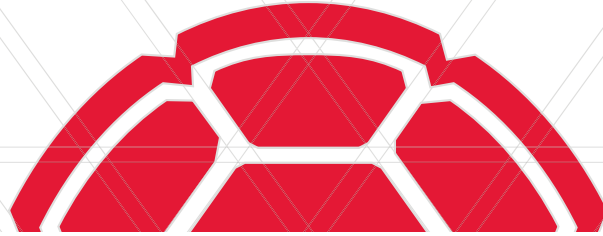




SCHOOL OF PUBLIC HEALTH



A SHIFT TO PREVENTION AND WELLNESS — CAN WE DO IT?

Boris D. Lushniak, MD, MPH

Rear Admiral, USPHS (Ret) • Dean and Professor, University of Maryland School of Public Health



SCHOOL OF
PUBLIC HEALTH

DISCLOSURE OF RELEVANT RELATIONSHIPS WITH INDUSTRY

Boris D. Lushniak, MD, MPH

- I do not have any relevant relationships with industry.
- No relationship with commercial supporters
- No off-label discussion of drugs or devices
- Work supported by
 - Since 1/2/2017 State of Maryland
 - From 1988 to 2016 US Government (DoD, DHHS, CDC, NIOSH, FDA, USPHS)



DISCLAIMER

The views expressed in this presentation are those of the author and do not reflect the official policy or position of the State of Maryland.



DEFINING HEALTH

Health: “A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (WHO Constitution)



PUBLIC HEALTH

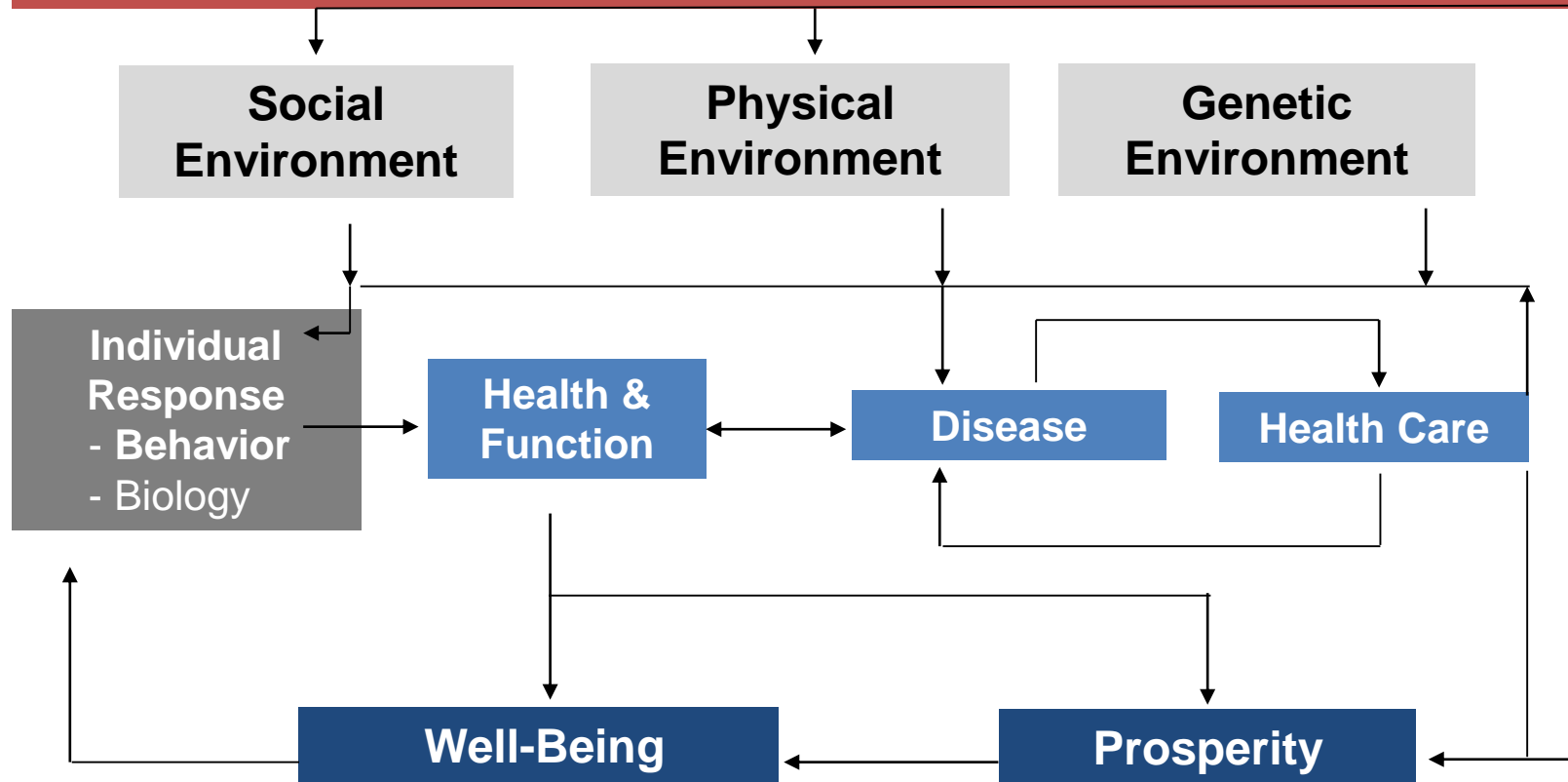
The science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals.

