

Psychopharmacology in the Primary Care Setting

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Teaching Points

1. To review the identification of the most common psychiatric conditions seen in the medical setting
2. To summarize treatments for these conditions
3. To provide data showing the value that treatment of the psychiatric conditions brings to patients and to the health system

Pre-Lecture Exam

Question 1

1. What percentage of patients with psychiatric difficulties receive no treatment for their psychiatric condition?
 - a. 10%
 - b. 25%
 - c. 50%
 - d. 70%

Question 2

2. In the absence of physical signs and symptoms, which medical screening tests are appropriate in the evaluation of a 22-year-old with an anxiety disorder?
 - a. Thyroid function tests
 - b. Electrocardiogram
 - c. Drug Screen
 - d. None of the above

Question 3

3. In a patient with unexplained somatic complaints, which would not be included if you were providing reassurance therapy?
 - a. An examination of the patient
 - b. Tests, medications, referrals
 - c. Explanation that symptoms are not a result of a serious illness
 - d. Patient follow up

Question 4

4. Severe delirium can be prevented in what percentage of high risk inpatients through risk screening techniques?
- a. 5%
 - b. 15%
 - c. 30%
 - d. 50%

Question 5

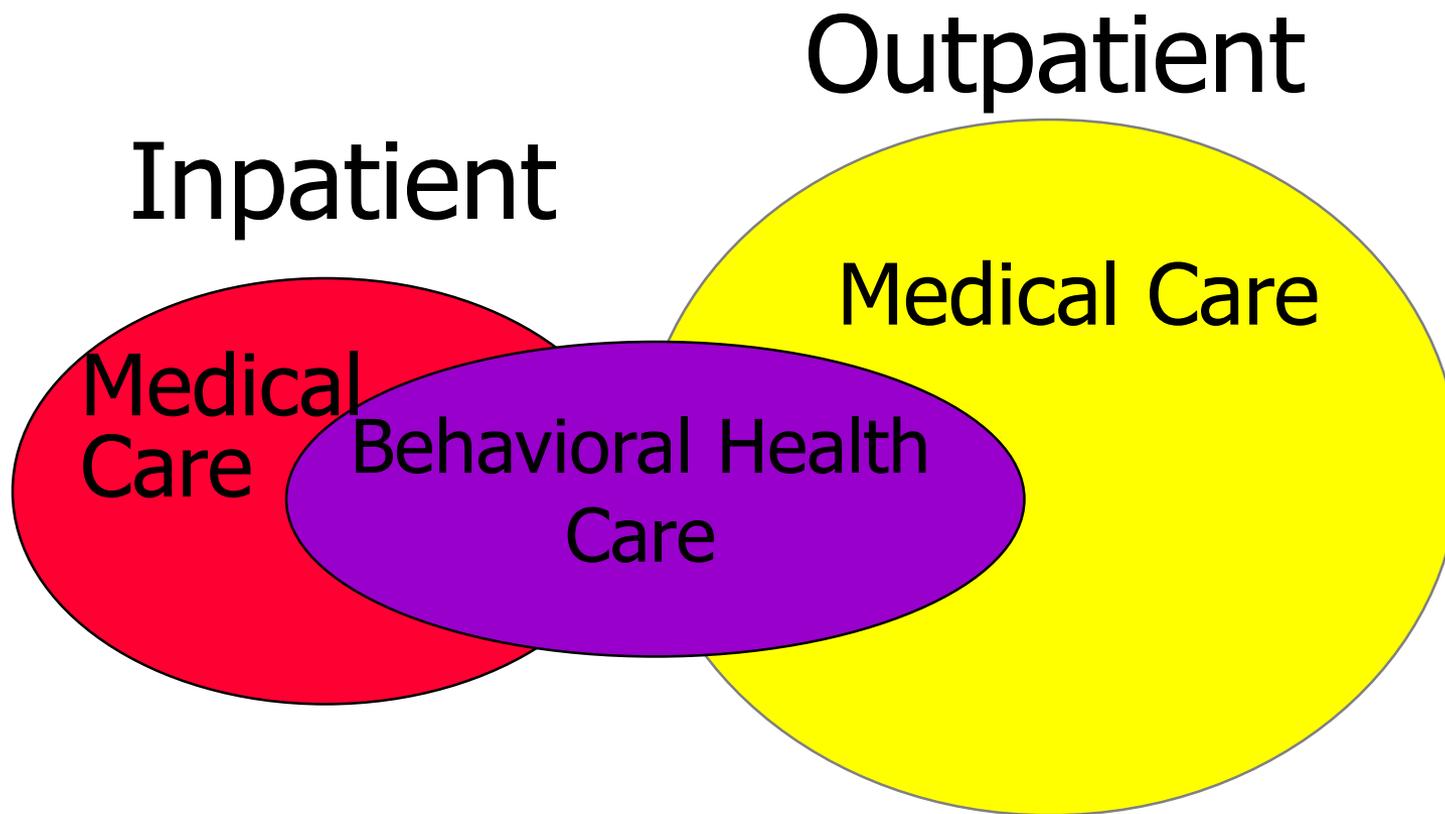
5. What percent of health care service use for patients with psychiatric illness is for psychiatric treatment?
- a. 20%
 - b. 40%
 - c. 60%
 - d. 80%

*Management of Patients With General Medical and Psychiatric Comorbidity

- Psychosomatic presentations are common¹
- Mental illness has a detrimental effect on physical illness
 - Diabetes²
 - Asthma³
 - Myocardial infarction⁴
- Aggressive treatment of mental illness may improve general medical conditions

¹Simon GE et al. (1999), N Engl J Med 341(18):1329-1335; ²Zhang X et al. (2005), Am J Epidemiol 161(7):652-660; ³Tough SC et al. (1998), J Asthma 35(8):657-665; ⁴Rowan PJ et al. (2005), Ann Epidemiol 15(4):316-320

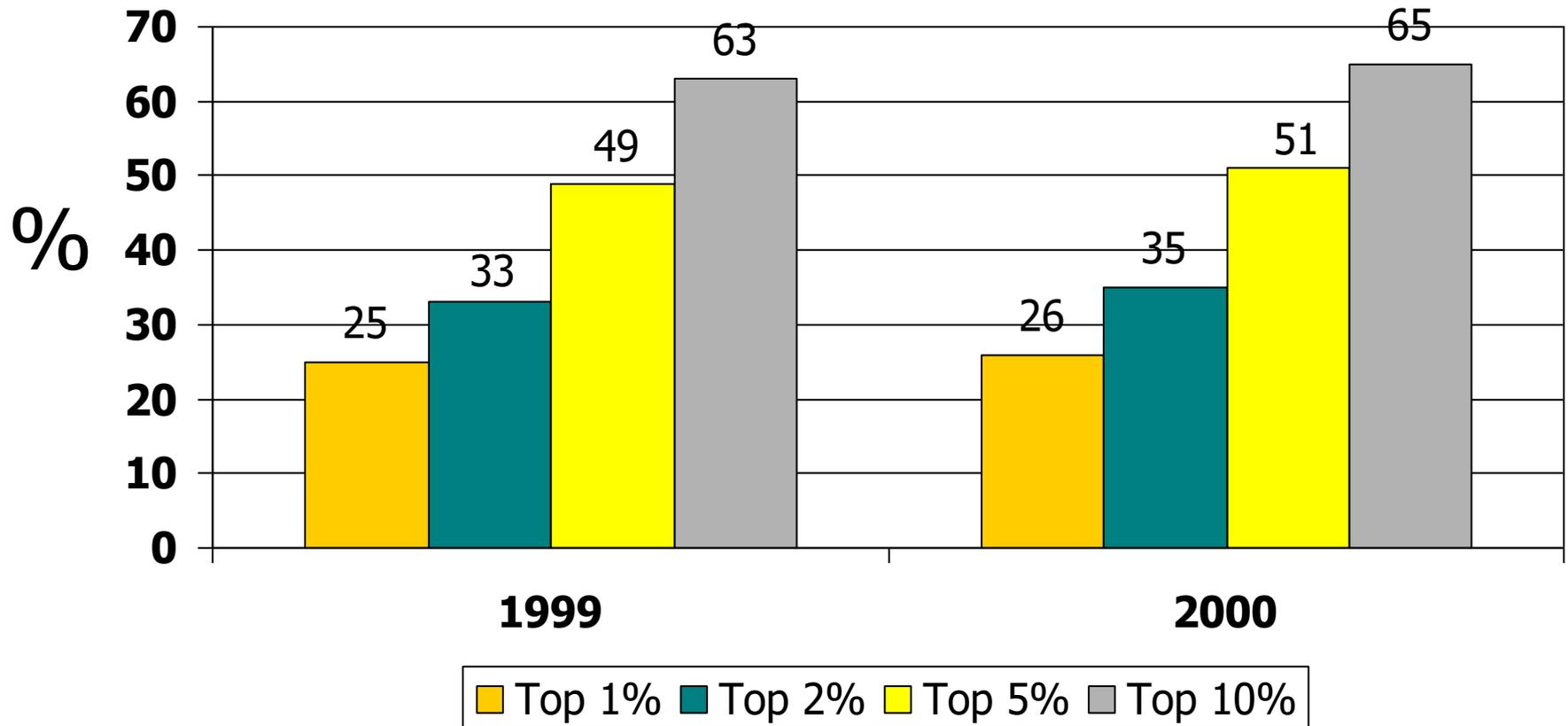
Medical and Behavioral Health Care Overlap



Prevalence of Mental Disorders in Non-Psychiatric Setting

	<u>Community</u>	<u>Primary Care Setting</u>	<u>General Hospital</u>
Major Depression	5.1%	5-14%	>15%
Somatization	0.2%	2.8%-5%	2%-9%
Substance Abuse	6.0%	10%-30%	20%-50%
Any Disorder	18.5%	21%-26%	30%-60%

