

THE STATISTICAL CONSULTANT

Section on Statistical Consulting
Christina M. Gullion, Editor
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Comments from the Section Chair

Janice Derr, Food and Drug Administration

I am glad to be serving as chair of this Section. My association with the Section dates back almost to the very first edition of *The Statistical Consultant*, published in 1984. When

I started participating we were known as the Subcommittee on Statistical Consulting Education (part of ASA's Section on Statistics Education). Judy Evaul served as the first editor

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of the newsletter until 1987, when the honor devolved on me.

The format of the newsletter has changed remarkably over the years. The first editions were typed (on a typewriter!) and duplicated. Then along came the first word processors. Eventually it became much easier for a regular civilian to edit and lay out a newsletter electronically. Later on, graphic elements could be easily added and we developed a logo for the Section in electronic format. Now you can download the newsletter off our web site!

Over the years the subcommittee has changed and grown too, becoming first a subsection in 1990 and then a section in 1991. Our membership has grown by leaps and bounds, to around 1500 members. Perceptions of statistical consulting have changed also. I applaud the view that statisticians have a lot to contribute to the goals of their organizations.

I hope that you will participate in the ac-

tivities of the Section on Statistical Consulting. We will all benefit from your energy and your ideas. Please visit our web site and give us feedback about what you would like to see there. We are in the process of developing this site with help from the Statistical Consulting Center at Penn State University. Your input would be most welcome. You can reach our Web page through the ASA website at <http://www.amstat.org>. You can reach me by email at jderr@cvm.fda.gov.

The Statistical Consultant has been an important means of outreach to our colleagues in statistical consulting. It has been in good hands with editors Ron Wasserstein, Tom Santner, Rob Leighty, Murray Clayton and now Chris Gullion. I wish Chris the best as she contributes her ideas and organization to the newsletter, and add my thanks to Murray for a job well done.

Announcement of Travel Award Competition

The Section on Statistical Consulting is soliciting ideas for Topic (Special) Contributed Paper Sessions for the 2000 Joint Statistical Meetings to be held in Indianapolis, IN, August 13–17, 2000. A \$500 travel award will be given for the winning proposal. The proposer will be responsible for lining up the speakers and coordinating submission of abstracts.

To submit a proposal, prepare a short (not more than one page) description of the session, covering the theme, the types of papers or discussions to be included, and the intended audience. A list of possible speakers is helpful, but not required.

Proposal submission deadline: September 1, 1999.

Proposals may be sent by mail, fax or e-mail to

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Do We *Really* Want To Be Called *Statisticians*?

Richard Browne, Texas Scottish Rite Hospital for Children

Do we *really* want to be called *statisticians*? Is *statistics* the best name for what we do? I don't think so. I'll explain why, and then I'll offer some alternative names for us and for our profession.

Are the names *statistics* and *statistician* adequate and satisfying descriptors of our work and our profession? Do those terms even evoke a positive image? Consider how most people react to the term *statistics*, even without taking a course in statistics. *Dull, dry, musty, tedious, and unimaginative* are among the terms that may come to mind.

For many people, the stereotype of a statistician is a humorless, pasty person who scours large, dusty ledgers to compile lists such as the annual population of Cleveland since 1865. Even the dictionary defines a statistician as: "one versed in or engaged in compiling statistics." UGH! What a dreary, narrow notion. Is it any wonder that few people think about becoming statisticians today?!

Therein, I believe, lies the root of our problem. I contend that the title of *statistician* and calling our field *statistics* are outmoded, limiting and misleading names for who we are and what we do. *Statistician* may have been an appropriate title 100 years ago, when counting the living and the dead was the primary task of a statistician. We have long since outgrown it.

For most consultants I know, including me, compiling statistics (i.e., computing numbers to represent the findings of a study) is just one facet of what we do. In my humble opinion, my greatest value is in helping researchers to:

- plan a study by spotting the potential weaknesses of a plan of action, pointing out possible flaws in the assumptions, and making recommendations that will greatly enhance the value and ease of ex-

ecution of the study;

- find ways to collect information that is reliable and defensible, for example, by asking the right questions about bias in the sample, and making sure studies measure what needs to be measured, rather than what is easy or cheap to measure;
- keep focused on meaningful and achievable goals, making sure that they don't get distracted into peripheral issues without answering the main question;
- decide when data should or should not be included in the final analysis, by serving as an independent arbiter and conscience of the study;
- decide when to combine results and when to keep them separate in the final report so that the results represent definable groups, not a mythical "average" group;
- recognize the limits of applicability of their findings and conclusions, so that what they report is both intellectually honest and easily defensible, and
- select the best ways to summarize the study data.

