New data increase computer crime concerns

Annual losses as a result of computer crime appear "to be enormous," says a report issued last week by an American Bar Association task force. More than one quarter of 283 companies and public agencies responding to a recent survey reported "known and verifiable losses due to computer crime" during the past year. Total losses for all these respondents fell somewhere between $145 million and $730 million.

"We are not in a position to offer any quantification of the total [nationwide] annual economic losses due to computer crime . . .," the report states, "but it is not necessary to convince us that computer crime is a problem of substantial and growing significance." Among its recommendations, the report urges, "We believe that the need for federal computer crime legislation is clear and unmistakable."

The survey, sent to a broad range of about 1,000 private organizations and public agencies, was part of a study conducted by the American Bar Association Criminal Justice Section Task Force on Computer Crime and intended to stimulate discussion and action in both business and government. The report is one of the few studies now available that provides more than just guesses about the extent of computer crime.

Task force chairman Joseph B. Tompkins Jr., a lawyer with a Washington, D.C., law firm and formerly an official in the U.S. Justice Department, says he was struck by the large proportion (48 percent) of survey respondents who knew of computer crime incidents within their organizations. "That was higher than I initially thought it would be," he says.

"One other thing that struck me is what appeared to be a different perception between the people who worked closely with computers . . . and upper management," says Tompkins. The report says, "The upper levels of corporate (and government) management may be underestimating both the potential magnitude and the probability of various types of computer crime" (SN: 11/5/83, p. 294).

The task force chose to define "computer crime" very broadly. The term encompassed cases in which the computer or its components were the objects of crime or the instruments used to perpetrate crime. The most significant and widespread incidents involved the destruction, alteration or theft of data or computer software and crimes like the theft of assets, embezzlement, fraud against consumers, investors or users, and sabotage. More than half of the respondents reported that employees had been caught making unauthorized use of computers for personal activities.

About half of the states already have laws covering at least some aspects of computer crime, says Tompkins. His task force is starting to compare and analyze these statutes. Whether a federal law will be passed this year is uncertain, he says, although various bills have been proposed in both the House and the Senate. The Justice Department also appears to have come up with a draft bill that is in circulation for comment but is not public yet.

The American Bar Association has, since 1979, been on record in favor of some form of federal computer crime legislation. The task force report highlights some of the reasons. For example, it notes, "The survey results and recent experience indicate that, among a large portion of the population, there is a failure to recognize various forms of computer abuse as illegal and improper." A federal law would help change this perception, the report says, while increasing the effectiveness of law enforcement efforts, making penalties more rational and consistent with the seriousness of the crimes and improving the collection of data on computer crime.

The report concludes, "It would seem beyond dispute that computer crime is today a large and significant problem with enormous potential for becoming even larger and more significant." Tompkins says, "One of the things we hope to accomplish is to bring this to the attention of a lot of people who haven't thought about it before." —*I. Peterson*

Lithium: Trailing an enigma's toxicity

Lithium was first used experimentally in 1949 to calm the manic excitement experienced by some psychiatric patients. It was not approved for general psychiatric use in the United States until 1969, however, because of early concerns over severe toxic reactions to the drug.

A neurologist at the University of Kansas in Kansas City now says that it is difficult to predict which patients will suffer neurological complications from lithium therapy because blood levels of the drug, which are used to monitor treatment, provide an incomplete neurological picture.

"Blood lithium levels are not a true measure of lithium's concentration in the brain," says Maria Sansone. Data she presented at a June meeting of the American Academy of Neurology indicate that permanent neurological damage and lithium poisoning can occur at what are considered normal blood levels.

Three patients with normal lithium blood levels developed extreme confusion, progressive but reversible memory loss and cerebrospinal fluid abnormalities that simulated infection. Another patient has permanently slurred speech, tremors and muscular incoordination.

Most clinicians acknowledge that there is a narrow range between a therapeutic lithium level and a toxic level but Sansone told SCIENCE NEWS that "it may be hard for some psychiatrists to distinguish the confusion caused by lithium toxicity from a recurrence of mania." When confusion and other possible adverse reactions appear, a neurological consultation should be requested, she notes.

"I have found no scientific studies that examine lithium patients over time for neurological reactions," says Sansone.

Her assertions, along with a few other observations of severe toxic reactions to lithium (SN: 8/4/79, p. 89), are based on a handful of patients. In contrast to these reports of adverse neurological consequences, an April 26 consensus statement released by the National Institutes of Health and the National Institute of Mental Health (NIMH) states that "extensive studies have supported the efficacy of lithium in preventing recurrences [of manic depression]." The statement recommended low doses to avoid side effects.

Manic depression is almost always recurrent. Patients have an average of about 11 episodes in their lifetime during which they alternate from a severe depression to periods of mania or hypomania (a milder form of mania). These highs and lows often become progressively less severe with lithium treatment, although individuals who have four or more periods of mania per year usually do not respond to the drug.

Side effects ranging from minor to hazardous are found in as many as 80 percent of patients on long-term lithium treatment, according to the consensus statement.

Individual sensitivity to lithium varies greatly, says psychologist Kay Redfield Jamison, director of the Affective Disorders Clinic at the University of California at Los Angeles. But rather than calling in a neurologist when adverse effects are suspected, she recommends that clinicians routinely remind patients and their families of the toxic reactions to look for. Unfortunately, points out Jamison, many patients are only told of possible side effects on a consent form at a time when they may be too confused to comprehend a written warning.

Ironically, she adds, some clinicians do not fully understand lithium toxicity because the drug dampens manic-depressive symptoms so well that they do not pay attention to its less startling effects.

Lithium, either alone or in combination with an antidepressant drug, is the preferred treatment for manic depression, explained NIMH scientific director Frederick K. Goodwin at a June 15 seminar. How the medication works is largely unknown, but, he says, "this is an approachable enigma in neuroscience these days."

—*B. Bower*