

LEADERSHIP IN THE PROFESSION OF BIOSTATISTICS: SOME PERSONAL REFLECTIONS

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NISS Affiliates Annual Meeting
Baltimore, MD
March 16, 2014

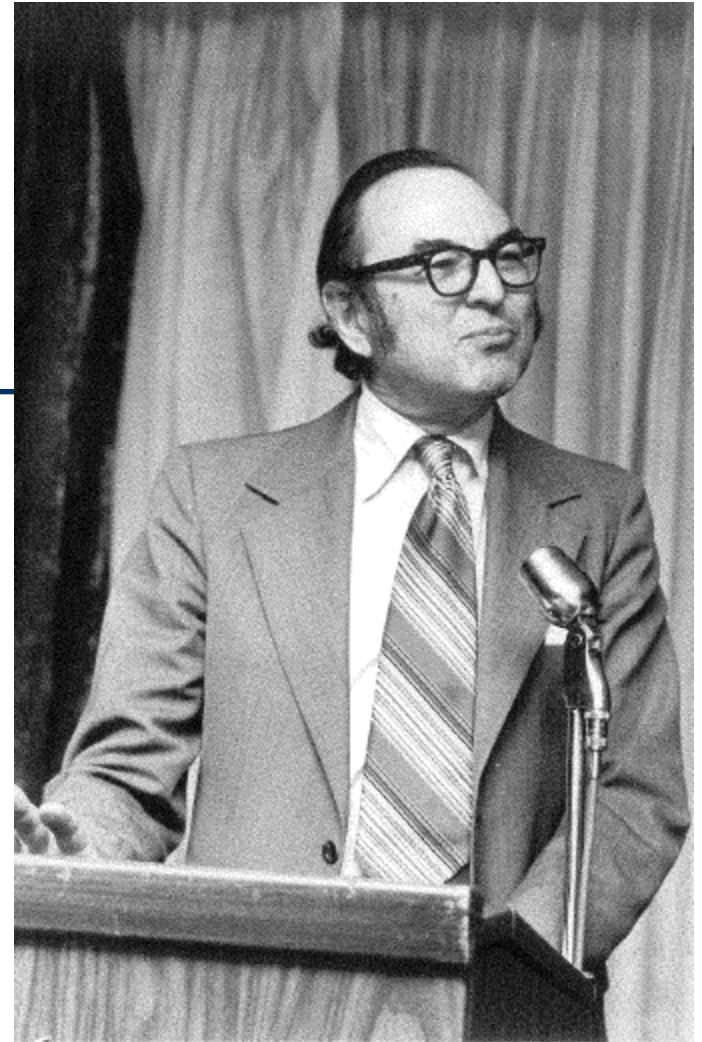
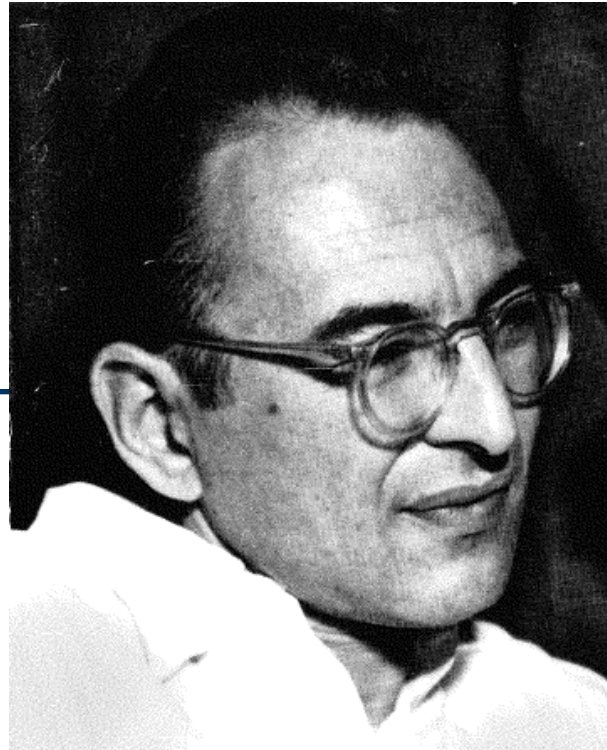
WHO ARE OUR LEADERS?

