REACH, ENGAGE, HELP:
Smokers with Mental Illness

Judith J. Prochaska, PhD, MPH
UCSF Department of Psychiatry

The Death of a 56-Year-Old Man With Serious Mental Illness

- A 56-year-old, gay-identified Caucasian man
- >15 psychiatric hospitalizations over a 10-year span
- Severe depressive symptoms, suicidal ideation, and auditory hallucinations criticizing him and/or commanding him to commit suicide
- Tested positive for stimulants
- Diagnosed with schizoaffective disorder, major depression with or without psychotic features, posttraumatic stress disorder, and polysubstance or stimulant dependence

Prochaska, Schane et al., (2008). Am J Psychiatry

The Death of a 56-Year-Old Man With Serious Mental Illness

- Smoked 2 packs of cigarettes per day for 25 years
- 10 attempts to quit smoking, 2 in the past year
  - Each attempt was unassisted, without clinical support or use of FDA-approved cessation medications
- Longest period of being tobacco-free was 7 days
- No advice to quit smoking in the past year by a mental health or general medical provider

Prochaska, Schane et al., (2008). Am J Psychiatry

Died 20 years prematurely from complications of pulmonary emphysema due to smoking

2006 AAMC Practice Survey: Psychiatrists

- **62%** Ask about tobacco & Advise to quit
- **44%** Assess readiness to quit
- **13-23%** Assist
  - NRT (23%), other Rx (20%), cessation materials (13%)
- **14%** Arrange follow up
- **11%** Refer to others

Psychiatrists least likely to address tobacco use with their patients relative to other specialties (family medicine, internal medicine, OB/GYN)

What are the barriers to addressing tobacco use in psychiatry?

Top Barriers to Treating Tobacco 2006 AAMC Survey with Psychiatrists

- 89% -- Patients not motivated to quit
- 83% -- More acute problems to address
- 80% -- Few cessation programs available
- 75% -- Patients usually fail to quit
- 72% -- Other practice priorities
- 65% -- Staff are unfamiliar with tobacco treatments
- 61% -- Limited time with patients
- 58% -- Lack of provider knowledge in tobacco cessation

CA Quitline

- Nearly 1 in 4 callers met criteria for current major depression
- Those with depression much less likely to be quit 2-months later (18.5%) than callers without depression (28.4%)
- *What are the unique challenges?*
- *How can we reach, engage, & best help smokers with current mental illness?*

Hebert et al. (2011) Am J Prev Med

OVERVIEW

Reach → Engage → Help

- Workshop
  - Treating Tobacco in Smokers with Mental Illness: Evidence-based & Practical Strategies

Schizophrenic.

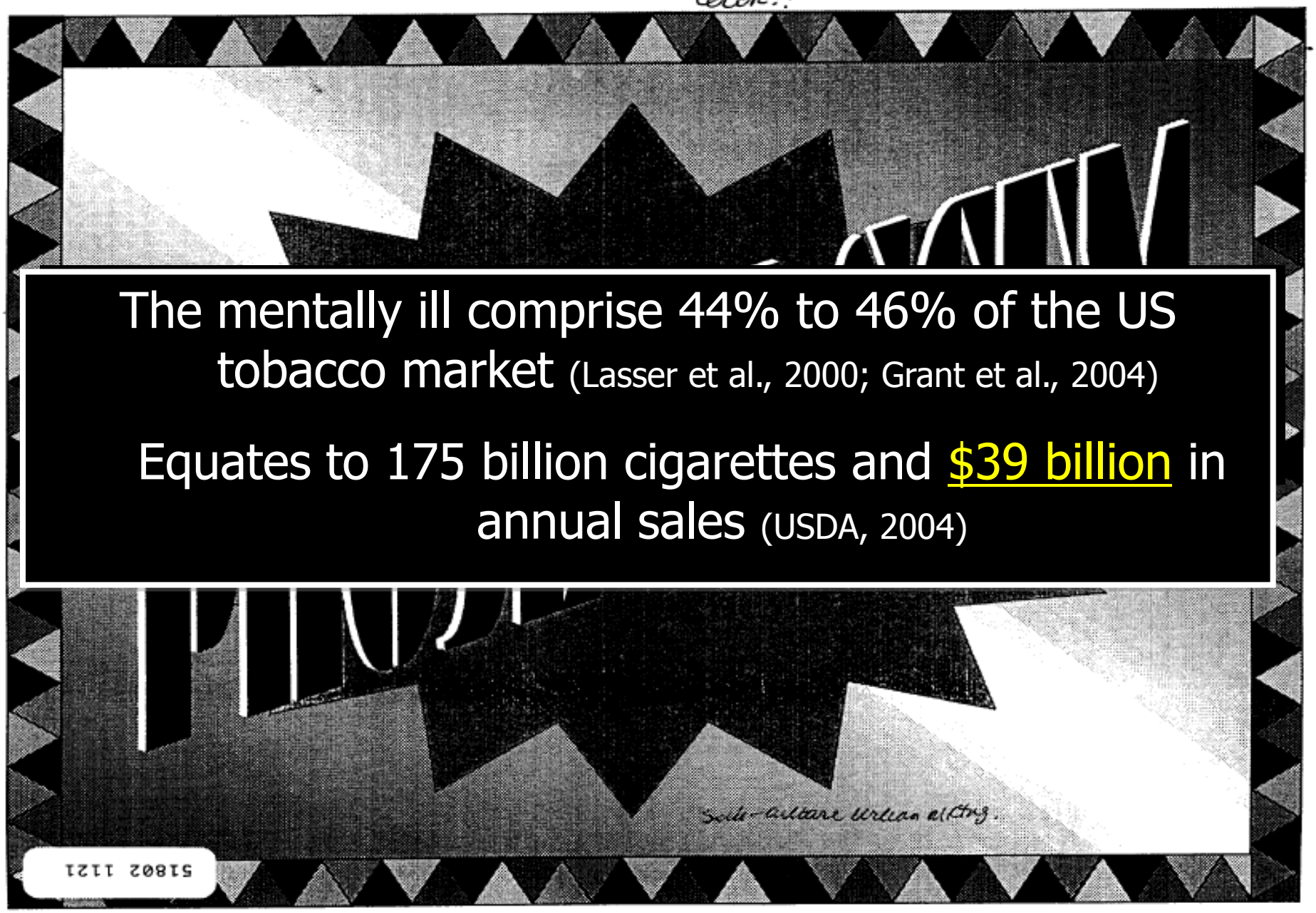
Other low tars are pretty one-dimensional.
Dull.

But the New Merit is a whole other story; big new taste with lower tar. And that's exciting.

In fact, the New Merit has as much taste as cigarettes with up to 57% more tar. Big taste, lower tar, all in one. For New Merit., having two sides is just normal behavior.

The New Merit. We've got flavor down to a science.

Source: Legacy Tobacco Documents



The mentally ill comprise 44% to 46% of the US tobacco market (Lasser et al., 2000; Grant et al., 2004)

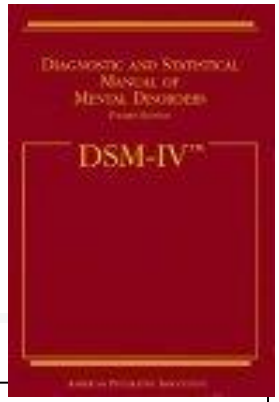
Equates to 175 billion cigarettes and $39 billion in annual sales (USDA, 2004)

MENTAL ILLNESS

- **26%** of US adults meet criteria for a DSM-IV mental disorder in the past year
  - 18% anxiety disorders (panic, GAD, phobias, PTSD, OCD)
  - 9.5% mood disorders (depression, bipolar, dysthmia)
  - 1.1% schizophrenia
  - 8.5% alcohol abuse or dependence
  - 2% drug abuse or dependence

40.6% of smokers meet criteria for a mental disorder in the past month (Lasser et al., 2001)

DSM-IV TOBACCO USE DISORDERS



Nicotine Dependence

- **Maladaptive pattern of use with significant impairment manifested by 3+ in 12-mos:**
  1. Tolerance
  2. Withdrawal
  3. ↑ Use
  4. Unsuccessful efforts to stop
  5. Time investment
  6. Loss of important activities
  7. Continued use despite knowledge of physical or psychological problems

Nicotine Withdrawal

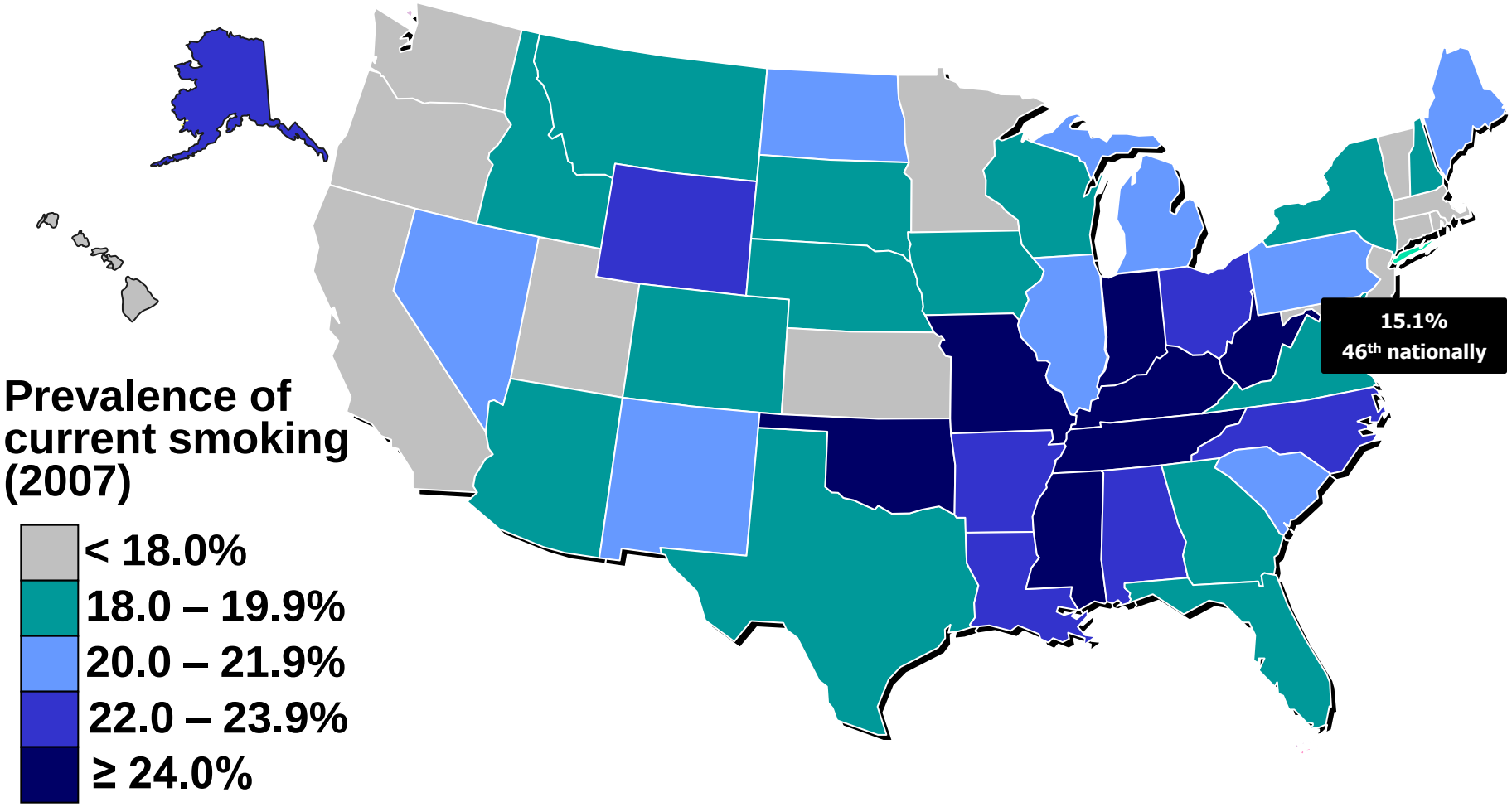
A. **Daily use of nicotine**

B. **Abrupt cessation/reduction followed within 24 hrs by 4+:**
   1. Depressed mood
   2. Insomnia
   3. Irritability
   4. Anxiety
   5. Difficulty concentrating
   6. Decreased HR
   7. Increased appetite