*Percent of Health Care Costs Used by Complex Patients

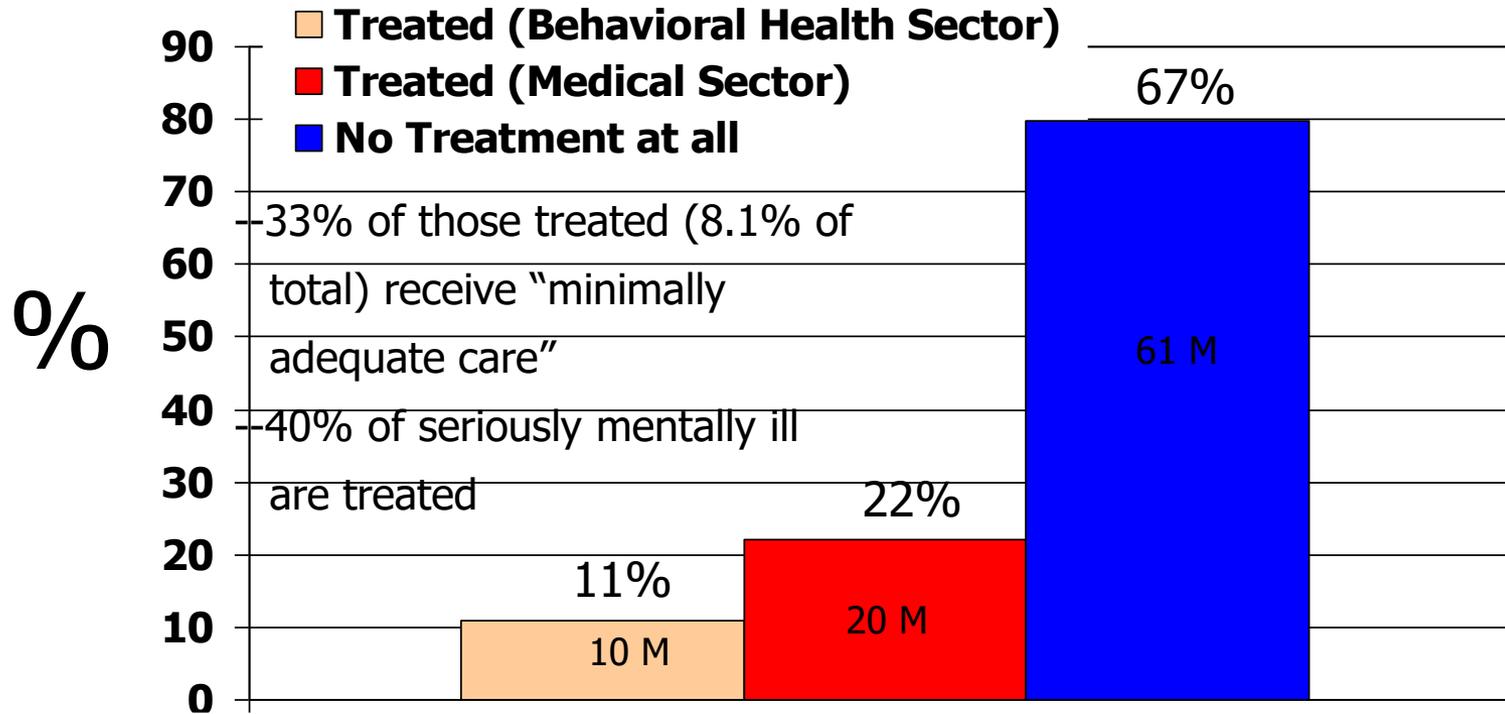


--Deloitte & Touche, 2002

High Utilizers of General Medical Care

- 58% of High Utilizers have panic disorder, generalized anxiety disorder, or depression
- Top 10% Utilizers Account for:
 - 29% of all PC visits
 - 52% of all specialty visits
 - 40% of in-hospital days
 - 26% of all prescriptions

*Poor Treatment of Mental Illness



--annually 30.5% of population (90.3 million Americans) have mental illness (in 58.6 million, it is moderate to severe)

Healthcare Utilization in General Medical Patients

	<u>Depressed</u>	<u>Non-Depressed</u>	<i>p</i>
	(N = 714)	(N = 14,472)	
• Primary Care Visits	5.3	2.9	<.001
• Specialist Referrals	1.1	0.5	<.002
• Tests	10.1	6.6	<.001
• Outpatient Charges	\$1,324	\$701	<.001
• Total Healthcare	\$2,808	\$1,891	<.001
• LOS (over DRG)	14.1 (7)	9.5 (3)	<.002

Psychotropic Medication Prescribing

- 2004 Prescriptions—28,363; Discrete Employees—10,072
- Psychiatrists Prescribe
 - Prescriptions—25%
 - Discrete employees—17%
- Non-psychiatrists Prescribe
 - Prescriptions—75%
 - Discrete employees—83%

Untreated Mental Illness Lowers Productivity

<i>Estimated cost to employers (days lost per year for members with poorly managed depression)</i>	
<i>Absenteeism</i>	<i>3.4 - 7.5 days</i>
<i>Productivity Loss</i>	<i>10.1 - 45 days</i>

Excess Self-Reported Disability During 90 Days in General Medical Clinic Patients with Medical and Behavioral Disorders

- Hepatic Disease—12.5 days
- Cancer—9 days
- Pulmonary Disease—6.2 days
- Mood Disorder—4.3 days
- Somatoform Disorder—4 days
- Anxiety Disorder—3.5 days
- Cardiac Disease—2.8 days
- Hypertension— (0.1 days)
- Eating Disorder— (1.1 days)
- Alcohol Abuse/Dependence— (4.1 days)

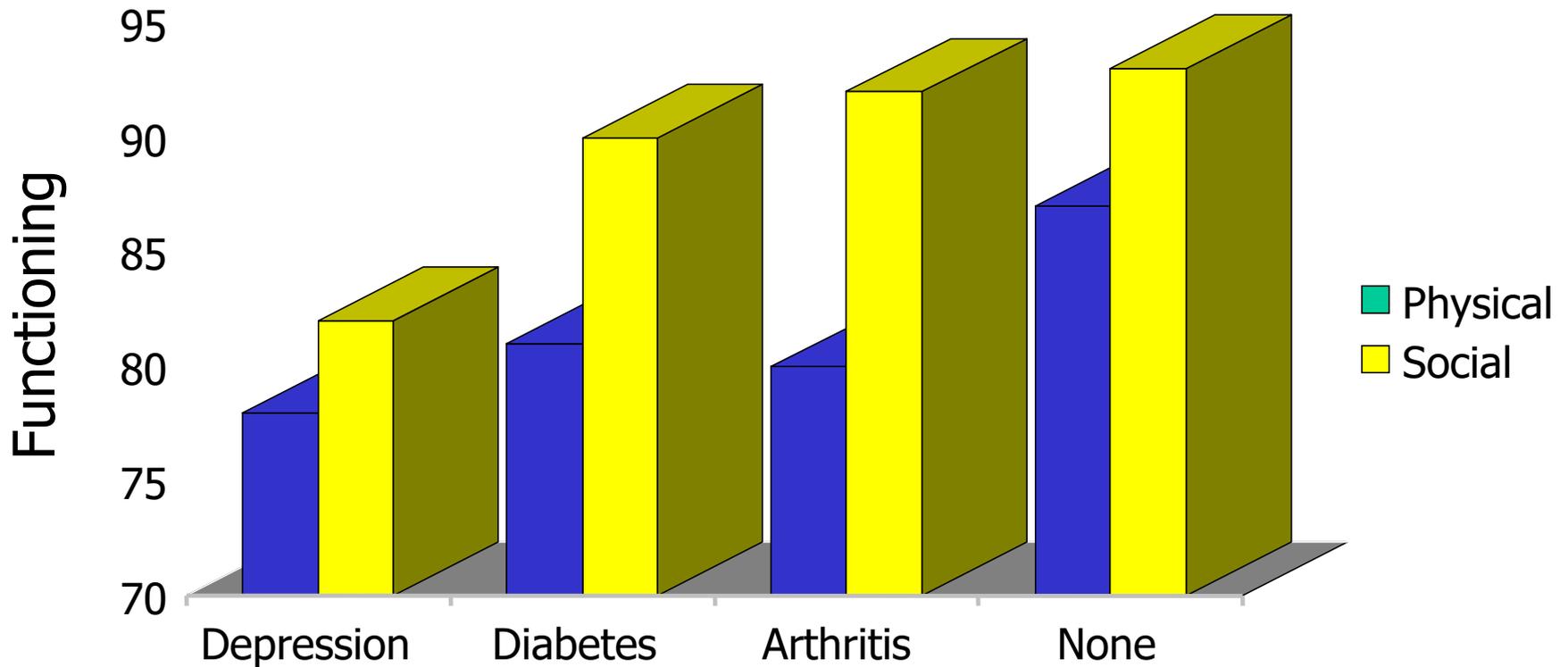
--average disability during 90 days for 1000
general medical patients = 5 days

Impact of Depression on Disability in Medical Patients

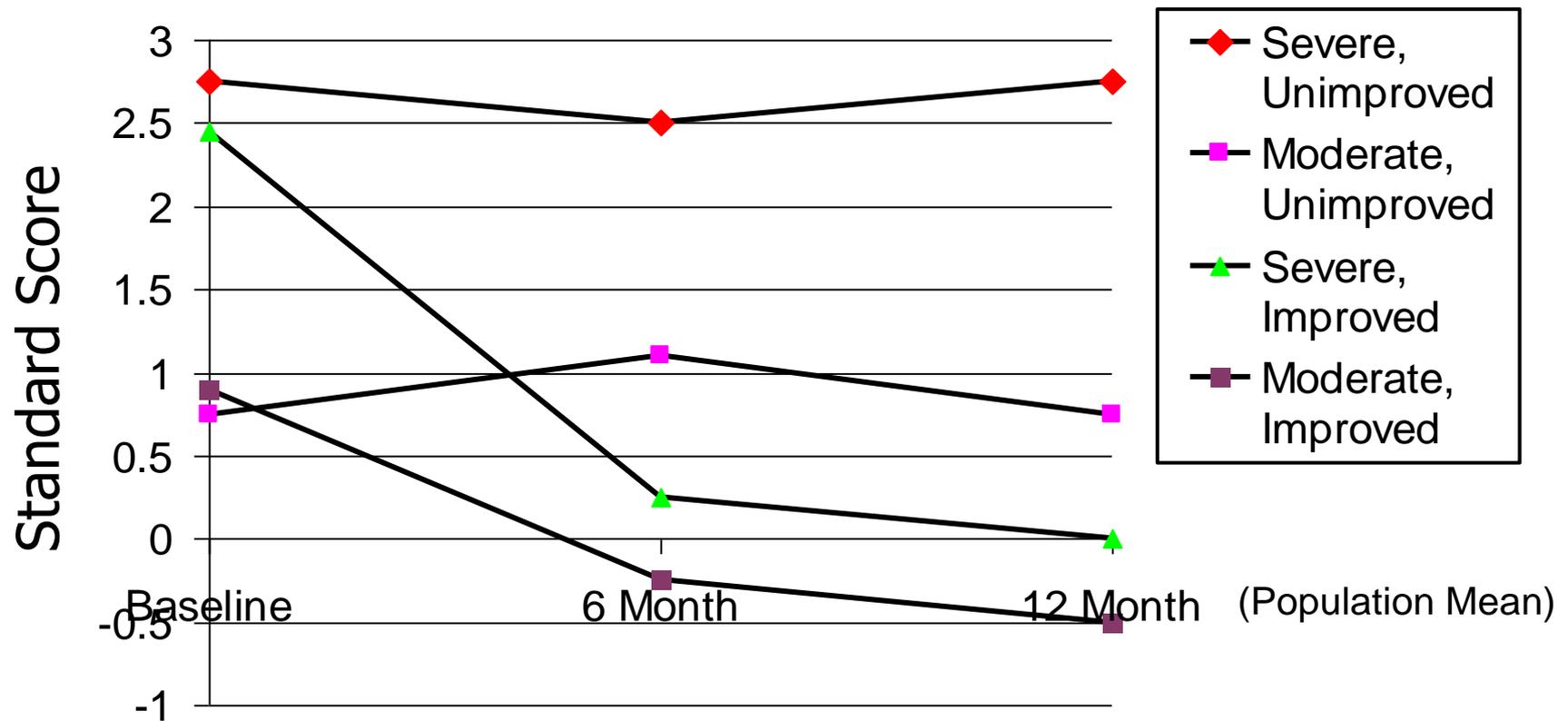
Mean Disability
Days/3 Months (\pm SD)

Asymptomatic	2 \pm 11
Major depression	11 \pm 29
Minor depression	6 \pm 21
Dysthymia	3 \pm 7