- ◆ Theorem provers
- ◆ Methods developers
- ◆ Department builders
- ◆ Leaders of multidisciplinary initiatives
- ◆ Policy makers
- ◆ Professional society officials

HOW DO LEADERS LEAD?

- ◆ Leaders identify something important that needs to be accomplished, and directs effort to accomplishing it
- ◆ Leaders pick the right projects
 - Simon Bolivar vs Don Quixote
- ◆ Leadership goes beyond excellence at the tasks one is expected to do

TWO EARLY MENTORS



JEROME CORNFIELD

- ◆ Did important work in economics while at the Bureau of Labor Statistics
- ◆ Made great contributions to statistical methodology while at NIH
 - Case-control studies
 - Logistic regression models
- ◆ Cared greatly about research processes as well as the methods of inference
 - Highly valued research collaborator
 - Advisor to the FDA
 - Headed the statistical group at the then-National Heart Institute, later chaired the GWU Department of Statistics
 - Vice-President of the American Heart Association
- ◆ Beloved by all
- ◆ President of the ASA

CORNFIELD QUOTE

- ◆ A favorite Cornfield quote
- ◆ "...a re-examination in the light of results of the assumptions on which the pre-observational partition of the sample space was based would be regarded in some circles as bad statistics. It would, however, be widely regarded as good science. I do not believe that anything that is good science can be bad statistics, and conclude my remarks with the hope that there are no statisticians so inflexible as to decline to analyze an honest body of scientific data simply because it fails to conform to some favored theoretical scheme. If there are such, however, clinical trials, in my opinion, are not for them."

(J Chron Dis, 1966)



NATHAN MANTEL

- ◆ Highly insightful
- ◆ Developed methodologies that are standard to this day
- ◆ Very different from Cornfield
 - Known for berating speakers at meetings for using his ideas without crediting him
 - Known for interrupting colleagues to demand attention to what he was thinking about
 - Widely respected; sought after consultant
 - Never held a supervisory position at NCI
 - Served a term as ENAR president (hard to imagine)
 - Generous with his time to junior colleagues

**OTHERS WHO HAVE
INSPIRED ME**



MARVIN ZELEN

- ◆ Another type of leader
- ◆ Highly capable mathematical statistician, but more known for organizational accomplishments and innovative ideas about study conduct
 - Built the Department of Biostatistics at the Harvard School of Public Health
 - Established model of statistical coordinating center for cooperative trial networks
 - Network managed by triumvirate: lead clinician, lead statistician, director of data management
 - Proposed new approaches for entering patients into clinical trials, to address both ethical and practical issues
 - Play the winner
 - Randomized consent design



