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## Voluntary Reporting System for Occupational Disease: Pilot Project, Evaluation

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### Synopsis .....

*For 18 months (1983-84), a pilot program was set up to promote the reporting of occupational disease by physicians to a local health agency. The objectives of the program were to increase the awareness among physicians of occupational disease in their practice, assist physicians in the diagnosis and management of the cases, and to*

*provide a mechanism for public health intervention in hazardous working conditions.*

*After discussions with leaders in the medical community, the program was initiated by a letter from the State Health Commissioner to physicians in the pilot county. A single-page reporting form was included with the letter. A bimonthly newsletter to primary care physicians was also begun. Additional educational activity included presentation of grand rounds and a one-day medical conference on the recognition of occupational disease at the single hospital in the county. All physicians reporting occupational disease received copies of all industrial hygiene reports as well as relevant medical literature from the industrial hygienist assigned to investigate all reports by physicians.*

*Only six reports of occupational disease were received. However, three of the six reports resulted in significant intervention. A questionnaire evaluation of the program indicated that there was resistance to involvement in reporting occupational disease, although physicians do recognize occupational disease in their practices regularly.*

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**T**HE RECOGNITION AND SUBSEQUENT REPORTING of disease by physicians to public health agencies remains one of the primary techniques of preventive public health practice. Infectious disease reporting has been a basic tenet of public health practice since the early twentieth century and has been legally required in New Jersey since 1895 (1). New Jersey required reporting of certain industrial diseases starting in 1912 (2), though the effort was abandoned in 1924, and occupational disease has not been routinely reported in the State since. Five States (California, Maryland, Michigan, Ohio, and Virginia) require physicians to report occupational disease. Four other States (Kentucky, New York, South Carolina, and Texas) require reporting of a limited number of specified occupational diseases.

This paper describes the experience of a system for physicians reporting occupational disease in a single county in New Jersey over an 18-month period in 1983-84.

### Background

The reporting program was developed in Somerset County, NJ, which has a mixture of large and small industry as well as some rural farming areas. The population in 1980 was approximately 200,000, with a workforce of 100,000 (3). The county has 550 licensed physicians and is served primarily by a single medical center with a 400-bed hospital and staff of 150 physicians.

With regard to occupational health, the county is unique in one important aspect. Adjacent to the county seat is the town of Manville, where the primary Johns-Manville asbestos processing plant has been located since 1915. The medical community is very much aware of the potential for occupational morbidity and mortality from exposure to asbestos. Physicians from the local medical center have reported on 72 persons diagnosed with mesothelioma (4).

Initially an attempt was made to convince county physicians of the need to report occupational disease. Discussions were held between a State health department internist, an occupational medicine specialist, and the medical education committee of the local medical center, as well as with the president of the county medical society. The discussions revealed a great deal of opposition to a mandatory reporting system. Concerns were expressed over the possible paperwork load, conflicts concerning patient confidentiality, a general distrust of government involvement in medical practice, the use of physicians to trigger plant investigations, and potential political fallout from managers of local industry.

As a result of these discussions, it was concluded that the introduction of mandatory reporting would create a large amount of hostility in the physician community and would not help promote physician recognition of occupational disease. Therefore, our initial plans for a mandatory surveillance system were scrapped. A voluntary system was agreed on by medical representatives of the county. The system's goals were to

- Increase awareness among physicians of occupational disease in their practices,
- Assist physicians in the diagnosis and management of cases involving occupational exposures, and
- Provide a mechanism for the local health agency to identify plants with exposure problems so that preventive activities (exposure control) could be initiated.

## Methods

The program was begun with a letter from the State health commissioner to the 550 physicians identified by the State licensing board as having Somerset County addresses. The letter stated that the program had the endorsement of the county medical society and included a copy of the reporting form and a prepaid return envelope. The form was one page and asked for the name and address of the physician; the name, address, telephone number, and diagnosis of the patient; and the name of the plant where exposure was suspected. If the patient was concerned about release of his or her name, the physician was asked to submit the form with the patient's personal identifiers left out.

In a second mailing, a bimonthly newsletter was sent to a smaller group of 130 physicians. This

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group included all primary care physicians (general practice, family practice, and internal medicine) and a few physicians in certain specialties (obstetrics, occupational medicine, and dermatology).

Several activities were developed to help promote use of the system while also educating the physicians' community about occupational disease recognition. First, an occupational health newsletter was developed and sent out approximately bimonthly. It generally included an article about a particular case from the county highlighting the physician's role in identification of occupational disease and an article about the importance and ease of reporting cases to the system. When the American Journal of Public Health published the "Sentinel Health Event: Occupational" (5), a summary of it, including a list of occupational diseases, was included in the newsletter.