Modern-day statistics are only part of the tools I have for helping others. Unfortunately, I believe, we have let others stereotype us as limited to the computation of statistics by the choice of what we teach as well as by what we call ourselves.

Earlier this year, James Higgins (1999) wrote, "Statisticians must recognize that the nonmathematical aspects of the undergraduate discipline are of significant benefit to society and include these things in the curriculum

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if statistics is to develop its own identity apart from mathematics” (p 2).

I fully agree that the nonmathematical aspects are what give us a real and distinct identity (and value) apart from theoretical mathematicians. Granted, many of us are mathematicians at heart and place great value on the theoretical developments of the past 100 years. However, as long as *statistics* is seen as our main reason for being, we will be increasingly marginalized in both industry and academics.

New names have been proposed for our profession in the last few years, including *statistical science* and *data science*. These seem to be a positive step, but I contend that these names still limit us to being “data people” and little more than that.

I would like to formulate a new name for us and what we do. Consider these definitions: an *investigation* is “observing or studying by close examination and systematic inquiry”. To be *systematic* is to be “methodical in procedure or plan, marked by thoroughness and regularity”. An *inquiry* is “an examination into facts or principles”. These are aspects of what we do. A *science* is “a system or method reconciling practical ends with scientific laws”. This also is part of what we do.

Most would agree that (if we have the opportunity) we have something to contribute to virtually all phases of an investigation, not only the “crunching of numbers”. For that reason, I propose that our profession be formally expanded to include the nonmathematical and philosophical aspects of what we actually do already, and call it *investigational sci-*

ence. Those of us working in this field would be called *investigational scientists*.

In addition to traditional statistics courses, investigational science students would take nonmathematical courses such as: *The Scientific Process, Planning and Managing Surveys* (what many more people will do than do t-tests or regressions), *Communicating Statistical Ideas*, and *Management Principles for Studies* (see Higgins, 1999). The more traditional statistics courses could be retooled as data reduction and analysis tools to be taught as *Data Analysis and Presentation Methods*.

My hope is that this article will stir up some useful discussion about how we want our profession and ourselves to be viewed in the future. An alternate name that has come up is *stochastic science*. Perhaps you can come up with a candidate name and share it with the Statistical Consulting Section.

Lastly, I propose that the American Statistical Association (or whatever it might be called in the future) develop a new logo for the new millennium. A nonstatistical friend saw the ASA logo on *Amstat News* and commented: “Gee, what a logo! Two snakes and a vulture. How appropriate for statistics!” I pointed out that it is an eagle and not a vulture; however, it does seem to me that we can do better than that.

Reference

Higgins, J. J. (1999), Nonmathematical statistics: A new direction for the undergraduate discipline. *American Statistician* 53, 1-6.

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Nominations for Section Officers Sought

George McCabe, Purdue University

The Section Nominating Committee needs to submit names of nominees for section officers by mid September, for terms to begin in January 2001. Please submit suggested nominations to George McCabe, Nominating Committee Chair, at Phone: 765-494-6047
Fax: 765-494-0558
mccabe@stat.purdue.edu.

The offices for which nominations are needed (with length of term) are:

- Chair (3 yrs: elect, current, past)
- Representative to the Council of Sections (3 yrs)
- At-large member of the Executive Committee (3 yrs)
- Publications Officer (2 yrs)

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Activities at the 1999 Joint Statistical Meetings

Douglas G. Simpson, University of Illinois

Mixer and Business Meeting

The Consulting Section is sponsoring a mixer immediately following the business meeting at the JSM. All members and prospective members are welcome at both the business meeting and the mixer. These activities will take place on Tuesday, August 10, from 5:30 p.m. to 7:00 p.m. See the program at the JSM for the location.

We especially welcome the applied statisticians within ASA who are looking for a section that fits their particular needs. Please join us for food and drink and to meet fellow consultants and applied statisticians with similar interests. See you in Baltimore!

