Mental Health and Smoking Cessation

Steven A. Schroeder, M.D., Director
Smoking Cessation Leadership Center
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The Smoking Cessation Leadership Center

- Began in 2003 as a Robert Wood Johnson National Program Office with a $10-million, five-year grant
- Aimed at helping clinicians do a better job intervening with tobacco users
- Additional funding from VA, American Legacy Foundation
- New foray into behavioral health arena, from Legacy grant

SCLC's Aim

- We want more people who want to quit smoking to get the help and support they need to succeed
- Access to cessation tools and resources needs to be widened for all groups
- Health care providers have a special role, as the many partners we have already enlisted will attest
- Examples: dental hygienists, nurses, physicians, respiratory therapists, physician assistants, pharmacists

A Quick Illustration

- American Dental Hygienists' Assn. chose 14 members for a 2003 summit with SCLC
- Vowed to go from 25 to 50 percent of their profession intervening with smokers
- Began nationwide Smoking Cessation Initiative with many different strategies focused on Ask, Advise, Refer to quitlines
- Three years later, surveyed members

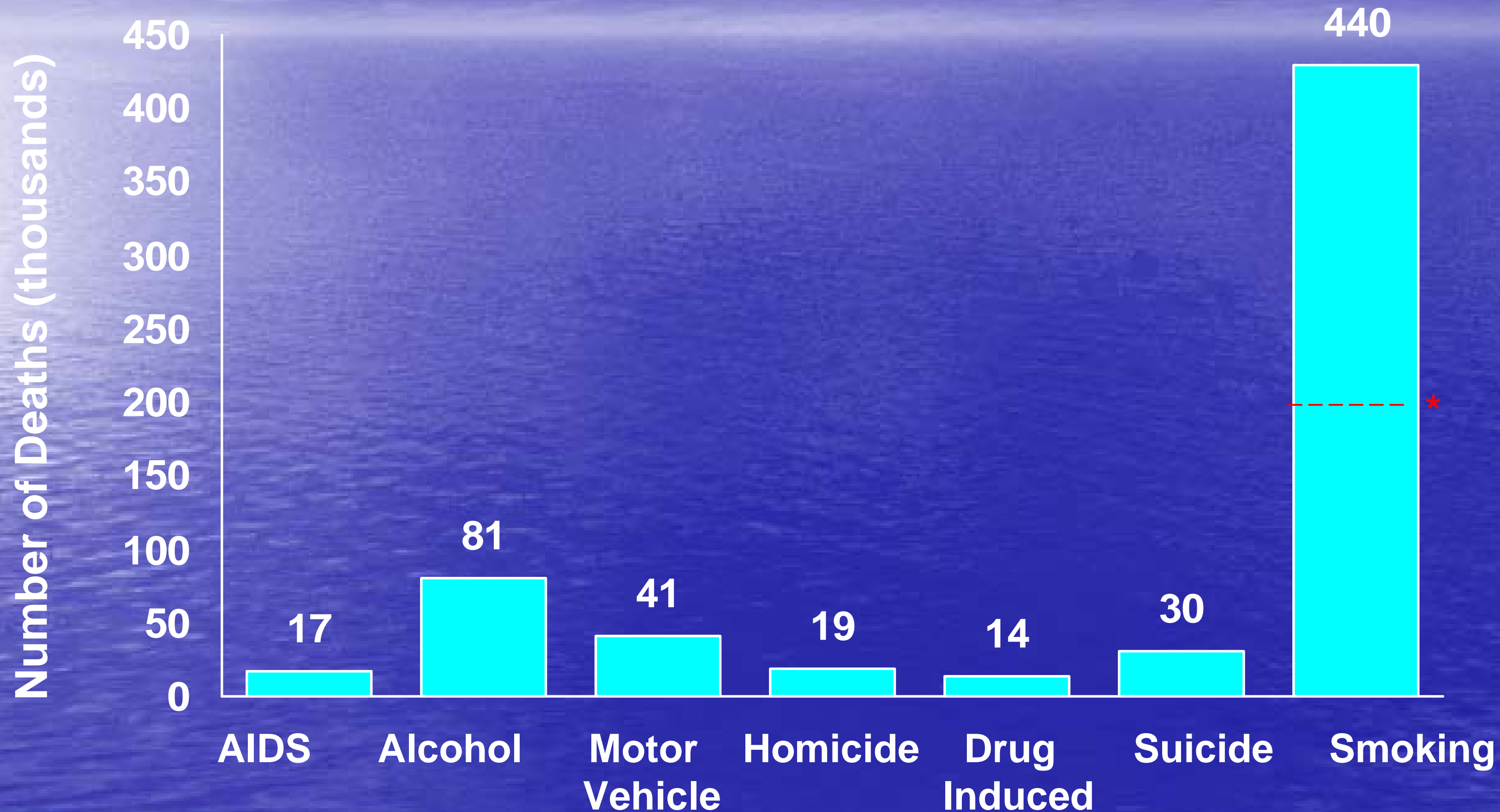
What ADHA Found

- 56% offered treatment at either every or most visits
- 71% of respondents do focus on and intervene with "higher risk clients"– e.g., clients with tobacco-related oral findings, children and adolescents, pregnant women
- 15% had accessed the ADHA Ask-Advise-Refer website. Of those, 78% had incorporated smoking cessation information from the site into their practice

Tobacco's Deadly Toll

- 440,000 deaths in the U.S. each year
- 4.8 million deaths world wide each year
- 10 million deaths estimated by year 2030
- 8.6 million disabled from tobacco in the U.S. alone

Comparative Causes of Annual Deaths in the United States



* Also suffer from mental illness and/or substance abuse

Source: CDC

The cigarette death epidemic in perspective

No. (000s)

500
400
300
200
100
0

