

## *Report of October 2009 Survey of ASA Biopharmaceutical Section Members*

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### **Abstract**

In October 2009, a survey was conducted by the Biopharmaceutical section to section members. The 36-question survey was designed to collect information on demography, statistical society involvement, professional experiences, compensation and education, professional meetings and continuing education activities, and career development, as well as to solicit feedback and suggestions from the members on the services provided by the Biopharmaceutical section. The survey was sent to 2422 members with email address on file. Of the 2371 members with correct email address, 636 (26.8%) responded, and 592 completed all 36 questions.

The results showed that most members are in the United States (92.0%); male (67.9%); White (70.0%) or Asian (26.1%); 35-64 years old (77.6%). In terms of working experiences, 67.9%, 52.5%, 28.0%, and 16.7% have worked or are working for pharmaceutical or biotech companies, academia, contract research organizations (CROs), and government, respectively. On average, our members have 8.7 years of experiences in pharmaceutical or biotech companies, 4.3 years in academia, 1.8 years in CROs, and 1.8 years in government.

### **Introduction**

To better serve its members, the Biopharmaceutical Section needs to know who they are, what they do, and what kinds of services and supports they need from the section. The Membership Committee and the member service team of the New Initiatives Committee in 2008 both identified the need to conduct a new survey to update the information collected in the 1996 survey and to obtain more insights into the section's profile, and since then have been working together on the member survey. The survey was designed and finalized by the Survey Committee (Edmund Luo, Ram Suresh, Thomas Lin, and Iksung Cho) in 1Q2009 after incorporating the comments from Biopharmaceutical Executive Committee and ASA Survey Review Committee. The survey was originally planned to be open from October 12, 2009 to October 31, 2009. On October 25, 2009, response rate was about 17%, and a reminder was sent by the hosting website via email to those who hadn't responded, with the deadline extended to November 15, 2009. To boost the response rate, all mandatory questions were changed to optional questions during the survey according to the suggestions received from our members.

### **Method**

After realizing that outsourcing the implementation, conduct and analysis of the survey was beyond the allotted budget, the team proposed a do-it-yourself approach, which was subsequently endorsed by the Biopharmaceutical Executive Committee in June 2009. In September 2009, the 36-question survey was implemented at surveymonkey.com by Edmund Luo, and members' email addresses were provided by the section chair. The

survey invitation and the messages from section chair and chair elect were sent to all members via email from an ASA email account. Each member received a unique hyper link to the online survey hosted by surveymonkey.com. Surveymonkey.com managed the survey and sent pre-set reminder to those who didn't respond. At the survey close, surveymonkey.com provided summary statistics for each question, and the survey results were downloaded for future analysis. To keep the survey anonymous, no name, affiliation, postal address, or email address was collected.

## **Results**

On October 12, 2009, the survey invitation was sent to the 2422 email addresses, of which 51 were outdated. When the survey was closed on November 15, 2009, 636 members (26.8%) responded to the survey, and 592 completed all 36 questions.

### Demographics

The Biopharmaceutical Section membership is primarily located in the US (92.0%) with PA, NJ, CA, NC, MA, MD, CT as the most popular states; 3.0% of the members live in Europe, and 2.0% live in Canada. Most members (67.9%) are male. The vast majority (77.6%) of members are between 35 and 64 years old (Figure 1). As shown in Figure 2, most members are White (70.0%) or Asian (26.1%). About 1.3% of members are Black and 3.6% are Hispanic.

### Statistical Society

Our members have been a professional statistician for 17.4 years on the average with 25% of them being 7 years or less and 25% being 26 years or more. They have been ASA members for an average of 16.5 years and Biopharmaceutical Section members for an average of 9.7 years. About 25.1% of the members belong only to the Biopharmaceutical Section, and 29.7% and 29.5% of the members belong to one additional and two additional sections, respectively.

### Professional Experiences

As shown in Figure 3, 78.3% work primarily on human drugs, 32.4% on biologics, blood and vaccines, and 26.5% on medical devices. Figure 4 shows that 54.1% of the members work primarily on late development, 49.8% on statistical methodology, 33.8% on early development, 19.4% on outcomes research, and 17.2% on pre-clinical.

