

# Mental Health and Primary HIV Prevention Among Sexually Risky MSM

Conall O’Cleirigh, Ph.D<sup>1,2</sup>,

1 Fenway Community Health, Boston, MA; 2 Massachusetts General Hospital/Harvard  
Medical School;

# HIV Risk in U.S. Domestic MSM

- MSM account for more than half of new infections each year (53% or 28,700 infections).
- MSM account for nearly half of more than 1 million people living with HIV in the U.S. (48% or 523,000)
- Since the beginning of the epidemic, over 300,000 MSM with AIDS have died
- MSM is the only risk group in the U.S. in which new HIV infections are increasing.
- In a recent study of MSM in five cities, 46% of the black MSM were HIV-positive and 67% of those men were unaware of their infection

CDC HIV/AIDS Fact Sheet. Available at <http://www.cdc.gov/hiv> - from various studies. Accessed Feb 18, 2010.

# MSM, Mental Health, and HIV Prevention

1. Psychosocial problems are common and co-occur among risky MSM and strongly related to sexual risk for HIV and HIV incidence.
2. Growing evidence to suggest that psychosocial problems interfere with uptake of prevention messages.
3. There is an empirically supported behavior change technology that is largely untested in primary HIV prevention with MSM
4. Need to find creative ways to place prevention interventions for MSM in the context of co-occurring psychosocial problems.

# Project Explore

- HIV Prevention Trials Network Study (N = 4295)
- Conducted in six US Cities
- Two-group RCT of a 10 session (with quarterly booster sessions) individually delivered counseling intervention for high risk MSM
- Intervention content: Motivational interviewing focus
  - Articulation of risk limits, factors related to risk taking – triggers, enjoyment of risky sex, communication, alcohol or recreational drugs, partners, social norms
- Standard condition received twice-yearly “Project Respect” counseling (testing for HIV, assessments, and standard counseling)
- Followed individuals on average for 3.25 years

# Project Explore

- Overall HIV incidence
  - 2.1 per 100 p-yrs (95% CI: 1.9, 2.4)
- Reduction in intervention vs. control
  - HIV incidence: 18.2% (95% CI: -4.7, 36.0)
  - Unprotected anal sex (UA): 13.9% (5.6, 21.5)
  - Serodiscordant UA (SDUA): 14.8% (6.5, 22.4)
  - Serodiscordant unprotected receptive anal sex (SDURA): 20.5% (10.9, 29.0)

# Results of Meta Analysis of HIV Prevention Interventions for MSM<sup>1</sup>

- 54 interventions evaluated in 40 RCTs (15 with HIV-infected MSM)
- Comparison to no HIV prevention intervention (n=38)
  - 27% reduction in rates of unprotected sex
  - 16% reduction in proportion of those who engaged in any unprotected sex
- Comparison to standard or other HIV prevention interventions (n =16)
  - 17% reduction in rates of unprotected sex
  - 6% reduction in the proportion of those who engaged in any unprotected sex
- Generally – interventions were brief (groups were 3 hrs total)
- Generally – the interventions worked

# Results of Systematic Review of the Effectiveness of HIV Prevention Interventions for MSM<sup>1</sup>

- Individual, group-level, and community HIV behavioral interventions reduce odds of unprotected anal intercourse (27% to 43% decrease)
- Economic evaluation: this is cost-effective and potentially cost-savings, when considering the cost of living with HIV and the number of infections averted

# MSM, Mental Health, and HIV Prevention

- 1. Psychosocial problems are common and co-occur among risky MSM and strongly related to sexual risk for HIV.**

# The Effects of “Syndemics” on HIV Risk in MSM

- Cross sectional household telephone survey of MSM in Chicago, LA, New York ,and SF (N = 2881)
- High occurrence and interconnectedness of depression, poly drug use, childhood sexual abuse, and partner violence
- Additive effects: Odds ratios increased as did number of these psychosocial health problems

	<b>1 problem</b>	<b>2 problems</b>	<b>3 and 4 problems</b>
High risk sex ( <i>P</i> <.01)	1.6	2.4	3.5
HIV prevalence ( <i>P</i> <.001)	1.8	2.7	3.6

