



TOBACCO DEPENDENCE TREATMENT: A BEHAVIORAL & PUBLIC HEALTH IMPERATIVE

5 May 2021



Presenter + Disclosures

Presenter:

Nicholas (Nick) Fradkin, MPH, MPA

Tobacco Treatment Consultant

Washington State Department of Health (USA)

Disclosures:

None

Overview

- The “pleasures” of cigarette smoking
- The (many) harms of cigarette smoking
 - Health risks
 - Cancer
 - Premature death
- Quitting smoking and reduced risks
- State, federal, and global strategies





THE “PLEASURES” OF CIGARETTE SMOKING

The “pleasures” of cigarette smoking

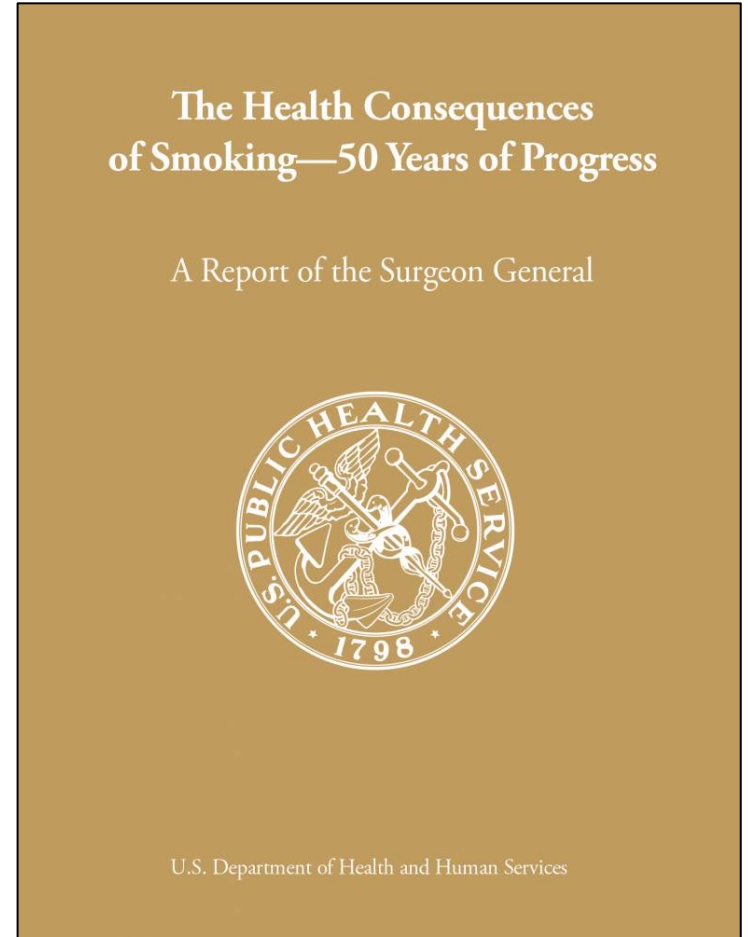
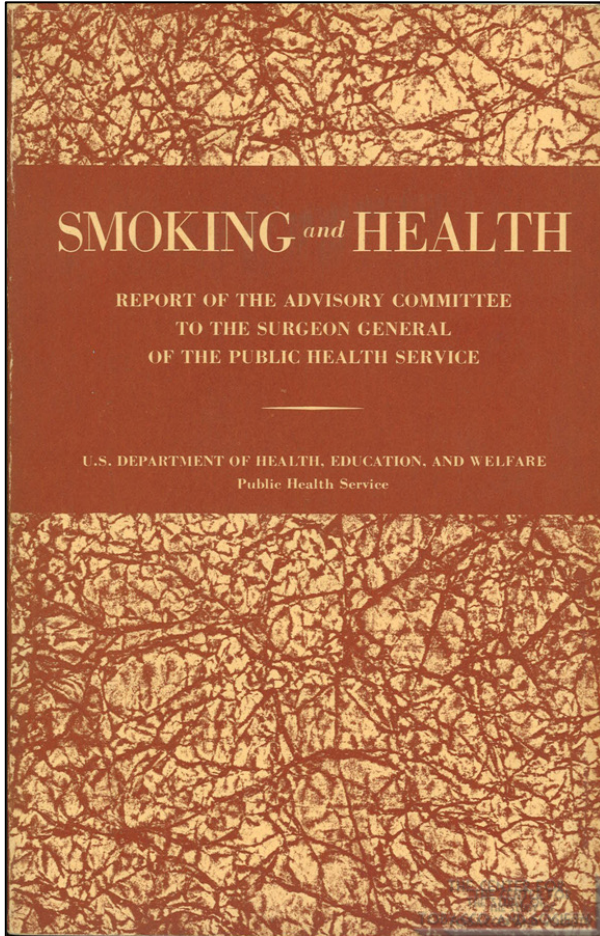
- Physical
 - Nicotine, a psychoactive drug
 - 1-2 mg per cigarette
 - Reaches brain in 10 seconds
 - Stimulates in low doses; augments dopamine release
 - Sedates in high doses; augments serotonin release
- Behavioral
 - Social opportunities
 - Work breaks
 - Weight control
 - Societal influence/image
 - Co-use (e.g., with alcohol)





