

Information as a "Cure" for Cancer

The National Cancer Institute (NCI) has launched a test of the interesting hypothesis that information can reduce cancer mortality in the United States. In collaboration with BRS/Saunders, a private medical data base, the cancer institute is sponsoring a new nationwide information system that will allow any library or practicing doctor with a personal computer to tap into Physician Data Query (PDQ) to get data on treatment for more than 80 types of cancer.

The cancer institute, which has been working on PDQ for several years, has had it on-line through the National Library of Medicine since March 1984. As of this month, NCI carried its experiment further when licensing agreements with BRS/Saunders were completed. Subscribers can access PDQ nearly any time, day or night.*

Cancer institute director Vincent T. DeVita, Jr., hopes that widespread use of PDQ will give community physicians information about cancer treatment that will enable them to save the lives of patients who are now dying because their doctors do not have ready access to information about new and successful therapies.

According to cancer institute figures, cancer should be curable today in 50 percent of patients with serious tumors. But to achieve and, DeVita hopes, improve on this cure rate, patients must have access to the best therapy. Developments in cancer treatment, often subtle but crucial, are occurring with unprecedented frequency; the trick is to spread the word. According to DeVita, 80 to 85 percent of cancer patients are seen by community physicians. "The greatest problem for these doctors is keeping up," he says.

PDQ offers three types of information at the push of a home computer button. First, it reports state of the art treatment regimens by tumor and stage of growth for those cancers for which an effective therapy is available. Second, PDQ contains detailed data on more than 1000 experimental treatment protocols for those tumors (still the majority) that cannot yet be cured. Third, it offers a directory listing by name, address, and phone number some 10,000 cancer specialists, along with 2000 institutions that have NCI-designated cancer centers or cancer programs approved by some medical group. For instance, the directory lists hospitals whose cancer surgery programs have been accredited by the American College of Surgeons. All of this information is arranged geographically so that a nonspecialist can easily locate an oncologist in the region for consultation or referral.

The range of information on PDQ, as DeVita describes it, is considerable. For instance, it will tell a questioner that *testicular cancer, once fatal, is now nearly always curable in early stages and explain the therapy of choice*. It will also report that in treating a rare melanoma of the eye, two centers with proton beam accelerators (one at Berkeley and one at the Massachusetts General Hospital) can cure the disease and save the eye. PDQ will tell an interested physician how to refer a patient with ocular melanoma to one of these highly specialized, experimental programs.

PDQ is managed by a two-tiered editorial board of 72 specialists, the core of which meets at the cancer institute

every month to peer-review new data as they come along and to evaluate information already on-line. It is expected that some of the information in PDQ will be so new that it will be available through the query system before it appears in a scientific journal. DeVita cites therapeutic approaches to a particular stage of Hodgkin's disease (stage 3A) as an example. Radiation has been considered the most effective way to treat these patients. However, within the past 6 months, three separate studies have come in showing that chemotherapy is equally effective. "As far as I know, there is no single scientific paper that explicitly says radiation and chemotherapy are equally effective," he told *Science*. But PDQ does.

Cancer institute officials see PDQ as the fulfillment of a mandate given them in the National Cancer Act of 1971, the legislation that launched the "war on cancer" and called for the transmission of data to practicing physicians "insofar as feasible." At the time, there were fewer than 100 medical oncologists in the country and only 300 radiation therapists who specialized in cancer. Today, 3000 physicians are Board-certified oncologists and the number of certified cancer radiologists is close to 2000. The number of NCI cancer centers has grown from three to 53. Effective therapy has been discovered for tumors that formerly were not treatable. And the home computer has arrived. "What we're doing now with PDQ simply would not have been feasible before," DeVita observes. The question now is whether physicians will use it. Says DeVita, if patients know about it, they will.

PDQ was not developed without controversy. One was over access. One school of thought held that PDQ should be available directly to patients. Others argued that the data would be presented in too much technical detail, that they could confuse, or, in the case of tumors with a poor prognosis, unduly frighten patients. The latter group prevailed, although the public has access to an NCI information line.†

Another source of contention is the directory of physicians. The cancer institute's plan to list by name and phone number those doctors who spend most of their time taking care of cancer patients angered the American Medical Association (AMA), which opposes such lists and also vehemently objected to the idea of a government agency in effect certifying certain physicians. In an effort to sidestep the appearance of being a certifying agency, the NCI decided merely to reproduce lists of doctors already compiled from medical specialty groups including the American Society of Clinical Oncology, the American Society of Hematology, the Society of Gynecologic Oncologists, and so on. The AMA remains firm in its opposition. The NCI remains convinced that PDQ would not be worth much if a community physician could not use it for a real-life referral. And the two have "agreed to disagree."

