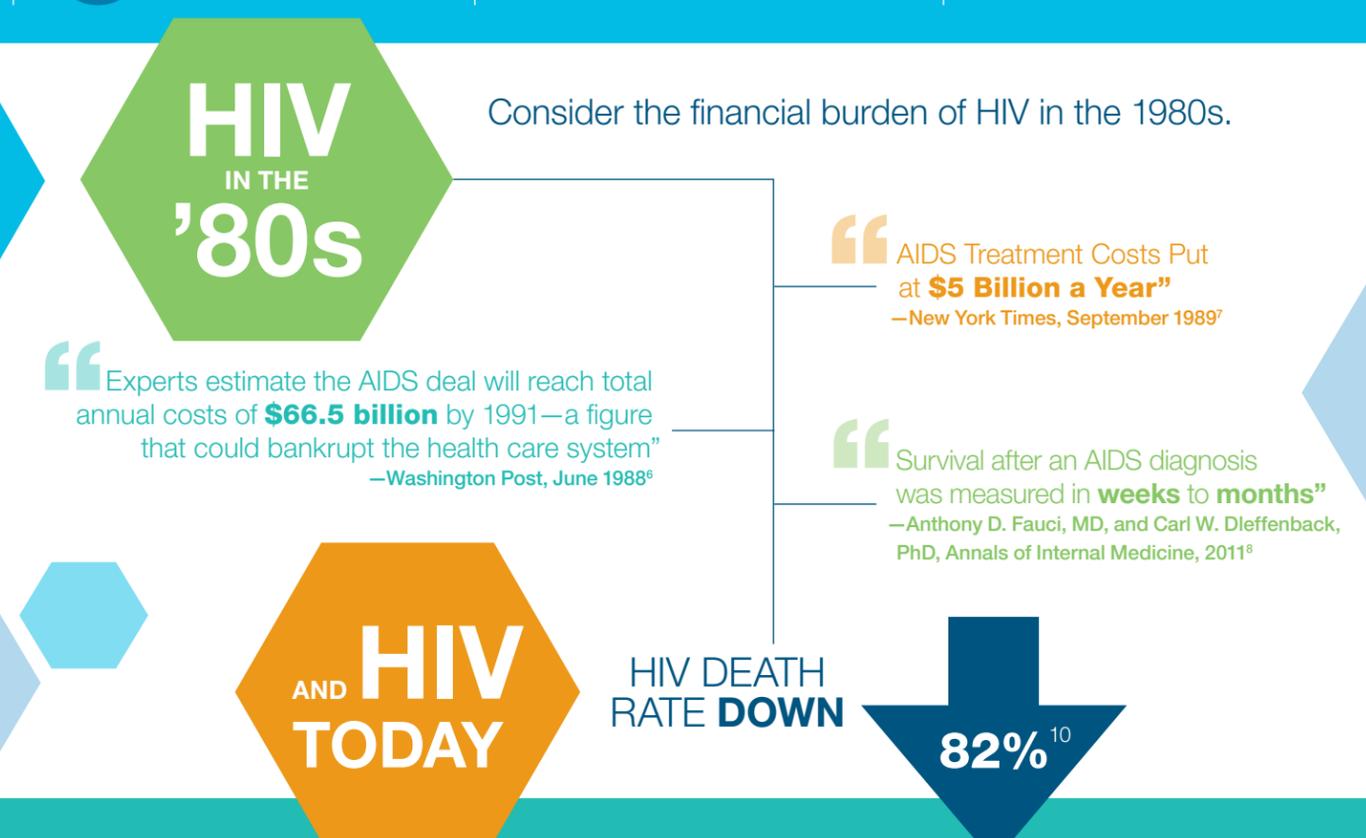# The Real Value of Innovative Medicine

In order to create a sustainable health care system, it's important for all stakeholders to holistically look at the burden and overall cost of disease—not just the cost of the critical interventions. If we don't account for the value of medicine, we're not looking at the full picture.
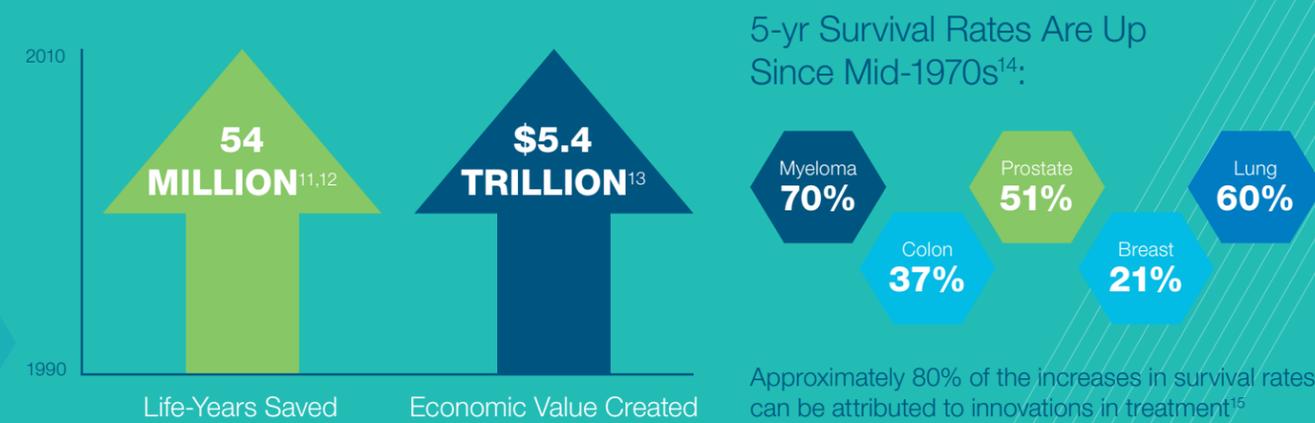
The challenge we face in addressing health care spending is that many stakeholders view the problem from a narrow silo or focus on the short-term financial or budget impact of paying for innovation.

