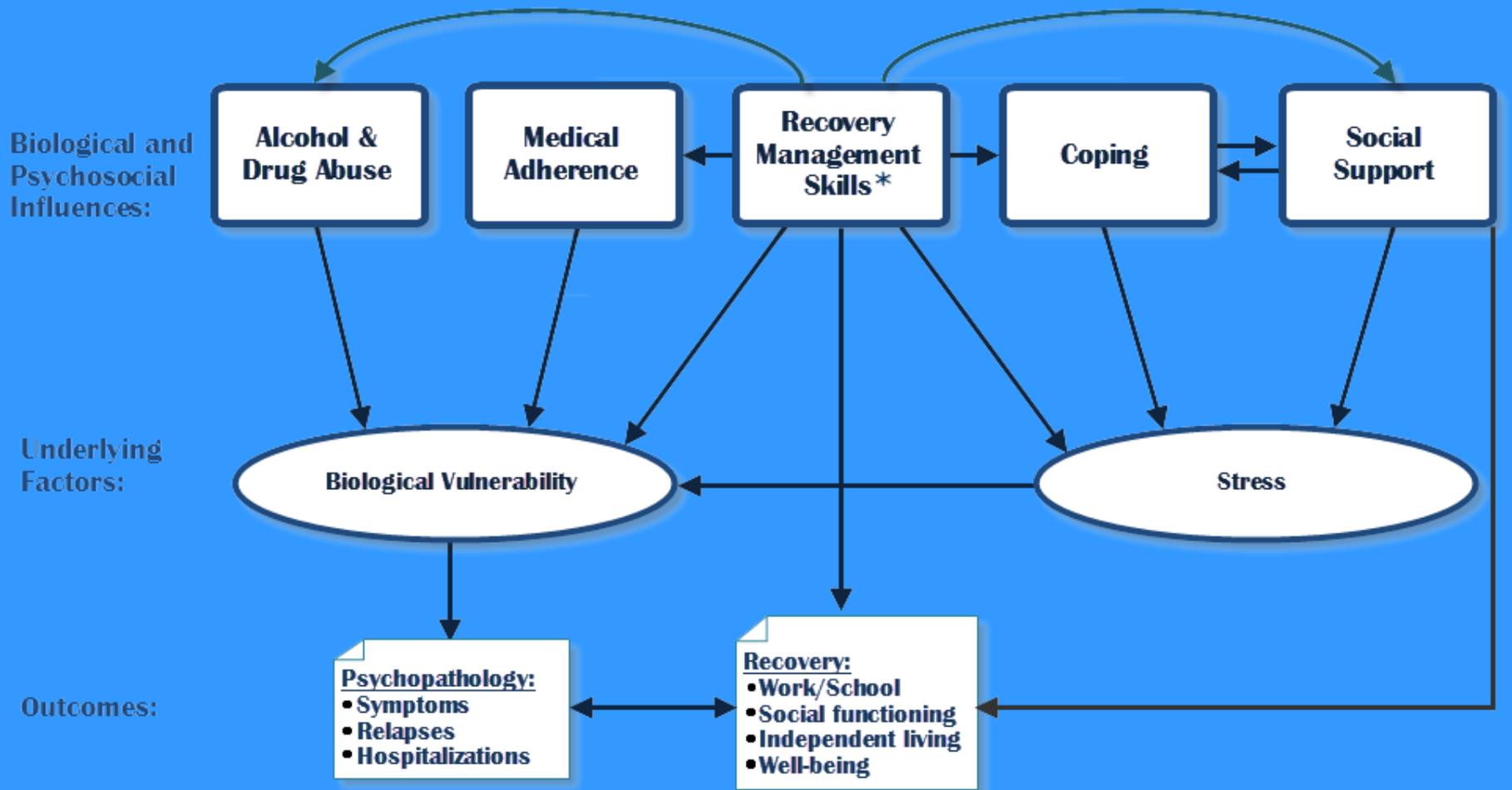
Other Risk Factors

- **Marijuana use, especially before age 15, predicts onset of schizophrenia**
- **Drug abuse associated with earlier age at onset**
- **Age of father at conception**
- **Maternal smoking**
- **Prenatal nutrition**
- **Viral infections**

Stress-Vulnerability Model

- **Zubin & Spring (1977), Nuechterlein & Dawson (1984), Mueser and Gingerich (2002)**
- **Hypothesizes schizophrenia and symptoms are result of psychobiological vulnerability**
- **Vulnerability interacts with the environment, including stress, social support, coping and other individual factors (e.g., “recovery skills”)**
- **Explaining model can reduce guilt or blame because illness is biological in nature, but increase hope because the severity and outcome of illness can be improved**
- **Model provides a general heuristic for the basics of illness management**

