



Tobacco Control Research Priorities for the Next Decade: Working Group Recommendations for 2016 – 2025

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Working Group Co-Chairs

REPORT TO THE NCI BOARD OF SCIENTIFIC ADVISORS
MARCH 2016





INTRODUCTION





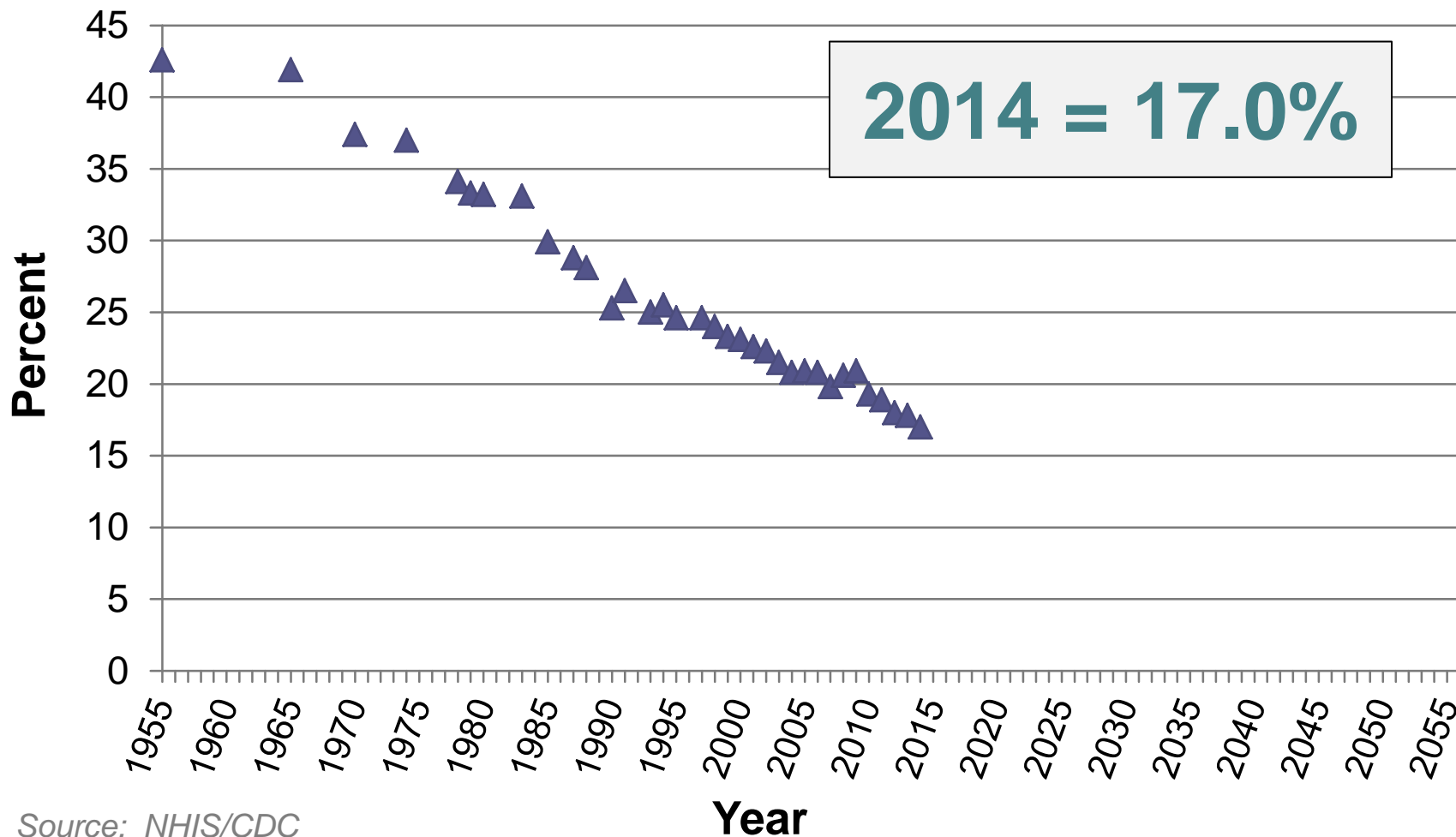
TWO COMMON MISCONCEPTIONS

- The tobacco problem in America is solved
- All of the key tobacco control research questions have been answered