RICHARD PETO

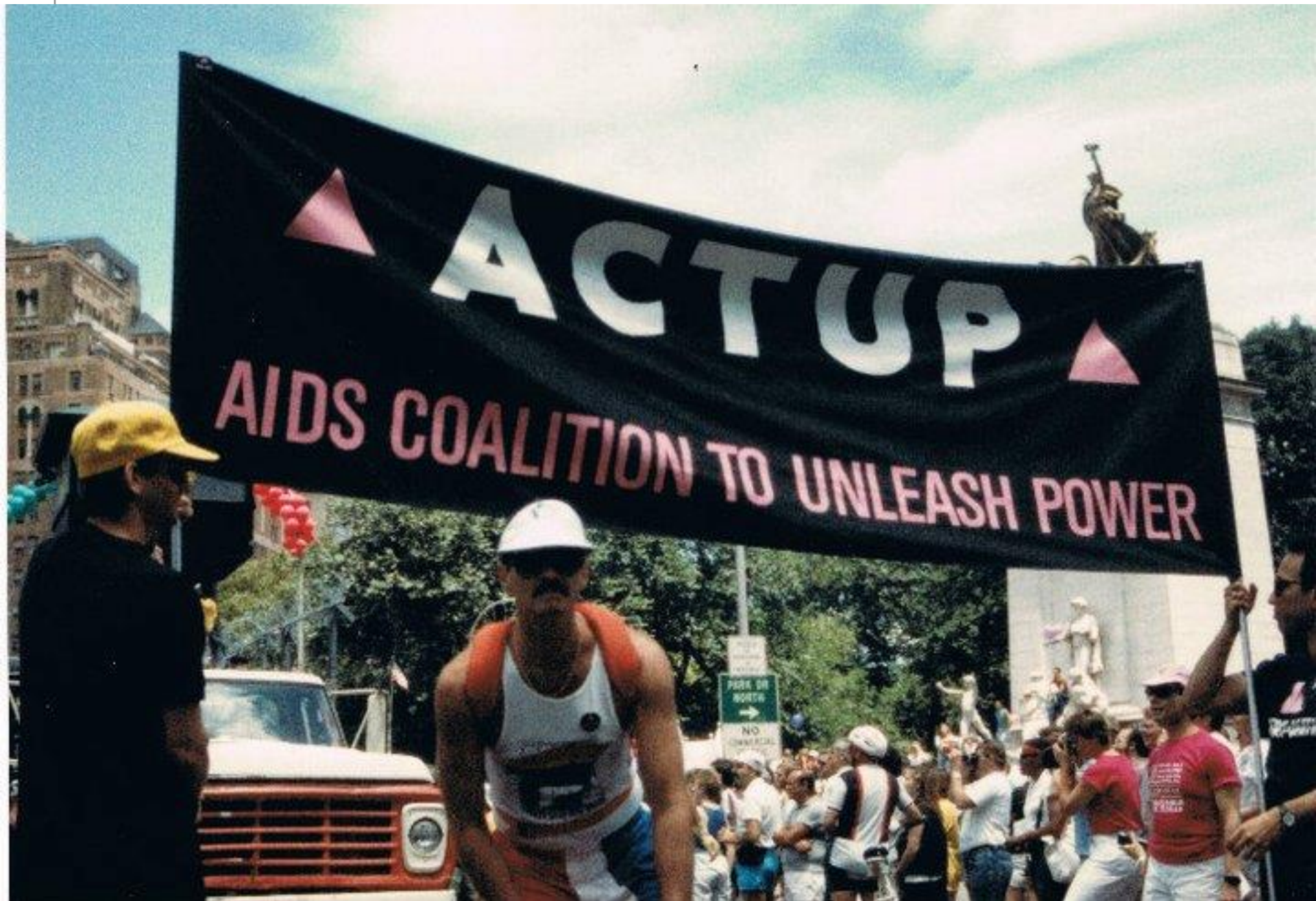
- ◆ Saw that many clinical trials were too small to adequately assess improvements in important outcomes
- ◆ Pioneered the conduct of rigorous meta-analyses of trials to indicate likelihood of small but important benefits
- ◆ Led the effort to mount mega-trials, conducted with minimal paperwork requirements, to assess new treatments for myocardial infarction
- ◆ Has led efforts to reduce smoking in China



JONAS ELLENBERG

- ◆ Two different categories of leadership
- ◆ Applied work at NIH led to important change in medical practice
 - Analysis of observational data motivated him to obtain funding for a multicenter trial of anticonvulsant therapy for children experiencing a febrile seizure
 - Clinical trial showed such therapy (currently standard practice) was harmful rather than beneficial
- ◆ Review of salary data by sector led him to conclude that statisticians at NIH and FDA were underpaid—he put together an extensive package that convinced OMB to establish a special pay rate

AN OPPORTUNITY FOR LEADERSHIP



A NATIONAL AIDS TREATMENT RESEARCH AGENDA

V International Conference on AIDS
Montreal, June 1989

ACT UP

AIDS Coalition to Unleash Power / New York

Treatment and Data Committee

Mark Harrington (212) 353-8430

Jim Ego (212) 232-2769 P.O. Box 442 NY, NY 10017

Dr. Chris Long

David Kirschenbaum

David Long (212) 674-8381

Medicine

FINAL THOUGHTS

- ◆ Don Marquardt, President of ASA in 1986, spoke about "The Importance of Statisticians" in his presidential address
- ◆ He talked about statisticians being AT the table of decision makers rather than BEHIND the table being consulted as the need (perceived by the decision-makers) arose
- ◆ It is easier to be a leader if you are "at the table;" but a leader can be someone who establishes a seat at the table