Psychopharmacology in the Primary Care Setting

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Outline

- Medical-behavioral health overlap
- Impact of mental health
  - Healthcare utilization
  - Disability
- Anxiety and panic
  - Etiology and medical workup
  - Diagnostic algorithm
  - Treatment in primary care
- Depression
  - Considerations in medical illness
  - Treatment
- Suicide
  - Considerations in medical illness
  - Risk factors
- Somatization
- Substance abuse
- Delirium
- Economics
- Integrating the health care system

Teaching Points

1. Review the identification of the most common psychiatric conditions seen in the medical setting
2. Summarize treatments for these conditions
3. 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%

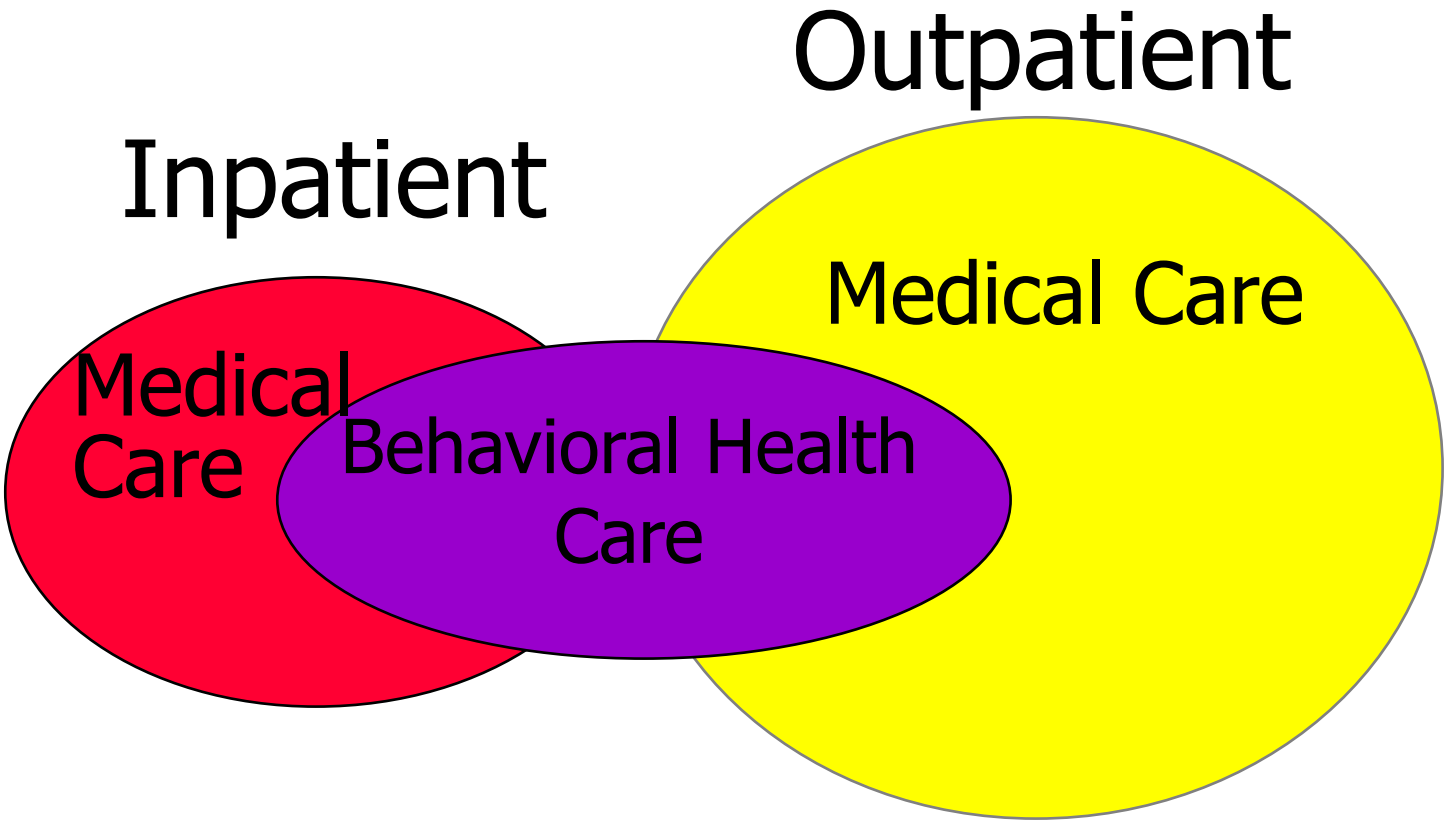
d. 80%

*Management of Patients With General Medical and Psychiatric Comorbidity

- Psychosomatic presentations are common[1]
- Mental illness has a detrimental effect on physical illness
  - Diabetes[2]
  - Asthma[3]
  - Myocardial infarction[4]
- Aggressive treatment of mental illness may improve general medical conditions

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

Medical and Behavioral Health Care Overlap

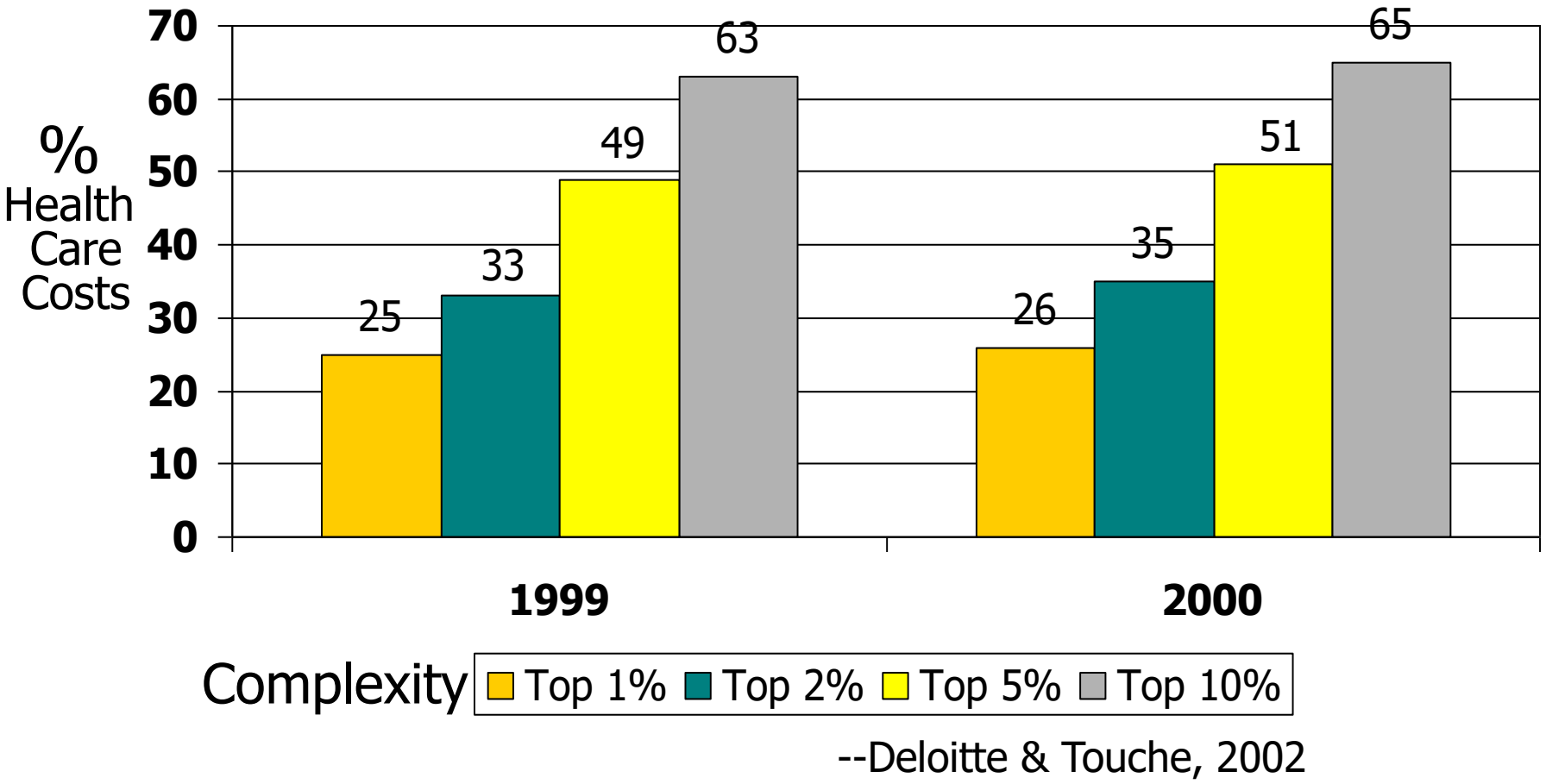


Prevalence of Mental Disorders in Non-Psychiatric Setting

	Community	Primary Care Setting	General Hospital
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%

Cole et al, Task Force on Healthcare Value Enhancement, 1997

*High proportion of Health Care Costs are 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

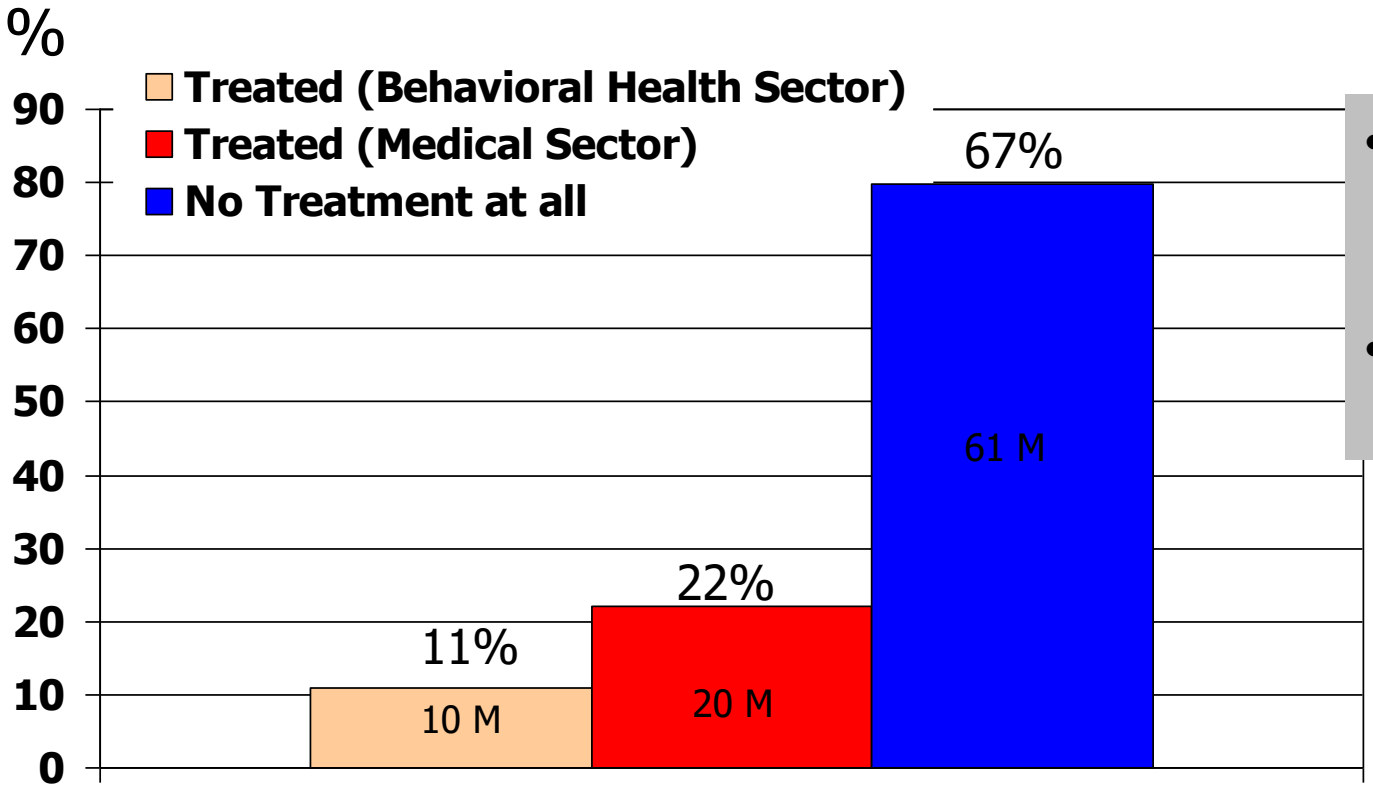
Katon et al, Gen Hosp Psych 12:355-362, 1990

PSYCHIATRY in PRIMARY CARE

- Less than half of primary care patients with mental illness receive ***any*** treatment
- 50-70% MDD is not accurately diagnosed or treated in the primary setting
- Roughly 80% of all antidepressants are prescribed by non-psychiatrists
- More than half of primary care patients on antidepressants do not meet criteria for MDD
- Only 1/3 of internal medicine residents are comfortable treating MDD