The ultimate value of this experiment in information-sharing will be indications that more patients with curable cancers are being successfully treated. An evaluation protocol is in place but it likely will be several years before anyone knows whether PDQ is lifesaving.

—BARBARA J. CULLITON

*PDQ is available to subscribers to the BRS/Saunders' COLLEAGUE system. For information, call 1-800-468-0908, or write to PDQ, R. A. Bloch Building, Rm 105, Bethesda, Maryland 20205.

†Individuals may call 1-800-4-CANCER.

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Higher Cancer Risk Is Seen for 250,000 Exposed to Toxins on Job, Data Show

By CATHY TROST

Staff Reporter of THE WALL STREET JOURNAL

WASHINGTON — Newly released government documents show that about 250,000 workers run higher-than-normal risks of developing cancer or other diseases from exposure to toxic substances on the job.

Documents obtained by consumer activist Ralph Nader's Health Research Group identified 249 industrial plants and mines where workers have been exposed to potentially hazardous materials.

Mr. Nader charged that the government hasn't warned the workers of potential health risks so they could obtain medical care. In a letter to President Reagan, he accused the administration of withholding funds for worker notification programs be-

cause of concerns that workers would sue their employers.

But a spokeswoman for the Department of Health and Human Services said the National Institute for Occupational Safety and Health, which compiled the worker list, had notified companies and unions about the exposures. Plans to notify individual workers had been delayed, she said, while the government "tries to figure out how to tell someone without scaring him to death."

She said there were problems in determining the extent to which individual workers have been exposed to toxic substances, and what kind of medical treatment is available.

List Assembled in 1980-81

The occupational safety and health institute assembled its list in 1980 and 1981 from government studies that linked a variety of workplace chemicals and other substances to cancer, heart and lung disease, and other ailments. The dilemma of whether to notify workers was referred in 1983 to an ethics committee of the Centers for Disease Control, which oversees the institute.

The ethics committee said the government generally does have the duty to inform workers, particularly when the institute possesses the only records of the exposure and when medical treatment is possible. But the Reagan administration rejected budget requests for full-scale funding of a pilot notification program.

Mr. Nader said he received a letter from a Health and Human Services official in November saying, "We believe individual worker notification is an important issue." But no explanation was given for the lack of funding.

BankAmerica Unit Wins Court Ruling in Fiduciary Suit

By ERIC LARSON

Staff Reporter of THE WALL STREET JOURNAL

LOS ANGELES—Bank of America said a state judge ruled in its favor in an \$80 million class-action lawsuit that charged the bank with breach of its fiduciary duty.

The suit, closely watched by bank trust departments around the country, was tried before Judge Lester E. Olson, who issued his decision yesterday.

The class action suit, brought by Ted E. Van de Kamp, a retired Los Angeles businessman, and others, including the Damon

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Doctor Cites Benzene Exposure as Likely Cause Of High Cancer Death Rate at a Shell Refinery

By BARRY MEIER
And CATHY TROST

Staff Reporters of THE WALL STREET JOURNAL

WASHINGTON—A doctor who directed a study of an abnormally high rate of cancer deaths among workers at a Shell Oil Co. refinery in Illinois says the cause "most likely" was exposure to benzene produced at the facility.

But the company, quoting the doctor's own report, told the refinery workers that no scientific link had been established between the benzene exposure and the leukemia cases studied.

The varying viewpoints held by the doctor and by Shell reflect the difference between informed opinion and scientific proof. But they raise questions about how companies inform their workers about industrial health hazards. The problem also is part of a broader and growing concern, in the wake of the Bhopal, India, chemical plant disaster, over the right of workers and the public to know about hazardous products and processes.

The Occupational Safety and Health Administration, which sets and enforces workplace safety standards, says that about 600,000 U.S. workers are exposed to benzene on the job. Benzene is used as an intermediate chemical in the manufacture of plastics and solvents, in addition to petroleum products.

The controversy over the study's findings stems from research conducted by Dr. Philip Cole into the possible cause of a high rate of acute myelogenous leukemia at Shell's refinery in Wood River, Ill. A 1983 company study reported that between 1973 and 1981, eight workers employed at the refinery died from the illness.