1999 Travel Awards

Two travel awards were given this year. These awards go to Nancy Fenn Buderer, for the session, *Creating a Collaborative Environment Between Statistical Consultants and Their Clients*; and Barbara Mann, for the panel discussion, *What My Mother Never Told Me: Learning the Hard Way*. Our congratulations and thanks go to these section members for organizing interesting sessions.

The 1999 JSM Program

The theme for the 1999 Joint Statistical Meetings is “Statistical Science at the Interface”. The full JSM program is on the web at <http://www.amstat.org/meetings/jsm/1999>.

Our section is sponsoring or co-sponsoring four invited sessions, two topic (special) contributed sessions and a regular contributed session. These sessions cover a range of important topics such as training for careers in consulting, communicating effectively with clients, using recently developed statistical methods, and working in the new environments for government and private industry consulting. Session details and abstracts are given below.

Presentations Sponsored or Co-sponsored by the Statistical Consulting Section

Sunday, August 8, 4:00 p.m. – 5:50 p.m.

Topic (Special) Contributed Session: CREATING A COLLABORATIVE ENVIRONMENT BETWEEN STATISTICAL CONSULTANTS AND THEIR CLIENTS

Organizer: Nancy Fenn Buderer, St. Vincent Mercy Medical Center

Chair: Brenda Gaydos, Eli Lilly

Co-sponsors: Biopharmaceutical Section, Section on Physical and Engineering Science

4:00 Moving From Consulting to Collaboration.
Barbara Tilley, Medical University of South

Carolina

4:20 Talking about Statistics with Your Client.
Janice Derr, Food & Drug Administration

4:40 Client Expectations in a University Statistical Consulting Laboratory.
Holmes Finch, University of South Carolina

5:00 A Physician’s Perspective on Collaboration with Statistical Consultants.
Michael Plewa, St. Vincent Mercy Medical Center

University of Illinois, Department of Statistics, 101 Illini Hall, 725 South Wright Street, Champaign, IL 61820 (dgs@uiuc.edu)

5:20 Written Communication Skills for Consulting Statisticians.
Nancy Fenn Buderer, St. Vincent Mercy Medical Center

5:40 Floor Discussion

Abstract: The purpose of this session is to provide statistical consultants with powerful human or interpersonal methods to create significant interactions with their clients. Experienced statistical consultants will present ways to conduct efficient and productive consulting sessions, skills for verbal and written communication, and approaches for dealing with difficult clients.

Monday, August 9, 8:30 a.m. – 10:20 a.m.

Invited Session: THE NEW ENVIRONMENT FOR INDUSTRIAL STATISTICIANS: SOME CASE STUDIES

Organizer and Chair: Gerald Hahn, General Electric

8:35 Six Sigma and the Statistician: Obtaining Maximum Effectiveness in the New Business Environment.
William J. Hill, Allied Signal

9:00 Successfully Communicating Uncertainty (at least 90% of the time).
David Coleman, Alcoa

9:25 Meeting the Challenge of Improving Business Performance.
Ronald D. Snee, Management Consultant

9:50 A Glimpse At The New Environment in Business and Industry.
Roger Hoerl, General Electric

10:15 Floor Discussion

Abstract: Numerous talks have been given, and papers written, concerning the new industrial environment, its challenges to consulting statisticians, and how we should respond (e.g., Hahn and Hoerl in August 1998 *Technometrics* with discussion). The purpose of this session is to provide specific examples of these challenges, via case studies, and how they were successfully addressed.

Monday, August 9, 10:30 a.m. – 12:20 p.m.

Contributed Session: STATISTICAL CONSULTING: TRAINING, CASE STUDIES AND METHODS

Chair: Robert Gerzoff, CDC

Co-sponsor: Biopharmaceutical Section

10:30 Active Consulting Education for Undergraduates.
Karen Boomer, Pennsylvania State University

10:45 Performance Consulting: A Route to High-Impact Statistics Training.
Ray Crain, C. Ray Crain Consulting

11:00 Multivariate Graphical Methods for Analyzing Binary and Categorical Data in Data Mining Applications.
Bruce L. Brown, Brigham Young University, and Suzanne Hendrix, SIMS LC

11:15 A Heterogeneous Variance Model with Interactions for Prosthodontics Failure Load.
Stuart A. Gansky and Donald A. Curtis, University of California, San Francisco

11:30 Multiple Comparisons in Mixed Models.
Stacey Major, Paul Stewart, and Keith Muller, University of North Carolina, Chapel Hill

11:45 Handling Various Covariance Structures in Repeated Measures: Comparison of ANOVA-Based, MANOVA-Based and Multilevel Regression Methods.
Suzanne Hendrix, SIMS LC, Bruce L. Brown, Brigham Young University, and Joseph Olsen, SIMS LC

12:00 Methods for Controlling Test Size with an Internal Pilot Study.
Christopher S. Coffey and Keith Muller, University of North Carolina, Chapel Hill

12:15 Floor Discussion

Tuesday, August 10, 10:30 a.m. – 12:20 p.m.