Second, a grand rounds presentation on occupational asthma was made by a State health department physician at the local medical center. The presentation was well received, although the number of physicians in attendance was less than usual.

Third, a conference on the "Recognition of Occupational Disease in Office Practice" was developed with the local medical center, a nearby medical school, and the county medical society. Despite widespread publicity for the event and local sponsorship, only 20 local physicians attended.

A questionnaire was sent out after 18 months to the 130 primary care physicians for their evaluation of the program. In an attempt to minimize self-selection bias by any questionnaire respondents, 41 of these physicians were randomly selected to receive multiple mailings and telephone calls until they either completed the questionnaire or verbally refused. Seven physicians with whom

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we had had a close working relationship promptly returned their questionnaires, which were kept separate in the analysis of questionnaire results. The other 82 physicians did not receive any reminders to return the questionnaire.

### **Case Reports**

Six case reports were received over the approximately 18 months of the program. The first report was of a patient with progressive chronic obstructive pulmonary disease (COPD). He had worked for 15 years as a molder at a rubber molding plant. An extensive literature review was conducted, and the plant where the patient worked was inspected. Air monitoring indicated exposures of molders to respirable particulates at levels consistent with those reported to cause COPD in rubber workers. The exposure information was transmitted to the reporting physician for case management, and an inspection report with recommendations for exposure reduction was given to the plant management and the local union. A followup health screening for other exposed workers was also recommended, but it has not been conducted.

Two reports came from an obstetrician concerning occupational exposures to pregnant patients. One patient worked as a dental technician, and the other woman worked with chlorinated solvents in a plastics fabrication plant. A literature review was conducted, and information concerning the reproductive hazards of these jobs was given to the physician.

A fourth report concerned a patient with lead poisoning. The individual worked as a range officer in a commercial firing range and was

exposed to lead fume. A survey was conducted at the range, and blood lead samples were obtained for each person working there. Three of four workers had markedly elevated levels (up to 105 micrograms per 100 grams), and air levels were as high as 55 micrograms per cubic meter. Persons with blood lead levels of 60 micrograms per deciliter or greater were removed from the firing range. The range's management was instructed by the county's industrial hygienist to renovate the ventilation system and improve work practices according to guidelines by the National Institute for Occupational Safety and Health (NIOSH) before reopening the range.

The fifth report concerned a patient complaining of headache, dizziness, nausea, and feeling faint. The patient worked in an automobile repair shop. The shop was inspected and checked for carbon monoxide and solvent exposures. No excessive levels were identified, and the physician was informed about the lack of a recognizable occupational cause of the complaints.

The sixth report identified a person with argyrosis who worked in a local silver refining plant. Walkthrough results, along with a literature review of silver toxicity, were transmitted to the physician. As a result of this investigation, a Health Hazard Evaluation (HHE) was conducted at the plant by NIOSH. The original reporting physician, an ophthalmologist, participated in the HHE study team. Significant ocular and renal toxicity was found among workers in the plant.

### **Questionnaire Results**

The response rate for completing the questionnaire was 29 of 41 (71 percent) among the physicians who received multiple contacts. Of the 12 physicians in this group who did not return their questionnaires, 6 were no longer in practice, and 6 verbally refused to return the questionnaire. For the physicians sent only one questionnaire, the response rate was 22 of 82 (27 percent). Seven physicians with whom we had had close working relationships also returned the questionnaire.

Not all 58 physicians responding answered all questions. Despite the numerous outreach attempts, 13 of 49, or 25 percent of the respondents, said they were not even aware of the reporting system program at the end of 18 months. Sixteen of 53 did not remember receiving a newsletter. One stated that although he had received the newsletters, he had not read them. Of 30 respondents rating the newsletters on the basis of "infor-

mation contained," "writing style," "professional quality," and "usefulness to practice," 16 gave a "good" rating and 14 gave an "average" rating. Of the four aspects, "usefulness to practice" was consistently rated lowest.

Fifteen of 35 respondents said that they had seen cases of suspected occupational disease in the last 12 months that they had not reported. Of these, six respondents stated they did not report the cases because they had no need for additional information, and two received information from other sources. Three physicians cited concern for confidentiality as their reason for not reporting; two were concerned about company confidentiality and one about patient confidentiality. The remaining physicians gave no reason for not reporting.