TWO COMMON MISCONCEPTIONS

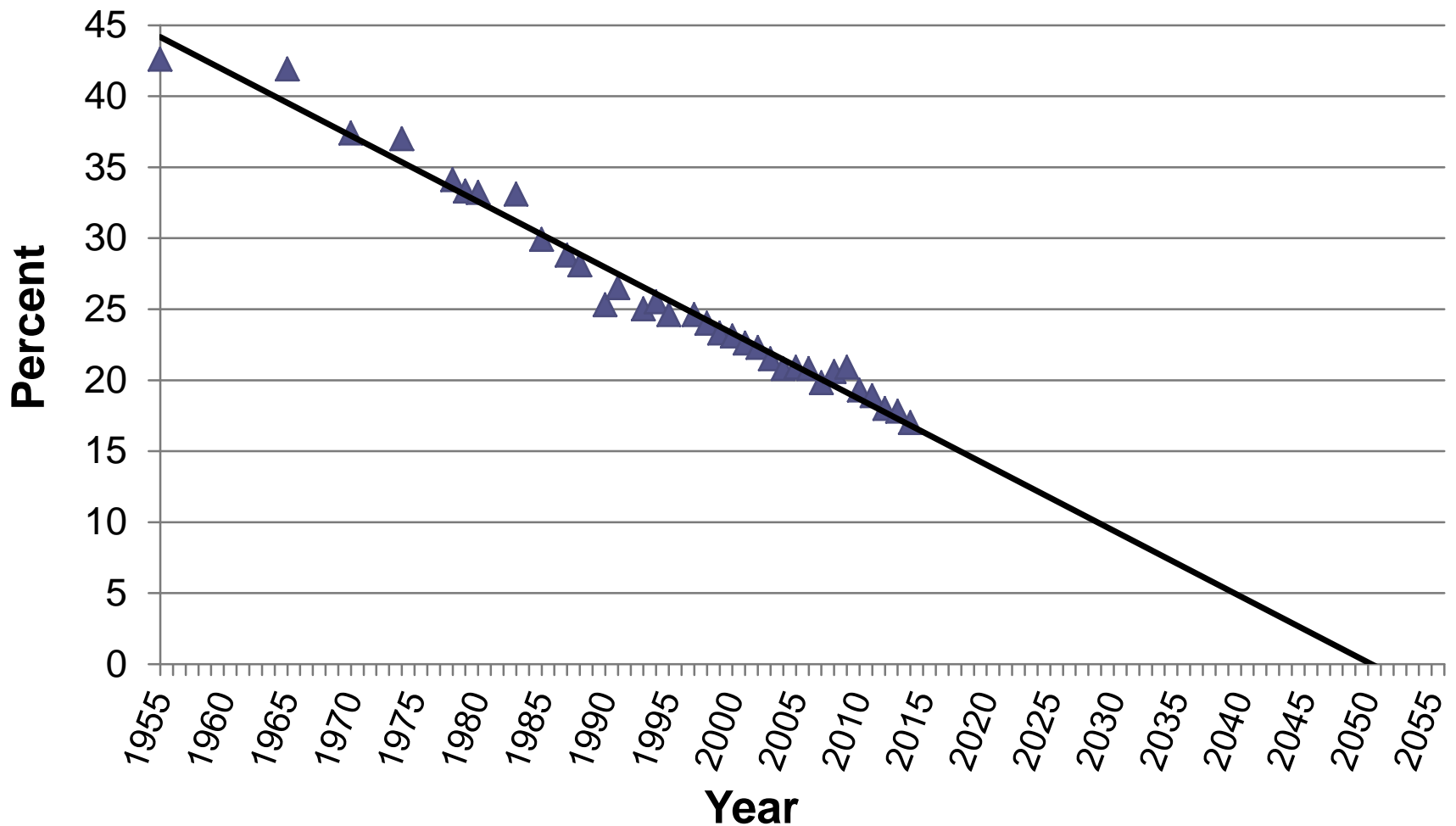
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SMOKING PREVALENCE AMONG ADULTS 18 AND OLDER, UNITED STATES, 1965-2014