Expanded Stress Vulnerability Model



- *Recovery Management:**
- Pursuit of personal goals
 - Understanding of mental illness
 - Shared decision making
 - Relapse prevention plans

Treatment Principles Based on Stress -Vulnerability Model

Relapses and symptoms can be reduced, and progress towards recovery can be facilitated by :

- Antipsychotic medications**
- Minimization of drug & alcohol abuse**
- Reducing stress**
- Increasing social support**
- Increasing coping skills**
- Enhancing recovery skills (e.g., teaching about illness, developing relapse prevention plans, pursuit of personally meaningful goals)**

Pharmacological Treatment

- **Antipsychotic medications are mainstay of treatment**
- **Major effects: reduction of psychotic symptoms and prevention of relapses**
- **Negligible effects on negative symptoms or cognitive impairment**
- **Limited effects on depression, but may prevent suicide, especially in recent onset cases**
- **Limited effects on psychosocial functioning**
- **Problem of adherence**
- **Some beneficial effects of adjunctive medications (e.g., antidepressants, mood stabilizers)**

Classes of Antipsychotic Medications

- **First vs. second generation (conventional vs. atypical)**
- **Primary difference in blockade of serotonin in certain brain areas**
- **Common side effects: weight gain, sedation**
- **Differences in side effect profiles**
- **Conventional antipsychotic side effects: akathisia, akinesia, muscle stiffness, orthostatic hypotension, tardive dyskinesia**
- **Atypical antipsychotic side effects: metabolic syndrome, increased vulnerability to diabetes**
- **Limited or no effects on cognitive functioning**

First Generation/ Conventional Antipsychotics

- **Thorazine**
- **Haloperidol***
- **Fluphenazine***
- **Molindone**
- **Thiothixene**
- **Loxapine**
- **Perphenazine**
- **Trifluoperazine**

***available in long-acting (injectable preparations)**

Second Generation/ Atypical Antipsychotics

- **Risperidone***
- **Ziprasidone***
- **Aripiprazole**
- **Clozapine**
- **Quetapine**
- **Olanzapine**
- **Paliperidone**

***available in long-acting (injectable
preparations)**

Clozapine

- **First atypical antipsychotic discovered in 1970s**
- **Restricted use in the U.S. until 1990s because of agranulocytosis (reduction in white blood cell count)**
- **Requires monitoring of white blood cell count for safety**
- **Demonstrated efficacy for treatment refractory clients who have not responded to at least 2 other antipsychotics (at least 1 atypical)**
- **Superior effects on:**
 - **Psychotic symptoms**
 - **Negative symptoms**
- **Also recommended for clients with severe tardive dyskinesia**
- **Shown to reduce suicide attempts and completed suicides**

Medication Non-adherence

- **Common problem, especially early in course of illness (> 50%)**
- **Common reasons for non-adherence:**
 - **Lack of insight/denial of illness**
 - **Belief that medication is a “crutch”**
 - **Medication side effects**
 - **Poor understanding of role of antipsychotics in treatment**
 - **Apathy, not caring about relapses or hospitalizations**
 - **Forgetting to take them**
 - **Lack of family or other social support**

Addressing Medication Non-adherence

- Provide information about medication, effects, side effects
- Engage client in shared decision-making process about decision to use medication and which types
- Connect client's personal with effects of medications (i.e., motivational interviewing)
- Elicit and address concerns about effects and side effects
- Simplify medication regimen to increase adherence (# of different medications and # of times taken per day)
- Help client incorporate taking medication into daily routine (i.e., behavioral tailoring)
- Use pill boxes and other types of organizers
- Consider alarms and other types of reminders
- Help client practice discussing medication issues with prescriber
- Consider injectable medications

Psychosocial Treatment / Psychiatric Rehabilitation

- **Primary advances in treatment over past 20-30 years are in psychosocial treatment / psychiatric rehabilitation**
- **“Rehabilitation” traditionally distinguished from “treatment by former focus on functioning and latter focus on symptoms or impairments**
- **Functional impairment integral to schizophrenia; psychosocial interventions often focus on both, hence terms used interchangeably**

