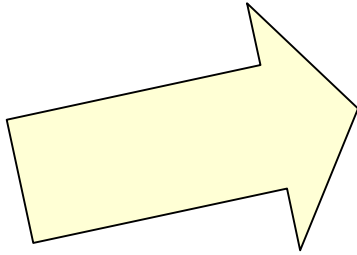


ASAP Newsletter

The Philadelphia Chapter of the
American Statistical Association



February, 2003



<http://www.amstatphilly.org/>

Check it out!

PRESIDENT'S CORNER

ASAP welcomed in 2003 with a wonderful holiday gathering celebrating the lives of several local pioneering statisticians, namely, Joe Ciminera, Mike Free, and Boris Iglewicz, with Bob Davis as emcee (see photo on page 2). The event, held at the University of Pennsylvania's Museum of Archaeology and Anthropology, was enjoyed by all and provided a relaxing social environment for all who attended. Many thanks to the ASAP officers, particularly Paul and Michael, for their efforts in organizing this event.

I am pleased to inform you all that the ASAP officers, on behalf of the ASA Philadelphia Chapter, have nominated Boris Iglewicz for the 2003 Don Owen Award. This award is presented by the San Antonio Chapter of the ASA to a statistician who embodies the three-fold accomplishments of Professor Donald B. Owen, who before his death in 1991 was Distinguished Professor of Statistics at Southern Methodist University in Dallas, Texas. Nominees are evaluated for excellence in research, statistical consultation, and service to the statistical community. We are all hopeful that Boris will receive this award, as he is truly deserving of it.

ASAP is sponsoring awards at the upcoming Delaware Valley Science Fair. This program was founded in 1949 and was designed as a vehicle for stimulating interest in science and technology among students in middle and high schools in the tri-state area. If you're interested in participating as an ASAP judge, you can register online (see page 6) or contact an officer (see page 8).

Our spring meeting will be held on Friday, March 14, 2003 and will feature 3 outstanding presentations (see further details, including information on registration, on pages 2-5). I sincerely hope that you will join us for this stimulating spring meeting. Please RSVP by March 7. Your active involvement is vital to the sustained success of our local ASA chapter.

Finally, the election for 2003-2004 ASAP officers is just around the corner, with the following four positions set to expire on June 30, 2003: President; Vice President; Secretary; and Treasurer. Please consider serving ASAP in one of these positions, and look for details on the election process in an upcoming newsletter.

As always, if you would like to suggest names of speakers for future meetings, propose topics for short courses (see raffle opportunity on page 6), etc., please don't hesitate to contact either myself or any chapter officer; contact information is available on page 8 and on the ASAP website.

Looking forward to seeing you in March!

~ Kim DeWoody

"A SESQUICENTENNIAL OF STATISTICS"



(left to right) Boris Iglewicz, Mike Free, Joe Ciminera, and emcee Bob Davis discuss their pioneering experiences January 10, 2003

CALENDAR OF EVENTS

Tuesday, Feb. 18:	Biostatistics Applied Research Forum at Penn
Thursday, Feb. 20:	Early Bird Deadline for ENAR registration
Friday, March 7:	RSVP deadline for ASAP Spring Meeting and Raffle
Friday, March 14:	ASAP Spring Meeting
Sunday, March 30:	ENAR begins in Tampa, FL
Wednesday, April 2:	Delaware Valley Science Fair judging day
Friday, April 25:	"Probable Justice: Statistics and the Judiciary"

ASAP SPRING MEETING: FRIDAY, MARCH 14

DATE: Friday, March 14, 2002, 11:30am-3:30pm LOCATION: Renaissance Hotel, Philadelphia Airport, 500 Stevens Drive (610-521-5900)		
LUNCH DETAILS: <u>Hot lunch buffet</u> includes: tossed salad with choice of dressing; ravioli with marinara sauce; chicken cacciatore; chef's selection of vegetable; rolls & butter; dessert table; coffee, tea, decaffeinated coffee, assorted sodas and iced tea	PROGRAM	
	TIME 11:30 - Noon Noon - 1:00 1:00 - 1:05 1:05 - 1:50 1:50 - 2:35 2:35 - 2:45 2:45 - 3:30	Meeting check-in and payment Lunch Introduction -- <i>Kim DeWoody (ASAP President)</i> Weighted Least Squares Modeling of Correlated Binary Data -- <i>Mitchell Rosen (ICON)</i> Analysis of Count Data in Clinical Trials -- <i>Mani Lakshminarayanan (Centocor)</i> Break A New Framework for Analysis of Clustered Binary Outcome Data -- <i>Randall Rieger (West Chester University)</i>
COST: \$35 including lunch; \$20 for full-time students, retirees, and those <u>not</u> electing lunch.		