But it's critical that we address the real problem— the rising cost of disease.

CARDIOVASCULAR DISEASE

CAUSES 1/3 DEATHS IN THE U.S.[1]

In 2011, cardiovascular disease was estimated to cost the U.S. **$320 billion** (and could be as high as **$656 billion,** based on projections for 2015)[1]

#1 KILLER in the U.S. with **1 DEATH EVERY 40 SECONDS**[1]

CANCER

2nd leading cause of death in the U.S.[2]

Kills over **500,000** Americans each year[2]

Every **1% reduction** in the long-term cancer-related death rate yields **$500 billion** for society[9]

ALZHEIMER'S DISEASE

Impacts **5.3 MILLION** Americans[4]

Projected to cost more than **$450 BILLION** by 2030 & **$1.1 TRILLION** by 2050[5]

HIV IN THE '80s

Consider the financial burden of HIV in the 1980s.

"Experts estimate the AIDS deal will reach total annual costs of **$66.5 billion** by 1991—a figure that could bankrupt the health care system"
—Washington Post, June 1988[6]

"AIDS Treatment Costs Put at **$5 Billion a Year**"
—New York Times, September 1989[7]

"Survival after an AIDS diagnosis was measured in **weeks to months**"
—Anthony D. Fauci, MD, and Carl W. Dieffenback, PhD, Annals of Internal Medicine, 2011[8]

AND HIV TODAY

HIV DEATH RATE **DOWN** **82%**[10]

Despite focus on the high cost of cancer treatments, we're making

CRITICAL BREAKTHROUGHS IN CANCER

Innovators only captured 5%–9% of the **$1.9 trillion** of economic value generated through people living longer, healthier, more productive lives.[9]

54 MILLION[11,12]
Life-Years Saved

$5.4 TRILLION[13]
Economic Value Created

2010
1990

5-yr Survival Rates Are Up Since Mid-1970s[14]:

Myeloma **70%**
Colon **37%**
Prostate **51%**
Breast **21%**
Lung **60%**

Approximately 80% of the increases in survival rates can be attributed to innovations in treatment[15]

AMGEN®

Innovation requires the power to explore and the time to stimulate change. Innovative biopharmaceuticals are part of the solution to the significant burden of cancer, cardiovascular and other serious diseases that impact patients and society.

SO WHAT ARE *WE* DOING?

To address some of health care's most pressing challenges, Amgen uses insights from human genetics and biology to innovate biologics and decrease the cost and burden of disease. We are also actively working to:

• Evolve manufacturing to drive cost down through innovation
• Speed up and reduce the cost of bringing new innovative drugs to market
• Develop innovative new technologies to engage patients/providers to ensure optimal value is derived from our product
• Partner to improve overall population health
• Serve as a leading manufacturer of high-quality and reliably supplied biosimilars
• Understand the importance of precision medicine to ensure the right patients receive the right treatment, at the right time

Precision medicine is important to ensure the right patients receive the right treatment, at the right time. At Amgen, we more than understand this. We believe in it.

[1] Mozaffarian D, Benjamin EJ, Go AS, et al; on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics-2015 update: a report from the American Heart Association. *Circulation.* 2015;131:e29-e322. [2] CDC. Fast Facts: Leading Causes of Death. Available at: http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm. Accessed August 12, 2015. [3] Murphy KM and Topel RH. The Value of Health and Longevity. *J Political Econ* 2006: 114(5):871-904. [4] Alzheimer's Association. 2015 Alzheimer's disease facts and figures. *Alzheimer's & Dementia* 2015;11(3)332. [5] Alzheimer's Association. Changing the Trajectory of Alzheimer's Disease: How a Treatment by 2025 Saves Lives and Dollars. Chicago, IL. 2015. [6] Kawata P. The Big Deal about AIDS. *Washington Post.* June 1988. [7] Hilts PJ. AIDS Treatment Costs Put at $5 Billion a Year. *New York Times.* September 1989. [8] Dieffenbach CW, Fauci AS. Thirty Years of HIV and AIDS: Future Challenges and Opportunities. *Ann Intern Med.* 2011;154(11):766-771. [9] Goldman D, Lakdawalla D, Philipson T. The Economic Value of Medical Innovation. Santa Monica: Milken Institute. August 2012. [10] National Center for Health Statistics. Health, United States, 2014: With Special Feature on Adults Aged 55–64. Hyattsville, MD. 2015. [11] Mariotto AB, Yabroff, KR, Shao Y, et al. *J Natl Cancer Inst.* 2011;103:117-128. [12] Lakdawalla, Darius N., Eric C. Sun, Anupam B. Jena, Carolina M. Reyes, Dana P. Goldman, Tomas J. Philipson. "An Economic Evaluation of the War on Cancer." *Journal of Health Economics* 29 (2010): 333-346. [13] Cutler DM, McClellan M. Is Technological Change In Medicine Worth It? *Health Affairs.* 2001;20:11-29. [14] National Cancer Institute. SEER. Cancer Stat Fact Sheets. Available at: http://seer.cancer.gov/statfacts/html/all.html. Accessed July 24, 2015. [15] Sun E, Jena AB, Lakdawalla D, Reyes C, Philipson TJ, Goldman D. The contributions of improved therapy and early detection to cancer survival gains, 1988–2000. *Forum for Health Economics & Policy.* 2010;13(2): Article 1.