Annual smoking deaths
Environmental tobacco smoke deaths
All World War II
Annual auto accidents
Vietnam War
AIDS 1983-1990
Annual murders
Annual heroin, morphine & cocaine deaths

American Academy of Family Physicians

Ask and Act

Annual U.S. Deaths Attributable to Smoking, 1997–2001

Cause	Deaths	Percent of all smoking-attributable deaths
Cardiovascular diseases	137,979	31%
Lung cancer	123,836	28%
Respiratory diseases	101,454	23%
Second-hand smoke	38,112	9%
Cancers other than lung	34,693	8%
Other	1,828	<1%

TOTAL: 437,902 deaths annually

Centers for Disease Control and Prevention. *MMWR* 2005;54:625–628.

Health Consequences of Smoking

- Cancers
  - Lung
  - Laryngeal, pharyngeal, oral cavity, esophagus
  - Pancreatic
  - Bladder and kidney
  - Cervical and endometrial
  - Gastric
  - Acute myeloid leukemia
- Reduce fertility in women, poor pregnancy outcomes, low birth weight babies, sudden infant death syndrome

- Cardiovascular diseases
  - Subclinical atherosclerosis
  - Coronary heart disease
  - Stroke
  - Abdominal aortic aneurysm
- Respiratory diseases
  - Acute respiratory illnesses, e.g., pneumonia
  - Chronic respiratory diseases, e.g., COPD
- Cataract
- Periodontitis

U.S. Department of Health and Human Services. *The Health Consequences of Smoking: A Report of the Surgeon General*, 2004.

Causal associations with SHS

- Developmental
  - Low birthweight
  - Sudden Infant Death Syndrome
  - Pre-term delivery
- Respiratory
  - Asthma induction and exacerbation
  - Eye and nasal irritation
  - Bronchitis, pneumonia, otitis media in children
- Carcinogenic
  - Lung cancer
  - Nasal sinus cancer
  - Breast cancer (younger, premenopausal women)
- Cardiovascular
  - Heart disease mortality
  - Acute and chronic coronary heart disease morbidity
  - Altered vascular properties

California Environmental Protection Agency, 2005

Compounds in Tobacco Smoke

An estimated 4,800 compounds in tobacco smoke

Gases	Particles
– Carbon monoxide	– Nicotine
– Hydrogen cyanide	– Nitrosamines
– Ammonia	– Lead
– Benzene	– Cadmium
– Formaldehyde	– Polonium-210