C. **Clinically significant impairment**

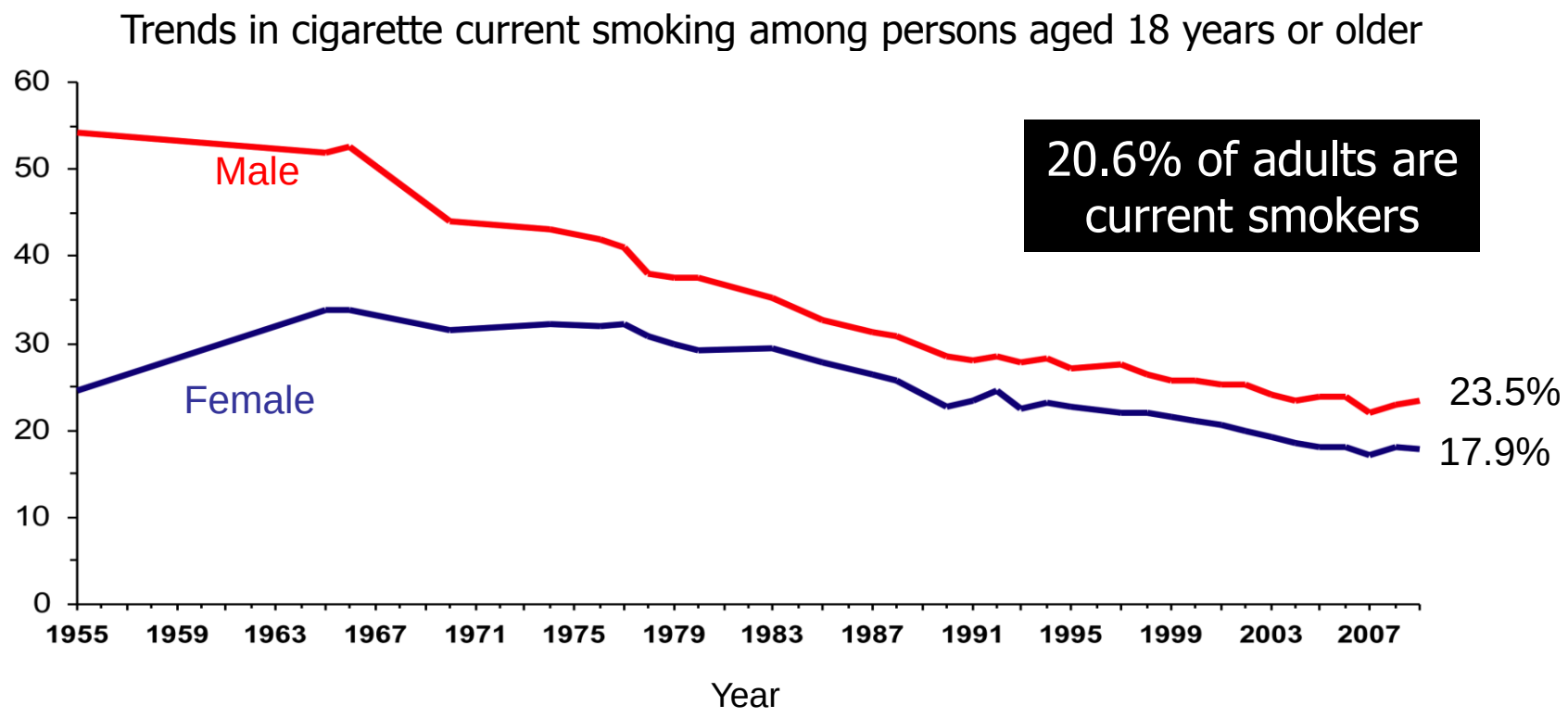
D. **Not due to GMC**

STATE-SPECIFIC PREVALENCE of SMOKING among ADULTS, 2007



Centers for Disease Control and Prevention. (2008). *MMWR* 58:221–226.

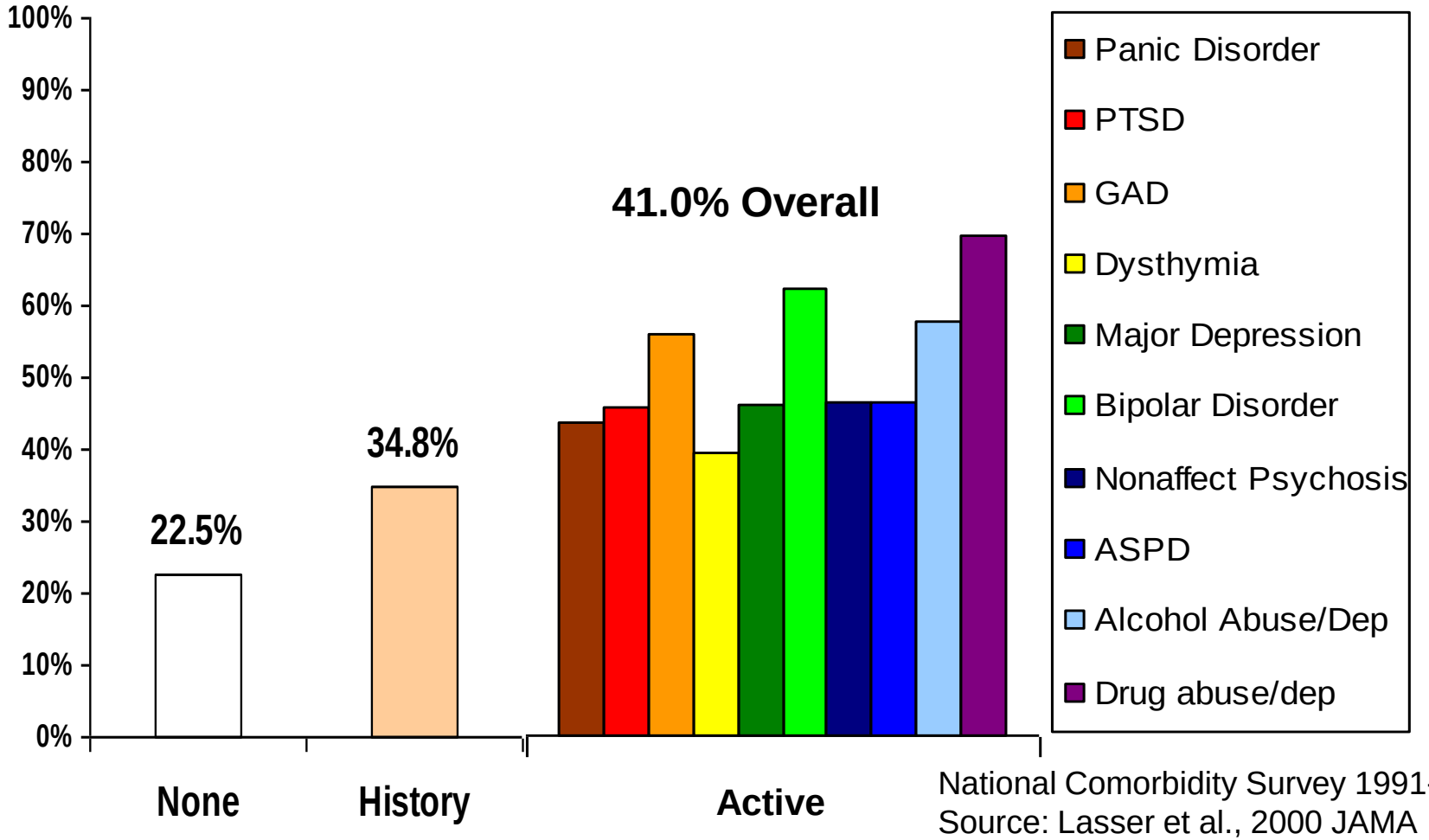
TRENDS in ADULT SMOKING, by SEX—U.S., 1955–2009



70% want to quit

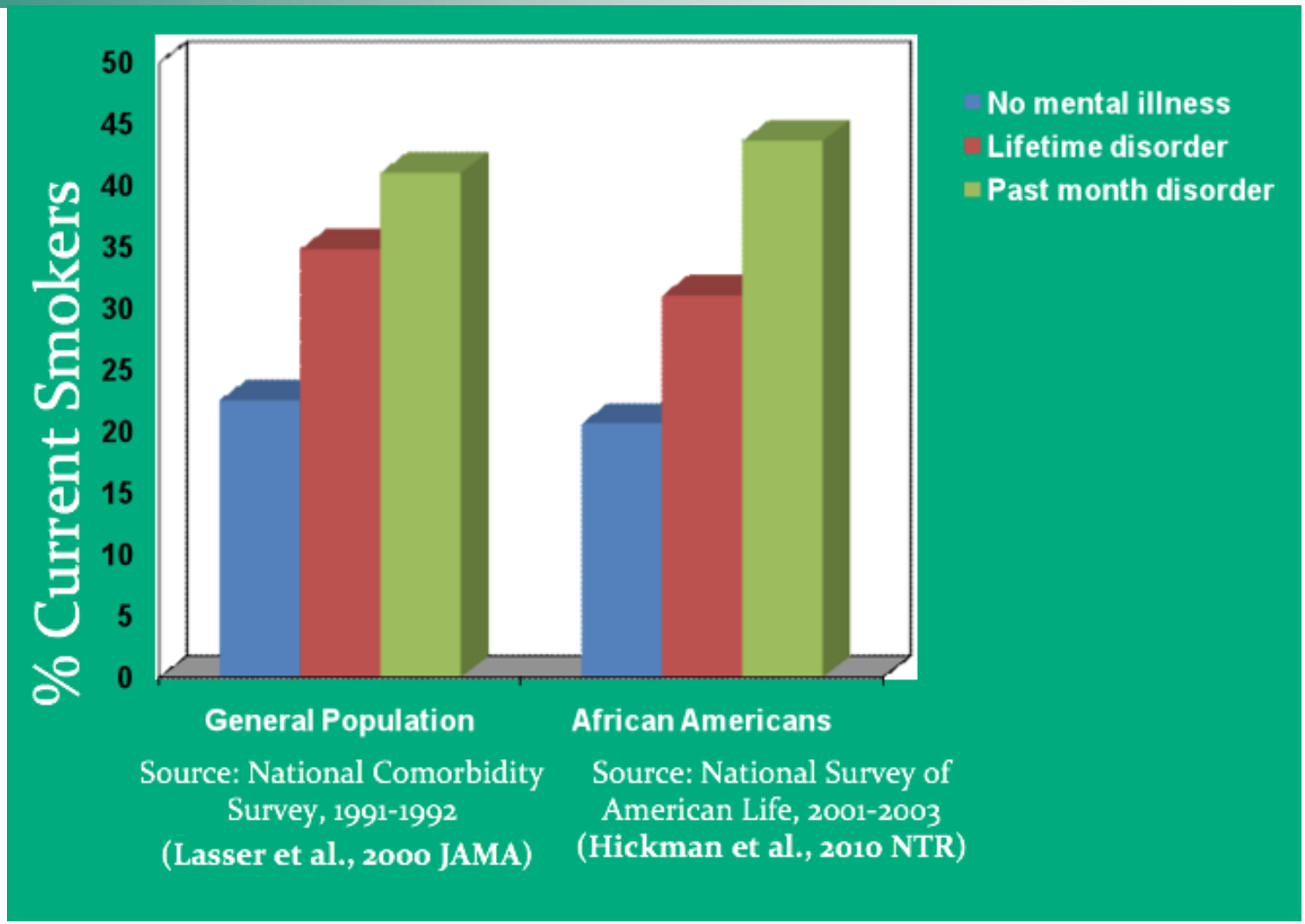
Graph provided by the Centers for Disease Control and Prevention. 1955 Current Population Survey; 1965–2009 NHIS. Estimates since 1992 include some-day smoking.