Psychiatric Rehabilitation Methods

- **Rehabilitation approaches generally improve functioning by:**
 - **Providing environmental supports**
 - **Teaching information and skills**
- **Most programs use combination of approaches, with primary emphasis on one or the other**
- **Extensive research supports effectiveness of growing number of rehabilitation programs**
- **However, implementation of effective practices remains a significant problem**

Evidence-based Psychosocial Interventions

- Family psychoeducation*
- Supported employment*
- Assertive community treatment (ACT)*
- Illness management and recovery**
- Social skills training**
- Cognitive-behavioral therapy for psychosis**
- Cognitive remediation**
- Integrated treatment for co-occurring substance use disorders**

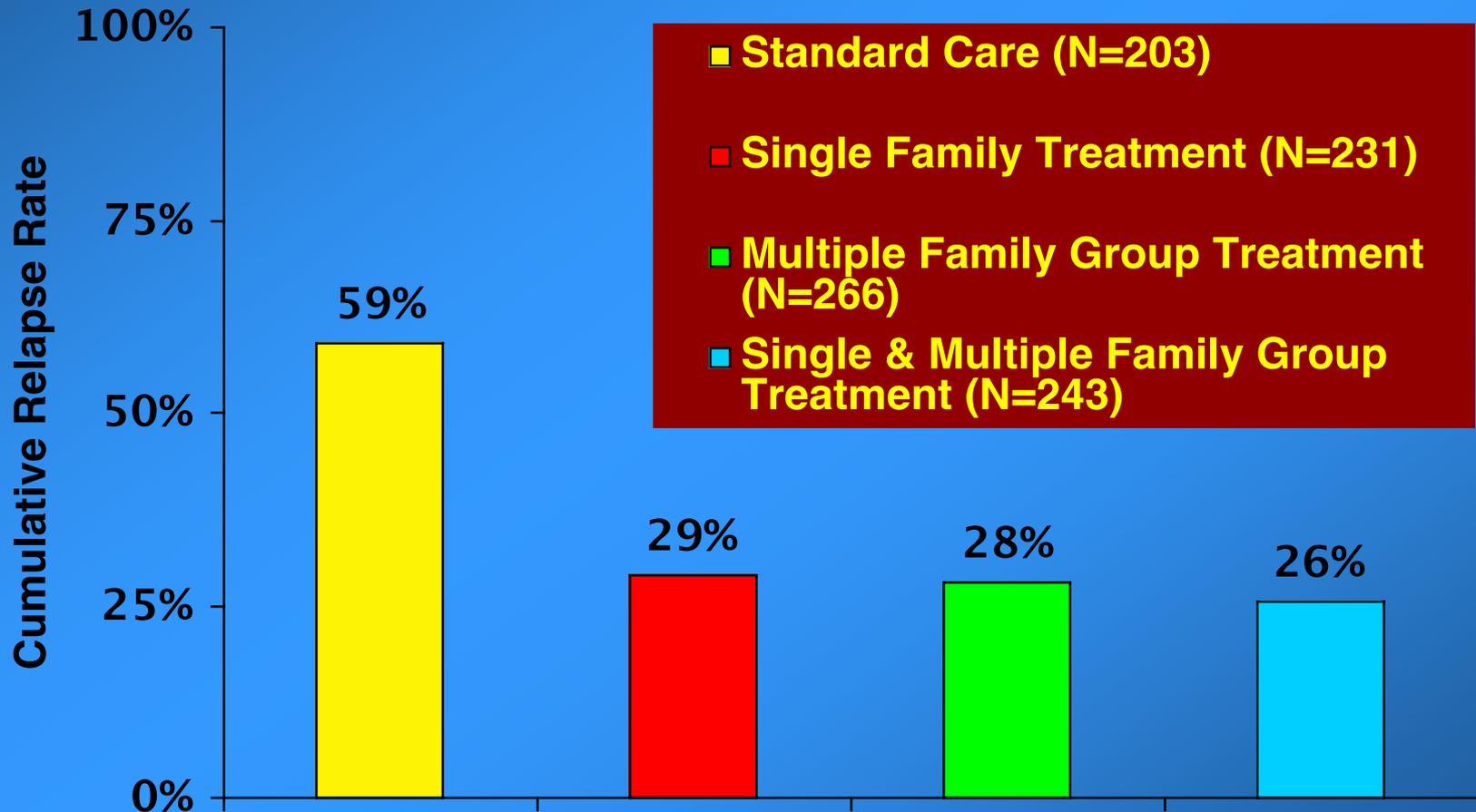
*Primarily based on providing environmental supports