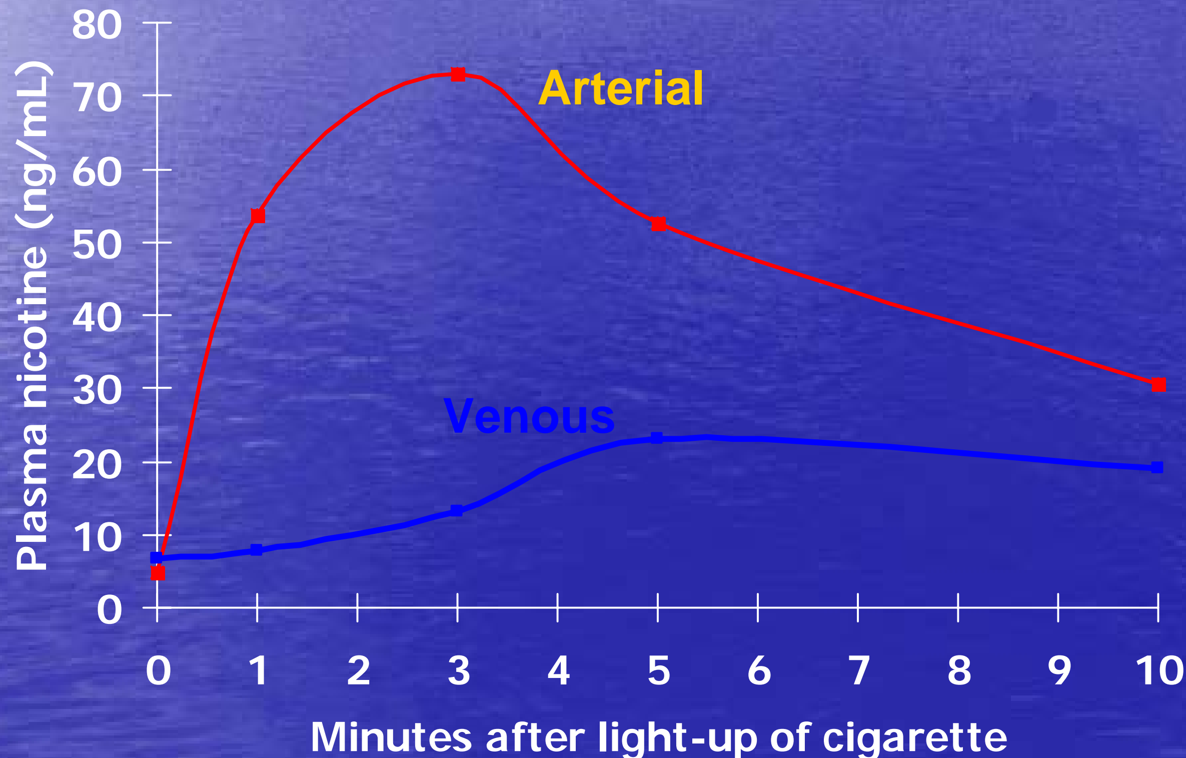
11 proven human carcinogens

The Real Culprit

- It is the *smoke, tar and additives* that make people sicken and die. The *nicotine* is dangerous because it addicts people to tobacco.
- Therefore, nicotine replacement therapy is helpful, not harmful.