THE (MANY) HARMS OF CIGARETTE SMOKING

50+ years of evidence



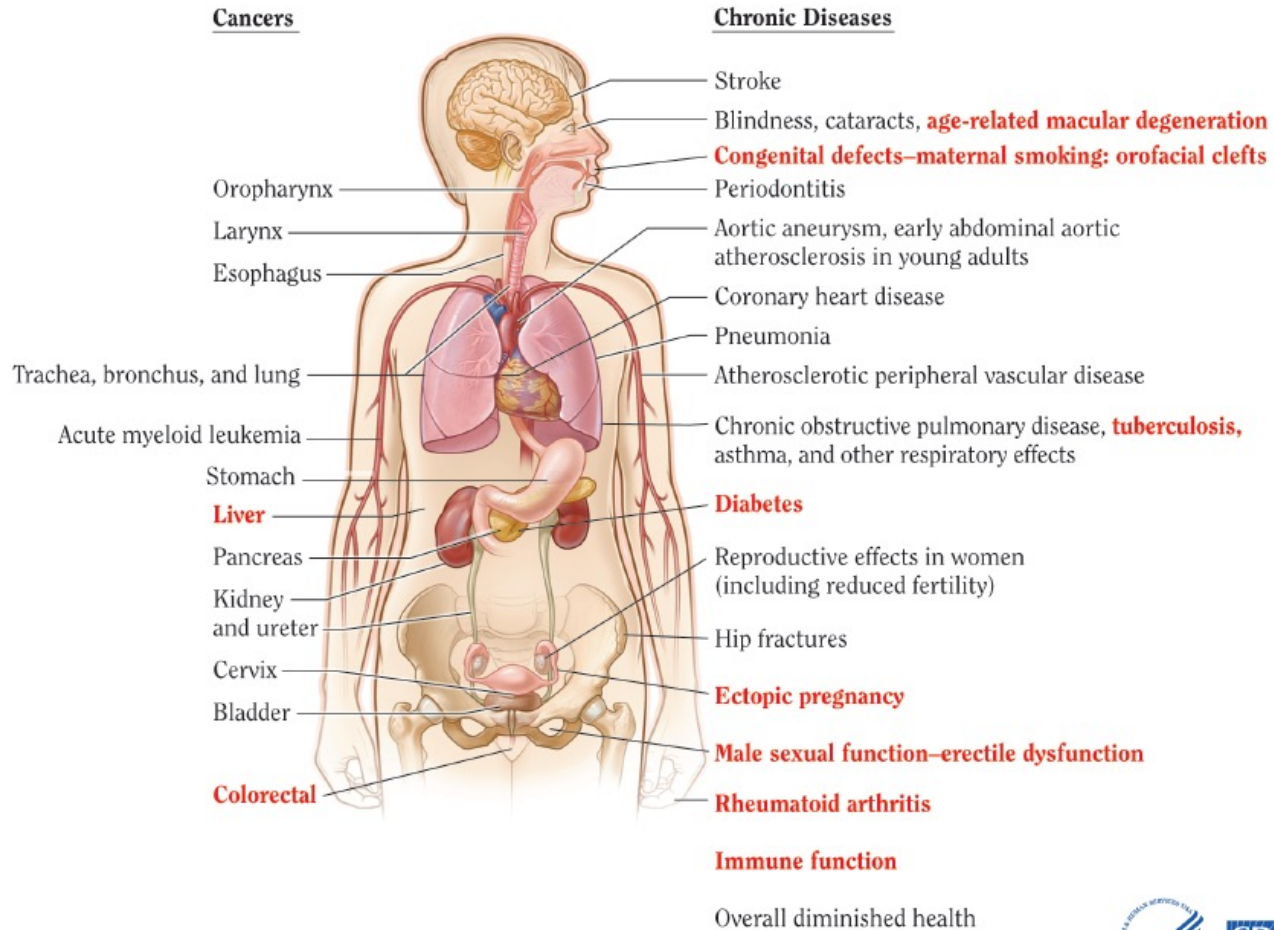
SGR 2010: **How** Tobacco Smoke Causes Disease

- Smoke contains 7,000+ chemicals and compounds
 - Hundreds are toxic, and more than 70 cause cancer
- Chemicals and toxicants reach lungs quickly
 - Blood carries toxicants to every organ
 - Chemicals and toxicants damage DNA
- Chemicals cause inflammation and cell damage, weakening immune system
- Product “improvements” have compromised health
- Risks can “balloon”; a dose-response relationship
 - Duration (years smoked) and frequency (cigs/day)
- There is no safe level of exposure to tobacco smoke

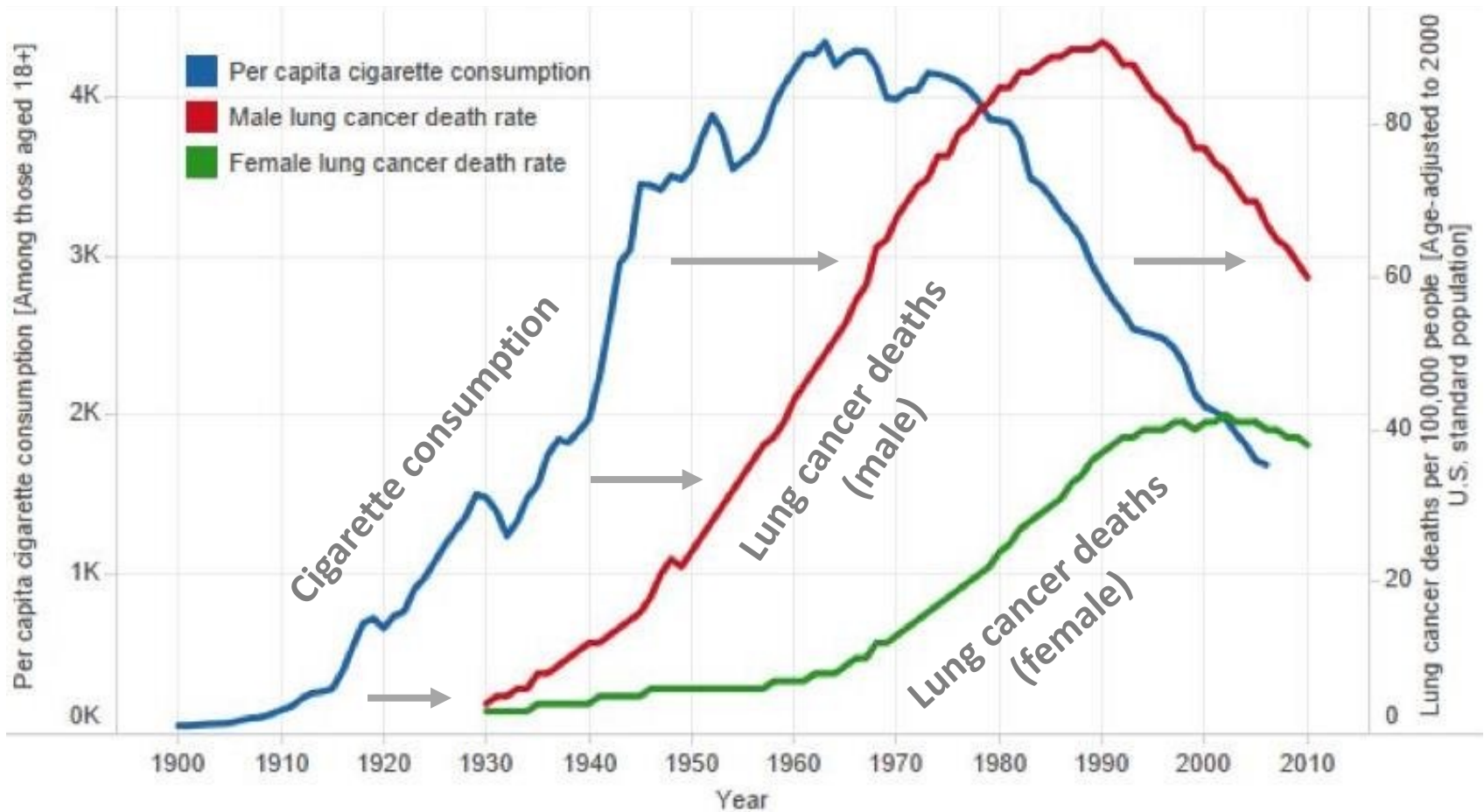
Source: How Tobacco Smoke Causes Disease, A Report of the Surgeon General, 2010

