

Addressing Unhealthy Substance Use in Primary Care

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Outline

- Primary care...
 - Screening for unhealthy substance use in primary care
 - Brief intervention
 - Behavioral and pharmacological interventions
- Substance dependence as a chronic disease
- Co-occurring conditions
- Chronic care/disease management
 - Example

Does unhealthy substance use meet criteria for universal screening?

- Significant morbidity/mortality?
- High prevalence?
- Asymptomatic period during which detection can occur?
- Valid, feasible screening test?
- Early intervention better (than later)(screening and intervention versus not)?

Unhealthy Substance Use is Common

- 28% of adults have unhealthy alcohol use (drink too much), 8.5% of adults have alcohol use disorder
- 8% of adults use illicit drugs (MJ, NMUPD most common)
- In adult primary care...
 - Current unhealthy alcohol 8% (HMO) to 22-28%
 - Approx. 40% at-risk, 40% problem, 20% dependent
 - Current drug use 3% (HMO) to 5%

Practice Guideline

- The U.S. Preventive Services Task Force (USPSTF) recommends screening and behavioral counseling interventions to reduce alcohol misuse by adults, including pregnant women, in primary care settings.



OFFICE OF NATIONAL DRUG CONTROL POLICY

2008 White House Leadership Summit on Screening and Brief Intervention (SBI) for Substance Abuse

FRIDAY, SEPTEMBER 5, 2008 • 9:00 AM – 3:00 PM

CLINICAL GUIDELINES

Screening and Behavioral Counseling Interventions in Primary Care To Reduce Alcohol Misuse: Recommendation Statement

U.S. Preventive Services Task Force*

This statement summarizes the U.S. Preventive Services Task Force (USPSTF) recommendations on behavioral counseling interventions to reduce alcohol misuse in primary care patients and updates the 1996 recommendations on this topic. The complete information on which this statement is based, including evidence tables and references, is available in the accompanying article in this issue and in the systematic evidence review on this topic. The complete USPSTF recommendation statement (which includes a brief review of the supporting evidence), the accompanying journal article, and the complete systematic evidence review are available through the USPSTF Web site (www.preventiveservices.org). The journal article and the USPSTF recommendation statement are available in print through the Agency for Healthcare Research and Quality Publications Clearinghouse (telephone: 800-358-9295; e-mail: ahqpubs@ahrq.gov).

Ann Intern Med. 2008;142:658-669. www.ama-assn.org
See related article on pp 657-658.
*For a list of the members of the U.S. Preventive Services Task Force, see the Appendix.

SUMMARY OF THE RECOMMENDATIONS

The U.S. Preventive Services Task Force (USPSTF) recommends screening and behavioral counseling interventions to reduce alcohol misuse (see Clinical Considerations by slide), including pregnant women, in primary care settings. This is a grade B recommendation. (See Appendix Table 1 for a description of the USPSTF classification of recommendations.)

The USPSTF found good evidence that screening in primary care settings can accurately identify patients whose levels

justify or cause the potential benefits and harms of screening and behavioral counseling interventions in this population.

CLINICAL CONSIDERATIONS

Alcohol misuse includes "risky/hazardous" and "harmful" drinking that places individuals at risk for future problems. "Risky" or "hazardous" drinking has been defined in the United States as more than 7 drinks per week or more

This is a grade B recommendation (at least fair evidence of improved health outcomes and that benefits outweigh harm). USPSTF. *Ann Intern Med* 2004; 140: 554-6.

US Preventive Services Task Force

- Evidence limited to treatment seeking populations; insufficient evidence to change recommendation
- **“The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening adolescents, adults, and pregnant women for illicit drug use.” (Jan 2008)**

AMA CPT codes

- 99408 Alcohol and/or substance (other than tobacco) abuse structured screening and brief intervention services; 15-30”
- 99409 > 30 minutes

Modifier -25 may be coded for some health plans. **Separate and distinct from all other E&M services.**

CMS codes (for Medicare fee-for-service patients)

- G0396 Alcohol and/or substance (other than tobacco) abuse structured assessment, and brief intervention (SBI) services; 15 to 30 minutes.
- G0397 > 30 minutes

CMS codes for Medicaid (need to be “turned on”)

- H0049 Alcohol and/or drug screening.
- H0050 Alcohol and/or drug services, brief intervention, per 15 minutes.

AMA Physician Consortium for Performance Improvement (PCPI)
measure: alcohol screening

AMA CPT2 tracking codes (incentive \$...)(**coming in 2009**)

Screen for what?

- Drug use
- Unhealthy alcohol use

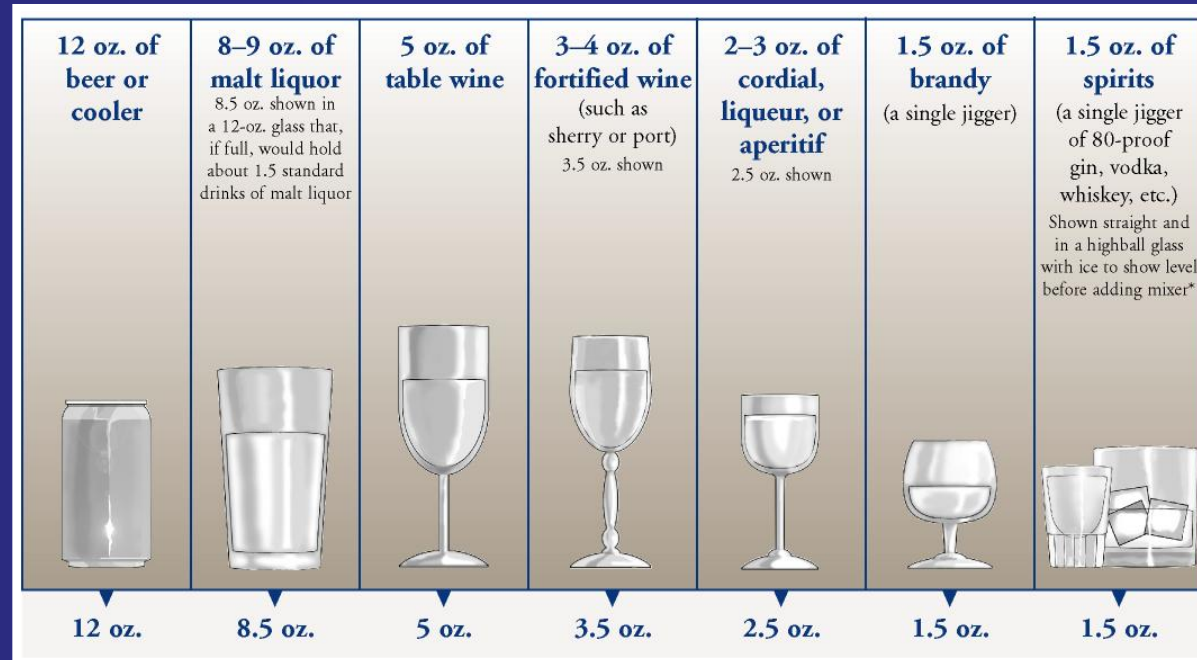
Amounts that risk health consequences

– Men

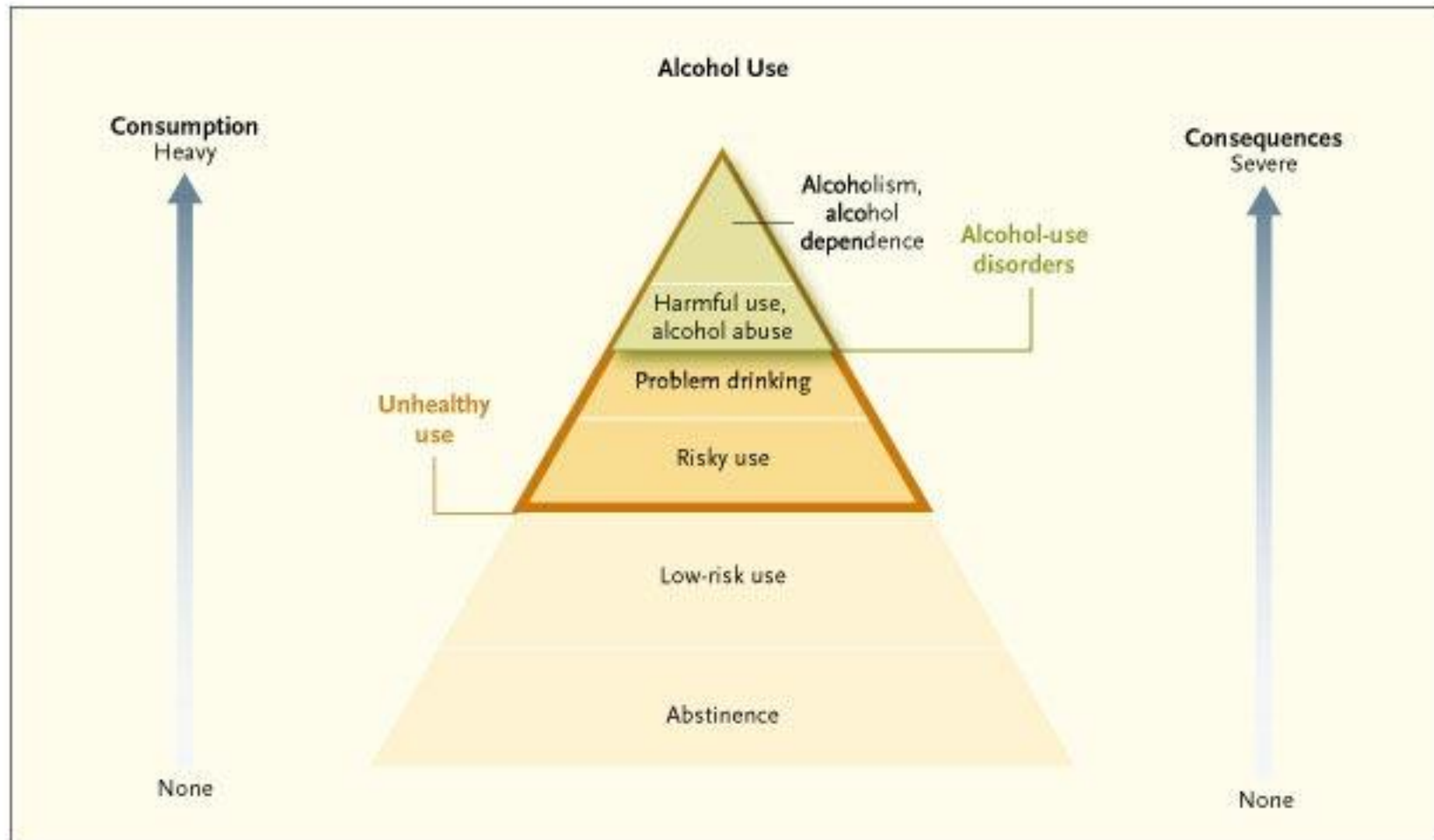
- >14 standard drinks per week
- >4 per occasion

– Women, ≥ 65

- >7 per week
- >3 per occasion



The Spectrum of Alcohol Use



Screening Tests

- Best choices all around
 - 1 for alcohol, 1 for drug
 - DRUG
 - Single-item
 - ALCOHOL
 - Single-item (episodic limit)
 - AUDIT-C
 - AUDIT
 - CAGE+consumption
- Other choices (some limits)
 - ASSIST
 - CAGE
 - CRAFFT (adolescents)
 - POSIT (adolescents)
 - TWEAK (pregnancy)
 - T-ACE (pregnancy)
 - MAST
 - B-MAST, S-MAST, G-MAST
 - DAST-10
 - AUDIT-R
 - CAGE-AID
 - 2-item conjoint
 - Consensus single item (CSAT)
 - Laboratory tests
 - Hair, saliva, urine, serum
 - BAC, CDT, GGT, AST, HDL, MCV

'Single' Item

– NIAAA: “Do you sometimes drink beer wine or other alcoholic beverages? How many times in the past year have you had 5 (4 for women) or more drinks in a day?”*

- +answer:>0
- 82% sensitive, 79% specific

*NIAAA. *Clinicians Guide to Helping Patients Who Drink Too Much*, 2007. Smith PC, Schmidt SM, Allensworth-Davies D, Saitz R. *Alcohol Clin Exp Res* 2007; 22(Suppl 1):108.