**Primarily based on teaching information and skills

Family Psychoeducation

- **Aimed at helping family members (including client) nature of schizophrenia and principles of treatment in order to reduce family stress and caregiver burden of illness and facilitate collaboration with treatment team**
- **Multiple treatment models established**
- **Longer-term (9-24 months) programs delivered by professionals who: provide education, avoid blaming family, empathize with challenges of relatives, teach skills to reduce stress and improve communication, and foster development of all members**
- **Research shows family psychoeducation reduces relapses and rehospitalizations, decreases family burden, and has modest effects on improving client functioning**

Effects of Family Psychoeducation for Schizophrenia on Relapses Over 2 Years



SECOND EDITION

BEHAVIORAL
FAMILY THERAPY
FOR
PSYCHIATRIC
DISORDERS

KIM T. MUESER
SHIRLEY M. GLYNN

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Helping Your Loved One Get the Most Out of Life

The **Complete** **Family Guide** *to* **Schizophrenia**



- ◆ Understand the illness
- ◆ Head off relapses and reduce symptoms
- ◆ Learn about recovery
- ◆ Improve work and relationships
- ◆ Solve problems as a family
- ◆ Plan for the future

Kim T. Mueser, PhD and Susan Gingerich, MSW

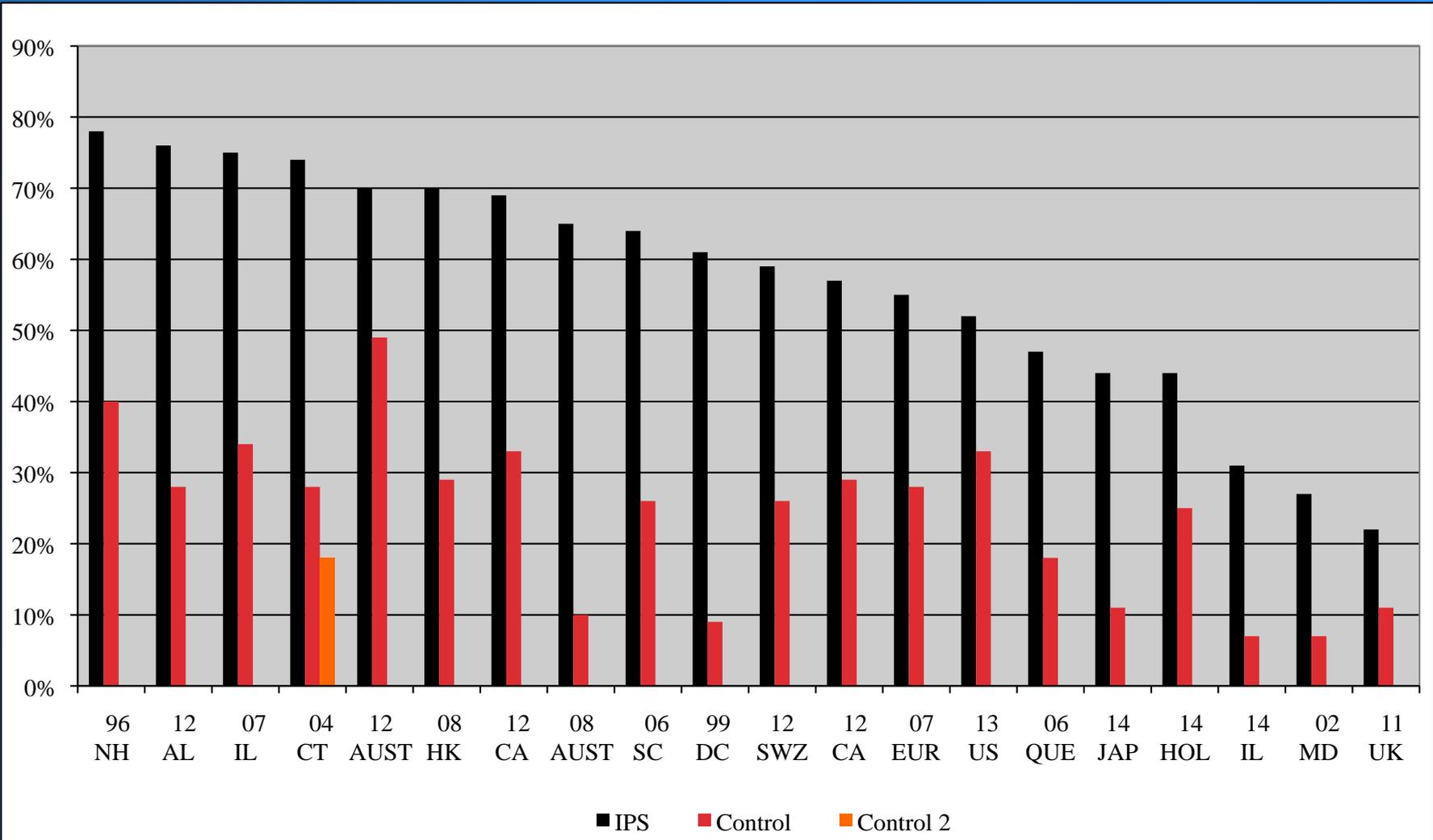
Supported Employment

- Low rates of competitive employment despite fact that most people want work
- Traditional vocational programs that focus on prevocational skills training and non-competitive work don't improve work outcomes
- Supported employment focuses on rapid job search for competitive jobs, and provision of follow-along supports as needed

Supported Employment Principles

- Program eligibility is based on client choice
- Integration of vocational and clinical
- Competitive employment is the goal
- Job search starts soon after client expresses interest in work
- Follow-along supports are continuous
- Client preferences are important (e.g., job type, disclosure)
- All clients receive benefits counseling

Competitive Employment Rates in 20 Randomized Controlled Trials of Individual Placement and Support