Invited Session: STATISTICAL CONSULTING AND INTERDISCIPLINARY RESEARCH AT THE NATIONAL LABORATORIES

Organizer and Chair: Cliff Spiegelman, Texas A & M University

10:35 Some Applications of Statistics to Materials Science at the National Institute of Standards and Technology.
Mark Vangel, National Institute of Standards and Technology

11:05 Consultants, and Colleagues: The Changing Role of Statistics at Sandia National Laboratories.
Kathleen Diegert, Sandia National Laboratories

11:35 Statistical Collaborations: Have They Changed or Have I?
Richard Beckman, Los Alamos National Laboratory

12:05 Floor Discussion

Abstract: The National Laboratories have been leaders in cutting edge interdisciplinary research. In the post-cold war era the labs are in transition and their enterprises are becoming increasingly entrepreneurial. Speakers present case studies and experiences with consulting and research in this entrepreneurial environment.

Wednesday, August 11, 8:30 a.m. – 10:20 a.m.

Topic (Special) Contributed Panel: WHAT MY MOTHER NEVER TOLD ME: LEARNING THE HARD WAY

Organizer: Barbara Mann, Wright State University

Chair: Jun Liu, Research Triangle Institute

Panelists:

Barbara Mann, Wright State University
Linda Quinn, QED Industries
Thomas Boardman, Colorado State University
Thomas Bishop, Bishop & Associates
Brenda Gaydos, Eli Lilly

Abstract: A panel of experienced statistical consultants will share anecdotes concerning aspects of statistical consulting that they had to learn on the job. Audience members will be invited to contribute their own experiences, with the results to be compiled for submission to *The Statistical Consultant*.

Wednesday, August 11, 2:00 p.m. – 3:50 p.m.

Invited Session: FUNCTIONAL DATA AND SEMIPARAMETRIC INFERENCES ON CURVES IN CONSULTING AND COLLABORATIVE RESEARCH

Organizer and Chair: Douglas Simpson, University of Illinois

2:05 Functional Data Analysis in Action.
James Ramsay, McGill University

2:40 Animating Human Motion Using Functional Regression Analysis.
Julian Faraway, University of Michigan

3:15 Inferences on Conditional Quantile Curves with Applications in Highway Condition Studies.

Xuming He, Douglas Simpson, and Hanga Galfalvy, University of Illinois

Abstract: Consulting often leads to interesting methods research, and modern statistical methods provide important tools for the consultant. This session aims to capture that spirit of work on the interface of statistics and other fields. The speakers show how they use modern statistical methods in consulting problems and specific collaborative research projects.

Thursday, August 12, 8:30 a.m. – 10:20 a.m.

Invited Session: ANALYSIS OF GENOMIC DATA IN DRUG DISCOVERY

Organizer and Chair: Kay Tatsuoka, National Institute of Statistical Sciences

Co-sponsor: Biopharmaceutical Section

8:35 Candidate Gene Analysis.
S. Stanley Young, Glaxo Wellcome, and Christopher Lambert, Golden Helix Datamining

9:00 Analysis of Data from Viral DNA Microchips.
Javier Cabrera, Rutgers University, Dhammika Amaratunga, Mark Erlander, Michael Jackson and Klaus Frueh, R. W. Johnson Pharmaceutical Research Institute, and Peter Ghazal, Scripps Research Institute

9:25 Statistical Methods for Proteomics.
Francoise Seillier-Moiseiwitsch and Anand Ramaswami, University of North Carolina, and Craig Trost, Pfizer

9:50 Discussion
Douglas Simpson, University of Illinois

10:10 Floor Discussion

Abstract: New developments in human genome analysis and molecular biology are transforming the way new drugs are developed. These new developments lead to statistical challenges such as how to analyze and visualize the resulting data sets, which are quite often large and contain ultra-high dimensional data. The talks will present an introduction to and statistical overview of high throughput genomic data especially as it pertains to the pharmaceutical industry.