Risks from Smoking

Smoking can damage every part of your body



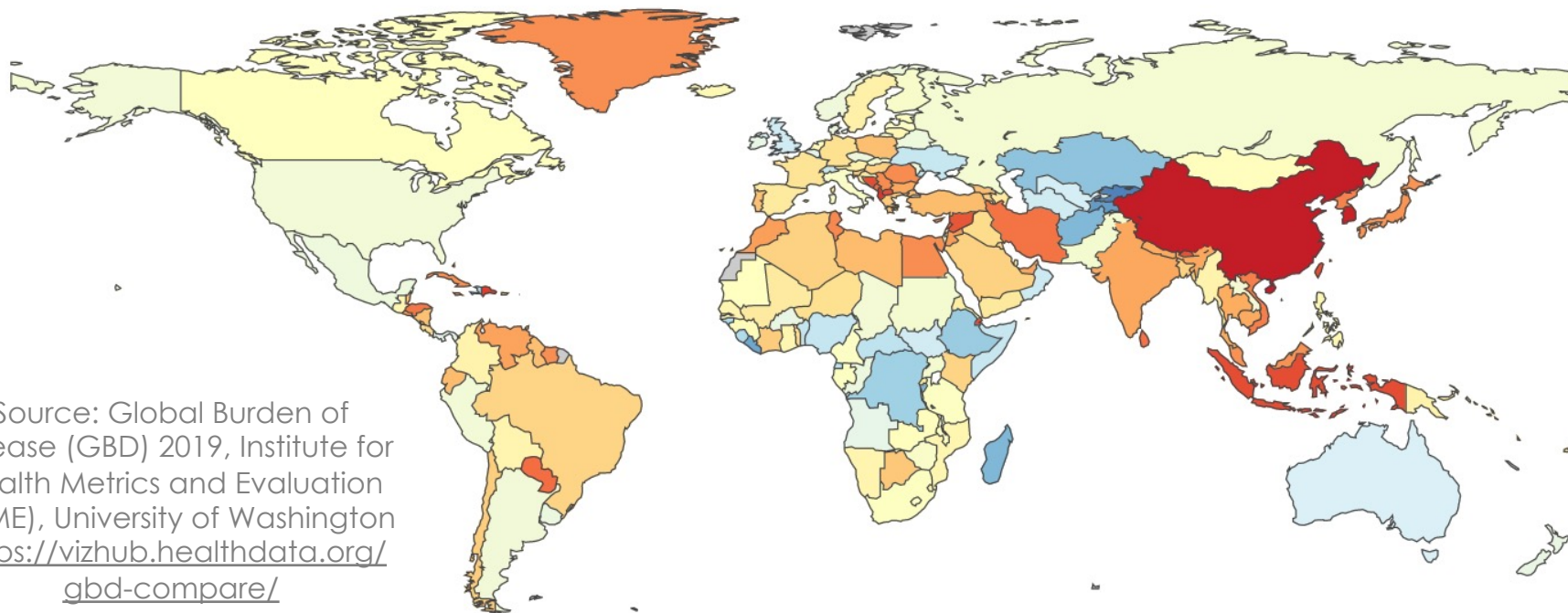
Smoking causes (deadly) cancer



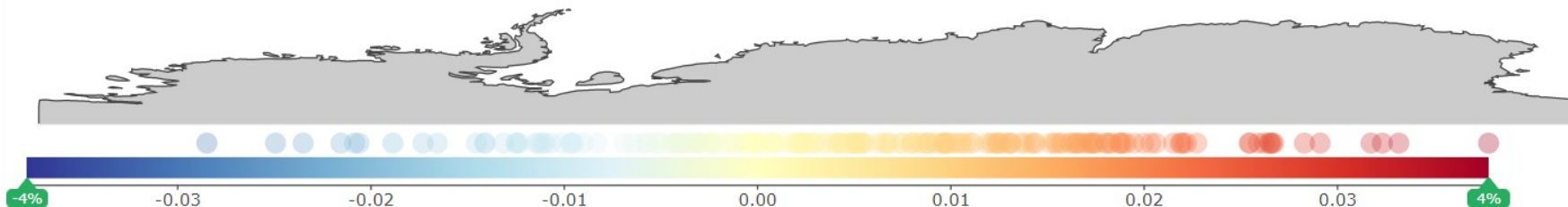
Source: Jha P, eLife, 2020

The global burden of lung cancer death has shifted

Tracheal, bronchus, and lung cancer attributable to Tobacco
Both sexes, All ages, Annual % change, 1990 to 2019, Deaths per 100,000

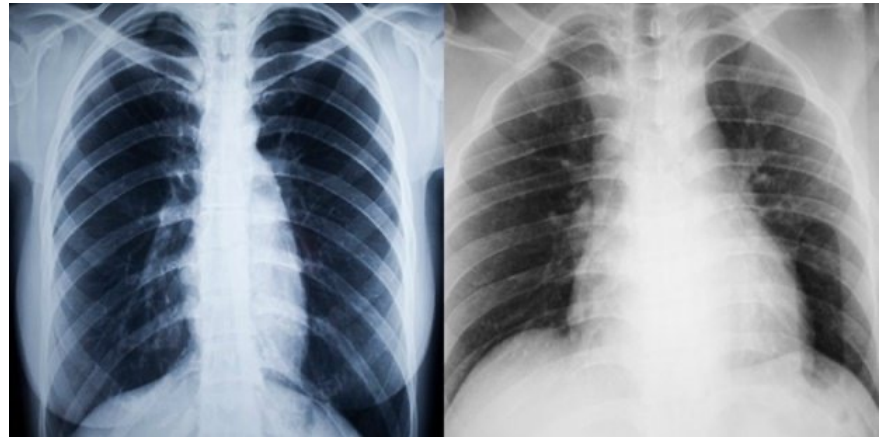


Source: Global Burden of Disease (GBD) 2019, Institute for Health Metrics and Evaluation (IHME), University of Washington
<https://vizhub.healthdata.org/gbd-compare/>



Chronic disease risks

- Respiratory (lungs)
 - Chronic obstructive pulmonary disease
 - Emphysema
 - Pneumonia
 - Tuberculosis
 - Asthma
 - Severe COVID-19 illness



- Cardiovascular (heart)
 - Coronary heart disease
 - Heart attack, stroke
 - Peripheral arterial disease
 - Peripheral vascular disease

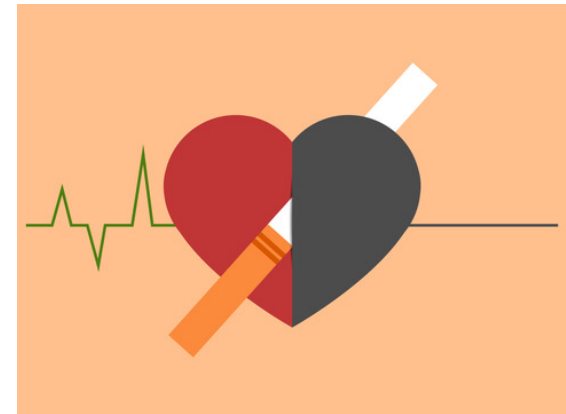


Image: European
Society of Cardiology

Other health risks and health risks to others

- Other chronic diseases
 - Diabetes (type II)
 - Rheumatoid arthritis
- Oral, ophthalmologic, auditory
 - Tooth, vision, hearing loss
- Reproductive
 - Fertility reductions in men
 - Pregnancy complications in women
- Secondhand smoke
 - Cardiopulmonary effects, cancer
 - *Thirdhand* smoke
 - Remember: There is no safe level of exposure