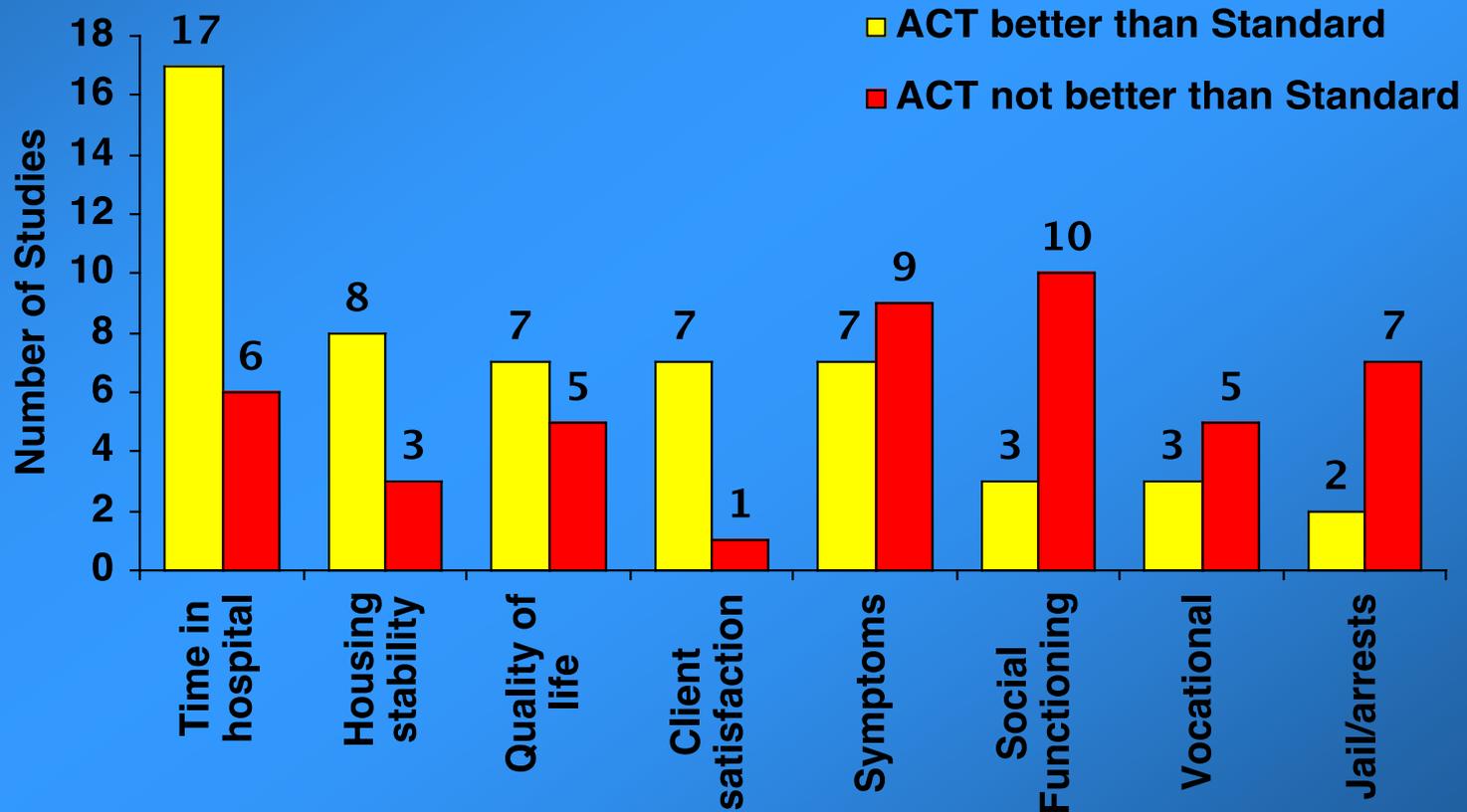


Assertive Community Treatment (ACT)

- Developed to address poor follow-through with outpatient care at CMHCs, leading to frequent hospitalizations
- Philosophy: Bring treatment to the community for persons who won't get it themselves
- **Principles of ACT**
 - 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

25 Studies



Illness Management and Recovery Program (IMR)

- **Focus of program on learning how to manage symptoms and prevent relapses in order to achieve personal goals**
- **5 to 10 months of weekly or twice weekly sessions**
- **11 educational handouts (e.g., Recovery Strategies, Facts About Mental Illness, Preventing Relapses, Using Medications, Building Social Support, Reducing Stress)**
- **Practitioners use motivational, educational, and cognitive behavioral techniques**
- **Clients set and pursue personal recovery goals**
- **Clients practice skills in IMR sessions**
- **Home assignments are developed together**
- **Significant others are involved**
- **Effectiveness supported by multiple controlled studies**

Social Skills Training

- **Focus on improving social functioning through systematic teaching of specific skills, based on social learning principles:**
 - **Modeling**
 - **Role playing**
 - **Positive and corrective feedback**
 - **More role playing**