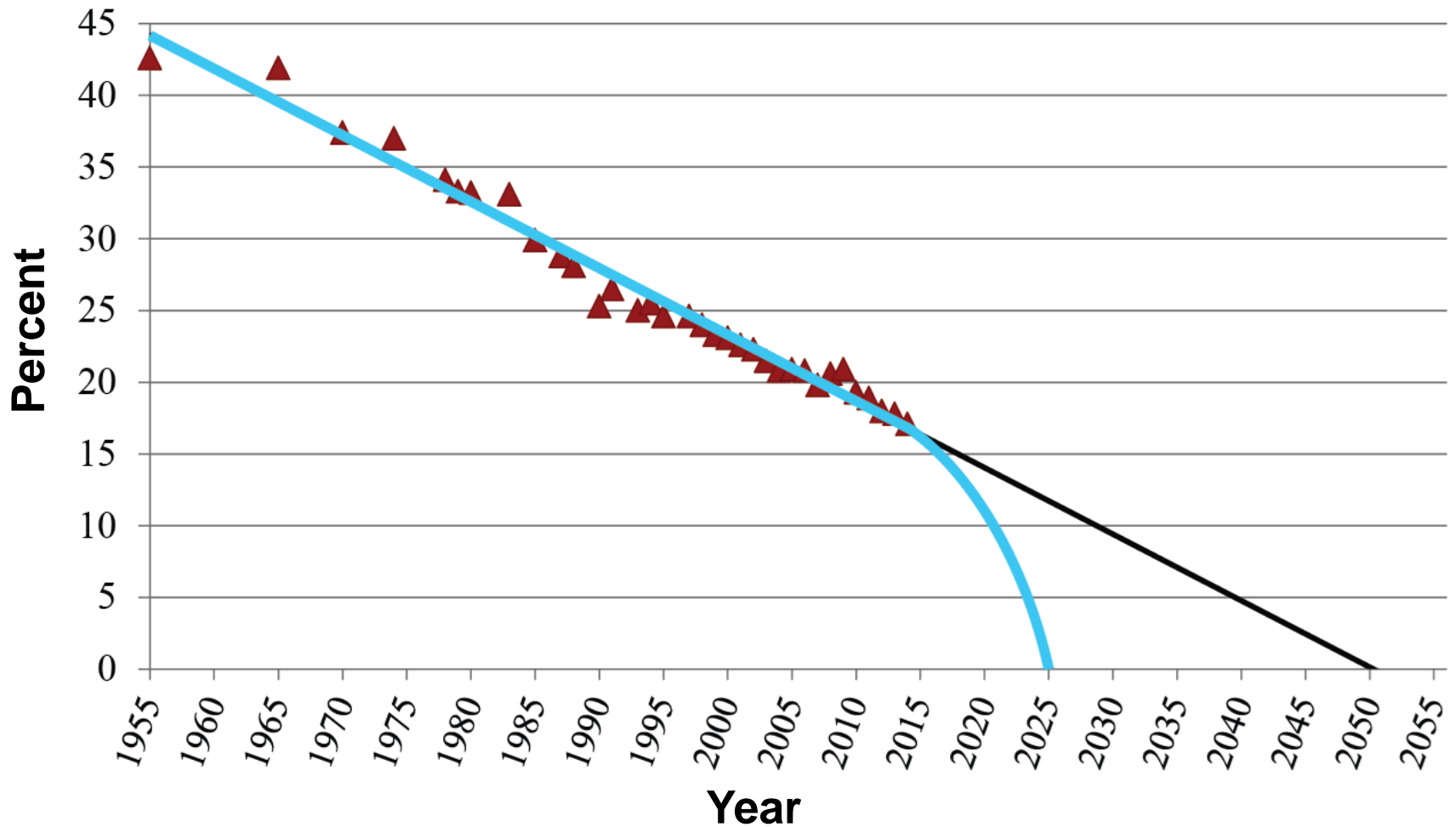


Source: NHIS/CDC

U.S. SMOKING PREVALENCE: PROJECTIONS BASED ON RECENT TRENDS



U.S. SMOKING PREVALENCE: WHAT WILL IT TAKE TO ACCELERATE PROGRESS?





WHILE THIS REPRESENTS ENORMOUS
PROGRESS, TOBACCO CONTINUES TO
CAUSE UNEQUALLED HARM TO OUR
NATION'S HEALTH



THE TOLL OF TOBACCO

- \approx 45 million Americans still smoke
- Half a million deaths per year
 - 1 out of every 5 deaths in America is directly caused by smoking
- 1/3 of all cancer deaths
 - \approx 170,000 cancer deaths per year
- \approx \$200 billion in added medical costs
- Combustible tobacco use is particularly deadly

TOBACCO AND CANCER

- Tobacco is a direct cause of at least 13 separate types of cancer
 - Including 80-90% of all lung cancer
- For individuals with cancer, persistent smoking results in increased toxicity, poor cancer treatment response, and increase risk for disease recurrence and second primary cancers

