

## Catherine DeAngelis (1940- )

In the late-twentieth century in the United States, Catherine DeAngelis was a pediatric physician, researcher, and editor of multiple medical journals. During her time with the *Journal of the American Medical Association*, DeAngelis became the journal's first female editor. At Johns Hopkins University in Baltimore, Maryland, she studied how physician-nurse interactions affected patient care, how immunizations and adolescent pregnancy affected children, and how medications affected men and women differently. She also worked to reduce gender inequality in the practice of medicine by publishing articles that addressed the pay gap between men and women at Johns Hopkins. Throughout her career, DeAngelis advocated for equality between men and women in the medical field and supported equal treatment of women as patients and as practitioners of medicine. By doing so, she helped women become more central participants in medicine and therefore helped increase the focus on women's health in medicine.

DeAngelis was born on 2 January 1940 in Old Forge, Pennsylvania. Her mother worked as a waitress and her father was a miner. When DeAngelis was four years old, she often played doctor, breaking apart her stuffed dolls and suturing them back together with a toy surgery kit. In an interview with *Hopkins Medical* magazine, she claimed it was at that point in her life, when she was four years old, that she knew she wanted to be a doctor.

During her primary education, DeAngelis attended Old Forge Junior-Senior High School in Old Forge, Pennsylvania. Upon completing high school, DeAngelis enrolled in a registered nursing program at Scranton State General Hospital School of Nursing in Scranton, Pennsylvania. She graduated from that program in 1960, and began work as a nurse at Columbia Presbyterian Medical Center in New York City, New York. After nursing school she planned to join the Maryknoll Sisters, a group of Catholic missionary nurses who provided medical care abroad. However, the Maryknoll Sisters required members to take prerequisite religion classes at another university. Instead of taking those classes, in 1965 DeAngelis enrolled as a student at Wilkes College, later called Wilkes University, in Wilkes-Barre, Pennsylvania. She pursued studies at Wilkes College to complete the prerequisite courses necessary for medical school. While at Wilkes, she set up an infirmary for the sick, worked as a nurse, and researched in an immunology laboratory on campus to cover her expenses as a student. DeAngelis was also named the class president and homecoming queen.

Soon after completing her undergraduate degree, DeAngelis was accepted to the University of Pittsburgh's School of Medicine in Pittsburgh, Pennsylvania. She was one of nine women accepted into the program of 124 students. While in medical school, DeAngelis organized two medical mission trips, one that provided aid at a hospital in West Africa and the other that taught nurse practitioners immunization techniques in Peru and the West Indies. After her graduation from medical school in 1970, DeAngelis began her pediatric residency program at Johns Hopkins University in Baltimore, Maryland.

In 1972, following completion of her residency, the National Institute of Health awarded DeAngelis a fellowship to study health law and economics at Harvard's School of Public Health in Cambridge, Massachusetts. While completing her master's degree in public health at Harvard University, DeAngelis began to write about the working interactions between doctors and nurses. In 1975 she wrote the textbook, *Basic Pediatrics for the Primary Healthcare Provider*, in which she highlighted how doctors and nurses could more efficiently work together to improve critical care and patient outcomes. In continuing her research on nurse and physician relations, from 1973 to 1975, DeAngelis worked as a faculty member at Columbia Physician's College in New York City, New York, with the goal of improving physician and nurse interactions and resulting patient outcomes.

In 1978, DeAngelis became the chief of general pediatrics at Johns Hopkins Hospital. In that position, DeAngelis was responsible for all of the pediatricians at the hospital. She also published numerous journal articles on her interpretation of effective pediatric care and completed her first book, *Pediatric Primary Care*, in 1979. In her book, she emphasized the importance of early childhood vaccines and regular physical activity. Soon thereafter, she joined the Johns Hopkins Medical School's faculty as a professor of pediatric medical education in 1984. While at Johns Hopkins, she met fellow professor James Harris, and the couple later married.

In addition to publishing textbooks, DeAngelis began to work in administration at Johns Hopkins University in the 1980s. While at Johns Hopkins, DeAngelis published the report, "The Robert Wood Johnson Foundation National School Health Program," in which she documented the most effective immunization protocols and disease prevention techniques for primary schools in the United States to protect the students. That article was sponsored by the Robert Wood Johnson Foundation, one of the largest health-oriented philanthropic organizations in the US.

