Proposed Toll-Free Telephone Reporting of Notifiable Diseases

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THAT physicians fail to report to the health department a considerable proportion of the legally reportable diseases they diagnose is well known. The reasons for this failure are also well known. Filling out report cards on reportable diseases may take more time than the physician believes he can allot. He may be reluctant to report certain diseases lest he jeopardize the physician-patient relationship. Not seeing the purpose of the reporting, he may regard the required reports as only something to keep statisticians occupied (*1,2*). Or, again, he may not even know which diseases he is required by law to report.

A physician in Nassau County, N.Y., upon diagnosing a reportable disease, has to call the health department to request the specific card for reporting the specific kind of disease. There are different cards for tuberculosis, malignant neoplasms, staphylococcal infections in hospitals, narcotics addiction, and communicable diseases (including venereal). Upon receipt of the appropriate card, the physician must supply the required information and mail the card to the county health department. This reporting procedure requires considerable paperwork, which the private practitioner often has neither the time nor the desire to do. Consequently, the number of reports from private practitioners that reach the health department is limited.

Underreporting in County

To determine the extent of underreporting in Nassau County of streptococcal sore throat, tuberculosis, and cancer, three separate surveys were conducted.

Streptococcal sore throat. In a telephone survey, practicing pediatricians were asked to estimate the average number of patients they had seen within a 1-month span who had diagnosed cases of streptococcal sore throat. From the physicians' estimates, we made an approximate tabulation of the total number of patients in the county with streptococcal sore throat who were treated by physicians in a 1-year period. This figure was then compared with the official number of cases reported to the county health department annually.

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As would be expected, most physicians indicated that the number of cases they diagnosed varied according to the month of the year. Major peaks occurred during the winter and spring, while in the summer and fall the total number of cases dropped considerably. The figure we used for the 1-year period was based on a monthly estimate that was kept at its minimal value.

The total number of cases of streptococcal sore throat revealed by the telephone survey of practicing pediatricians was 20,184 (table 1). In the annual 1970 Reportable Disease Summary of Nassau County, only 4,917 cases are listed. This figure of 4,917, moreover, is based on reports from all physicians in Nassau County, not just pediatricians.

Tuberculosis. The office of tuberculosis control of the county health department undertook a survey of the extent of underreporting of tuberculosis. Every reported case was analyzed to determine the source of the report —unsolicited report by private physician, outcome of investigation of a close contact of the patient, or report solicited by the office of tuberculosis control because of pertinent bacteriological data.

Approximately 5 percent of the total reported cases of tuberculosis during 1970 fell into the third category, in which the office of tuberculosis control solicited the case report. The documented 5 percent figure, moreover, represents, at best, a part of the total number of unreported cases.

All Nassau County laboratories licensed for mycobacteriology send duplicate reports of positive and doubtful results to the office of tuberculosis control. But Nassau County pharmacists filling prescriptions for antituberculosis drugs are not required to report these actions to the health department. A requirement obliging them to notify the local health authority when filling such prescriptions would help in the reporting process. Pharmacists' reports on prescriptions could be checked with existing registries of disease and with practicing physicians for verification.

Cancer. To determine the extent of underreporting of cancer in Nassau County, five of the 18 hospitals in the county were telephoned for the total number of cases of cancer treated in 1970. They reported a total of 2,901 cases. In its 1970 summary, the health department reported only 3,180 cases. Cases of patients who were not hospitalized or who were hospitalized outside the county are not included in the health department figures. The five hospitals surveyed had 1,854 surgical and medical beds, or approximately half of the 4,000 in all 18 hospitals in the county. Since there were 2,146 such beds in the unsurveyed hospitals, one can assume that, at a minimum, another 1,000 to 2,000 cases of cancer should have been reported.

Table 1. Estimated number of cases of streptococcal sore throat diagnosed in Nassau County, N.Y., based on telephone survey of practicing pediatricians

Years in practice of pediatricians	Total cases per month	Average number of cases per year
0–5	56	672
6–10	659	7,908
11–15	478	5,736
16–20	274	3,288
21–25	115	1,380
26–30	70	840
30 and over	30	360
Total	1,682	20,184

Toll-Free Phoned Reports

To increase the number of reports of disease reaching the Nassau County Department of Health, better reporting methods were sought. One method proposed a toll-free telephone reporting system in which each physician and hospital in Nassau County would have a common telephone number to dial, toll-free, for reporting diseases to the health department. At the department, a special taping device, in operation 24 hours a day, 7 days a week, would greet the caller, accept a collect call, and record the physician's report.

Physicians' opinions of the proposed telephone reporting system and of the current reporting system were elicited in a telephone survey. Sixty of the 130 internists in the county and 76 of the 148 pediatricians were asked: Are you satisfied with the present method of reporting communicable diseases? Would you like to see a toll-free telephone reporting system put into use? The years of practice of the physicians surveyed varied from 3 to 44.

All the physicans surveyed agreed that the present system of reporting in the county was time-consuming and obsolete. Excepting one internist, all indicated they favored a toll-free telephone reporting system (table 2). Surprisingly, 17 percent of the internists (11 of 59) and 21 percent of the pediatricians (17 of

76) did not know which diseases they were legally required to report.

The physicians commented that the telephone reporting system was an "Excellent idea—system is dreadful as it now stands;" "Fine idea, too much paperwork already." An associate chief of pediatrics at a Nassau County hospital stated, "I would not only support such a system; I would push for it."