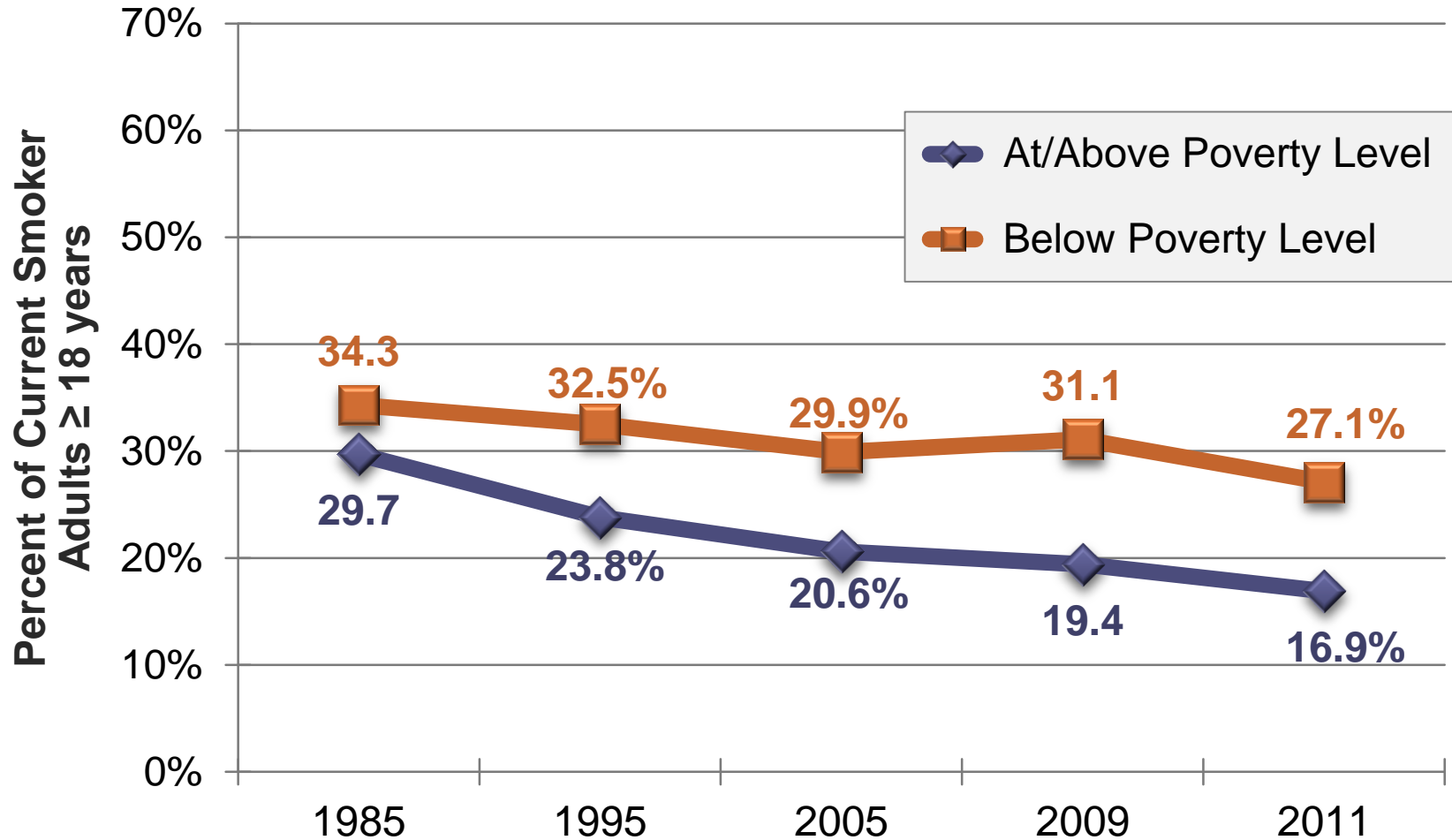


THE TOLL IS UNEQUALLED ACROSS OUR NATION

- Tobacco use is an uncommonly disparate risk factor
- It particularly harms the most vulnerable members of our society



SMOKING RATES BY POVERTY STATUS



Source: National Health Interview Survey, United States—1965-2011. Based on self-reported family income and poverty thresholds published by the US Census Bureau

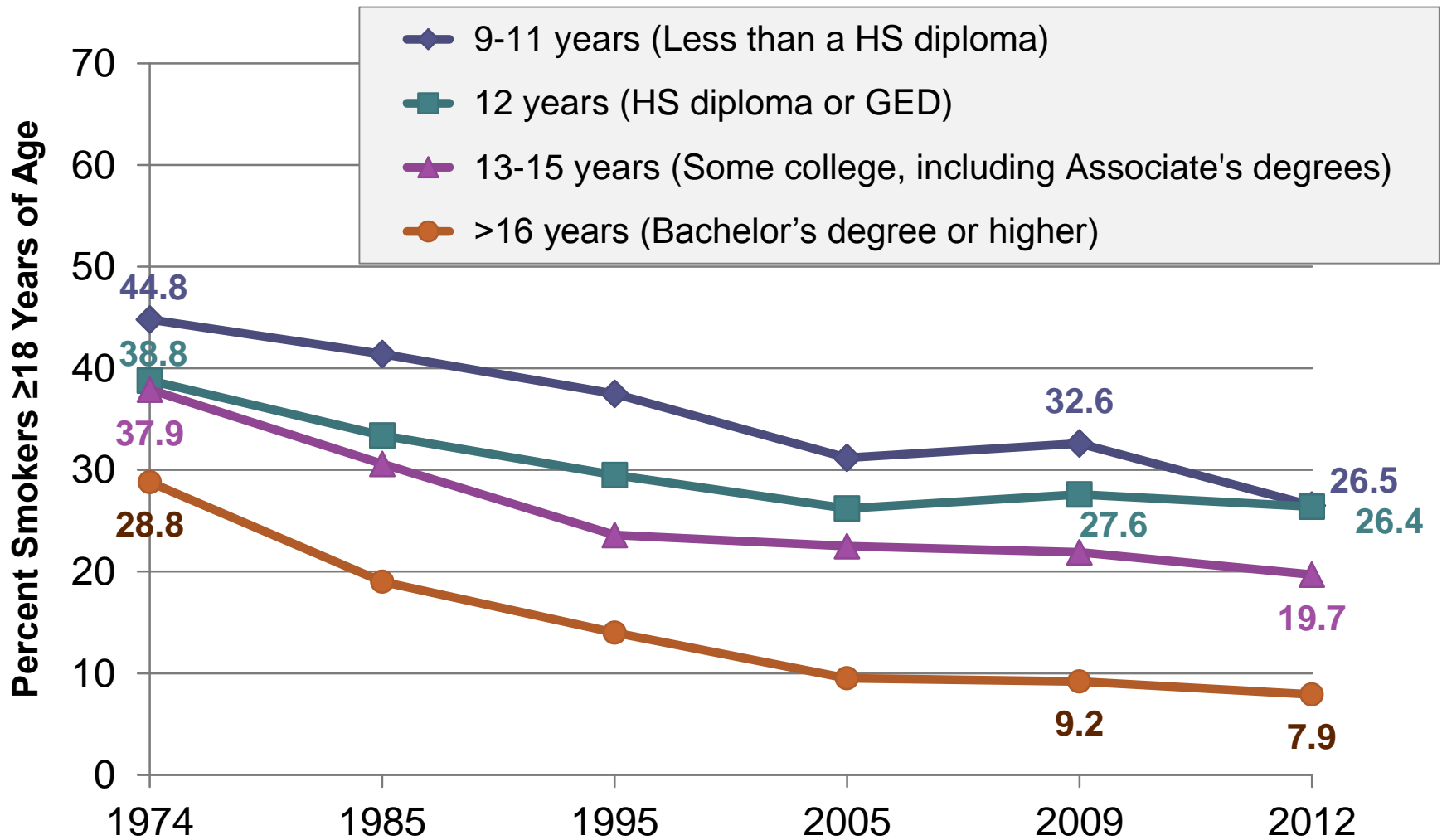
There are an estimated 8.4 million smokers below the poverty level.

