## Bernadine Healy (1944–2011)

During the twentieth century in the United States, Bernadine Patricia Healy was a cardiologist who served as the first female director of the National Institutes of Health or NIH and the president of both the American Heart Association and the American Red Cross. Healy conducted research on the different manifestations of heart attacks in women compared to men. At the time, many physicians underdiagnosed and mistreated coronary heart disease in women. Healy's research illustrated how coronary heart disease affected women. Healy was also the deputy science advisor to the United States president Ronald Reagan, and during her time at the NIH, she founded the Women's Health Initiative. That initiative was a \$625 million research study that aimed to determine how hormones affected diseases specific to postmenopausal women. Through her research and leadership positions, Healy helped improve women's healthcare in the US and helped expand the resources available for research into women's health.

Healy was born on 4 August 1944 to Violet McGrath and Michael Healy in New York City, New York. Neither of her parents had completed high school, and they raised their four daughters while running a small perfume shop. Healy attended a school run by the local church for her elementary education. According to long-time friend and coworker, Donna Shalala, Healy realized she wanted to be a doctor at the age of twelve. Shalala said that the priest was worried Healy would become over-educated and forsake what he thought to be the role of a woman as a mother. Nevertheless, Healy's father argued with the priest to allow her to leave the religious school to attend Hunter College high school in Manhattan in New York City. Healy was admitted to the high school, and in 1962 she graduated first in her class.

In 1963, Healy started her undergraduate degree and began to pursue medical studies. Healy received a full-ride scholarship to Vassar College in Poughkeepsie, New York, where she studied chemistry and philosophy. She completed her undergraduate degrees in three years with honors, and was then admitted to Harvard Medical School in Cambridge, Massachusetts. Healy was one of ten women in a class of 120 students. She graduated in 1970, and completed her residency in internal medicine from 1970 to 1972 at Johns Hopkins University in Baltimore, Maryland. Healy accepted a position as a cardiac fellow at the same university in 1974.

A year later, Healy became a professor of medicine at Johns Hopkins University in Baltimore, Maryland. Over the next three years, she served in different professorships at Johns Hopkins, including internal medicine and pathology. While at Johns Hopkins, she also became the first woman to be the assistant dean for postdoctoral programs and faculty development. Beginning in 1976, she directed the coronary care unit at Johns Hopkins University School of Medicine for the next six years, which meant that she oversaw the entire cardiac wing.

At Johns Hopkins, Healy conducted cardiac research, investigating heart disease in women. At the time, researchers primarily studied heart attacks in men. Healy began looking for occurrences of heart attacks in women. She found that the symptoms of heart disease and heart attacks manifest differently in women than in men, including a difference in pain location and severity. When doctors applied their knowledge of heart disease to women, they often did not diagnose or treat the disease in time, as the disease symptoms are different in men and in women. Healy called the phenomenon of not attributing male symptoms of heart disease to women "Yentl Syndrome." The name refers to a nineteenth-century poem that had a female character named Yentl who had to dress like a man to be taken seriously in society.

At Hopkins, Healy met and married surgeon George Bulkley, with whom she had one daughter, Bartlett Bulkley. They divorced in 1981 shortly after Healy gave birth. The following year, Healy

left Johns Hopkins after an all-male student fraternity made an obscene skit about her. According to a Washington Post obituary, instead of blaming the fraternity directly, Healy charged the dean of students with creating an environment that fostered and encouraged sexual harassment. The fraternity dissolved as a result, and Healy moved on to other professional endeavors.

In the 1980s, Healy began working in the government and nonprofit sectors. In 1984, Healy was appointed the deputy science advisor for US president Ronald Reagan. Her role was to advise him on how to respond to science and technology policies pertinent to the citizens of the United States. In that position, she focused her research on the use of human subjects in research and on the humane treatment of animals in research. After leaving her role as science advisor in 1985, Healy took a job as the chair of Cleveland Clinic's Foundation Research Institution in Cleveland, Ohio. In Cleveland, she practiced cardiology and acted as lead investigator for a research study that compared two methods of heart blockage repairs. She also initiated an educational partnership between the Cleveland Clinic and Ohio State University's medical students, which later became the Cleveland Clinic College of Medicine. There, she also met Floyd Loop, a cardiac surgeon at the Cleveland Clinic. They married in 1985 and had one daughter, Marie McGrath Loop. For two years beginning in 1988, Healy served as president of the American Heart Association. The American Heart Association is a nonprofit organization that aims to prevent cardiac-related death in American citizens. Through that position, Healy created programs that made healthcare more accessible for women and minorities.