SMOKING RATE by PSYCHIATRIC HISTORY

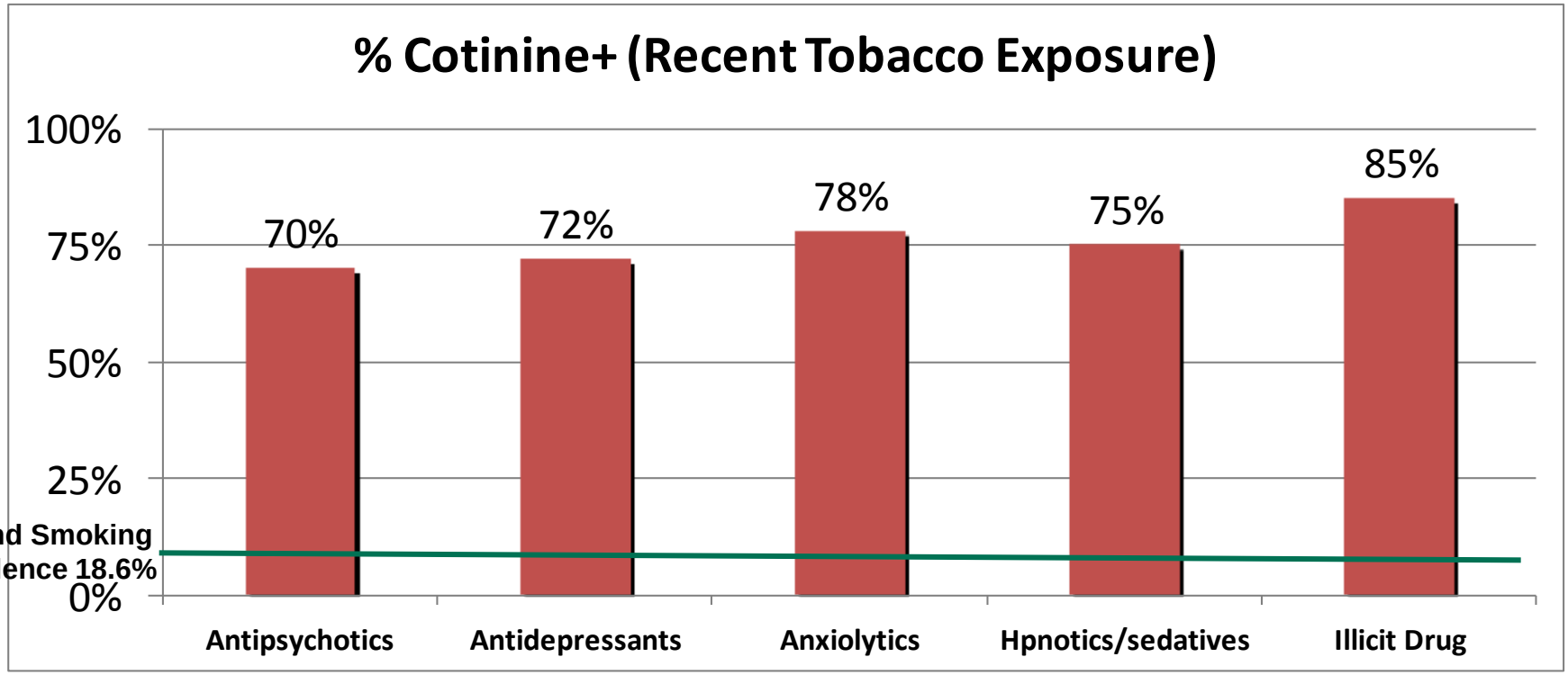


National Comorbidity Survey 1991-1992
Source: Lasser et al., 2000 JAMA

Smoking & Mental Illness

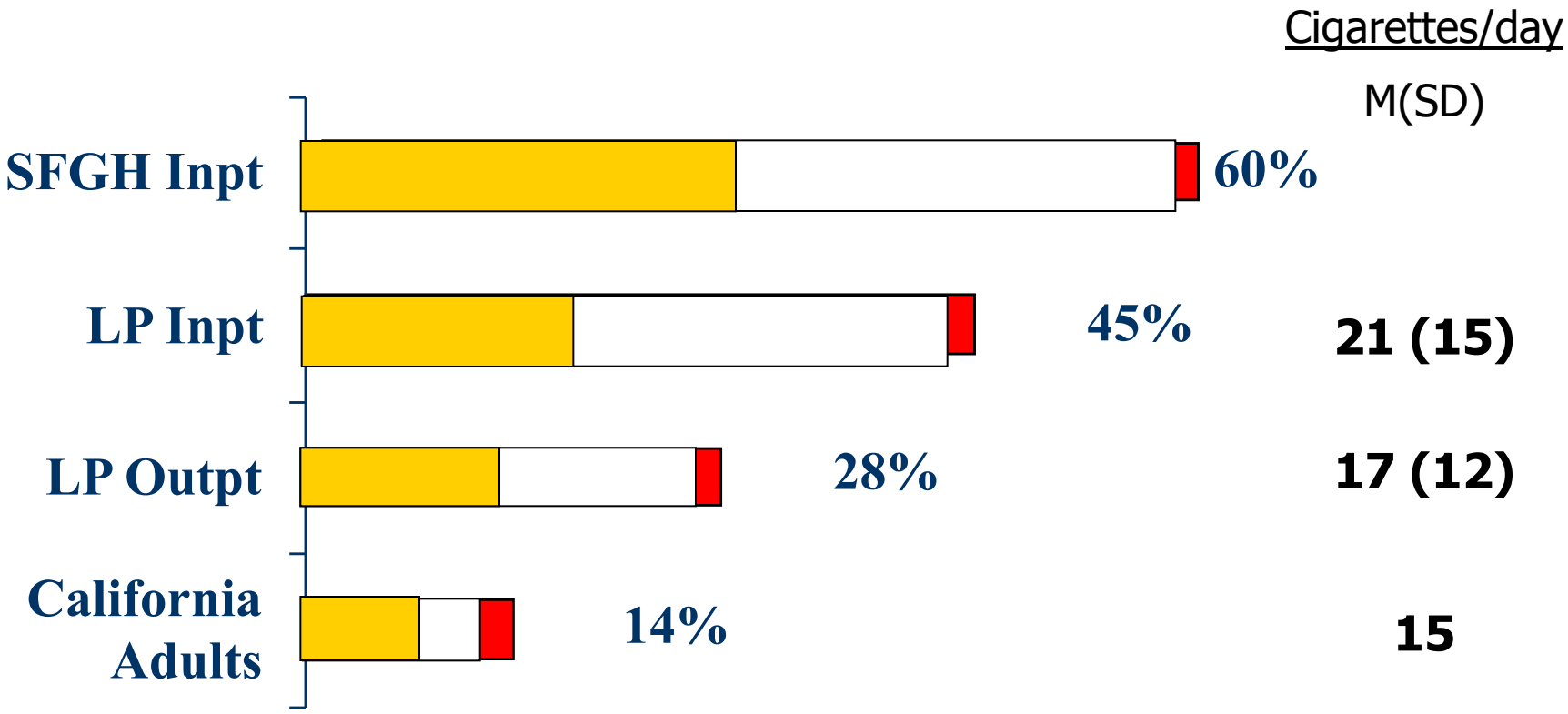


Post-Mortem Study with Young Adults in Finland (N=1623)



Launiainen et al. (2011) NTR

SMOKING in CALIFORNIA

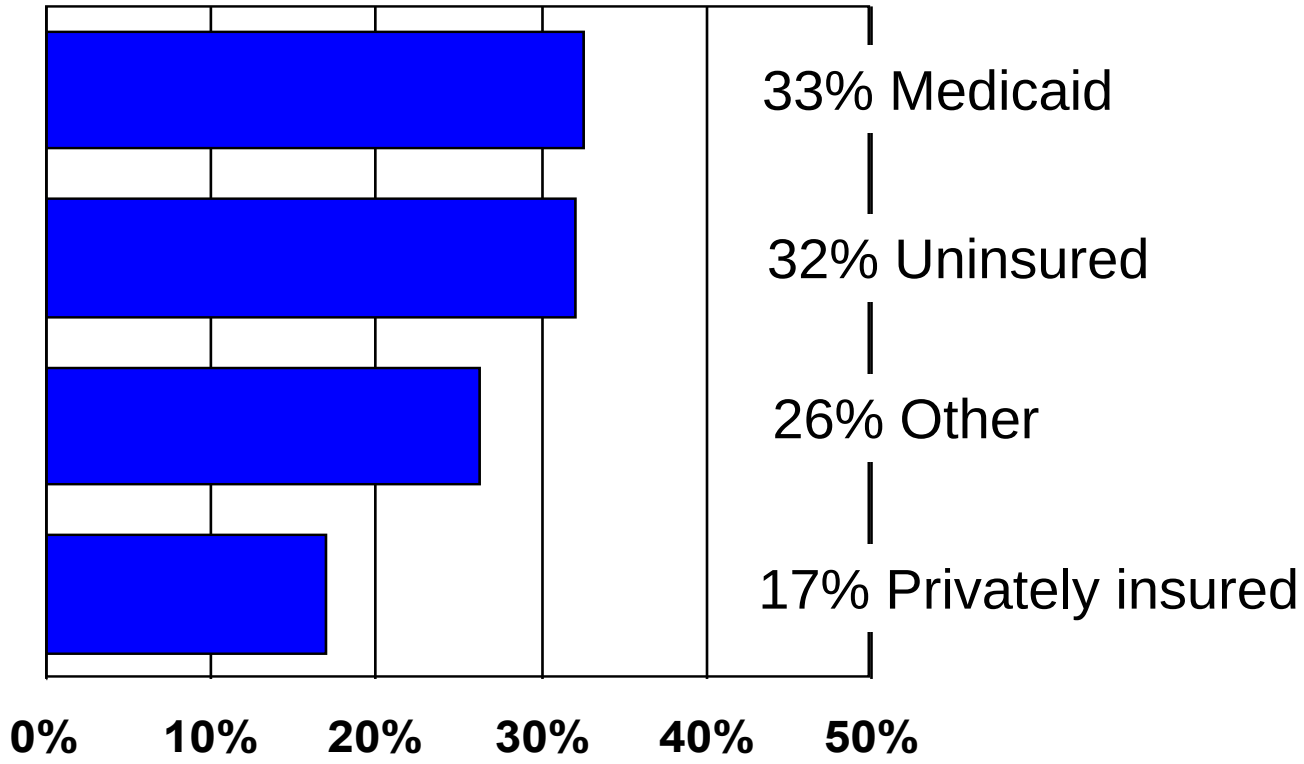


Acton, Prochaska, Kaplan, Small & Hall. (2001) Addict Behav

Benowitz, Schultz, Haller, et al. (2010) Am J Epi

Prochaska, Gill, & Hall. (2004) Psychiatric Services

PREVALENCE of SMOKING by INSURANCE STATUS U.S. ADULTS AGE 18-64, 2007



Centers for Disease Control and Prevention. 2007. *NHIS*.

"90% of Schizophrenics Smoke"

- A meta-analysis of 42 studies on tobacco smoking among schizophrenia subjects found an average smoking prevalence of 62% (range=14-88%)
- Studies reporting higher smoking rates were more commonly cited in the research literature
  - A 10% increase in reported smoking prevalence was associated with a 61% increase in citation rate
- This bias was mirrored on the Internet

Chapman et al. (2009) Australian & New Zealand Journal of Psychiatry

STATE PSYCHIATRIC HOSPITALS

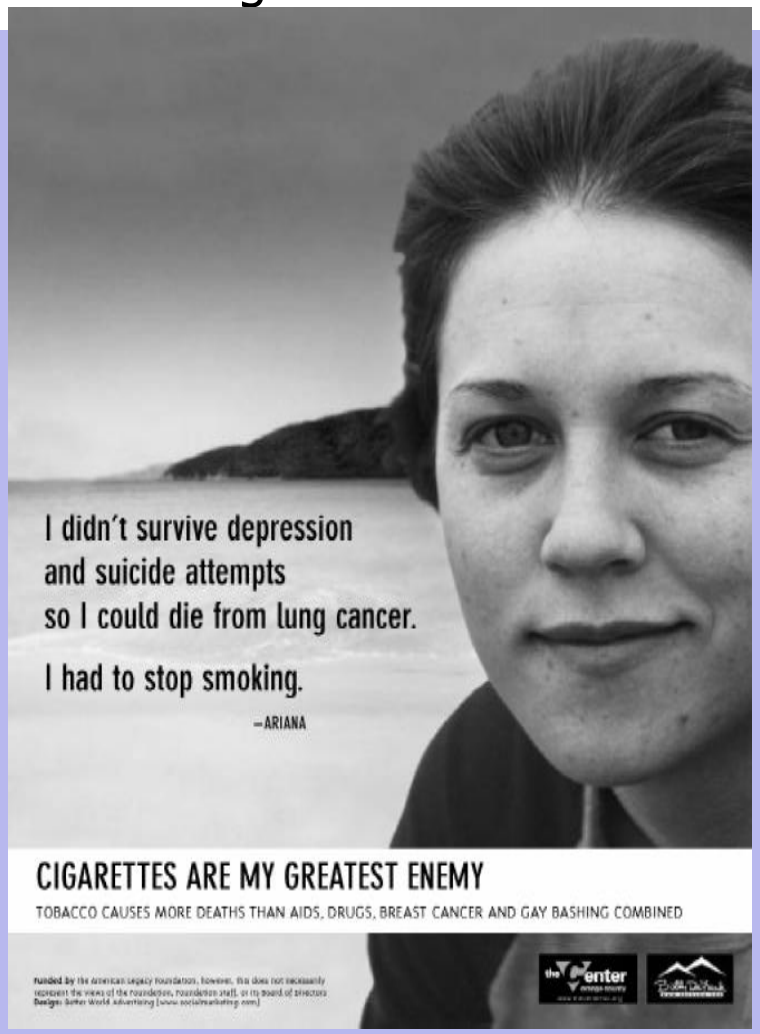
- 2006 survey
- 82% response rate
- 59% permitted smoking
  - 56% sold tobacco
  - Most had 4 to 6 smoking breaks/day
- Overall, < 30% offered cessation classes weekly

Napa State Hospital banned smoking in July 2008

NASMHPD Survey

‘CIGARETTES ARE MY GREATEST ENEMY’

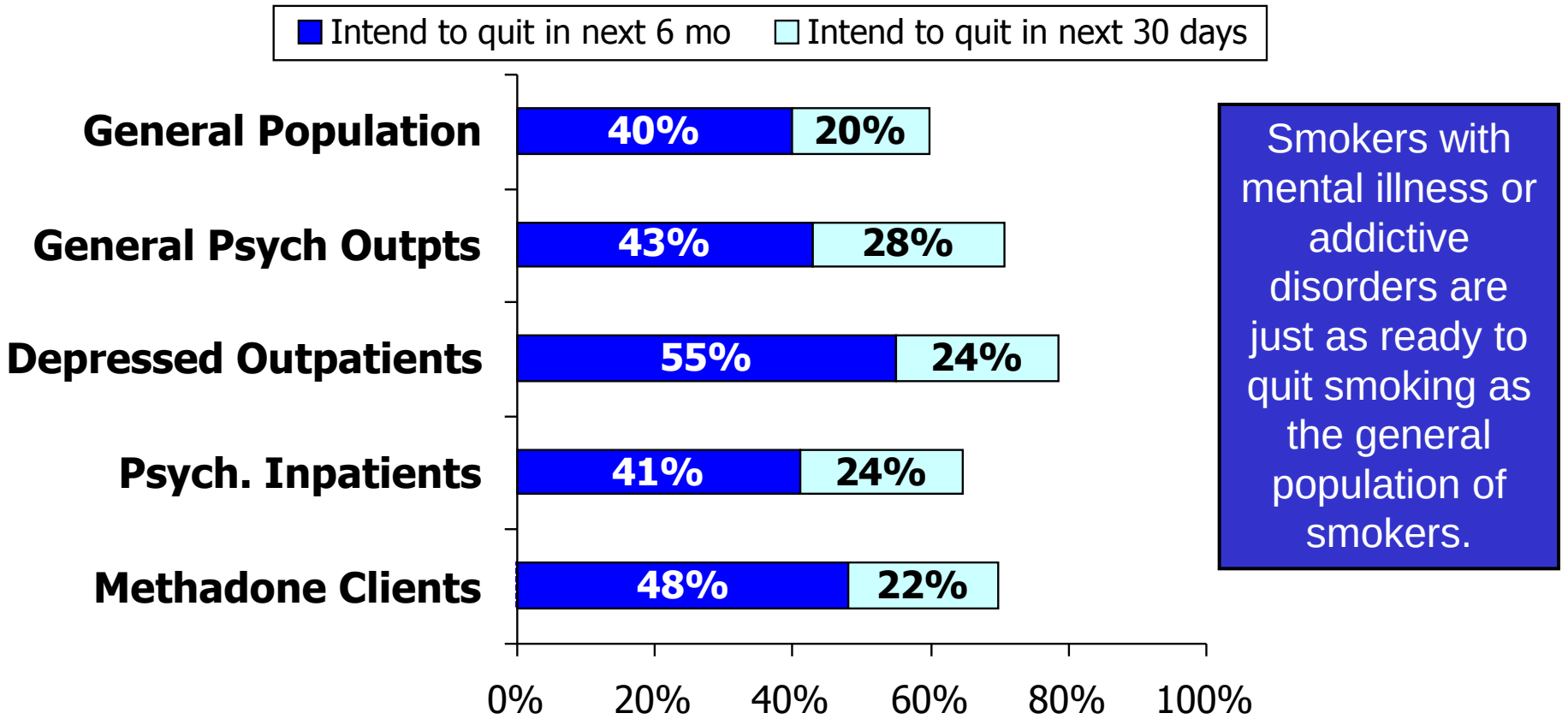
- Statewide social marketing campaign in California by Billy DeFrank Lesbian and Gay Community Center, the Center OC, and the American Legacy Foundation
- Real-life triumphs over adversities to quit smoking



OVERVIEW

Reach → Engage → Help

READINESS to QUIT in SPECIAL POPULATIONS*



Smokers with mental illness or addictive disorders are just as ready to quit smoking as the general population of smokers.