**Williams & Vinson. *J Fam Pract* 2001;50:307.

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Single Item drug screening

- “How many times in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?”
 - If asked to clarify the meaning of “non-medical reasons”, add “for instance because of the experience or feeling it caused”
 - a response of ≥ 1 is considered positive
 - 100% sensitive, 73.5% specific for drug use disorder, similar to 10-item DAST
 - 92.9% and 94.1% for past-year drug use

Assess for risky use and consequences

- Determine risks
 - Use in high risk situations, with medications that can interact or contraindicated medical (eg sleep, liver disease, hypertension, injury) or mental health conditions (eg depression), pregnancy, personal or family history
- Determine whether your patient's drinking has **repeatedly** caused or contributed to
 - **risk** of bodily harm (drinking and driving, operating machinery, swimming)
 - **relationship** trouble (family or friends)
 - **role failure** (interference with home, work, or school obligations)
 - **run-ins** with the law (arrests or other legal problems)

Assess for dependence symptoms

- Impaired control/Preoccupation
 - A great deal of time getting, using, recovering
 - Activities given up or reduced
 - More or longer than intended
 - Cannot cut down or control
 - Use despite knowledge of health problem
- Withdrawal
 - Symptoms, using to relieve symptoms
- Tolerance
 - Increased amounts to achieve effect
 - Diminished effect from same amount

Brief *assessment* for alcohol use disorders

Presence of either:

Recurrent drinking in physically hazardous situations or Drinking more or for longer than intended.

	Sensitivity	Specificity
Screen-positive subjects in 3 validation samples	77% to 95%	62% to 86%

Ingredients of Successful Brief Interventions

● What?

- 10-15 minutes
- Feedback
- Advice
- Goal Setting
- Follow-up

● How?

- Empathy
- Self-efficacy
- Menu

Learn via video cases. Free at:

www.niaaa.nih.gov (Clinician's Guide) and
www.mdalcoholtraining.org

Example

- Feedback: ‘The amounts you are drinking are above recommended limits and put your health at risk. Your use of alcohol may be interfering with your sleep. What do you think of that?’
- Advice: ‘Would you like to hear my advice about this? My best medical advice is that you cut back...This may help your sleeping and will help avoid other problems in the future.’

Efficacy of Brief Intervention

- Proportion of drinkers of risky amounts lower one year after brief intervention (69% vs. 57%)(n=2784)
- Consumption decreased 15% more than without brief intervention (by 38 grams [about 3 standard drinks] per week)(n=5639)

Meta-analyses:

Beich et al. BMJ 2003;327:536

Bertholet et al. Arch Intern Med. 2005;165:986

Treatment in Medical Settings: TrEAT Study

- RCT, 17 practices, 64 physicians
- N=774
 - Men >14 drinks/wk
 - Women >11 drinks/wk
- 93% 12 month follow-up
- Control: health booklet
- Intervention: health booklet + 2 10-15” physician discussions and a follow-up nurse phone call

TrEAT Study Results

	Control before/after	Intervention before/after
Drinks/7d*	19/16 (-18%)	19/12 (-40%)
Binges/30d*	5/4 (-21%)	6/3 (-46%)
Hosp days*	42/146 (+248%)	93/91 (-1%)

*p<0.001

Efficacy and Cost of Advice

TrEAT Long-term Follow-up

At 4 years...	Control	Intervention
Hospital Days ($p < 0.05$)	663	420
ED Visits ($p < 0.08$)	376	302
Risky Drinking* ($p < 0.001$)	35%	23%

Cost of intervention: \$166 per patient
(includes patient costs)

Net benefit: \$546 in medical costs,
\$7780 if societal costs included (mainly motor vehicle)

*36 months. >20 drinks (men), >13 drinks (women) per week
Fleming MF et al. *Alcohol Clin Exp Res.* 2002;26(1):36-43.

The Malmö Study

- Population-based cohort of middle-aged men identified by screening with upper decile GGT as isolated abnormality and at least 20 g alcohol daily
- Randomized to
 - GGT + RN q mo, MD q 3 mo
 - letter—GGT is high, restrict alcohol, F/U in 2 years
- 78% follow-up (4 years)

The Malmö Study

- 5-year hospital **utilization** decreased by 50% in 5 years (total approx. 1600 vs 800 days, mainly alcohol-related)
- **Sick days** decreased in intervention group
- **GGT** decreased in both groups (4 yrs)
- 16-year **mortality** decreased in intervention group
 - Total mortality: 10% vs. 14% (NS)
 - Alcohol-related (48% of all deaths): 4% vs. 7% (p=0.03)

3 controlled studies of Drug BI *in people identified by screening*

- Small study of adolescents in primary care in Sao Paulo
 - Positive study (decreased ecstasy and MJ use and drug problems) but only 59 subjects
- Bernstein et al, in outpatients (not primary care)
- WHO ASSIST trial

Drug SBI in outpatients - RCT

- 23,660 patients screened (DAST) in women's health, homeless, and urgent care clinics.
- 1,175 with risky heroin or cocaine use (DAST ≥ 3) randomized to brief negotiated interview (BNI) or referral list/written advice; 82% completed 6-month follow-up.
- 6-month abstinence (hair)
 - Opiates: 40% of BNI, 31% of control
 - Cocaine: 22% of BNI, 17% of control
- About 38% of subjects reported a contact with drug treatment (no difference)

Drug SBI in Primary Care

- RCT
- N=731 with current drug use identified using the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST); sexually transmitted disease clinics, walk-in clinics, a dental clinic, and community medical care sites in 4 countries.
- Patients with moderate-risk scores randomly assigned to BI or no BI (low- or high-risk range excluded).

ASSIST Trial Results

- BI (vs. no BI) associated with a 3-point greater decrease in a substance use score (max score 336).
- Cannabis and stimulant scores also decreased more for BI subjects (by about 2–3 points on scales with a maximum of 39 points); opioid scores did not.
- Substance use was not significantly impacted by BI in the US.

Primary Care Management of Substance Dependence

- Menu of options (including referral)
 - Withdrawal management or referral (for opioids, severity)
 - Medications and brief, ongoing counseling
 - Assess and address any psychiatric comorbidity
 - Mutual help groups (NA, AA)
 - Needle exchange
 - Specialty outpatient counseling
- Follow-up and relapse prevention once in recovery
 - Help patient anticipate difficult situations (triggers)
 - Emphasize prior successes and use relapse as a learning experience, cope w/craving
 - Ask patient about plans to manage early relapses (lapses)

Alcohol Treatment Outcomes

- At one year, 2/3^{rds} of patients have a reduction in
 - alcohol consequences (e.g. injury, unemployment)
 - consumption (by about 50%)
 - 1/3rd are abstinent or drinking moderately without consequences

A word about “referral”

- Referral to specialty treatment and 12-step programs should be similar to other medical referrals, but it isn't
 - Solutions: knowledge about the treatment being referred to, the “warm hand-off”

Standard (FDA-approved) Medications for Alcohol and Drug Dependence

1. Disulfiram
2. Acamprosate
3. Naltrexone (drug/alcohol)
4. Methadone
5. Buprenorphine

Opioid Detoxification Outcomes

- Low rate of retention in treatment
- Low rate of achieving abstinence
- Low rates of success in maintaining abstinence
 - < 50% at 6 months
 - < 80% at 12 months



In a Comprehensive Rehabilitation Program...*

- Increases overall survival
- Increases treatment retention
- Decreases illicit opioid use
- Decreases hepatitis and HIV seroconversion
- Decreases criminal activity
- Increases employment
- Improves birth outcomes

*Enhanced > Standard > no counseling

McLellan et al JAMA 1993

Methadone Treatment Marks 40 Years

Bridget M. Kuehn

FORTY YEARS AND COUNTLESS POLITICAL firestorms after it was first introduced, methadone maintenance for the treatment of opioid addiction remains a standard therapy in the field of addiction treatment.

The publication on August 23, 1965, of positive results from a small clinical trial of methadone as a treatment for heroin addiction in *JAMA* marked a sea change in the treatment of addiction (Dole and Nyswander. *JAMA*. 1965; 193:646-650). The study, conducted at Rockefeller University in New York City by Vincent P. Dole, MD, and the late Marie E. Nyswander, MD, suggested that a medication could be used to control the cravings and withdrawal that often lead to relapse in individuals with opioid addiction who attempt to quit.

The work, along with subsequent research by Dole, an endocrinologist, Nyswander, a psychiatrist, and colleagues established the concept of opioid addiction as a chronic disease, similar to diabetes, that as such required

now head of the Laboratory of the Biology of Addictive Diseases at Rockefeller University, explained that work conducted by the group in 1964 and published in 1966 established that methadone blocked the effects of heroin and stabilized patients, who prior to treatment oscillated between feeling

done treatment, the approach always struggled for acceptance against the forces of public opinion and politics. "There is a stigma against addicts, and—sadly—against providers," said Kreek, a supporter of the methadone

"THE FARM"

Methadone maintenance represented a reversal of the traditional approach to treating drug addiction, said David F. Musto, MD, a psychiatrist at Yale and expert on drug policy. A 1919 Supreme Court decision had established that punishment alone did not justify punishing addicts with opioids. Because of this decision, some physicians had been acting on their own to treat individuals with opioid addiction.