# Project Enhance – Screening in for Mental Health Comorbidity (current N = 503)

- History of childhood sexual abuse: 46%
- Any illicit drug use: 39%
- PTSD: 34.8%
- Any crystal meth use: 20.8%
- 5 Drinks in one sitting once a week or more: 20.0%
- Major Depression: 13.01%
- Other Depression: 10.0%
- Social Anxiety Disorder: 22.9%
- Somatoform Disorder: 12.3%
- ADHD: 10.6%
- Panic: 9.5%
- Other Anxiety Syndrome (GAD): 7.9%

# MSM, Mental Health, and HIV Prevention

- 3. Emerging evidence to suggest that psychosocial problems interfere with uptake of HIV prevention intervention.**

**Depression**

**Childhood Sexual Abuse**

# Lessons from Project Explore

## ▪ Predictors of HIV infection

- Demographics: younger, being Hispanic associated with HIV infection
- Partners:  $\geq 4$  partners versus 1 or no partners; HIV-positive or unknown status primary partner
- Any unprotected insertive anal intercourse or unprotected oral sex with ejaculation with HIV-positive or unknown status partners
- Use of non-injection drugs, drugs by injection, heavy alcohol, and alcohol or drugs before sex
- Self-reported STIs
- ***Moderate scores on depression scale***