*** No relationship between psychiatric symptom severity and readiness to quit**

SMOKERS with BIPOLAR DISORDER (N=685)

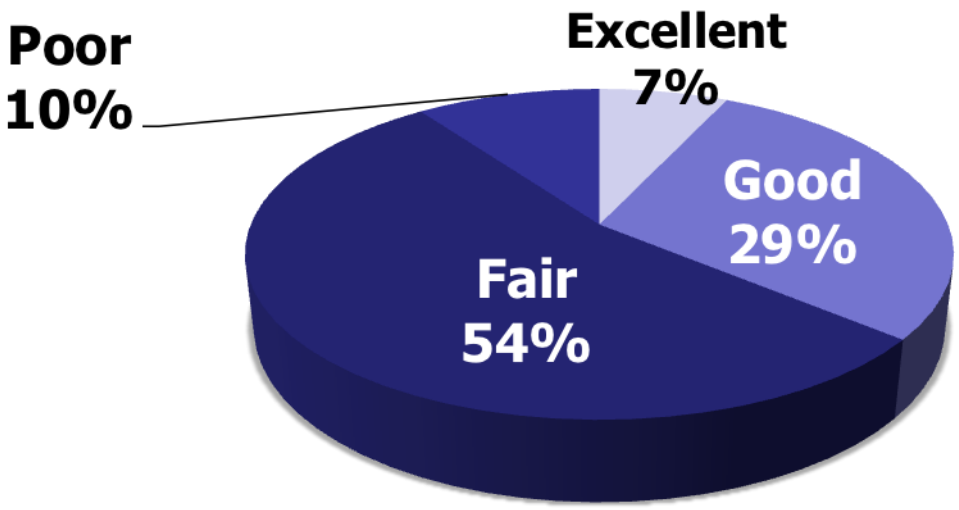
- 48% use tobacco "to treat" their mental illness
- 96% believe they need to be mentally healthy to quit
- Few reported a psychiatrist (27%), therapist (18%), or case manager (6%) ever advised them to quit smoking

Several reported ***discouragement to quit*** from mental health providers

Prochaska, Reyes, Schroeder, et al. (2011). Bipolar Disorders

Quitting & MH Symptoms

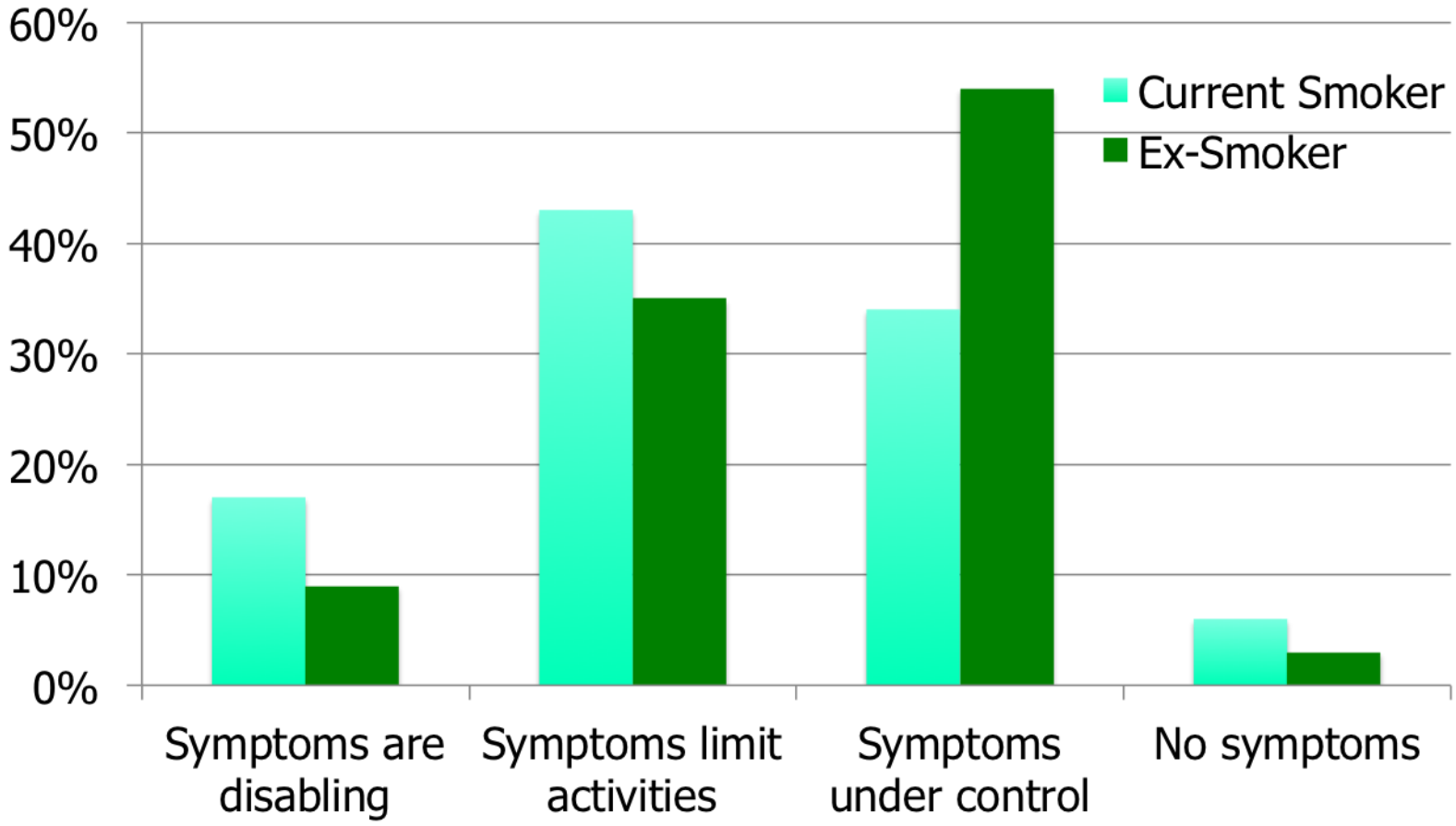
- While 96% of current smokers believed they needed to be mentally healthy to quit, most ex-smokers were not in good or excellent mental health when they quit



Effects of Quitting on Mental Health Symptoms	
No adverse effects	54%
Temporary worsening	18%
Harder time controlling symptoms	21%
Development of new symptoms	7%

MH Symptom Severity by Smoking Status

57% of ex-smokers described their mental health as in recovery compared to 40% of current smokers, $\chi 2(3) = 11.12$, p=.011



WHY ADDRESS TOBACCO USE in PSYCHIATRIC POPULATIONS?

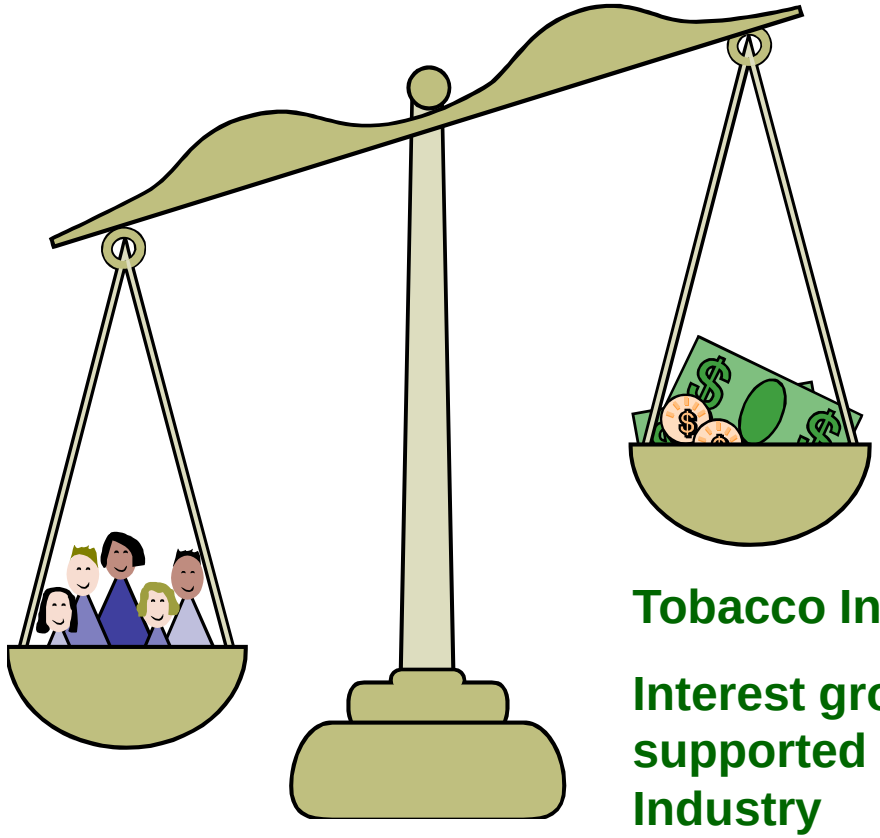
Improve Physical & Mental Health

Prevent Death

Optimize Psychiatric Medication Effects

Reduce Isolation

Patient $ Savings



Tobacco Industry Profits

Interest groups/politicians supported by Tobacco Industry

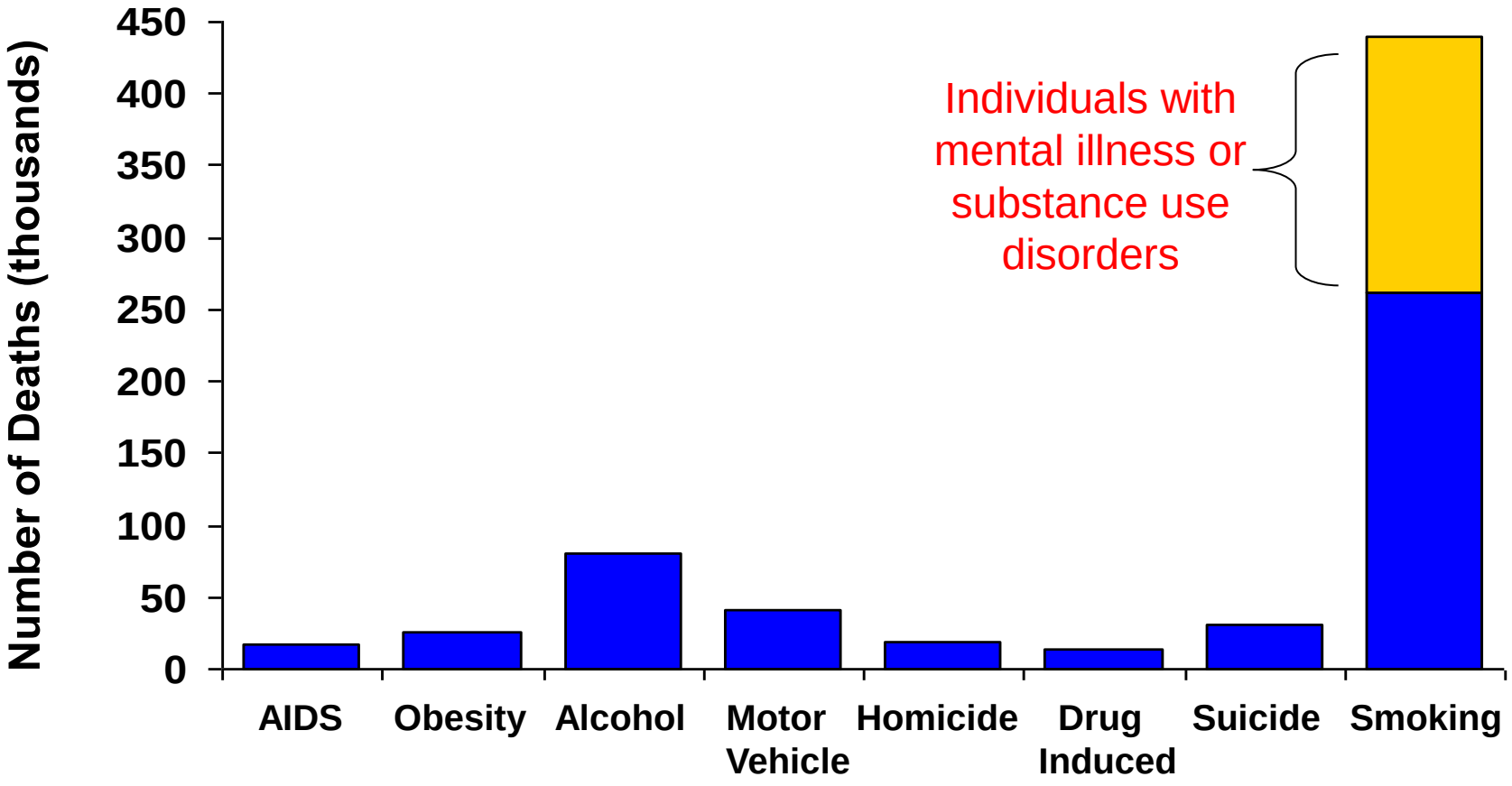
Tax revenues

TOBACCO KILLS

- Individuals with mental illness die, on average, 25 years prematurely (Colton & Manderscheid, 2006)
  - elevated risk for respiratory and cardiovascular diseases and cancer, compared to age-matched controls (Brown et al., 2000; Bruce et al., 1994; Dalton et al., 2002; Himelhoch et al., 2004; Lichtermann et al., 2001; Sokal, 2004).

