

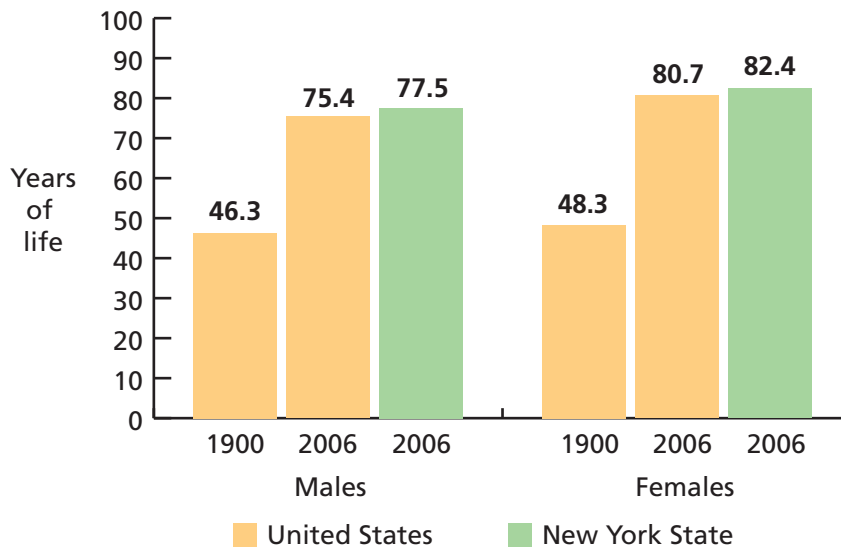
Life Expectancy

U.S. life expectancy increased by nearly two-thirds during a century of major medical discoveries (1900-2006)

U.S. life expectancy at time of birth ¹				Some major medical discoveries	
	Both sexes	Male	Female	Medicines and treatments	Devices, procedures, reports
2006	78.1	75.4	80.7	2006 - Vaccine for human papillomavirus ²	
2000	77.0	74.3	79.7		2003 - Human genome decoded ⁷
1990	75.4	71.8	78.8	1995 - Hepatitis A vaccine ²	1990 - Small intestine transplant ⁸
1980	73.7	70.0	77.4	1982 - Hepatitis B vaccine ²	1989 - Living donor liver transplant ⁹ 1987 - Vision correction by laser ¹⁰ 1983 - Successful lung transplant ⁹ - HIV identified as cause of AIDS ¹¹ 1981 - Synthetic skin ¹⁰ 1980 - WHO announces eradication of smallpox ¹²
1970	70.8	67.1	74.7	1977 - Pneumonia vaccine ² 1974 - Meningitis vaccine ²	1978 - In vitro fertilization ¹⁰ 1977 - Balloon angioplasty ⁸ Early 1970s - Magnetic resonance imaging (MRI) ¹⁰ 1972 - CAT scan ¹⁰
1960	69.7	66.6	73.1	1969 - Rubella vaccine ² 1967 - Mumps vaccine ² 1963 - Measles vaccine ² Early 1960s - Oral polio vaccine ³	1969 - Human artificial heart implanted ⁸ 1967 - Coronary bypass surgery ⁵ - Successful human heart and liver transplants ⁸ 1966 - Successful pancreas transplant ⁸ 1964 - U.S. surgeon general links smoking to cancer, heart disease and emphysema ⁵
1950	68.2	65.6	71.1	1954 - Polio vaccine ³	1959 - Obstetric ultrasound imaging ¹⁰ 1958 - Implantable pacemaker ⁸ 1954 - Successful kidney transplant ⁹ 1953 - Open-heart surgery ³
1940	62.9	60.8	65.2	1949 - Cortisone anti-inflammatory ³ 1945 - Influenza vaccine ² 1944 - Streptomycin for tuberculosis ³	
1930	59.7	58.1	61.6	1936 - Yellow fever vaccine ⁴ 1935 - Sulfa drug for streptococcus ⁵ 1930s - Whooping cough vaccine ²	1937 - Blood bank (Chicago) ³ 1933 - Lung removal to treat cancer ³
1920	54.1	53.6	54.6	1928 - Penicillin (first antibiotic) ³ 1924 - Tetanus vaccine ² 1921 - Diphtheria vaccine ² - Tuberculosis vaccine ³ - Insulin as treatment for diabetes ³	1929 - Electroencephalogram ¹⁰
1910	50.0	48.4	51.8	1915 - Typhus vaccine ⁶ 1910-1911 - Syphilis vaccine ³	1910 - Carnegie Foundation-financed Report advocates major reform of medical schools ⁵
1900	47.3	46.3	48.3	1908 - Skin test for tuberculosis ³ 1906 - Diagnostic test for syphilis ³	1903 - Electrocardiogram ¹⁰ 1901 - Blood typing system ³