Tiemens, Gen Hosp Psychiatry 1999; Chin, Psychosomatics 41:5 October 2000; Unutzer, Psych Services Jan 2006

*Poor Treatment of Mental Illness



- 33% of those treated receive "minimally adequate care"
- Only 40% of seriously mentally ill are treated

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

Demyttenaere et al, JAMA 291: 2581-90, 2004; Kessler et al, NEJM 352:2515-2523, 2005; Kessler et al, AGP 62:617-627, 2005

Depressed Patients have Higher Healthcare Utilization

	Depressed (N = 714)	Non-Depressed (N = 14,472)	*p*
• 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
• Length of Stay (over DRG)	14.1 (7)	9.5 (3)	<.002

--Luber et al, Int J Psychiatry Med 30:1-13, 2000

Non-Psychiatrists Prescribe the Majority of Psychotropics

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

Cartesian client, 2004

Untreated Mental Illness Lowers Productivity

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

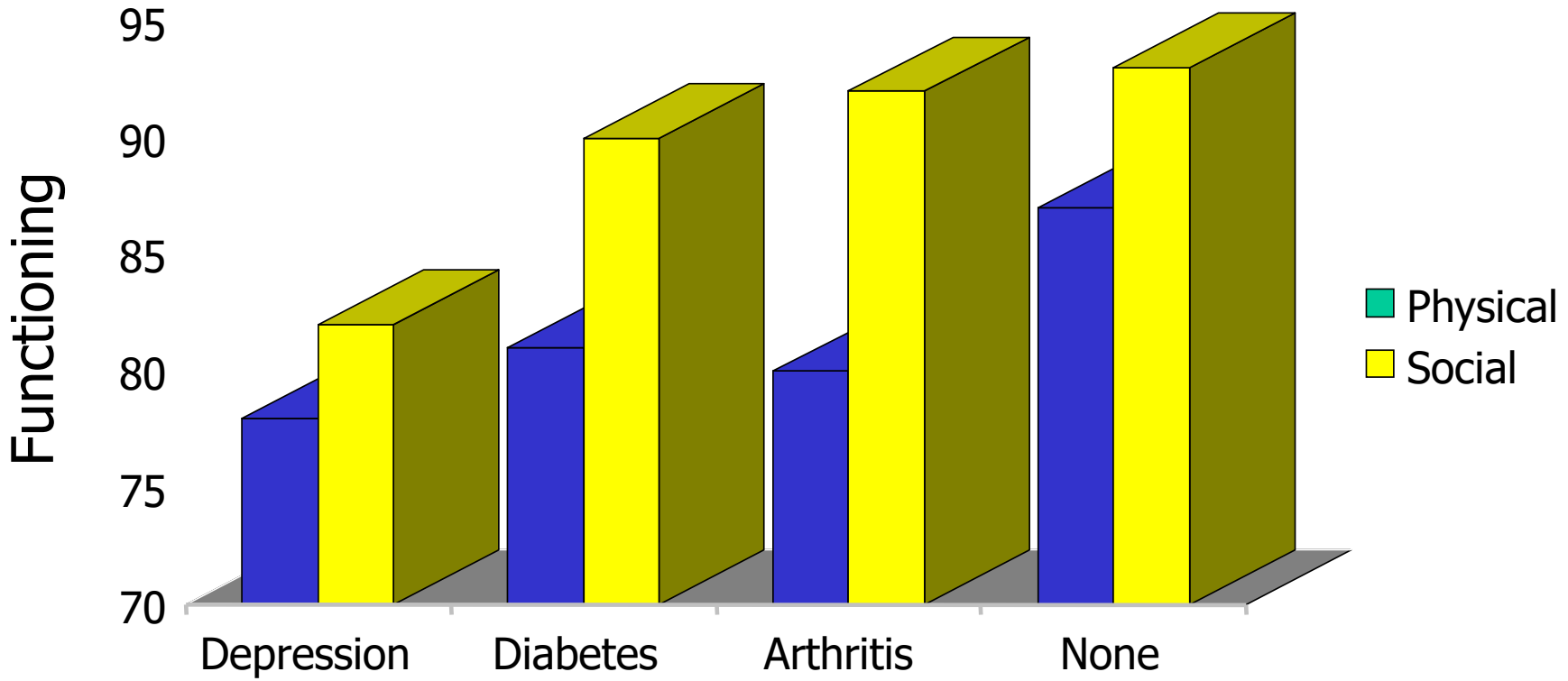
Kessler et al JAMA 289:3095-3105, 2003

Increased Disability in Depressed Medical Patients

	Mean Disability Days/3 Months (± SD)
Asymptomatic	2 ± 11
Major depression	11 ± 29
Minor depression	6 ± 21
Dysthymia	3 ± 7

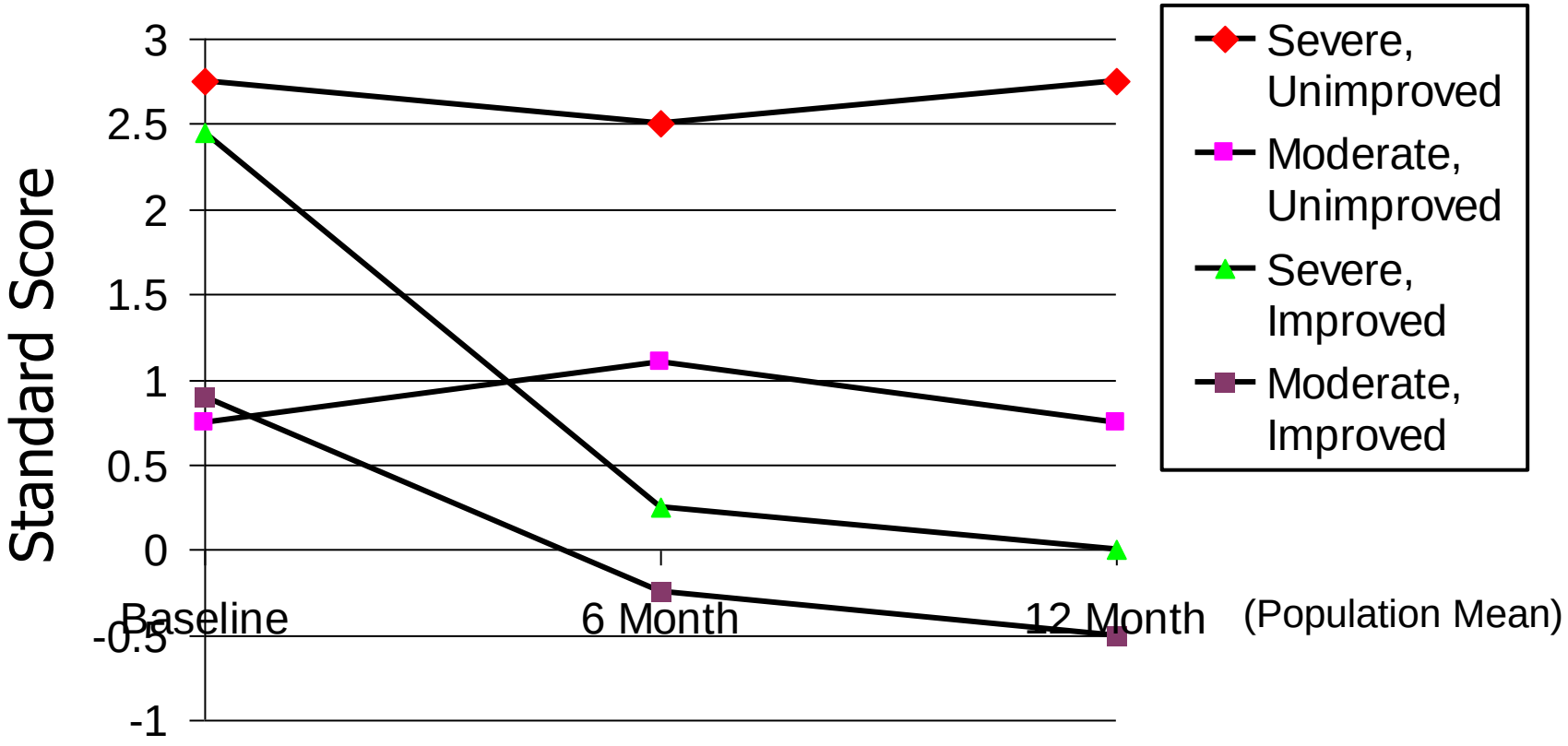
Broadhead et al, JAMA 264:2524-2528, 1990

Depression Associated with Decreased Functional Status



Wells et.al., JAMA 262:914-919,1989

Unimproved Depression Leads to Persistent Disability



VonKorff et al, Arch Gen Psych 49:91-100 1992

Neuropsychiatric disorders associated with substantial world-wide disability

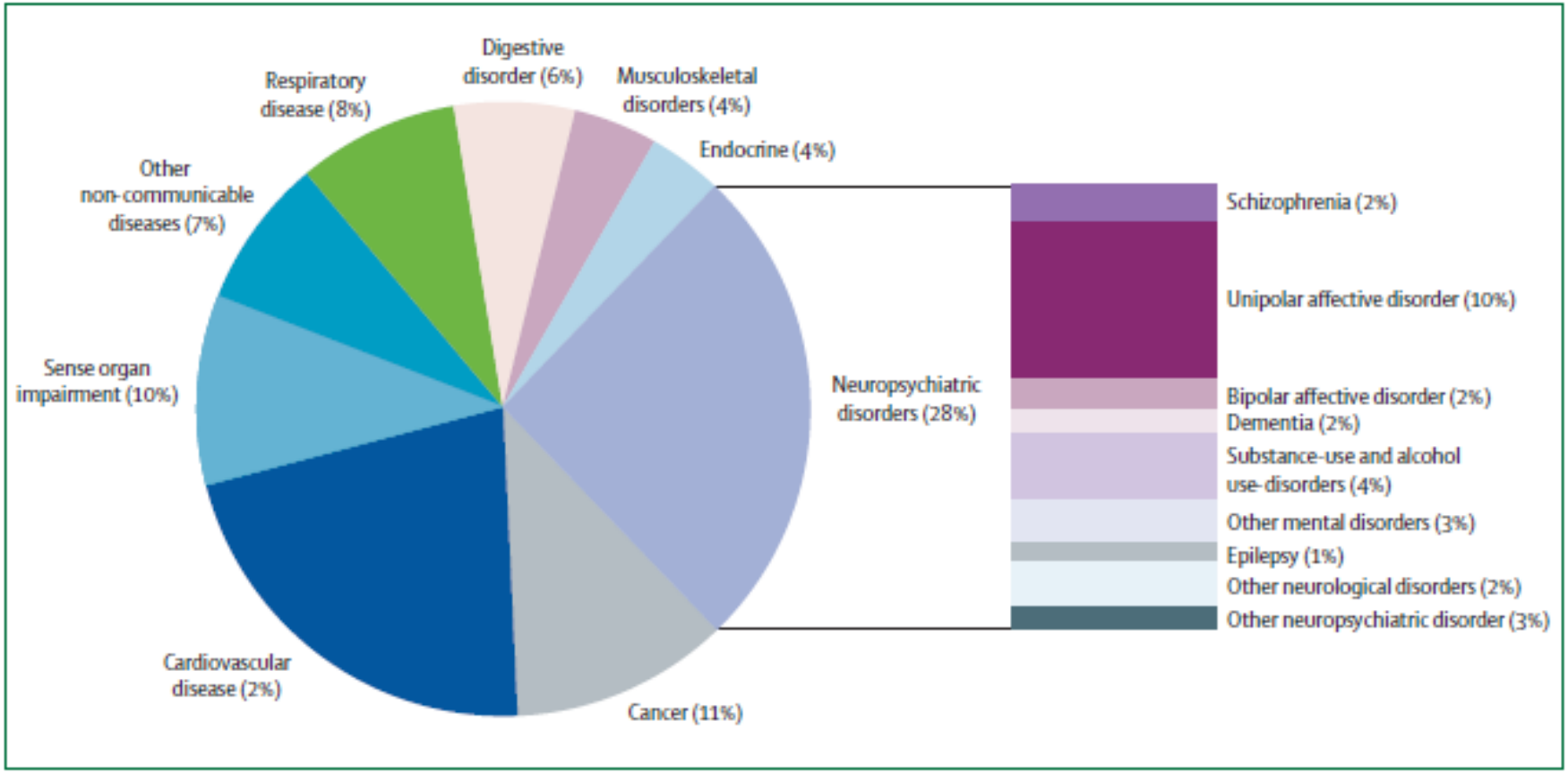


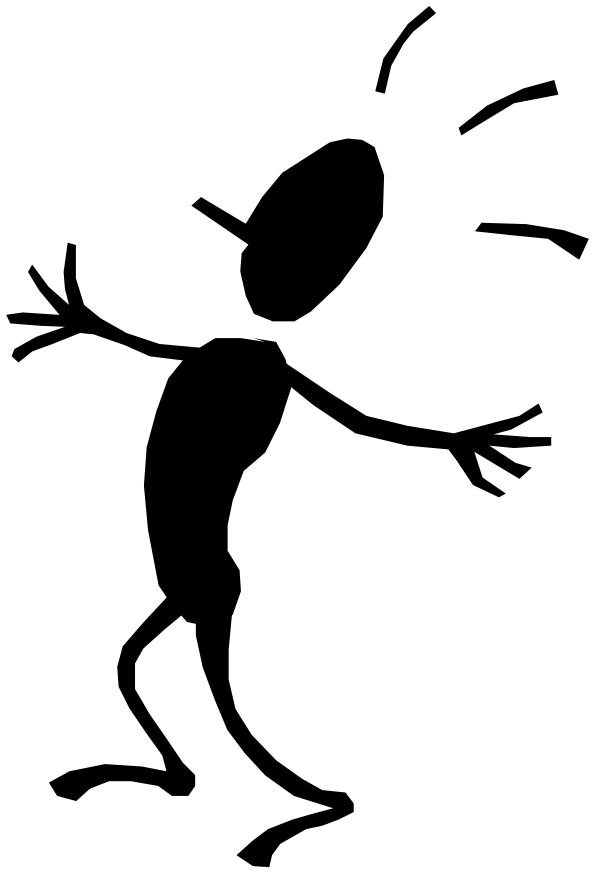
Figure 1: **Contribution by different non-communicable diseases to disability-adjusted life-years worldwide in 2005**
Data adapted from WHO, with permission.[3]

Prince, M., V. Patel, et al. (2007). "No health without mental health." Lancet

Anxiety and Panic

Anxiety and Panic Interfere with Life and Work..