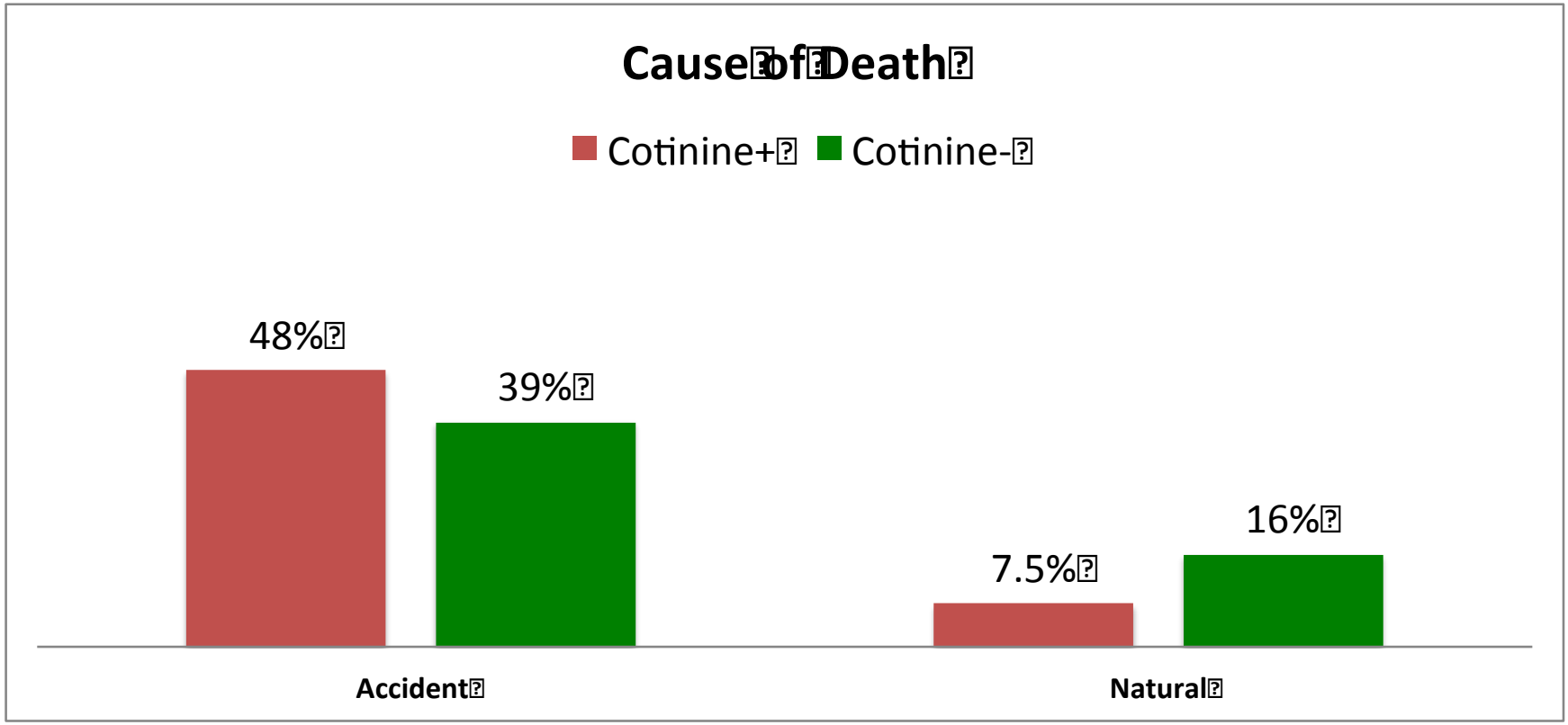
- Current tobacco use is predictive of future suicidal behavior, independent of depressive symptoms, prior suicidal acts, and other substance use (Breslau et al., 2005; Oquendo et al., 2004, Potkin et al., 2003).

COMPARATIVE CAUSES of ANNUAL DEATHS in the UNITED STATES



Source: CDC

Post-Mortem Study with Young Adults in Finland (N=1623)



Launiainen et al. (2011) NTR

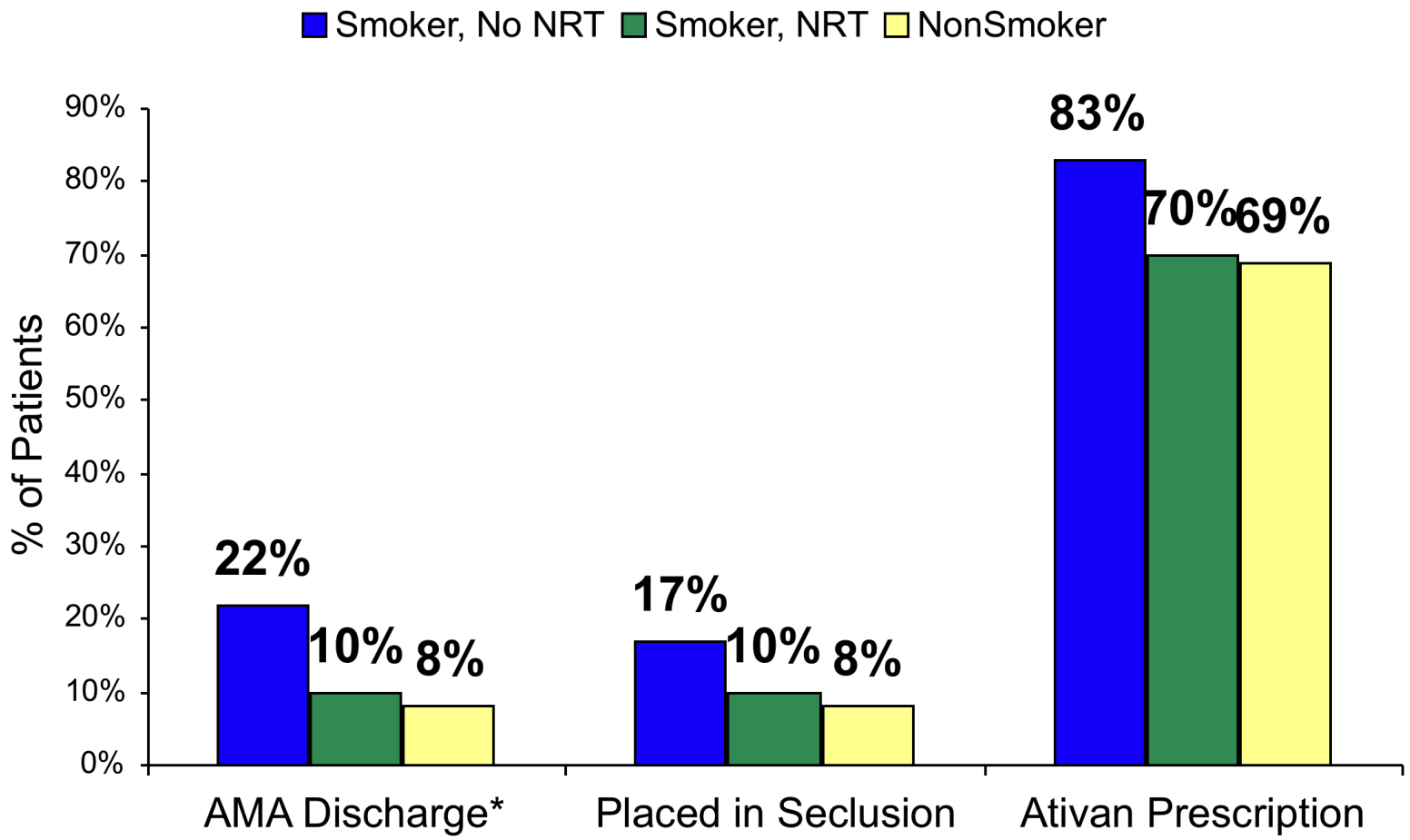
After the last cigarette…

< 30 min	Blood pressure and pulse return to normal
8 hr	O_2 and CO levels in blood return to normal
24 hr	Chance of heart attack decreases
48 hr	Nerve endings begin regrowth
72 hr	Breathing becomes easier; lung capacity increases
2-12 weeks	Lung function increases 30%; circulation improves
1 year	Risk of CHD is half that of a smoker
3 years	MI risk is similar to that of never-smokers
5-15 years	Stroke risk reduced to that of never-smokers

TOBACCO IMPACTS PSYCHIATRIC TREATMENT

- Associated with greater AMA rates
  - Hospitalized smokers twice as likely to leave AMA, if withdrawal not treated with nicotine replacement (Prochaska et a., 2004)
- Poorer outcomes among smokers with schizophrenia
  - Greater psychiatric symptoms, more frequent hospitalizations, higher medication doses (Dalack & Glassman, 1993; Desai et al., 2001; Ziedonis et al., 1994)
- Decreases some psychiatric medication levels

TOBACCO IMPACTS TREATMENT



Prochaska, Gill, & Hall. (2004) Psychiatric Services

PHARMACOKINETIC DRUG INTERACTIONS with SMOKING

Drugs that may have a *decreased effect* due to induction of CYP1A2:

- Caffeine
- Clozapine (Clozaril™)
- Fluvoxamine (Luvox™)
- Haloperidol (Haldol™)
- Olanzapine (Zyprexa™)
- Phenothiazines (Thorazine, Trilafon, Prolixin, etc.)
- Propanolol
- Tertiary TCAs / cyclobenzaprine (Flexaril™)
- Thiothixene (Navane™)
- Other medications: estradiol, mexiletene, naproxen, phenacetin, riluzole, ropinirole, tacrine, theophyline, verapamil, r-warfarin (less active), zolmitriptan

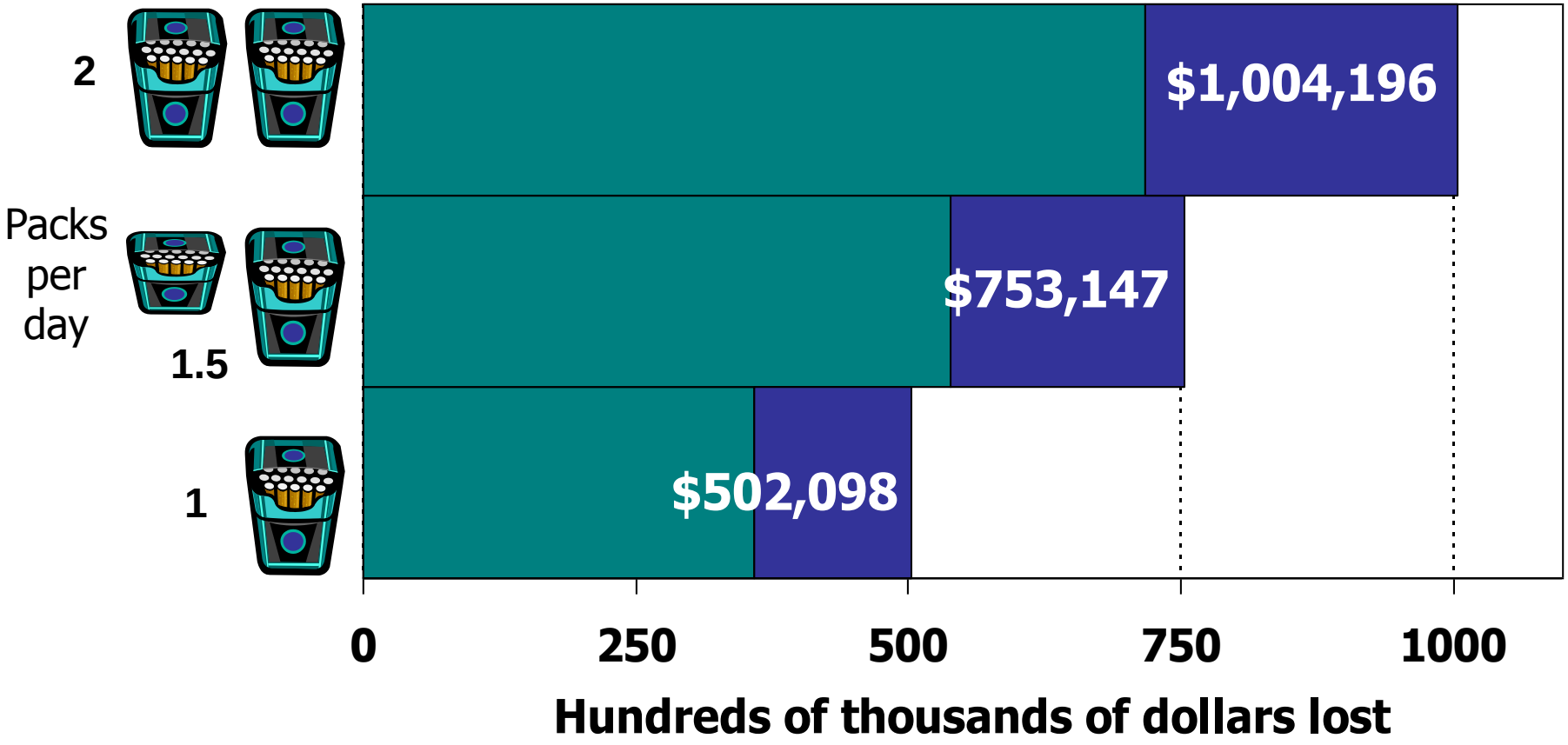
Smoking cessation may reverse the effect.