- CEA Winslow, 1920



Determinants of Health and Disease

Where and How We Live, Learn, Work, and Play



Evans, R. G., Barer, M. L., & Marmor, T. R. (1994)
Why Are Some People Healthy and Others Not?. New York: Aldine De Gruyter



\$3.2 TRILLION SPENT ON HEALTH CARE: 75% Attribute to Behaviors and Lifestyle Choices



"Give it to me straight, Doc. How long do I have to ignore your advice?"



WHAT HAPPENS WHEN WE EAT BETTER, DON'T SMOKE, INCREASE ACTIVITY AND LIMIT ALCOHOL?

Disease	Reduction Compared to U.S.	Comment
Heart Disease	64%*–83%**	80% due to modifiable risk factors
Cancer	60%*	Approximates NCI estimates
Diabetes	91%**	No type 2 epidemic
All-cause Mortality	50%*	

* Knooks et al and **Rimm, Stampfer, JAMA 2004;292:1433-1439



OUR ROLE IN PRESCRIBING HEALTH



“If we had a pill that conferred all the proven health benefits of exercise, physicians would prescribe it to every patient and our healthcare system would find a way to make sure every patient had access to this wonder drug.”
(Exercise is Medicine)

*Robert E. Sallis, MD, FACSM, FAAFP



SCHOOL OF
PUBLIC HEALTH

10 GREAT PUBLIC HEALTH ACHIEVEMENTS — US 1900-1999

- Vaccination
- Motor-vehicle safety
- Safer workplaces
- Control of infectious diseases
- Decline in deaths from heart disease and stroke
- Safer and healthier foods
- Healthier mothers and babies
- Family planning
- Fluoridation of water
- **Recognition of tobacco as a health hazard**

MMWR 1999 Apr 2;48(12):241-3.



Fredric March says—

THIS IS IT

"L&M FILTERS ARE JUST WHAT THE DOCTOR ORDERED!"

When I read Dr. Darkin's letter I tried L&M Filters. I'm really enthusiastic about them. They're a wonderful smoke—with a filter that really does the job. I'm sure you'll like them as much as I do.

Fredric March



Light and Mild
MUCH MORE FLAVOR
MUCH LESS NICOTINE

ONLY L&M FILTERS GIVE YOU ALL THIS...

1. Effective Filtration—the L&M Filter's unique Filter Material—Alpha Cellulose. Effective on L&M Filters, and exactly pure and harmless to health.
2. Selective Filtration—the L&M Filter selects and removes the heavy particles, leaving you a light and mild smoke.
3. Much Less Nicotine—the L&M Filter's unique material leaves you all the satisfaction and pleasure of the smoke, leaves you all the satisfaction and pleasure of the smoke, leaves you all the satisfaction and pleasure of the smoke.
4. Much More Flavor and Aroma. At last a filter tip cigarette with plenty of good taste. Reason—L&M Filter's permits quality tobaccos, a blend which includes special aromatic types.



FILTER TIP Cigarettes



He's one of the busiest men in town. While his door may say *Office Hours 2 to 4*, he's actually on call 24 hours a day. The doctor is a scientist, a diplomat, and a friendly sympathetic human being all in one, no matter how long and hard his schedule.

According to a recent Nationwide survey:

MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

DOCTORS in every branch of medicine—113,597 in all—were queried in this nationwide study of cigarette preference. Three leading research organizations made the survey. The gist of the query was—What cigarette do you smoke, Doctor? The brand named most was Camel! The rich, full flavor and cool mildness of Camel's superb blend of costlier tobaccos seem to have the same appeal to the smoking tastes of doctors as to millions of other smokers. If you are a Camel smoker, this preference among doctors will hardly surprise you. If you're not—well, try Camels now.