The Drug Enforcement Administration, in fact, considered Dole's work illegal and had threatened to prosecute him prior to the 1965 publication. "It took political courage," said Jerome Kreek, who became the first national



Ingbert Grütner/The Rockefeller University

Relapse After Leaving Treatment

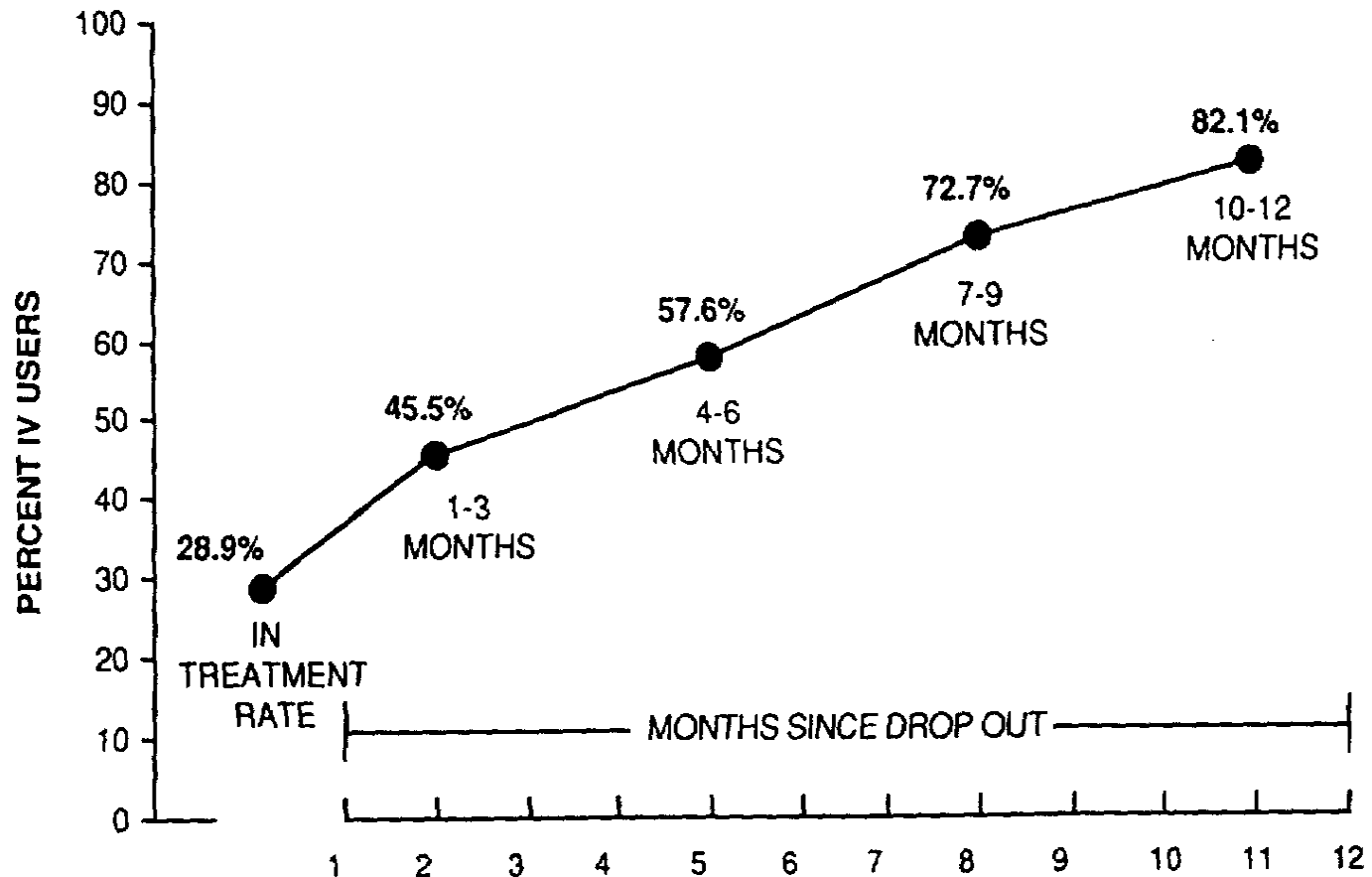


FIGURE 8.1. Relapse to intravenous drug use after methadone maintenance treatment for 105 male patients who left treatment.

How long should methadone
maintenance treatment last?

Long enough.

Methadone Maintenance Limitations

- Highly regulated - *Narcotic Addict Treatment Act 1974*
 - Created methadone clinics (Opioid Treatment Programs)
 - Separate system not involving primary care or pharmacists
- Limited access
 - 5 states: 0 clinics, 4 states: < 3 clinics
- Inconvenient and highly punitive
- Mixes stable and unstable patients
- Lack of privacy
- No ability to “graduate” from program
- Stigma

Opioid Medication Assisted Treatment Milestones

2000: Drug Addiction Treatment Act (DATA) 2000

- Allows qualified physician to prescribe scheduled III - V, narcotic FDA approved for opioid maintenance or detoxification treatment limit 30 patients per practice

2002: Suboxone and Subutex FDA approved

2005: Limit to 30 patients per physician

2007: Limit to 100 patients per physician after 1 year

Physician Qualifications

Licensed physician is “qualified” based on one of the following:

- Certified in Addiction Psychiatry or Medicine
- Completed eight hours of training
 - List of trainings: *www.buprenorphine.samhsa.gov*
 - Online training:



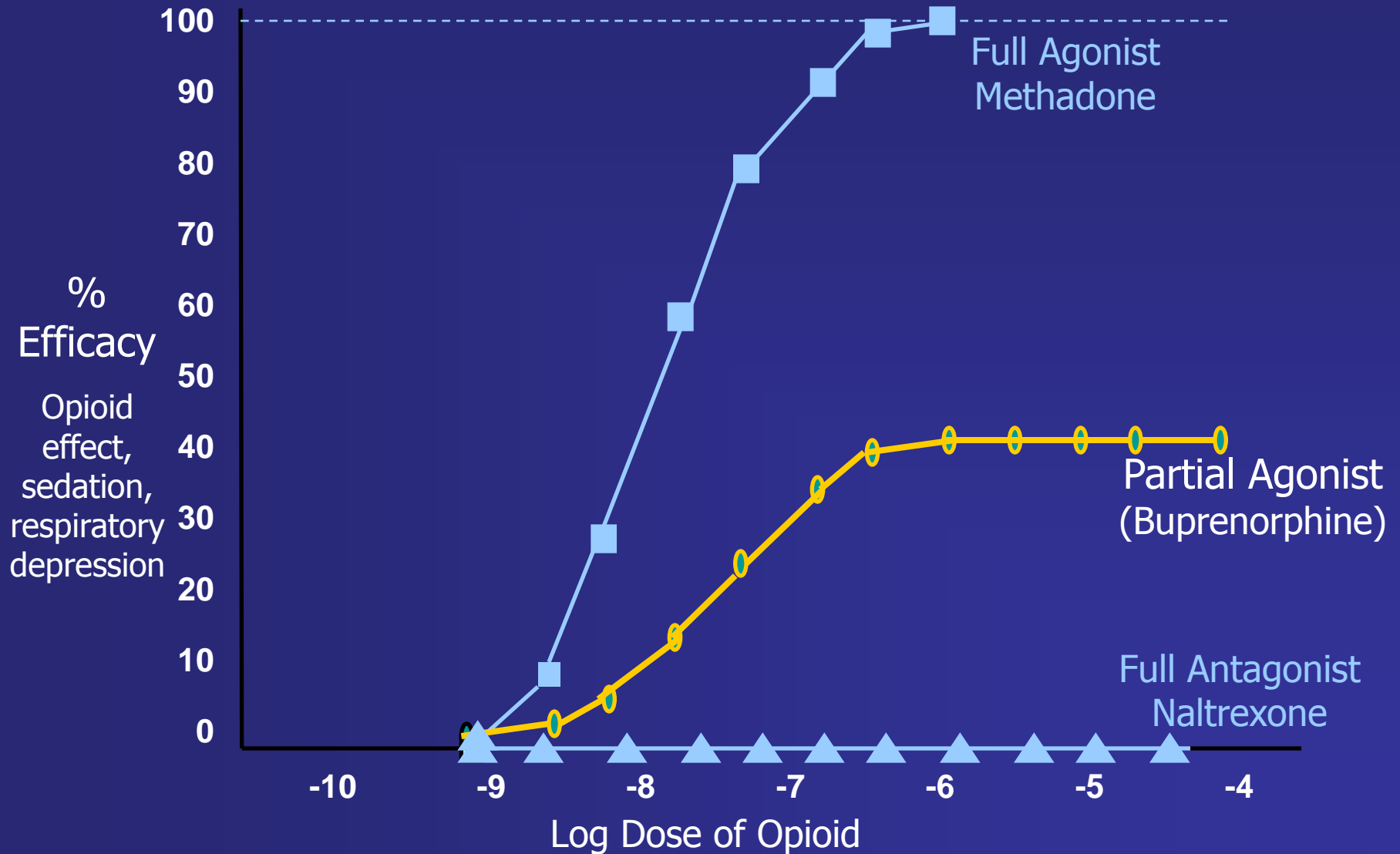
The image shows a screenshot of the BuprenorphineCME.com website. The header features the site name in a large, bold, red font. Below the header is a navigation bar with several red buttons containing white text: Home, Course List, Resources, Help, About Us, Contact Us, and Sign Up Now!. At the bottom of the screenshot, there is a login section with a red background. It includes a label 'User Name' followed by a white input field, a label 'Password' followed by another white input field, and a grey 'Login' button.

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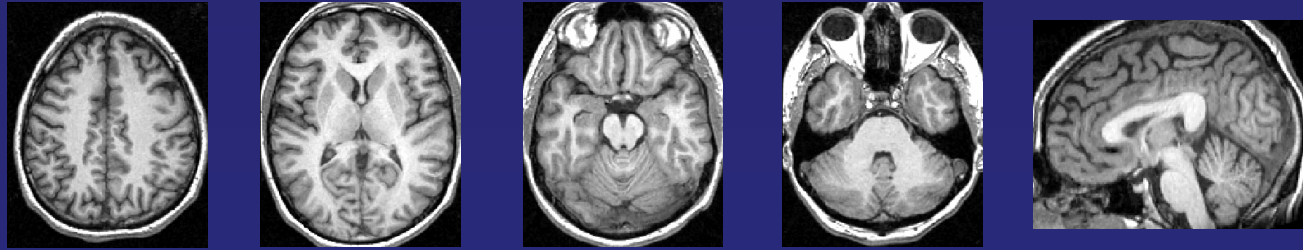
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Buprenorphine: Ceiling Effect