TOBACCO USE ISOLATES and is COSTLY

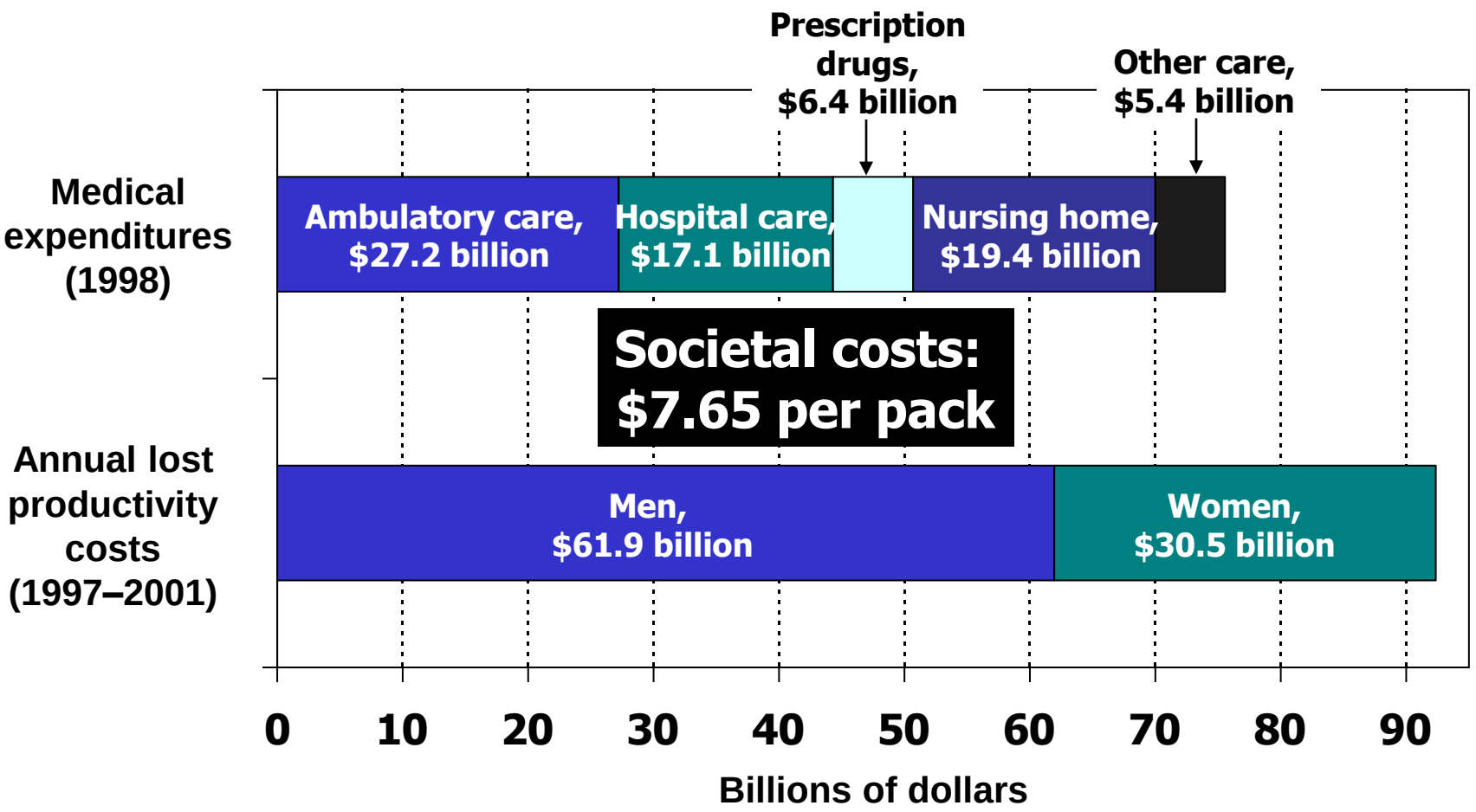
- 75% of psychiatric patients who smoke report smoking most or all of their cigarettes while alone (Prochaska et al., 2005).
- Median of **$142.40** per month spent on cigarettes among an outpatient sample of smokers with schizophrenia (Steinberg et al., 2004)
  - 27% of their monthly incomes

FINANCIAL IMPACT of SMOKING

Buying cigarettes every day for 50 years @ $3.75/pack for **generic** or $5.25/pack for **brand name**. Money banked monthly, earning 5.5% interest

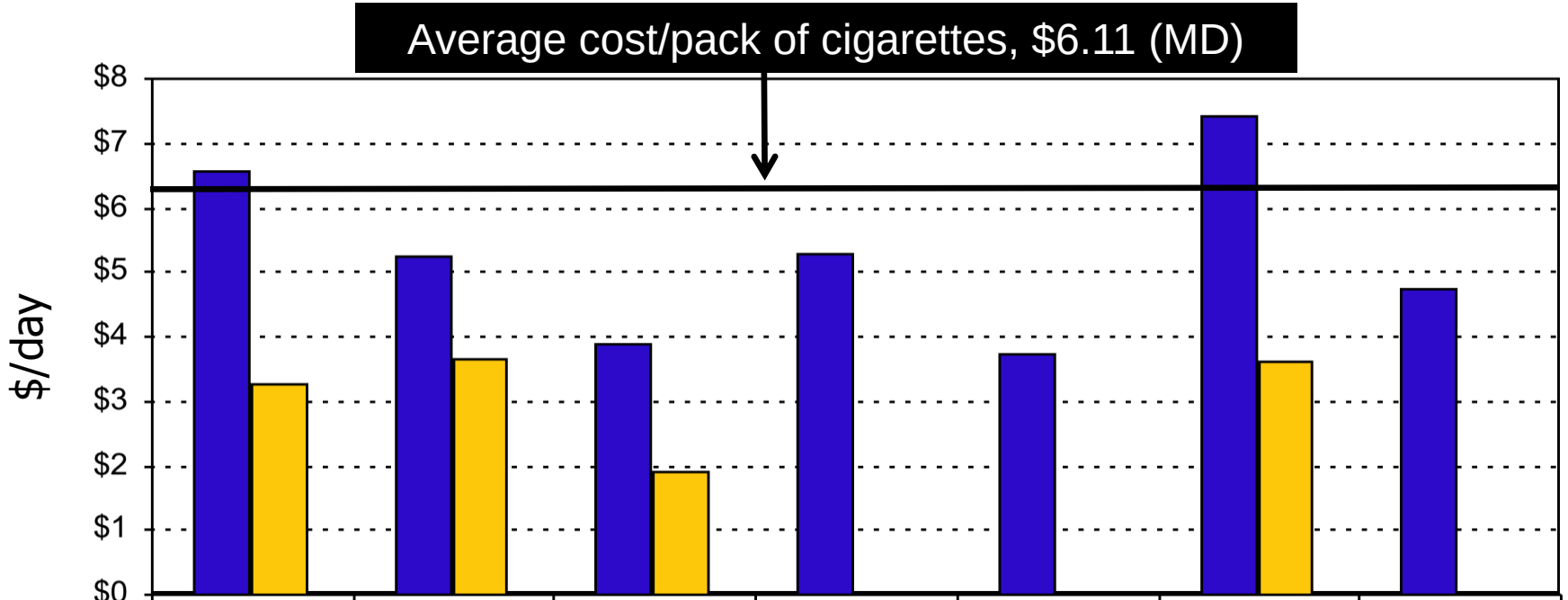


ANNUAL SMOKING-ATTRIBUTABLE ECONOMIC COSTS—U.S., 1995–2001



CDC. *MMWR* 2002;51:300–303 and *MMWR* 2005;54:625-628.

COMPARATIVE DAILY COSTS of PHARMACOTHERAPY



	Gum	Lozenge	Patch	Inhaler	Nasal spray	Bupropion SR	Varenicline
Trade	$6.58	$5.26	$3.89	$5.29	$3.72	$7.40	$4.75
Generic	$3.28	$3.66	$1.90	-	-	$3.62	-

OVERVIEW

Reach → Engage → Help

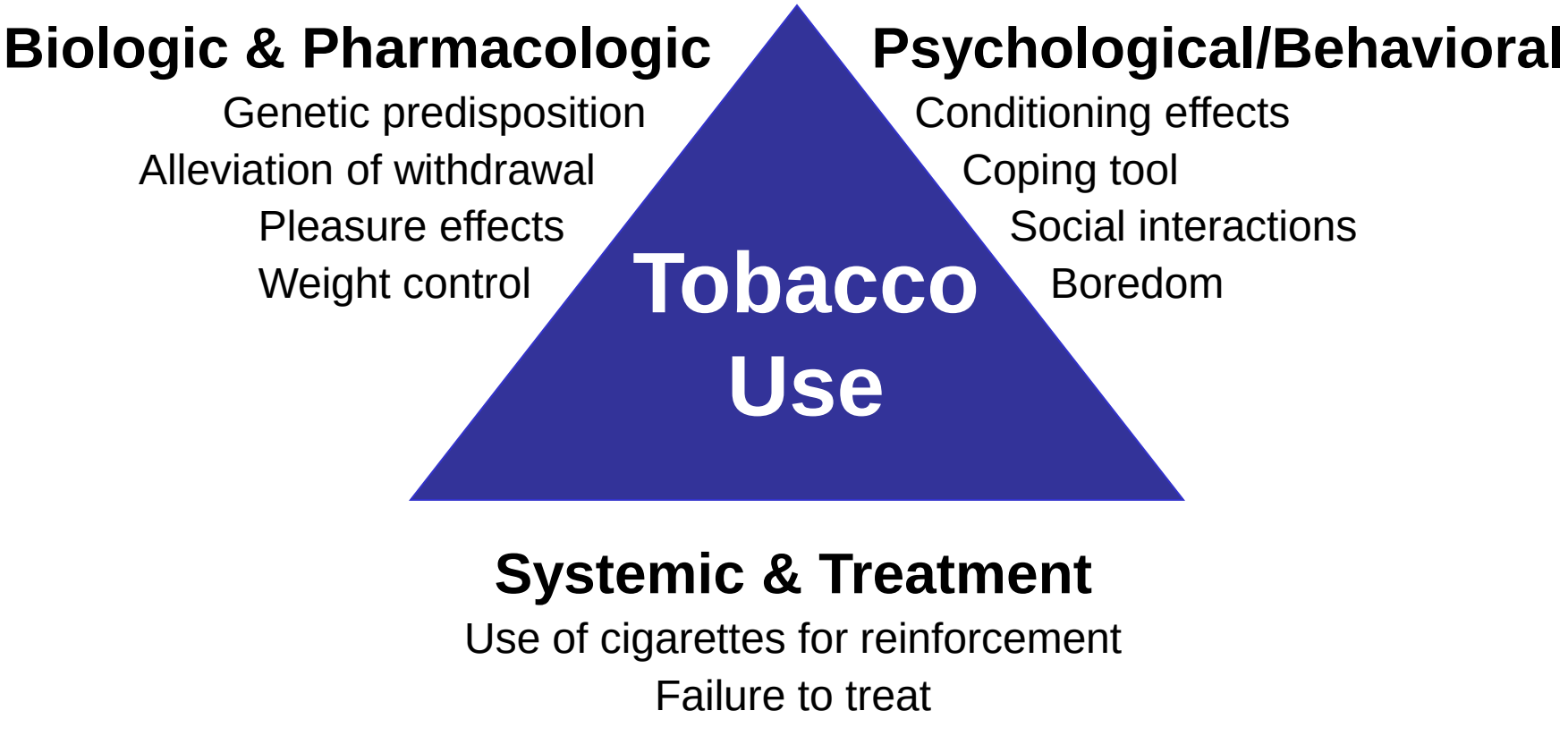
WHY do INDIVIDUALS with MENTAL ILLNESS SMOKE?

Smoking in adolescence is associated with psychiatric disorders in adulthood, including: panic disorder, GAD and agoraphobia, depression and suicidal behavior, substance use disorders, and schizophrenia (Breslau et al., 2004; Weiser et al., 2004; Goodman, 2000; Johnson et al., 2000)

SMOKING ⟷ MENTAL ILLNESS

Active psychiatric disorders are associated with daily smoking and progression to nicotine dependence (Breslau et al., 2004).

FACTORS ASSOCIATED with TOBACCO USE in the MENTALLY ILL

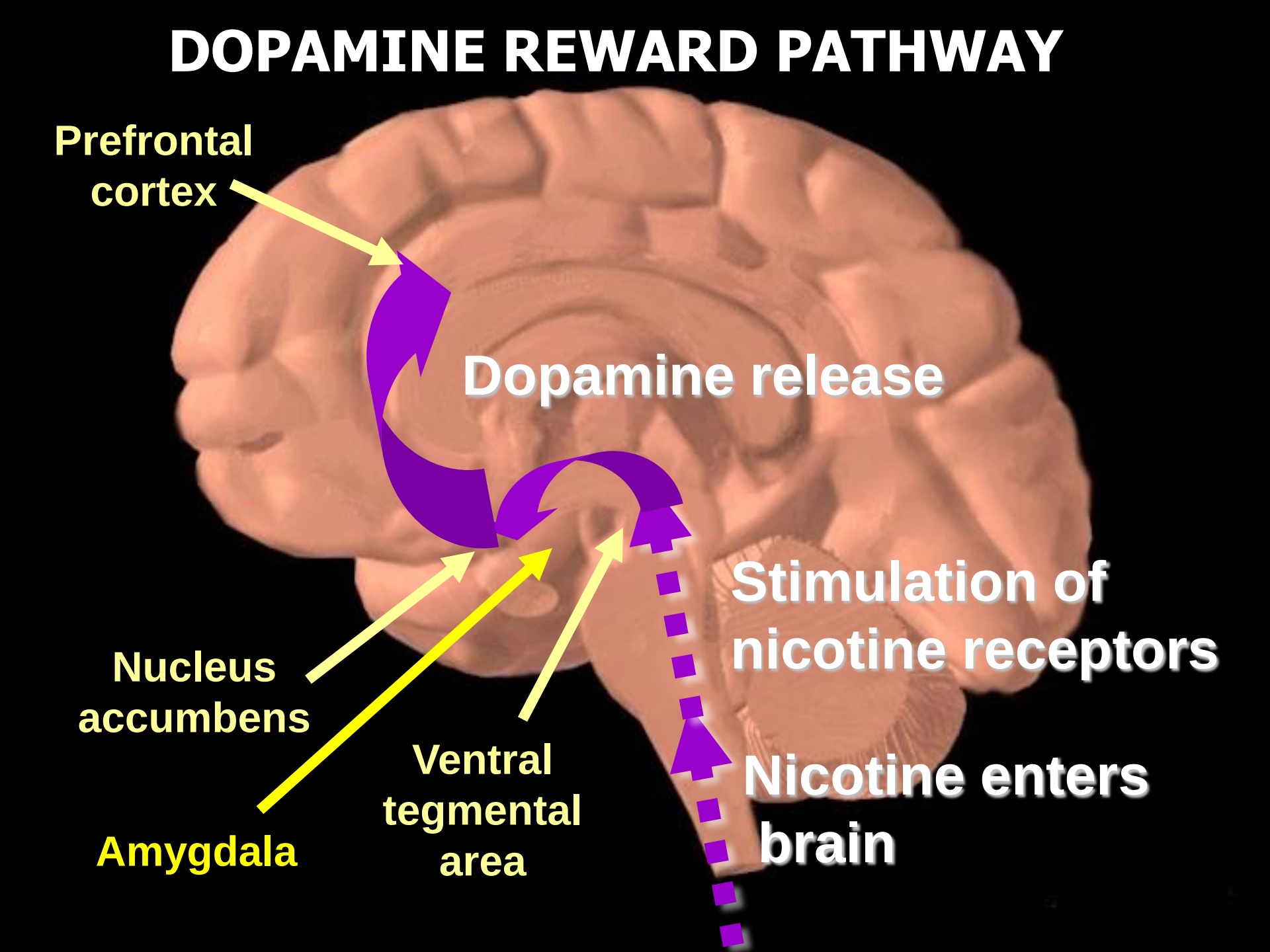


NEUROCHEMICAL and RELATED EFFECTS of NICOTINE

N	→	Dopamine	➡ Pleasure, reward
I	→	Norepinephrine	➡ Arousal, appetite suppression
C	→	Acetylcholine	➡ Arousal, cognitive enhancement
O	→	Glutamate	➡ Learning, memory enhancement
T	→	β-Endorphin	➡ Reduction of anxiety and tension
I	→	GABA	➡ Reduction of anxiety and tension
N	→	Serotonin	➡ Mood modulation, appetite suppr.
E			

Benowitz. *Nicotine & Tobacco Research* 1999;1(suppl):S159–S163.