Impact of Depression on Functional Status



Impact of Depression on Disability



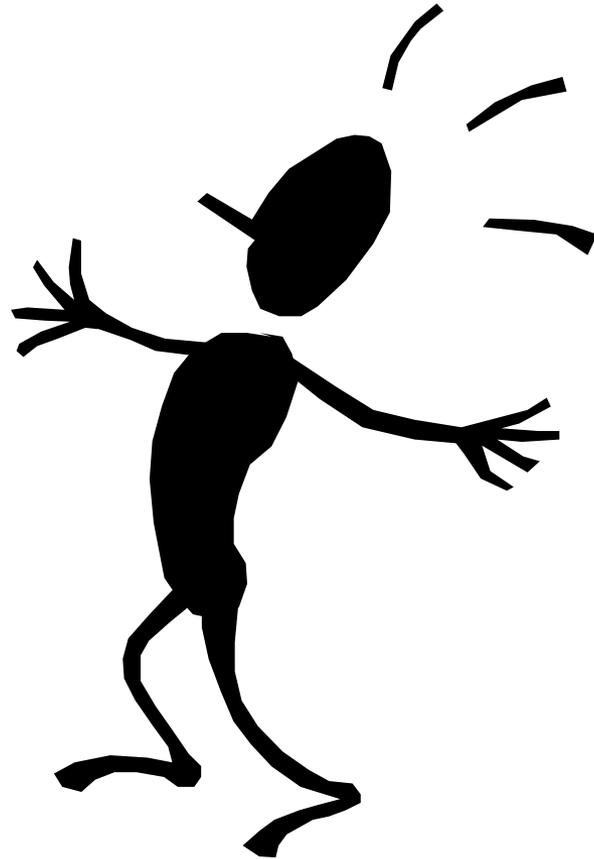
Anxiety

&

Panic Disorder

Anxiety Interferes with Life and Work

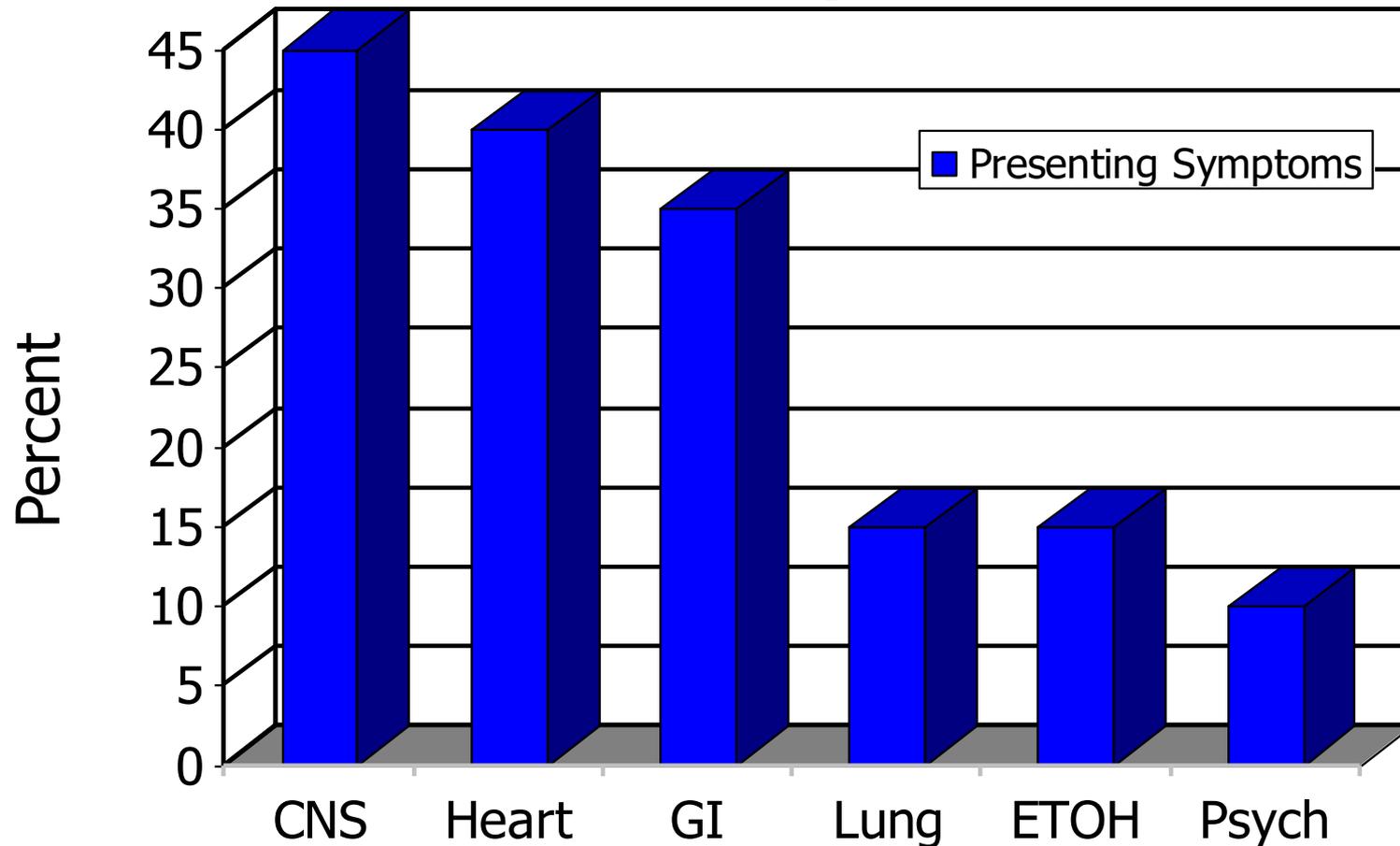
- 35 y/o male waste management driver
- Long history of asthma and anxiety with panic
- Difficult to differential early symptom attribution
- Missed work 3 out of last 12 months with “attacks”
- Spotty medication adherence
- Financial hardships for family
- Close to full time disability



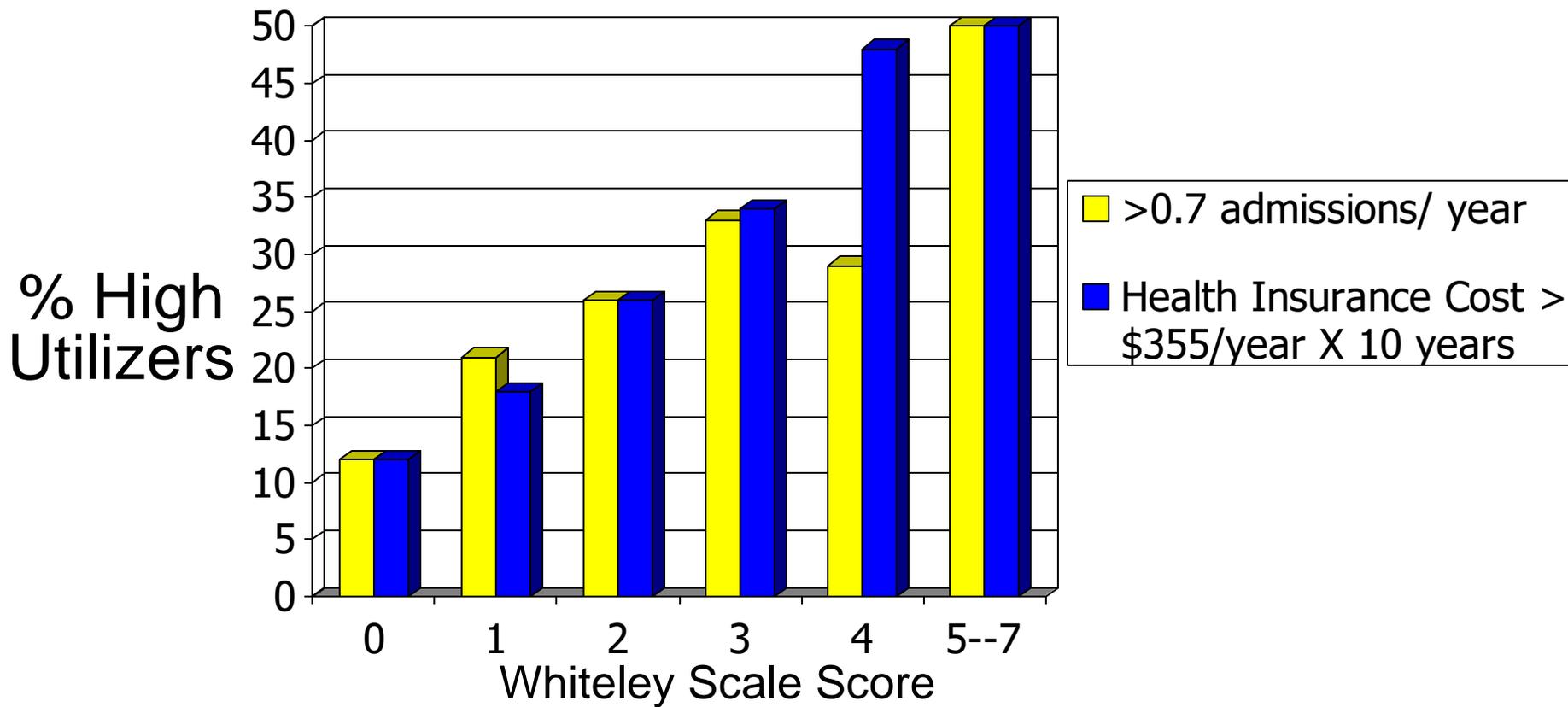
Who Anxiety Patients See

	Initial	Any Visit
<u>Medical Setting</u>	85%	49%
Primary Care Physician	35%	35%
Ambulance	15%	19%
Emergency Room	43%	32%
<u>Mental Health</u>	35%	26%
Psychiatrists	22%	24%
Psychologist	13%	10%
Social Worker	4%	5%
Other Setting	19%	13%