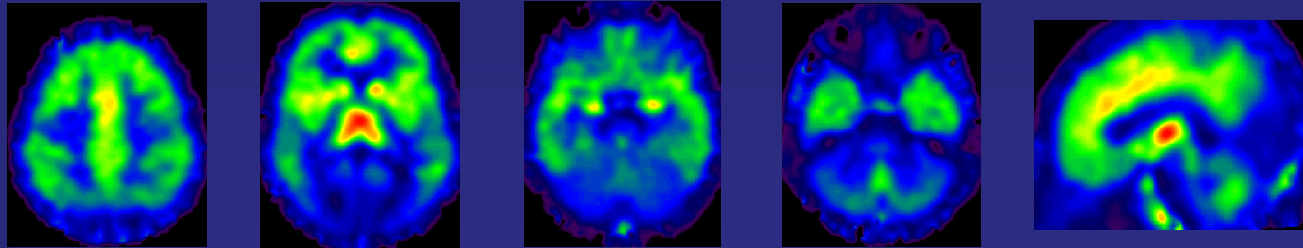


Effects of Buprenorphine Dose on *mu* Receptor Availability

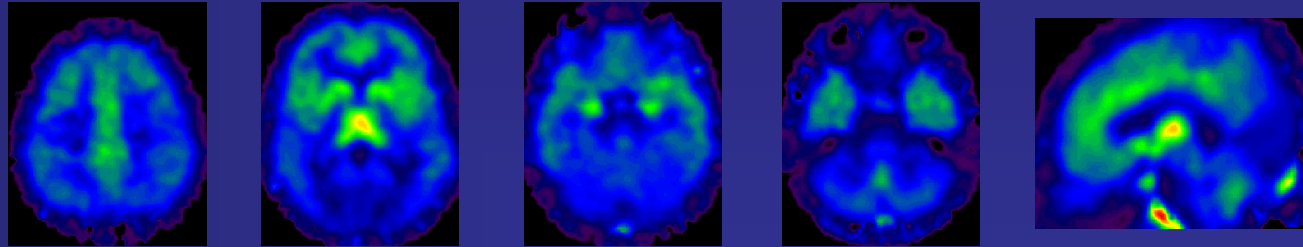
MRI



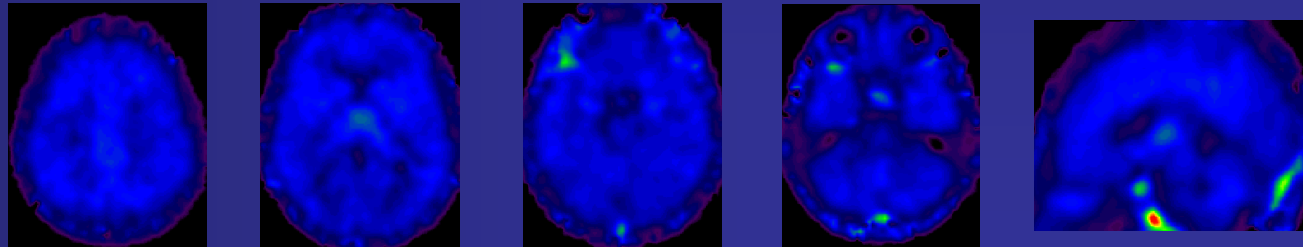
Bup 00 mg



Bup 02 mg



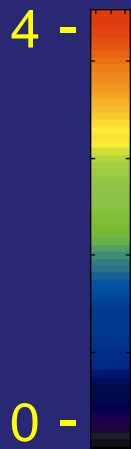
Bup 16 mg



Bup 32 mg



**Binding
Potential
(Bmax/Kd)**



Buprenorphine Efficacy

- Studies (RCT) show buprenorphine more effective than placebo and equally effective to moderate doses of methadone on primary outcomes of:
 - Abstinence from illicit opioid use
 - Retention in treatment
 - Decreased opioid craving

Johnson et al. NEJM 2000

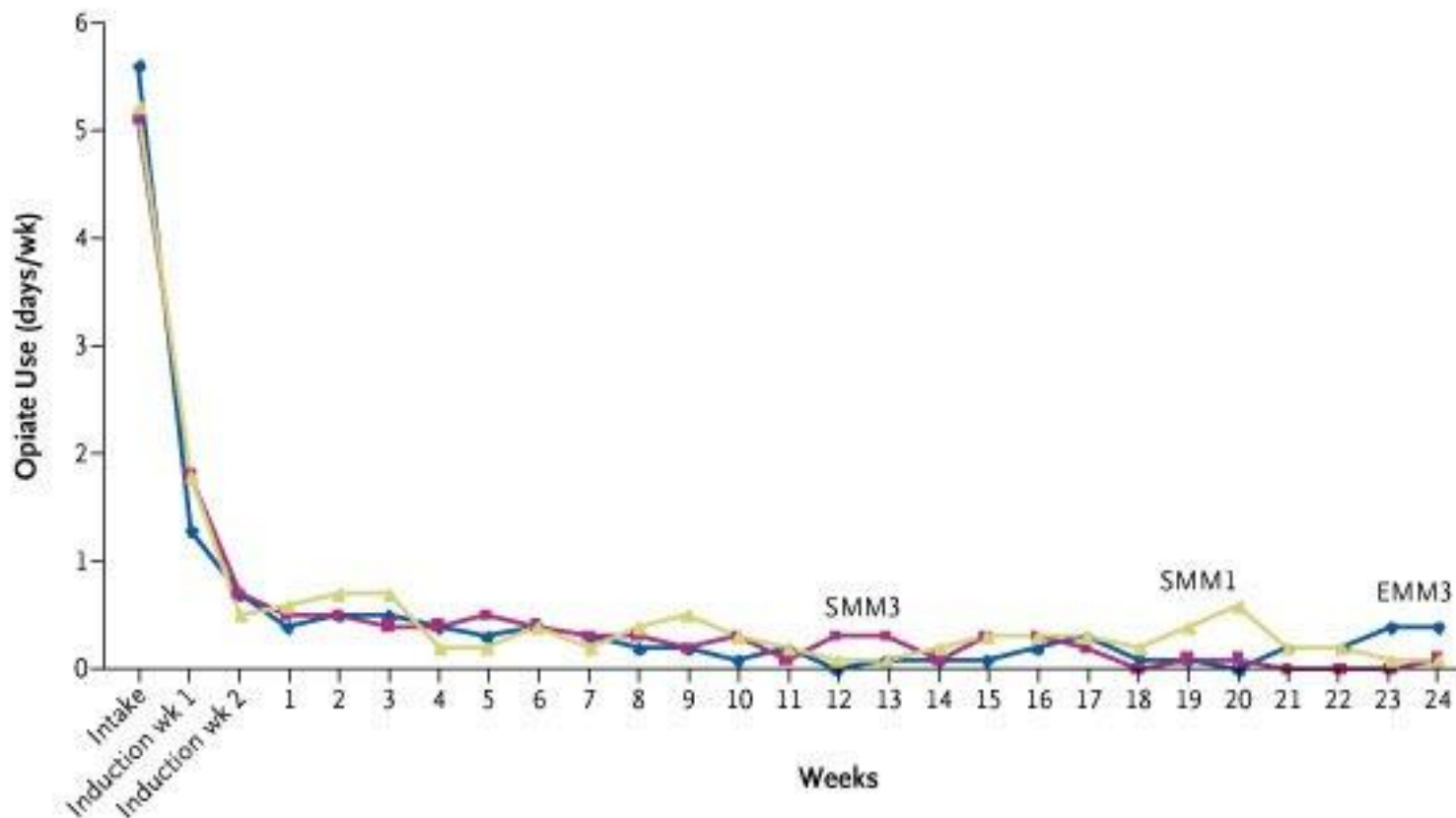
Fudala PJ et al. NEJM 2003

Kakko J et al. Lancet 2003

Buprenorphine Summary

- Retention rates & efficacy comparable to methadone (80mg)
- “Ceiling” on opioid effects therefore low overdose risk
- Narcotic blockade
 - High affinity for opioid receptor
 - Slow dissociation from opioid receptor
- Abuse unlikely due to formulation w/ naloxone
 - Naloxone blocks opiate effect if injected
 - Naloxone is degraded (inert) if taking orally

Self-Reported Frequency of Illicit Opioid Use in Opioid-Dependent Patients Receiving Buprenorphine-Naloxone in Primary Care



No. Providing Assessments

EMM3	56	55	54	54	53	48	46	48	49	47	44	42	40	36	35	34	29	28	29	27	25	25	26	23	21	23	21
SMM3	56	54	52	50	50	46	45	44	44	42	41	40	37	38	33	31	28	24	22	22	21	21	18	20	19	18	15
SMM1	54	53	53	51	48	48	48	44	44	38	39	38	33	34	31	31	28	30	28	27	27	27	28	26	25	24	22



Alcohol medications

Medications for Treating Alcohol Dependence

The chart below highlights some of the properties of each medication. It does not provide complete information and is not meant to be a substitute for the package inserts or other drug reference sources used by clinicians. For patient information about these and other drugs, the National Library of Medicine provides Medline Plus (<http://medlineplus.gov>). Whether or not a medication should be prescribed and in what amount is a matter between individuals and their health care providers. The prescribing information provided here is not a substitute for a provider's judgment in an individual circumstance, and the NIH accepts no liability or responsibility for use of the information with regard to particular patients.

	Disulfiram (Antabuse®)	Naltrexone (ReVia®)	Acamprosate (Campral®)
Action	Inhibits intermediate metabolism of alcohol, causing a build-up of acetaldehyde and a reaction of flushing, sweating, nausea, and tachycardia if a patient drinks alcohol	Blocks opioid receptors, resulting in reduced craving and reduced reward in response to drinking	Affects glutamate and GABA neurotransmitter systems, but its alcohol-related action is unclear
Contraindications	Concomitant use of alcohol or alcohol-containing preparations or metronidazole; coronary artery disease; severe myocardial disease	Currently using opioids or in acute opioid withdrawal; anticipated need for opioid analgesics; acute hepatitis or liver failure	Severe renal impairment (CrCl ≤ 30 mL/min)
Precautions	High impulsivity—likely to drink while using it; psychoses (current or history); diabetes mellitus; epilepsy; hepatic dysfunction; hypothyroidism; renal impairment; rubber contact dermatitis	Other hepatic disease; renal impairment; history of suicide attempts. If opioid analgesia is required, larger doses may be required, and respiratory depression may be deeper and more prolonged.	Moderate renal impairment (dose adjustment for CrCl between 30–50 mL/min); depression or suicidality
Serious adverse reactions	Hepatitis; optic neuritis; peripheral neuropathy; psychotic reactions. Pregnancy Category C.	Will precipitate severe withdrawal if patient is dependent on opioids; hepatotoxicity (uncommon at usual doses). Pregnancy Category C.	
Common side effects	Metallic after-taste; dermatitis		
Examples of drug interactions	Amitypyline; anticoagulants such as warfarin; diazepam; isoniazid; metronidazole; phenytoin; theophylline; warfarin; any nonprescription drug containing alcohol	Nausea; abdominal pain; constipation; dizziness; headache; anxiety; fatigue	Anxiety; depression. Rare events include the following: suicide attempt, acute kidney failure, heart failure, mesenteric arterial occlusion, cardiomyopathy, deep thrombophlebitis, and shock. Pregnancy Category C.
Usual adult dosage	Oral dose: 250 mg daily (range 125 mg to 500 mg) Before prescribing: (1) warn that patient should not take disulfiram for at least 12 hours after drinking and that a disulfiram-alcohol reaction can occur up to 2 weeks after the last dose; and (2) warn about alcohol in the diet (e.g., sauces and vinegars) and in medications and toiletries Followup: Monitor liver function tests periodically	Opioid analgesics (blocks action); yohimbine (use with naltrexone increases negative drug effects) Oral dose: 50 mg daily Before prescribing: Evaluate for possible current opioid use; consider a urine toxicology screen for opioids, including synthetic opioids. Obtain liver function tests. Followup: Monitor liver function tests periodically	Diarrhea; flatulence; nausea; abdominal pain; headache; back pain; infection; flu syndrome; chills; somnolence; decreased libido; anorexia; confusion No clinically relevant interactions known Oral dose: 666 mg (two 333-mg tablets) three times daily or, for patients with moderate renal impairment (CrCl 30–50 mL/min), 333 mg (one tablet) three times daily Before prescribing: Evaluate for possible current opioid use; consider a urine toxicology screen for opioids, including synthetic opioids. Obtain liver function tests. Followup: Monitor liver function tests periodically