Statistical Averages

Based on statistical averages, only two workers should have died from the illness during that period. Dr. Cole, who told Shell the increase was "highly statistically significant," was hired to review company research and try to determine the cause of the deaths. Dr. Cole issued his report in December.

Government and industry studies indicate that occupational exposure to benzene is a likely cause of cancer. Scientists also say that workplace exposure to certain solvents and radiation can cause the disease.

"At present, I remain of the persuasion that the most likely cause of the leukemias is benzene," Dr. Cole said in an interview this week. He acknowledged that his study didn't scientifically link benzene to the high leukemia death rate, but added: "Common sense tells me it's benzene, but you can't establish scientific fact on that."

Shell maintains it has been "fully open" in presenting results of the studies to employees and the public. It says that while it hasn't ruled out benzene as the cause of leukemia-related deaths, it has drastically

reduced levels of the chemical in the air at its refineries in recent years.

However, a union representing the refinery workers says Shell never provided it with a full copy of Dr. Cole's report.

A comparison of Dr. Cole's reports to Shell and company statements based on it show that:

—Quoting Dr. Cole's report, Shell told workers the study "produced no distinctly positive result, not even for benzene" as the cause of the leukemias. The company didn't indicate, as Dr. Cole did in his report, that the entire study may be inconclusive because, among other things, precise data on worker exposure levels wasn't available.

—Shell said recently that its interpretation was that Dr. Cole's work "found there was no apparent difference in (workplace) benzene exposure levels between those who died of leukemia and those who didn't." Dr. Cole states in his report, however, that available data suggests the leukemia-afflicted cases were "more heavily exposed" to the chemical.

—Dr. Cole reported that it was very possible that an abnormal rate of leukemia would continue at the Wood River facility. Shell never relayed this comment to workers there.

Reports to Workers

Dr. Cole said he wasn't familiar enough with Shell's reports to its workers about his research to comment. He added that if the choice were his, he would tell employees that benzene was the "likely cause" of the leukemia problem at the Illinois refinery.

Shell says that in reporting Dr. Cole's study in company bulletin board announcements, it didn't try to explain all of the report's details. "We made some judgments on interpreting and summarizing," a company spokesman said this week. As for whether the leukemia victims were more heavily exposed to benzene than other workers, Shell says the report's data wasn't consistent. "You could argue it either way," the spokesman said.

As for Dr. Cole's comments that more cancer deaths were possible, Shell said it believed it conveyed this idea simply by reporting on the study. Shell also said it discussed Dr. Cole's report with workers in plant discussion groups, but it didn't elaborate on what was said.

George Machino, vice president of Local 525 of the International Union of Operating Engineers, which represents about 500 Wood River workers, said he believes that even if Shell only suspected that the leukemia deaths were benzene-caused, it had a duty to alert workers.

"Even if it's not scientific, but only supposition by the people contracted to do the study, we should have been told," said Mr. Machino, who also heads a committee of several unions working with Shell on health and safety issues at the Illinois plant.

A Shell spokesman said a complete text of Dr. Cole's reports wasn't given to union officials at the Wood River facility. He said the union hadn't asked for it until yesterday, and that it would be provided.

Since the mid-1970's, Shell has tested refinery workers at Wood River and other locations for reduced white blood cell or platelet counts, the spokesman said. Significant lowering of either can indicate a pre-leukemia condition. The spokesman said that as a result of the monitoring program, two Wood River workers had been removed from jobs where they had been exposed to benzene.

An official of the National Institute of Occupational Safety and Health, a federal agency that investigates workplace hazards, recently criticized Shell in a letter for being "overly reassuring" in telling workers about the health risks of benzene.

While Shell has maintained in employee communications that leukemia is linked to "high" benzene exposure levels, a NIOSH official noted that leukemia also has been found in workers exposed to low levels of benzene. "We believe that it is not possible to firmly establish a (benzene exposure) level at which one is assured that no risk exists," J. Donald Millar, NIOSH's assistant surgeon general, wrote to Shell in September 1983.

Shell says that during the 1950s and 1960s benzene levels in the air at its refineries were as high as 100 parts per million. But it insists current levels are "far below" federal standards, which limit exposure to 10 ppm.

In 1978, OSHA tried to lower the benzene worker exposure standard to one part per million, but that attempt was overturned in a Supreme Court decision following an industry challenge. OSHA promised a stronger benzene rule last summer, but none has been proposed yet.

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