 - **Home practice**
 - **In vivo trips to community**
- **Used to address wide range of areas of social functioning (starting conversations, making friends, work-related skills, leisure and recreation)**

Effects of SST on Proximal & Distal Outcomes

<u>Proximal</u>	<u>Mediational</u>	<u>Intermediate</u>	<u>Intermediate</u>	<u>Distal</u>
Mastery tests of SST curriculum	Performance-based tests of social & daily living skills	Psychosocial functioning	Negative symptoms	Other symptoms & relapses

ES = 1.20 ES = .57 ES = .52 ES = .40 ES = .23

Proximal -----> Distal

SECOND EDITION

Social Skills Training for Schizophrenia

A Step-by-Step Guide

Alan S. Bellack

Kim T. Mueser

Susan Gingerich

Julie Agresta

CBT for Psychosis

- **Initial focus on psychotic symptoms; subsequent attention to impaired social functioning**
- **Based on concept that interpretations (cognition) of events influence feelings and behavior, but they may be wrong (e.g., beliefs about voices or how other people perceive oneself)**
- **Collaborative partnership with client**
- **Education about effects of stress and shared formulation about origins of symptoms**
- **Exploration with client about alternative interpretations for psychotic symptoms**
- **Non-confrontational**
- **Behavioral tests to check out beliefs and assumptions**