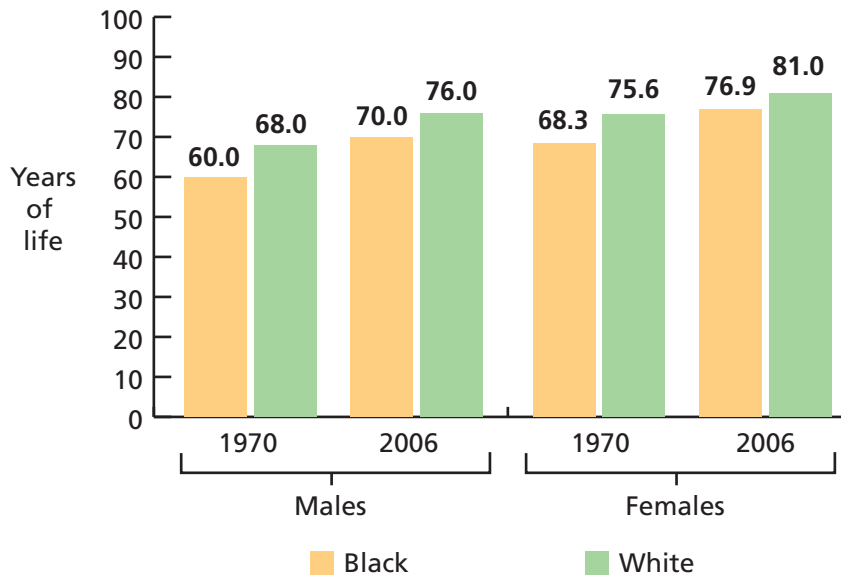
- Babies born in the U.S. in 1900 could expect to live, on average, to age 47.3 years. By contrast, babies born in 2006 in the U.S. have an average life expectancy of 78.1 years.
- Life expectancy has risen over the past century due to discoveries of new medicines, treatments and procedures to treat serious diseases and conditions.

Increase in life expectancy for Americans by sex, 1900 – 2006¹ and New York State life expectancy in 2006¹³



- The U.S. government reports that “life expectancy for males and females reached record levels in 2006” and that “the difference between male and female life expectancy at birth has been generally decreasing since its peak of 7.8 years in 1979.”^{1B}
- New York state data show that New Yorkers’ life expectancy slightly exceeds that of the nation – by 2.1 years (2.8%) for males and 1.7 years (2.1%) for females.

Increase in life expectancy for Americans by race and sex, 1970 – 2006¹



- The difference between black-white life expectancy at birth has decreased from 1970 to 2006. In 1970, there was an eight-year difference between the life expectancy of black males and white males and a 7.3-year difference between the life expectancy of black females and white females. The figures for 2006 show a six-year difference between the life expectancy of black males and white males and a 4.1-year difference between black females and white females.

Data sources for U.S. life expectancy:

- ¹ National Vital Statistics Reports, published by the National Center for Health Statistics:
 - A. Years 1900 – 2004 inclusive – *United States Life Tables, 2004*, Vol. 56, No. 9, December 28, 2007. (Notes: This report explains that:
 - Data before 1970 does not break out black population; it categorizes as “white” and “non-white.” Therefore, white-black differences are shown only from 1970 forward.
 - Life expectancy is defined as “the average number of years that (persons born in a given year) may expect to live at the time of birth.” http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_09.pdf
 - B. Years 2005 and 2006 – Deaths: *Preliminary data for 2006*, Vol. 56 No. 16, June 11, 2008. http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_16.pdf

Data sources for major medical discoveries:

- ² Immunization Action Coalition, *Vaccine Information for the Public and Health Professionals*. <http://www.vaccineinformation.org/>
- ³ Encyclopædia Britannica Online, *History of Medicine* and *BCG Vaccine*. <http://www.britannica.com/EBchecked/topic/372460/history-of-medicine>
- ⁴ National Network for Immunization Information (NNii), “Yellow Fever.” http://www.immunizationinfo.org/vaccineInfo/vaccine_detail.cfv?id=28
- ⁵ Duke University Libraries, *Medicine and Madison Avenue*. <http://library.duke.edu/digitalcollections/mma/timeline.html>
- ⁶ New York Times, April 15, 1915, “Plotz Discovers Typhus Vaccine.” http://query.nytimes.com/mem/archivefree/pdf?_r=1&res=9903E6DA123FE233A25756C1A9629C946496D6CF
- ⁷ National Institutes of Health, National Human Genome Research Institute. <http://www.genome.gov/11006943>
- ⁸ *The New York Times Guide to Essential Knowledge*, St. Martin’s Press, New York, 2004, page 441.
- ⁹ U.S. Department of Health and Human Services, The Organ Procurement and Transplantation Network (OPTN), *History of Transplantation*. <http://www.optn.org/about/transplantation/history.asp>
- ¹⁰ Encyclopaedia Britannica Almanac 2003, *Great Inventions*. <http://corporate.britannica.com/press/inventions.html>
- ¹¹ National Institutes of Health, Institute of Allergy and Infectious Diseases, *The HIV-AIDS Connection*. <http://www3.niaid.nih.gov/topics/HIVAIDS/Understanding/connection.htm>
- ¹² World Health Organization, *Smallpox and Its Eradication*, 1988, chapter 27, page 1262. <http://whqlibdoc.who.int/smallpox/9241561106.pdf>

Data source for life expectancy in New York State:

- ¹³ New York State Department of Health, *Vital Statistics of New York State*, 2006, Table 3: New York State Life Table by Sex. http://www.health.state.ny.us/nysdoh/vital_statistics/2006/table03.htm