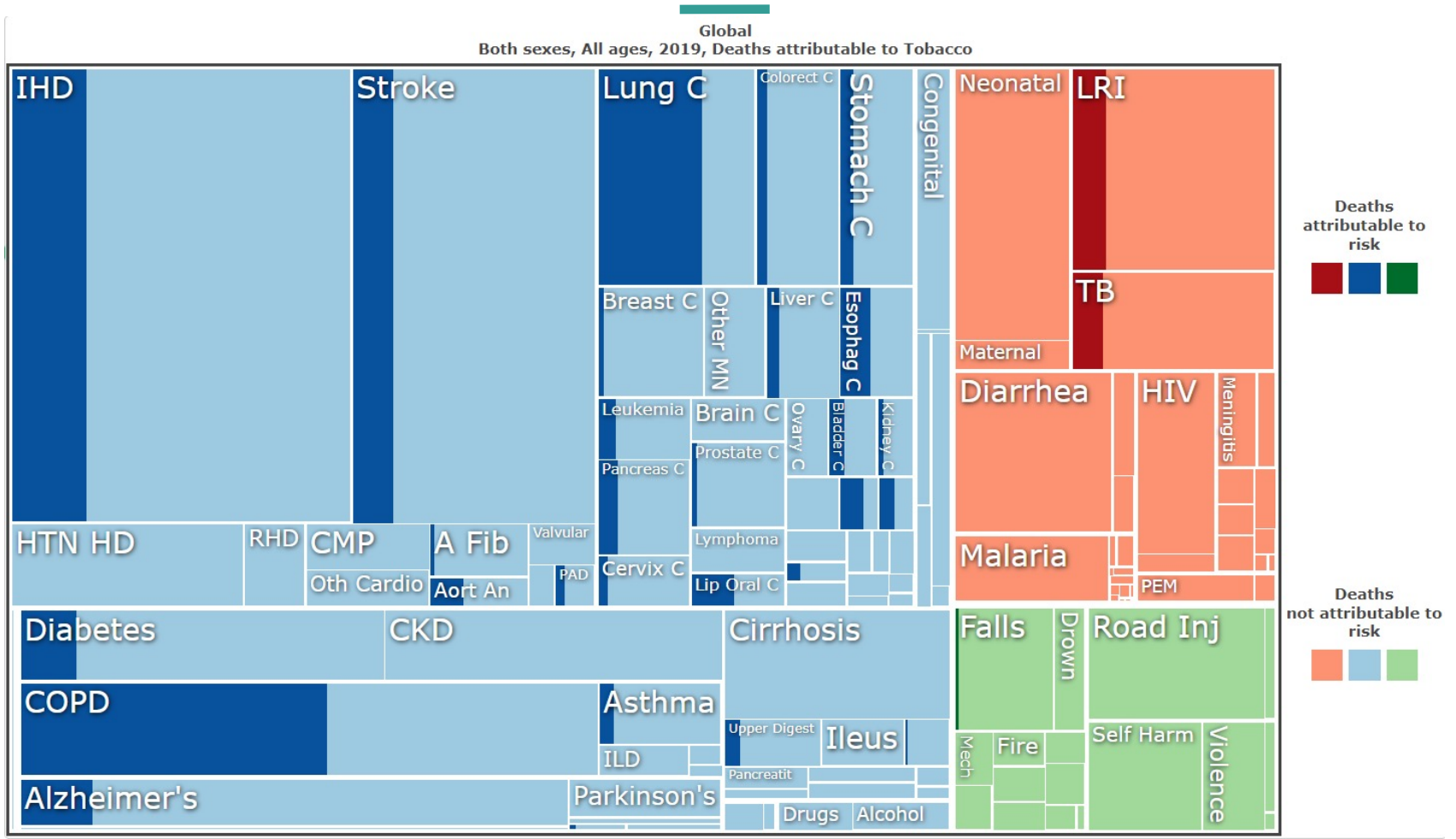


Risks associated with most deaths, worldwide (2019)

Risk	Deaths
High systolic blood pressure	10,800,000
Tobacco	8,710,000
Dietary risks (e.g., low fruit, high salt)	7,940,000
Air pollution	6,670,000
High fasting plasma glucose	6,500,000
High body-mass index	5,020,000
High LDL cholesterol	4,400,000
Kidney dysfunction	3,160,000
Child and maternal malnutrition	2,940,000
<i>Alcohol use</i>	<i>2,440,000</i>

Source: Institute for Health Metrics and Evaluation (IHME), University of Washington

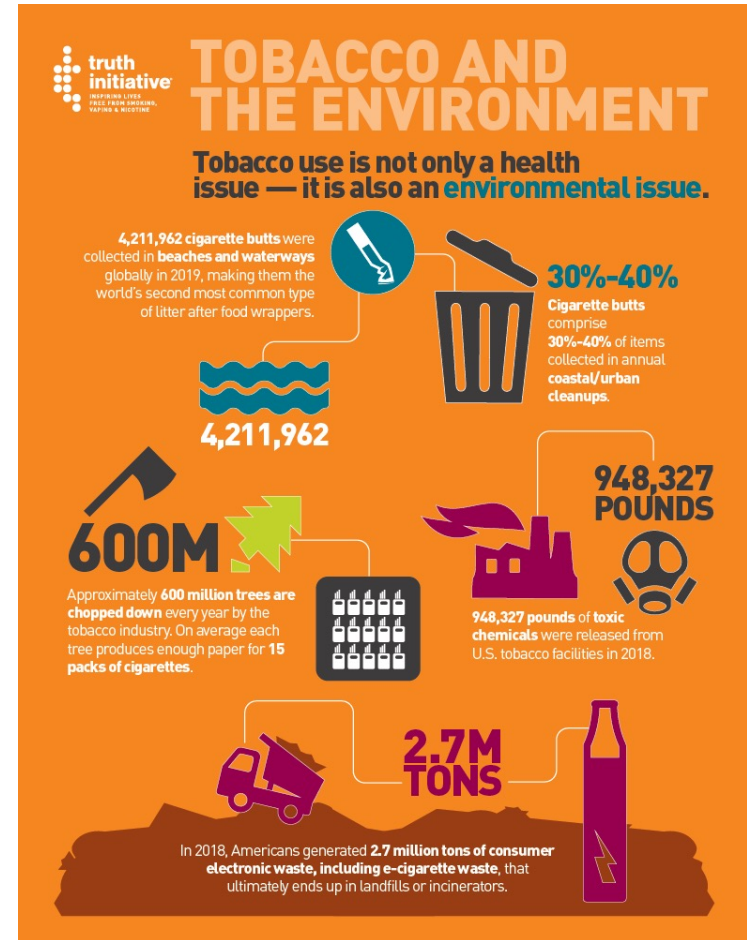
Global burden of tobacco-related disease (IHME)



Source: Institute for Health Metrics and Evaluation (IHME), University of Washington