Your "T-Zone" Will Tell You...



T for Taste...
T for Throat...
that's your proving ground for any cigarette. See if Camels don't suit your "T-Zone" to a "T."

CAMELS

Costlier Tobaccos

The figures quoted have been checked and certified to by LYREANO, ROSS, BROS. AND MONTGOMERY, Accountants and Auditors.

20,679* Physicians say "LUCKIES are less irritating"

"It's toasted"

Your Throat Protection against irritation against cough



SCHOOL OF PUBLIC HEALTH



American Everest Expedition
May 1963



EVEREST 1963

“The smokers were horrified to discover that, instead of the expected 60,000 cigarettes, there were only 6,000; and everyone knows you can’t climb a mountain on that little nicotine.”

- James Ullman, 3/13/63



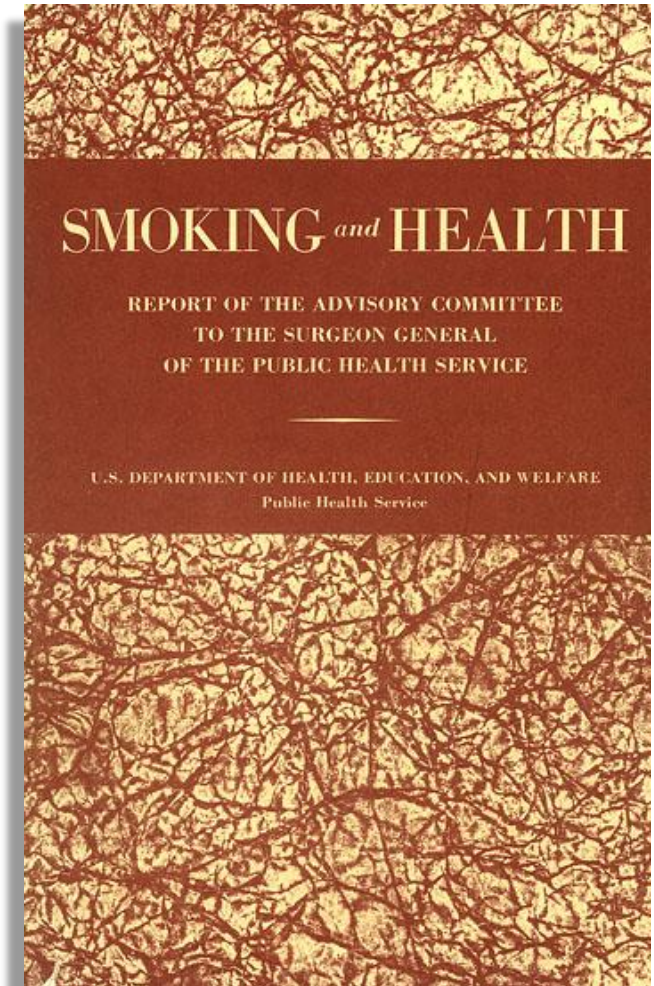


**Surgeon General
Luther Terry**

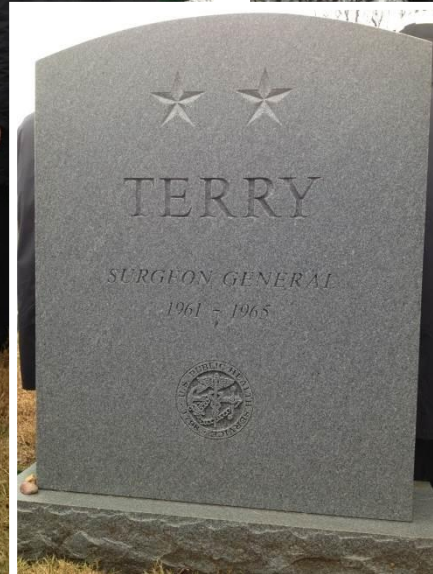


SURGEON GENERAL'S REPORT ON SMOKING AND HEALTH

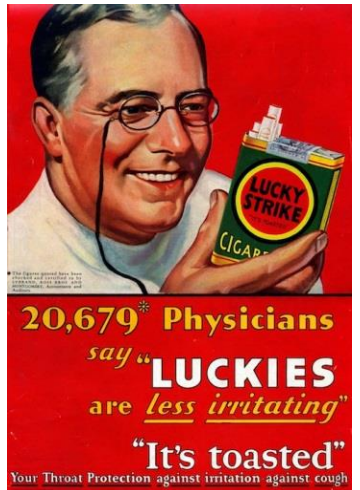
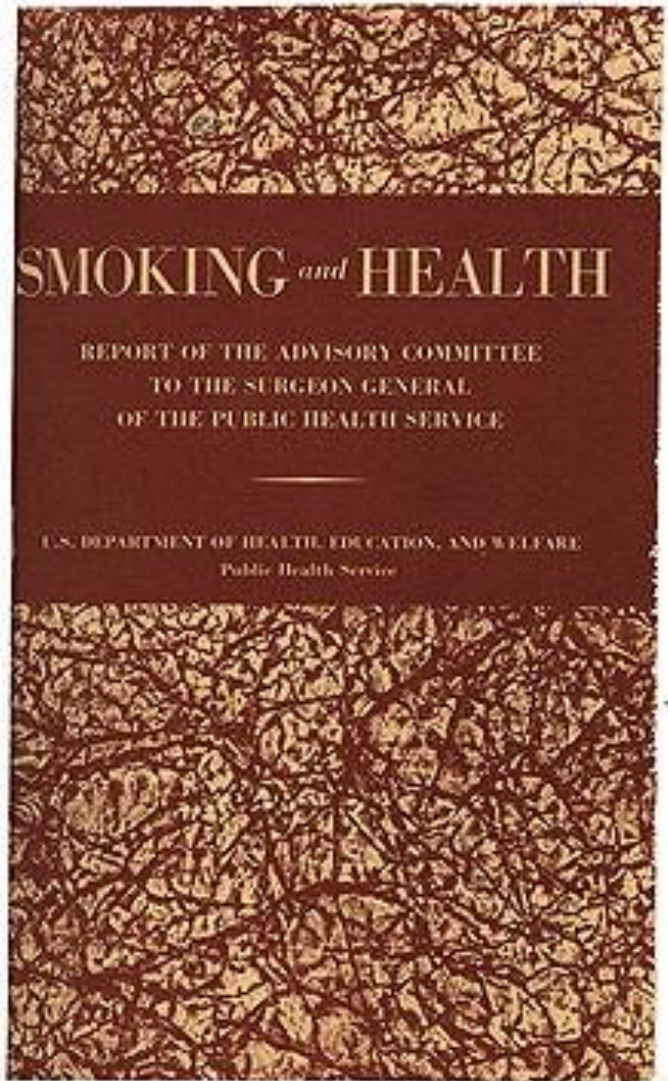
- Released in January 1964
- Identified smoking as a cause of lung cancer in men
- “Cigarette smoking is a health hazard of sufficient importance in the US to warrant appropriate remedial action.”



