

## **Public Health: Good Health, Good Life!**

### **Ten Greatest Public Health Achievements in the United States, 1901-2010**

During the 20th century, average life expectancy in the US rose from 47.3 years in 1900 to 76.8 years in 2000, a 62% increase. Of that increase, 25 years can be attributed to public health measures. Many former leading causes of death have been controlled.

These achievements came about because when health problems were identified, communities, health care providers, public health professionals and policymakers worked together to make a difference.

Medical care typically treats illnesses after someone is sick, but public health attempts to prevent the illness in the first place. This “upstream” approach save lives and is very cost-effective.

#### ➤ Vaccination

- In the early 1900s, smallpox, diphtheria, measles and pertussis (whooping cough) killed thousands of people each year
- Now vaccine-preventable diseases are at record low levels
- Smallpox eradicated worldwide, polio eliminated in the Americas
- World Health Organization seeks total elimination of polio in 2015

Immunization requirements have been the driving force behind the reduction in these diseases.

- All major medical organizations support the requirements.

#### ➤ Control of Infectious Diseases

- At the beginning of the 20th century, infectious diseases took many lives, especially among children
- Pneumonia, tuberculosis and diarrhea were the top 3 causes of death in 1900
- Very few prevention measures or treatments were available to control the spread of diseases

Rates of these and many other communicable diseases have dropped, and only influenza/pneumonia is in the top ten causes of death. This is a result of:

- Clean drinking water standards
- Improved sanitation for milk, food and sewage disposal standards
- Vaccinations
- Animal control regulations and services
- Improvements in laboratory testing
- Antibiotic treatments

➤ Safer and Healthier Foods

- Contaminated food, milk, and water caused many foodborne infections, including typhoid fever, tuberculosis, botulism, trichinosis and scarlet fever
- Today, the most common contaminants are E. Coli 0157, Staphylococcus, Campylobacter, Listeria and Salmonella

Improvements in technology and strong food safety regulations have drastically lowered the risk, but bacteria and viruses are still present in food and must be controlled.

- Product labeling standards, refrigeration and pasteurization
- Handwashing, sanitation, temperature controls and pesticide application
- Healthier animal care, feeding, and processing
- All of these standards are enforced through regulations on food processing, retail sales and restaurants
- A strong inspection program is an important part of the process

Mistakes are made—local public health agencies must maintain vigilance through inspections, food recall enforcement, disease surveillance and outbreak detection

- Mass food production and distribution means more multi-state outbreaks and food recalls

➤ Healthier Mothers and Babies

- In 1900, only 41% of newborns survived to age 65; in 1991, 80% survived to age 65
- Maternal death rates were high, with about 40% caused by sepsis (half after delivery and half associated with illegally induced abortion) and the rest attributed to hemorrhage and toxemia

Progress during the 20th century

- Infant mortality decreased by 90% and maternal deaths by 99%
- Better hygiene and nutrition
- Safe drinking water and waste disposal
- Safe milk supplies, pasteurization
- Longer spacing of pregnancies, smaller families
- Early entry into prenatal care
- Management of pregnancies
- Safe delivery in general hospitals
- Public health measures (new vaccines, Back to Sleep, folic acid supplementation of grains and cereals)

But problems still remain

- US still has higher maternal and infant mortality rates than other countries, and rates are higher for black women and infants

- Incidence of low birth weight (LBW) babies has not decreased in recent decades

➤ Decline in Deaths from Coronary Heart Disease and Stroke

- Although still the #1 killer, the cardiac death rate is 50% less than in 1900
- Death rates from coronary heart disease have decreased 51% since 1972

Diagnosis, better nutrition and prevention and treatment are the keys

- risk-factor modification (diet, exercise, cholesterol reduction)
- smoking cessation
- blood pressure control
- access to early detection and better treatment.

These gains are now at risk due to increasing rates of obesity (children and adults), physical inactivity and diabetes.

➤ Recognition of Tobacco Use as a Health Hazard

- US adult cigarette smoking decreased from 24% (1998) to 19% (2010)
- US teen cigarette smoking decreased from 35% (1999) to 16% (2011)
- States with strong smoke-free laws grew from zero (1998) to 31 (2012)

Tobacco use has decreased due to:

- Public awareness campaigns
- Restrictions on smoking in workplaces and public places
- Availability of smoking cessation services
- Higher taxes on tobacco that discourage teen smoking

Missouri's tobacco use is high:

- 24% for adults (7<sup>th</sup> highest in 2012) and 18% for teens
- We are in the bottom 11 states for clean indoor air, given an "F" rating by the American Lung Association
- Lowest tobacco taxes in the nation

➤ Fluoridation of Drinking Water

- Began in 1945 and reached an estimated 144 million people (2000)
- 72.4% of the US population has fluoridated water
- Safely and inexpensively prevents tooth decay (regardless of socioeconomic status)
- Reduction of tooth decay in children by 40-70%
- Reduction of tooth loss in adults by 40-60%
- In Missouri, more than 3.9 million citizens (79.8%) have access to fluoridated water.
- Missouri ranks 21st in the nation for water fluoridation

➤ Motor Vehicle Safety

Driving More--

- Driving in the United States grew by 151 percent between 1977 and 2001, 3 times faster than the population. The average length of car trips, the number of car trips per capita, and the proportion of drivers traveling alone all increased too.
- The number of miles driven went up 8.5% from 2000 to 2009

But injuries and deaths have gone down--

- Annual death rates due to traffic accidents 2000-2009 decreased from 14 to 11 per 100,000 population
- Injury rate declined from 1,130 to 722 per 100,000

How has this happened?

- Improved design of streets, highways and bridges, thanks to public health data collection that helped to pinpoint the causes of traffic injuries and fatalities
- Use of car seats, booster seats and seatbelts
- Motorcycle helmets--according to CDC, in 2008, helmets saved over 1,800 riders' lives, but about 800 more lives could have been saved if all riders had worn helmets

➤ Safer Workplaces

- The Occupational Safety and Health act requires employers to provide workplaces free from recognized hazards likely to cause death or serious physical harm. Federal and state agencies set health and safety standards and conduct workplace inspections.

From 1980-2009 safer workplaces resulted in a 40% decrease in fatal occupational injuries

- 6% reduction in workers compensation claims and lost workdays
- 35% decline in low back injuries
- 56% decline in youth farm injury

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