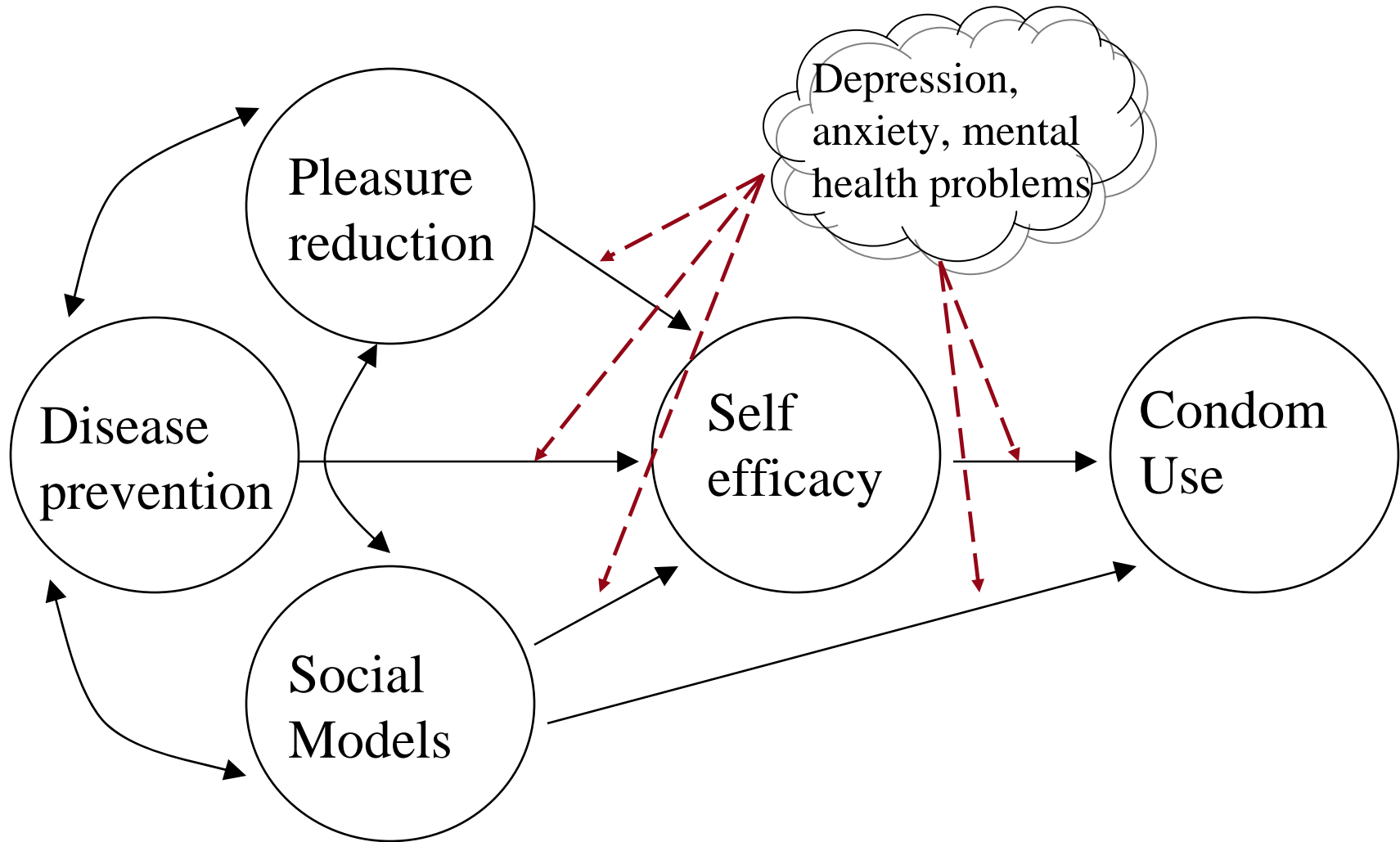
*Koblin et al., 2006; AIDS*

# Common models underlying prevention interventions:

## Mental health affects all of these variables

- Health Belief Model (Rosenstock, 1974): severity of disease, perceived susceptibility, and benefits and barriers to behavioral change
- Theory of Reasoned Action (Ajzen & Fishbein, 1980): health behavior determined by intentions, (which is dependent on attitudes, expected outcomes, and perceived importance) and norms
- AIDS Risk Reduction Model (AARM; Catania et al., 1990): labeling of high risk behavior, commitment to changing high-risk behavior, enactment of risk reduction behavior

# Social Cognitive Model



# What is depression (e.g. major depressive episode)?

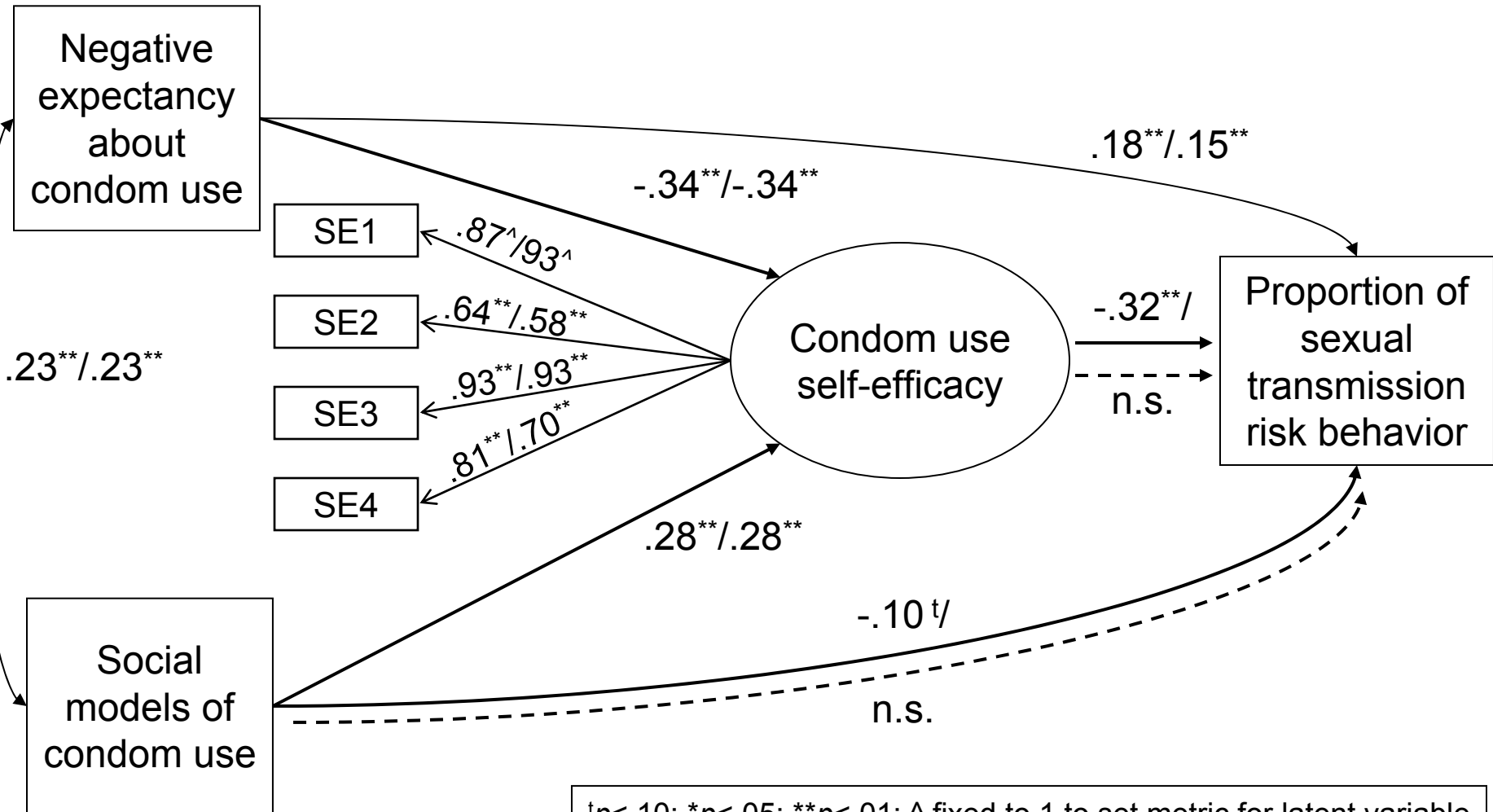
- Sadness or depressed most of the time (most of the day, more days than not)
- or
- Persistent loss of interest