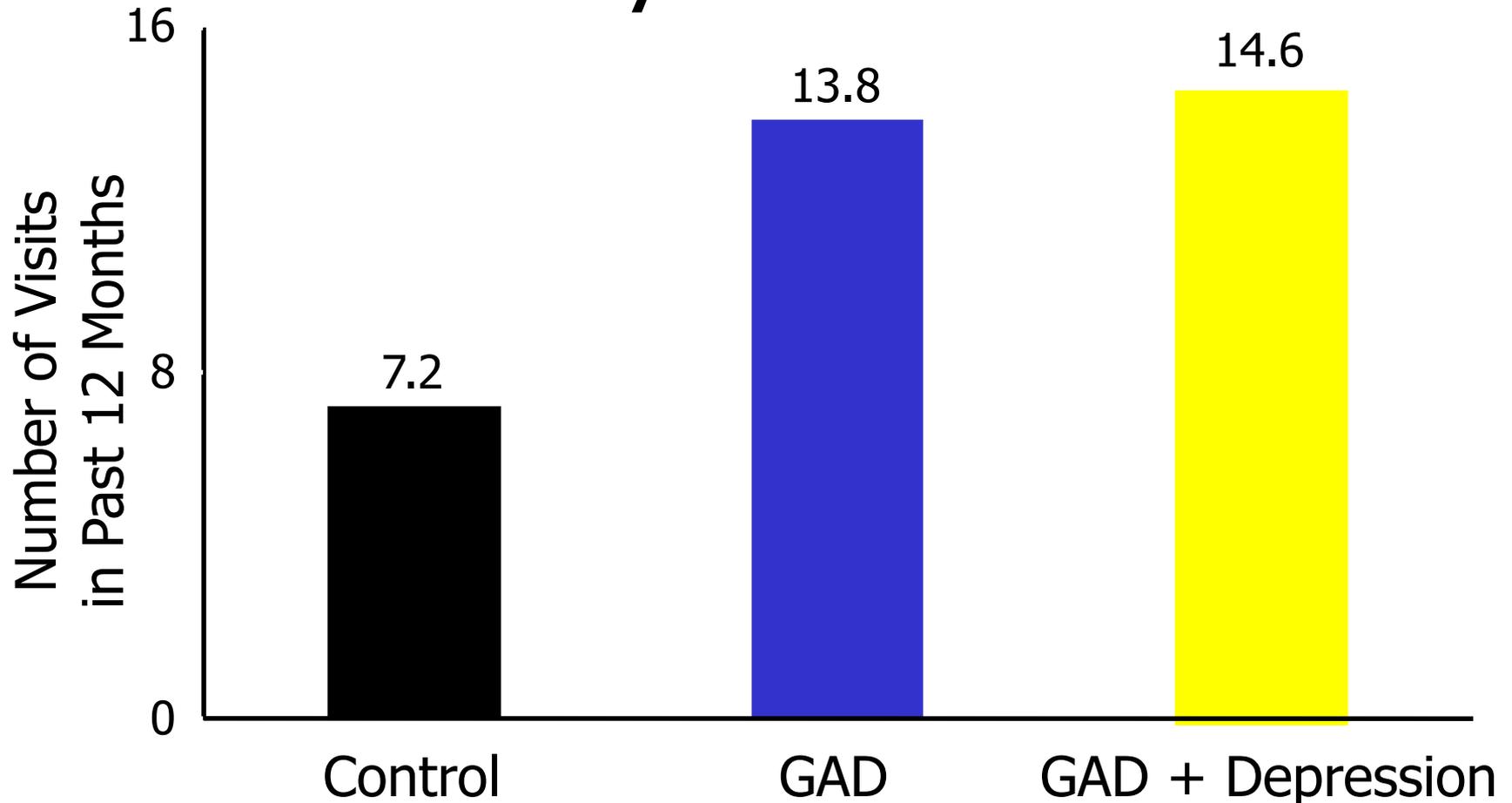
*Presenting Symptoms of Anxiety in Primary Care



*Relationship of Somatic Complaints to High Health Care Utilization



Increased Utilization of Primary Care in GAD



Differential for Anxiety

- Normal Part of the Human Experience
 - Disappointment/Unexpected News
 - Stress
- Primary Anxiety Disorder
 - Generalized Anxiety Disorder
 - Panic Disorder
 - Obsessive Compulsive Disorder
 - Phobias
 - Post Traumatic Stress Disorder
- Secondary Anxiety Disorders
 - Substance Induced
 - Medical Illness

Generalized Anxiety Disorder

- Excessive worry for more than 6 months
- Trouble controlling worry
- At least 3 symptoms from worry (impaired)
 - On edge
 - Fatigue
 - Poor concentration
 - Irritable
 - Muscle tension
 - Poor Sleep
- Not related to physiologic cause

Panic Disorder

- Recurrent Panic Attacks
- At least 1 Panic Attack followed by 1 month or more of one of:
 - Anticipation of Attacks
 - Worry about Consequences
 - Behavior Change Because of Attacks
- Possible Agoraphobia
- Not Due to a physiologic cause

Symptoms of Anxiety in Panic Attacks

- Racing or Pounding Heart
- Chest Pains
- Dizziness, light-headedness
- Nausea
- Difficulty breathing
- Tingling or numbness in the hands
- Flushes or Chills
- Catastrophic cognitions
- Fear of losing control
- Fear of dying

*Basic Facts About Primary Anxiety Disorder

- Onset--teens to 20s
- Sex--female 2: male 1
- Course--waxes and wanes
- Family History--10 times control for anxiety in 1 degree female relatives; 3 times control for alcoholism in male relatives
- Treatment--responds to antianxiety agents or cognitive behavioral psychotherapy

*Medical Illnesses Commonly Associated with Anxiety Symptoms

- Irritable Bowel Syndrome--30%
- Stimulant Use or Intoxication
- Hyperthyroidism--60%
- Alcohol or Drug Withdrawal
- Menopause
- Coronary Artery Disease--20-50%
- Chronic Obstructive Lung Disease--67%

Panic Disorder Patient with Irritable Bowel Syndrome

- 29 y/o male
- Crampy abdominal pain
- Bloating, diarrhea, gas, food intolerance
- Episodes of anxiety
- Numerous ineffective treatments



*Anxiety in Gastroenterology

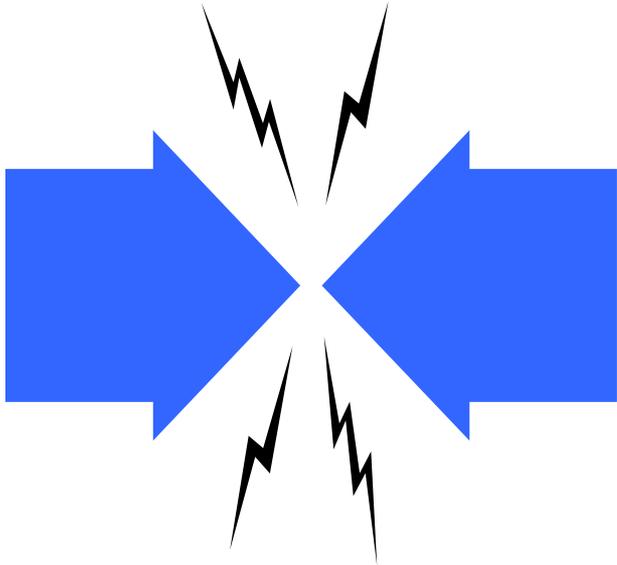
- Prevalence of Irritable Bowel Syndrome in the US--10-17%
- 29% of patients with IBS have anxiety
- 44% of patients with anxiety have IBS
- Both syndromes improve with treatment of anxiety

--Drossman et al, Ann Int Med 23:688-697, 1995

--Lydiard et al, Psychosom 24:229-234, 1993

Anxiety in Patient with Heart Disease

- 42 y/o female
- Crushing chest pain
- Numerous ER visits
- 3 treadmills, 2 admissions for r/o
- 1 normal cardiac angiogram
- High strung
- Family Hx of anxiety



*Anxiety in Cardiac Disease

- Anxiety with true ischemia--50%
- Anxiety with normal coronary arteries--60%
- Anxiety with chest pain--57%

*Paroxysmal Atrial Tachycardia as Anxiety

- 59/107 misdiagnosed (32 panic, anxiety, stress)
- Delay in diagnosis--3 years, 4 months
- Resolution of anxiety symptoms--90% with Rx of PAT

Determining the Etiology of Anxiety in the Medical Setting

- High index of suspicion
- Identify the Anxiety Syndrome
- Review whether it is typical of Primary Anxiety Disorder
- Complete a basic medical history and physical examination with testing if appropriate

*Medical History

- Medications and Substances Used
- Personal or family history of heart disease
- History or symptoms of thyroid disease
- Smoking or lung disease history
- Menstrual status
- Abdominal symptoms

*Medical Examination

- Pulse, skin texture
- Observation of the chest and auscultation of the lungs
- Auscultation of the heart
- Abdominal palpation

*Medical Testing

(only if clinical symptoms warrant)

- Thyroid Stimulating Hormone
- Electrocardiogram
- Drug Level/Screen
- Chest x-ray
- Others

*Acute Treatment of Anxiety

- Patient education/reassurance
- Cognitive Behavioral Psychotherapy (4-8 weeks)
- Medication (1 day to 6 weeks)
 - SSRIs, SNRIs, tricyclics
 - Benzodiazepines
- Combined Medication and Psychotherapy, especially for treatment resistant patients

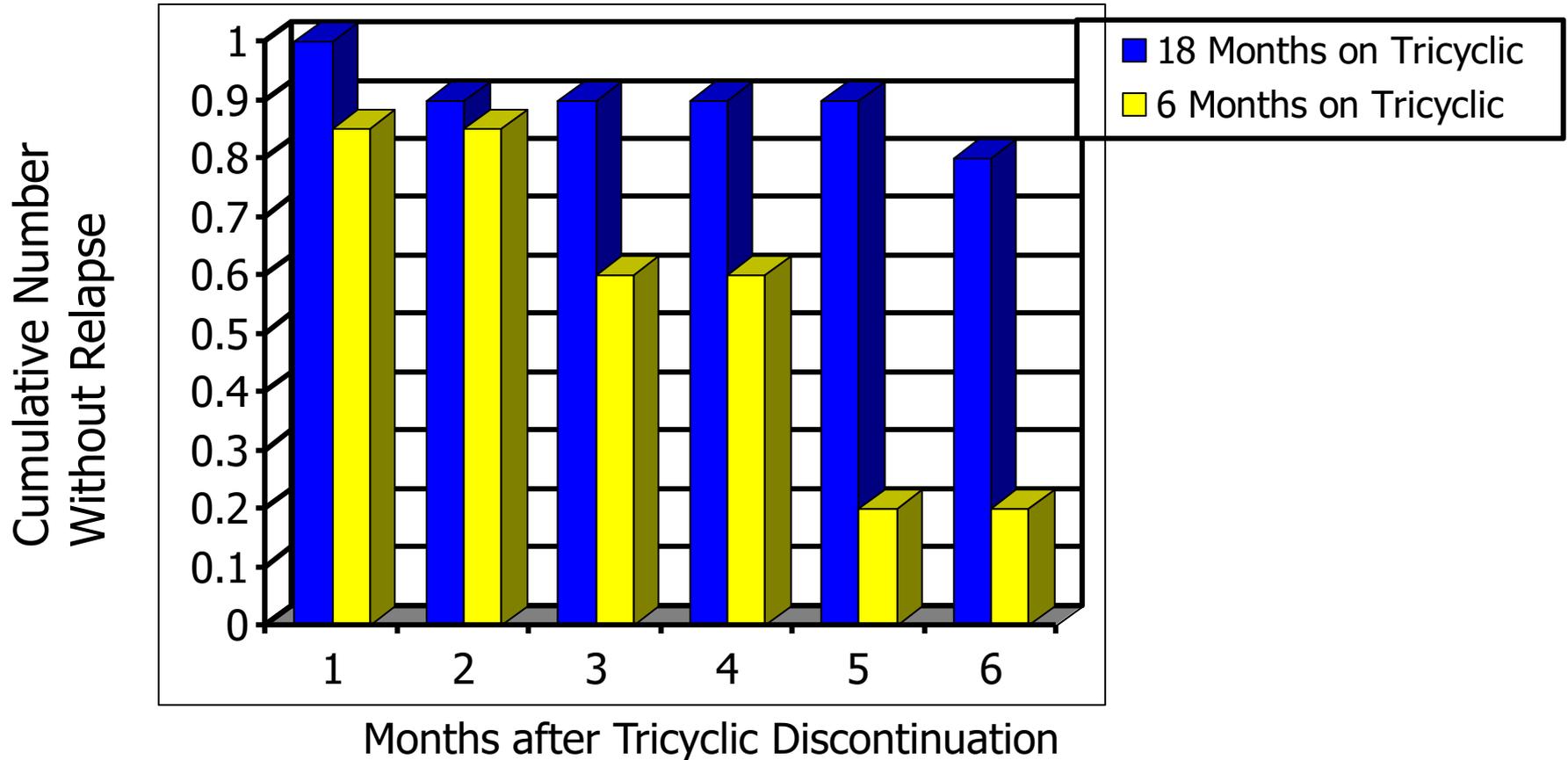
Efficacy of Cognitive Behavioral Therapy for Panic Disorder

