



# The American Statistical Association

## San Francisco Bay Area Chapter

Since 1928

January, 1994

### Biostatistics Program and Dinner Meeting

#### Plots for Data on Repairs of Products and Recurrent Diseases Episodes

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Most reliability analyses concern life data on components that fail once and thus have a life distribution. However, many products are repaired and thus undergo repeated failures. Such recurrence data also arise in biomedical data on recurrent disease episodes, factory simulation data, borrower credit histories, sociology, and other data. Until recently recurrence data have not been properly recognized and suitably analyzed.

This talk presents a simple and informative data plot for analyzing censored data on numbers and costs of repairs from sample systems with differing lengths of observation. The plot displays nonparametric estimates of the mean cumulative number (or cost) of repairs per system vs. system age. Its derivative is the instantaneous repair (failure) rate. The plot can be used to

1. Evaluate whether a cost or repair rate increases or decreases with system age (this is useful for system retirement and burn-in decisions).
2. Compare samples from different designs, production periods, maintenance policies, environments, etc. or from different medical treatments or patient groups.
3. Predict future numbers or costs of repairs or recurrences.
4. Reveal unexpected information and insights (an important advantage of data plots).

**Date:** January 20, 1994

**Time:** 6:30 - 7:30 Dinner

7:30 - 8:30 Talk

**Place:** Sunnyvale Hilton Inn  
1250 Lakeside Drive, Sunnyvale

**Reservations:** Call Loren Schoof at (510) 823-9020 or (415) 323-6618 to make reservations for dinner. Dinner costs \$25 and includes chicken marsala, salad and dessert.

**Directions:** From US 101 in Sunnyvale, take Lawrence Expressway south to Lakeside Drive. Turn left at the first light onto Oakmead Parkway. At the first light on Oakmead, turn left onto Lakeside Drive. Hotel is on the right.

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# Job Opportunities

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## Programmer Analyst Positions

University of California, San Francisco

One full-time Programmer Analyst III position and two full time Programmer Analyst II positions are available with the Health Economics Research Group at the Institute for Health Policy Studies, University of California, San Francisco. Significant SAS experience working in the CMS/MVS environments and on personal computers is required. The analysts will work on several studies involving multi-year health insurance claims and hospital discharge data sets ranging in size from 3 to 100 million records. The Programmer Analyst III will be responsible for writing complex prototype programs, developing automated methods to output results of statistical analyses, and providing technical support to the work group. The Programmer Analyst II positions will be responsible for adapting prototype programs to the specifics of their research study and statistically analyzing the data. Prior experience with very large data sets is desired. The University of California is an equal opportunity employer. For further information about the positions, contact Linda Remy at (415) 476-7647.

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## Newsletter Submissions

If you have a job opening, announcement, or other piece of information you would like to share with chapter members, send it to me to include in an upcoming newsletter. The quickest and most reliable way to send something is through e-mail to the chapter's mailbox. The Internet address is  
sfasa@stat.berkeley.edu

Information can also be sent through regular mail to  
Michael Lock  
Becton Dickinson  
2350 Qume Drive  
San Jose, CA 95131-1807

If you send through regular mail, please include a floppy disk containing the text of the announcement. The disk can be either Macintosh or MS DOS format and the file can be in the format of any of the major word processors such as Microsoft Word or WordPerfect. The addresses above should also be used for changes of address and other chapter business.

## E-Mail Update

This month, the Bay Area chapter of the ASA has begun to send meeting announcements to its members using electronic mail. In addition to being less expensive than regular mail, e-mail has the advantage of being faster. If you would like to add your name to the chapter's e-mail mailing list, send a message to

sfasa@stat.berkeley.edu

If you are using a commercial e-mail system such as CompuServe, AT&T Mail or MCI Mail, special types of addressing are used to access the Internet.

From CompuServe, use  
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