With

- Sleep problems
- Guilt/worthlessness feeling
- Loss of energy
- Concentration problems
- Change of appetite (weight loss or gain)
- Psychomotor retardation or agitation
- Suicidality/hopelessness

*Need first two, and 5 total symptoms*

# Path model for those who did not and who did screen in for Major Depressive Disorder



$R^2$  for Proportion of Sexual TRB: Depression-negative (n=356)=20.3%, Depression-positive (n=47)=7.5%.

Model fit indices:  $\chi^2(36)=30.55$ ,  $p=.73$ , CFI=1.00, RMSEA<.01, SRMR=.05

# More Lessons from Project Explore

## ■ Childhood Sexual Abuse

- *39.7% of MSM in the study reported a history of childhood sexual abuse*
- Childhood sexual abuse – increased risk for HIV infection across the study follow up, unprotected anal sex, serodiscordant unprotected anal sex
- Intervention had no effect in reducing HIV infection rates in those with childhood sexual abuse

*Mimiaga et al., 2009*

# MSM, Mental Health, and HIV Prevention

- 4. There is an empirically supported behavior change technology that is largely untested in primary HIV prevention with MSM**

# There is an empirically supported behavior change technology that is largely untested in primary HIV prevention with MSM

- Treatments with RCTs efficacy support compared to no treatment or an alternative therapy
- More than one study, and more than one team of scientists.
- Described in treatment manuals