Broader societal impact

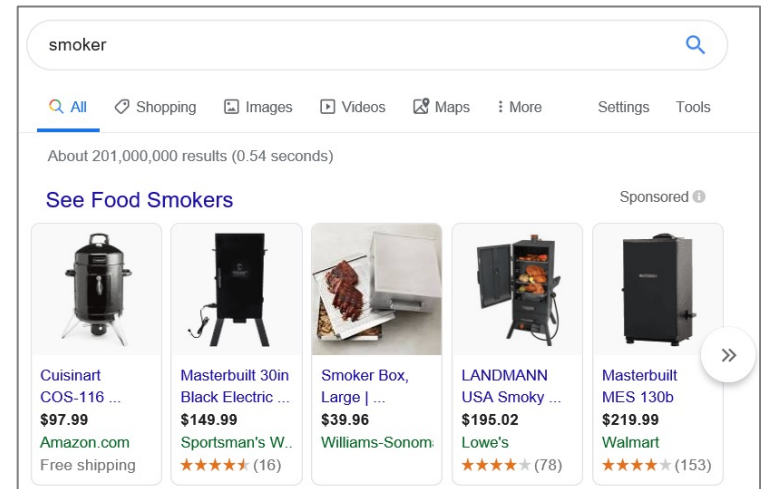
- Economic
 - Health care costs
 - Worker absenteeism
- Environmental
 - Pollution
 - Land, oceans
 - Deforestation
 - Climate change
- Social
 - Systemic racism
 - Health equity
 - Human rights



Source: Truth Initiative

Behavioral health impact

- High prevalence among people with mental illness, substance use disorder
 - Schizophrenia
 - Bipolar disorder
 - General stress, anxiety
 - Alcohol, cannabis use
 - Opioid use disorder
- Tobacco use, itself, is a substance use disorder
 - “Smoker” stigma
- Increased attention on nicotine addiction





QUITTING SMOKING & REDUCED RISKS

Quitting smoking is a marathon, not a sprint

- It can take 10+ quit attempts to achieve abstinence.



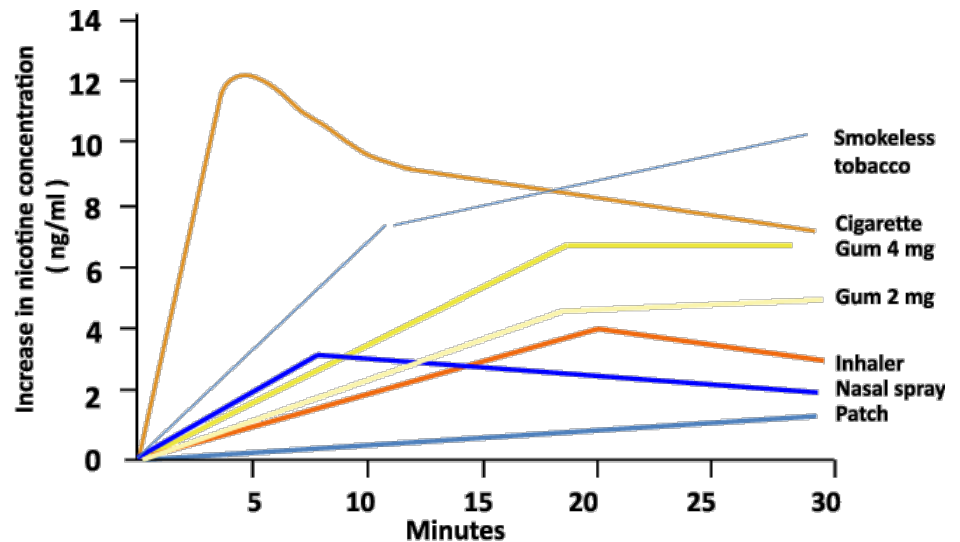
Source: Centers for Disease Control and Prevention (CDC)

Who is responsible for smoking cessation?

- Individual
 - Recognition that change is necessary
 - Medication
- Government
 - Public health intervention (e.g., “quitlines”)
 - Industry accountability
- Medical providers
 - Cancer & chronic disease prevention
 - Disease treatment
- Behavioral health providers
 - Mental health support
 - Addiction treatment

Cessation methods (and quit rates)

- **Self-help** (9-12%)
- **Counseling** (13-17%)
- **Medication** (19-36%)
 - Nicotine replacement therapy (19-26%)
 - Non-nicotine Rx (24-33%)
 - Combination NRT/Rx (26-36%)
- **Counseling + medication** (26-32%)



Source: Balfour DJ & Fagerström KO. *Pharmacol Ther* 1996 72:51-81.

Source: Smoking Cessation Leadership Center

Smoking Cessation

A Report of the Surgeon General



Major Conclusions about Cessation

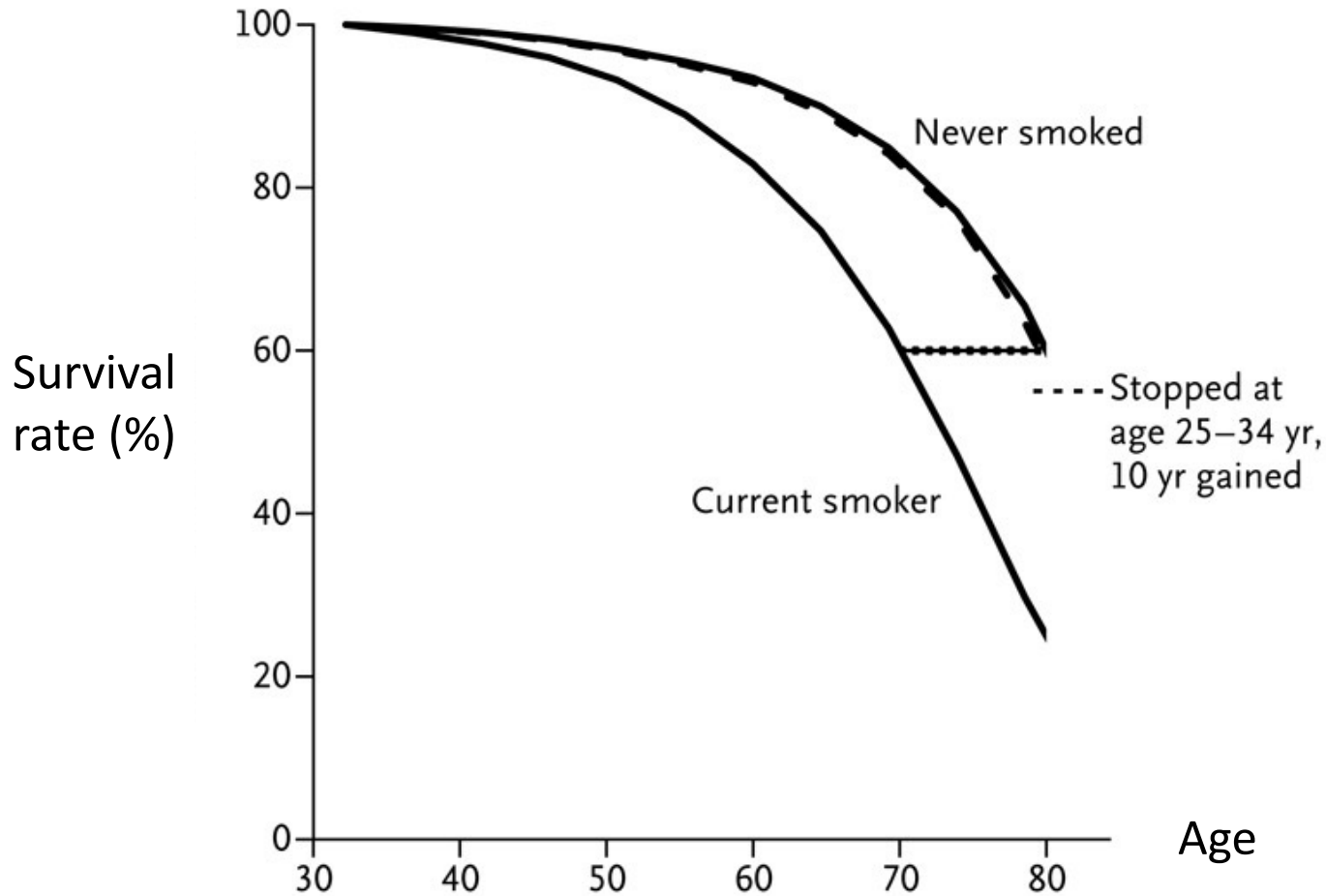
- Beneficial at any age
- Improves health status and enhances quality of life
- Reduces risk of premature death
- Can add up to a decade to life expectancy
- Reduces risk for many adverse health effects, diagnoses
 - Reproductive health outcomes
 - Cardiovascular disease
 - Stroke
 - Chronic obstructive pulmonary disease
 - Cancer
- Benefits the health of pregnant women and that of their fetuses and newborns