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

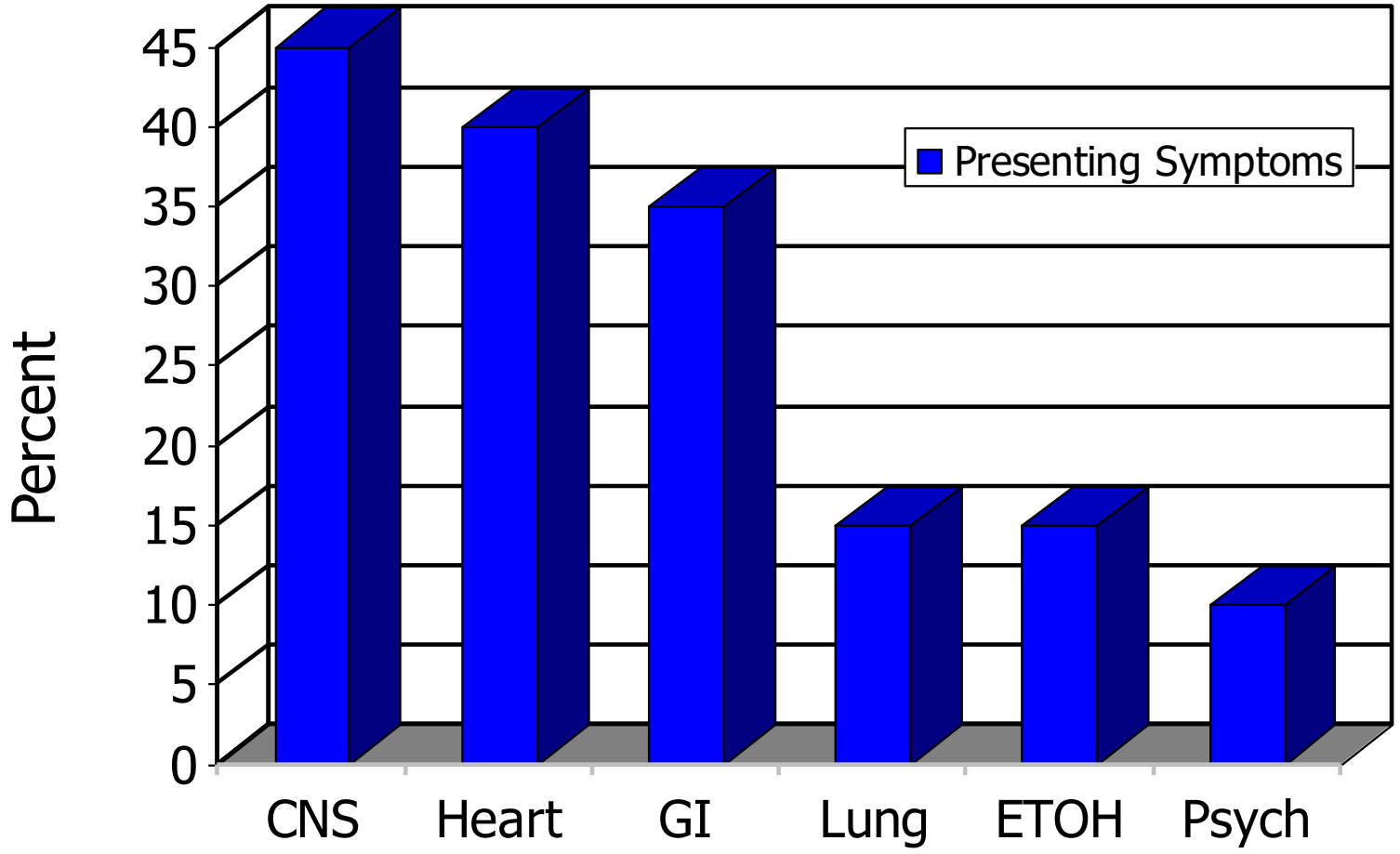


Patients with Anxiety frequently seek care in the medical setting

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

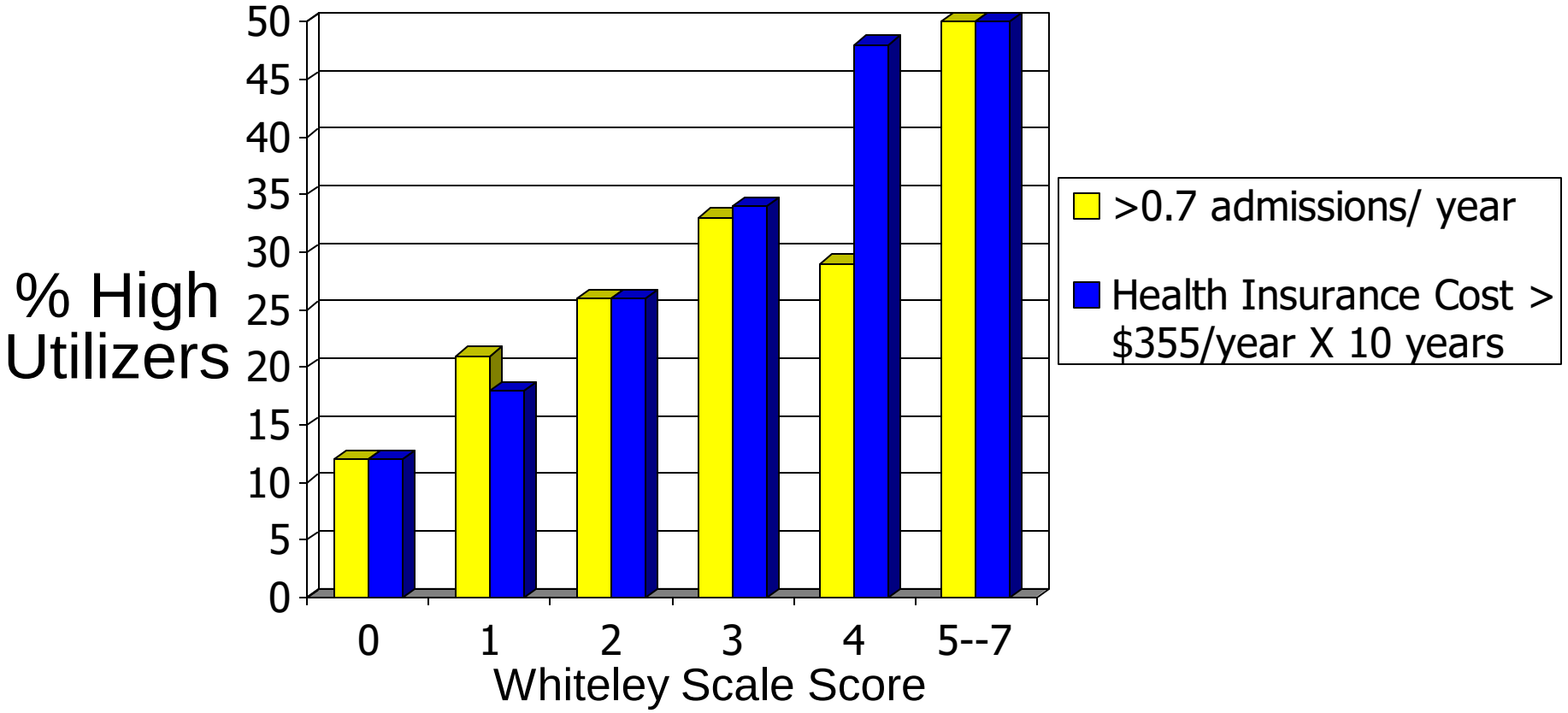
Katerndahl et al, J Fam Pract 40:237-243, 1995

*Presenting Symptoms of Anxiety in Primary Care



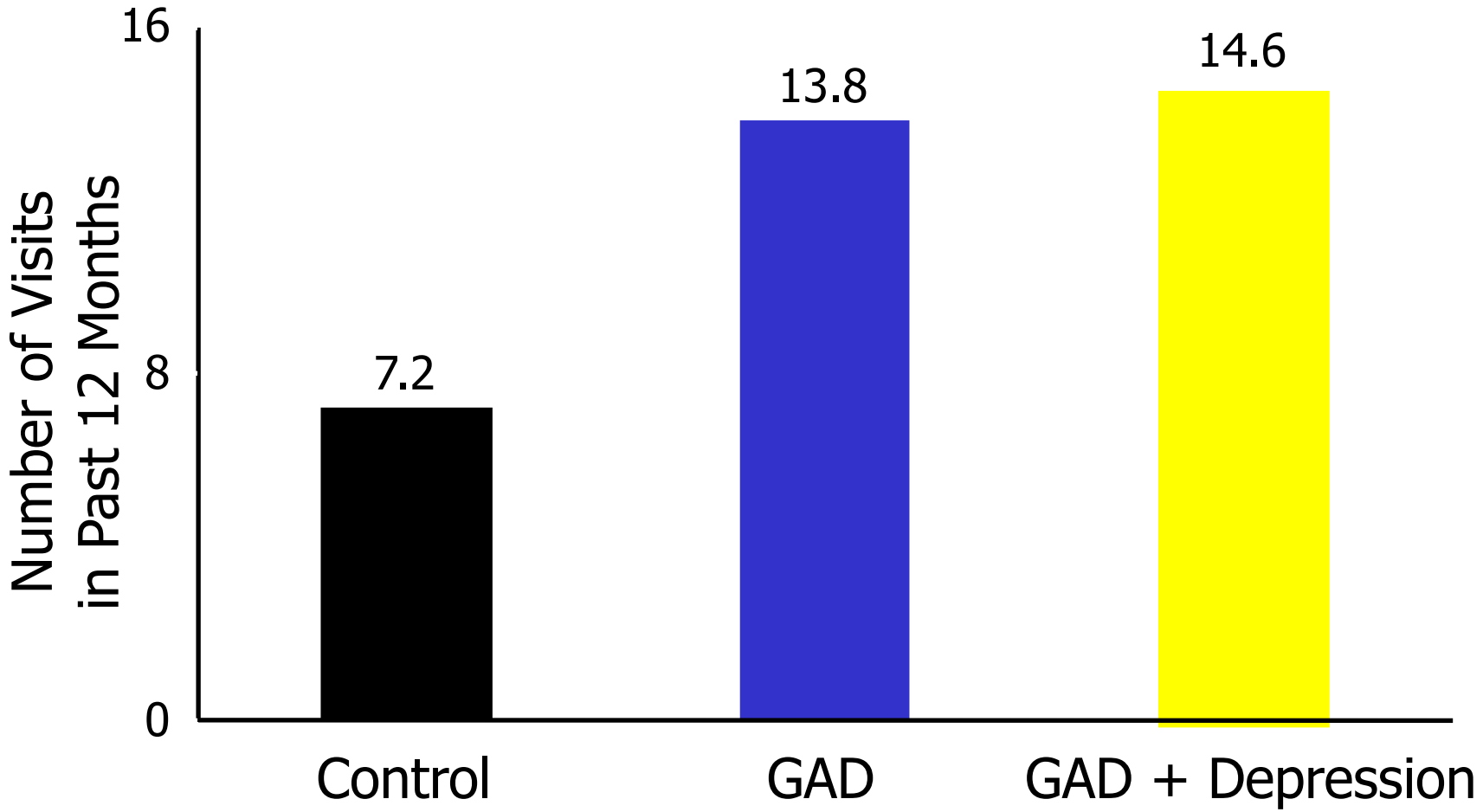
--Katon et al, Am J Med 77:101-106, 1984

