

THEN, NOW, IMAGINE... >>>

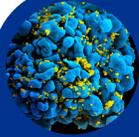
Our nation's investment in research saves lives, combats disability, and protects against population health threats.

THEN... We had disease. **NOW...** We have hope. **IMAGINE...** Cures.

“America's economic destiny lies in innovation, technology, science and research.”

– *The Honorable John E. Porter*

HIV/AIDS



THEN...

At the height of the HIV/AIDS epidemic in the U.S., an estimated 130,400 Americans acquired new HIV infections in 1985 alone. Most cases of HIV/AIDS were fatal.



NOW...

Thanks to research discoveries about HIV transmission and treatment, public health efforts, and increased awareness, the number of new HIV diagnoses made in 2017 in the U.S. has decreased to 38,182.



IMAGINE...

A cure, a vaccine, and eradication of HIV/AIDS worldwide.

CENTER FOR DISEASE CONTROL AND PREVENTION, 2018

CYSTIC FIBROSIS



THEN...

In 1962, the median survival age for individuals diagnosed with cystic fibrosis (CF) was just ten years. In 1989, a team of pioneering scientists discovered the gene that causes CF, bringing hope to tens of thousands of patients and loved ones.



NOW...

Research has led to the creation of 13 drugs for CF, including three that treat the underlying causes. Patient engagement supports development of better care. The life expectancy of people with CF who were born between 2014 and 2018 is predicted to be 44 years.



IMAGINE...

IMAGINE...

Not just treatments for CF, but a cure that makes CF history.

NATIONAL INSTITUTES OF HEALTH, 2018; CYSTIC FIBROSIS FOUNDATION, 2017

CARDIOVASCULAR DISEASE



THEN...

In 1950, there were 589 deaths in the U.S. (per 100,000) from CVD.



NOW...

Thanks to advances in research, prevention, early detection, and treatment, the age-adjusted death rate attributable to CVD fell to less than 219.4 deaths per 100,000 in 2016.



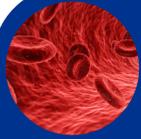
IMAGINE...

IMAGINE...

Eliminating premature deaths due to cardiovascular disease.

AMERICAN HEART ASSOCIATION, 2019; POPULATION REFERENCE BUREAU, 2002

SICKLE CELL DISEASE



THEN...

Known as the “first molecular disease” sickle cell disease (SCD) was only curable with a bone marrow transplant—a treatment option not available for most patients. The average lifespan for an individual with SCD was 14 years.



NOW...

Thanks to advances in basic and translational research, gene therapies and gene editing tools, such as CRISPR/Cas9, are becoming possible treatment options for SCD. Individuals with SCD are living into their forties or fifties and beyond.



IMAGINE...

IMAGINE...

A world in which SCD is cured with gene therapy.

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE, 2010

CANCER



THEN...

In the early 1960s, the 5-year survival rate for children with acute lymphoblastic leukemia was less than 10%.



NOW...

Thanks to advances in research, the 5-year survival rate for children with acute lymphoblastic leukemia is more than 85%.



IMAGINE...

IMAGINE...

A cure and eradication of cancer.

COUSIN-FRANKEL, "BEYOND SURVIVAL", 2019



OPIOID USE DISORDER



THEN...

In 2000, drug overdose death rate involving opioids was around 3 deaths per 100,000 people.



NOW...

Since 2000, the rate of deaths from opioid overdose has increased 5 fold.



IMAGINE...

IMAGINE...

More personalized diagnosis and treatment planning for OUD.

CENTER FOR DISEASE CONTROL AND PREVENTION, 2020

INFECTIOUS DISEASES



THEN...

In 1900, mortality due to infectious diseases was 797 deaths per 100,000 in the United States. The three leading causes of death were pneumonia, tuberculosis, and gastrointestinal illness



NOW...

The mortality rate from infectious diseases in 2014 was 34 per 100,000. Public sanitation efforts, along with the development of vaccines, antibiotics, and other public health tools, mean far fewer people today are dying from infectious diseases.



IMAGINE...

IMAGINE...

A world where no one has to die from preventable infectious diseases.

CENTER FOR DISEASE CONTROL AND PREVENTION, 2020