In 1991, Healy became the first female director of the National Institutes of Health in Bethesda, Maryland. The NIH is an agency of the US Department of Health and Human Services that funds and conducts biomedical research. In 1991, Healy founded the Women's Health Initiative in response to a lack of emphasis placed on women's health research in the US. The Women's Health Initiative was a \$625 million four-part research study that aimed to determine if there were any links between hormone therapy and disease in postmenopausal women. Researchers from one of the clinical trials concluded that hormone therapy increased the risk of breast cancer in women, which informed physicians' debates on the use of hormonal therapy in women.

At the NIH, Healy also established a new clinical trials standard that required researchers studying diseases that affect both men and women to use both sexes as research subjects. If the investigators did not uphold that standard, known as the NIH Revitalization Act, Healy would not allow them to be funded through the NIH, which was one of the largest funders of biomedical research at the time. Some people criticized the act, claiming that women were better cared for based on their longer life expectancy. Critics also claimed that men are a target group for much of the cardiovascular research because those diseases kill them quicker than they kill women. Healy responded that continued innovation was necessary to address the inequities of the healthcare system, and that women's health mattered just as much as men's health. Healy left the NIH in 1993 shortly after the Revitalization Act passed.

In the mid 1990s, Healy shifted her career track to focus on education and leadership. In 1994, she ran unsuccessfully for Ohio's Republican Senate nomination. Following her loss, Healy returned to academia and became a dean at Ohio State University in Columbus, Ohio, in 1995. That same year, she published A New Prescription for Women's Health: Getting the Best Medical Care in a Man's World. In that book, she discussed what she claimed was a lack in women's access to healthcare, especially for reproductive and aging concerns specific to women. Healy suggested that women ask their doctors questions regarding their health. Russell, Healy's first daughter, claimed that the book emphasized Healy's desire to educate women on diseases most likely to influence their health. In 1998, Healy discovered she had a cancerous brain tumor. She underwent chemotherapy and radiation treatment and her cancer went into remission.

In 1999, Healy left her position at Ohio State University to become the president of the American Red Cross in Washington, D.C. She was the first physician to serve in that role, which had not been occupied in over two years. While serving as president of the American Red Cross, the 11 September 2001 terrorist attacks occurred. In the terrorist attacks, four planes had crashed in three different locations, including two planes that crashed into the World Trade Center in New York City, New York, one plane that crashed into the Pentagon in Washington, D.C., and one plane that crashed in a field in Somerset County, Pennsylvania. The American Red Cross had a disaster

operations team that responded in case of extreme emergencies. She and the organization faced public outrage after the disaster operations team had failed to show up to the plane crash site at the Pentagon. Monetary donors also found out that not all of the donations made at the time of the terrorist attacks went towards assisting victims and disaster relief. As a result, Healy fired the employees in charge of the disaster operations team and left her position only four months after the terrorist attacks.

In the 2000s, after her brain cancer returned, Healy focused on writing because she was too ill to practice medicine. She began contributing to the US News and World Report and The New England Journal of Medicine on topics related to science and healthcare policy. She also published Living Time: Faith and Facts to Transform Your Cancer Journey in 2007. In that book, Healy discussed her advice on proper treatment and care for different types of cancers, and her own personal anecdotes on her experiences with brain cancer.

Throughout her life, Healy was the recipient of numerous awards. She was named the Woman of the Year in Glamour magazine, was appointed into the Ohio Women's Hall of Fame, and was named the Humanitarian of the Year by the American Red Cross. According to Donna Shalala, a former US Secretary of Health and Human Services and friend of Healy, Healy never compromised her core beliefs and broke many metaphorical glass ceilings in the science and research field.

On 6 August 2011, Healy died from brain cancer at her home in Gates Mills, Ohio.

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