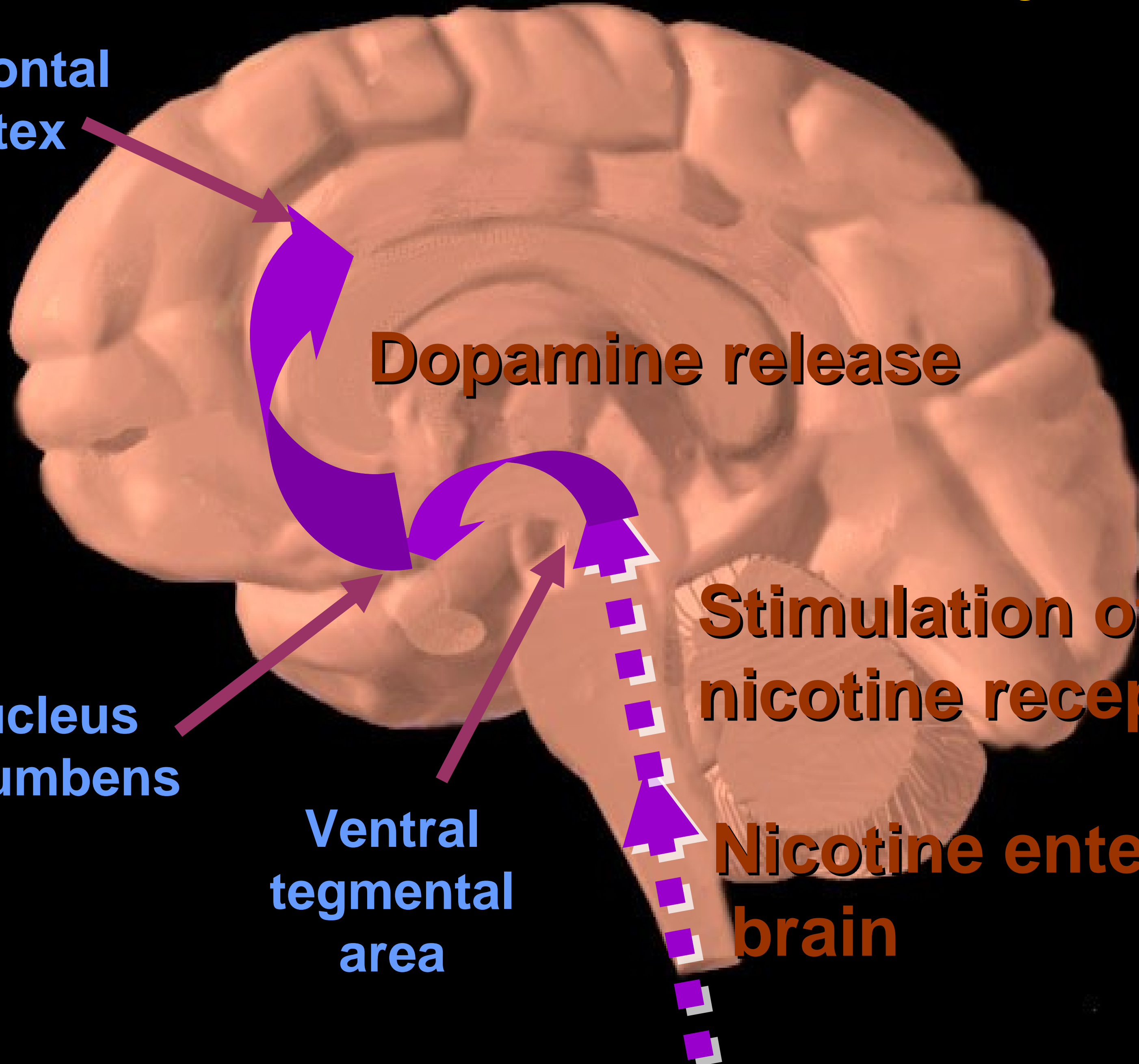
Nicotine Distribution

Nicotine reaches the brain within 11 seconds



Henningfield et al., *Drug Alcohol Depend* 1993;33:23-29.

Dopamine Reward Pathway



Chronic Administration of Nicotine: Effects on the Brain

Human smokers have increased nicotine receptors in the prefrontal cortex.