DOPAMINE REWARD PATHWAY



NICOTINE WITHDRAWAL EFFECTS

- Dysphoric or depressed mood
- Insomnia and fatigue
- Irritability/frustration/anger
- Anxiety or nervousness
- Difficulty concentrating
- Impaired task performance
- Increased appetite/weight gain
- Restlessness and impatience
- Cravings*

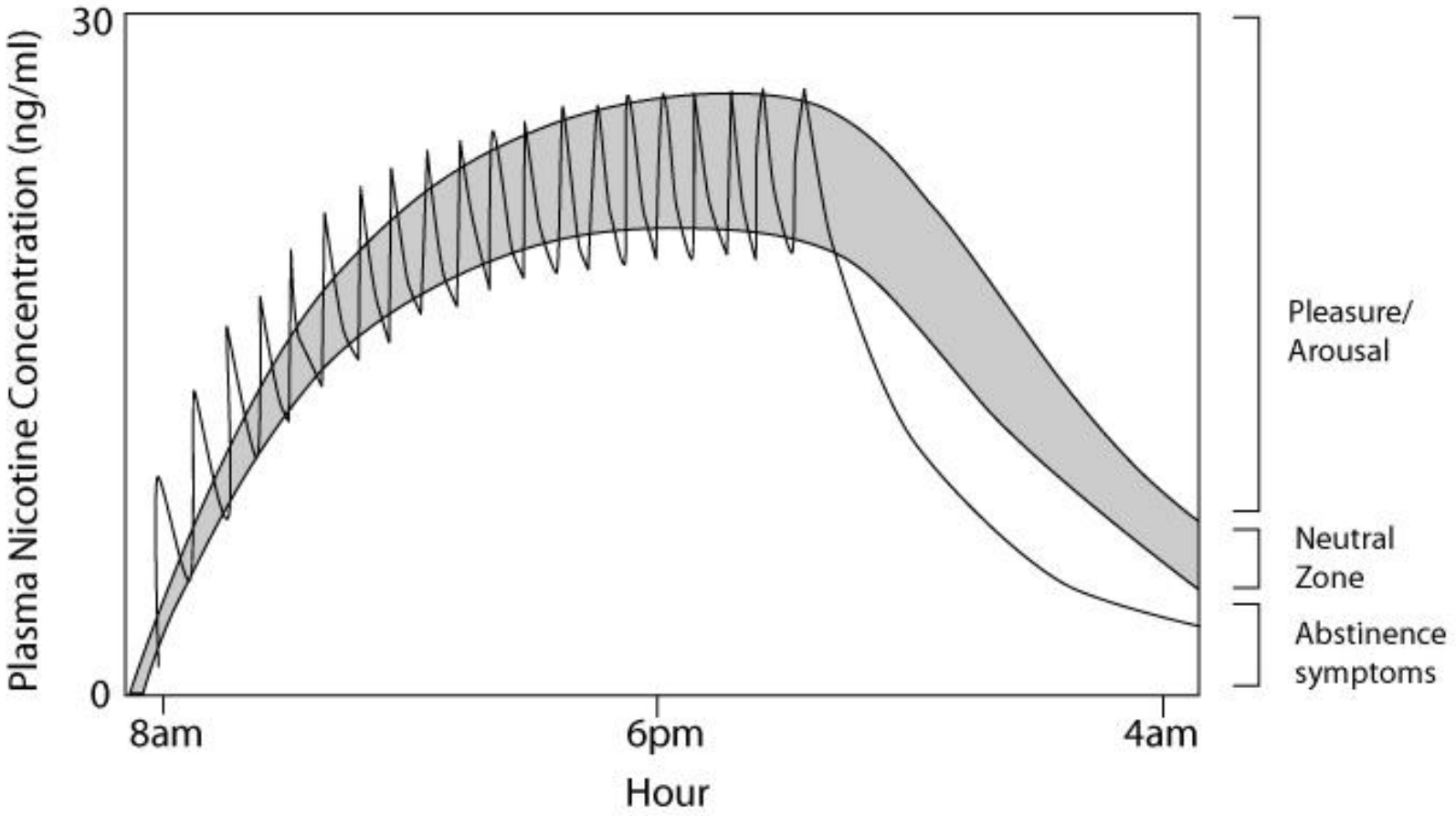
Most symptoms peak 24–48 hr after quitting and subside within 2–4 weeks.

Refer to Withdrawal Symptoms Info Sheet

* Not considered a withdrawal symptom by *DSM*-IV criteria.

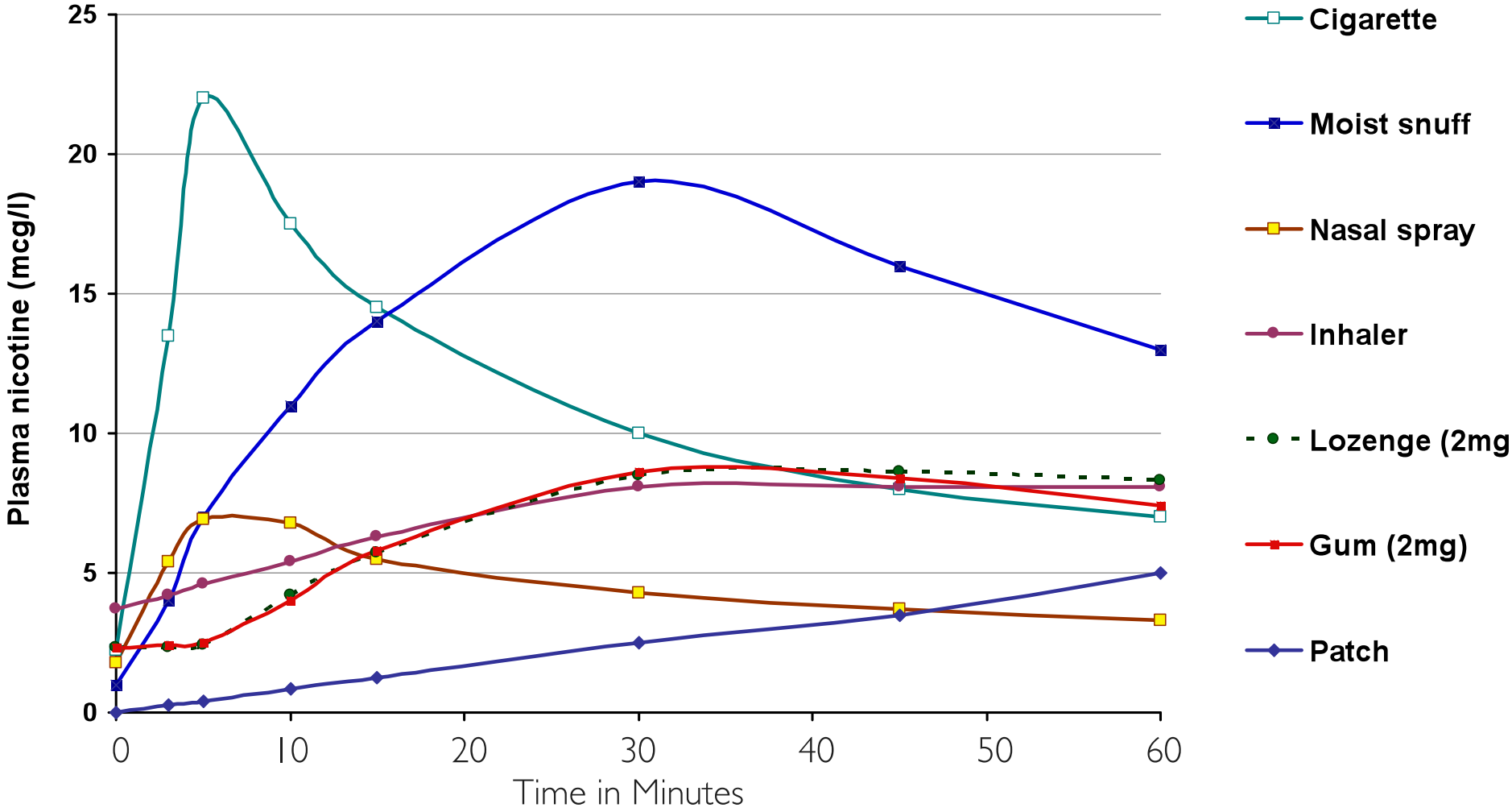
American Psychiatric Association. (1994). *DSM*-IV.
Hughes et al. (1991). *Arch Gen Psychiatry* 48:52–59.
Hughes & Hatsukami. (1998). *Tob Control* 7:92–93.

NICOTINE ADDICTION CYCLE



Reprinted with permission. Benowitz. *Med Clin N Am* 1992;2:415–437.

PLASMA NICOTINE CONCENTRATIONS for NICOTINE-CONTAINING PRODUCTS



TOBACCO DEPENDENCE: A 2-PART PROBLEM

Tobacco Dependence

Physiological		**Behavioral**
The addiction to nicotine	↔	The habit of using tobacco
↓ Treatment		↓ Treatment
Medications for cessation		Behavior change program

Treatment should address the physiological **and** the behavioral aspects of dependence.

SYSTEMIC and TREATMENT FACTORS

Rx for Change

A PRIMER FOR PSYCHOTHERAPISTS

Should the therapist smoke during the interview? Why not? It will help drain the small amount of undischarged tension which is always present during an interview, and it contributes to the naturalness of his behavior.

ADJUNCT IN PSYCHIATRY, MOUNT ZION HOSPITAL, SAN FRANCISCO; CLINICAL ASSOCIATE, SAN FRANCISCO INSTITUTE OF PSYCHOANALYSIS; FORMERLY LECTURER IN PSYCHIATRY, DEPARTMENT OF SOCIAL WELFARE, UNIVERSITY OF CALIFORNIA

Pub. 1951

Department of Health, Education, and Welfare
National Institute of Mental Health
Washington, DC
August 4, **1980**

Mr. C. H. Long
R. J. Reynolds Tobacco Company
Winston Salem, North Carolina 27102

I am writing to request a donation of cigarettes for long-term psychiatric patients…because of recent changes in the DHHS regulations, Saint Elizabeth Hospital can no longer purchase cigarettes for them.

been here many years; e.g. one came to the Hospital originally in 1909. Over the years the Hospital provided tobacco and occasionally cigarettes for these patients. Many became strongly addicted and in fact look upon smoking as their greatest (and often their only) pleasure.

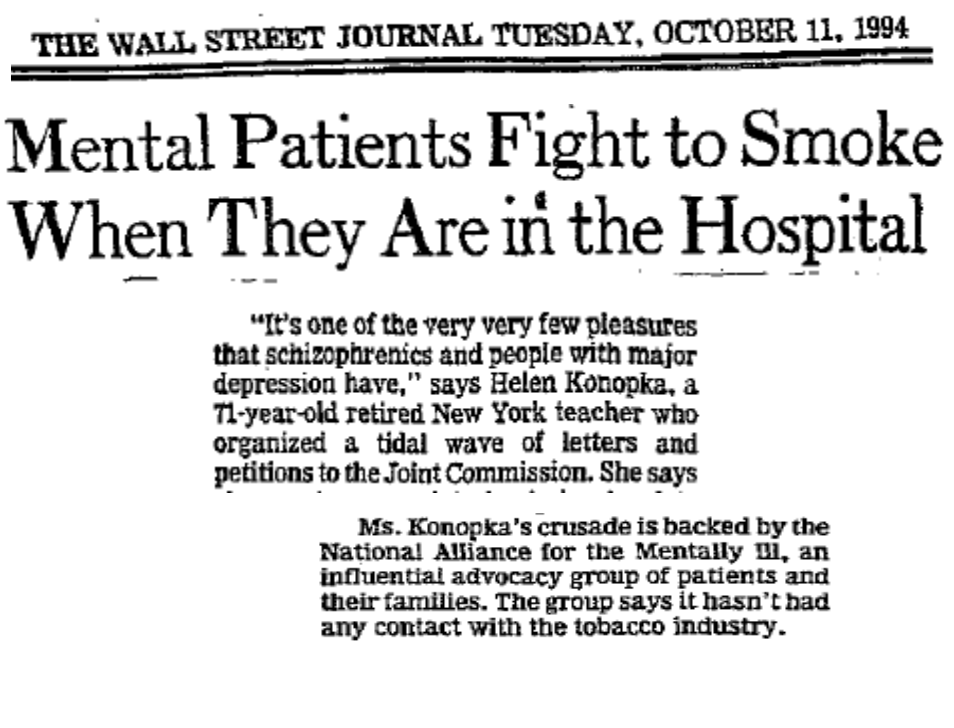
Recent changes in Department of Human Services regulations and their enforcement abruptly terminated the Hospital's practice of providing a modest number of cigarettes to these patients who have no funds with which to purchase their own. Of our 240 patients, approximately 100 are in this category. The result has been nicotine withdrawal (which can be very unpleasant) and the loss of one of the greatest pleasures for patients who have very few, if any, alternatives. Many of the staff have been providing patients with cigarettes out of their own pocket, but this gets

I am therefore requesting a donation of approximately 5,000 cigarettes a week (8 per day for each of the 100 patients without funds).