Study	Follow up Interval <u>(months)</u>	% Panic <u>Free</u>
Craske et al, 1991	24	81
Beck et al, 1992	12	87
Clark et al, 1994	15	85
Cole et al, 1994	36	81
Hulbert et al, 1994	12	85

Medication Taper Success

- Otto et al, 1994 (N = 33)
 - Medications alone--25%; Medications plus CBT--76%
- Spiegel et al, 1994 (N = 21)
 - Medications alone--50%; Medications plus CBT--80%
- Hegel et al, 1994
 - Medications plus CBT--76%

Longer Treatment with Antidepressant May Mean Less Relapse in Panic Disorder



--Mavissakalian and Perel, Arch Gen Psychiatr 49:318-323, 1992

Benzodiazepine Withdrawal

- Prepare Patient
- Do it slowly
- Consider--relapse, rebound, withdrawal, pseudo-withdrawal
- Constant dose vs. constant percent

Depression

Depression and Diabetes

- 27 y/o female IDDM
- Brittle with early retinopathy
- Non-compliant
- Frequent visits
- Poor work performance, poor sleep, low energy, no interest in hobbies, depressed mood



*Diagnosing Depression: Depression—SIG-E-CAPS

- Clinical depression diagnosed with presence depression or loss of interest and at least 4 other symptoms present every day for at least 2 weeks
 - **DEPRESSION**
 - **Sleep***
 - **Interest**
 - **Guilt**
 - **Energy***
 - **Concentration***
 - **Appetite***
 - **Psychomotor Agitation or Slowing***
 - **Suicidal Ideation**

* Physiologic Symptoms

*DIGFAST (Bipolar I & II): Symptoms of Hypomania and Mania

Distractibility: poorly focused, multitasking

Insomnia: decreased need for sleep

Grandiosity: inflated self-esteem

Flight of ideas: complaints of racing thoughts

Activities: increased goal-directed activities

Speech: pressured or more talkative

Thoughtlessness: “risk-taking” behavior—
sexual, financial, travel, driving

*Documenting Baseline and Follow-up Depression Symptoms—PHQ-9

Over the last 2 weeks, how often have you been bothered by any of the following problems?
Read each item carefully, and insert the number of your response.

(Key: Not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3)

1. Little interest or pleasure in doing things ____
2. Feeling down, depressed, or hopeless ____
3. Trouble falling asleep, staying asleep, or sleeping too much ____
4. Feeling tired or having little energy ____
5. Poor appetite or overeating ____
6. Feeling bad about yourself, feeling that you are a failure, or feeling that you have let yourself or your family down ____
7. Trouble concentrating on things such as reading the newspaper or watching television ____
8. Moving or speaking so slowly that other people could have noticed. Or being so fidgety or restless that you have been moving around a lot more than usual ____
9. Thinking that you would be better off dead or that you want to hurt yourself in some way ____

Total Score for 1 to 9: _____

(Scoring Key: Minimal <5; Mild 5 to 9; Moderate 10 to 14; moderately severe 15 to 19; Severe >19)

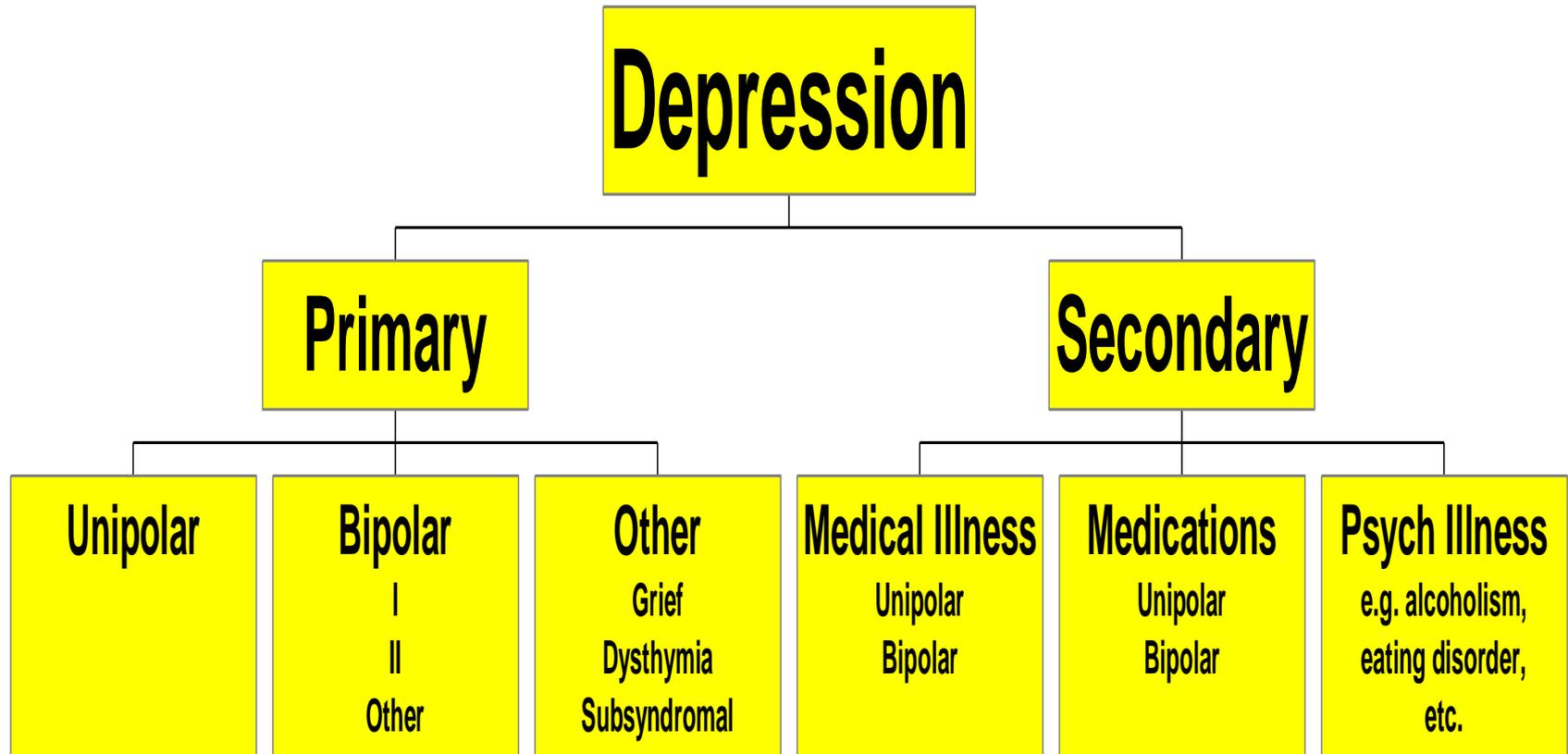
Impairment: If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not Difficult at All = 0; Somewhat Difficult = 1; Very Difficult = 2; Extremely Difficult = 3

Symptom Assessment in Medical Setting

- *Inclusive*-Take Symptoms at Face Value
- *Exclusive*--Exclude Symptoms Caused by Physical Disease
- *Substitutive*--Substitute with Psychological Symptoms
- *Presumptive*--Decrease Criteria Needed for Diagnosis (masked depression)
- *Gestalt* (guess)

*Simple Depression Differential



*Primary vs. Secondary MDD

Patient Characteristics

- Age of onset—teens to mid 40s
- Sex—Female 2:Male 1
- Family History—increase in depression
- Treatment Response—50% intent to treat; 70% completer
- Course—intermittent with average duration 6 to 12 months
- Recurrence--50% one episode; 70% two episodes;' 90% three or more episodes

*Conditions Associated with Mood Symptoms

- Substance abuse
- Concurrent medications
- General medical disorders
- Other causal non-mood psychiatric disorders
- Grief reactions

Suicide Risk

- In Patients with the diagnosis of Cancer
 - Year 1 relative risk is 16 times the general population
 - Year 2 decreases to 7 times
 - Year 3-6 decreases to 2-3 times
 - By year 10, is less than half the general population
- AIDS patients: 7.4 times
- Psychiatrically ill patients: 25 times

Reasons for Suicide Attempts

Reason

Treatment

- Depressed -- Antidepressant/Mood Stabilizer
- Psychotic -- Antipsychotic
- Impulsive -- Crisis Intervention/Support
- Philosophical -- Empathy/Concern/Education

Approach to Suicidal Patients

- Ask about suicidal thoughts or do PHQ-9
- Evaluate for reason
 - Treat Depression or Psychosis if present
 - Impulsive--defuse crisis/withdraw patient
 - Philosophical (Right to Die Issue)
 - Treat pain
 - Invoke help of relatives--social
 - Explore alternatives

*Goals in the Treatment of Anxiety and Depression

- Relieve symptoms rapidly
- Prevent anxiety and depression
- Eliminate anticipatory anxiety
- Eliminate avoidance behavior
- Control comorbid conditions
- Improve quality of life

Psychiatrist Involvement?

Time to Consider

- Manic, psychotic
- Actively suicidal
- Lack of time for evidence-based treatment/follow-up
- Significant psychosocial issues need addressing
- Symptoms outside level of comfort

Involvement When Not Treating

- Follow patient adherence
- Follow clinical improvement
- Change therapy/therapist if patient is not improving as natural course would predict
- Maximize medical treatment; minimize unnecessary testing/meds

Outcomes of Major Depression in Primary Care Studies

<u>Study</u>	Case Management	MH Involvement	Improved Outcome
Katon, 1995	Y	High	Y
Katzelnick, 2000	Y	Medium	Y
Rost, 2001	Y	Medium	Y
Hunkler, 2000	Y	Low	Y
Wells, 2000	Y	Variable	Y
Simon, 2000	Y	Low	Y
Peveler, 1999	Y	None	Y
Simon, 2000	N	None	N
Peveler, 1999	N	None	N
Callahan, 1994	N	None	N
Dowrick, 1995	N	None	N
Thompson, 2000	N	None	N

--Von Korff et al, BMJ 323: 948-949, 2001

Patient Education

- Anxiety and Depression are medical illnesses
- Recovery is the rule
- Treatments are effective
- Aim of treatment is complete symptom remission
- Risk of recurrence is significant
- Seek treatment early if anxiety or depression returns