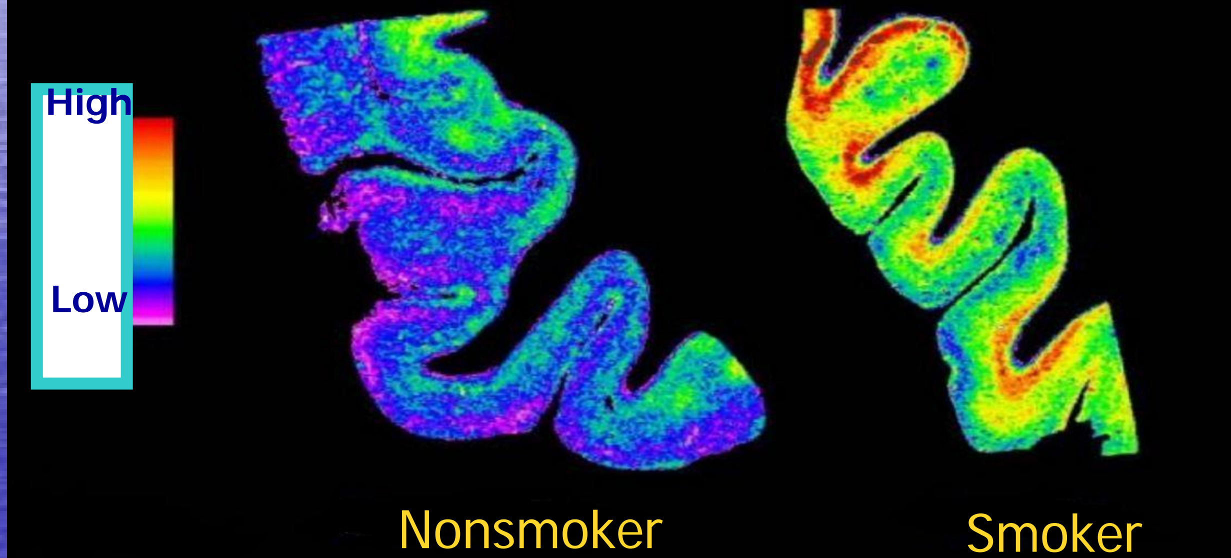
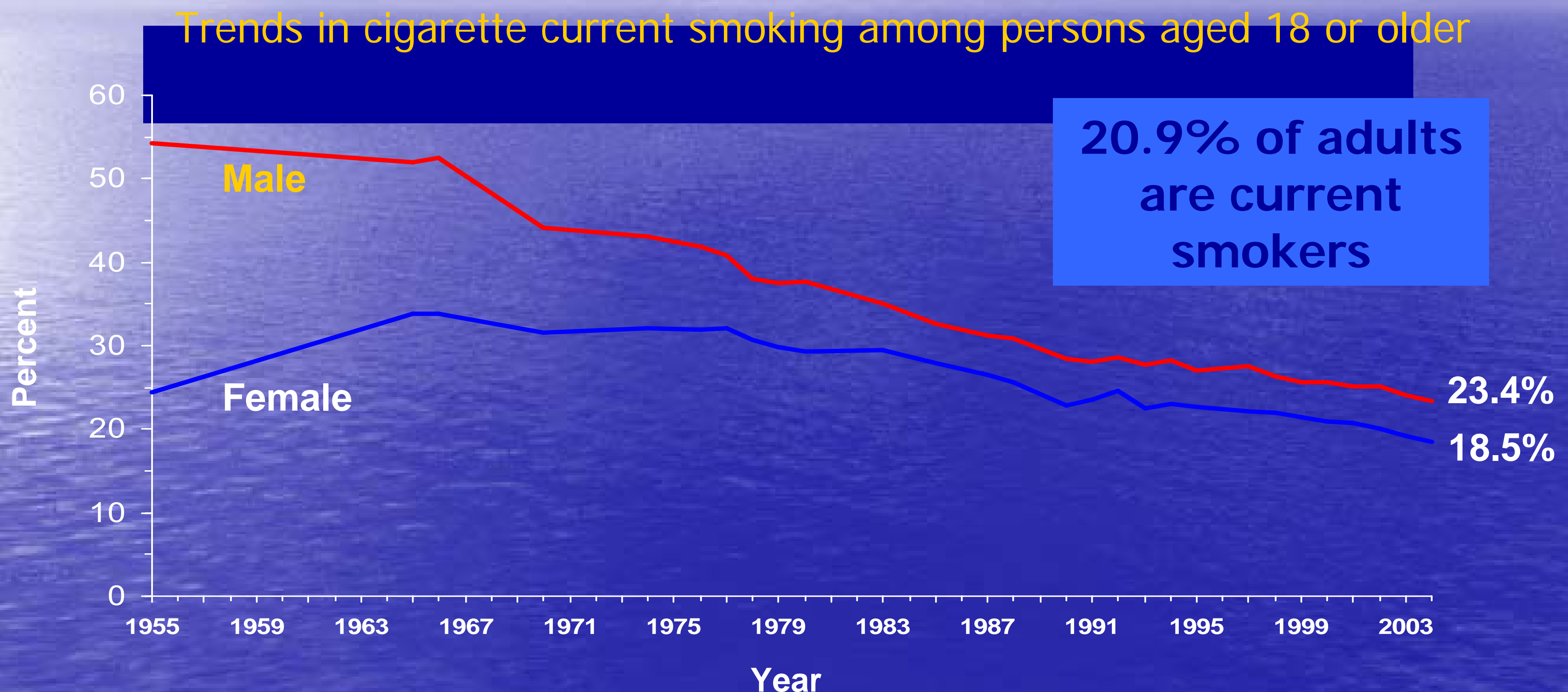


Image courtesy of George Washington University / Dr. David C. Perry

Perry et al. *J Pharmacol Exp Ther* 1999;289:1545–1552.

Trends in Adult Smoking, by Sex—U.S., 1955–2004



70% want to quit

Graph provided by the Centers for Disease Control and Prevention. 1955 Current Population Survey; 1965–2001 NHIS. Estimates since 1992 include some-day smoking.