Also, in a paper that was published in 1985, DeAngelis and her fellow researchers Patricia Fosarelli, Jerry Winkelstein, and David Mellits, studied the differences in immunoglobulins in 316 infants under the age of twelve months. Immunoglobulins are a type of antibody protein found in the blood that help with the immune system. DeAngelis and her research team examined the differences between the infants' weight, race, sex, and past incidences of infection. The researchers found that the immunoglobulin levels were higher in female infants, black infants, and those infants that were heavier than 2500 grams at birth. According to the researchers, that meant that those infants had stronger immune systems. The infants that were found to have stronger immune systems also had positive correlations with gestational age. Therefore, the researchers concluded that infants who were born after thirty-six weeks' gestation had stronger immune systems.

DeAngelis accumulated more publications until she was appointed the Vice Dean of Academic Affairs and Faculty at Johns Hopkins University in 1990, the first woman to hold that position. In that position, DeAngelis oversaw mediating differences among colleagues, providing support for students and faculty, and leading the other deans at the university. Upon leaving that position, two people were required to replace her to fill the role.

During her time as vice dean at Johns Hopkins, DeAngelis continued to advocate for gender equality in the medical workplace. In her 1991 publication, *Women in Medicine: Fantasies, Dreams, Myths, and Realities*, she documented her perspective on the pay gap between men and women in the medical field and her theory that societal implications discouraged women at an early age from wanting to become physicians. She concluded that, despite assumptions made about women's specialty choices, desire to have a family, or academic abilities, women needed to be included in medicine. Also in 1991, DeAngelis initiated the "School's Report on the Status of Women," an annual newsletter announcement of every salary and promotion received by a Johns Hopkins faculty member. According to DeAngelis, she did so to draw attention to the discrepancies of pay between male and female professors. By 1994, there were no significant discrepancies among salaries of male and female employees at the university. Also in 1994, DeAngelis founded the Women's Leadership Council, a group of women at Johns Hopkins University. DeAngelis's goal for the council was to provide a network of support for the nineteen female professors at that university.

DeAngelis worked as the editor of several medical journals throughout the 1990s. In 1994, DeAngelis was appointed the editor-in-chief of the *Archive of Adolescent and Pediatric Medicine* journal, her first position as an editor. In the late 1990s, DeAngelis spoke out against the large medical journal *The Journal for the American Medical Association*, or JAMA. After protesting that the editor of JAMA had been fired unnecessarily after publishing a paper on how adolescents define sex, DeAngelis was offered the job as editor-in-chief of JAMA in 2000. JAMA had never before had a female editor in chief, the person who is the principal editor of all publications and content of a journal. By joining JAMA, published in fourteen languages and over 120 countries, DeAngelis became the first female editor in chief of one of the largest medical journals in the world.

According to one of her published editorials, during her tenure at JAMA, DeAngelis prioritized publishing interesting and innovative articles that spanned every aspect of medicine. DeAngelis ensured the journal would continue to include poetry and art reproductions as its cover, and she also

ensured an increased number of articles pertaining to women's health be included in the journal. According to DeAngelis, after it became known that medications can affect the sexes differently, she decided she would publish only research studies with data broken down individually by sex. That action ensured more studies would focus on the effects of different medications on women instead of using just men in its trials. That decision encouraged researchers to ensure their data was accurate for men and women because, most often, only men were used as research subjects and therefore little was known about how medications affected women.

DeAngelis also began to publish more articles in JAMA with a focus on women's healthcare. In 2002, JAMA included a study on the Women's Health Initiative, a collective study designed to determine the effects of hormonal therapy on postmenopausal women. In the study, the researchers found that a mixed estrogen-progestin hormonal therapy increased a woman's risk for heart disease, stroke, and pulmonary embolism, a blood clot in the lung, in postmenopausal women. The hormones associated with the female menstrual cycle, estrogen and progestin, are both sex hormones produced by women in their ovaries and pituitary glands, and postmenopausal women are those women whose menstrual cycles have stopped. As a result of the publication of that study, the price of shares of the most common manufacturer of hormonal therapy drugs dropped by fifty percent. There was discourse in the medical community centered around the reliability of the study's results, and doctors and patients alike were hesitant to continue hormonal therapy treatments. In 2006, DeAngelis published an entire issue devoted to women's health.

DeAngelis continued her career at JAMA as editor in chief until the end of her second term in 2011. Outside of her work as an editor, DeAngelis received many awards and distinctions throughout her career. She published over 260 peer-reviewed articles and more than twelve books. DeAngelis was a fellow of the American Association for the Advancement of Science and a member of the Institute of Medicine of the National Academies. She also served as chairwoman for the American Board of Pediatrics and the Pediatric Accreditation Council for Graduate Medical Education. DeAngelis began many initiatives in her career as well, including an adolescent pregnancy program at Johns Hopkins Hospital that provided psychosocial support and resources to teenaged women who became pregnant.

As of 2017, DeAngelis continues to publish journal articles related to public health and women in medicine. She lives in Lackawackon, Pennsylvania, with her husband.

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