Source: CDC, as of 2011



Credit: Reuters/Max Whittaker

SMOKING RATES BY EDUCATION



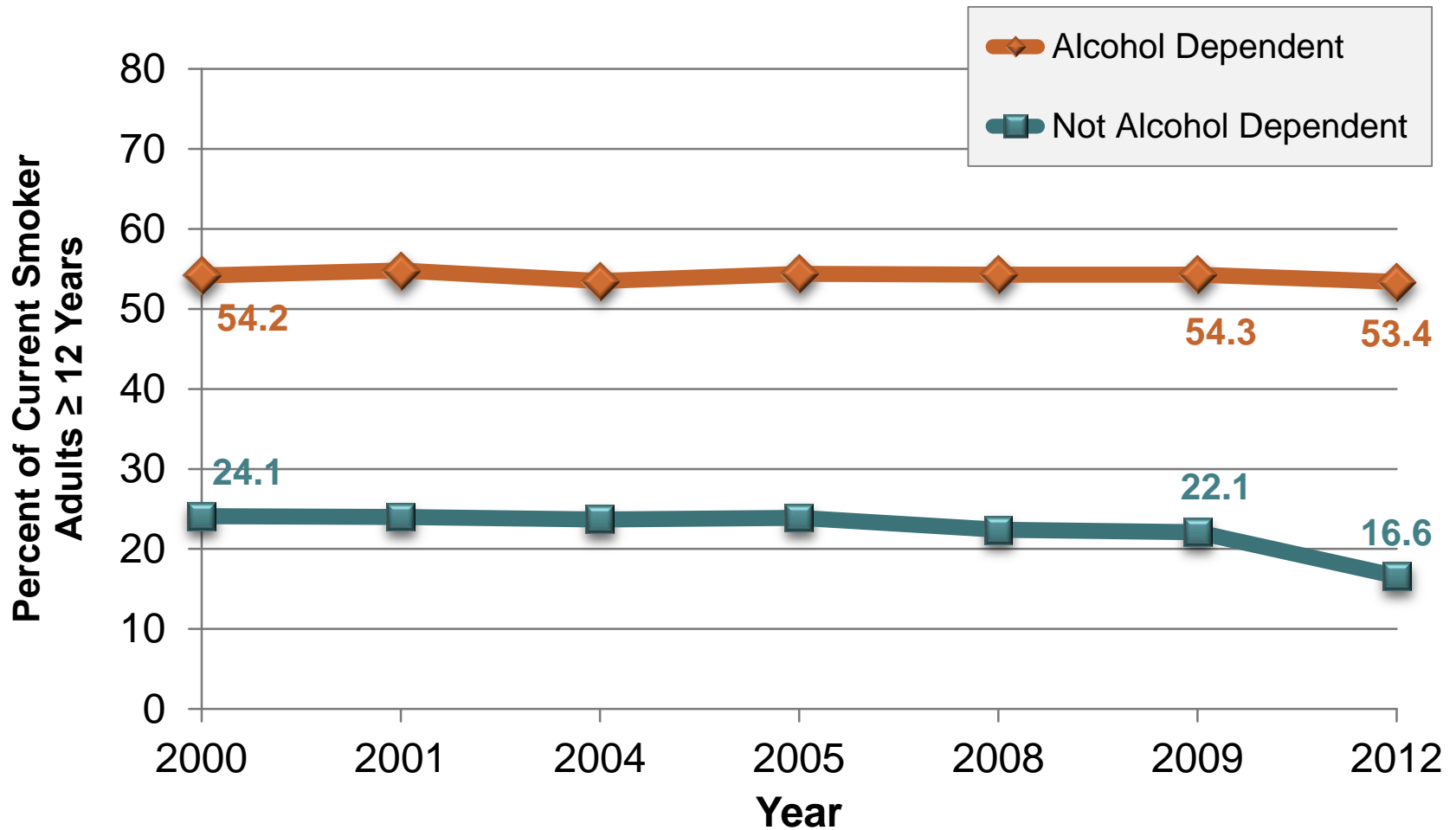
Source: National Health Interview Survey, United States—1965-2012

There are an estimated 20.1 million smokers with a high school education or less.

