

Philosophy for Operating a Computer Center



A PHILOSOPHY is a rationale of behavior. Every act implies an underlying philosophy, consciously or unconsciously expressed. In my experience as biostatistician and director of a computer center, my actions have been guided by the following viewpoints:

1. A computer center should serve as a catalyst in upgrading research so that the center's statistical and mathematical aspects will function at the current level of available statistical methodology. This aim implies that the involvement and collaboration required to plan experiments that are correctly constructed with respect to modern principles of inference are part and parcel of the activities of a computer center.

Corollary to this concept is another one implying that the computer center must play, if necessary, the role of a gendarme so that only data of correctly designed experiments will be processed. (In the course of my experience, I have used this mode negatively only once in working with more than 200 investigators.) I am strongly opposed to the laundromat concept—that a person can use the computer at will as long as he pays for, or is entitled to, the time. This concept denies to the computer center the role of upgrading from a mathematical and statistical viewpoint. The computer center should not be used as window dressing. Casual displays of means and standard deviations should not replace careful mathematical and statistical analysis of results.

2. The computer center should be a vehicle for collaboration by all researchers. By insisting upon correct statistical handling of experiments, the center provides an example of cooperation between different disciplines.

3. The computer center should take the viewpoint of the investigator, that is, consider that he is entitled to concise printouts of results which have been clearly edited and have proper titles. Many originally enthusiastic consumers of data processing have been disillusioned by this omission. No program is complete without proper editing for comprehension and brevity. Users should demand this service since a computer, like any machine, should function as a servant to the consumer.

4. The computer center should operate also as an educational agency to teach the nature, advantages, and limitations of data processing equipment and the importance of software. Illusions that the computer can automatically process any data immediately must be dispelled. The computer center or data processing department should give formal courses in biostatistics, biomathematics, programming, and computer science to its staff and to users and potential users of its facilities.

5. The center should insure that all data on patients are kept confidential. If any investigator's precautions do not conform to its standards of privacy, the center should intervene to prevent the identification of individuals by means of data entering its files.

In summary, the computer installation should participate dynamically in research. It should act as a facility for upgrading the level of the mathematical and statistical treatment of data, serve as a means of interdisciplinary collaboration, insure clarity and brevity in its reporting, and function as an educational center and as a guardian of confidentiality.—BERNARD CAROL, *biostatistician, Montefiore Hospital and Medical Center*