Health benefits of cessation over time

- Minutes: Heart rate drops
- 24 hours: Nicotine level in blood drops
- Days: Carbon monoxide in blood drops to normal
- 1-12 months: Coughing and shortness of breath decrease
- 1-2 years: Risk of heart attack drops sharply
- 3-6 years: Excess risk of coronary heart disease drops by half
- 5-10 years: Excess risk of oral cancer drops by half, risk of stroke decreases
- 10-15 years: Excess risk of lung cancer drops by half
- 15 years: Excess risk of coronary heart disease eliminated
- 20 years: Excess risk of other cancers nearly eliminated

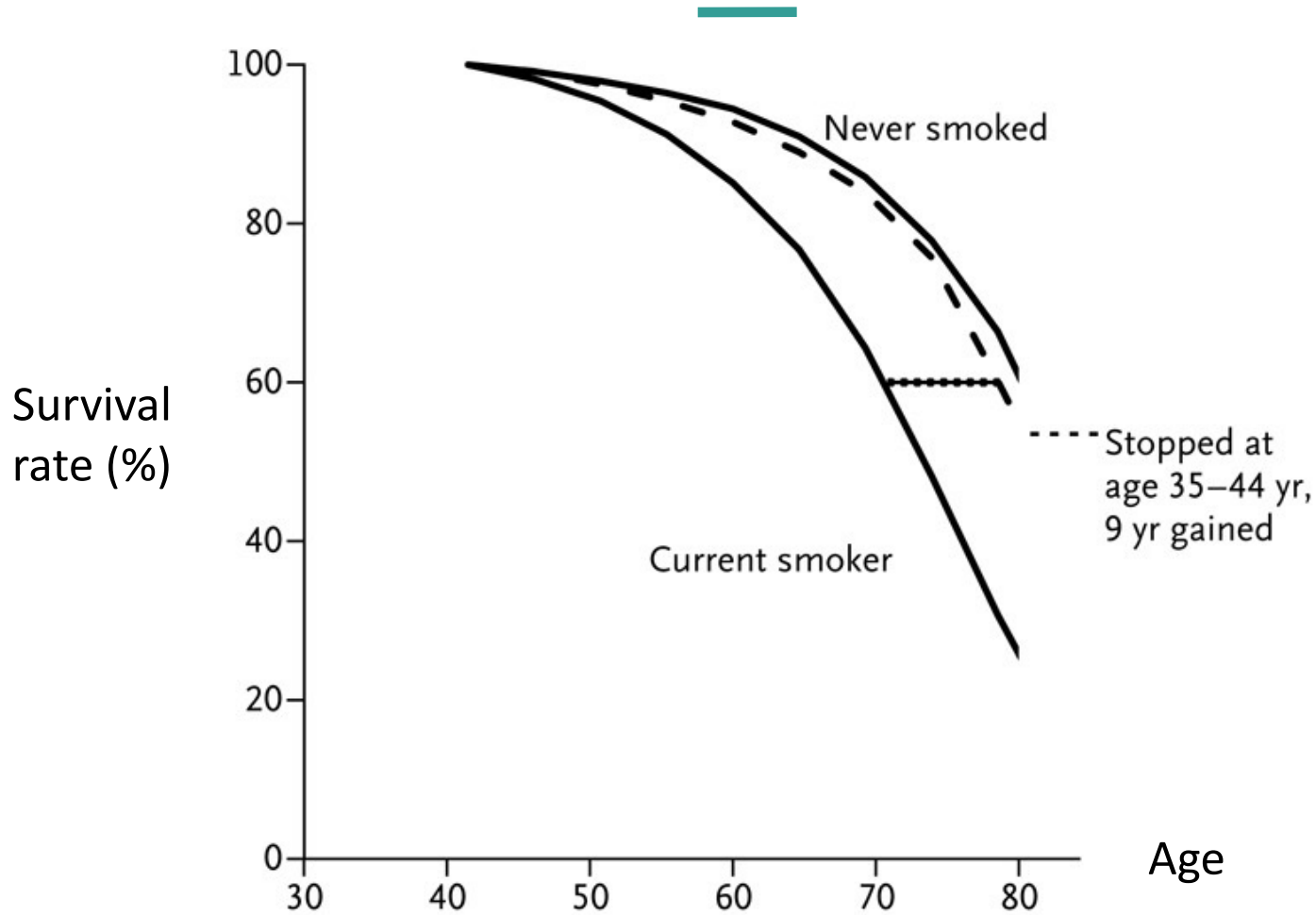
Source: Centers for Disease Control and Prevention (CDC)

Quitting smoking increases life expectancy...



