

2013 Breslow Lecture



A Brief History of Survival Analysis

Presented by

John Crowley, Ph.D.

President and Chief Executive Officer
Cancer Research And Biostatistics

Thursday, June 13, 2013, 3:30 pm
Room T-733, Health Sciences
University of Washington

Hosted by:



DEPARTMENT OF BIOSTATISTICS
SCHOOL OF PUBLIC HEALTH
UNIVERSITY of WASHINGTON

2013 Breslow Lecture

“A Brief History of Survival Analysis”

John Crowley, Ph.D.

President and Chief Executive Officer
Cancer Research And Biostatistics
Seattle

Abstract:

In this talk I will cover some of the key historical developments in the field of survival analysis, from the product limit estimator of a survival curve, through nonparametric testing of differences between survival curves, to regression methods and exploratory tools for survival data. Along the way, and in keeping with the occasion, I will indicate the many contributions of Dr. Norman Breslow to this field, and the ways in which he has influenced my own work and career.

I will use data from the Southwest Oncology Group (now known simply as SWOG) and Cancer Research And Biostatistics (CRAB) on patients with multiple myeloma as examples of the statistical methods discussed. Myeloma, a malignancy involving the immunoglobulin-producing plasma cells of the bone marrow, is a disease entity once uniformly described as incurable. Incredible progress has been made over the past few decades, in both biology and treatment, as I will illustrate with some analyses of gene expression profile data for risk stratification, and through the application of some statistical cure models to data from some recent clinical trials.

Refreshments will be served at 3:00 pm

About the 2013 Breslow Lecturer:

John Crowley, Ph.D., brings four decades of experience in Biostatistics to his role as President and CEO of Cancer Research And Biostatistics (CRAB). Dr. Crowley oversees the study design, protocol development, data management, quality control, data analysis, and statistical research of more than 130 active multi-site clinical cancer trials. Dr. Crowley manages a staff of 85 high-level statisticians, data coordinators, application developers and other professionals dedicated to conquering cancer through large-scale clinical trials.



Dr. Crowley's own research interests focus on the design and analysis of cancer clinical and translation trials. His more recent research focuses on analytical methods for utilizing microarray data to determine predictive and prognostic groups; the design of targeted therapy trials; and methods for describing staging systems for lung cancer and myeloma. His longstanding interest in developing exploratory tools for survival data has produced widely used statistical applications in these areas. Dr. Crowley also educates cancer clinicians and biostatisticians here and abroad in the principles and pitfalls of cancer clinical trials.

Since Dr. Crowley's research career began in 1974, he has had numerous significant accomplishments. He served as Head of the Biostatistics Program at the Fred Hutchinson Cancer Research Center from 1983 until 1993, during which time he was honored with a Mortimer Spiegelman Award, given every year by the American Public Health Association to an outstanding young biostatistician. Dr. Crowley's credentials also include fellowships from the American Statistical Association and the American Association for the Advancement of Science. To date he has authored over 250 professional papers and books.

Dr. Crowley received his master's and doctorate degrees (in 1970 and 1973, respectively) in Biomathematics from the University of Washington. He served as a Postdoctoral Fellow at Stanford University and then moved on to an Assistant Professorship in 1974, followed by an Associate Professorship in 1979, at the University of Wisconsin Departments of Human Oncology and Statistics. In 1982 Dr. Crowley accepted an appointment as Associate Member at the Fred Hutchinson Cancer Research Center (FHCRC) along with an Associate Professorship in Biostatistics at the University of Washington. He was subsequently promoted to Full Professor at the University and Full Member at FHCRC in 1984. His professional base is now at CRAB, and he holds a joint appointment at the Full Member level at FHCRC.

John is an avid sports fan, enjoys traveling, hiking, bird watching and an occasional game of tennis.

Norman E. Breslow, Ph.D.

Dr. Norman Breslow is Emeritus Professor and former Chair of the Department of Biostatistics at the University of Washington.

Dr. Breslow has made pioneering contributions to methodological developments in survival and categorical data analysis, generalized linear mixed models, and outcome dependent sampling. A founding member of the National Wilms Tumor Study Group, he has made important contributions in cancer epidemiology. His two research monographs with Dr. N.E. Day, published by the International Agency for Research on Cancer, have had major impact on the design and analysis of case-control and cohort studies in epidemiology. He is recognized as a Highly Cited Researcher by the Institute for Scientific Information.



Dr. Breslow has received numerous awards for his research work. He is a Fellow of the American Statistical Association, Fellow of the American Association for the Advancement of Science, Member of the Institute of Medicine of the National Academy of Sciences, Honorary Fellow of the Royal Statistical Society and Honorary Life Member of the International Biometric Society. He holds honorary doctorates from the University of Bordeaux II and (jointly) from the University of Hasselt and the Catholic University of Leuven.

The Breslow Endowed Lectureship in Biostatistics was established in 2006 in recognition of Dr. Breslow's contributions to the field of Biostatistics. It is awarded to a biostatistical scholar who has significantly contributed to methodology and applications in the health sciences.

Breslow Endowed Lecturers

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| 2006 | Mitchell Gail, MD, PhD, National Cancer Institute |
| 2007 | David Clayton, PhD, University of Cambridge |
| 2008 | Sir David Cox, PhD, Oxford University |
| 2009 | Clarice Weinberg, PhD, National Institute of Environmental Health Sciences |
| 2010 | Niels Keiding, Cand.stat., University of Copenhagen |
| 2011 | Duncan Thomas, PhD, University of Southern California |
| 2013 | John Crowley, PhD, Cancer Research And Biostatistics |

More information available online at <http://www.biostat.washington.edu/breslow>