The information in this chart was drawn primarily from the package inserts for these medications.
JULY 2005

Helping Patients Who Drink Too Much
NIAAA, 2007

Primary care naltrexone

- RCT comparing primary care management (PCM, internist/nurse practitioner) and cognitive behavioral therapy (CBT, psychologist/psychiatrist)
 - PCM was 15” weekly x 4 then biweekly x 6
 - CBT was 1 hour weekly x 12

Naltrexone RCT PCM vs. CBT

	<i>CBT</i> (<i>n</i> =97)	<i>PCM</i> (<i>n</i> =93)	<i>p</i>
Primary Outcomes			
≤2 heavy drinking days (n, %)	77 (79.4%)	74 (79.6%)	ns
Percentage of days abstinent	79.9 ± 31.4	77.9 ± 30.9	ns
Secondary Outcomes			
Drinks per drinking day	3.3 ± 5.6	3.3 ± 4.7	ns
No relapse to heavy drinking	60 (61.9%)	52 (55.9%)	ns
Continuous Abstinence (n, %)	43 (44.3%)	31 (33.3%)	ns
GGT end point change from baseline (mean ± SD)	-43.1 ± 75.3	-37.9 ± 65.7	ns

The COMBINE Study

	Good Clinical Outcome %
Medical Management and Placebo	58
Medical Management and Placebo and CBI	71
Medical Management and Naltrexone	74

CBI=Combined Behavioral Intervention

Good Clinical Outcome=Abstinence or drinking moderate amounts
without problems. $P < 0.025$ (interaction p-value 0.02)

Anton RF et al. JAMA 2006 May 3;295:2003-17 (NCT00006206)

The COMBINE Study

- One year after treatment ended, the groups did not differ significantly on drinking outcomes
 - Alcohol dependence is an illness that, like other chronic diseases, requires ongoing care

Substance dependence as a chronic disease

- Like other chronic conditions...
 - Genetic and environmental etiologies
 - Chronic physiologic changes
 - Relapsing course
 - No “cure”
 - Variable adherence to care
 - Medical and psychiatric comorbidity common
 - And can be triggers for relapse

Do all with the disorder need long-term treatment/is it a chronic disease for all?

- Representative sample of 43,093 U.S. adults
- Most patients with lifetime abuse or dependence had only 1 episode (72%).
 - The mean duration of dependence episodes is 2-3 years.
 - Those with >1 episode have a mean of 5 episodes.

Comorbidity

Med/Psych DX	% of AOD Pts	% of Controls
Acid-related	5.5	2.1
Arthritis	3.9	1.3
Asthma	6.8	2.6
COPD	0.7	0.1
Headache	9.2	3.8
Hypertension	7.2	3.4
Low back pain	11.2	5.8
Injury/OD	25.6	12.1
Depression	28.5	2.7
Anxiety disorder	16.9	2.2
Major psychosis	6.6	0.4
Liver cirrhosis	0.7	0.1
Hepatitis C	0.7	0.2

Comorbidity in a Detoxification Sample

- 470 adults with no primary medical care in a short-term residential detoxification unit, mean age 36
 - 47% had chronic medical illness
 - 90% had CES-D score >16
 - 70% reported moderate to severe pain at least intermittently during 2 years of follow-up
 - Intermittent pain associated with relapse (OR 2.0)
 - Persistent pain associated with relapse (OR 5.2)

DeAlba I et al. Am J Addictions 2004;13:33-45.

Larson MJ et al. Addiction 2007; 102: 752-760.

Saitz R et al. HSR 2004;39(3):587-606.

Effect of Substance Use and Disorders on Comorbid Conditions

Alcohol use and medication adherence

- 22,670 patients from 7 VA Medical Centers
 - Prescribed 3 types of medications
 - Categorized by AUDIT-C as nondrinkers, low-level drinkers, and mild, moderate and severe unhealthy use
- More severe unhealthy alcohol use associated with lower adherence
- At one year, adherence was:
 - 66% for nondrinkers
 - 63% for those with mild unhealthy alcohol use
 - 58% for those with moderate unhealthy alcohol use
 - 55% for those with severe unhealthy alcohol use

Quality of Diabetes Care

	% with retina exam
No mental disorder	71
Psychiatric disorder	71
Substance disorder	64
“Dual diagnosis”	68

Catheterization and Revascularization after Myocardial Infarction

	CATH	PTCA	CABG
	Adjusted Relative Risk		
Mental disorder	0.72	0.75	0.68
Schizophrenia	0.41	0.55	0.27
Affective	0.65	0.51	0.63
Substance Use	0.78	0.58	0.80
No mental disorder	1	1	1

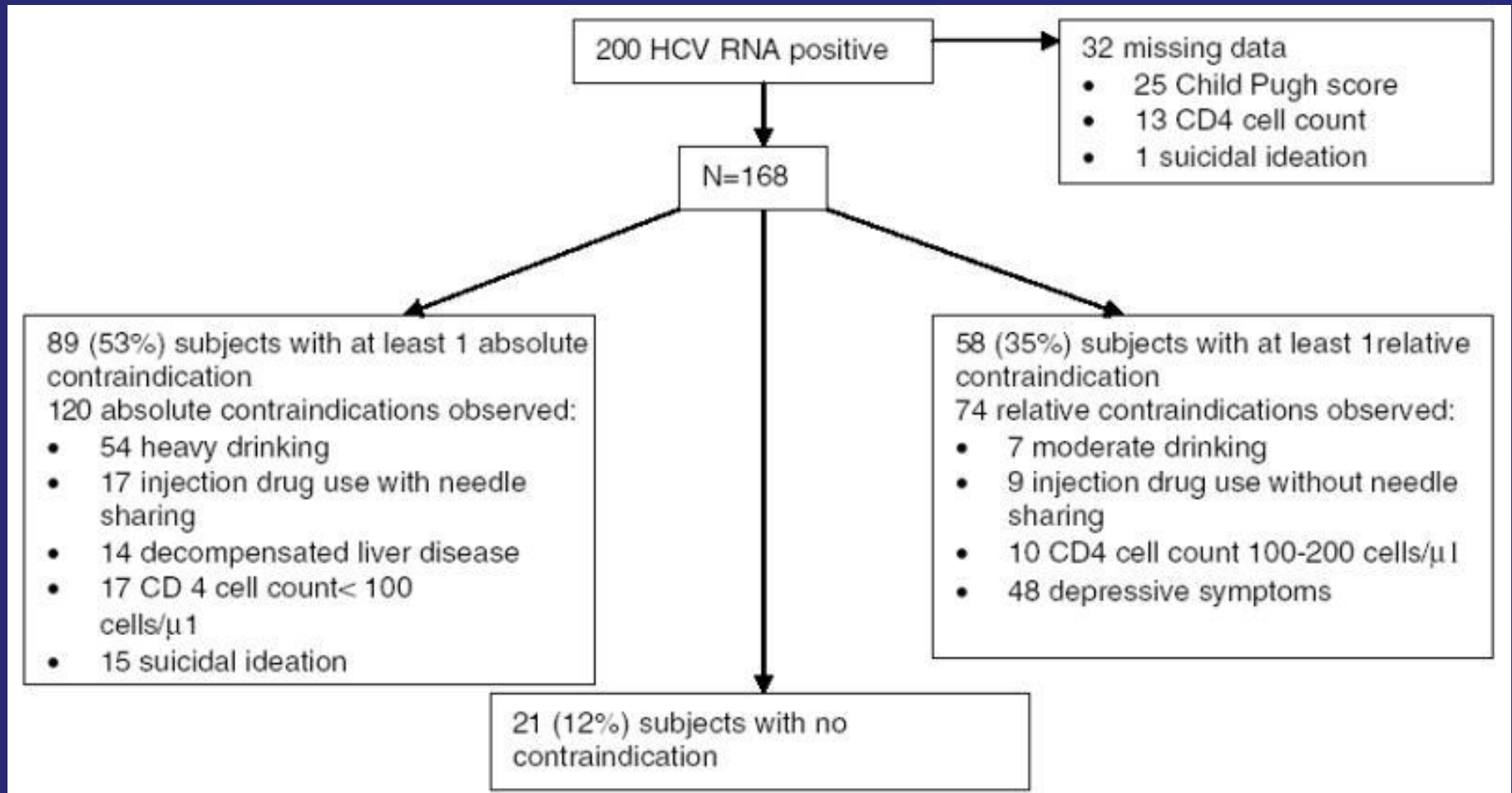
Table 4. Mental Illness, Mortality, and Readmission at 1 Year^a

	Overall	Mental Illness	
		No	Yes
Crude ^b			
All-cause readmission	69.4	68.5	73.7
Heart failure readmission	61.3	60.6	65.2
Mental illness readmission	11.6	7.7	31.1
Mortality	37.0	36.2	41.0
Adjusted			
Readmission	...	1 [Reference]	1.30 (1.21-1.39)
Heart failure readmission	...	1 [Reference]	1.23 (1.15-1.32)
Mental illness readmission	...	1 [Reference]	5.13 (4.73-5.56)
Mortality	...	1 [Reference]	1.20 (1.12-1.28)

^a Data are given as the percentage of participants and as odds ratios (95% confidence intervals) for odds of readmission or mortality among patients with mental illness compared with patients with no mental illness.

^b $P < .001$ for all comparisons.