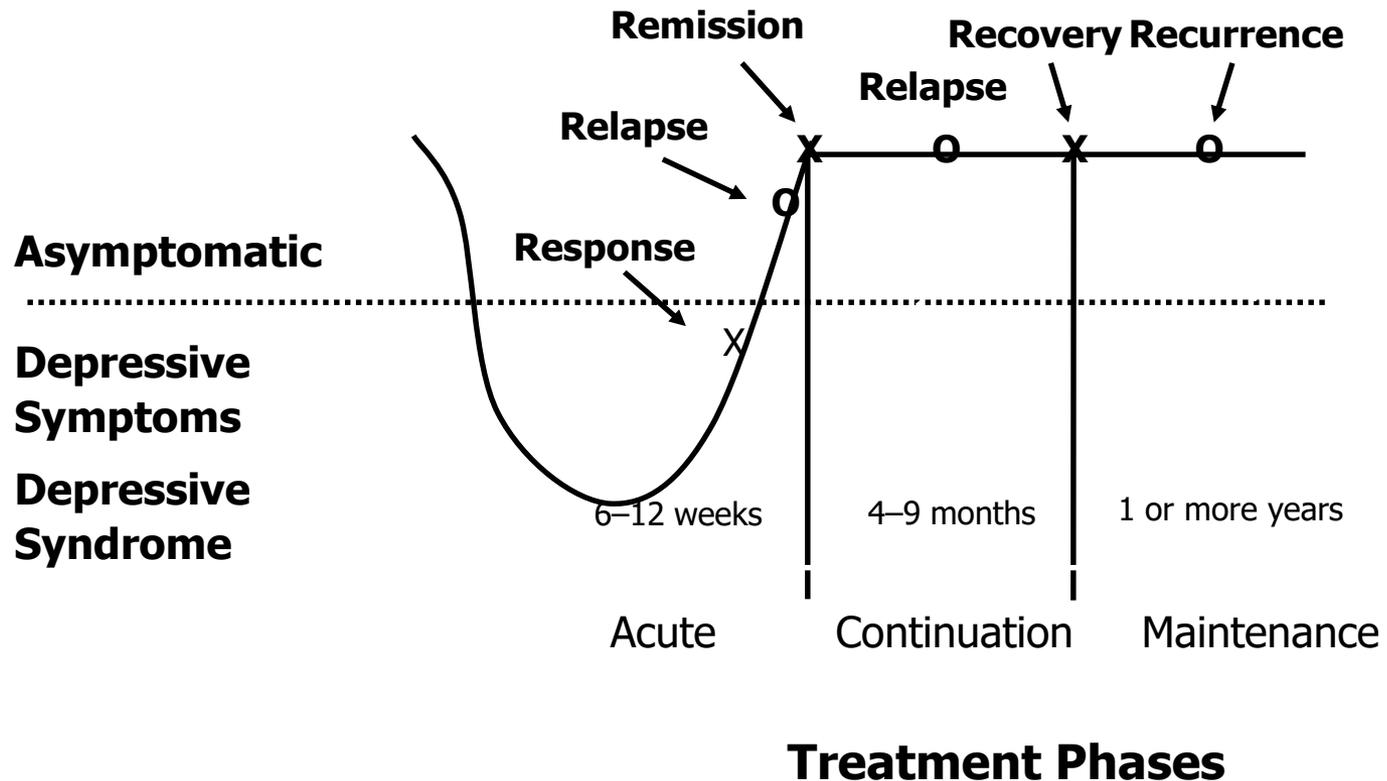
Acute Treatment of Depression

- Patient education/reassurance
- Psychotherapy--4-8 weeks
- Medication--3-6 weeks
- ECT--1-3 weeks
- Light--Seasonal Affective Disorder
- Other—Vagal Stimulation; Transcranial Magnetic Stimulation

Three Phases of Treatment of Depression

- Acute treatment (6 to 12 weeks) aims at remission of symptoms
- Continuation treatment (4 to 9 months) aims at prevention of relapse
- Maintenance treatment aims at prevention of recurrence in patients with prior episodes

*Treatment of Major Depression



--Kupfer DJ. J Clin Psychiatry 52(5 suppl):28-34, 1991
--Depression Guideline Panel. AHCPR. 1993

*Treatment of Anxiety and Depression in the Medically Ill

- Watchful Waiting and Reassurance
- Exposure Techniques
- Pharmacotherapy
- Cognitive Therapy

*Medical Circumstances Affecting Pharmacologic Intervention

- Medical etiology--treat medical illness
- Medication etiology--adjust/discontinue medication
- Substance Abuse--avoid benzodiazepines (and other medications of potential abuse)

*Medical Circumstances Affecting Pharmacologic Intervention

- Cardiac Disease--avoid tricyclics and other medications with adverse cardiac effects
- Respiratory Insufficiency--avoid benzodiazepines and other respiratory depressants
- Liver Failure--avoid non-conjugated benzodiazepines

Efficacy of Medication and Cognitive Behavioral Therapy (CBT) for Mild to Moderate Anxiety and Depression

50 to 70%

Medications that Work for Both Anxiety and Depression

- First line: SSRIs, SNRIs, other
- Second line: tricyclic antidepressants
- Third line: monoamine oxidase inhibitors

*Be wary of Bipolar I & II disorder for which mood stabilizers are first line therapy

Types of Antidepressant Medications

- Selective serotonin reuptake inhibitors (SSRIs)—e.g. fluoxetine, sertraline, fluvoxamine, paroxetine, citalopram, and escitalopram
- Serotonin-norepinephrine reuptake inhibitors (SNRIs)—e.g. venlafaxine, duloxetine, and nefazadone
- Novel medications—e.g. mirtazepine and bupropion
- Tricyclic antidepressants—e.g. imipramine, amitriptyline, nortriptyline, and desipramine
- Monoamine oxidase inhibitors (MAOIs)—e.g. phenelzine, tranylcypromine, and isocarboxazid
- Mood stabilizers—e.g. lithium, sodium divalproex, carbamazepine, lamotrigine (bipolar illness)

*Treatment Example for an Uncomplicated Depressed and Anxious Patient

- Citalopram--20 mg
- Monitor at 7, 14, and 28 days
- Adjust dose (20-60 mg/day) at 14 or 28 days depending on symptoms
- Keep on dose for 6 to 12 months (1st episode) then taper over 1 month
- Continue at dose for life (multiple episodes)
- Consider efficacy-based psychotherapy

*Treatment Example for a Complicated Depressed Highly Anxious Patient

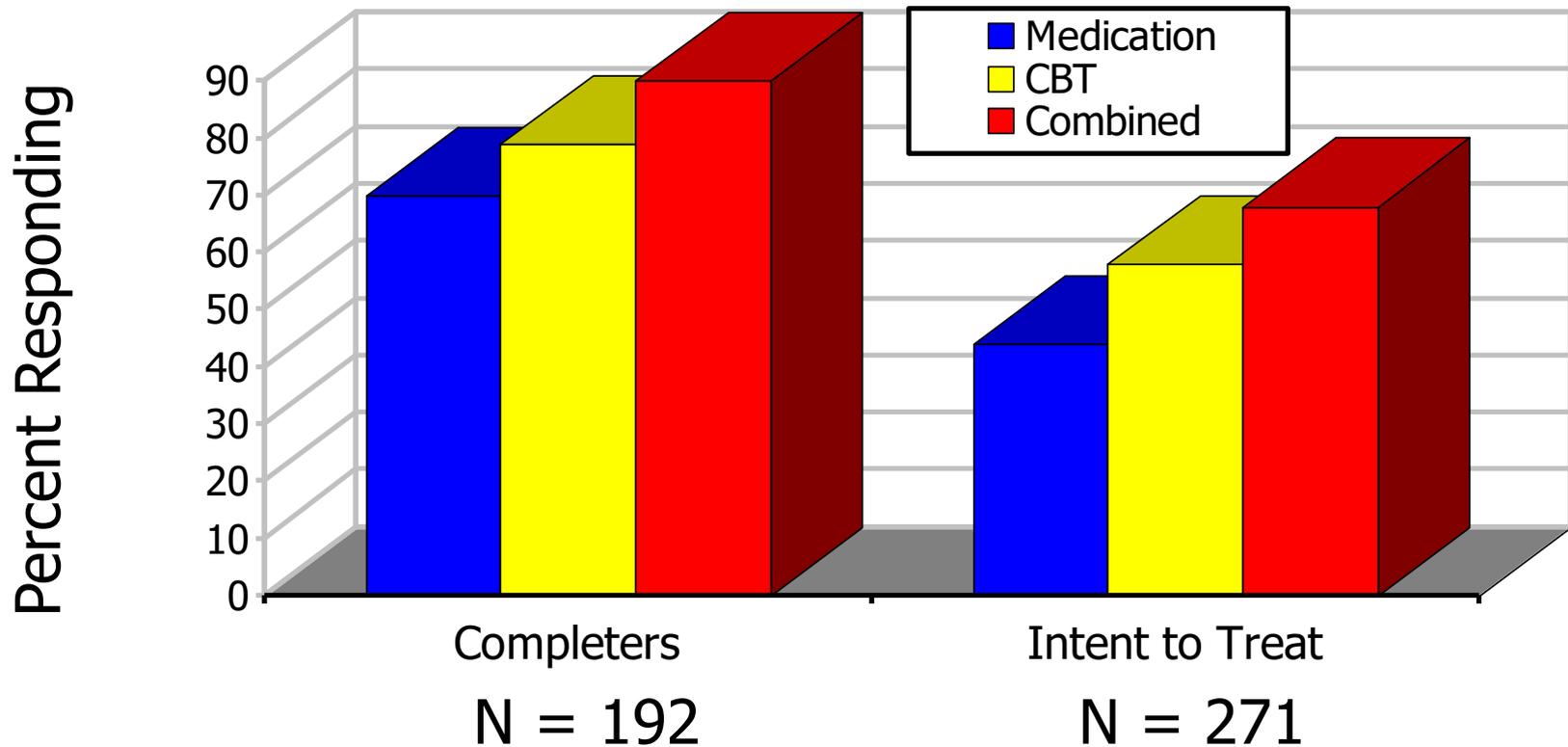
- Benzodiazepine & dual action antidepressant—adjust doses related to symptoms
- Monitor at 7, 14, and 28 days
- Discontinue benzodiazepine in 3 to 6 weeks and continue antidepressant/antianxiety agent
- Consider CBT with exposure (if therapist available)

*Effective Psychotherapy for Depression and Anxiety

- Cognitive Behavioral Psychotherapy
 - Time-limited (8 to 12 weeks)
 - Goal-oriented (symptom resolution)
 - Requires specialized training
 - Exposure important component for panic disorder
 - Hard to find trained therapists with these skills

Efficacy of CBT

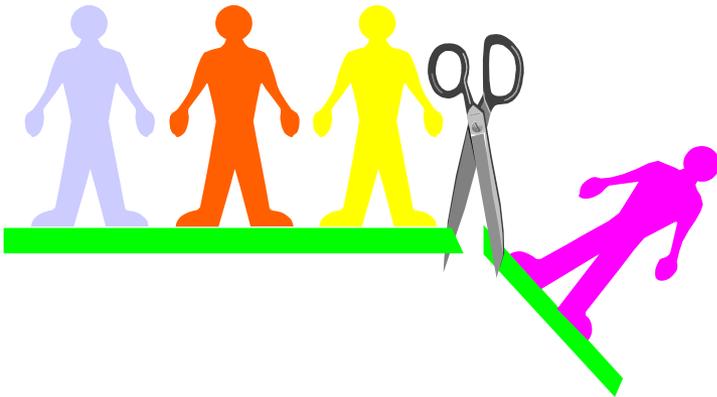
Multicenter Trial Interval Data



Somatization

Unexplained Somatic Complaints

- 27 y/o female
- 6 visits in 6 months for minor unsubstantiated problems
- Appears anxious, cries in office
- Conflicts with husband and work supervisor
- Sleep disturbance, weight gain, sad, no energy



Differential Diagnosis

- Normal Concern
- Medical Illness
- Attention Seeking
- Pithiatism
- Psychiatric Illness
- Voluntary Signs/Symptoms

Pithiatism

Hypersuggestibility

Somatization in itself should not be considered a psychiatric disease nor evidence of psychological instability.