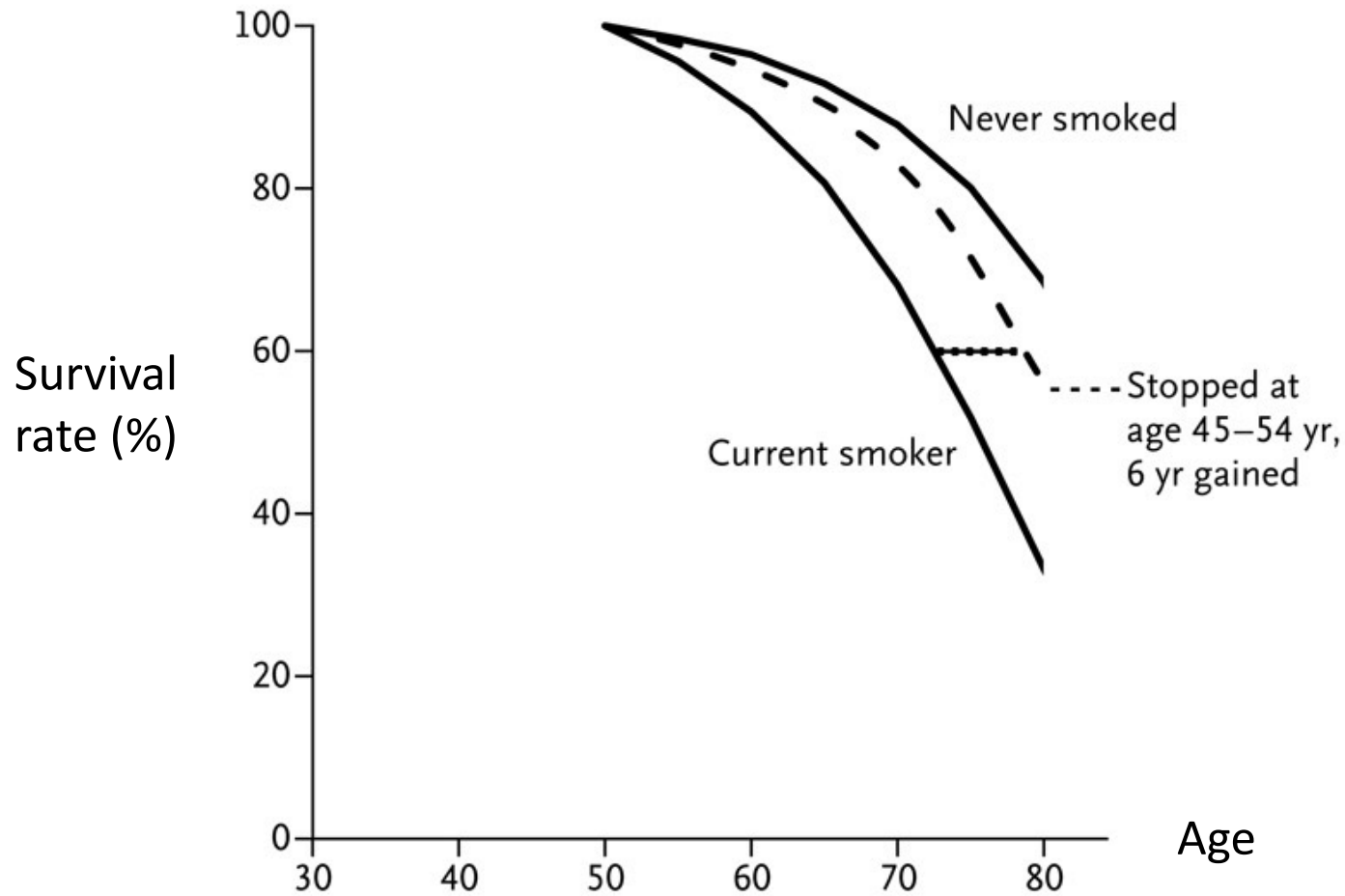
Source: Jha P et al., *New England Journal of Medicine*, 2013

...almost to that of someone who's never smoked.



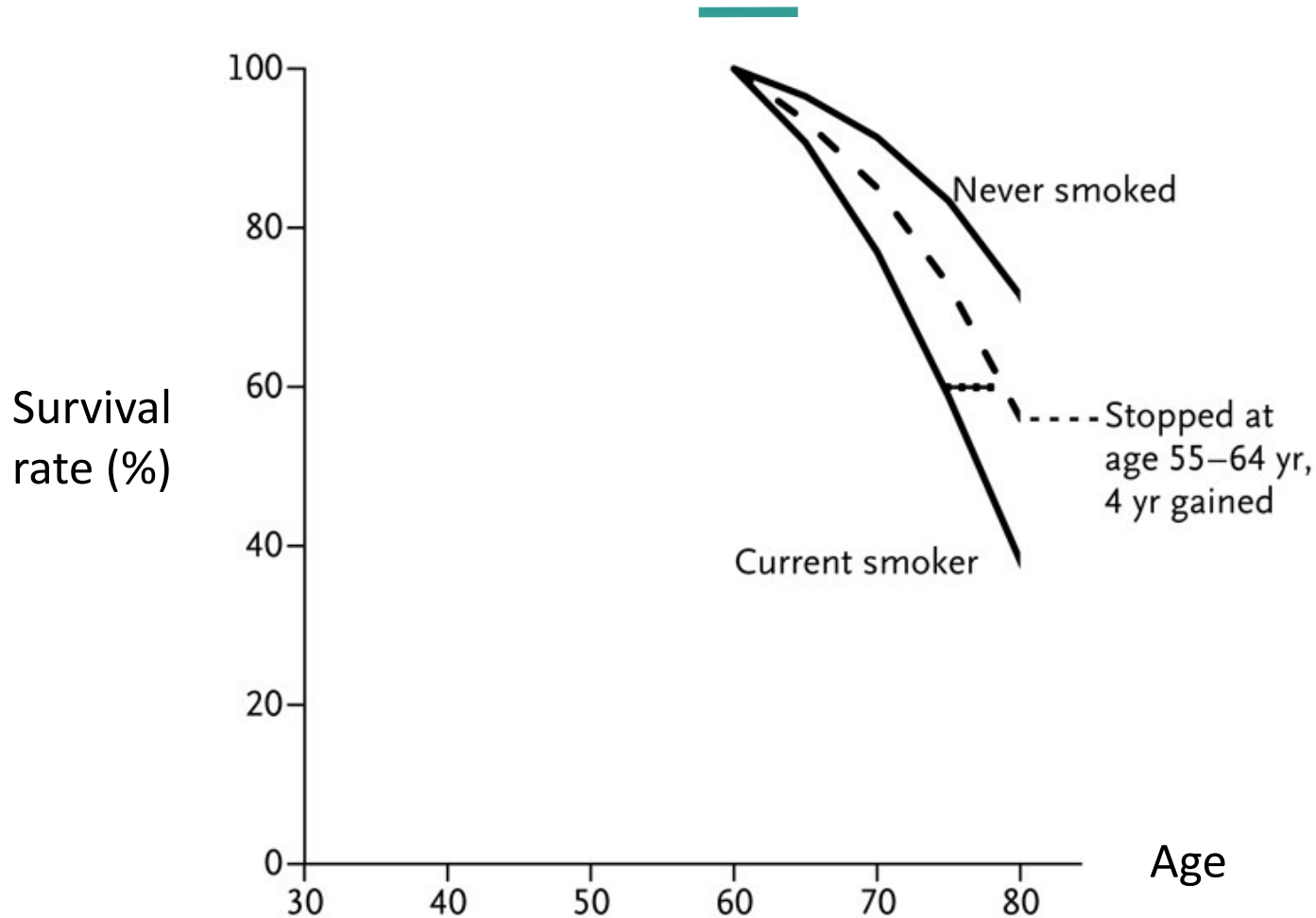
Source: Jha P et al., *New England Journal of Medicine*, 2013

The sooner someone quits, the better...