Influence on Hepatitis C Therapy



HIV Outcomes

- Prospective cohort study of 350 adults with HIV and alcohol problems
- Depressive symptoms and substance use were associated with worse adherence
- Substance use was associated with less HIV viral load suppression
- Substance abuse treatment
 - reduced the odds of ED utilization (AOR 0.5)
 - increased the odds of HAART for HIV (AOR 1.70)
 - not associated with 30-day HAART adherence or HIV viral load suppression

Death after Myocardial Infarction

	Six-month Mortality Adjusted Hazard Ratio (95% CI)
Depression	4.29 (3.14-5.44)

Current fragmented care

- Specialty substance dependence treatment focuses on use
- Variable attention to comorbidities and long-term care
- Limited coordination between medical, mental health and addictions care
- Most (82%; Green-Hennessey 2002) do not seek addiction or mental health care
- 51% do not seek care after detoxification (Mark 2002)
- About half “complete” what is usually short-term treatment (SAMHSA 2007)

Barriers to care

- Patient characteristics: Attitudes, beliefs, motivation, employment, family, psychiatric conditions
- System characteristics: Separate systems, insurance, information sharing
- Treatment program characteristics: Distance, lack of customer focus, e.g.
 - Exclusion of patient with addiction and mental health condition
 - Requirement to bring 30-day supply of medical or psychiatric medication

Specialty Treatment

- 80% primarily government funded
 - N.B. Mental Health Parity and Addiction Equity Act of 2008 signed October 3 as part of “rescue/bailout”
- 2 of 175 programs had a physician director
 - 54% have no physician
 - 34% have a part-time physician
 - 12% have a full-time physician
- 39% have a nurse
- <25% have a social worker or psychologist

Service Coordination by Severity

Alcohol, Tobacco & Other Drug Severity

Addiction Specialty

Hospital, Prison,
ED

Integration

Collaboration

Primary Health

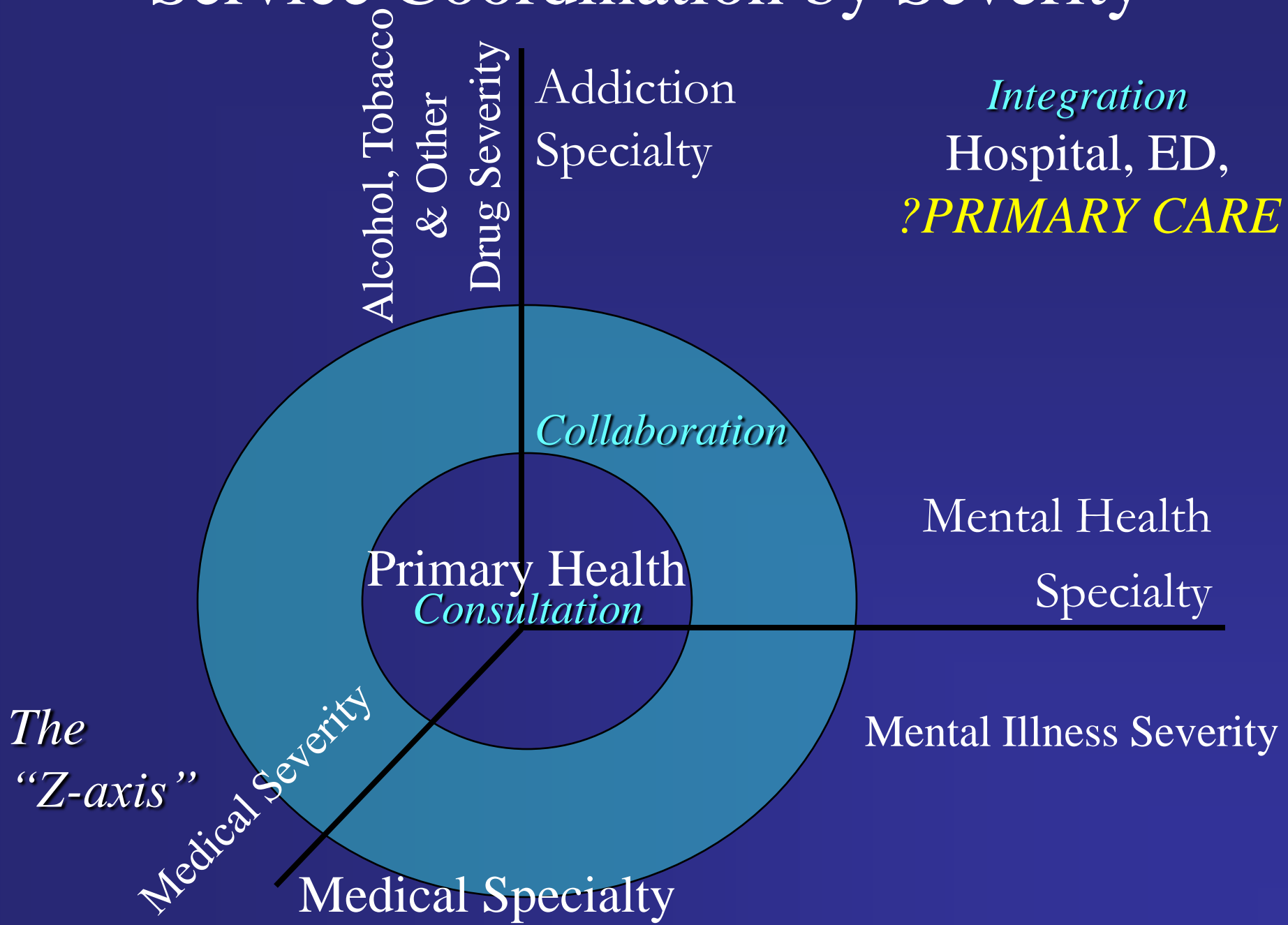
Mental Health
Specialty

Consultation

Mental Illness Severity

Adapted from SAMSHA 2002 Report to Congress on the Prevention and Treatment of Co-occurring Substance Abuse and Mental Disorders

Service Coordination by Severity



Chronic Disease/Care Management

- Context
 - Patient-centered
 - Community resources
 - Chronic disease as a priority
- Elements
 - Self-management support
 - Delivery system design
 - Decision support
 - Clinical information systems

Chronic Disease Management

- Implemented by multidisciplinary teams with disease specific skills (e.g. nurse, social worker, physician)
 - Provide care
 - Coordinate referrals
 - Communicate with other caregivers
 - Proactively follow patients
 - Facilitate access to community resources

Chronic Disease Management

- Over 100 controlled trials for chronic disease management of medical and psychiatric conditions
 - Depression, congestive heart failure, asthma, arthritis, diabetes
- Disease management vs. usual care improves
 - Patient satisfaction
 - Adherence to treatment
 - Clinical and functional outcomes
 - Hospitalization (less)
 - Cost-effective
- Number of controlled trials of alcohol or drug dependence disease management: $n=0$

Chronic Disease Management for Substance Dependence: Case Management component

- Characteristics

- Single contact point for assessment
- Care planning
- Linkage and coordination

- Outcomes

- Increased treatment retention and receipt of treatment when needed
- Increased medical, mental health, social service receipt
- Decreased relapse, intoxication, medical, psychiatric, family, legal problems

Chronic Disease Management for Substance Dependence: Integrated Care

- Delivery of primary medical care and addictions care at the same site*
- Can increase abstinence (Willenbring 1999), particularly among those with substance-related medical conditions (69% vs 55%, Weisner 2001)

*compared to usual separate care

Willenbring ML & Olson DH. Arch Intern Med 1999;159:1946-52

Willenbring ML et al. J Stud Alcohol. 1995;56:337-343

Weisner C et al. JAMA 2001;286:1715-23.

Chronic Disease Management for Substance Dependence

Model Conceptual Element

Potential Implementation Elements

Community Resources

Case management; address social, legal, financial needs

Chronic disease as priority

Focus on substance dependence as chronic illness; Explicit care plans

Self-management support

Routine assessment and feedback; Patient participation; Behavior change; Psychosocial support

Delivery system design

On-site service delivery (integrated care); Referral agreements; Planned visits; Use of non-physicians in multidisciplinary team; Patient reminders; Collaboration of addiction, medical and psychiatric physicians

Decision support

Specialty expertise made accessible

Clinical information systems

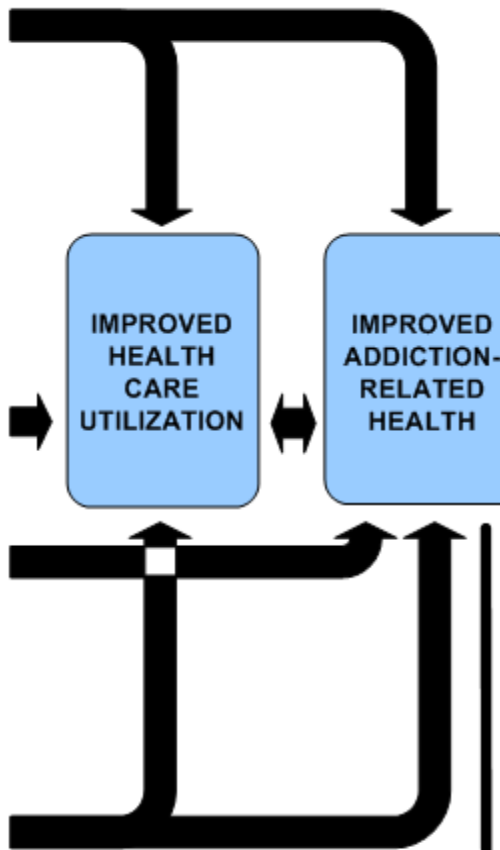
Electronic medical record; Monitoring of outcomes

PROBLEM	CDM COMPONENT	CHANGE EXPECTED
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SYSTEMS		
Needed services in disparate locations, systems	On-site care ("one-stop shopping") and referral agreements	Increased likelihood of receiving addiction and related treatments
Addiction addressed as acute problem	Longitudinal service delivery	Addiction addressed as a chronic problem, reduced risk for relapse
Lack of addiction clinician expertise and time	Availability of expert addiction clinician	Patient receives evidence-based treatments, reduced risk for relapse
Care uncoordinated, patient with competing needs and priorities	Coordination of explicit care plan and progress (with patient, PCP)	Receipt of effective addiction treatment, PCP supports care plan and reinforces addiction use feedback
Patient disorganized and overwhelmed by health care system	Securing appointments and issuing reminders	Adherence to treatment and follow-up
Patient unaware of addiction treatment services	Offer of addiction treatments to all	Awareness of available services and greater likelihood of treatment engagement
No relationship with healthcare provider over time, low likelihood of long-term engagement	Development of therapeutic alliance with clinical case manager	Addiction and related health problem treatment engagement

MEDICAL, PSYCHIATRIC & SOCIAL		
Medical problems get in the way of addiction treatment	Medical assessment and management, coordination of care, PCP referral	Addiction treatment engagement and adherence
Psychiatric problems get in the way of addiction treatment	Psychiatric assessment and management, coordination of care	Addiction treatment engagement and adherence
Social problems get in the way of addiction treatment	Social work assessment and management, coordination of care	Addiction treatment engagement and adherence

ADDICTION SPECIFIC		
Motivation to change	Motivational enhancement	Enhanced treatment engagement
Relapse risk	Relapse prevention counseling, naltrexone, disulfiram	Reduced risk for relapse
Relapse risk	Referral to addiction treatment	Reduced risk for relapse
Relapse	Ambulatory detoxification	Resumption of treatment engagement



PCP = Primary Care Physician
 CDM = Chronic Disease Management

Primary Care

- Integrated and accessible health services provided by generalist clinicians
- Address the majority of healthcare needs
- Sustained patient-clinician partnership; balancing and negotiating priorities is key
- Occurs in family and community context
- Grounded in both biomedical and psychosocial sciences; physical and mental health not separate

Receipt of Primary Care Improves Addiction Severity

Table 1 Association between primary care visits and addiction outcomes in multi-variable analyses.