*Relationship of Somatic Complaints to High Health Care Utilization



Hansen et al, Psychosom Med 64:668-675, 2002

Increased Primary Care Utilization in Generalized Anxiety Disorder



Wittchen HU, Depress Anxiety 16(4):162-171, 2002

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

Diagnostic Algorithm for Anxiety Disorders

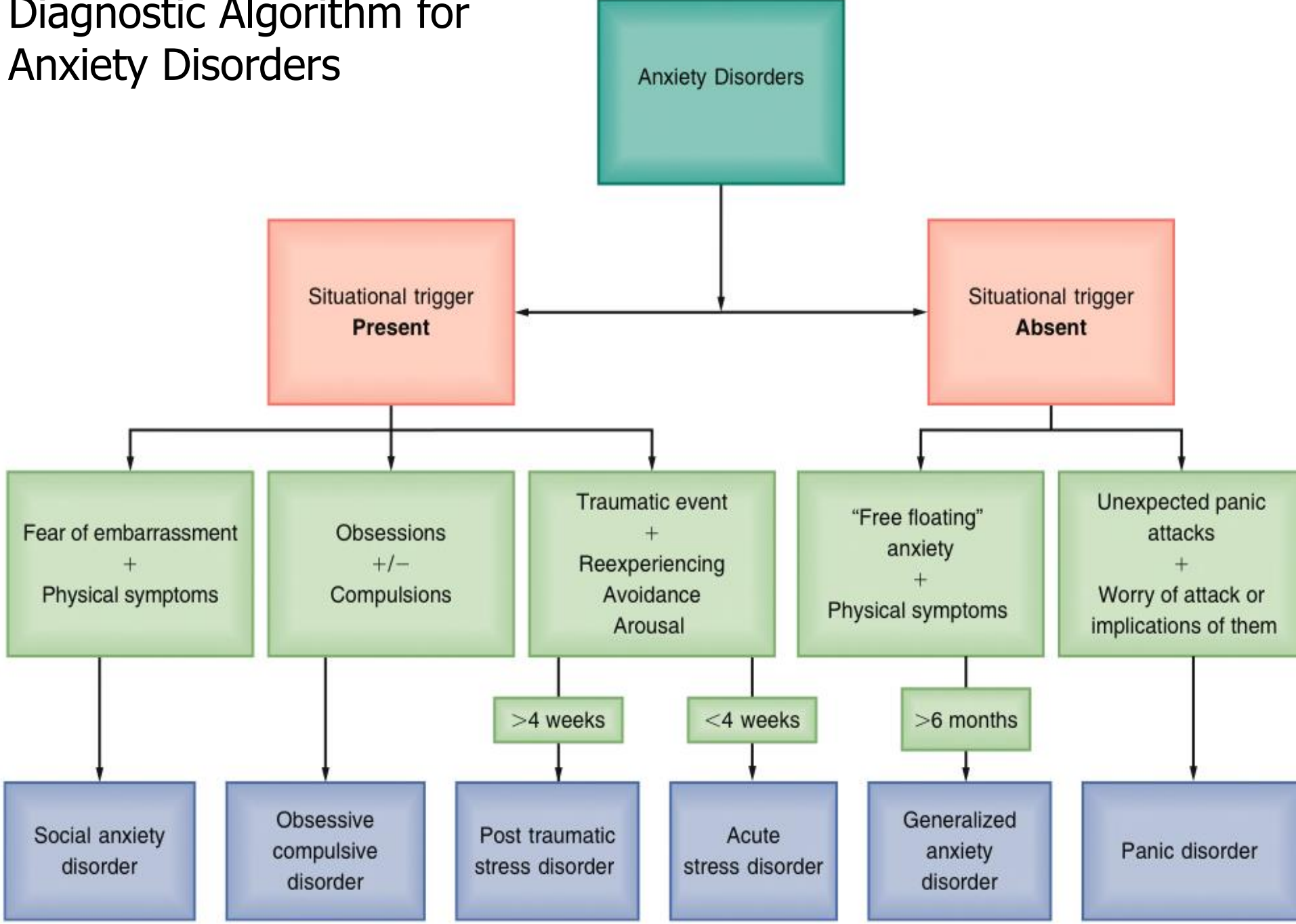


Figure 4.1 Diagnostic algorithm for anxiety disorders.

Primary Care Psychiatry; McCarron, Xiong, Bourgeois eds. 2009

Somatic Symptoms 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 conditions associated with anxiety symptoms

MEDICAL CONDITION	BASIC WORK-UP
Cardiovascular: CAD, CHF, arrhythmias	ECG (esp.pts >40 yo with palpitations or chest pain
Pulmonary: asthma, COPD, pulmonary embolism	Pulmonary function test, CXR, blood gas
Endocrine: thyroid dysfunction, hyperparathyroidism, hypoglycemia, menopause, Cushing's dx, pheochromocytoma	TSH, chemistry panel, calcium and phosphorus
Hematologic: Anemia	CBC
Neurologic: seizures, encephalopathies, essential tremor	EEG, Brain MRI
Substance abuse, dependence, intoxication: stimulants, alcohol and sedative withdrawal	Urine and serum toxicology

Adapted from: Primary Care Psychiatry; McCarron, Xiong, Bourgeois eds. 2009

*Focused Physical Exam in Anxiety

- Blood pressure, Pulse
- Pupils
- Skin
  - texture and temperature
  - Flushing, diaphoresis
- Observation of the chest and auscultation of the lungs
- Auscultation of the heart
- Abdominal palpation
- Neurologic
  - reflexes
  - tremor

Toxidromes that may present as anxiety

Vital signs	**Pupils**	***Toxidrome***	**Examples**	**Other findings**
Tachycardia Hypertension Tachypnea Hyperthermia	Mydriasis	*Sympatho-mimetic*	Cocaine, Amphetamine Pseudoephedrine	Piloerection Hyperreflexia Diaphoresis Tremor
Tachycardia Hypertension Hyperthemia	Mydriasis	*Anticholinergic*	Atropine TCA Antihistamine	Hot, red, dry, blind Seizures
Tachycardia Hypertension Hyperthermia (late)	Mydriasis	*Sedative withdrawal*	Benzodiazepines, Alcohol	Diaphoresis, Tremor, Hyperreflexia, Seizure

*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

*Paroxysmal Atrial Tachycardia May Present as Anxiety

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

--Lessmeier et al Arch Int Med 157:537-543, 1997

*Acute Treatment of Anxiety

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

Efficacy of Cognitive Behavioral Therapy for Panic Disorder

Study	Follow up Interval (months)	% Panic Free
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

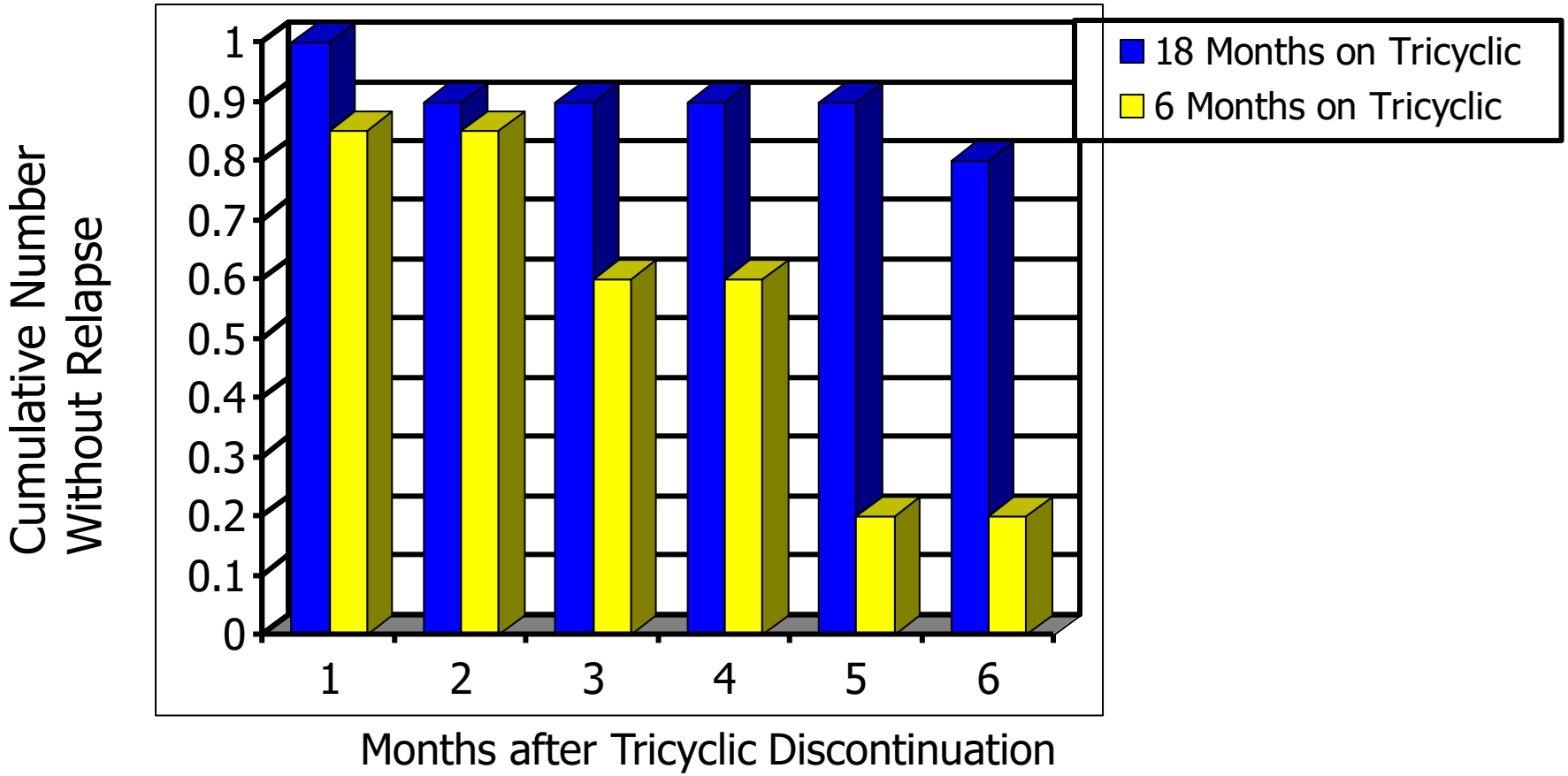
Efficacy of Cognitive Behavioral Therapy for GAD

- RCT of CBT in Primary Care
- 3 months of treatment
- Medications at PCP's discretion
- Significantly improved
  - Worry, depressive symptoms, general mental health

  (GAD severity scale showed no difference)

Stanley, JAMA 301 (14): 1460-1467, April 2009

Longer Treatment with Antidepressant May Mean Less Relapse in Panic Disorder



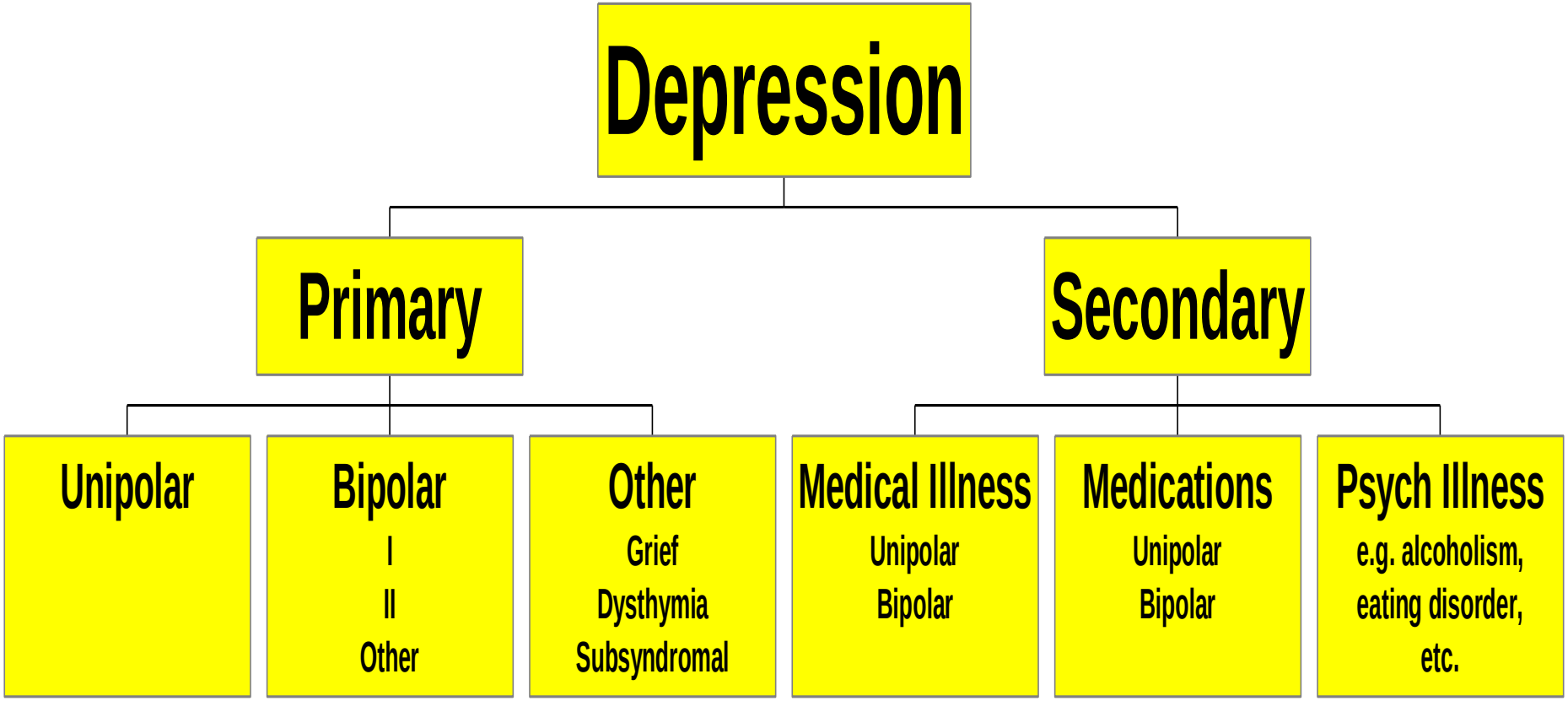
--Mavissakalian and Perel, Arch Gen Psychiatr 49:318-323, 1992