Source: National Health Interview Survey, 2012



SMOKING RATES OF ALCOHOL DEPENDENT



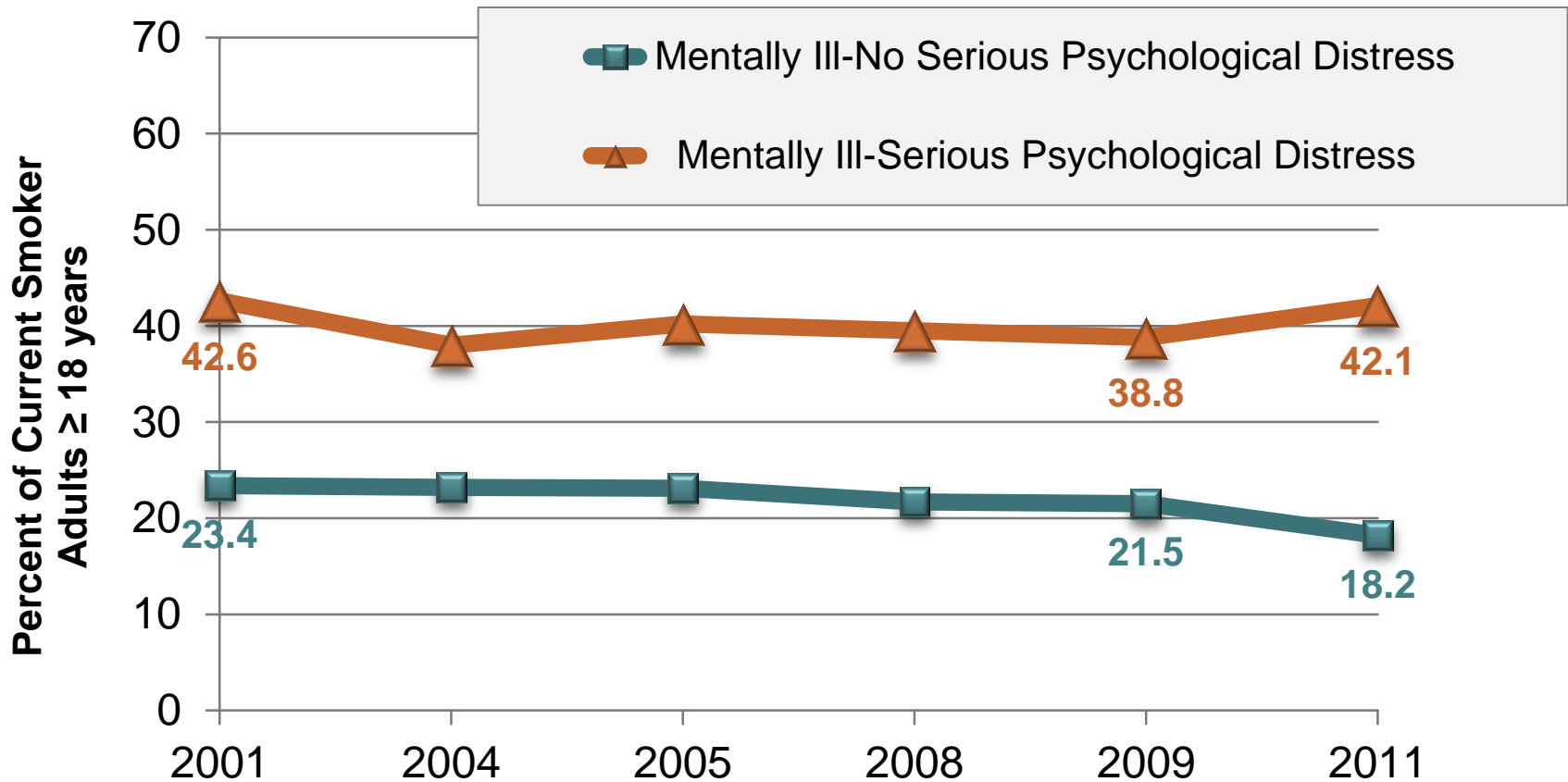
Sources: National Household Survey on Drug Abuse, United States—2000-2001
National Survey on Drug Use and Health—2004-20012

There are an estimated 4.6 million alcohol dependent smokers.

Source: CDC



SMOKING RATES OF MENTALLY ILL



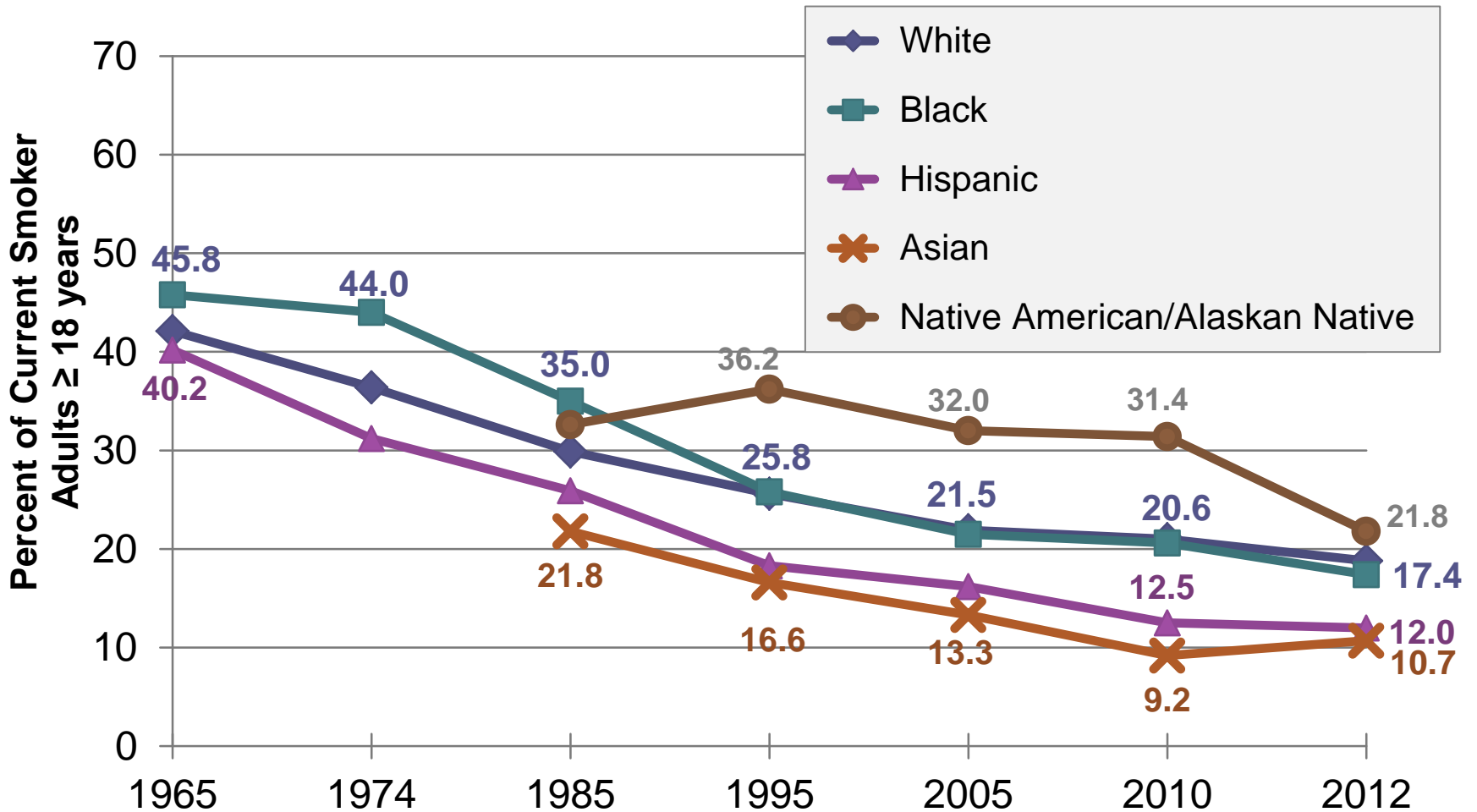
Sources: National Household Survey on Drug Abuse, United States—2000-2001
National Survey on Drug Use and Health—2004-2011