Behavioral Activation

Exposure

Mindfulness

Emotion Regulation

Problem Solving

Contingent Reinforcement

Behavioral Contracting

Stress Management

Assertiveness Training

Cognitive Restructuring

Response Prevention

Distress Tolerance Training

Relaxation Training

Motivational Interviewing

Self-Management

Token Economy

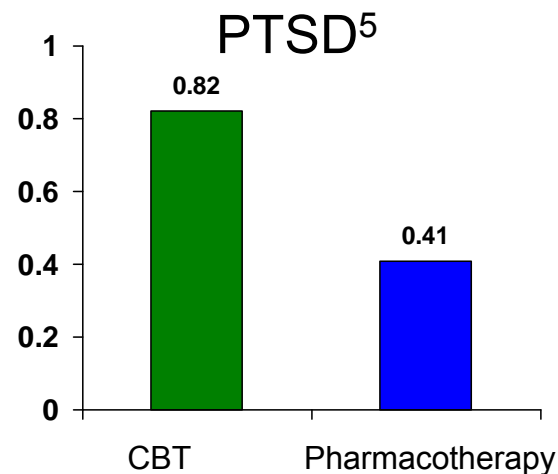
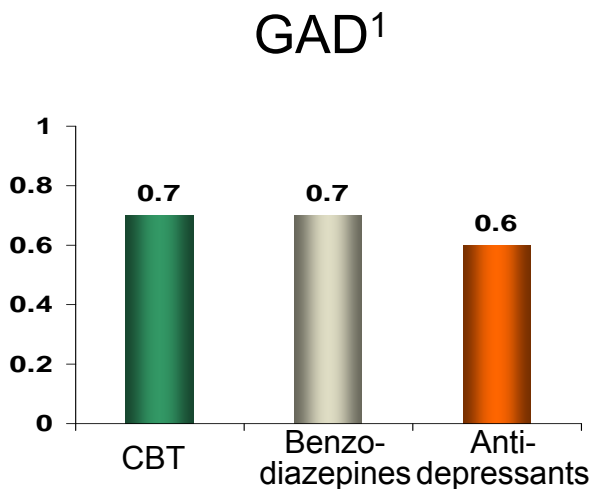
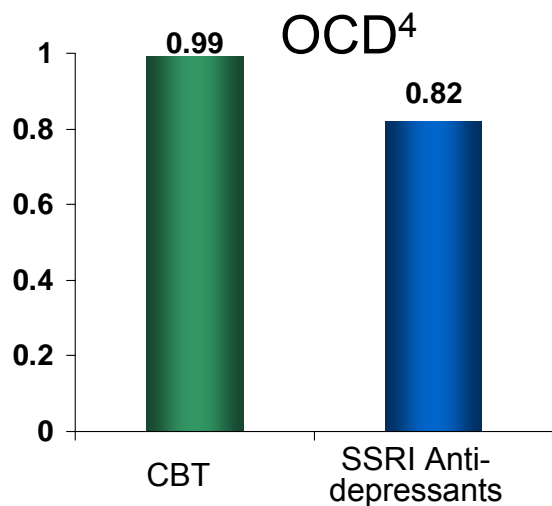
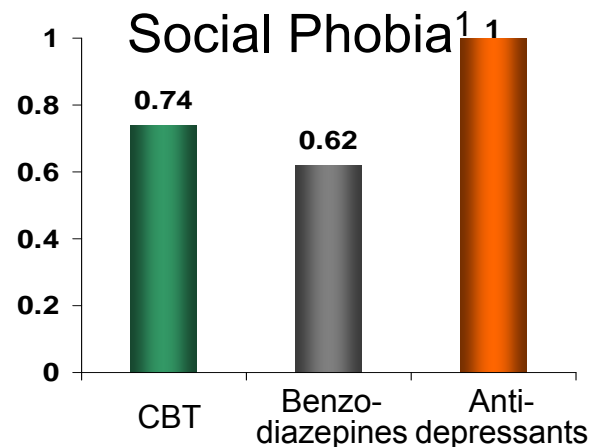
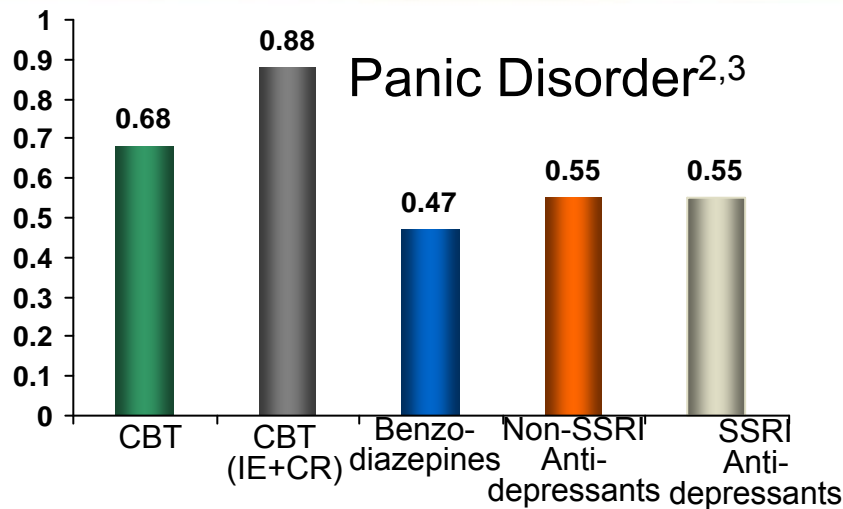
Negotiation Training