Depression

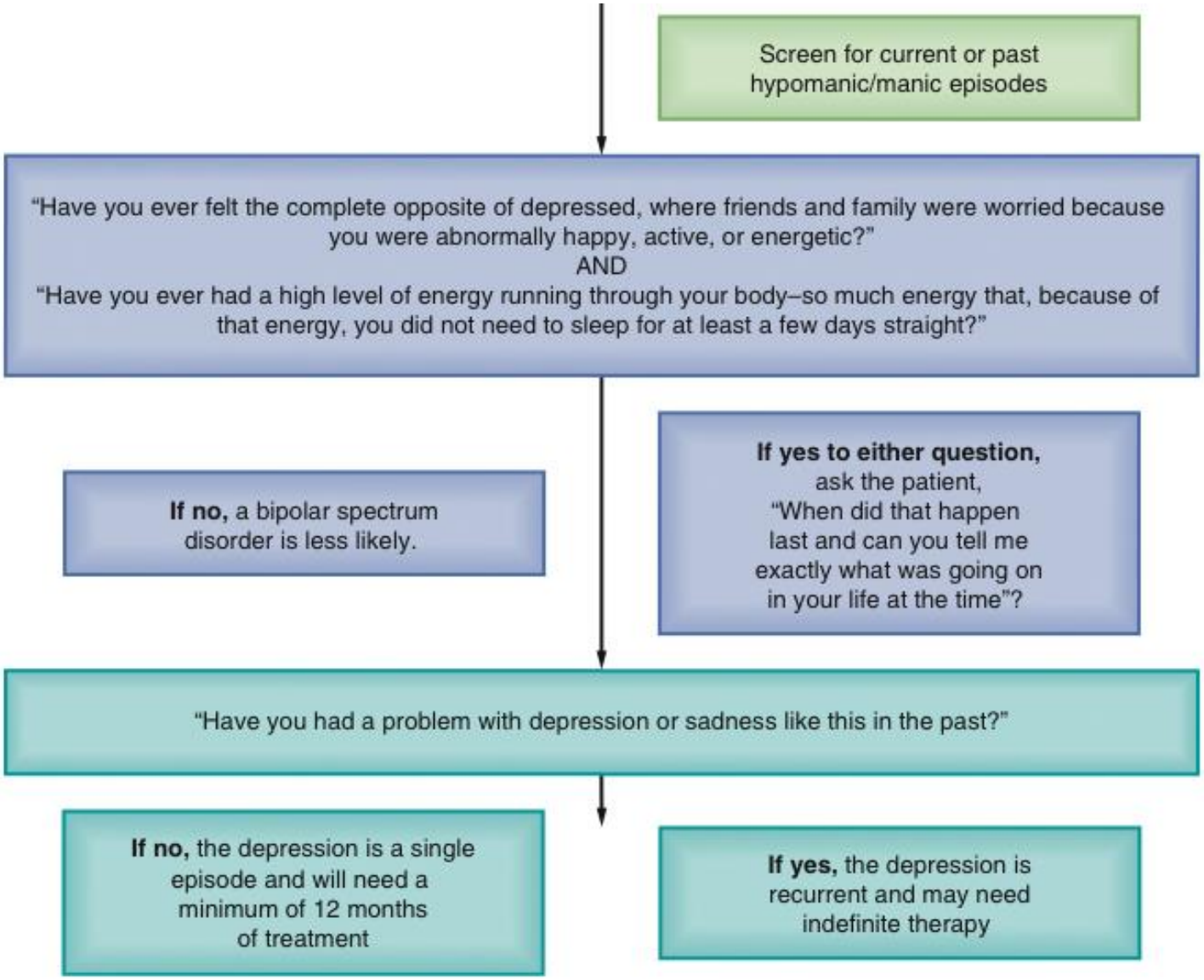
Symptom Assessment in Medical Setting

- *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)

* Depression Differential



Checking For Mania…



Lippincott's Primary Care Psychiatry – McCarron, Xiong, Bourgeois 2009

*Primary 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

AHCPR Depression Guidelines, 1993

*Conditions Associated with Mood Symptoms

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

*Treatment of Anxiety and Depression in the Medically Ill

- Medical evaluation and consideration of co-occurring illnesses
- Watchful Waiting and Reassurance
- Education
- Exposure Techniques
- Pharmacotherapy
- Cognitive Behavioral Therapy

*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

Assessing risk for suicide

- Over 50% of those who kill themselves have seen their primary care doctor within one month of doing so.
- Over 50% of suicides will end up in litigation
- Risk Factors
  - Suicidal or homicidal ideation, intent or plan
  - Access to means of suicide
    - Firearms – ask about access
  - Command hallucinations or other psychosis
  - Anxiety
  - History of previous attempt
  - Family history or recent exposure to suicide
  - Substance abuse

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

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

Case Mgt and MH Involvement Improves Outcome of Major Depression in Primary Care

Study	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

Collaborative Care of Depression in Primary Care

- IMPACT:
  - Comprehensive intervention
    - Systematic screening
    - Pt education
    - Care manager (nurse, social worker, psychologist)
    - Regular consultation w/ supervising PCP and psychiatrist
    - Stepped care: support → CBT → referral
  - 1801 elderly pts in 18 primary care clinics
  - Tx response 45% vs 19%

Unutzer, J., W. Katon, et al. JAMA (2002).

Additional findings from IMPACT

Collaborative Care leads to …

- Improvement in physical functioning
- Lower total health care costs over two years
- Decreased self-rating of health as fair or poor
- Decreased pain and improved quality of life among pts with arthritis
- Decreased health care costs in pts with diabetes
- Decreased suicidal ideation short and long-term

- ***Without*** increased health care costs over two years

Callahan, JAGS 2005; Lin, JAMA 2003;
Williams, Ann Int Med 2004; Unutzer, JAGS 2006;
Katon, Diabetes Care 2006; Katon, Arch Gen Psych 2005

Collaborative Care for Depression in Primary Care

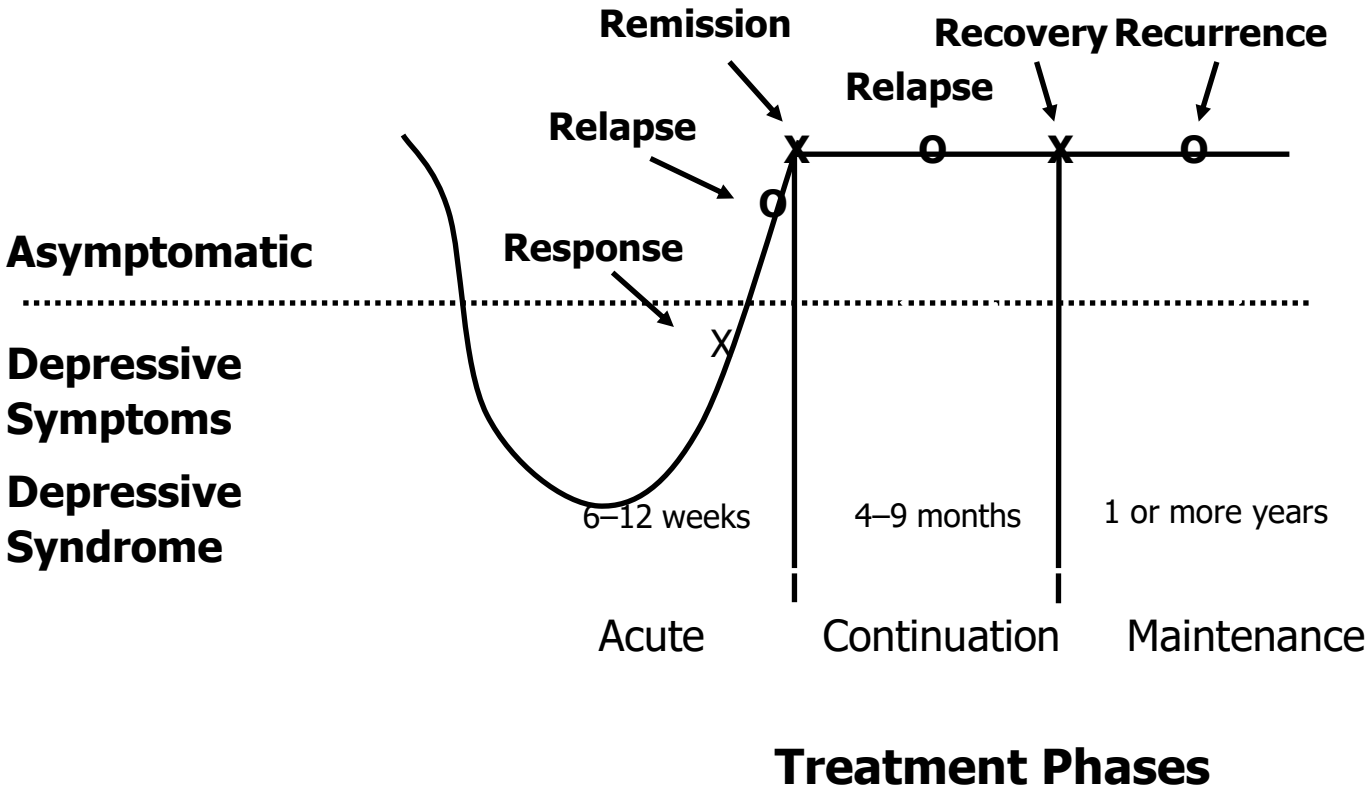
- Key elements
  - Care manager
    - MH background best results
  - Access to MH specialist
    - Supervision of case manager by psychiatrist
    - Pharmacotherapy
- Cumulative meta-analysis of 37 RCTs
  - Effective in short term at 6 months
  - Longer-term benefit for up to 5 years
- Conclusions
  - Further trials are unlikely to overturn positive result
  - Need to evaluate implementation strategies

Gilbody, Arch Intern Med 2006 166:2314-2321

Acute Treatment of Depression

- Patient education/reassurance
- Response times
  - Psychotherapy: 4-8 weeks
  - Medication: 3-6 weeks
  - ECT: 1-3 weeks
- Light: Seasonal Affective Disorder
- Other: Vagal Nerve Stimulation; Trans-cranial Magnetic Stimulation

*Treatment of Major Depression



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

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

*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

Depression and cardiovascular disease

- Depression is an independent risk factor for development of cardiovascular disease.
  (Ford 1998, Pennix 2001, Janszky 2007, Van der Kooy 2007)
- Among patients with established CVD, depression is a predictor of future cardiac events and mortality.
  (Carney 1988, Ladwig 1991, Frasure-Smith 1995, Barefoot 1996)
- Issues in treatment of depression in patients with CVD:
  - Safety, tolerability
  - Does treatment impact cardiac events? Mortality?

RCTs of antidepressants to treat depression in pts with CAD

STUDY	SADHART	MIND-IT	CREATE
Antidepressant	sertraline	mirtazapine	citalopram
Patients	MI, Acute coronary syndrome	> 3 months post-MI	Stable outpatients
Efficacy	Yes	Maybe	Yes (Interpersonal Psychother. - No)
Safe	Yes	Yes	Yes
Prevent adverse cardiac outcomes	Maybe, if depression is adequately treated	Maybe, if depression is adequately treated	unknown

Antidepressants are effective in Primary Care Depression

- Both SSRIs and TCAs are effective in primary care
  - Significant benefit seen over placebo after 4 weeks of tx in 14 RCTs
- More adverse effects with TCAs
  - Drop-out rate 10.2% (vs 5.2% for SSRIs)
- Number needed to treat:
  - SSRIS: 7 to 8
  - TCAs: 6 to 16

Arroll et al, Cochrane Database of Systematic Reviews 2009 Issue 3.