Ideas for JSM 2000 Invited Sessions Due Soon

Ron Wasserstein, Washburn University

Planning is well underway for JSM 2000 in Indianapolis. The Section on Statistical Consulting will likely have 3-4 invited sessions. Listed below are session ideas that are in varying stages of development at this point. I am still looking for additional ideas, and just as important, for people willing to organize a session around their ideas. I need to have sessions fairly well developed by the time the 1999 meetings begin August 8.

Please contact me as soon as possible at 913-231-1010, fax: 913-231-1089) or ron@washburn.edu if you are willing to organize a session and have an idea that you think would be of interest to Section members and others. Sessions addressing technical issues of broad interest are particularly sought. Please see also the note on the Statistical Consulting Section Travel Award, elsewhere in this edition of *The Statistical Consultant*.

Program plans for JSM 2000 for the Section at this point are:

INVITED SESSION 1:

Tentative title: STATISTICAL CONSULTING IN THE TRENCHES: WORKING WITH PHYSICIAN INVESTIGATORS

Organizer: Nancy Berman, Harbor-UCLA Medical Center

Working abstract: Ideally, the statistician consulting in a medical research environment participates in study design and protocol development, but frequently he/she is called in after the study is underway and often after

data collection has been completed. Speakers will address the problems and methods of proceeding under each of these conditions.

Speakers (tent.): Robert A. Parker, Meredith M. Regan, Janine E. Janosky, Martin L. Lesser

INVITED SESSION 2:

Tentative title: STATISTICAL CONSULTING: CHALLENGE AND CHANGE

Organizer: *to be announced*

Working abstract: Statistical consultants in industrial/commercial settings will discuss the way their work is changing, particularly with respect to changes in technology, in the regulatory environment, and in the relationships that statistical consultants have with other scientists, managers, etc., within their companies.

Speakers: *to be determined*

INVITED SESSION 3:

Tentative title: STATISTICAL CONSULTING: THE CLIENT PERSPECTIVE

Organizer: *to be announced*

Working abstract: We talk frequently with one another as consultants about our relationships with clients, but we have rarely heard what clients say about us. In this session, the clients speak, about their needs and about the benefits they've received and the problems they've encountered in working with statistical consultants.

Speakers: Clients from companies in the Indianapolis area

Electronic Discussion Groups for Consultants

Marcia Gumpertz, North Carolina State University

There are two electronic discussion groups associated with the Statistical Consulting Section, ASACNSLT-ISSUES and ASACNSLT. They have been in existence for about two years but have not received much traffic recently.

ASACNSLT-ISSUES is for discussing career issues of interest to consulting statisticians. This list was conceived for discussion of topics such as work environments, issues specific to non-PhD statisticians, career information, and job and course announcements. This list was previously called ASACNSLT-NONPHD. If you subscribed to that list, you are automatically subscribed to this one.

ASACNSLT is a general forum for Consulting Section members. Topics discussed there include teaching statistical consulting, queries and information about running a consulting business, queries about how to handle

(statistically or otherwise) specific consulting problems, consulting section business and announcements, and discussion of Consultant's Forum topics.

Subscription Information

To subscribe to or unsubscribe from either list, send a message to the listserver address indicated, and in the body of the message put the text indicated, replacing `yournamehere` with your own name. The subject field is ignored, so you don't need to specify a subject.

After subscribing to a discussion group, you can send a message to all the members of it by sending the message to the distribution address listed below. If people have problems with either list they can send a message to the list administrator.

ASACNSLT-ISSUES

listserver address: listserv@jse.stat.ncsu.edu
message to subscribe: subscribe asacnslt-issues yournamehere
message to unsubscribe: unsubscribe asacnslt-issues
distribution address: asacnslt-issues@jse.stat.ncsu.edu
list administrator: Marcia Gumpertz (gumpertz@ncsu.edu)

ASACNSLT

listserver address: majordomo@stat.lsu.edu
message to subscribe: subscribe asacnslt yournamehere
message to unsubscribe: unsubscribe asacnslt
distribution address: asacnslt@stat.lsu.edu
list administrator: E. Barry Moser (barry@stat.lsu.edu)

Are You An Isolated Biostatistician?