CDC CENTERS FOR DISEASE CONTROL AND PREVENTION

The good news is… most smokers want to quit

90% regret ever having started to smoke

89% plan to quit; only 3% don't want to quit

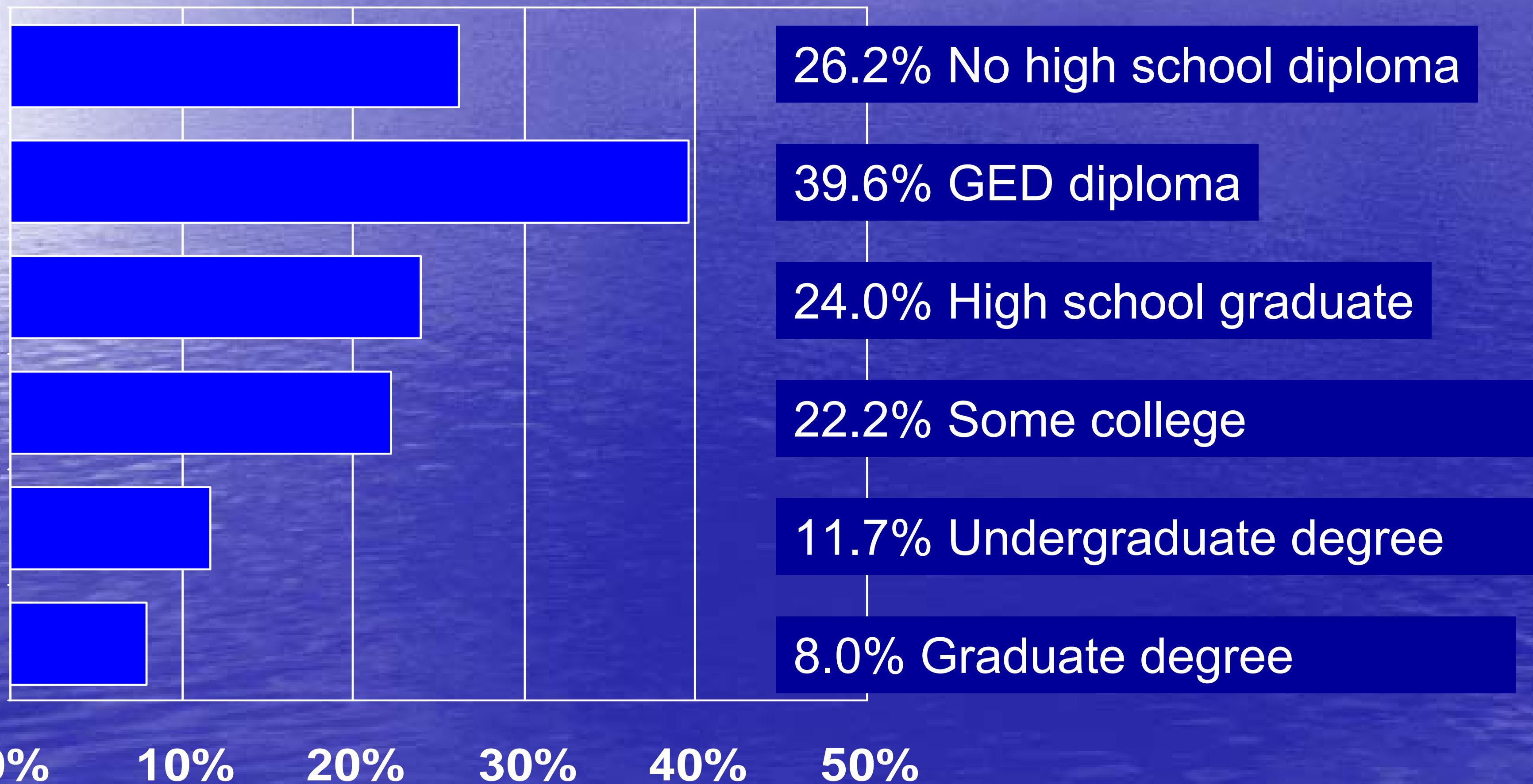
89% believe health will improve if quit

84% have tried to quit in the past

About 1/3 try to quit each year…

2004/2005 Assessing Hard Core Smoking Survey of US smokers ages 25+ years (n = 1,000)

Prevalence of Adult Smoking, by Education—U.S., 2004



Centers for Disease Control and Prevention. (2005). *MMWR* 54:1121–1124.

The Extraordinary Toll*

- People with serious mental illness die 25 years earlier than the general population
- Most attributed to smoking, obesity, substance abuse, and inadequate access to medical care

* R. Manderscheid and C. Colton, April 2006, in *Preventing Chronic Disease*

Smoking Prevalence Among Those with Mental Illness

- Prevalence is 75 percent for those with either addictions and/or mental illness, as opposed to 20.6 percent for the general population
- In mental health settings, about 30-35 percent of the staff smoke
- 44% of all cigarettes consumed in the United States are by persons with mental illness and/or substance abuse disorders

Mental Disorders and Smoking (2)

- Higher prevalence (56-88%) for persons with schizophrenia
- More toxic exposure (more cigarettes, larger portion consumed)
- Smoking associated with increased insulin resistance
- Similar high prevalence in bipolar disorder

Mental Disorders and Smoking (3)

- 41% of current smokers report having a mental health diagnosis in the last month
- 60% report a mental health diagnosis ever in their lifetime
- Among current smokers, most common current (30 days) mental health diagnoses:
  - Alcohol abuse
  - Major depressive disorder
  - Anxiety disorders: simple and social phobias
  - Substance abuse

Mental Disorders and Smoking (4)

- Quit rates among those with current M.H. diagnosis are significantly lower than for those with no history of mental illness
- Quit rates among smokers with a history of alcohol and substance abuse and social phobias are significantly lower than for those without this history

Mental Disorders and Smoking (5)

- Quit rates among smokers with a past history of major depression and simple phobias are similar to smokers without this history

Why the High Smoking Rates?