*Evaluation of the Crock

- Characterize complaints and concerns
- Perform physical examination (and basic laboratory, if appropriate)
- Document presence of depression, anxiety, psychosis, or substance abuse/dependence
- Pursue inconsistencies in findings

*How to Be Manipulated (when to do tests)

- Test needed to educate
- Test needed to diagnose
- Test needed to alleviate anxiety
- Not to test
 - Limit 1--Costly
 - Limit 2--Invasive or dangerous
 - Limit 3--Recent testing

*First Break

- Exclude
 - Normal concern--reassurance
 - Medical Cause--medical intervention
 - Attention Seeking--listening ear
 - Psychiatric Syndrome--syndrome specific treatment
 - Malingering--empathic confrontation

*Second Break

- Pithiatism
 - Normal concern
 - Single minor symptom/symptom complex
 - Compelling symptom/symptom complex
 - Multiple symptoms

*Treatment of Pithiatism: *Reassurance Therapy*

1. Examine the patient
2. Indicate that no life threatening (serious) disease is found
3. Suggest that the symptom will get better with time (give a timetable for improvement)
4. Encourage normal activities
5. Non-specific therapy may be tried (sparingly)
6. Follow the patient

*Treatment of Single *Acute* Common or Compelling Symptoms

- Always pursue *objective findings* until an adequate explanation is identified or further work-up would be more expensive or dangerous for the patient than the disease of concern
- Reassurance Therapy
- Treat Psychiatric Illness if present

*Treatment of Single *Chronic* Common or Compelling Symptoms

- Reassurance Therapy
- Treat Psychiatric Illness if present
- Education on how to live with symptom without letting it dominate life
- Cognitive Behavioral Therapy/hypnosis

*Treatment of Somatization Disorder

1. Reassurance Therapy
2. One doctor
3. Regular follow-up visits
4. Limit tests and psychiatric and medical treatment, including medication, without objective abnormalities
5. Therapeutic pact after rapport established

Substance Abuse

Depression and Liver Disease



- 52 y/o male
- Alcohol dependence & drinking
- Liver insufficiency
- Lost job, depressed, not sleeping, suicidal
- Family disowns him
- Enters the ER at 10 pm on Saturday night; no psychiatry backup

*Brief Intervention for Alcohol Dependence

- Two primary care physician visits 1 month apart; two nurse calls 2 weeks after each physician visit
- Intervention
 - Workbook on health behaviors
 - Review prevalence of problem drinking
 - List adverse effects of alcohol
 - Worksheet on drinking cues
 - Prescription pad—drinking agreement
 - Drinking diary cards

*Naltrexone for Alcoholism Prophylaxis

- Randomized Controlled Trials: 24
- Relapse Relative Risk: 0.64
- Response predictors: positive FH, early age of onset, other drugs of abuse
- Equivalent to acamprosate
- Side effects: nausea, dizziness, fatigue
- Best: acamprosate, naltrexone, psychosocial interventions

*Acamprosate for Alcoholism Prophylaxis

- Randomized Controlled Trials: 22
- Totally abstinent various durations
 - Acamprosate—18% to 61%
 - Placebo—4% to 45%
- Modest effect size
- Equivalent to naltrexone
- Best: acamprosate, naltrexone, psychosocial interventions

Delirium

1977

- Patient: 37 y/o male on peritoneal dialysis for chronic renal failure; sub-chronic aluminum induced delirium
- Rx: chronic hospitalization; medical intervention; low dose oral and IM haloperidol; support and reorientation
- Outcome: continued confusion; peritonitis; sepsis; death

1990

- Patient: 76 y/o female delirious “yeller”; urinary tract infection; non-cooperation; nonadherence (7 days on G. Med. Before transfer to MPU)
- Rx: 145 mg intravenous haloperidol in 24 hours
- Outcome: sleep; resolved confusion; adherence with medication; resolved UTI; discharge

2002

- Patient: 73 y/o hard of hearing female on 5 medications fractures hip due to weakness from malnutrition and dehydration
- Rx: decrease and maximize meds; rehydrate and perenteral nutrition; hearing aid adjustment
- Outcome: surgery without sequelae

*Healthcare Utilization in Delirious Patients

	<u>Delirious</u>	<u>Non-Delirious</u>
• In-hospital Death (%)	7%	1%
• Post-hospital Death (%)	18%	6%
• D/C to Nursing Home	12%	5%
• Hospitalization Cost	\$11,800	\$9,400
• Professional Cost	\$3,950	\$3,350
• LOS	15 days	7 days

Liptzin et al, Am J Psychiatr 148:454-457, 1991

Francis et al, JGIM 5:65-79, 1990

Rockwood et al, Age Ageing 28:551-556, 1999

Franco et al, Psychosom 42:68-73, 2001

Healthcare Utilization in Delirious Ventilator Patients

	<u>Delirious</u> (N = 183)	<u>Non-Delirious</u> (N = 41)
• Days in ICU*	8	5
• ICU Cost*	\$22,350	\$13,330
• Days in Hospital*	21	11
• Hospitalization Cost*	\$41,840	\$27,110

*p < 0.001

*Delirium Prevention

- Geriatric consultation in hip fracture patients¹
 - Developed delirium: 20/62 vs. 32/64 ($p < .04$)
 - Severe delirium: 7/60 vs. 18/62
- Targeting vulnerable patients (adherence important)⁵
 - Developed delirium: 9.9% vs. 15% (OR = .6)²⁻³; 9.8% vs. 19.5% ($p < .05$)⁴
 - Days with delirium: 105 vs. 161 ($p < .02$)²⁻³
 - Episodes of delirium: 62 vs. 90 ($p < .03$)²⁻³

1. Marcantonio et al, J Am Geriatr Soc 49:516-522, 2001
2. Inouye et al, N Engl J Med 340:669-676, 1999
3. Inouye et al, Ann Int Med 32:257-263, 2000
4. Tabet et al, Age Ageing 34:152-156, 2005
5. Inouye et al, Arch Int Med 163:958-964, 2003

*Delirium Intervention

- Intervention vs. Control Unit
 - Persistent delirium on day 7: 19/63 vs. 37/62 (p=0.001)¹
 - Ave. length of stay: 11 days vs. 21 days (p=0.03)¹
- Delirium prevention on geriatric unit
 - Baseline—41%; 4 months—23%; 9 months—19% (3.42 shorter LOS)²

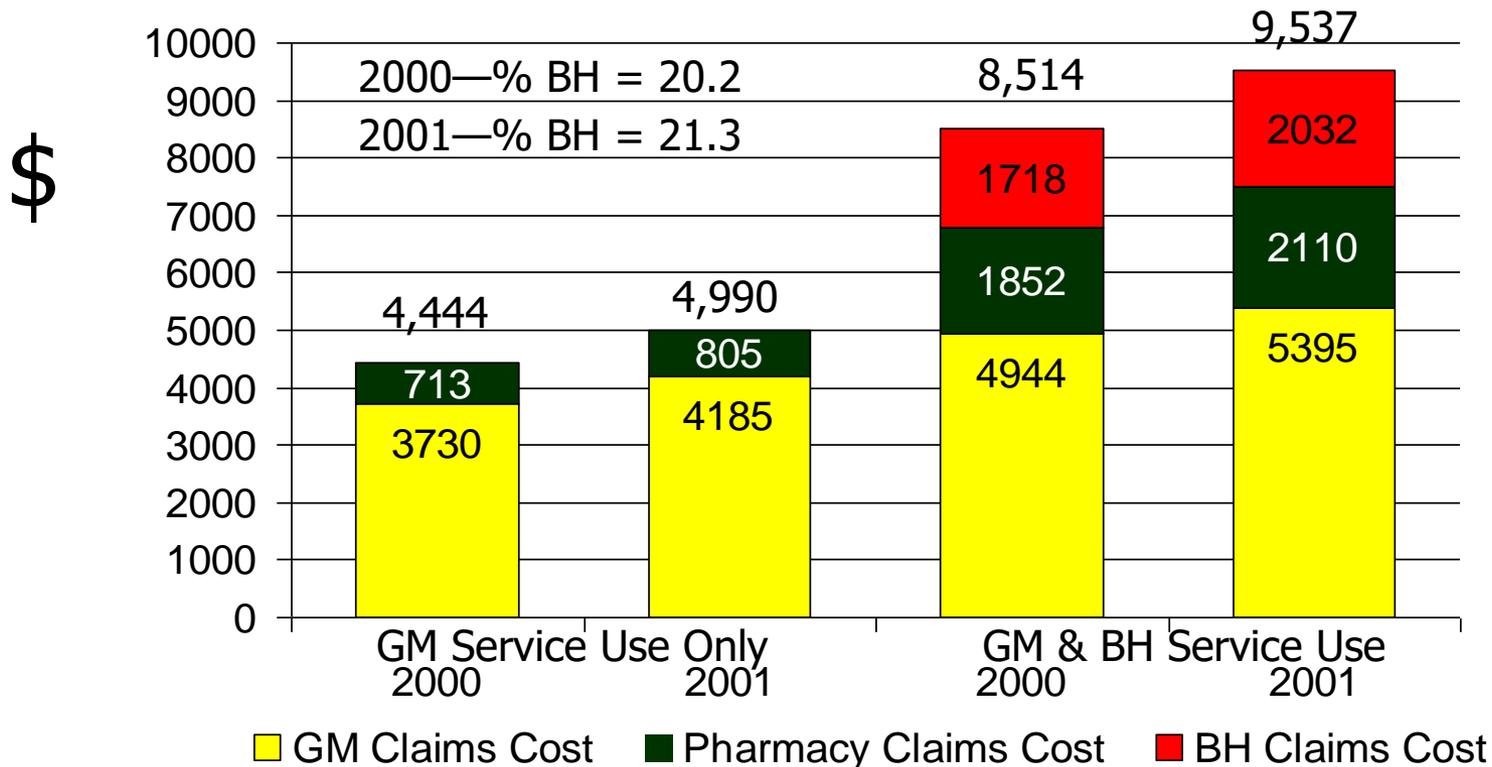
1. Lundstrom et al J Am Geriatr Soc 53:622-628, 2005
2. Naughton et al, J Am Geriatr Soc 53:18-23, 2005

Delirium Intervention

- MultiComponent Targeted Intervention (MTI) vs. Control
 - Admission to long-term nursing home: 54/400 vs. 51/401 (NS)
 - Any activity impairment: 51% MTI vs. 74% control ($p = 0.01$)
 - Ave. length of stay in NH: 241 days MTI vs. 280 days control ($p=0.05$)
 - Average total cost of NH: \$50,881 MTI vs. \$60,327 control ($p = 0.02$)

Economics of the
General Medical and
Psychiatric Interaction
&
Effect of Treatment

*Annual Claims Expenditures for 250,000 Patients With and Without Behavioral Health Service Use



% of population: General Medical (GM) Service Use: 74.9%; Behavioral Health (BH) Service Use: 10.0%; No Service Use: 15.1%

Practical Considerations: To Treat

- Cost of Personally Treating Depression and Anxiety
 - Initiation of pharmacotherapy--2 hours and 30 minutes per efficacy-based treated patient (1/4 fewer medical patients seen)
 - Medication--\$50/month for at least 9 to 12 months
 - CBT (if used)--\$600-800 per patient

Practical Considerations: Or Not to Treat

- Annual Increase in Medical Service Utilization for Patients with Untreated Depression and Anxiety
 - Anxiety--20% (\$500/patient)
 - Depression--40% (\$1,000/patient)
 - Mixed--50% (\$1,250/patient)