Cynthia R. Long, Palmer Center for Chiropractic Research

The only statistician in a work environment—an *isolated statistician*—faces special challenges related to professional solitude (Moore, 1998). Dialogue about this began among a small group of such individuals in 1987, and by 1991 they had formed the *Isolated Statisticians* (IS), which is an affiliated group of the American Statistical Association (ASA).

Members of the IS are typically academic statisticians located in mathematics departments at liberal arts colleges. They have met annually during the Joint Statistical Meetings (JSM) since 1991. Throughout the year, they communicate via an e-mail list, which was begun in 1993 by Jeff Witmer, Oberlin College (Whittinghill, 1998).

Isolated Biostatisticians

Isolated *biostatisticians*, whether in industry, government or academia, also face unique challenges. They may be geographically isolated from other statisticians, or may be part of a non-statistical department in a university setting or government agency. Although the challenges experienced by isolated academic statisticians—such as those served by the IS group—overlap those of isolated biostatisticians, teaching is generally not the primary assignment for the latter group, even in academic settings. Therefore, the topics of discussion in the face-to-face and virtual meetings of the IS do not necessarily meet the needs of many isolated biostatisticians.

As the only statistician at my institution, I am an isolated biostatistician. Since I joined the faculty of the Palmer Center in 1995, the idea of being part of a group of statisticians who have similar concerns has appealed to me. In pursuit of this, I have attended IS meetings at the JSM, as well as one regional meeting,

and am on the IS e-mail list.

Although I like the connectedness these interactions give me, the IS discussions rarely address the issues that arise in my daily activity as a consultant on research projects. These include creating infrastructure for handling data, analyzing data, dealing with limited access to statistical software, to library services, and to support personnel, seeking guidance in preparing grant proposals, and issues of authorship on publications.

An important resource for me has been e-mail relationships with former peers and mentors in graduate school, some of which have evolved into formal collaborations. However, I often wonder what would happen if I were to exhaust these relationships, as well as how other isolated biostatisticians handle these challenges.

1998 JSM Panel Session

Last year, I organized and presided over a panel session at the JSM on *Resources for Isolated Biostatisticians* (Long, Whittinghill, Arndt and Melander 1999). This session was conceived as an opening discussion of the unique challenges faced by isolated biostatisticians, with a focus on identifying existing resources to meet these needs.

The panelists were Stephan Arndt, who works in the Department of Psychiatry at The University of Iowa, Todd Melander, who has worked for medical device companies and currently does freelance consulting (Team-Stat Statistical Services, Minneapolis), and Dexter Whittinghill, Dept. of Mathematics, Rowan University, Glassboro, NJ, who is actively involved in the IS.

Approximately 15 people attended the session, primarily biostatisticians from academia,

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both professional staff and faculty. Others audience members were from the pharmaceutical industry, a government agency and a medical center.

The panel focussed on five topic areas:

1. Advice and mentoring from colleagues in support of consulting and applied statistics.
2. Collaborations with other statisticians.
3. Technical and library support.
4. Job retention, promotion and salary.
5. The role of professional organizations.

Internet resources such as newsgroups, chat groups, web sites and e-mail lists were suggested as means of communicating with other statisticians and obtaining technical support (topics 1, 2, and 3). The ease of accessing information and advice via the internet was noted, but the group identified a need for a centralized source of reviews of statistical free-ware, shareware and other software. Another important resource is the local ASA chapter. The value of contacts with former professors and fellow graduate students was also pointed out.

The discussion of job retention and promotion (topic 4) highlighted the need for a biostatistician to log all activities, including consulting, in order to document what she/he is contributing to the department or company. Documentation also is useful in a statistician's effort to control adequately the utilization of his/her services.

Where To Go Next?

During the panel session, three avenues of communication were identified as methods to "de-isolate" isolated biostatisticians. There has been progress on all three.

First, it was decided to take advantage of the opportunity the ASA offers to affiliated groups and organize a meeting during

the 1999 JSM. The meeting time and location will be listed under JSM 1999 Meeting on the ASA web page (www.amstat.org), as well as in the final program. Look for the *Isolated Biostatisticians* meeting, not to be confused with the *Isolated Statisticians* meeting on Sunday evening.