Respondents predominantly thought that a consultant, unrelated to the employer, on occupational health matters was either "important" or "doesn't hurt." However, 4 of the 47 respondents said that physicians should stay within the medical profession to obtain information a consultant would provide. Sixteen of 29 respondents (55 percent) felt that government was an inappropriate source for occupational health information, and several cited an overly burdensome bureaucracy and cumbersome regulation as reasons for this concern. Six of 49 respondents felt that they would not report an occupational illness if it could possibly lead to a plant investigation, and 7 of 46 thought that, even with patient approval, a report could breach confidentiality.

In an overall assessment of the program, 38 of 43 physicians (88 percent) responding to the question thought that the program should be continued. Considering the six physicians who verbally refused to return the questionnaire as negative responses, 22 out of 35 physicians (63 percent) who were randomly selected for repeated contact to complete the evaluation thought that the program should be continued.

While expressing some support for the program, the majority of the physicians (67 percent) did not report any cases.

## Discussion

The reasons for rejection of the system in a small group and the resistance in a larger group of individuals may be only partly identified with this study. Certainly more attempts at reaching physicians and improvement in the newsletter were possible. The objection to excessive paperwork cannot be ignored, despite the fact that the

magnitude of work involved in reporting a single case was minimal.

Lack of education in occupational disease is often thought to be a central reason for physicians not recognizing work-related conditions (6,7). However, 15 physicians in our program noted that they had seen cases of occupational disease that they did not report, suggesting that missed diagnoses are only part of the problem. Medical education emphasizes diagnosis and treatment of the individual patient, and little attention is traditionally placed on the role of the private physician in public health. The orientation of physicians toward diagnosis and treatment of individual cases and the lack of training in public health may be a more basic impediment to involvement in preventive activity.

In addition to lack of public health training, some physicians may also identify closely with industry. Physicians with contracts to supply services were less supportive of the program than other physicians. Several physicians also expressed to us a distrust of government involvement in health practice, a reluctance to trigger plant investigations, a concern for becoming part of a policing system for local industry, and not wanting to be associated with such activity.

Besides the previously mentioned universal problems, the failure of the system to encourage a larger number of reports could be due to a particular skittishness of the medical community in this county, which is familiar with asbestos-related disease and its litigious consequences.

Increasing the number of reports received would be an important improvement. Making occupational disease reporting legally required is one possibility. However, the problem of underreporting, even for legally mandated reporting of certain infectious and venereal diseases, suggests that it cannot solve the problem entirely (8). Similar problems with underreporting have plagued the occupational disease reporting systems in California, Michigan, Maryland, New York, Ohio, and Virginia. Other States that require reporting of a limited number of occupational diseases have only recently enacted their reporting requirement. It is too soon to determine if only requiring reporting of a few occupational diseases will be more successful. Nevertheless, the requirements, in conjunction with continuing physician education and feedback, could make significant improvements in the number of reports received, as compared with a system dependent on voluntary physician compliance.

Continued efforts by the public health community to work closely with primary care physicians on occupational health could eventually have a positive impact on the recognition of occupational disease and, therefore, its reduction. Our experience indicates that this process of changing practitioners' attitudes will be lengthy and require both the resources and commitment of the public health and medical care community. Despite these difficulties, the recognition of occupational disease by primary care physicians is crucial for motivating industry to provide healthful working conditions.

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## Zuni Diabetes Project

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**Synopsis**.....

*Widespread type II diabetes among North American Indians and certain other populations is a relatively recent medical phenomenon. Increased*

*prevalence of diabetes appears to be related to sudden cultural shifts toward sedentary lifestyle and increased caloric intake. These changes, superimposed on a genetic predisposition to diabetes, pose a community health threat to the Zuni and similar populations.*

*Regular aerobic exercise is clearly beneficial to most type II diabetics. The key public health issue is how to establish community participation in effective aerobic activity. The Zuni Diabetes Project, fully described here, serves as a model in this respect.*

**D**IABETES MELLITUS WAS RARELY REPORTED IN Native American populations prior to 1940—not for lack of investigation but because it was, in fact, uncommon (1). Prevalence rates have increased so rapidly and dramatically during this half of the century that diabetes is considered epidemic among many tribes of North American

Indians (1,2). The Pima of Arizona demonstrate the highest prevalence rates in the world with 50 percent of the population over age 35 affected (3). The Zuni Indians of western New Mexico were estimated, by chart review in 1978, to have a diabetes prevalence of 25 percent in the over-45 age group (4). The prevalence figure for this same