There are an estimated
14.2 million smokers
with serious
psychological
distress.

Source: CDC, as of 2011



SMOKING RATES BY RACE/ETHNICITY



Sources: National Health Interview Survey, United States—1965-2010
National Survey on Drug Use and Health, 2012



PREPARING THE WORKING GROUP REPORT BACKGROUND



Tobacco Control Research
Priorities for the Next Decade:
Working Group Recommendations
for 2016 - 2025

Report to the NCI Board of Scientific Advisors
March 2016

WORKING GROUP MEMBERSHIP

- **Robin Mermelstein, PhD** (Co-Chair), University of Illinois at Chicago
- **Michael C. Fiore, MD, MPH, MBA** (Co-Chair), University of Wisconsin School of Medicine & Public Health
- **Steven L. Bernstein, MD**, Yale University School of Medicine
- **Cristine Delnevo, PhD, MPH**, Rutgers, The State University of New Jersey
- **Robert T. Croyle, PhD**, Director, Division of Cancer Control and Population Sciences, NCI-designated Federal Official
- **Karen M. Emmons, PhD**, Vice President for Research and Director, Kaiser Foundation Research Institute, member NCI Board of Scientific Advisors
- **Thomas E. Eissenberg, PhD**, Virginia Commonwealth University
- **Andrew Hyland, PhD**, Roswell Park Cancer Institute
- **Jamie S. Ostroff, PhD**, Memorial Sloan Kettering Cancer Center
- **Judith Prochaska, PhD, MPH**, Stanford University
- **Kurt Ribisl, PhD**, University of North Carolina at Chapel Hill
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- **Jodi Sindelar, PhD**, Yale University
- **Jennifer I. Vidrine, PhD**, University of Oklahoma Health Sciences Center
- **Jonathan P. Winickoff, MD, MPH**, Harvard Medical School
- **Monica Webb Hooper, PhD**, University of Miami

ACKNOWLEDGEMENTS

The working group would like to thank the following individuals who provided perspective on the tobacco control research landscape:

- Michelle Bloch, MD, PhD, NCI Tobacco Control Research Branch
- Wilson Compton, MD, MPE, National Institute on Drug Abuse
- Brian King, PhD, MPH, CDC Office on Smoking and Health
- Cathy Backinger, PhD, MPH, FDA Center for Tobacco Products
- Ray Niaura, PhD, Truth Initiative
- Matthew Myers, JD, Campaign for Tobacco Free Kids



PREPARING THE WORKING GROUP REPORT PROCESS



TWO COMMON MISCONCEPTIONS

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OVERVIEW OF PRIORITIES

- Seven priority research topics that have great potential to further the goal of eliminating harms from tobacco use
- Cross-cutting research infrastructure needs to help accelerate research progress

SEVEN TOBACCO CONTROL RESEARCH PRIORITIES

- Optimize intervention effectiveness
- Reduce adolescent and young adult tobacco use
- Address disparities in tobacco use and its harms
- Understand the complexity of current tobacco products, patterns of use, and associated health-related outcomes
- Develop novel behavioral interventions for tobacco use
- Use a chronic disease approach to address smoking across all its developmental phases
- Identify innovative policy approaches that further reduce tobacco use

TOBACCO CONTROL RESEARCH INFRASTRUCTURE NEEDS

- Consider development of a clinical trials network or infrastructure to facilitate innovative, collaborative tobacco research efforts
- Enhance recruitment of special populations
- Establish rapid funding mechanisms to support important, emerging research initiatives in a timely manner
 - E.g., research directed at evaluating impact of novel product, policy, or regulatory changes
- Encourage more pragmatic and innovative methods in study design

RESEARCH PRIORITY : OPTIMIZE INTERVENTION EFFECTIVENESS

- Intervention impact can be improved through research that addresses ways to increase the reach, demand, quality, dissemination, implementation and sustainability of evidence-based tobacco use treatment.
- Need for research to address problem of incomplete translation along the treatment delivery continuum
- Research questions focusing on:
 - systems approaches
 - models of care
 - Intervening in non-traditional settings
 - Interoperability of cessation resources
 - Legislative and regulatory mandates that can be leveraged
 - Electronic health record technologies
 - Mobile and emerging technologies
 - Advanced economic analysis