Second, an e-mail list was started, which currently contains 20 names. This has gotten limited use, but I have received requests since JSM last year to add several people to the list, including a biostatistician from England and another from Australia. To join, please contact me at long_c@palmer.edu. A couple of weeks before the JSM, I will send a tentative agenda to everyone on the e-mail list at that point.

Third, volunteers began planning a web page for this group, to provide links to useful resources for biostatisticians and potentially to serve in the future as a central repository of resources. The web page went online in February, 1999, at www.stats.umanitoba.ca/~dmurphy/isobio/index.html. Dennis Murphy, at the University of Manitoba, built it, and has provided links to web sites identified by panelists and audience members as useful for biostatisticians.

Consulting and Applied Statisticians

Although I targeted biostatisticians for the first session, I suspect that all isolated statisticians whose position primarily involves consulting or providing statistical support for research projects face similar challenges. Therefore, I invite anyone who is interested to contact me via e-mail or to join us in Baltimore.

All of the communications I have received since last year's panel session in Dallas have encouraged me to continue the effort to organize a group. We can take solace in the history of the *Isolated Statisticians*. Starting from just a few individuals discussing their plight, this group now has an e-mail list of over 170 members and attendance at their JSM meetings has ranged from 30-55 in recent years. The

successful methods used for organizing and de-isolating academic statisticians can be refined and focused to meet the needs of isolated biostatisticians and consulting statisticians. I look forward to meeting more of you isolated types and sharing our experiences.

References

Long, C. R., Whittinghill, D., Arndt, S. and Melander, T. (in press), Resources for Isolated

Biostatisticians, *Proceedings of the Biometrics Section*, American Statistical Association.

Moore, T. L. (ed.) (1998), *The Statistics in the Liberal Arts Workshop: A History of SLAW - 1987-1997*, Exxon Education Foundation, Irving, Texas.

Whittinghill, D. (1998), *A Brief History of the Isolated Statisticians, with Thoughts for Isolated Biostatisticians*, Technical Report.

Notes from the Editor

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This issue contains a thought-provoking essay by Rich Browne about what we call our profession. If you would like to respond, either with a counter-argument or with further comments along the same lines, I welcome your input.

Rich deserves special recognition for the quality and frequency of his contributions to *The Statistical Consultant*. His article last year, "Tips on Getting the Most out of the Joint Statistical Meetings," (*The Statistical Consultant*, 1998, 15:1-2, pp 7-10) is timeless and well worth reviewing if this is your first JSM (or even if it's not).

I would like *The Statistical Consultant* to be resource and a stimulating forum for ideas and issues that you look forward to reading. While I feel free to ask people to contribute articles, I depend on the willingness of Section members to put their ideas and experiences on paper and send them to me.

Of particular interest are articles about how you operate as a consultant, for example, contracting, costing, ethical dilemmas, authorship policy, client relations, keeping up with the field. Book and software reviews, notices about useful web sites, and accounts of particularly worthwhile continuing education experiences are also welcome.

Discussion of credentialing for statisticians continues, and now programmer credentialing for SAS[®] (which many of us use) has also emerged. *Amstat News* published an article describing the Australian accreditation process in the April 1999 issue (pp 2-3). If you have ideas about what credentialing should be like here, or an opinion one way or the other, I encourage you to contact me about submitting an article.

I volunteered to be editor with some trepidation, but it's turned out to be very interesting and more rewarding than I expected.

Among my adventures has been installing and suddenly learning $\text{\LaTeX} 2_{\epsilon}$. (Also I got a much faster, bigger PC at work because of the $\text{\LaTeX} 2_{\epsilon}$ challenge!) I am grateful to Murray Clayton, the previous editor, for his generous help in getting me started using $\text{\LaTeX} 2_{\epsilon}$ as well as providing guidance on a number of other questions.

As Janice noted in *Comments from the Section Chair*, *The Statistical Consultant* is a work in progress—I have put my own stamp on it with a few stylistic changes, which I hope y'all like.

Following in my predecessor's footsteps, I have combined the Spring and Summer numbers to bring you a larger than usual issue. I plan to go back to three issues per year. The trick is to put the fall issue to bed early enough to avoid holiday interruptions, then recover quickly enough to put together another issue in February.

Elaine Allen has agreed to serve as assistant editor of *The Statistical Consultant*. I appreciate the work she has done on this edition, and look forward to a productive collaboration.

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