JANUARY 11, 2014



SCHOOL OF
PUBLIC HEALTH



SCHOOL OF
PUBLIC HEALTH

HEALTH EFFECTS OF TOBACCO USE

- Thirty two SG Reports on Smoking and Health released (1964-2014)
- Produced growing evidence of health effects from smoking and second hand smoke
 - Heart disease
 - Chronic obstructive pulmonary disease
 - Cancers
 - Pregnancy complications
 - Pediatric diseases



KEY SG REPORTS 1964-2014

- 1980, 2001 – women and smoking
- 1986, 2006 – involuntary smoking
- 1988 – nicotine addiction
- 1989 – 25 years of progress
- 1994, 2012 – young people and tobacco use
- 1998 – racial and ethnic minorities
- 2010 – biology and behavioral basis
- 2014 – 50 years of progress



**50th ANNIVERSARY
SURGEON GENERAL'S
REPORT ON SMOKING
AND HEALTH**



50th ANNIVERSARY SG REPORT

- Report released at the White House 1/17/2014
- 5 years, 85 authors, 120 reviewers, 983 pages
- Report covers three major topics:
 - Historical and trend information on tobacco use over last 50 years
 - New findings on health effects of smoking
 - Call to action—how we can end the continuing tobacco use epidemic

ENOUGH IS ENOUGH!