- Genetic basis: factors have been identified for nicotine dependence and depression, likely contribute to schizophrenia, and may contribute to some forms of substance abuse

More Explanations (2)

- Self-medication: to combat the unpleasant side affects of psychotropic or other medications
- Tobacco users on stable dose of antipsychotics and some antidepressants may experience adverse drug events from when withdrawing from smoking

Targeting by the Tobacco Industry

- Industry markets selectively to subgroups, including the homeless and persons with mental illness ("downscale" customers)
- Industry cultivates mental health organizations

Stay tuned for Dr. Prochska's presentation later today

Smoking Complicates Dosing of Psychotropic Medications

- Smoking can increase medication metabolism, so higher doses are needed
- When smokers quit, reductions in the metabolism of meds could result in relatively greater dose levels over time, with potential for adverse effects

Key Factors in Treatment of Smokers with Mental Illness

- Timing– there is concern, but no clear guidelines, about when treatment should be introduced during periods of acute psychiatric stress.
- Increasing evidence that nicotine dependence treatment does not hurt recovery and may improve outcomes.

Monitoring Psychiatric Symptoms

- Concern that tobacco withdrawal may worsen psychiatric symptoms
- Some reports in literature indicate that psychiatric symptoms can worsen during the acute stages of withdrawal
- Several reports indicate risk of major depression --among patients with any history of it-- increases during first months following cessation

Monitoring Psychiatric Symptoms (2)

- In setting of smoking cessation, difficult to distinguish withdrawal symptoms from adverse events from other meds active in the CNS

Behavioral Interventions

- Motivate these smokers to stop and teach basic cessation skills.
- Protocols exist for patients seen in M.H. settings. These rely on prior knowledge of smoker's diagnosis, medication, history, and training to monitor symptoms and adjust medications.

Behavioral Interventions (2)

- Protocols for smokers with history of mental illness seeking tobacco dependence treatment outside mental health facilities and clinics should follow standard treatment guidelines
- Need to adjust these protocols to account for special circumstances

NASHMPD Recommendations

- National Assn. of State Mental Health Program Directors represents the $27-billion public mental health service delivery system serving 6 million persons annually
- Held a cessation summit with SCLC in early 2006
- At the winter 2006 commissioners' meeting, passed a position statement on smoking policy and treatment at state psych. hospitals
- Supported all mental health facilities going smokeless
- Pledged to work for smoking cessation programs for all mental health staff and consumers

Key Strategies from NASMHPD Study Group

- Combat discriminatory beliefs
  - *One of the few pleasures*
  - *Hopeless to try to quit*
  - *Cessation will aggravate mental state*

NASMHPD Strategies (2)

- Combination of behavioral and pharmacological approaches works best
- Cessation support must be tailored to the population
- More time spent by providers increases success rates