Sincerely yours,

Medical Director
A. P. Noyes Division

HOSPITAL SMOKING BANS

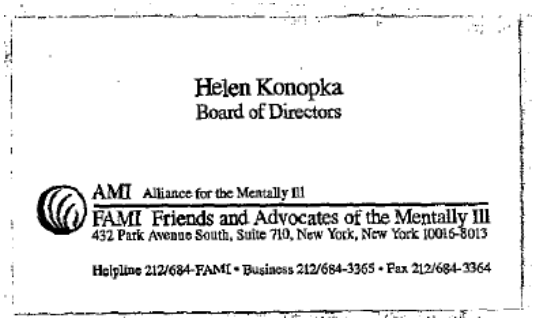


THE WALL STREET JOURNAL TUESDAY, OCTOBER 11, 1994

Mental Patients Fight to Smoke When They Are in the Hospital

"It's one of the very very few pleasures that schizophrenics and people with major depression have," says Helen Konopka, a 71-year-old retired New York teacher who organized a tidal wave of letters and petitions to the Joint Commission. She says

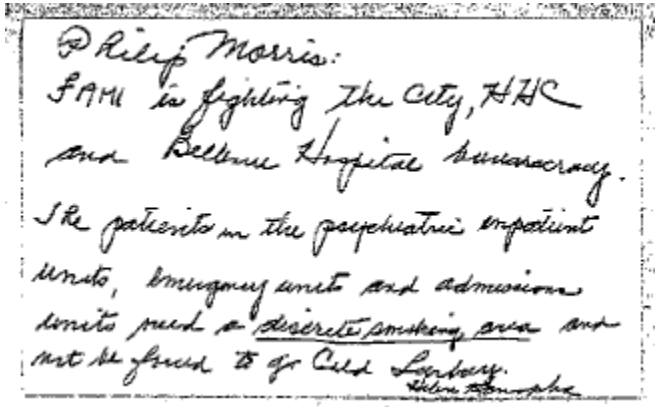
Ms. Konopka's crusade is backed by the National Alliance for the Mentally Ill, an influential advocacy group of patients and their families. The group says it hasn't had any contact with the tobacco industry.



Helen Konopka
Board of Directors

AMI Alliance for the Mentally Ill
FAMI Friends and Advocates of the Mentally Ill
432 Park Avenue South, Suite 710, New York, New York 10016-8013

Helpline 212/684-FAMI • Business 212/684-3365 • Fax 212/684-3364



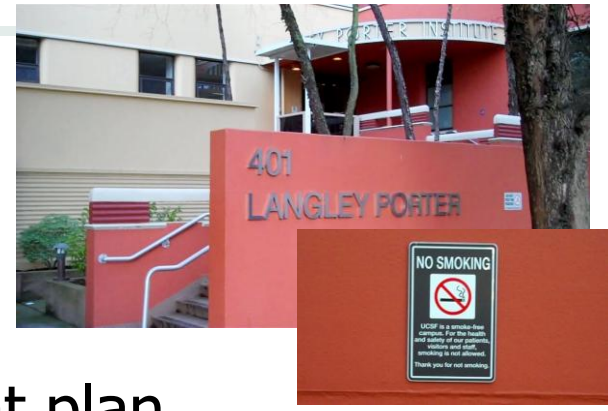
Philip Morris:
FAMI is fighting the City, HHC and Bellevue Hospital bureaucracy.
Ask patients in the psychiatric inpatient units, emergency units and admissions units need a discrete smoking area and not be forced to go Cold Turkey.
Helen Konopka

The New York Times

SUNDAY, FEBRUARY 19, 1995

JCAHO ultimately "yielded to massive pressure from mental patients and their families, relaxing a policy that called on hospitals to ban smoking."

SMOKING BAN ≠ TREATMENT



- **N=100**
- **70%** used NRT during hospitalization
- **1** patient had tobacco on their treatment plan
- **2** were advised to quit smoking
- **3** received a DSM-IV diagnosis of Nicotine Dependence or Withdrawal
- **4** were provided NRT at discharge

Prochaska, Fletcher, Hall & Hall (2006). Am J Addictions

RETURN to SMOKING: SMOKE-FREE ACUTE PSYCH HOSPITAL

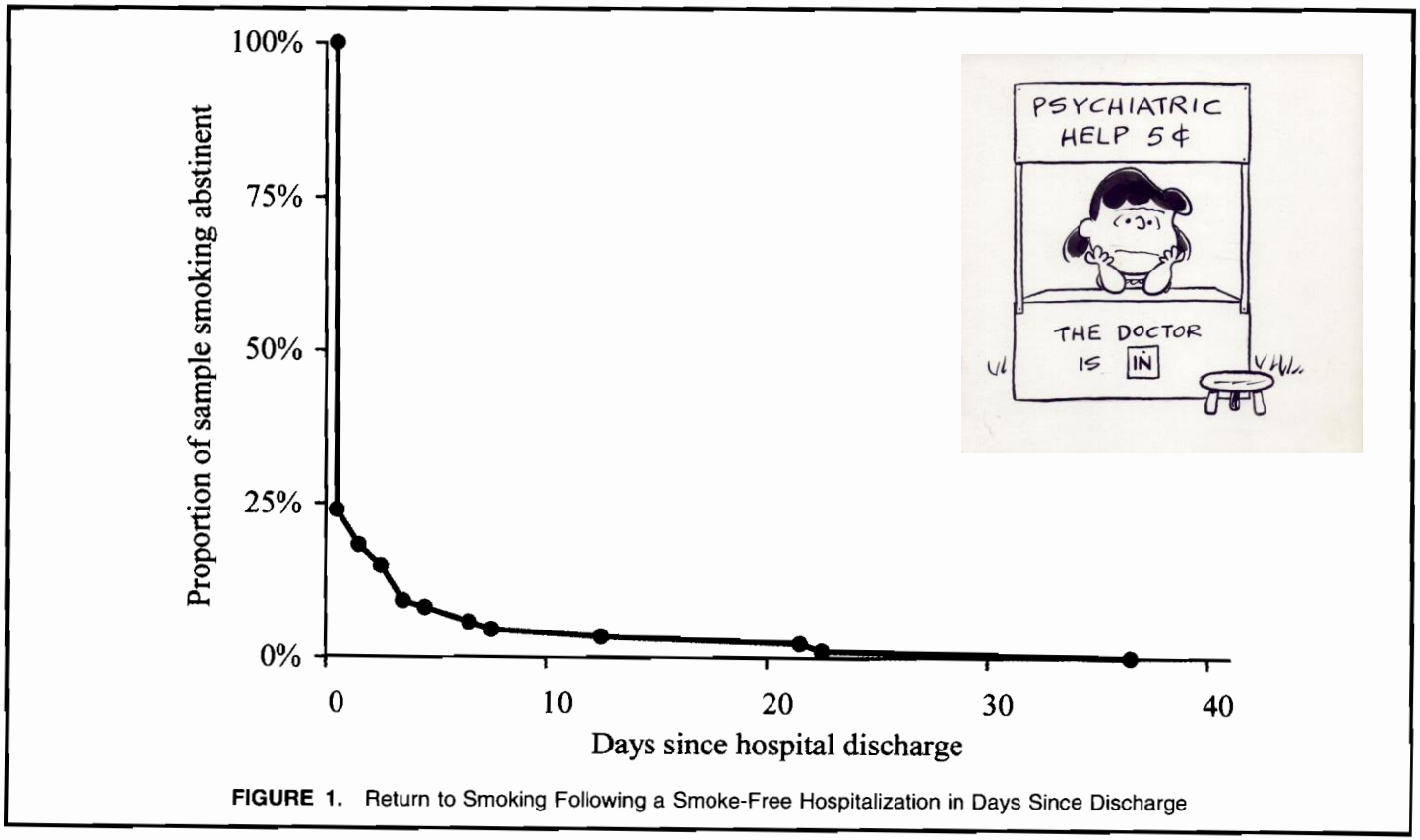


FIGURE 1. Return to Smoking Following a Smoke-Free Hospitalization in Days Since Discharge

Prochaska, Fletcher, Hall & Hall (2006). Am J Addictions

1382 South Third Street
Louisville, Kentucky 40208
(502) 637-4361

Consulting Psychiatrist
Sarah Acland, M.D.

April 19, 1985

Brown & Williamson Corp.
Mr. John Alar
Box 35090
Louisville, Ky. 40232

Dear Mr. Alar:

The Board of Directors of Schizophrenia Foundation, Ky., Inc., and the staff at Wellspring House extend their deep gratitude to you for your participation in our First Annual dinner honoring Kentucky's legislators.

We felt the event was a success financially as well as educationally. Many in our community heard for the first time how important a program such as Wellspring House is for the well-being of young schizophrenics and for Louisville. We also felt our honored guests, Kentucky's lawmakers, were duly educated and impressed.

We are presently working with Seven Counties Services and the Mental Health Association and within a few weeks will send you a report on the progress of our plans. Without your support we would be making no such plans. For this, again, our thanks.

LAW OFFICES OF
DOYLE & NELSON
150 CAPITOL STREET
P.O. BOX 2709
AUGUSTA, MAINE 04338-2709

JON R. DOYLE
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207-622-6124
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FAX
207-623-1358

March 21, 1991

Smokers Rights of Maine
P.O. Box 2345
Lewiston, ME 04241-2345

Gentlemen:

This letter is to inform you that the smoking in restaurants bill (L.D. 603) is now set for hearing on Wednesday, April 3, 1991, at 9:30 a.m. at the Elks Lodge in Augusta. In fact, the following smoking bills also have been set for hearing on that day:

1. LD 16 - An Act to Ensure Smoke-free Areas in the

LD 463 - An Act to Exempt Substance Abuse and Psychiatric Patients from the Prohibition against Smoking in Hospitals

4. LD 603 - An Act to Amend the Laws Concerning Smoking in Restaurants

5. LD 1134 - An Act to Protect Citizens from the Effects of Environmental Tobacco Smoke

With the above bills all scheduled on one day, it is difficult to know exactly when each of them will be reached. It is vital that you, or a representative, attend the hearing to speak on the legislation and we would appreciate it if you would either give me a call or my paralegal, Susan Mitchell.

Thank you.

Kind regards,

JON R. DOYLE

50760

Re: Research Proposal for July/83 - June/84
"Tobacco Smoking As a Coping Mechanism in
Psychiatric Patients: Psychological, Behavioral
and Physiological Investigations"
Phase I

These 3 studies, plus the remaining 3 planned for next year promise to bear fruitful findings. It is particularly interesting that the psychiatrists, who are medical professionals, are very aware of the role of tobacco use in patients and are very interested in these studies. If tobacco can be shown to be an efficient form of "self-medication" for these patients then this would be significant bonus for the tobacco industry.

RJR-MACDONALD INC. Research and Development

Dr. Knott has been sponsored by CTMC for some years. Up to last year his own salary was paid by us - so he was totally dependent on CTMC funding. He became, however, a permanent member of the Royal Ottawa Hospital in 1984, and since then we only support the cost of his assistants.

The latest request is addressing the problems that restriction on smoking in the workplace or elsewhere may have on inducing stress on the smoker. Once again he seems to be looking at this from our point of view.

US TOBACCO TREATMENT CLINICAL PRACTICE GUIDELINES

- Literature base of more than 8,700 research articles
- < 30 randomized clinical trials treating tobacco dependence in smokers with mental illness or addictive disorders

Fiore et al. (2008). *Treating Tobacco Use and Dependence: 2008 Update.*

Mental Health Ex-Smokers Cessation Advice

"Smoking not only destroys your health, it creates an addiction, which can complicate emotional stability."

"There is likely to be physical agitation. Walk or do something to "spend" your energy."

"I never realized until I quit that the nicotine was what made me anxious and the addiction kept me feeling like it was the only way to cope."

"Discover why smoking calms you and then find something that will come close to that effect, in a good way."

"A routine benefits a person with mental illness who wants to quit smoking."

"Keep a quit journal."

"Avoid alcohol at all costs."

"Stay away from negative people and fellow smokers until you feel stronger."

"Don't think of it as losing a friend, think of it as gaining your freedom."

TREATMENT TARGETS

Biologic & Pharma

Genetic pr

Alleviation

P ects

ontrol

Ps logical/Behavioral

effects

Co

Soci ns

Boredc

Medication

Counseling

Systems Change

SUMMARY

- **REACH:** Tobacco use is prevalent & deadly
- **ENGAGE:** Most smokers want to quit
- **HELP:** Tobacco dependence involves biological, psychological, social, and systemic factors requiring a multifaceted treatment approach.

- **Workshop:**
  - Evidence-based & practical strategies for treating tobacco dependence in smokers with mental illness

ACKNOWLEDGEMENTS

- Grant funding:
  - California Tobacco Related Disease Research Program (#17RT-0077)
  - National Institute on Drug Abuse (#K23 DA018691, #P50 DA09253)
  - National Institute of Mental Health (#R01 MH083684)
  - Flight Attendant Medical Research Institute (FAMRI)
  - Pfizer, Inc. Investigator Initiated Research Award

- Contact
  - Judith J. Prochaska, PhD, MPH
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    Website: http://RxforChange.ucsf.edu