Of the 611 members who responded to the working experiences question, 67.9%, 52.5%, 28.0%, and 16.7% have worked or are working for pharmaceutical (including device) or biotech companies, academia, contract research organizations (CROs), and government, respectively. On average, members have 8.7 years of experiences in pharmaceutical (including device) or biotech companies, 4.3 years in academia, 1.8 years in CROs, and 1.8 years in government.

The major problems faced by our members are high workload, data quality related issues, and too much time spent on non-statistical tasks. For medical publications, 13.0% of the members are always given adequate credit as a co-author for the statistical work, 43.0% are usually given credit, and 20.8% are sometimes given credit.

### Compensation

As shown in Figure 5, the majority of members (56.9%) earn an annual salary (including usual bonuses) between \$90,001 and \$180,000 with almost uniform distribution in the categories of \$90,001 to 105,000, \$105,001 to \$120,000, \$120,001 to \$135,000, \$135,001 to \$150,000, and \$150,001 to \$180,000, 20.1% have annual salary below \$90,000, and 23.0% above \$180,000.

### Education

The majority (95.0%) of the members hold an advanced degree in statistics or related field: 59.6% with doctorate degree and 35.4% with master's as the highest degree. Some of the members (8.7%) hold a doctorate (including MD and JD) degree in non-statistics related field, and 19.2% have a master's as the highest degree in non-statistics related field. A small proportion (9.1%) of the members is full- or part-time students working on an advanced statistical degree.

### Professional Meetings and Continued Education

The survey asked the members the statistical meetings they attended in the past 5 years regarding frequency and quality. The most popular meetings are JSM, FDA/Industry Statistics Workshop, ENAR, and DIA meetings, attended by 68.3%, 45.1%, 29.2%, and 26.1% of the members at least once, respectively. The highest quality was awarded to the FDA/Industry Statistics Workshop, where 93.9% of attendees rated "excellent" or "good" vs. 90.2% for ENAR, 82.1% for JSM, and 71.8% for DIA meetings. Our members also participated in internal company sponsored meetings, where 38.1% of members attended at least one, and 31.6% at least two such meetings in the past 5 years.

The survey asked for the number of statistical short courses or workshops attended in the last 5 years. The average is 3.1 and the median is 2. In responding to whether the employers provided financial support to attend external statistical conferences and short courses in the past two years, 461 (77.3%) replied Yes while 135 (22.7%) replied No.

The most popular journals are AmStat news, American Statistician, and Statistics in Medicine, read regularly by 88.1%, 55.3%, and 50.7% of the members, respectively. Members regularly read Biopharmaceutical Report (40.8%), Biometrics (37.8%), and JASA (36.6%). In addition, 68 of the 598 members who answered the question listed journals other than those listed in the question.

To search for a paper or a book and to obtain a copy for their statistical work, the most popular tools are Google and employer's library service, used by 76.1% and 60.7% of members, respectively, vs. JSTOR (28.6%) and Current Index of Statistics (25.6%).

### Career Development

In responding to the importance in enhancing and updating statistical skills, our members identified statistical books (93.1%), statistical journals (88.2%), software packages and manuals (87.2%), statistical short courses (82.3%), and statistical meetings (81.1%) as either “very important” or “somewhat important” vs. Biopharmaceutical webinars (62.7%). Our members also identified technical skills, inter-personal skills, presentation skills, and high visibility project work as the most important factors for career advancement.

### Feedbacks on Biopharm Section

In responding to the satisfaction with the Biopharmaceutical Section, 26.9% of the members chose “very satisfied,” 43.4% “somewhat satisfied,” 21.0% “neither satisfied nor dissatisfied,” 3.1% “somewhat dissatisfied,” and 0.3% “very dissatisfied.” The most important services provided by the Biopharmaceutical Section are sponsoring workshops and webinars on Biopharmaceutical topics, sponsoring relevant sessions at annual and spring meetings, and issuing section newsletter.

In responding whether to volunteer for the biostatistical outreach to promote statistics in high schools and colleges, 152 (26.4%) said Yes, and were willing to spend 4.2 hours per month on average.