Depression Treatment – Newer Antidepressant Medications

SSRI's	SNRI's	Others
•Citalopram •Escitalopram •Fluoxetine •Fluvoxamine •Paroxetine •Sertraline	•Venlafaxine •Desvenlafaxine •Duloxetine	•Mirtazapine •Bupropion •TCA's

.

Side-Effects of Antidepressants

	SEXUAL DYSFUNCTION/DECREASED LIBIDO	WEIGHT GAIN	SEDATION	CARDIAC
SSRIs	+++	+[a]	+/−[a]	0
Venlafaxine	+++	+/−	+/−	+ (↑ BP)
Mirtazapine	+	+++	++	+/−
Bupropion	0	0	0	+/− (↑ BP)
TCAs	++	++	+++	+++ (ECG, BP)

BP, blood pressure; ECG, electrocardiogram abnormalities; SSRIs, selective serotonin reuptake inhibitors; TCA, tricyclic antidepressants.

[a] Paroxetine and fluvoxamine are more likely to cause sedation and weight gain.

Bipolar Disorder: Acute Treatment Manic or Mixed Episode

- ***COMBINATION THERAPY:***
  - Mood Stabilizer ***AND*** atypical antipsychotic
- Benzodiazepines recommended as needed
- ECT with refractory cases
- ECT – consider with pregnant manic patients
- Mixed episode (dysphoric mania) – use Depakote
- Rapid cycling – use Depakote

Am J Psychiarty 159:4, April 2002
Supplement

Antipsychotics

- Caution with over-use and off-label use
  - Should not be first-line for anxiety or insomnia
- Be aware of side effects
  - Extrapyramidal symptoms
  - Tardive dyskinesia
  - Weight gain
  - Metabolic syndrome
- Be aware of black-box warning
  - Increased risk of death among patients with dementia with atypical antipsychotics

ADA/APA Consensus Conference on Antipsychotic Drugs

Drug	Weight Gain	Risk for Diabetes	Worsens Lipid Profile
Clozapine (Clozaril)	+++	++	++
Olanzapine (Zyprexa)	+++	++	++
Risperidone (Risperdal) Paliperidone (Invega)	++	+/-	+/-
Quetiapine (Seroquel)	++	+/-	+
Aripiprazole* (Abilify)	+/-	-	-
Ziprasidone* (Geodon)	+/-	-	-

+ = increase effect; - = no effect *Newer drugs with limited long-term data.

ADA and APA Consensus on Antipsychotic Drugs and Obesity and Diabetes

	Initial	4 week	8 week	12 week	Quarterly	Yearly	Every 3 years
PMHx/PFHx	X						
Weight (BMI)	X	X	X	X	X		
Waist size	X					X	
Blood pressure	X			X		X	
Fasting plasma glucose	X			X		X	
Fasting lipid profile	X			X			X
*More frequent assessments may be warranted based on clinical status.							

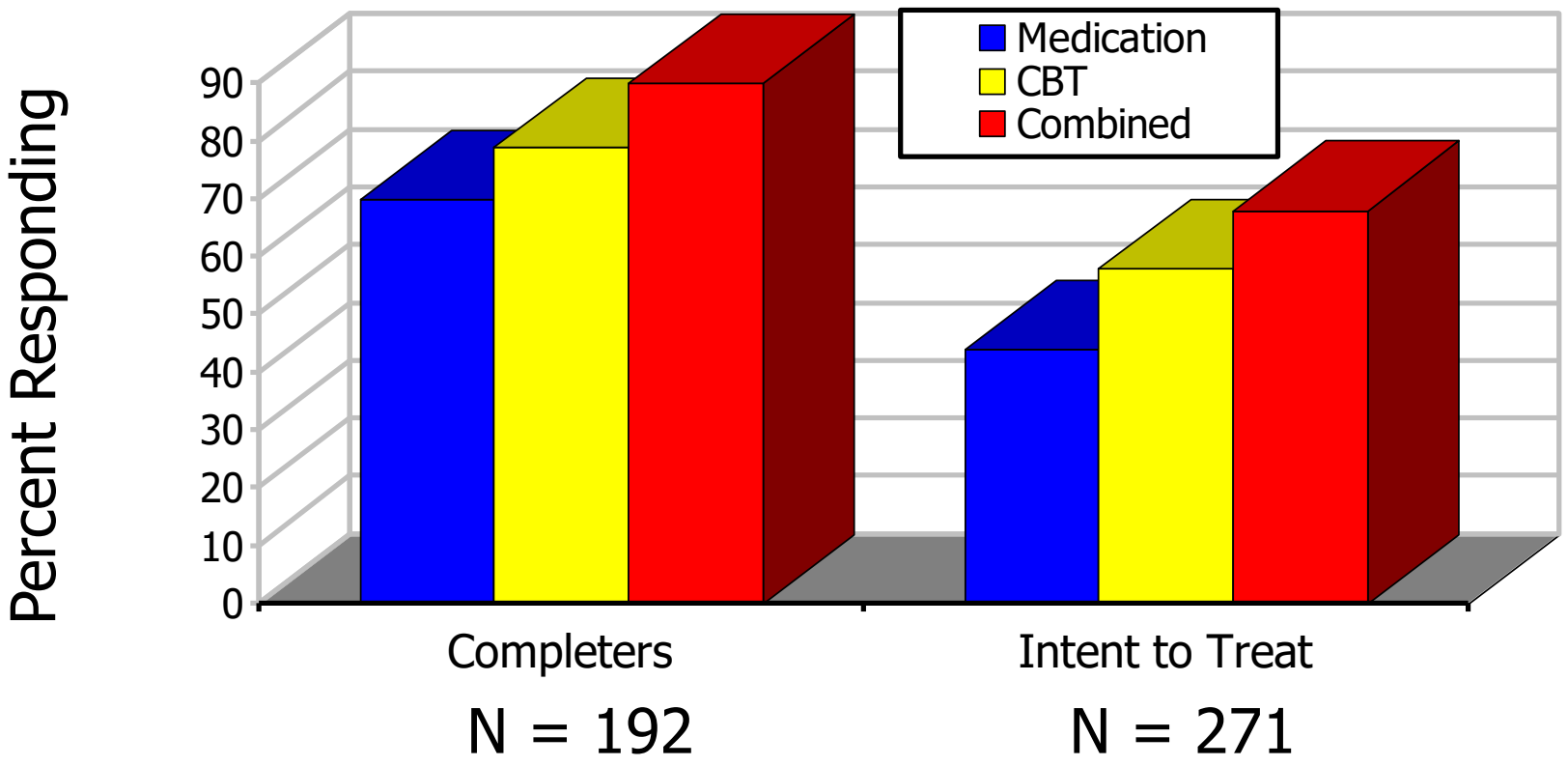
- Metabolic risks must be considered when prescribing second generation antipsychotic agents
- Patients, family members, and caregivers must be educated on metabolic risks
- Baseline screening and regular monitoring for metabolic side effects
- Referral to specialized services when appropriate

Diabetes Care. 2004;27:596-601.

*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

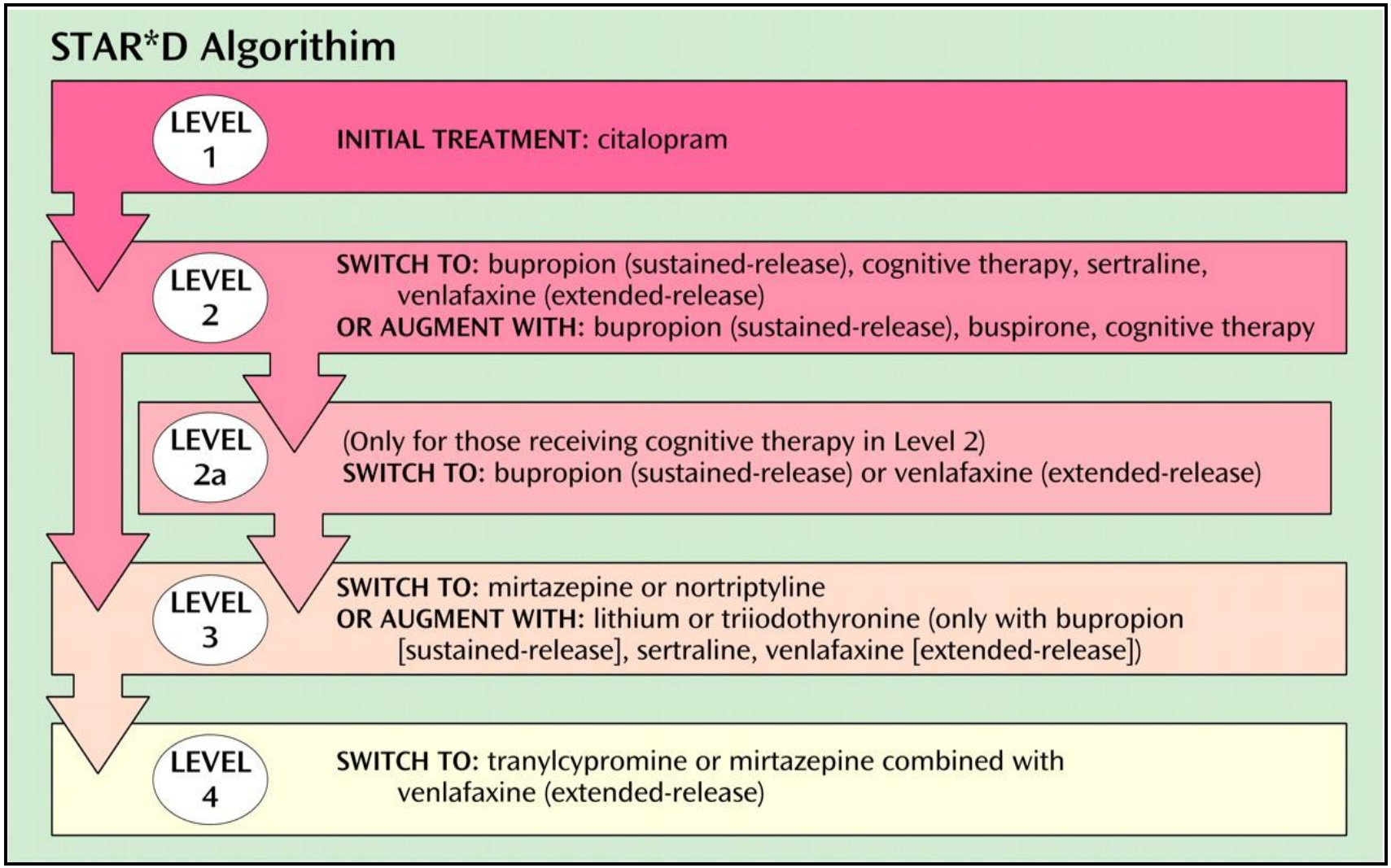


STAR*D

- Nationwide effectiveness trial funded by NIMH
- Purpose: identify the next best antidepressant treatment in patients not achieving remission
- Largest and longest study ever conducted in MDD
  - 41 clinical facilities around America
    - 23 psychiatric sites
    - 18 primary care sites
    - Enrolled more than 4,000 outpatients
    - Lasted 6 years
  - Referral from both mental and non-mental health practices
  - 4 levels of treatment each lasting potentially up to 12 weeks

    - Pharmacotherapy and psychotherapy interventions

STAR*D


STAR*D Algorithim
LEVEL 1
INITIAL TREATMENT: citalopram
LEVEL 2
SWITCH TO: bupropion (sustained-release), cognitive therapy, sertraline, venlafaxine (extended-release)
OR AUGMENT WITH: bupropion (sustained-release), buspirone, cognitive therapy
LEVEL 2a
(Only for those receiving cognitive therapy in Level 2)
SWITCH TO: bupropion (sustained-release) or venlafaxine (extended-release)
LEVEL 3
SWITCH TO: mirtazepine or nortriptyline
OR AUGMENT WITH: lithium or triiodothyronine (only with bupropion [sustained-release], sertraline, venlafaxine [extended-release])
LEVEL 4
SWITCH TO: tranylcypromine or mirtazepine combined with venlafaxine (extended-release)

Clinical Implications of STAR*D

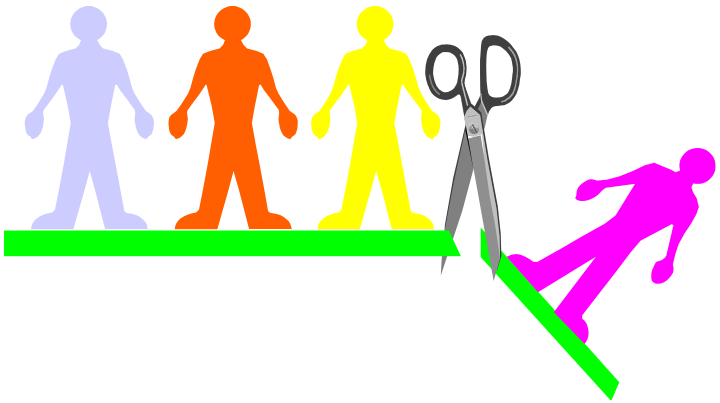
- Depression is a chronic and severe condition
  - 40% had first depressive episode before the age of 18
  - Over half of patients reported a mood disorder in first degree relative
- High amount of medical and psychiatric co-morbidity
  - Over half report an anxiety spectrum disorder
  - Two-thirds reported a medical or additional psychiatric condition
- Remission should be goal of antidepressant therapy
  - Response rates are not useful to predicting sustained remission
  - Trials often do not have representative pts.
- Augmentation/combination of agents
  - Early on may be a better choice than continued monotherapy