50th ANNIVERSARY SG REPORT



MAJOR POINTS FROM THE 50th ANNIVERSARY REPORT (1)

- Over **20 million premature deaths** since the first report
 - 480,000 annual deaths
- Remains single largest cause of preventable disease and death
- 8 million lives saved since 1964
- 45 million smokers (18%)
 - 3 million youth smoke
- Economic burden of \$289 billion
 - Direct costs \$130 billion (60% from public funds)



MAJOR POINTS FROM THE 50th ANNIVERSARY REPORT (10)

For 50 years Surgeon Generals' reports on smoking and health have provided a critical scientific foundation for public health action directed at reducing tobacco use and preventing tobacco-related disease and premature death



55 YEARS

- **1964** – 42% smoke
- **1966** – warning labels
- **1967** – public service announcements to counter tobacco ads
- **1969** – phase out of ads on TV and radio
- **1970** – 37% smoke
- **1970** – ban on ads on TV and radio and strengthened warning label



55 YEARS

- **1971** – last cigarette ad runs (Tonight Show)
- **1972** – SG Report discusses secondhand smoke
- **1973** – Arizona restricts smoking in some public places
- **1975** – no cigarette rations to troops
- **1980** – 33% smoke
- **1988** – California first tobacco tax for tobacco control programs



55 YEARS

- **1990** – 26% smoke
- **1990** – domestic airlines smoke free
- **1990** – San Luis Obispo passes first smoke free restaurant law
- **1991** – NCI supports tobacco control programs in 17 states
- **1992** – EPA classifies secondhand smoke as carcinogen



55 YEARS

- **1993** – White House smoke free
- **1994** – Mississippi files first lawsuit against US tobacco
- **1994** – Seven tobacco execs testify in Congress that nicotine is not addictive
- **1995** – California first statewide smoke free bar and restaurant law
- **1998** – 46 states and 4 tobacco companies sign Tobacco Master Settlement Agreement



55 YEARS

- **1999** – DOJ files suit against industry for deceiving Americans
- **1999** – CDC launches tobacco control programs in 50 states
- **1999** – bans of outdoor and transit billboard ads
- **2000** – 23 % smokers
- **2003** – WHO adopts first international tobacco control treaty
- **2006** – Federal court ruled US tobacco deceiving Americans (racketeering)



55 YEARS

- **2009** – Tobacco Control Act and biggest federal excise tax
- **2010** – 19% smokers
- **2010** – half of US states have smokefree laws
- **2012** – CDC launches “Tips from Former Smokers” ad campaign
- **2014** – 18% smokers
- **2014** – FDA launches “The Real Cost” ad campaign
- **2014** – CDC releases Best Practices for Comprehensive Tobacco Control Programs
- **2015** – 15% smokers
- **2016** – FDA Deeming Rule
- **2017** – 14% smokers (17.2% NC)



NATIONAL PREVENTION STRATEGY



VISION

Working together to improve the health and quality of life for individuals, families, and communities by moving the nation from a focus on sickness and disease to one based on prevention and wellness.