	<i>Substance abuse treatment n= 391 Odds ratio, 95% CI</i>	<i>Alcohol severity n = 248</i>	<i>Drug severity n= 300</i>	<i>30-day drug use or use of alcohol to intoxication n= 391 Odds ratio, 95% CI</i>
Primary care visits during 6 months		Predicted mean ASI score	Predicted mean ASI score	
0	–	0.34	0.16	–
1	1.08 (0.70–1.67)	0.26	0.15	0.91 (0.54–1.52)
≥ 2	1.04 (0.73–1.49)	0.30	0.13	0.45 (0.29–0.69)
P-value	P= 0.94	P= 0.04	P= 0.01	P= 0.002

Care for People with Drug Abuse or Dependence

	Hospitalization (AOR, 95% CI)
HIV	
Regular* drug care	0.85 (0.76-0.96)
Regular med care	0.82 (0.74-0.91)
Both	0.76 (0.67-0.85)
Non-HIV	
Regular drug care	0.71 (0.66-0.76)
Regular med care	0.91 (0.86-0.95)
Both	0.73 (0.68-0.79)

PCMH: Patient Centered Medical Home

- Excellent healthcare based on a trusting relationship with a personal physician who provides first contact and continuous comprehensive care
 - A team
 - Patient-centered (respectful and responsive to individual preferences and values)
 - Prevention/check-ups, coordination/consultation, accessible (hours, open access)

The Patient-Centered Primary Care Collaborative www.pcpcc.net

Medical Home Demonstration project (2009) is mandated by Congress through the Tax Relief and Health Care Act of 2006 (TRHCA).

TODAY'S CARE

My patients are those who make appointments to see me

Patients' chief complaints or reasons for visit determines care

Care is determined by today's problem and time available today

Care varies by scheduled time and memory or skill of the doctor

Patients are responsible for coordinating their own care

I know I deliver high quality care because I'm well trained

Acute care is delivered in the next available appointment and walk-ins

It's up to the patient to tell us what happened to them

Clinic operations center on meeting the doctor's needs

MEDICAL HOME CARE

Our patients are those who are registered in our medical home

We systematically assess all our patients' health needs to plan care

Care is determined by a proactive plan to meet patient needs without visits

Care is standardized according to evidence-based guidelines

A prepared team of professionals coordinates all patients' care

We measure our quality and make rapid changes to improve it

Acute care is delivered by open access and non-visit contacts

We track tests & consultations, and follow-up after ED & hospital

A multidisciplinary team works at the top of our licenses to serve patients

Confidentiality: CFR 42, Part 2

- (a) An individual or entity (other than a general medical care facility) who holds itself out as providing, and provides, alcohol or drug abuse diagnosis, treatment or referral for treatment; or
- (b) An identified unit within a general medical facility which holds itself out as providing, and provides, alcohol or drug abuse diagnosis, treatment or referral for treatment; or
- (c) Medical personnel or other staff in a general medical care facility whose primary function is the provision of alcohol or drug abuse diagnosis, treatment or referral for treatment and who are identified as such providers. (See §2.12(e)(1) for examples.)

Confidentiality: CFR 42, Part 2

- Does it apply?
 - I am a doctor, not a lawyer; this is not legal advice
 - Primary care services usually do not “hold themselves out as...” nor is their “primary function...”
- If so, releases (PCP \leftrightarrow specialist)
 - Communication with PCP similar to other specialists
 - Patient safety, quality of care rely on such communication
 - e.g. methadone and QTc

Addiction *Health Evaluation* and *Disease* management (AHEAD) study: Design

- Randomized controlled trial of the effectiveness of alcohol and/or drug dependence chronic disease management in primary care, with 3, 6, and 12 month in-person follow-up (and 2 year healthcare utilization follow-up)



AHEAD study: CDM Intervention

- Systems components
 - RN care manager, MDs (internist with alcohol/drug expertise, psychiatrist), SW, in primary care
 - Linkage with city addiction treatment services
 - Use of electronic record
 - Coordination of care with PCP and specialty treatment services (phone, EMR, info. releases)
 - Reminders

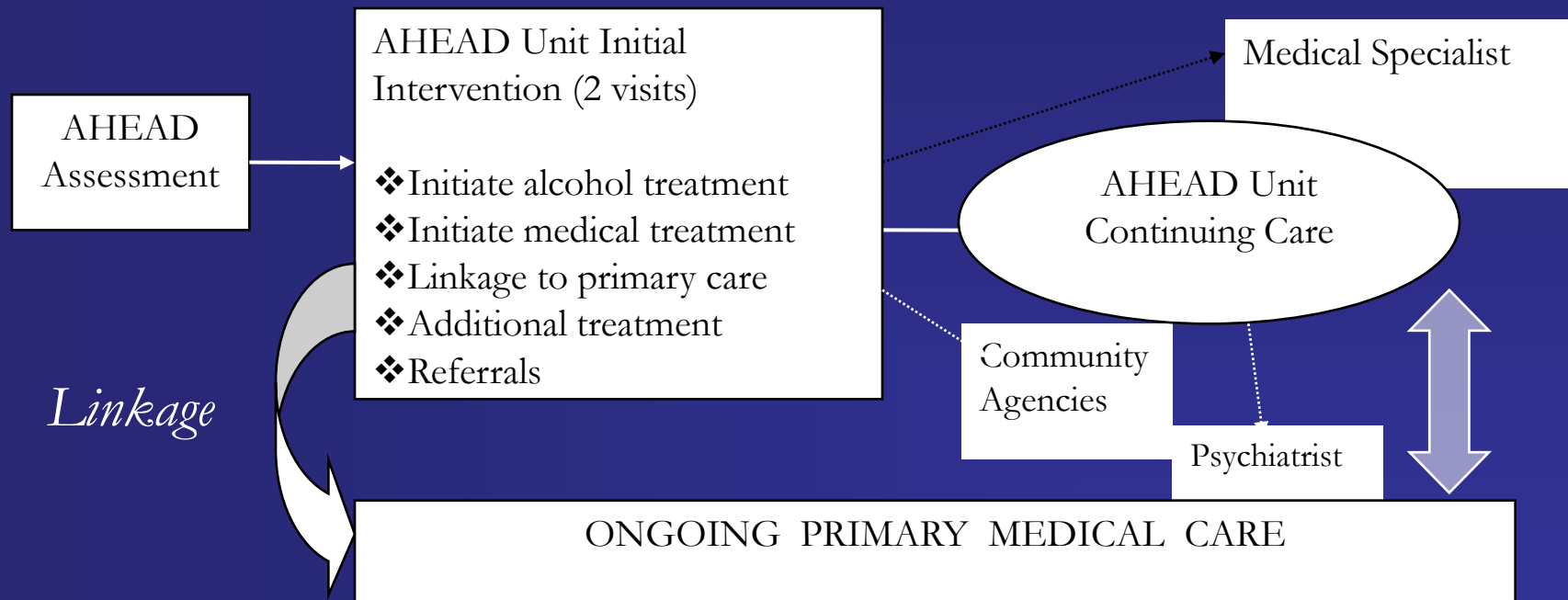


AHEAD study: CDM Intervention

- Medical, psychiatric, social components
 - Assessments, address short term needs, prioritize, refer, ongoing social work assistance
- Substance dependence-specific components
 - Negotiate treatment plan
 - MET
 - Relapse prevention, primary care adaptation
 - Offer naltrexone, acamprosate, disulfiram, or buprenorphine; medication management
 - Offer referral to mutual help groups and specialty treatment
 - Re-entry to care after relapse



AHEAD study: Intervention



AHEAD Study: Preliminary data



Conclusions

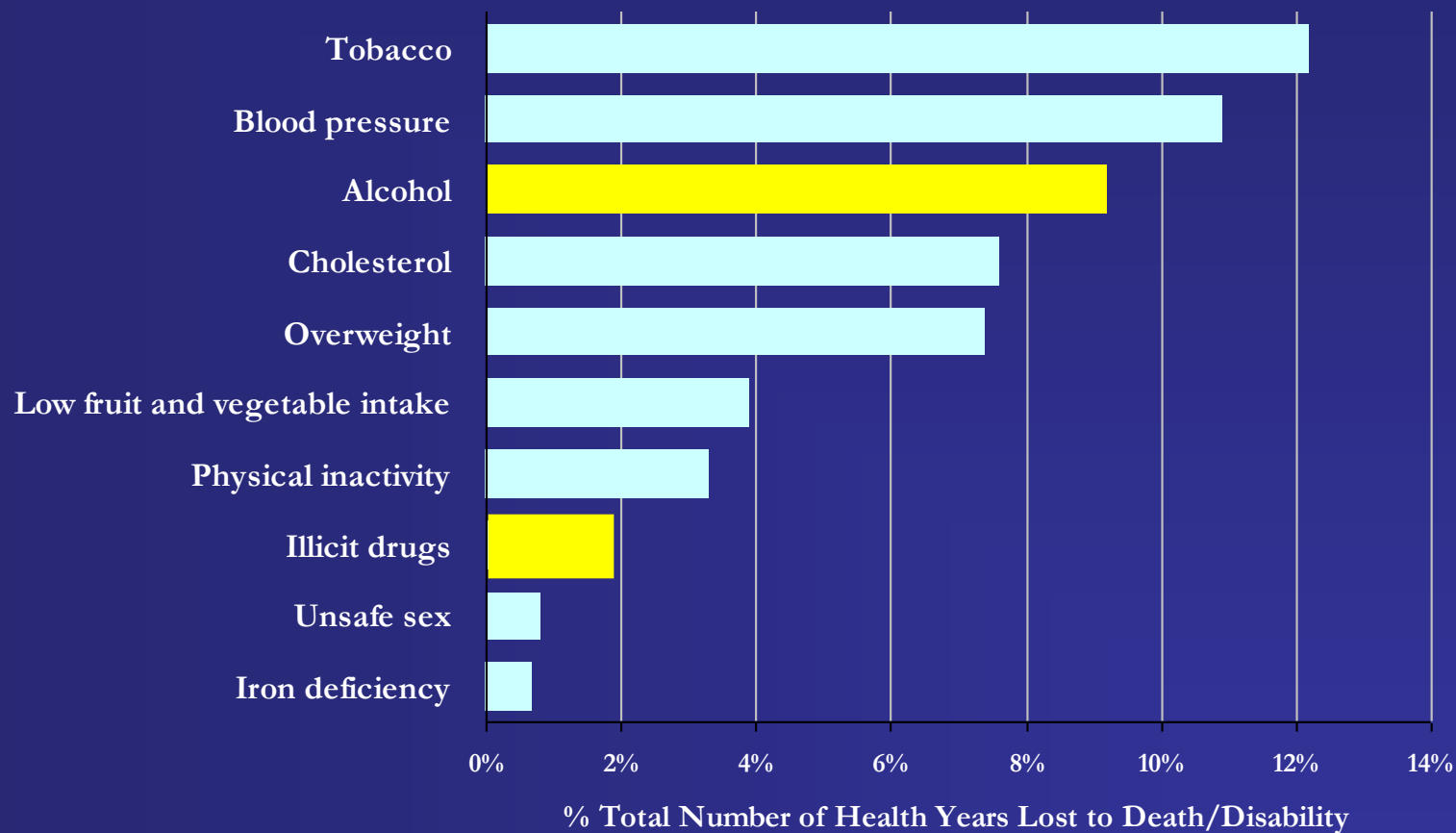
- Alcohol, and maybe drug, screening and brief intervention effective in primary care
- Management of unhealthy substance use in primary care (including counseling, medication and referral) is feasible and efficacious
- Substance dependence is sometimes a chronic disease, often accompanied by co-occurring conditions that affect each other
- Chronic disease management is an approach that has promise for improving treatment for substance dependence
- Preliminary data suggest that patients with substance dependence appear to be willing to initiate and engage with chronic disease management/addiction care

Leading Causes of Preventable Death in the US

Cause	Number	% of all deaths
Tobacco	435,000	18.1
Diet/Activity	400,000	16.6
Alcohol	85,000	3.5
Illicit drugs	17,000	0.7
Total deaths	2,403,351	--

- >50% of alcohol deaths due to INJURY
- 2.3 million years of potential life lost (30/each alcohol related deaths)

Attributable Preventable Burden of Disease in Developed Countries



Screening and Brief Intervention: Among the most effective and cost- effective preventive services

- Grouped according to health impact and cost-effectiveness
 - 10: **Aspirin chemoprophylaxis, childhood immunizations, tobacco use screening and brief intervention**
 - 9: **Unhealthy alcohol use screening and brief intervention**
 - Cost-saving for society; \$1755 per QALY (health system)
 - 8: **Colorectal cancer screening, hypertension screening, influenza vaccination, pneumococcal vaccination, vision screening**

Solberg LI et al. Am J Prev Med 2008; 34(2): 143-152.