Directions. The Renaissance Hotel Philadelphia Airport, 500 Stevens Drive, is located in the Airport Business Center at the Philadelphia International Airport, with easy access to I-95, Schuylkill Expressway (I-76), Blue Route (I-476), and Highway 291. For additional information see <http://www.interamerika.com/USA-Pennsylvania-Philadelphia-RadissonHotel-PhiladelphiaAirport.htm#Location>.

Registration: Please RSVP by Friday, March 7 to Risa Cuebas (484-865-2071 or cuebasr@wyeth.com). SPECIFY COMPANY/INSTITUTION, WHETHER YOU WILL BE EATING LUNCH, AND IF YOU ARE A STUDENT. Send checks payable to “ASAP” to Ms. Risa Cuebas, COL RC-3258, Wyeth Research, P.O. Box 42528, Philadelphia, PA 19101. You may also pay by cash or check at the meeting, but PLEASE REGISTER IN ADVANCE to assist us with a head count.

ABSTRACTS AND BIOSKETCHES

Weighted Least Squares Modeling of Correlated Binary Data

Mitchell Rosen, Ph.D.

ICON Clinical Research

Abstract

This talk shows how weighted least squares (WLS) can be used to estimate the per unit agreement rate and to compare treatment effects in the presence of covariates in correlated binary data. Three WLS estimators that are mathematically equivalent to the ratio, weighted, and optimal estimators are studied. A WLS estimator that utilizes inverse-variance weighting is proposed. WLS confidence intervals based on this estimator demonstrated superior empirical confidence interval coverage and lower standard errors than the traditional ratio and weighted estimators. In the treatment effect estimation scenario, WLS was unbiased and demonstrated good power compared to the weighted estimator. The advantage of the WLS approach for statistical modeling and is also demonstrated.

Biosketch

Mitch Rosen is Senior Biostatistician, Project Director at ICON Clinical Research, a CRO in North Wales, PA. He has worked as a biostatistician in academia and industry since 1983. His previous positions include Senior Biostatistician at Nycomed Amersham and FMC Corporation. Among his statistical interests are applications of weighted least squares and transformations of data to achieve normality. He received a Ph.D. in Quantitative Psychology from Temple University in 1987.

Analysis of Count Data in Clinical Trials

Mani Lakshminarayanan, Ph.D.

Centocor, Inc.

Abstract

Endpoints (efficacy or safety) that are typically considered in clinical trials are continuous or discrete in nature. Time to event endpoints is also common in cardiovascular and cancer related clinical trials. Recent literature indicates that count data are increasingly common in many clinical therapeutic areas. Examples of such endpoints include number of new enhancing lesions read on MRI scans in multiple sclerosis trials (NEJM 2003; 348:15-23), number of seizures in epilepsy trials (NEJM 2001; 345:311-318), number of hospitalizations etc. It is not unusual to reformulate such endpoints as either continuous or discrete due to the underlying analytical and computational difficulties.

Poisson models provide a standard framework for the analyses of count data. Over-dispersion under the Poisson framework occurs when the variance exceeds the mean as opposed to mean being equal to the variance under the Poisson model. Excessive zeros may typically cause over-dispersion in count data. Such zero-inflated count data are usually analyzed based on negative binomial or zero-inflated Poisson (ZIP) models (Technometrics 1992; 34:1-14). In this presentation, we will provide a general overview of these models and other models useful for modeling count data, which exhibit over-dispersion. Analytical details, software availability and examples will also be provided in support of the overall discussion.

Biosketch

Mani Lakshminarayanan is Director of Biostatistics at Centocor, a subsidiary of Johnson and Johnson in Malvern. Before joining Centocor, he spent 10 years at Pfizer (Groton, CT) and 4 years at Hoechst-Roussel Pharmaceuticals. He also has two years full-time and four-years of part-time (as an adjunct faculty) teaching experience. His current statistical interests include modeling count data, Bayesian approaches in clinical trials and data monitoring. He received his Ph.D. in Statistics from the Southern Methodist University in 1984.

A New Framework for Analysis of Clustered Binary Outcome Data

Randall Rieger, Ph.D.