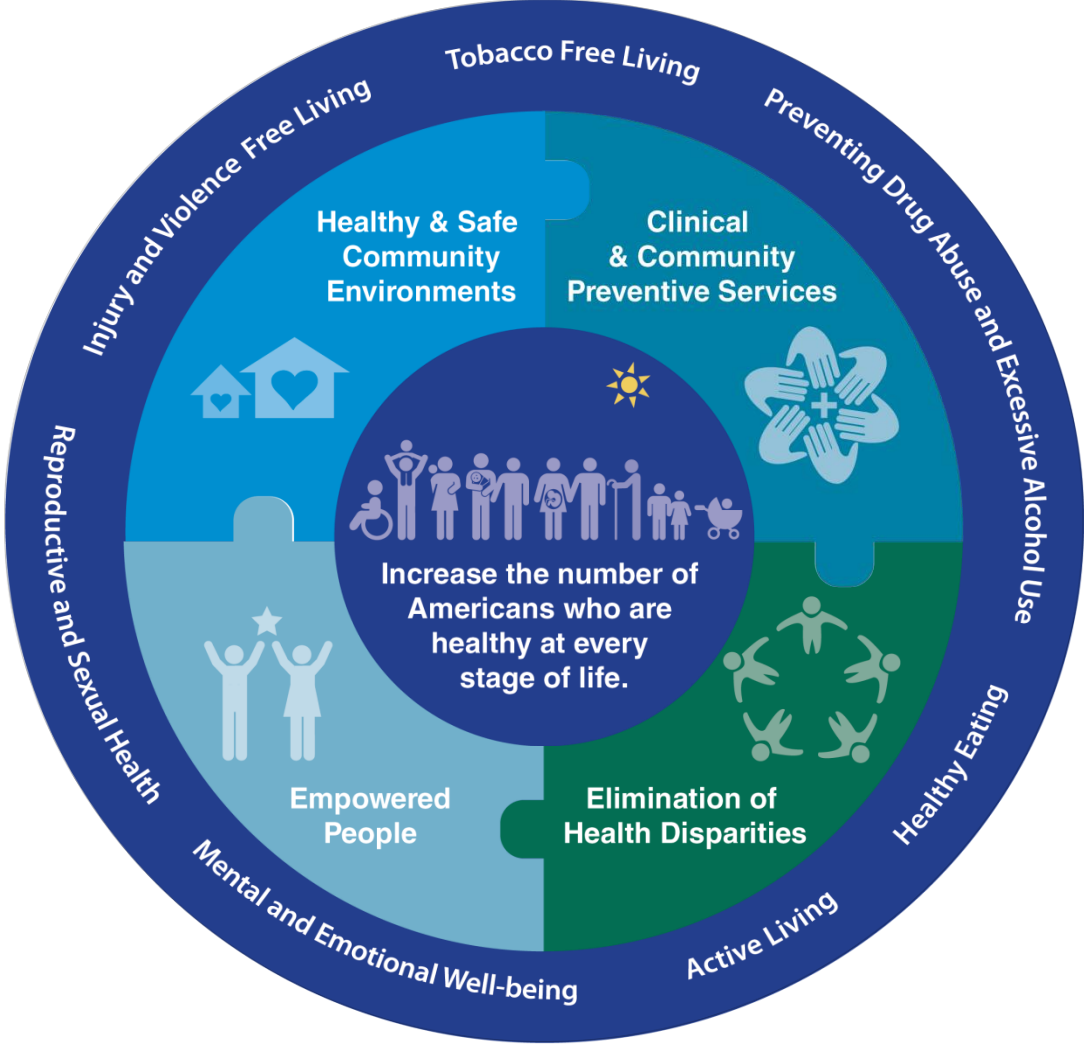


PARTNERS IN PREVENTION

- Federal government
- State, tribal, local and territorial governments
- Businesses and employers
- Health care systems, insurers, clinicians
- Education (early learning centers, schools)
- Community and faith-based organizations
- Individuals and families
- Roles – policy maker, purchaser, employer, funder, data collector and researcher, health care provider, communicator and educator



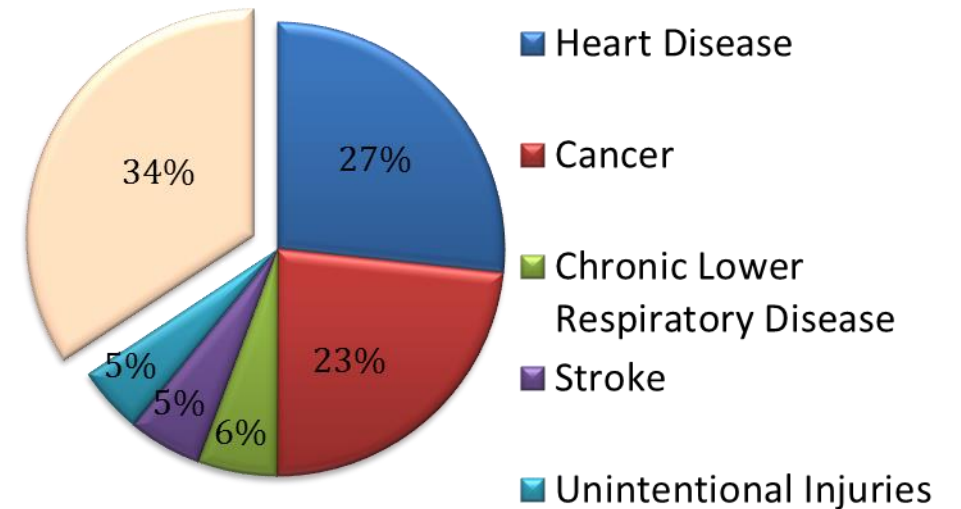
NATIONAL PREVENTION STRATEGY



NPS PRIORITIES

- Tobacco Free Living
- Preventing Drug Abuse and Excessive Alcohol Use
- Healthy Eating
- Active Living
- Injury and Violence Free Living
- Reproductive and Sexual Health
- Mental and Emotional Well-being

**Five Causes Account For
66% of All Deaths**



Source: National Vital Statistics Report, CDC, 2008



PHYSICAL ACTIVITY GUIDELINES, 2nd EDITION

- HHS/Office of Disease Prevention and Health Promotion, CDC, NIH, President's Council on Fitness, Sports, and Nutrition
- 2016 - Physical Activity Guidelines Advisory Committee
- 2017/18 – Cmte issues its scientific advisory report to HHS
- Public and agency comments
- November 12, 2018 – new guidelines issued