Maciosek MV et al. Am J Prev Med 2006; 31(1):52-61. **Bold** indicates

<50% of eligible population receiving the service.

AUDIT

- Alcohol Use Disorders Identification Test (AUDIT)
 - 10 items, consumption and consequences
 - Positive score ≥ 8 for men, ≥ 4 for women, elderly
 - 57-95% sensitive, 78-96% specific
- AUDIT-C
 - First 3 items of AUDIT (consumption only)
 - Positive score ≥ 4 for men, ≥ 3 for women
 - Similar operating characteristics

AUDIT

- How often do you have a drink containing alcohol?
- How many drinks containing alcohol do you have on a typical day when you are drinking?
- How often do you have 6 (4/5) or more drinks on one occasion?
- How often during the last year have you found that you were not able to stop drinking once you had started?
- How often during the last year have you failed to do what was normally expected from you because of drinking?
- How often during the last year have you been unable to remember what happened the night before because you had been drinking?
- Have you or someone else been injured as a result of your drinking?
- How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
- How often during the last year have you had a feeling of guilt or remorse after drinking?
- Has a relative, friend, doctor, or other health worker been concerned about your drinking or suggested that you should cut down?

Alcohol-related Diagnoses, AAFs < 1

Pulmonary and other respiratory tuberculosis	0.25
Malignant neoplasm of lip, oral cavity, and pharynx	0.50
Malignant neoplasm of esophagus	0.75
Malignant neoplasm of stomach	0.20
Malignant neoplasm of liver + intrahepatic bile ducts	0.15
Malignant neoplasm of larynx	0.50
Diabetes mellitus	0.05
Essential hypertension	0.076
Cerebrovascular disease	0.065
Pneumonia and influenza	0.05
Diseases of esophagus, stomach, and duodenum	0.10
Cirrhosis of liver without mention of alcohol	0.50
Biliary cirrhosis	0.50
Acute pancreatitis	0.42
Chronic pancreatitis	0.60

Medical Disorders More Common in Patients with Substance Use Disorder, Psychotic Disorder, and Both

- Diabetes
- Hypertension
- Heart Disease*
- Asthma*
- Gastrointestinal Disorders*
- Skin Infections*
- Malignant Neoplasms
- Acute Respiratory Disorders*

*highest risk in those with both

Dickey B et al. Psych Services 2002;53(7):861-7.

Integrated Medical and Alcoholism Care

- Randomized trial of a thorough multidisciplinary evaluation, and care plan (N=101)
- Monthly primary care visits to review drinking and medical problems
- Mental health, social services and more intensive alcohol treatment on site
- 2-year results:
 - 30-day abstinence increased from 47% to 74%
 - Mortality decreased from 30% to 19%

Receipt of Primary Care Improves Addiction Severity, particularly among those with worse physical health

	<i>Predicted mean differences in drug addiction severity</i>		
	<i>Sample mean - 2 SE</i>	<i>Sample mean</i>	<i>Sample mean + 2 SE</i>
Receipt of primary care	PCS = 26	PCS = 48	PCS = 70
No primary care visits	-0.08	-0.15	-0.21
1 visit	-0.19	-0.18	-0.19
≥ 2 visits	-0.16	-0.19	-0.23

Buprenorphine Efficacy

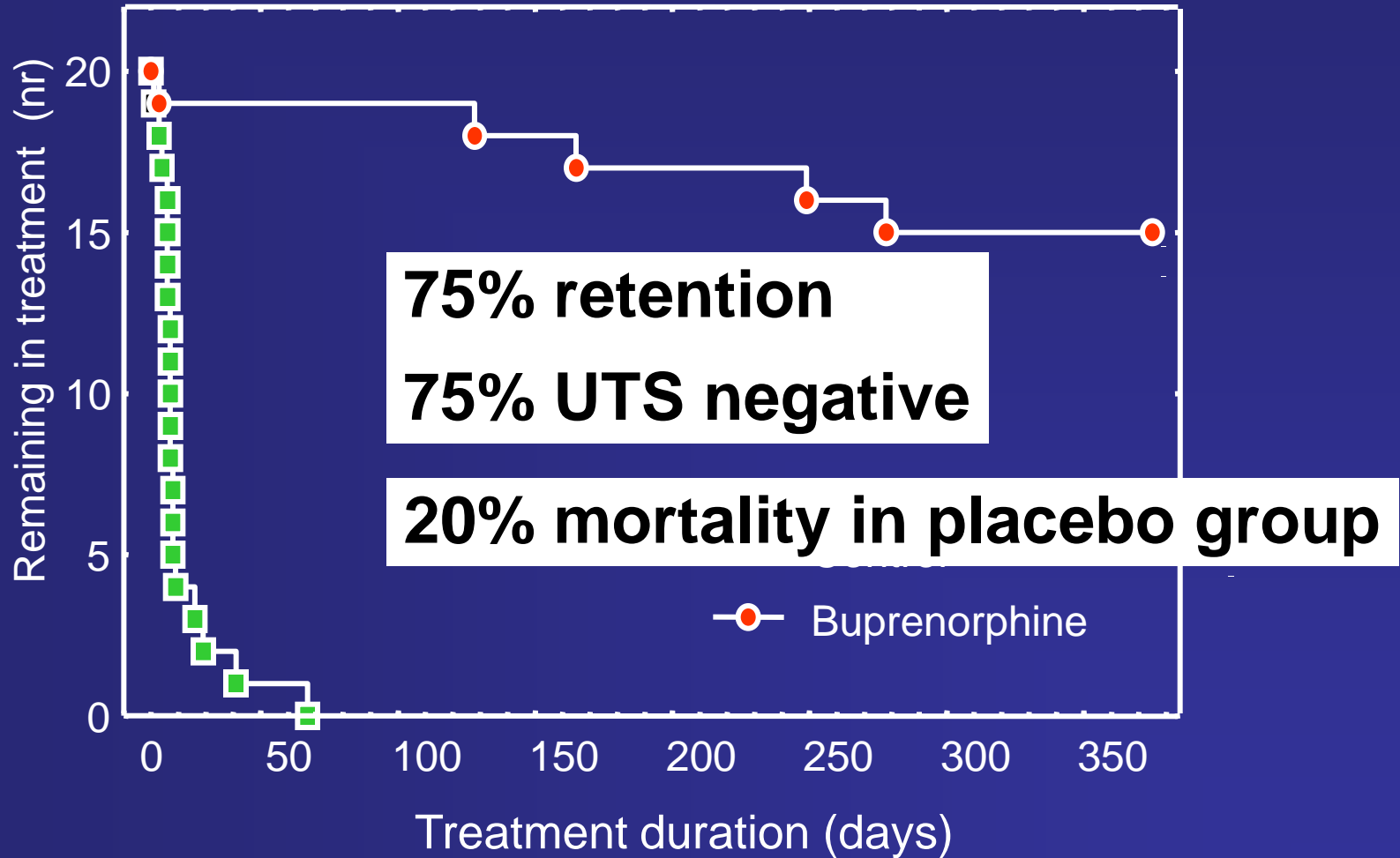


Table 3. Eligibility and Treatment by Quality Indicators^a

	Overall	Mental Illness		P Value
		No	Yes	
Patients classified as ideal candidates				
Prescribed ACE inhibitors ^b	16.4	16.7	15.3	.02
Documentation of left ventricular systolic function	98.2	98.2	98.3	.12
Treatment among ideal candidates				
Prescribed ACE inhibitors	71.0	71.3	69.7	.40
Prescribed ACE inhibitors or ARBs	79.5	79.7	78.5	.47
Documentation of left ventricular systolic function	52.0	53.0	47.3	<.001
Adjusted odds of treatment among ideal candidates				
Prescribed ACE inhibitors	...	1 [Reference]	0.96 (0.80-1.14)	.61
Prescribed ACE inhibitors or ARBs	...	1 [Reference]	0.95 (0.78-1.17)	.64
Documentation of left ventricular systolic function	...	1 [Reference]	0.81 (0.76-0.87)	<.001

Abbreviations: ACE, angiotensin-converting enzyme; ARB, angiotensin receptor blocker.

^a Data are presented as the percentage of participants and as adjusted odds ratios (95% confidence intervals) for receipt of quality indicator among patients with mental illness compared with patients without mental illness.

^b Same cohort for the evaluation of the prescription of ACE inhibitors or ARBs.

Rathore, S. S. et al. Arch Gen Psychiatry 2008;65:1402-1408.

Treating Major Depression in Patients with Myocardial Infarction

- Randomized, clinical trial
- 2,481 men and women hospitalized with MI and depression (75%) or lower perceived social support (25%)
- CBT and group therapy for 6 months
- Results:
 - Improvements in depressive symptoms and perceived social support
 - No difference in 24% death or recurrent MI

Chronic Disease Management (CDM)

- Example: Depression RCT, CDM v. usual care
- 1,801 depressed older adults, 18 primary care clinics
- CDM
 - Patient education
 - Visit with a trained depression nurse or psychologist in primary care
 - Team development of care plans
 - Work with primary care physicians, make referrals
 - Offer of medication or brief psychotherapy
 - Frequent follow-up visits and phone contacts
- CDM patients were more likely to
 - Receive depression treatments
 - Have reduction in depressive symptoms and functional impairment
 - Have improved arthritis pain and function

AHEAD study: Intervention Structure

- Assessment (alcohol/drug, medical, social, psychological)
- Initial intervention (over 2 visits)
 - Feedback
 - Preventive services
 - Initiation of alcoholism treatment
 - Initiation of medical treatment
 - Referral to primary medical care
 - Additional treatment and referrals
- Continuing care
 - RN care manager contacts, ongoing facilitated referrals, availability for drop-in care