Effectiveness Training

# Disorders for which CBT Treatments Are Considered Empirically Supported

- Anxiety disorders (PD, GAD, SAD, PTSD)
- Depression
- Borderline personality disorder
- Eating disorders
- OCD
- Pain Management
- Sexual Dysfunction
- Marital Distress

# CBT Works for Anxiety Disorders (Meta-Analyses)



<sup>1</sup>Gould et al, 1997. <sup>2</sup>Gould et al, 1995. <sup>3</sup>Otto et al, 2001. <sup>4</sup>Kobak et al, 1998. <sup>5</sup>Otto et al, 1996.

# CBT Works for Depression

- Dobson (1989): meta-analysis of 28 studies using the BDI: ES for CT vs. NT or WLC = 2.15. For medications .53 and for BT .26
- Robinson, Berman, and Neimeyer (1990): CBT better than alternative psychotherapy or antidepressants, but allegiance effects
- CBT has better relapse rates than medications (Blackburn et al, 1986; McLean, Hakstain, 1990; Simons et al, 1986)

# Examples of Evidenced-Based Brief CBT Treatments for DSM-IV Psychiatric Disorders

- CBT for depression (Beck/Young): 12-16 sessions
- Interpersonal therapy for depression (Klerman): 12-16 sessions
- Prolonged exposure therapy for PTSD (Foa): >12 sessions
- Cognitive Processing therapy for PTSD(Resick):12 sessions
- CBT for Social Anxiety (Hope, Heimberg et al): 12 sessions
- CBT for G.A.D. (Brown/Barlow) ≈ 13 sessions
- CBT for OCD (Foa) ≈ 15 sessions
- CBT for Panic Disorder (Craske/Barlow): 12-15 sessions
- CBT for residual ADHD in adults (Safren et al): 12 sessions

# MSM, Mental Health, and HIV Prevention

- 5. Need to find creative ways to place prevention interventions for MSM in the context of co-occurring psychosocial problems.**

# Integrated Models of Risk Reduction Interventions with MSM – Project IMPACT

## IMPACT (NIDA R03 – PI Matthew Mimiaga)

Integrated treatment for meth addiction in MSM, incorporating 10-sessions of behavioral-activation-therapy (BAT) with HIV risk-reduction-counseling (RR).

-17 MSM completed an open phase pilot of the intervention.

-Primary outcomes : (1)sexual risk taking, (2)meth use, and (3)depression.

### Acute Outcomes:

- Reduced HIV sexual-acquisition risk-behavior -7.13 (7.0); p=0.01
- Reduced meth use [episodes of meth use -3.06 (3.1); p=0.002
- Reductions in number of sex partners w/ meth -4.71 (5.3); p=0.001
- Reductions in depressive symptoms -7.47 (12.0); p=0.02

# Integrated Models of Risk Reduction Interventions with MSM – Project THRIVE

**THRIVE** (NIMH R34 – PI Conall O’Cleirigh)

Integrated treatment childhood sexual abuse related trauma, integrating 10-sessions of cognitive processing therapy with HIV risk-reduction-counseling  
2 Stage Treatment Development Protocol

- a) Open Pilot – completed
- b) Mini RCT – 27 of 40 randomized

## Acute Outcomes:

- Feasible
- Acceptable
- Pre-post reductions in unprotected anal intercourse
- Pre-post reductions in trauma symptoms

# Addressing the Mental Health Context in Prevention

## HPTN 061

- Screen and refer to address mental health issues
- Peer Health Navigators

**Project “Enhance”** –Secondary Prevention Intervention for MSM delivered in the HIV care setting (NIMH R01MH068746; Mayer, Safren)

- Interventionist is a medical social worker
- **“Enhanced” Prevention case management**
- Intake
- Proactive approach to referral for comorbidities
- Modular intervention for reducing sexually risky behavior

**THANK YOU**