PHYSICAL ACTIVITY GUIDELINES FOR AMERICANS 2018

- Primary audience – policy makers, health professionals, public
- Complements *Dietary Guidelines for Americans*
- Main idea – regular physical activity can produce long-term health benefits
- Evidence-base recommendations
- New guidelines ages 3-5
- Updated guidelines for youth ages 6-17, adults, older adults, safe physical activity, women during pregnancy and postpartum, adults with disabilities, people with chronic medical conditions



CURRENT ADHERENCE TO GUIDELINES

- Only 26% of men, 19% of women, 20% of adolescents meet the recommendations
- \$117 billion in annual healthcare costs and 10% of all premature mortality attributable to failure to meet guidelines



NOTABLE UPDATES

- All activity counts (not just 10-minute or more bouts)
- Immediate health benefits from a single bout (reduced anxiety and BP, improved sleep, improved insulin sensitivity)
- More long-term benefits (improved brain health, reduced risk of 8 types of cancer [previously 2], reduced risk of fall-related injuries in older adults, reduced risk of excessive weight gain)
- Helps manage more chronic health conditions (arthritis, hypertension, diabetes, anxiety, depression, improved cognition)



KEY GUIDELINES FOR PRESCHOOL-AGED CHILDREN (3-5)

- Be physically active throughout the day to enhance growth and development
- Adult caregivers should encourage active play that includes a variety of activity types



KEY GUIDELINES FOR YOUTH AGES 6-17

- 60 minutes or more of physical activity daily.
- Aerobic: Most should be either moderate- or vigorous-intensity aerobic physical activity, and should include vigorous-intensity physical activity at least 3 days a week.
- Muscle-strengthening: at least 3 days of the week.
- Bone-strengthening: at least 3 days of the week.
- It is important to encourage young people to participate in physical activities that are appropriate for their age, that are enjoyable, and that offer variety.



KEY GUIDELINES FOR ADULTS

- Avoid inactivity — Some physical activity is better than none
- At least 150-300 minutes a week of moderate-intensity
- Or 75-150 minutes a week of vigorous-intensity aerobic physical activity
- Or an equivalent combination of moderate- and vigorous intensity aerobic activity
- Additional health benefits are gained by engaging in physical activity beyond this amount.
- Do muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits.



KEY GUIDELINES DURING PREGNANCY AND POST-PARTUM

- At least 150 minutes a week of moderate-intensity
- For those who were physically active before pregnancy can continue vigorous-intensity activity
- Consult with health care provider through pregnancy



KEY GUIDELINES FOR OLDER ADULTS, CHRONIC HEALTH CONDITIONS, DISABILITIES

- Same as for adults
- But add balance training
- Determine level of effort relative to their fitness
- Understand how chronic conditions affect ability to do activity safely
- If 150 minutes not do-able because of chronic conditions or disability then be as active as possible



IMPLEMENTATION

- *Move Your Way* campaign
- www.health.gov/moveyourway
- Walk. Run. Dance. Play. What's your move?



BENEFITS OF PHYSICAL ACTIVITY LOWERS THE RISK IN CHILDREN AND ADOLESCENTS

- Improve bone health
- Improve weight status
- Improve cardiorespiratory and muscular fitness
- Improve cardiometabolic status
- Reduce symptoms of depression
- Improve cognitive skills
 - Improve ability to concentrate and pay attention



BENEFITS OF PHYSICAL ACTIVITY LOWERS THE RISK IN ADULTS

- Lowers all-cause mortality and cardiovascular mortality
- Lowers heart disease, stroke, hypertension, type 2 diabetes, adverse lipid profile
- Lowers risk of cancer : breast, colon, bladder, endometrium, esophagus, kidney, lung, stomach
- Reduced risk of falls and injuries
- Reduced risk of dementia, anxiety, depression, Depression
- Improved brain health/cognition, sleep, quality of life
- Slows or reduces weight gain; weight loss
- Improved bone health and physical function



FACTORS POSITIVELY ASSOCIATED WITH ADULT PHYSICAL ACTIVITY

- Postsecondary education
- Higher income
- Enjoyment of exercise
- Expectation of benefits
- Belief in ability to exercise (self-efficacy)
- History of activity in adulthood
- Social support from peers, family, or spouse
- Access to and satisfaction with facilities
- Enjoyable scenery
- Safe neighborhoods

