

CORRESPONDENCE

Dr Audrey E. Evans (1925–2022): academic trailblazer par excellence

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Dr Audrey Elizabeth Evans, emeritus Professor of Pediatrics at the University of Pennsylvania, died peacefully at home on September 29, 2022. Like few other physicians, she helped transform what the medical establishment of the time thought impossible, curing children with cancer. On her way to do so, she shattered several glass ceilings. Audrey was passionate and undeterred when it came to doing what was right, especially for children with cancer and their families. She leaves an enormous legacy and the torch she passes on will be carried by many of her trainees, who now have become leaders in the field.

Dr Evans was born on March 6, 1925, in York, England, one of three children. In 1953, she received her medical degree from the University of Edinburgh in Scotland, having been the only female in the program. Subsequently, on a Fulbright scholarship, she came to the United States of America to train in pediatrics. During the first 2 years at Boston Children's Hospital, she met Dr Sydney Farber, who was one of the first to recognize the value of chemotherapeutic agents. After this, she spent 1 year at Johns Hopkins in Baltimore. Subsequently, she returned to the United Kingdom to practice pediatrics. Unfortunately, she encountered sexism again: pediatrics at the time was predominantly an inpatient specialty, hence dominated by males with no "room for females". This led her back to Boston Children's Hospital where she homed in on pediatric oncology. Shortly after her return to Boston, Dr Evans was recruited to Chicago as a pediatric oncologist where she began to develop her reputation as an outstanding academic physician, committing the rest of her life to improving the lives of children with cancer. From very early on she recognized that childhood cancer affected the whole family, not just the stricken child. She also recognized that success in the fight against childhood cancer could not be restricted to cure alone. She understood that fundamentally quality of life, both during treatment and for the rest of the life of the patient, had to be included in defining success. It is in this holistic perspective that she approached patient care.

In 1969, the future United States Surgeon General C. Everett Koop, who from 1946 to 1981 worked as Surgeon-in-Chief at the Children's Hospital of Philadelphia (CHOP), recruited Dr Evans to become CHOP's first Chief of Oncology. Here she remained until her retirement in 2009. Her distinguished career eventually focused on neuroblastoma. In an attempt to improve outcomes by tailoring treatment based on tumor progression, she proposed a clinical staging system that took into account tumor site and extension. The so-called Evans staging system (from localized stage 1 disease to widespread metastatic stage 4 neuroblastoma), included a unique stage, dubbed 4S (S for special) for widely disseminated neuroblastoma in very young children that spontaneously regressed. For decades, the Evans

staging system would be used to classify patients and assign specific therapies, and the current system used today is essentially what Dr Evans originally proposed. All along, Dr Evans continued to contribute, both clinically and in the laboratory. She started the now Biannual Advances in Neuroblastoma Meetings that initially attracted a few dozen participants at CHOP but has now grown to a major international conference attended by top scientists worldwide. In addition, Dr Evans was key to the formation of the first childhood cancer cooperative group and led many of the early seminal studies. These efforts led to dramatically increased cure rates in a variety of childhood cancer, as well as establishing the infrastructure for all the advancements made since.

Another groundbreaking contribution Audrey made, relates to her profound understanding of the needs of the whole family stricken by childhood cancer. Faced with the problems associated with a growing cancer program at CHOP, namely, how to care for the child and their families, in 1974 Dr Evans co-founded with Philadelphia Eagles General Manager Jimmy Murray the original Ronald McDonald House on Chestnut Street in Philadelphia, a short walk from CHOP. There are now over 375 McDonald Houses across the globe, all enabled by Dr Evans' vision, creating a home away from home for the families with a child afflicted by a serious disease requiring hospitalizations.

Dr Evans was also one of the first to recognize the importance of the nursing, psychology, and social work disciplines to the care of children with cancer. She recruited individuals in these fields well before her peers, and current rich collaborative programs with these disciplines in oncology are due to Dr Evans' pioneering efforts (Fig. 1).

Dr Evans has received many formal awards and honors during her life. Among them, in 1995 the Distinguished Career Award from the American Society of Pediatric Hematology/Oncology and in 2017, together with her equally famous and accomplished husband Giulio (Dan) D'Angio, the Lifetime Achievement Award from the International Society for Paediatric Oncology. Most recently, she was delighted with the invitation to become an honorary Fellow of the Royal College of Physicians of Edinburgh, her Alma Mater.

Audrey loved horse-riding and was an accomplished equestrian. She also returned to the Scotland on a regular basis in early spring to partake in sheep birthing. Finally, Audrey was devoted to scuba diving. She married late in life just before her 80th birthday to Dan D'Angio, a man that had been her colleague and collaborator on many projects for over 40 years. For those who knew them, her wedding day was telling. They exchanged vows at 7:15 a.m. in church, walked across the street for a croissant and tea, and then walked to work to continue their research. After retiring in 2009, she involved herself more and more in her Episcopal church and in 2011, together with her pastor co-founded and subsequently nourished the St. James School for at-risk children in North Philadelphia.

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Fig. 1 Dr Evans, “the mother of neuroblastoma”.

The world has lost a true giant in medicine, a Renaissance woman, a mentor, and role model for many. We all have become better people, better physicians, better researchers because of her

many contributions, passion for perfection, and compassion for all around her.

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AUTHOR CONTRIBUTIONS

Both authors have contributed to the obituary/commentary, its content, the relevant points that the commentary makes and the historical perspective.

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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