

The Gillings School's BSPH in biostatistics – *35 years of outstanding students*

The BSPH in Biostatistics in our Department is believed to be the first undergraduate degree in biostatistics in the country. With the first graduate from the program receiving her degree in 1978, the Department has enjoyed almost 35 years of educating outstanding undergraduates in the field of biostatistics.

In 1971, Dr. Bernard Greenberg chaired a self-study committee that made several radical recommendations for the SPH. Among them was a call to “institute baccalaureate programs to serve as a prototype.” At the time, undergraduate degrees within public health were uncommon so the recommendation was considered quite innovative.

Departmental minutes reveal that the UNC-CH Department of Biostatistics took steps to develop the undergraduate degree as early as 1972, as they considered “developing a departmental program leading to an undergraduate degree in Biostatistics or Biometry, presumably including aspects of public health, epidemiology, data processing along with statistical and biostatistical training.” Concern was voiced that recruitment would be difficult but that graduates of the program would fill an important need. Faculty recommended that the program be flexible enough so that students were prepared for continued studies in biostatistics as well as for the work force for those who were interested in a “terminal” degree.

Dr. Craig Turnbull served as the Director of Undergraduate Studies from its inception in 1976 until 2006 recruiting and advising more than 180 students during this period. The first BSPH degree was awarded in 1978 to Maura Stokes (see sidebar), who proceeded to receive her MSPH and DrPH in the Department. She currently serves as the Senior R&D Director at SAS Institute. Many graduates of the Department know her as co-author of the book often used for categorical data analysis courses, [Categorical Data Analysis Using the SAS System](#) written with Drs. Charles Davis and Gary Koch.

The second class of BSPH graduates, who graduated in 1981, had 8 students. Of these, two received their doctorates in biostatistics in the Department. The program has long been known for recruiting a small number of talented students, many of whom proceed to graduate programs in biostatistics or medicine. While the curriculum has been periodically revised, it has always had a strong math component, overlap with many of the master's level biostatistics courses, and a public health component.

Dr. Ed Davis, department chair (1997-2005) recalls, “For a number of years, I taught the statistical theory course (at that time it was BIOS 150) which the BSPH students take. The first time I taught it, I was amazed at how good the BSPH students were. There were four young women in the class who aced

every test I gave. I kept up with their careers and it turned out that three of them earned PhDs in Biostatistics and the fourth went to medical school. Over the years, I observed that practically every BSPH class had some students of this quality.”

Since 2006, Dr. Jane Monaco has served as the Director of Undergraduate Studies. By the beginning of the academic year 2012-2013, approximately 270 students will have entered the BSPH in Biostatistics program. Currently the department has 30 students (primarily juniors and seniors) pursuing the BSPH degree as the program continues to grow moderately in size while maintaining the highest standards. According to Monaco, “I have the privilege of working with some of the brightest students in the University. Because they have exceptional talent in math combined with an interest in medical and public health applications, I am fortunate to see many of these amazing young people develop into highly skilled biostatisticians, physicians, and programmers among other roles.”

The latest external program review of the Biostatistics Department commended the program, “.. the BSPH is also a treasure in its own right. There are very few – if any other comparable – undergraduate programs that focus on biostatistics. We found the students to be talented, motivated, and very happy that they had found the program. ... Their quality is high, particularly in the undergraduate degree, and both attract students to Biostatistics that would likely be lost to the profession absent these opportunities”

In the last six years, the first destinations of the BSPH graduate have included biostatistics graduate programs (32%), medical school (28%) , and employment in biostatistical/programming roles (30%). Examples of first destinations of these recent graduates include biostatistics graduate programs (University of Washington, UNC-CH, University of Michigan, Columbia, Emory), medical schools (UNC-CH, University of Virginia, Duke, Wake Forest University, Vanderbilt, MUSC, ECU), and employment (Duke Clinical Research Institute, PPD, RTI, Rho). Within 3 years of graduation, more than 70% of recent BSPH students have entered graduate, professional or medical programs.

According to Dr. Michael Kosorok, “The BSPH degree program is a real gem in our department with a long and storied history. As far as we are aware, it is the oldest and finest such program in the U.S. The students are top notch and the graduates are outstanding and successful contributors to society.”

This article appeared in the December 2012 edition *BIOSrhythms*, the newsletter of the UNC Gillings School’s biostatistics department. (See tinyurl.com/UNC-biosrhythms-bsph.)



Dr. Jane Monaco, Director of Undergraduate Studies, with May 2012 BSPH Bios Graduates, Katherine Hunold (medical school at University of Virginia) and Benjamin Buck (medical school at UNC-CH).



Members of the BSPH Graduating Class of 2011: Mary Cooter (biostatistics graduate program University of Michigan), Chandler Church (medical school MUSC), Noah Seymore (medical school ECU), Rebecca Rothwell (biostatistics graduate school University of Michigan), Young Lee (medical school Vanderbilt).

(SIDEBAR ABOUT) **Dr. MAURA STOKES, First BSPH Biostatistics Graduate**



Dr. Maura Stokes was the first student to graduate from the BSPH program in Biostatistics in 1978. She is currently Senior R&D Director at SAS Institute and co-author of [Categorical Data Analysis Using the SAS System](#). She recalls her experience being recruited to the program and the early years as a biostatistics undergraduate:

“After horrifying my chemistry lab partners with a certain carefree approach to our experiments, and being told that I personally would keep them out of medical school, I decided my latest idea of a major wasn’t going to work out. So I went to Nash Hall, the guidance center at the time, only to have my jack-of-all trades, master-of-none sensibility be confirmed with various tests. The counselor there had just had lunch with Betty Coulter, who had told her about a new undergraduate program at the School of Public Health. The appeal of the Biostatistics major was frankly that it allowed me to pursue areas in which I was interested (math, computer science, statistics) without committing to any specific one. So I signed up. I was the only Biostatistics major in that first group, which also included some students in health administration, health education, and nutrition. I am thus part of permanent Biostatistics Department trivia!

The original Biostatistics program was an almost math major with statistical requirements very close to the statistics option of the undergraduate math major at the time, as well as public health electives. Besides keeping me in school, the program exposed me to the School of Public Health and the possibility of graduate education, which I had never considered. Craig Turnbull secured a summer position for me with Gary Koch after my Junior year, and well, Gary and I just finished the third edition of our book this summer.

So I’m really glad I spilled the white stuff at the lab and sought out other career options!”

The Department of Biostatistics is indeed fortunate that Dr. Stokes stopped by the academic advising center in search of a major and then opted to pursue biostatistics.