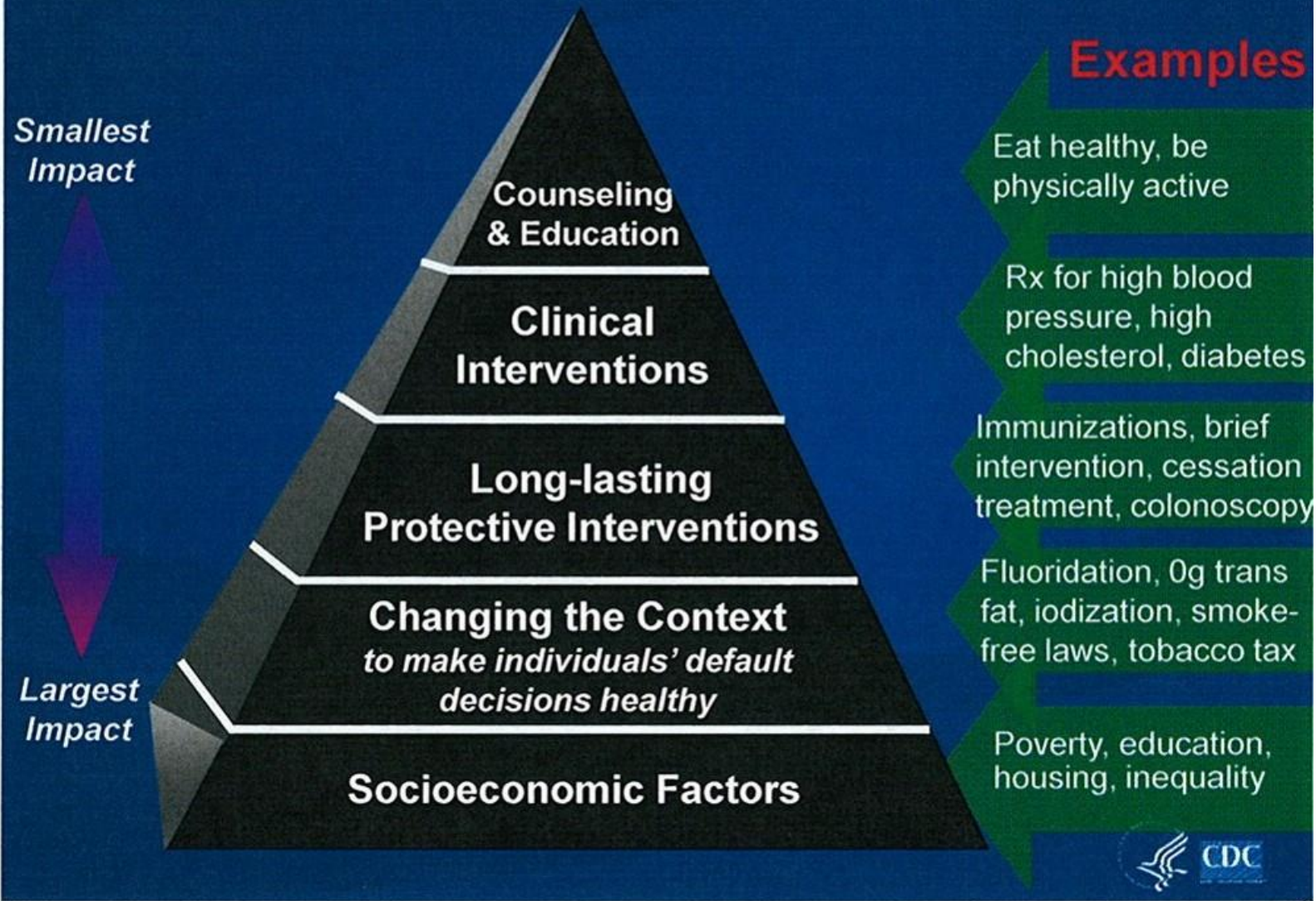


FACTORS NEGATIVELY ASSOCIATED WITH ADULT PHYSICAL ACTIVITY

- Advancing age
- Low income
- Lack of time
- Low motivation
- Rural residency
- Perception of great effort needed for exercise
- Overweight or obesity
- Perception of poor health
- Being disabled



Factors that Affect Health



MONROVIA MEDICAL UNIT USPHS FEB. 27, 2015





SCHOOL OF
PUBLIC HEALTH



SCHOOL OF
PUBLIC HEALTH



SCHOOL OF
PUBLIC HEALTH



SCHOOL OF
PUBLIC HEALTH

10 GREAT PUBLIC HEALTH ACHIEVEMENTS – US 2000-2099

- Elimination of tobacco as a health hazard

MMWR 2099??? Apr 2;48(12):241-3.???



SCHOOL OF
PUBLIC HEALTH