West Chester University

Abstract

Conditional Logistic Regression (CLR) is a commonly-used method of clustered binary outcome data analysis when interest lies in estimating the cluster-specific exposure effect, while treating the

dependency arising from random cluster effects as nuisance. CLR achieves this goal by creating a conditional likelihood that does not include the baseline risks. CLR assumes that all unmeasured cluster-specific factors are aggregated into a cluster-specific baseline risk. Within Cluster Paired Resampling (WCPR) is proposed as an alternative method for analyzing clustered binary outcome data while conditioning the cluster effects out of the likelihood. WCPR allows for within-cluster dependency not solely due to baseline heterogeneity. For example, dependency may arise due to heterogeneous susceptibility within each cluster.

Extensive simulation study results will be presented to compare the finite sample behavior of WCPR to that of CLR. When both CLR and WCPR are valid, our simulations suggest that the two methods perform comparably. When CLR is invalid, WCPR continues to have good operating characteristics. For illustration, we apply both WCPR and CLR to a periodontal data set that exhibits between-cluster heterogeneity in response to exposure.

In addition, we propose the Test of Heterogeneous Susceptibility (THS), a simple non-parametric test to assess the assumption of homogeneity in response to exposure in the CLR model. Simulations and a data example demonstrate that the test has reasonable power to reveal violations of homogeneity.

Biosketch

Randall Rieger joined the faculty at West Chester University as an Associate Professor of Statistics in 2000. At West Chester, he has developed a graduate program in Applied Statistics and currently serves as Program Director. He has worked at Centocor, the National Institute of Environmental Health Sciences (NIEHS), the University of North Carolina, Pacific Biometrics in Seattle, and the University of Connecticut Medical School in Farmington. He has published and presented papers on a broad range of subjects including clustered binary outcome data, statistical methods for testing genetic linkage and association, microarray technology, minority public health, and teaching methods in statistical education. His work has been supported by grants from the NIEHS and IMS. He received an M.S. and a Ph.D. in Biostatistics from the University of North Carolina in Chapel Hill.

DELAWARE ASA SPRING CONFERENCE: "PROBABLE JUSTICE: STATISTICS AND THE JUDICIARY"

Friday, April 25, University of Delaware, Clayton Hall, Newark, Delaware

Speakers and topics will include: **Patrick Ball**,

"Using Multiple System Estimation to Model Patterns in Mortality due to Political Violence";

Eugene P Ericksen, "Politics, Science and Census Adjustment: 1980-2000";

William B. Fairley, "A Consulting Role in Legal Applications";

Seymour Geisser, "Statistics, Litigation and Conduct Unbecoming";

Joseph Gastwirth, "Statistical Issues Arising in Discrimination Cases"; and

Bruce Weir, "Current Statistical Issues Surrounding the Forensic Uses of DNA Profiles"

Registration is \$125 in advance, \$150 at the door, \$100 for groups of at least four, and \$25 for students. For more information see http://www.udel.edu/ASA/conf_sum_03.html or contact Stephen Bingham (stephen.bingham@med.va.gov, 410-642-2411 ext. 5301, fax: 410-642-1129)

DELAWARE VALLEY SCIENCE FAIR

ASAP is looking for a few good judges. Approximately 1,000 6-12th graders from the Tri-State area will compete April 1-3 at the Fort Washington Expo. Winners earn prizes and the right to enter their original science project at the International Science and Engineering Fair in May. ASAP is sponsoring three "Special Awards" to students for the best use of statistics. Judging will take all day on Wednesday, April 2 beginning at 8am. Continental breakfast and a box lunch will be provided. If you would like to help judge posters, please speak with an ASAP officer (see page 8) or register online at <http://www.drexel.edu/dvsf/judging.htm> -- be sure to mention you are a "Special Awards judge" with ASAP. Thanks!

PASTA: PHILADELPHIA AREA STATISTICS TEACHERS ASSOCIATION

Please contact Ruth Carver (rcarver@germantownacademy.org), Sue Peters (peterss@aol.com), or Janice Ricks (ricksj2@yahoo.com) with for a meeting schedule and questions.

BIostatistics APPLIED RESEARCH FORUM AT THE UNIVERSITY OF PENNSYLVANIA

On Tuesday, February 18 at 4:00pm, 701 Blockley Hall, 423 Guardian Drive, Dr. Hua Yun Chen will discuss, "Non-Parametric and Semiparametric Models for Missing Covariates in Parametric Regression." Please see <http://cceb.med.upenn.edu/main/news/barf.html> for a schedule of bi-weekly meetings. Email Kristen Goodwin (kgoodwin@cceb.upenn.edu) to be added to the distribution list.

