

Numbers can save lives: Janice Pogue (1962–2016)

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When asked how two sets of proportions would be compared, almost all candidates interviewed for a statistician in our fledgling group responded with increasingly complex answers: “regression models, complex analyses ...” “Why, of course a simple chi square test” was the response from a soft-spoken 30-year-old statistician who got the job. That was the start of Janice Pogue’s journey into clinical research as the first statistician at the new group at McMaster in 1992, which over time evolved into the Population Health Research Institute where she eventually led a team of 20 statisticians. Common sense was her trademark. “Why use complex methods, when simple ones could provide as reliable an answer?” A great partnership was born with the many physician-scientists with whom Janice collaborated. She had an intuitive understanding of the methodological, clinical, ethical and operational aspects of large clinical trials and epidemiologic studies. Additionally, her unique aptitude for easily communicating her insights to colleagues and staff, and her willingness to help even the most junior of colleagues, made Janice one of the most valuable and liked members of our team.

Janice Pogue created and directed the Biostatistics group of the Population Health Research Institute since its inception in 1993. During those 23 years, she played a pivotal role in the design, implementation and analysis of more than 70 large clinical trials and epidemiologic studies, comprising over a million participants from 80 countries. While this is impressive on its own, it does not capture the creativity and quality of her work or its impact. Janice’s ability to set aside the established textbook approaches when needed and to explore, justify and implement novel solutions had two key impacts: first, it produced clinical trials of important health questions that clearly and unequivocally answered the research questions that were posed; second, it facilitated the transfer of these results directly into clinical care and thereby saved or improved the lives of millions worldwide. She also contributed to the development of new methods. Why would one not hold meta-analyses to the same standards to which we hold the best large trials? Should they not have a minimum sample size and high standards of evidence to avoid both an alpha and a beta-error? Thus, were born the concepts of using “Optimal Information Size” and “Monitoring boundaries” for cumulative meta-analyses of clinical trials,

which are now increasingly used in the field. Could we not detect fraud without (expensive) on-site monitoring and instead check for statistical patterns which are hard to fabricate? Was the approach of central adjudication of hard endpoints necessary in blinded randomized trials? She addressed these questions through the rigorous analyses of data across many of the trials that she had overseen. As the methods she developed become used more widely, they will make trials more efficient, simpler and larger—these will in turn lead to more reliable results.

“Why complicate matters when simple approaches would suffice?” Janice often asked. Her rare gift of being able to clearly communicate complex statistical and methodological principles to her medical and non-medical colleagues in simple language attracted many clinical colleagues to her office where they learned more biostatistics than they ever intended, and where, working together, they devised solutions to problems that neither would have been able to devise on their own. Her patient approach and willingness to help also elevated the expertise of many biostatisticians who worked in her group over the last 20 years. Under her leadership and guidance, they often exceeded their own expectations and formal educations.

Janice also played an important role in the Department of Clinical Epidemiology and Biostatistics at McMaster University since her appointment in 2002 as an Associate Professor. Her graduate and postgraduate students benefitted from her knowledge, insights, rigor, commitment and passion for clinical research. She twice received the best teacher award. These and other accomplishments documented in >200 publications and presentations led to her recognition by Thomson Reuters as one of the top cited researchers in 2014 and 2016 and by numerous local awards for excellence, including the McMaster President’s Award for distinguished service.

Janice’s interests in math extended to her home and her kitchen. She would use her skills with numbers to adjust the recipes and she would then watch to see if her guests would notice. She would knit, supposedly to relax, but all the while she was adjusting patterns with mathematical precision. Her husband’s love of “off the grid living” intrigued Janice enough that they bought a cottage on the coast of Newfoundland, without electricity or running water. This is where Janice, her husband,

David, and their daughter, CJ, would spend 2 weeks each summer, listening to the whales and hiking the cliffs. When asked about how she could manage in such rugged conditions, she would simply smile. To Janice, this was a chance to get away and truly unplug.

Janice's quiet approach understated how much she cared for others. She truly enjoyed giving and would watch eagerly as you unwrapped (gifts always came specially wrapped) a gift that she had been planning for months. Choosing the right gift took months of preparation—watching, listening and accumulating the necessary information needed to buy the perfect gift. If you were struggling with a personal issue, you would find a book that would address your concerns. If you had a special event coming up, you might find something that would be perfect for the occasion. The gifts were even more appreciated because we knew that the real gift was the deeply caring individual behind it.

Janice's untimely death from pancreatic cancer at the age of 53 will be profoundly felt by her daughter, husband, family, friends and colleagues. It will also be felt by the clinical trials and epidemiology communities

throughout the world who will miss her wisdom, advice, perspective and personal warmth. We, who loved to work with Janice, will continue to hear her voice and ask what she would have done when we face unfamiliar problems.

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