Clinical Implications of STAR*D

- General findings
  - **6 wks** is necessary for patients to achieve a response
  - Pts. unable to tolerate medication preferred a switch
  - Pts. able to tolerate medication preferred augmentation
- Second Level
  - Switching within class, out-of-class, dual-action agent →***same results***
  - Buproprion-SR produced better results than buspirone as an augmentation agent
  - *Substantial pharm. differences didn't yield substantially different results*
- Third level
  - Low remission rates, different pharm. MOA didn't give better results
  - T3 better tolerated compared to lithium
- Fourth level (refractory patients)
  - Poor tolerability of MAO-I tranylcypromine, modest benefit with venlafaxine + mirtazapine combination

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

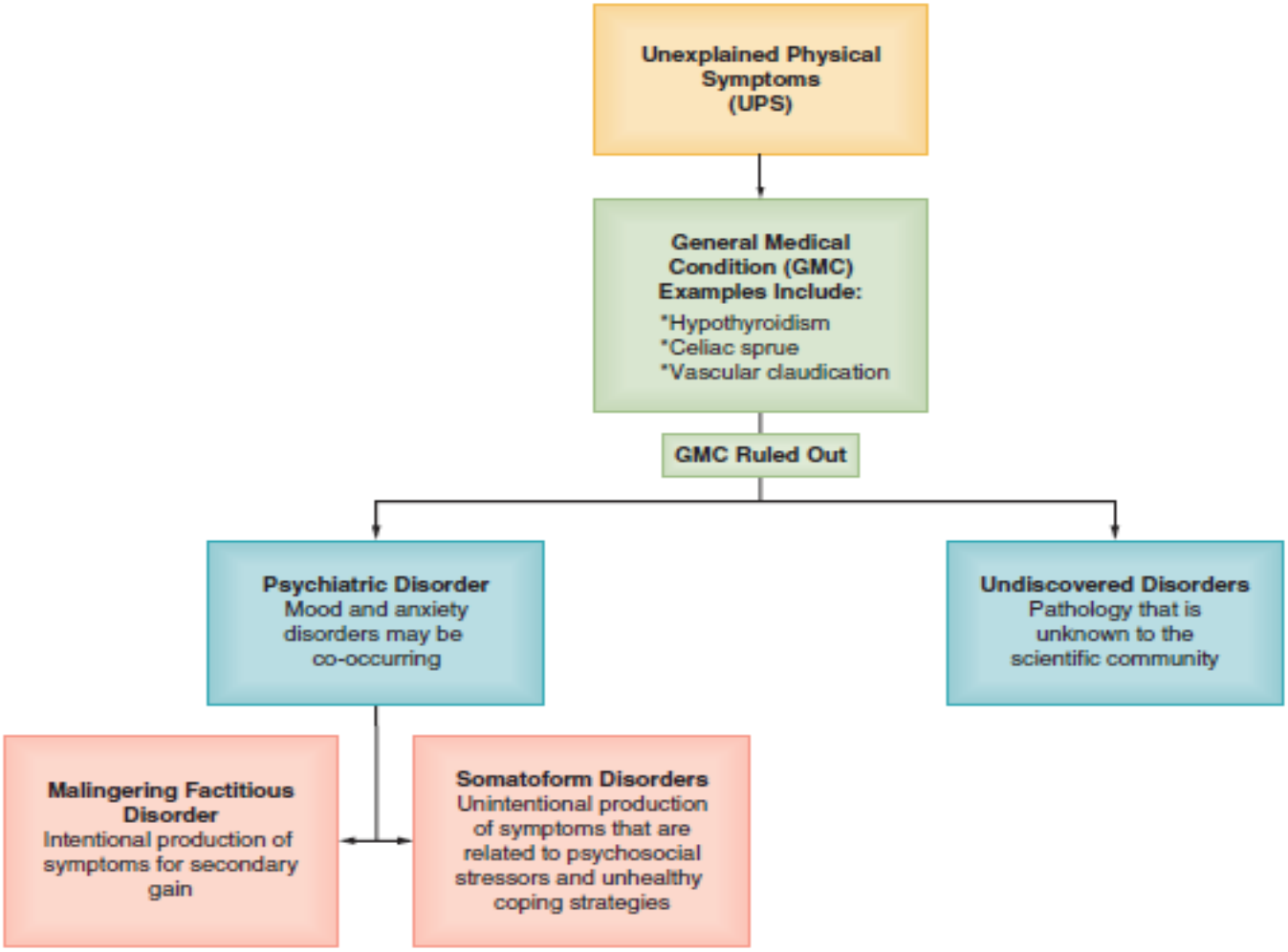
- Normal Concern
- Medical Illness
- Attention Seeking
- Pithiatism
- Psychiatric Illness
- Voluntary Signs/Symptoms

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

*Evaluation of unexplained physical symptoms

- 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

Unexplained Physical Symptoms Differential Diagnosis



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Pithiatism

Hypersuggestibility

*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

--Kathol, Intl J Psych in Med 27:173-180, 1997

*Treatment of a Single *Acute* Common or Compelling Symptom

- 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

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

CAREMD Treatment Guidelines for Somatoform Disorders

CBT/Consultation	• Follow the CBT treatment plan developed by the therapist and patient
Assess	• Rule out potential general medical causes for the somatic complaints • Treat co-morbid psychiatric disorders
Regular visits	• Short frequent visits with focused exams • Discuss recent stressors and healthy coping strategies • Overtime, the patient should agree to stop over utilization of medical care (e.g. frequent emergency room visits, or excessive calls and pages to the primary care provider)
Empathy	• "Become the patient" for a brief time • During visits, spend more time listening to the patient rather than jumping to a diagnostic test • Acknowledge patient's reported discomfort
Med-psych interface	• Help the patient self-discover the connection between physical complaints and emotional stressors ("the mind-body" connection) • Avoid comments like, "your symptoms are all psychological" or "there is nothing wrong with you medically"
Do no harm	• Avoid unnecessary diagnostic procedures • When possible, minimize unnecessary requests for consultation to medical specialists • Once a reasonable diagnostic work up is negative, feel comfortable with a somatoform disorder diagnosis and initiate treatment

From McCarron R. Somatization in the primary care setting. *Psychiatric Times.* 2006;23(6):32–34.

Substance Abuse

CAGE Questionnaire

1. Have you ever felt like you should ***CUT*** down on your drinking?
2. Have people ***ANNOYED*** you by criticizing your drinking?
3. Have you ever felt bad or ***GUILTY*** about your drinking?
4. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (***EYE OPENER***)?

Ewing, et al. Detecting alcoholism: the CAGE questionnaire. JAMA. 1984;252:1905-1907.

Diagnostic Value of CAGE

CAGE Score	LR+
0	0.14
1	1.5
2	4.5
3	13.2
4	101

Kitchens, JM. Does this patient have an alcohol problem?. JAMA. 1994;272:1782-7.

Timing of Alcohol Withdrawal

Syndrome	Onset after last drink
Minor Withdrawal	6 - 36 hours
Seizures	6 - 48 hours
Hallucinations	12 - 48 hours
Delirium Tremens	2- 5 days

Minor Withdrawal

Symptoms

- Tremor
- Anxiety
- Agitation
- Insomnia
- Anorexia
- Nausea
- Palpitations

Signs

- Tachycardia
- Hypertension
- Hyper-reflexia
- Diaphoresis

Hall, et al. The Alcohol Withdrawal Syndrome. Lancet, 1997;349:1897-1900.

Clinical Institute Withdrawal Assessment for Alcohol Scale-revised (CIWA-Ar)

1. Nausea and vomiting
2. Tremor
3. Paroxysmal sweating
4. Anxiety
5. Agitation
6. Tactile disturbances
7. Visual disturbances
8. Auditory disturbances
9. Headache or fullness
10. Orientation

(0-4 points)

Sullivan,J.T. British Journal of Addiction, 1989; 84: 1353-7.

Treatment Setting

	Outpatient	**Inpatient**
CIWA	<8	**8-15 (>15)**
Hx seizure or Alcohol Withdrawal Delirium	-	**+**
Med/surg problems	-	**+**
Psych or drug hx	-	**+**
Social Support	+	**-**
Housing	+	**-**

Treatment of alcohol withdrawal = Benzodiazepines

- Reduction of alcohol withdrawal symptoms in six prospective trials:
  - Chlordiazepoxide *(Librium)*
  - Diazepam *(Valium)*
  - Lorazepam *(Ativan)*
- ↓ seizures
- ↓ incidence and duration of Delirium Tremens
- All equally efficacious

Mayo-Smith, M et al. Pharmacological Management of Alcohol Withdrawal. JAMA. 1997;278: 144-51.

*Naltrexone for Alcohol Dependence

- 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

Srisurapanont et al, Int J Neuropharm 8:267-280, 2005; Rubio et al, Alc Alc 40:227-233, 2005

*Acamprosate for Alcohol Dependence

- 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

Boothby & Doering, Curr Ther 27:695-714, 2005; Scott et al, CNS Drugs 19:445-464, 2005

*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

Use "FRAMES" for Motivation Enhancement

- **F**eedback regarding the negative consequences of substance use behaviors, including future risk
- **R**esponsibility for change emphasizes *personal choice*
- **A**dvice is given about behavioral change, from reduction to abstinence
- **M**enu of treatment options reinforces personal responsibility and choice
- **E**mpathic and nonjudgmental counseling style
- **S**elf-efficacy encourages a sense of optimistic empowerment and positive change

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Delirium

*Increased Healthcare Utilization in Delirious Patients

	Delirious	Non-Delirious
• 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 148:454-4571991
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

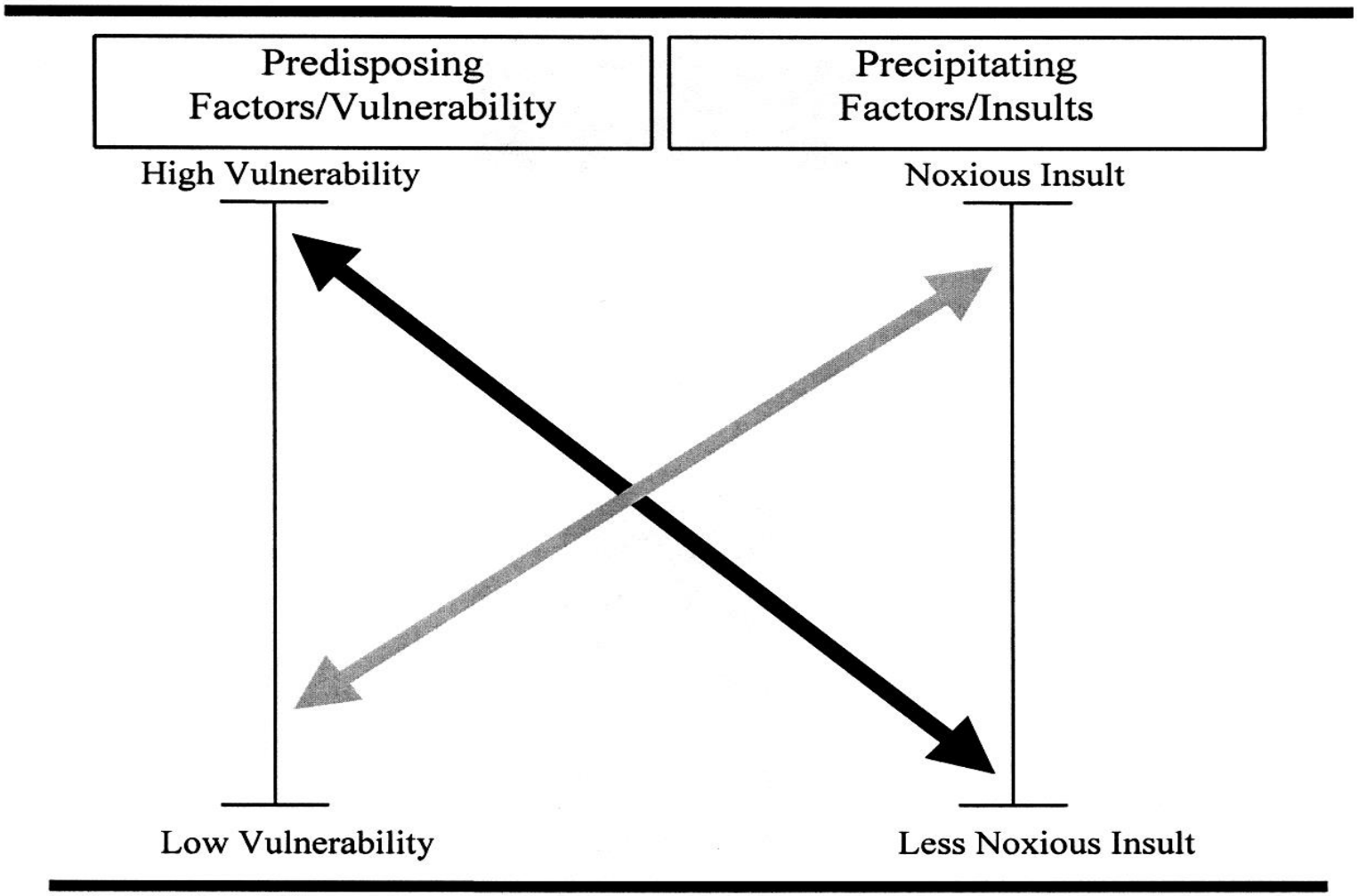
Increased Healthcare Utilization in Delirious Ventilator Patients