RAFFLE! WIN FREE ENTRY TO THE ASAP SUMMER SHORT COURSE!

What topic would you like presented for a one-day short course, to be held in June or July? Possibilities suggested by former participants include: GEE; meta-analysis; experimental design; survival analysis; data visualization; non-parametric data analysis; and interim analysis. To enter, complete the form below and return it to ASAP Newsletter Editor Paul Johansen by **Thursday, March 13** -- you could win a free day of statistical education (~\$100 value)! One winner will be randomly selected at the Spring Meeting on March 14. Thanks for your participation.

ASAP RAFFLE: Copy, paste, and return by Thursday, March 13 to paul_johansen@merck.com. Drawing will be held Friday, March 14.

Name: _____

Email: _____

Phone: _____

Short Course Topic: _____

ENAR IN TAMPA

The Early Bird Deadline for ENAR Registration is Thursday, February 20.

Please see <http://www.enar.org/2003-spring-program.pdf> for details.

TREASURER'S REPORT

BALANCE FORWARDED (30-Sep-02)	\$ 3,739.40
INCOME:	
ASA Chapter Dues	
Jul-02	\$ 120.00
Aug-02	\$ 73.00
Sep-02	\$ 235.00
Oct-02	\$ 108.00
<i>Sub Total</i>	\$ 536.00
Fall Meeting (Oct 2002)	
Registration	\$ 700.00
"Sesquicentennial of Statistics" (Jan 2003)	
Merck contribution	\$ 2,000.00
Registration	\$ 1,990.00
<i>Sub Total</i>	\$ 3,990.00
TOTAL INCOME:	\$ 5,226.00
EXPENSES:	
Fall Meeting (Oct 2002)	
Facility, meals	\$ 912.63
Reimbursement to speakers	\$ 68.50
<i>Sub Total</i>	\$ 981.13
"Sesquicentennial of Statistics" (Jan 2003)	
Museum space rental	\$ 1,420.00
Catering	\$ 3,104.38
Audio technician	\$ 675.00
<i>Sub Total</i>	\$ 5,199.38
Grant to Indiana University (PA) for PAStatistics Poster Competition	\$ 250.00
Newsletter	
Supplies (Oct-2002)	\$ 41.33
Supplies (Dec-2002)	\$ 14.85
<i>Sub Total</i>	\$ 56.18
TOTAL EXPENSES:	\$ 6,486.69
BALANCE FORWARDED (31-Jan-03)	\$ 2,478.71

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* Elected position

**Appointed position

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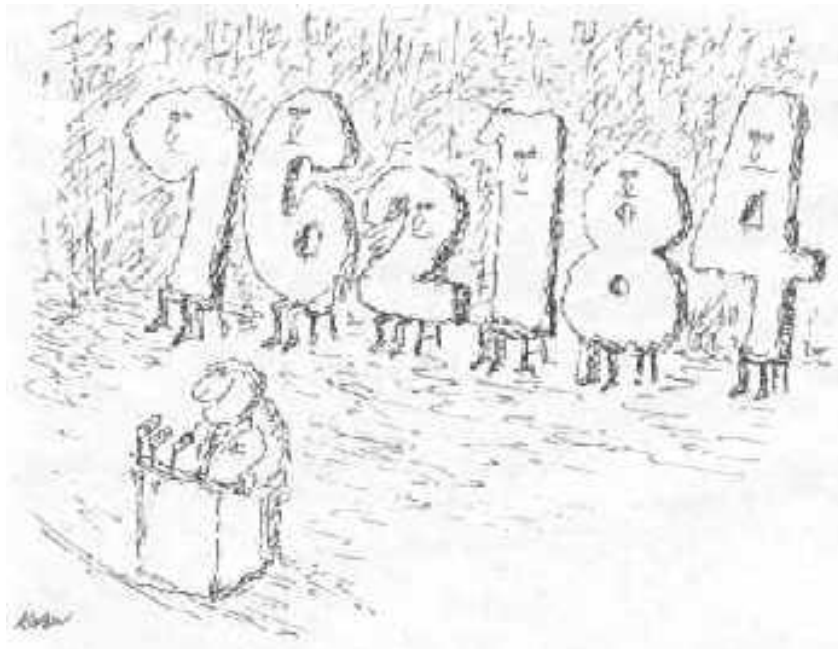
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“Tonight we’re going to let the statistics speak for themselves.”