In the past one year, 51.9% of the members attended at least one session of Biopharmaceutical webinar. On average, our members attended 1.6 sessions in the past one year, and were quite satisfied with the quality: 20.2% rated “excellent,” 50.3% “very good,” and 27.6% “good;” only 1.9% rated “poor”.

For the Biopharmaceutical Report and the Biopharmaceutical Section newsletter, 7.3% of the members rated “excellent,” 28.5% “very good,” 36.1% “good,” and 1.2% “poor,” and 26.9% indicated that they never read it.

In responding to the frequency of hearing from Biopharmaceutical Section about section news, 3.4% of the members desire weekly, 37.7% monthly, 41.5% quarterly, and 13.9% indicated to receive Biopharmaceutical Report only; 3.4% of our members are not willing to receive any news. For desired channels to receive information from the Biopharmaceutical Section, 79.1% of our members preferred updates via email, 48.4% Biopharmaceutical Report, and 25.9% updates via website. In the Biopharmaceutical Report, technical articles were valued by 78.7% of our members vs. industry news by 67.0% and section news 58.1%.

Figure 1: Age

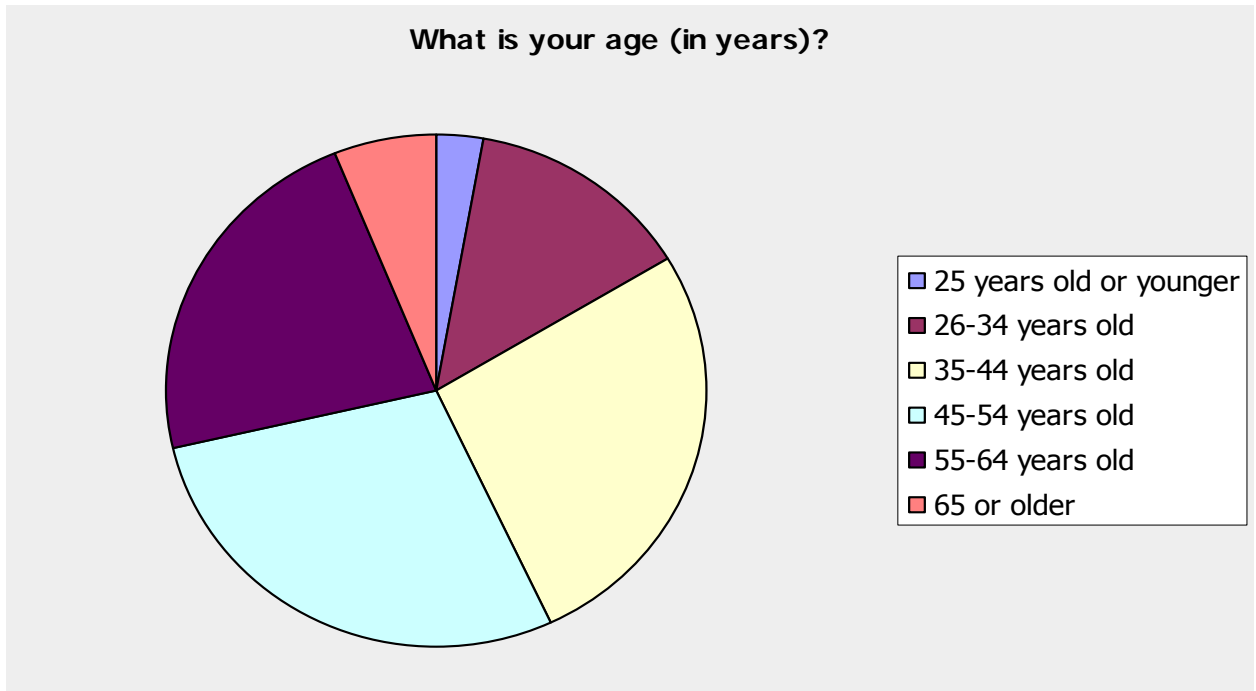


Figure 2: Race

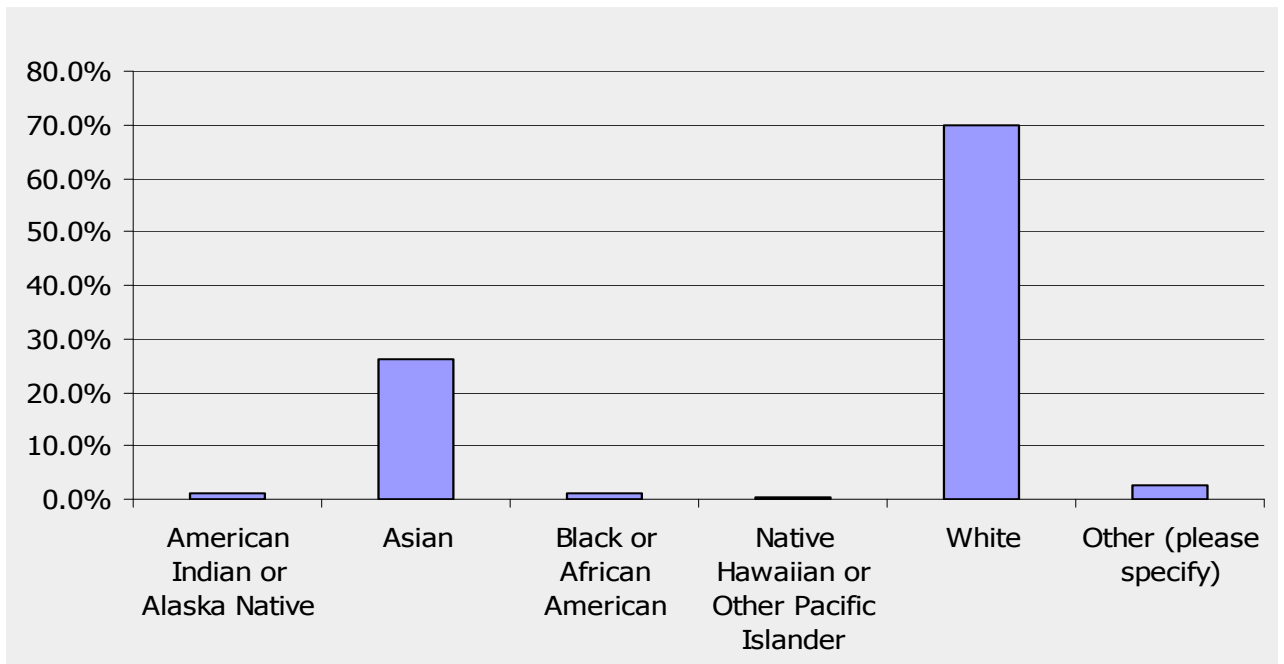


Figure 3: Primary Product Areas

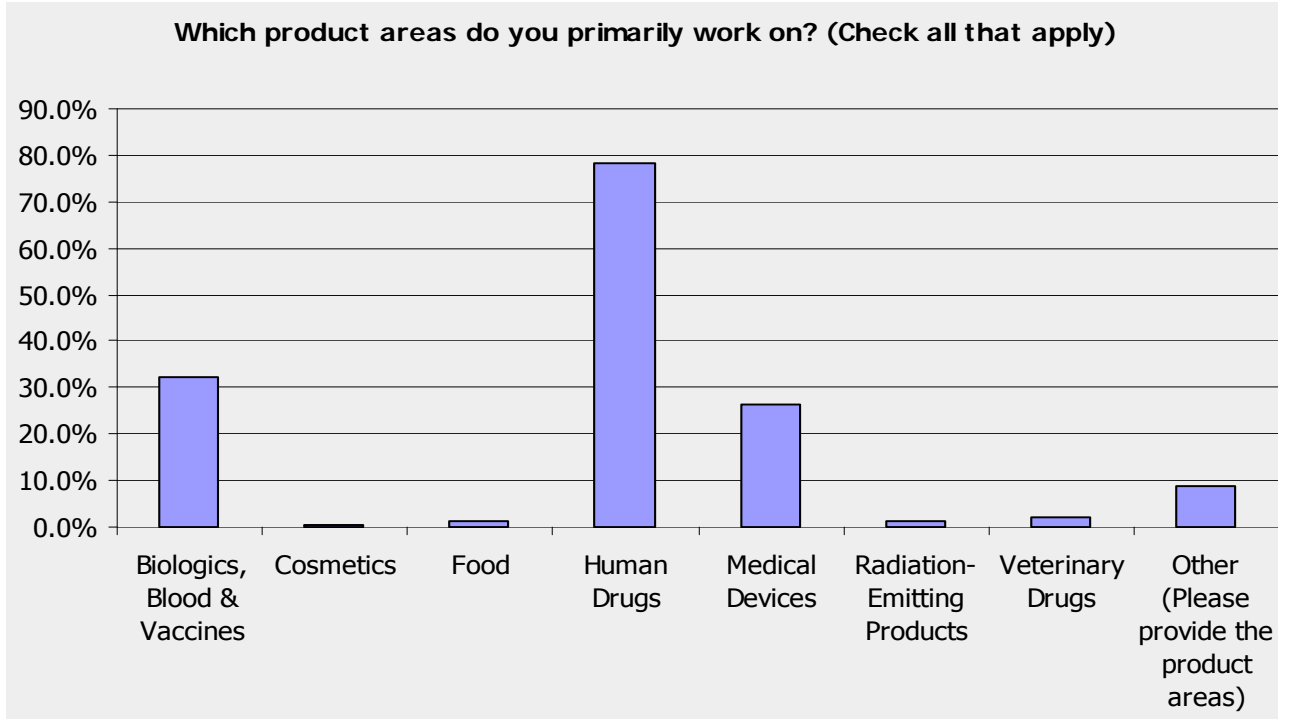


Figure 4: Primary Functional Areas

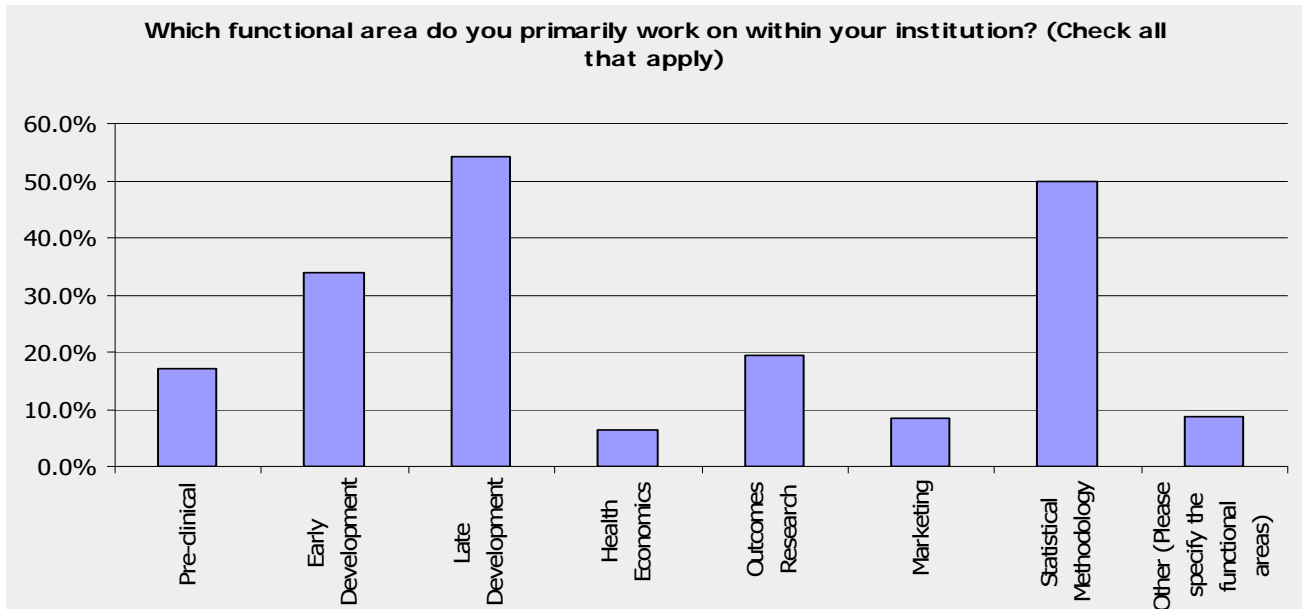


Figure 5: Compensation