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

*$p < 0.001$

Milbrandt et al Crit Care Med 32:955-962, 2004

Multifactorial Model of Delirium



Ref: Inouye SK et al. JAMA 1996; 275:852-857

*Delirium Prevention

- Geriatric consultation in hip fracture patients[1]
  - 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$)

Leslie et al, Am J Ger Soc 53:405-409, 2005

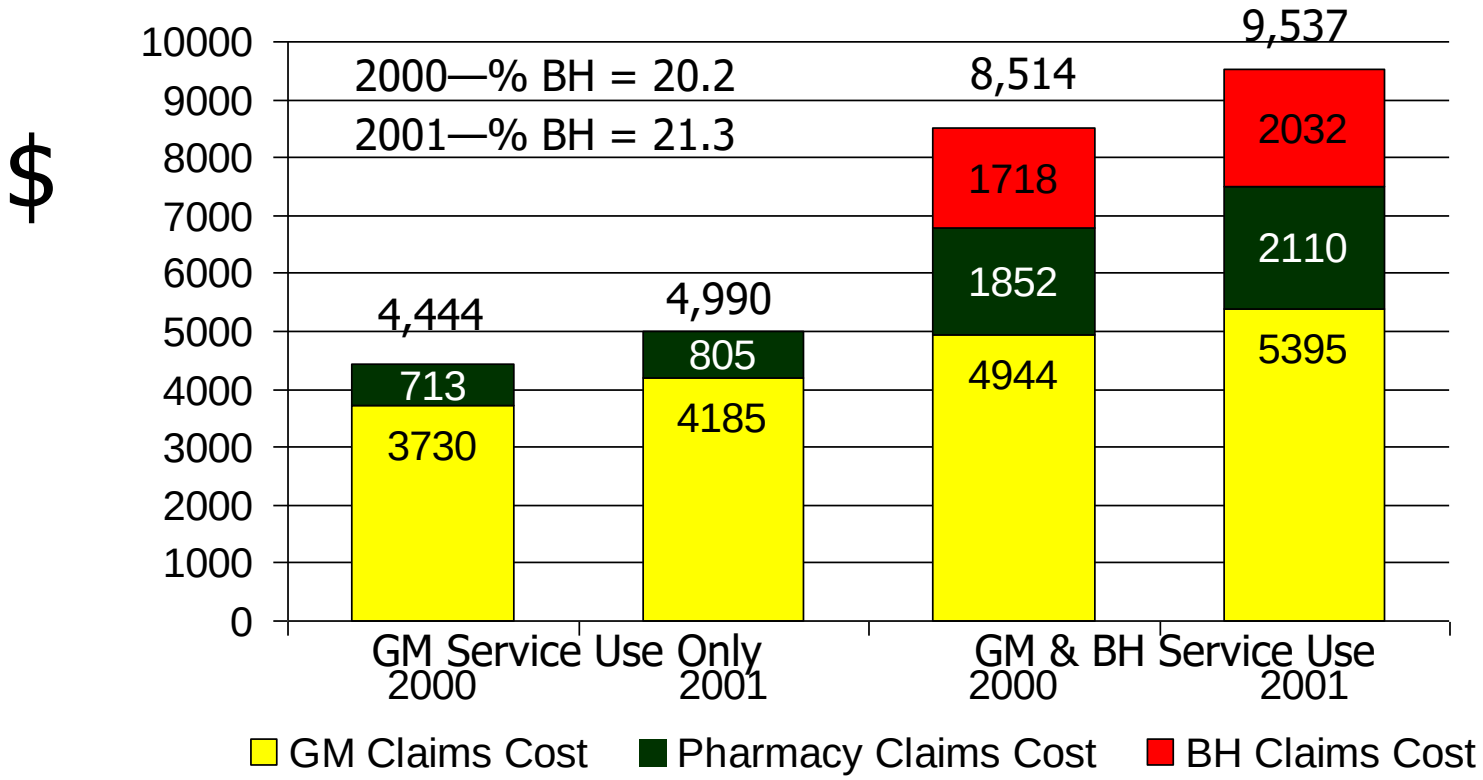
Antipsychotics for treatment of Delirium

Setting	N	intervention	Outcomes
Inpt med, AIDS Blind, RCT	30	Haloperidol, chlorpromazine, lorazepam	Antipsychotics improved delirium and MMSE
Inpt med, ICU Blind, RCT	24	Haloperidol, risperidone	Improved delirium, NS btwn txes
ICU Open, randomized	73	Haloperidol, olanzapine	Improved delirium, NS btwn txes
Inpt med-surg Open, randomized	31	Amisulpride, quetipaine	Improved delirium, NS btwn txes

Breitbart Am J Psych 1996; Han Psychosomatics 2004;
Lee Int J Clin Psychopharm 2005; Skrobik Int Care Med 2004

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%

Kathol et al, *JGIM* 20; 160-167, 2005

Cost Reduction Associated with Depression Treatment in Primary Care

	Treatment (N = 95)	Usual Care (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

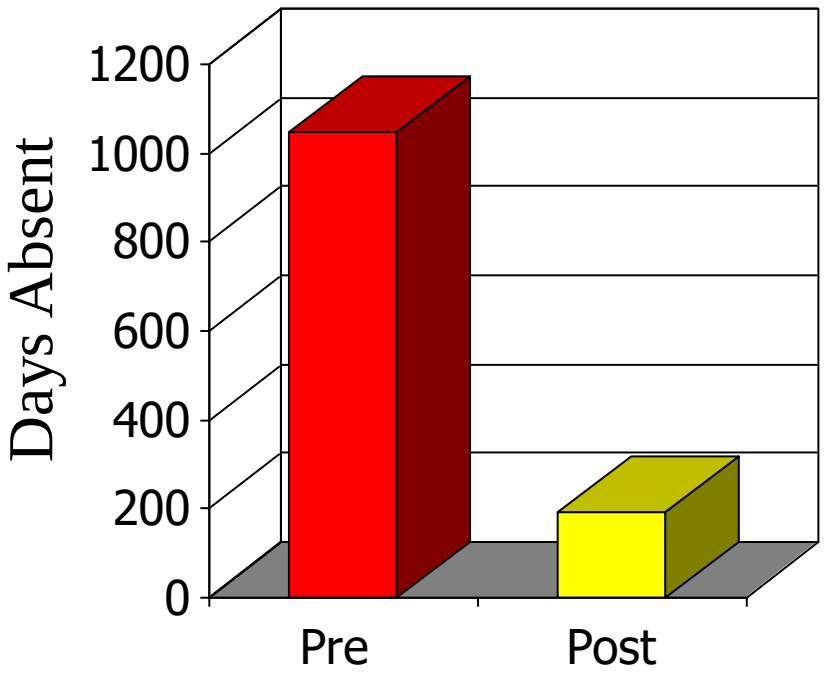
Katon et al, JGIM 17:741-748, 2002

*Enhanced Productivity Associated with Depression Treatment in Primary Care

	Treatment (N = 158)	Usual Care (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		

Rost et al, Med Care 42:1202-1210, 2004

*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

--Salvador-Carulla et.al. Br J Psychiatry Suppl 27:23-28, 1995

Cost Reduction Associated with Treatment of Panic Disorder

	Treatment (N = 57)	Usual Care (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

Katon et al, Arch Gen Psychiatr 59:1098-1104, 2002

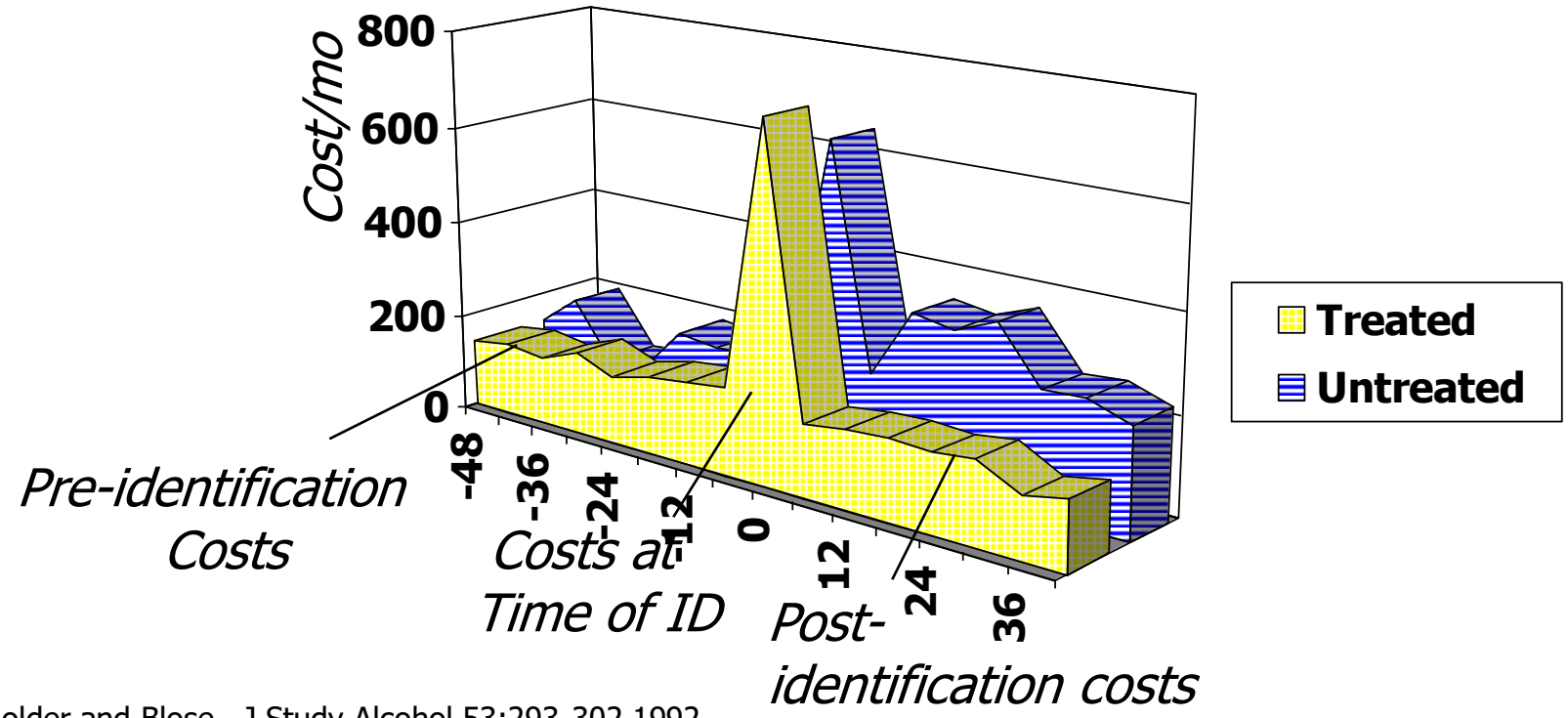
*Lowering Health Care Cost in Somatizing Patients

- Cost offset per patient per year (2005$US)
  - $5,242 (-53%)—consultation letter in somatization disorder[1]
  - $466 (-21%)—consultation letter in somatization disorder[2]
  - $902 (-52%)—consultation letter plus group therapy in somatization disorder[3]
  - $430 (-33%)—consultation letter in subsyndromal somatization disorder[4]
  - $448 (-26%)—reattribution therapy for somatic symptoms[5] (UK)
  - $1,050 (-32%)—intense inpatient and outpatient therapy[6] (GR)
  - $344 (-15%); $123 (-5.5%)—TERM training for GPs in somatization disorder and subsyndromal, respectively[7] (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

24% lower healthcare costs after treatment



--Holder and Blose, J Study Alcohol 53:293-302,1992

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

	Integrated* (N = 189)	Independent (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

Parthasarathy et al, Med Care 41:257-367, 2003
Weisner et al, JAMA 286:1715-1723, 2001

*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 just becomes 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

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