Source: Jha P et al., *New England Journal of Medicine*, 2013

...but it's never too late to quit!

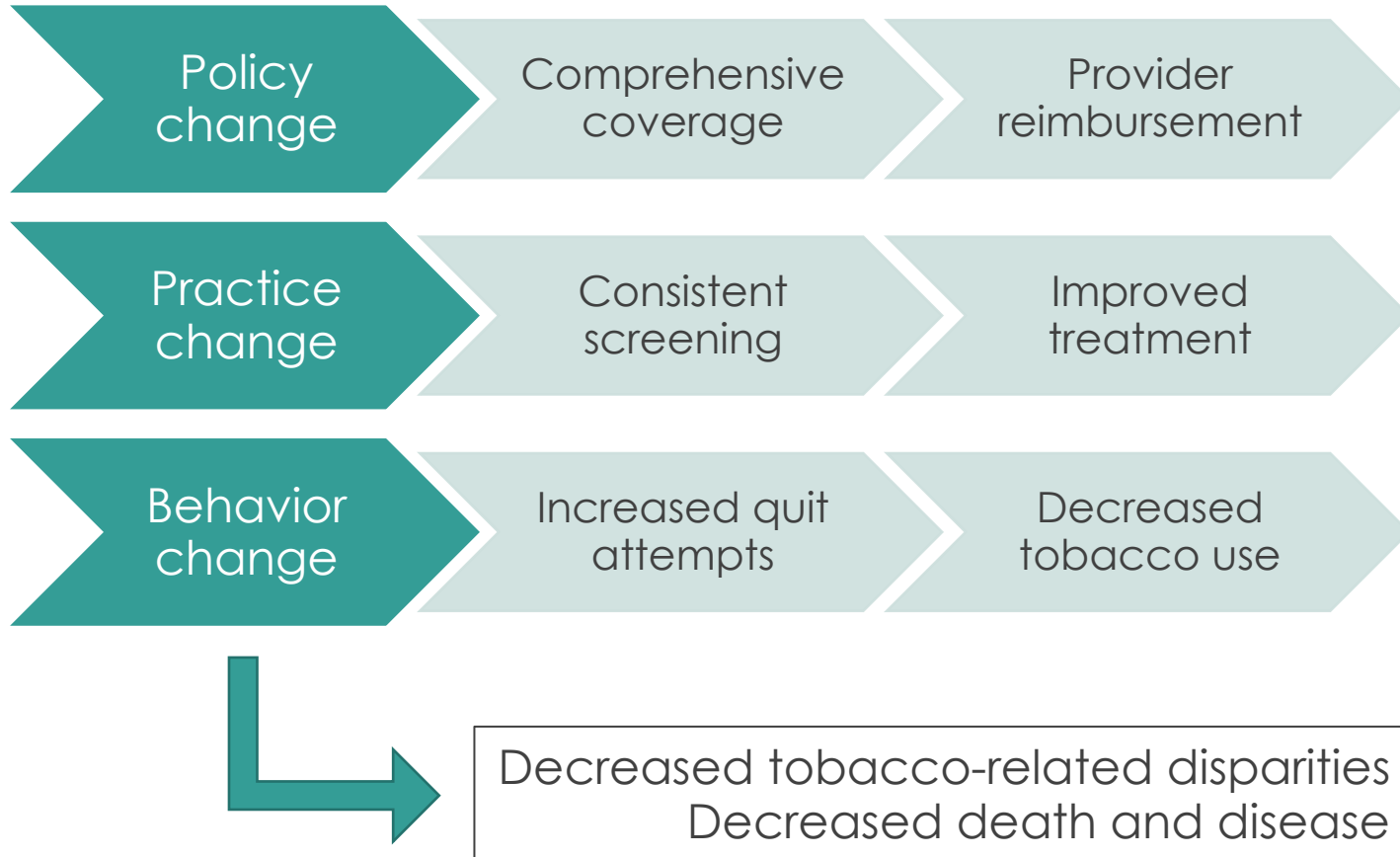


Source: Jha P et al., *New England Journal of Medicine*, 2013



STATE, FEDERAL, AND GLOBAL APPROACHES

The 'big picture'



Resources for Washington state residents

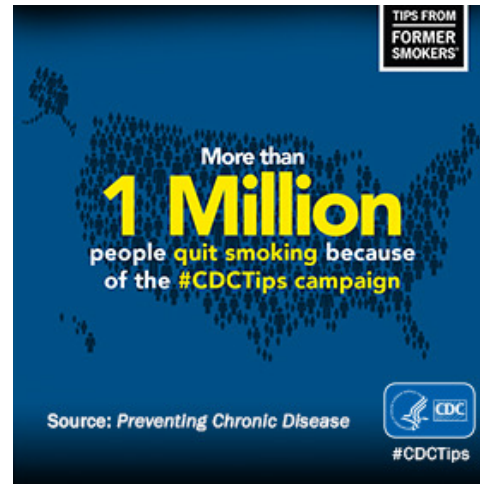
- Washington State Quitline
 - Cognitive Behavioral Therapy
 - Telephone counseling and medication
 - Free for uninsured and underinsured people
 - 2Morrow Health mobile app
 - Acceptance and Commitment Therapy
 - Lessons, progress tracking
 - Free for all Washingtonians
- *Both have tailored programs for youth and pregnant women*



Resources for Washington state providers

- Clinical Practice Guidelines
 - 5 A's: Ask-Advise-Assess-Assist-Arrange
 - Ask-Advise-Refer
- Tobacco Treatment Specialist trainings
- Washington State Quitline referrals
 1. Provider refers patient via fax, email, or quitline.com
 2. Quitline calls patient to enroll in program for which they are eligible (or warm handoff to other)
 3. Quitline sends referral outcome report to provider
- CDC *Tips*® campaign materials

CDC *Tips From Former Smokers*[®] campaign



Source: www.cdc.gov/tips

Global approach

- Framework Convention on Tobacco Control (FCTC)
- WHO Tobacco-free Initiative
- MPOWER
 - **M**onitor tobacco use and prevention policies
 - **P**rotect people from tobacco smoke
 - **O**ffer help to quit tobacco use
 - **W**arn about the dangers of tobacco
 - **E**nforce bans on tobacco advertising, promotion and sponsorship
 - **R**aise taxes on tobacco



Questions?

Contact



Nick Fradkin, MPH, MPA

Tobacco Treatment Consultant

Washington State Department of Health

nick.fradkin@doh.wa.gov



@WADeptHealth



For persons with disabilities, this document is available in other formats.
Please call 711 Washington Relay Service or email civil.rights@doh.wa.gov.