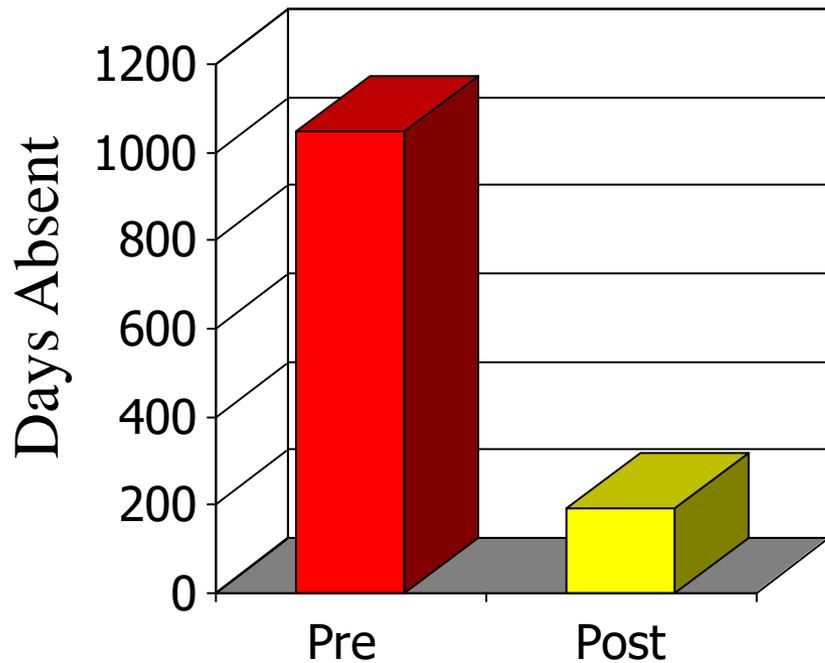
Cost Reduction Associated with Depression Treatment in Primary Care

	<u>Treatment</u> (N = 95)	<u>Usual Care</u> (N = 92)	p
• Outpatient	\$ 7,787	\$ 8,524	NS
– Physical Health	\$5,470	\$6,769	NS
– Mental Health	\$2,317	\$1,754	NS
• Inpatient	\$ 1,362	\$ 1,247	NS
• Total Cost	\$ 9,192	\$ 9,799	NS

*Enhanced Productivity Associated with Depression Treatment in Primary Care

	<u>Treatment</u> (N = 158)	<u>Usual Care</u> (N = 168)	p
• Max. Productivity			
– Baseline	72%	72%	NS
– 2 years	76%	68%	.03
• Hours Work Lost			
– Baseline	23	23	NS
– 2 years	4.5	13.5	.08
• Treatment Value	\$ 1,982/year/depressed FTE		

*Cost Savings from Treating Panic Disorder in Primary Care



- 94% lower service utilization
- 30 days fewer sick days per year
- \$565 net yearly savings per patient

Cost Reduction Associated with Treatment of Panic Disorder

	<u>Treatment</u> (N = 57)	<u>Usual Care</u> (N = 58)	p
• Outpatient	\$ 2,104	\$ 3,118	NS
– Physical Health	\$1,243	\$2,385	NS
– Mental Health	\$ 862	\$ 722	<.05
• Inpatient	\$ 182	\$ 932	NS
• Total Cost	\$ 2,888	\$ 4,205	NS

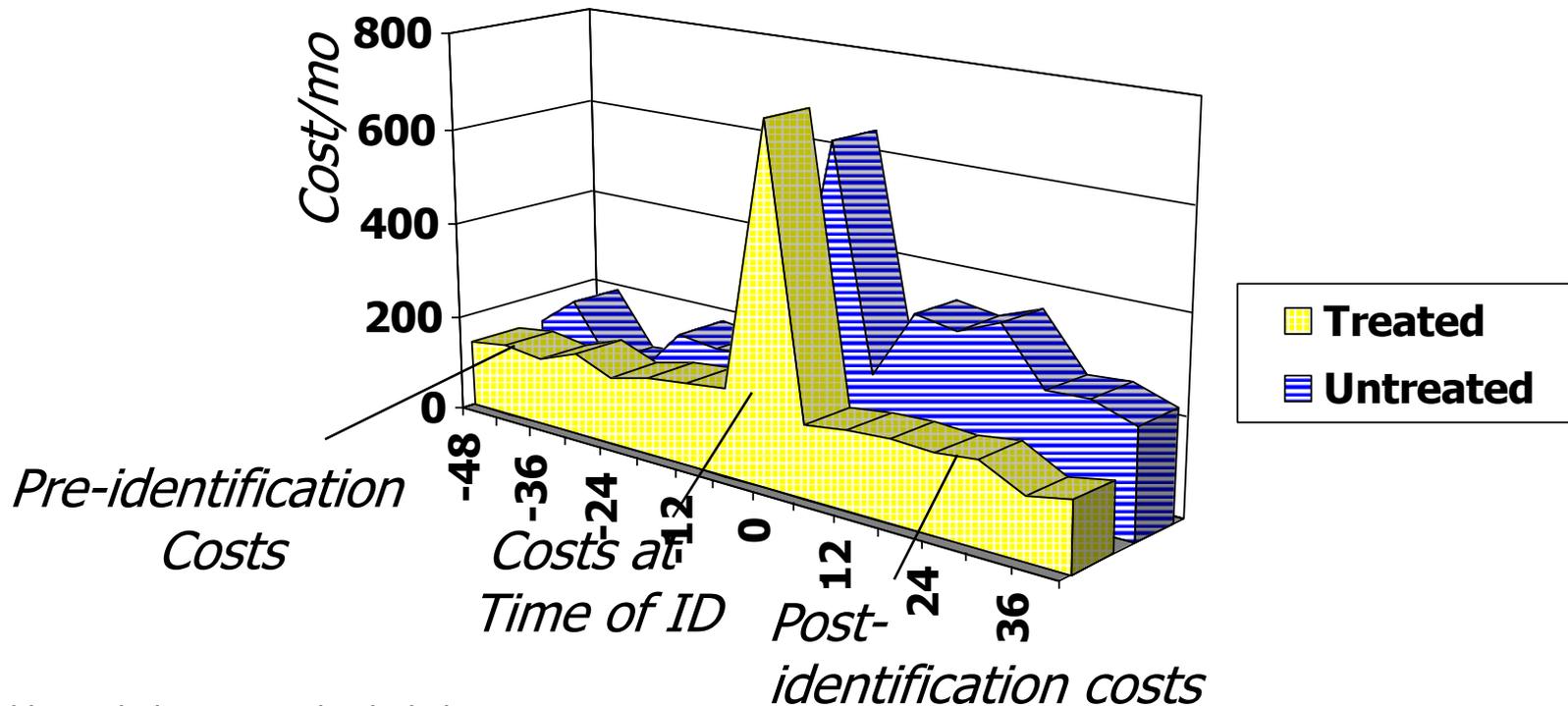
*Lowering Health Care Cost in Somatizing Patients

- Cost offset per patient per year (2005\$US)
 - \$5,242 (-53%)—consultation letter in somatization disorder¹
 - \$466 (-21%)—consultation letter in somatization disorder²
 - \$902 (-52%)—consultation letter plus group therapy in somatization disorder³
 - \$430 (-33%)—consultation letter in subsyndromal somatization disorder⁴
 - \$448 (-26%)—retribution therapy for somatic symptoms⁵ (UK)
 - \$1,050 (-32%)—intense inpatient and outpatient therapy⁶ (GR)
 - \$344 (-15%); \$123 (-5.5%)—TERM training for GPs in somatization disorder and subsyndromal, respectively⁷ (DK)

1. Smith et al, NEJM 314:1407-1413, 1986; 2. Rost et al, Gen Hosp Psychiatr 16:381-387, 1994;
3. Kashner et al, Psychosom 36:462-470, 1995; 4. Smith et al, Arch Gen Psychiatr 52:238-243, 1995;
5. Morriss et al, Fam Pract 15:119-125, 1998; 6. Hiller et al, J Psychosom Res 54:369-380, 2003;
7. Toft T, PhD Thesis, University of Aarhus, 2004

Alcoholism Treatment Lowers Cost

- Alcoholism (24% lower healthcare costs after treatment)



*Decreased Health Care Cost with Integrated Treatment of Substance Abuse Related Medical Conditions

	<u>Integrated*</u> (N = 189)	<u>Independent</u> (N = 181)	
• Annual Cost ↓	\$ 2,772	\$ 708	p < .02
– Inpatient	\$1,920	\$156	p < .04
– ER	\$ 264	\$252	p < .02
• Abstinent (6 mo.)	69%	55%	p < .006

*integrated primary care and chemical dependence services

*Net Savings Potential for Delirium Prevention Program

- Prevalence of Delirium during Hospitalization: 10-30%
- Average Length of Stay: 2X non-delirious
- Running conservative numbers:
 - 0.1 (prevalence) X 5 (excess hospital days) X \$500 (per diem cost) X 30,000 (admissions/year)
 - Minus \$125,000 (psychiatrist) + 2 X \$50,000 (nurse clinicians)

= \$7.25 million/year

Solution

“Integrate General
Medical and Psychiatric
Care”

Definition: General Medical and Behavioral Health **Integration**

Behavioral health
becomes just a part of
the rest of medical care!

Integration Era

- Coordinates Medical and Psychiatric Services
- Uses Payment Systems which Support Care Coordination
- Encourages Communication and Co-location among Specialists
- Uses Co-Management as the Means to Deal with Complex Clinical Problems

Core Outpatient Objectives

- Timely behavioral health involvement
- Crisis management/supportive psychotherapy/reassurance
- Limited medical testing
- Evidence-based medication and formal psychotherapy use
- Prevalence-based identification & mental health clinic referral access

Core Outpatient Organizational Attributes

- Administered by General Medicine (with Psychiatry) in General Medical Setting
- Staff Cross-Training
- Total Outcome Accountability for All
- Active Collaboration and Communication of Co-located General Medical and Behavioral Health Staff
- Proactive Case Identification (e.g. INTERMED)
- Health Management Capabilities with Outcome Orientation

Core Inpatient Objectives

- Interdisciplinary treatment from Day 1 in a medically and psychiatrically safe environment
- Outcome changing staffing patterns and clinical capabilities
- Maximum clinical improvement and rapid intervention for complex patients
- Evidence-based medication and formal psychotherapy use
- Placement with minimal restrictions

Core Inpatient Organizational Attributes

- Administered by General Medicine and Psychiatry in General Medical Setting
- Focus on Patients with Comorbid Illness
- High Acuity Capabilities
- Joint Training or Co-Attending Model
- Specialized Combined Nurse Training
- Medical and Psychiatric Policies, Procedures, and Safety Features

Post-Lecture Exam

Question 1

1. What percentage of patients with psychiatric difficulties receive no treatment for their psychiatric condition?
 - a. 10%
 - b. 25%
 - c. 50%
 - d. 70%

Question 2

2. In the absence of physical signs and symptoms, which medical screening tests are appropriate in the evaluation of a 22-year-old with an anxiety disorder?
 - a. Thyroid function tests
 - b. Electrocardiogram
 - c. Drug Screen
 - d. None of the above

Question 3

3. In a patient with unexplained somatic complaints, which would not be included if you were providing reassurance therapy?
 - a. An examination of the patient
 - b. Tests, medications, referrals
 - c. Explanation that symptoms are not a result of a serious illness
 - d. Patient follow up

Question 4

4. Severe delirium can be prevented in what percentage of high risk inpatients through risk screening techniques?
- a. 5%
 - b. 15%
 - c. 30%
 - d. 50%

Question 5

5. What percent of health care service use for patients with psychiatric illness is for psychiatric treatment?
- a. 20%
 - b. 40%
 - c. 60%
 - d. 80%

Answers for Pre & Post Competency Exams

1. D
2. D
3. B
4. C
5. A