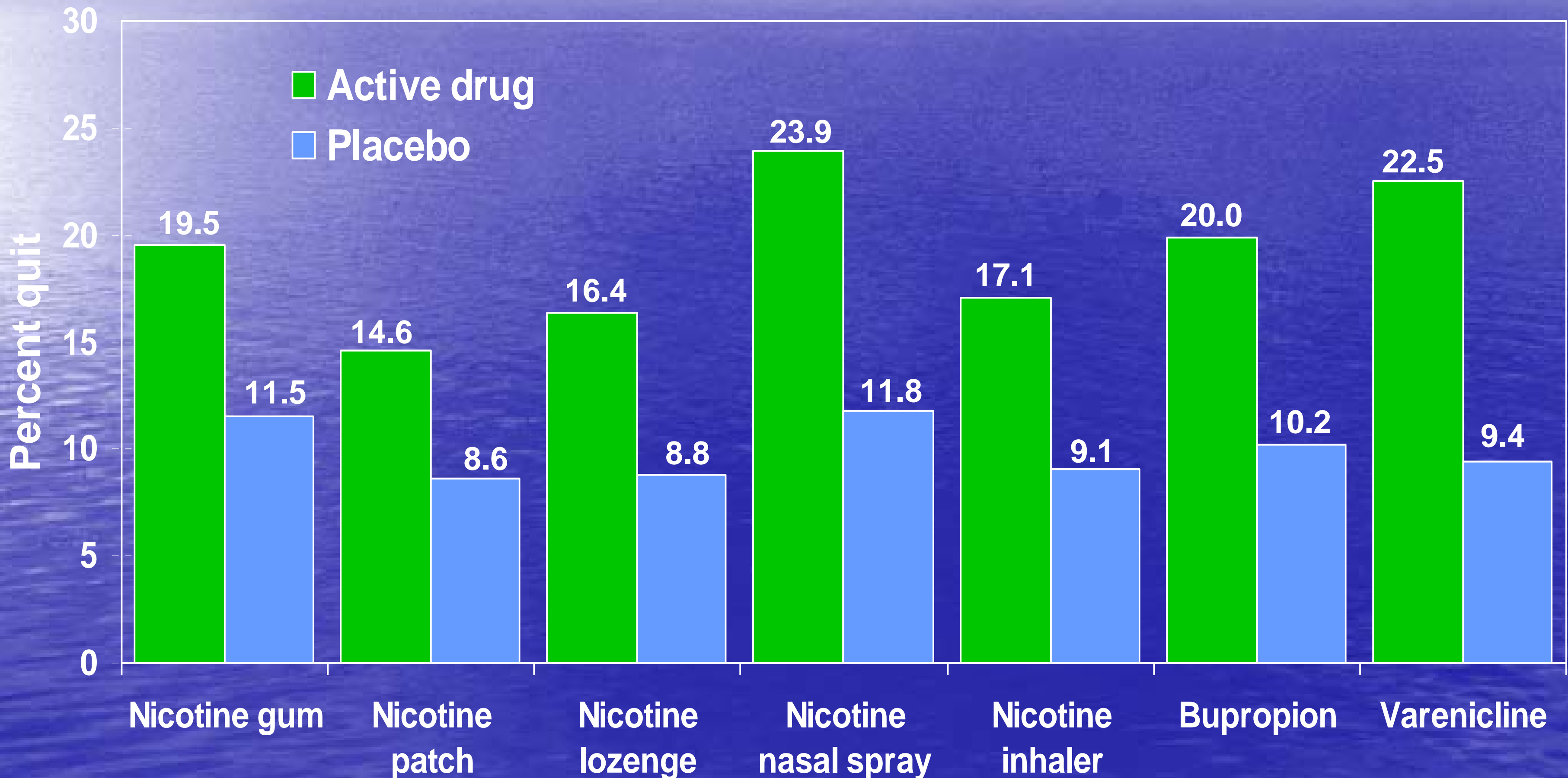
Resistance to Cessation for People with Mental Illnesses

- Many loved ones of persons with mental illness resist helping them quit
- They feel protective and want to focus on quality, not quantity, of life
- But diseases caused by smoking can severely hamper quality as well as quantity of life
- And second-hand smoke imperils loved ones and workers

Ways to Help Smokers Quit

- Raise prices (taxes)
- Clean indoor air
- Create counter-marketing
- Provide cessation aids (counseling and pharmacotherapy)
  - Directly by clinician in individual or group session (office or hospital)
  - Through toll-free telephone quitlines

LONG-TERM (≥6 month) QUIT RATES for AVAILABLE CESSATION MEDICATIONS



Data adapted from Silagy et al. (2004). *Cochrane Database Syst Rev;* Hughes et al., (2004). *Cochrane Database Syst Rev.;* Gonzales et al., (2006). *JAMA* and Jorenby et al., (2006). *JAMA*

Reasons for Not Helping Patients Quit

1. Too busy
2. Lack of expertise
3. No financial incentive
4. Most smokers can't/won't quit
5. Stigmatizing smokers
6. Respect for privacy
7. Negative message might scare away patients
8. I smoke myself

Strategies for Increasing Quit Rates

- Reframe expectations of success
- Help businesses to get their employees to quit
- Focus on mental health/substance abuse population
- Market quitlines better
- Develop newer drugs
- Create better systems
- Provide clinical champions

Partnership for Prevention: Additional QALYs Saved if Current % Receiving Services Increased*

Services (short name)	Current % Receiving Services Nationally	Additional QALYs saved if Current % Receiving Services increased to 90%
Tobacco Use Screening and Brief Intervention	35%	1,300,000
Colorectal Cancer Screening	35%	310,000
Influenza Vaccine—Adults	35% among adults 50-64 yrs 65% among adults 65+ yrs	110,000
Breast Cancer Screening	68%	91,000
Cervical Cancer Screening	79%	29,000
Pneumococcal Vaccine—Adults	56%	16,000
Cholesterol Screening	87%	12,000

*Priorities for America's Health: Capitalizing on Life-Saving Cost-Effective Preventive Services

Power of Intervention

- ⅓ to ½ of the 44.5 million smokers will die from the habit. Of the 31 million who want to quit, 10 to 15.5 million will die from smoking.
- Increasing the 2.5% cessation rate to 10% would save 1.2 million additional lives.
- If cessation rates rose to 15%, 1.9 million additional lives would be saved.
- No other health intervention could make such a difference!