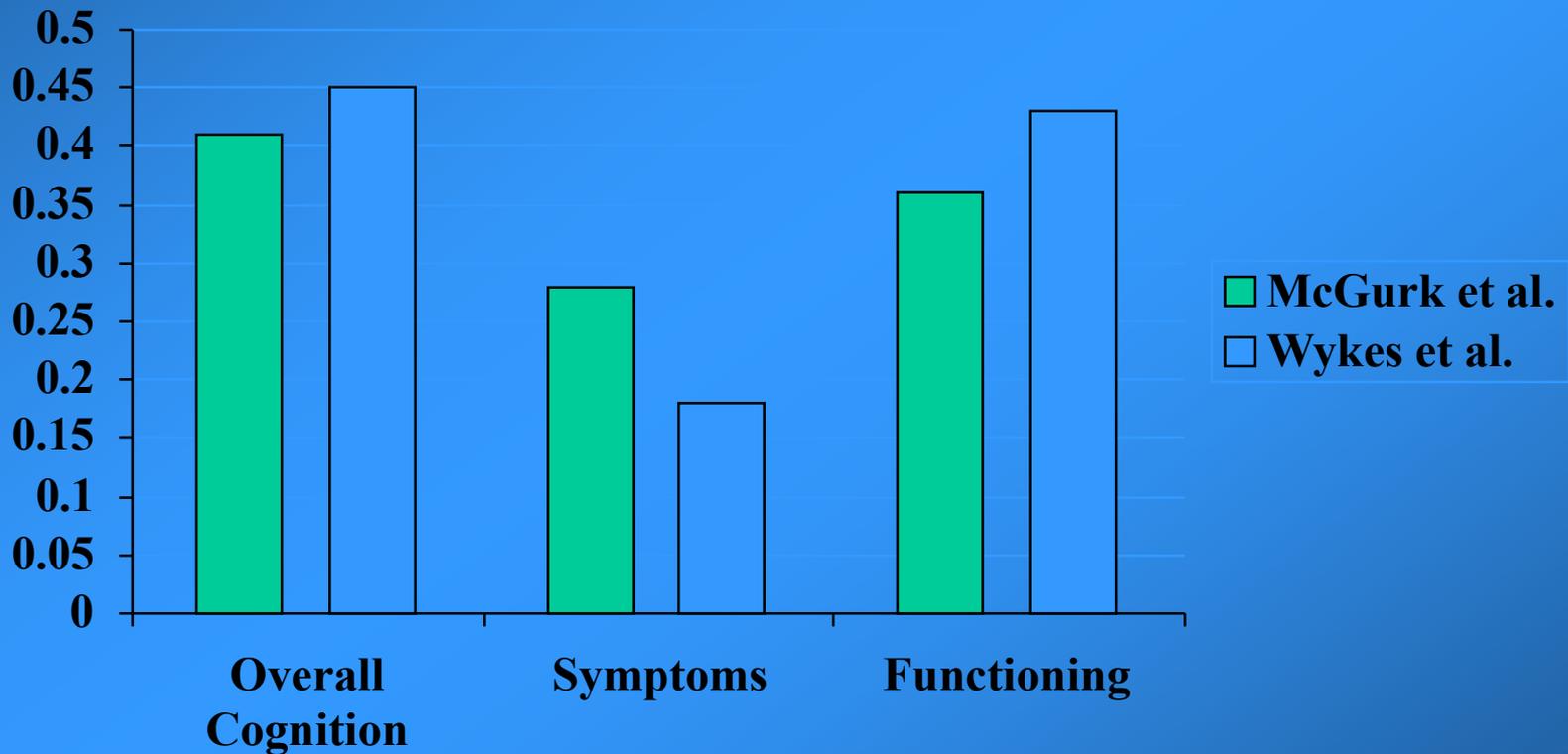
Research on CBT for Psychosis: Meta-analysis Results (Wykes et al., 2008)

- Psychotic symptoms: $ES = .37$
- Negative symptoms: $ES = .44$
- Functioning: $ES = .38$
- Mood: $ES = .36$
- Comparable effects of group & individual modalities