RESEARCH PRIORITY : REDUCE ADOLESCENT AND YOUNG ADULT TOBACCO USE

- Adolescence and young adulthood remain vulnerable years for initiation of all tobacco product types and for escalation to dependence
 - Total tobacco use in adolescents remains high
 - Young adults see jump in initiation and escalation
- Research questions focusing on:
 - Development and evaluation of interventions for neglected areas: Prevention of escalation and cessation for low, intermittent users
 - More effective cessation approaches for adolescents
 - Approaches to increase demand for evidence-based approaches for young adults
 - Interventions to address multiple tobacco product use
 - Intergenerational risk
 - Problem of concurrent use with marijuana and intervention needs
 - Use of social media platforms to decrease appeal, discourage use, and to encourage and provide cessation

RESEARCH PRIORITY: ADDRESS DISPARITIES IN TOBACCO USE AND ITS HARMS

- Tobacco use and its harms are disproportionately distributed among several subpopulation groups in the U.S.
- Research questions focusing on:
 - Development and evaluation of innovative strategies, that can incorporate strong theoretical frameworks, to increase uptake of evidence-based treatments in vulnerable populations
 - Attention to understanding better and tailoring to unique population characteristics and barriers
 - Increasing understanding of population-specific contextual and environmental factors, including built environment, and interventions to address or leverage these factors
 - Evaluating the validity and utility of measures used to assess tobacco use and dependence and motivations for use and change in disparate populations
 - Understanding better role of differences in cognitions and attitudes and associations with behavioral patterns.

RESEARCH PRIORITY: UNDERSTAND THE COMPLEXITY OF CURRENT TOBACCO PRODUCTS, PATTERNS OF USE, AND ASSOCIATED HEALTH-RELATED OUTCOMES

- Tremendous recent changes in patterns of tobacco use – products, frequency, intensity, and combination use
- Research questions focusing on:
 - Identifying most common transition patterns among poly-tobacco users and products and which are associated with cessation or continued use
 - Whether non-cigarette tobacco products can be a facilitator or barrier to initiation and cessation of combustible tobacco
 - How to define dependence considering the range of products
 - Identification of surrogate biomarkers or measures to increase timely assessment of potential health risks from emerging patterns of use
 - How to adapt tobacco treatment to address emerging patterns of use
 - How policies aimed at one product may influence use of other products and behavioral patterns
 - How tobacco product marketing influences totality of use, attitudes, and norms among adolescents and adults
 - How communication strategies about relative harms affect totality of all tobacco product use

RESEARCH PRIORITY: DEVELOP NOVEL INTERVENTIONS FOR TOBACCO USE

- Behavioral and counseling treatments essential component for tobacco cessation, with substantial efficacy as well as the only recommended approach for certain subgroups of smokers. Need is great, but few scientific advances
- Research questions focusing on:
 - Developing and evaluating “just in time” interventions
 - Treatment algorithms and adaptive designs for personalizing treatments
 - Optimizing individual and combination behavioral treatment components to maximize treatment effectiveness
 - Utilizing eHealth and mHealth advances to design and disseminate novel interventions
 - Incorporating novel, theory-based psychological, social, and behavioral targets to enhance smoking cessation outcomes

RESEARCH PRIORITY: USE A CHRONIC DISEASE APPROACH TO ADDRESS SMOKING BEHAVIOR ACROSS ALL ITS DEVELOPMENTAL PHASES

- Recognition that tobacco use best conceptualized as a chronic disease, requiring long-term, not acute, treatments and ways to address all phases of use and readiness to stop use – from precessation to cessation to relapse and relapse recovery
- Research questions focusing on:
 - Innovative interventions to enhance motivation among unmotivated or ambivalent smokers
 - How large systems or organizations (e.g., healthcare, insurance companies, media) and non-traditional settings can be used to increase utilization of evidence-based treatments among unmotivated smokers
 - Novel theoretical approaches to develop treatments that increase or maintain high levels of sustained cessation and high levels of treatment adherence
 - Developing effective interventions to promote maintenance of abstinence, including personalized interventions
 - Novel technologies and innovative delivery models to reduce relapse, promote relapse recovery, and promote treatment adherence (e.g., use of mobile technologies, eHealth resources, social media, personalized algorithms)

RESEARCH PRIORITY: IDENTIFY INNOVATIVE POLICY AND MACRO-ENVIRONMENTAL APPROACHES TO FURTHER REDUCE TOBACCO USE

- Tobacco policies have been a powerful force in reducing rates of smoking. However, there has been inconsistent implementation and impact not yet maximized.
- Research questions focusing on:
 - Within the context of emerging tobacco policy initiatives (e.g., smokefree public housing, raising minimum age), what communication and message strategies are most effective for promoting tobacco use prevention and cessation
 - What novel communications approaches may be effective in reducing attractiveness and motivation to use broad array of tobacco products
 - How do tobacco industry messages and marketing affect norms, attitudes, and behaviors across age groups
 - What factors can optimize adoption and implementation of effective tobacco control policies
 - How can simulation modeling best be used to project impact of integrating tobacco control interventions and policies
 - What types of incentive systems encourage tobacco cessation? (e.g, within ACA)
 - What is the effect of non-governmental actions (e.g., pharmacies not selling tobacco) on individual and population level behaviors and attitudes
 - What are effects of counter-marketing approaches
 - What are the most effective and innovative tobacco product price policies



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THANK YOU

QUESTIONS?