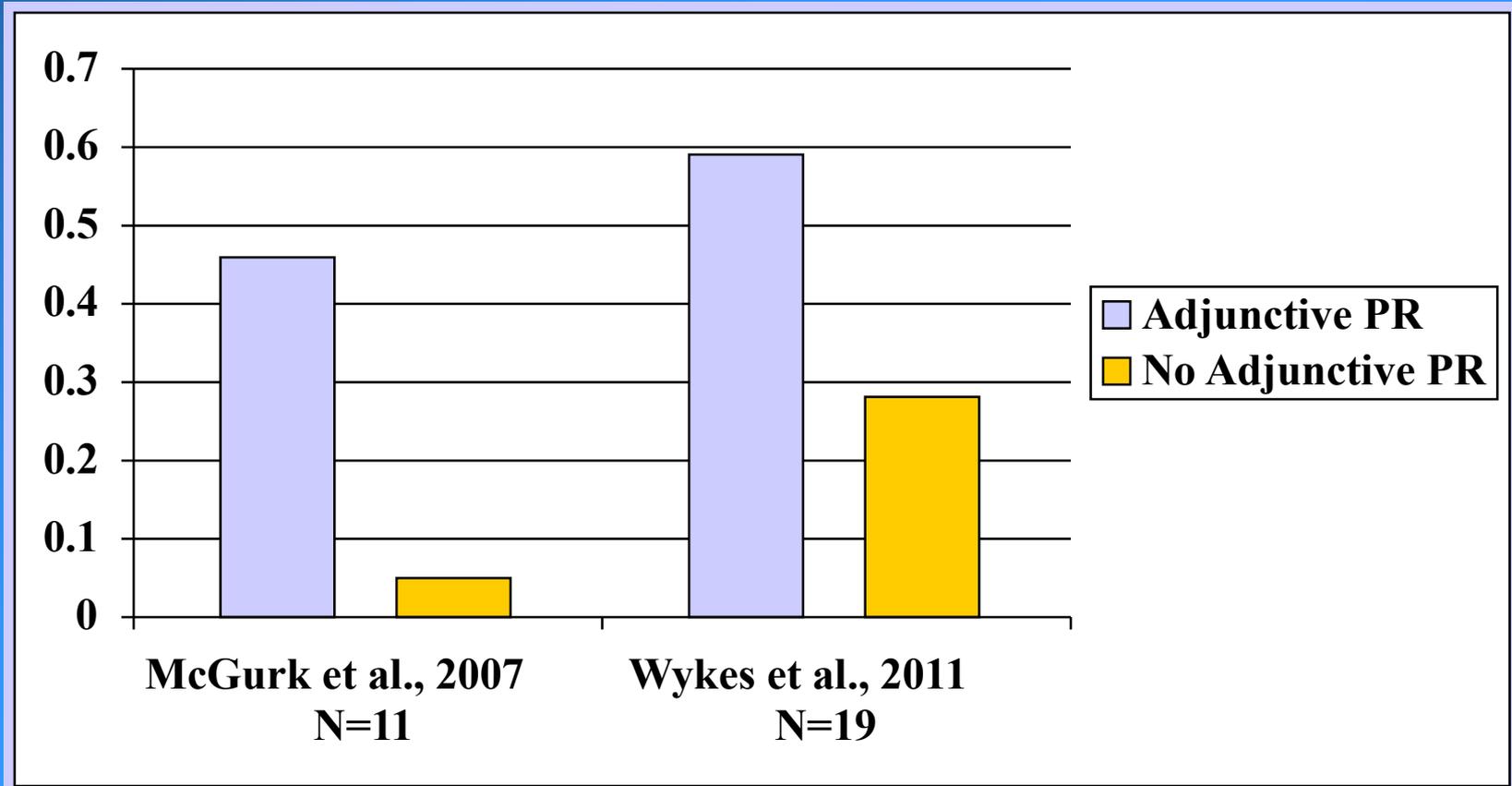
Cognitive Remediation

- **Aimed at improving cognitive functioning (e.g., attention, memory, planning, solving problems) in order to improve psychosocial functioning**
- **Focus on restoration of cognitive functions and teaching strategies for compensating for cognitive impairments**
- **Combination of computer-based training exercises, strategy coaching, group work**
- **Most programs last 3-6 months**
- **25+ years of research on cognitive remediation**

Effect Sizes for McGurk et al. (2007) & Wykes, et al. (2011) Meta-analyses



Combined Psychiatric Rehabilitation Increases Impact of Cognitive Remediation on Functioning



Integrated Treatment for Dual Disorders

- **Problem of substance abuse in schizophrenia**
- **Limitations of traditional parallel or sequential treatment approaches**
- **Integrated treatment for dual disorders: Both disorders treated simultaneously, by same treatment providers, who integrate interventions**
- **Stage-wise, motivational enhancement**
- **Minimization of treatment-related stress**
- **Harm reduction philosophy**
- **Multiple research studies support effectiveness**

Integrated Treatment *for Dual Disorders*

A GUIDE TO
**EFFECTIVE
PRACTICE**

KIM T. MUESER | DOUGLAS L. NOORDSY | ROBERT E. DRAKE | LINDY FOX

Emerging Practices

- **CBT for PTSD in persons with serious mental illness (3 controlled trials)**
- **Lifestyle intervention increasing exercise and healthy living (e.g., In Shape program)**
- **Social cognition training**
- **Critical time intervention (intensive, time limited services aimed at stabilizing housing for homeless clients or facilitating transition from hospital, jail, or prison to community)**
- **Peer support**
- **Self-stigma reduction interventions**

Summary

- **Schizophrenia affects about 1% of the population, and is characterized by psychotic and negative symptoms, cognitive impairment, and problems in psychosocial adjustment**
- **Both biological and psychosocial factors play a role in the cause of schizophrenia, which most often develops between ages 20-25**
- **There is no cure for schizophrenia, but effective medications have been developed that reduce symptoms and relapses**
- **Additionally, numerous psychiatric rehabilitation approaches has been shown to be effective at improving functioning in areas such as work, social functioning, independent living, and cognition, and reducing symptom severity and relapses**