Telephone reporting has already been used by physicians. Life insurance companies have for some time used the telephone to obtain medical statements from physicians in the field. The Metropolitan Life Insurance Company, for example, which has used the "Record-O-Fone" as a taping device, recently studied the effectiveness of a telephone system as compared with the old procedure in which physicians mailed their statements (*3*).

When physicians sent their reports to the Metropolitan's home office by mail, 5 percent reached the office 5 days after they were requested; 17 percent were in at the end of 9 days; 46 percent arrived after 15 days. Thus, at the end of 15 days, reports had not yet been received on more than half of the cases for which reports had been requested. Even at the end of 20 days, 40 percent of the requested case reports were still outstanding.

When, however, the physicians used the telephone to report to the home office, 38 percent of the requested reports were in after 5 days, 55 percent were in at the end of 9 days, and 75 percent were in at the end of 15 days. At the end of 30 days, only 15 percent were outstanding. This study shows how a telephone reporting system can speed replies from physicians (*3*).

Table 2. Results of a telephone survey of internists and pediatricians in Nassau County, N.Y., regarding a toll-free telephone system for reporting notifiable diseases

Years in practice of physicians	Satisfied with present system of reporting		In favor of telephone reporting system		Unaware of reportable diseases
	Yes	No	Yes	No	
Internists	0	60	59	1	11
0–5	0	3	3	0	1
5–10	0	14	14	0	2
11–15	0	13	13	0	2
16–20	0	11	11	0	2
21–25	0	9	8	1	2
26–30	0	3	3	0	1
31–35	0	4	4	0	1
36–44	0	3	3	0	0
Pediatricians	0	76	76	0	17
0–5	0	4	4	0	1
6–10	0	19	19	0	6
11–15	0	12	12	0	1
16–20	0	18	18	0	5
21–25	0	11	11	0	1
26–30	0	6	6	0	1
30 and over	0	6	6	0	2

Equipment for proposed system. There are at least two taping devices that would work effectively in the proposed toll-free telephone reporting system. One, the "Record-O-Fone" extended message system, features an open reel. Because it is voice activated, gaps in recording are eliminated, and it can record prolonged messages. With a maximum of 6 hours of message time, the machine can operate 7 days a week, 24 hours a day. The tapes can be replayed through the machine or on a conventional tape recorder. The Record-O-Fone, which costs $899, can be obtained under a lease-purchase plan (information available upon request to the senior author).

The "Code-O-Phone 800" is similar. It is used in some New York City hospitals for telephone dictation and postoperative reports. Voice-activated, the machine features a total message time of 2 hours. The cartridge-type tapes can be replayed only through the Code-O-Phone. Cartridges may be removed at any time for later playback by the machine. The Code-O-Phone 800 costs $995. The cost per report, based on buying the Record-O-Phone outright, would be 18 cents. This figure would drop with an increase in the number of reports received.

Increasing Cancer Reports

According to the New York State Public Health Law, article 24, sections 2400–2402, the responsibility for reporting malignancies to the health department lies with every physician or person in charge of hospitals, dispensaries, asylums, and similar public or private institutions. An easy way to increase the reporting of cancer by hospitals would be to have the medical records room librarian of each hospital supply the county health department either with a photocopy of the discharge summary of each patient or with a carbon copy or photocopy of the medical abstract used in the institution's tumor registry.

From the submitted copy, the clerical staff of the health department could complete the required

report on malignant neoplasms. Yet supplying the needed information would not interfere with hospital routine, since it would mean only an additional photocopy, and the medical profession would be relieved of reporting the malignancies of hospitalized patients.

List of Reportable Diseases

A review of the incidence of notifiable diseases in Nassau County in the period 1966–70 reveals great disparity in rates from year to year. This variation is probably due in part to fluctuations in the reports received from practicing physicians. On the communicable disease card which one is required to fill in when reporting a notifiable disease, illnesses are listed in alphabetical order. For the physician, this listing is both long and confusing. Because of these reasons and the great disparity in disease rates from year to year, changes seem indicated.

Instead of this listing, we suggest that the physician be supplied with a clip-on card or plaque, which he could attach to his telephone for use with the telephone reporting system. The reportable diseases would be listed on the card by incidence rate, rather than alphabetically. Grouping of diseases by their epidemiologic status would considerably simplify reporting. The telephone number to call to report a disease would be printed on the card along with step-by-step instructions as to the data needed in the physician's report. The reportable diseases would be divided into three groups. Such a card containing the following information could easily be manufactured and sent to Nassau County physicians:

In this example, the categorized diseases are omitted to save space. On the actual card they would be listed under each of the three classes.

Emergency diseases—immediate reporting required. This first group would include all the internationally quarantinable diseases, such as cholera, plague, smallpox, poliomyelitis, and yellow fever. Also included would be some diseases that have had a zero or near-zero incidence in Nassau County for the last several years, such as botulism, encephalitis, and possibly rabies and diphtheria.

Serious diseases—urgent reporting requested. In the second group would be the endemic diseases that occur in limited numbers annually, plus the near-zero or low-incidence diseases that do not constitute public health emergencies—tuberculosis, venereal diseases, malaria, leptospirosis, and measles.

Diseases requiring collective reporting only. To report a case of disease from the third group (*2*), which includes streptococcal sore throat and scarlet fever, the physician would not be required to identify the patient, as is now the case. Only the number of cases diagnosed within a certain period and the physician's address would be required.

Since streptococcal sore throat constitutes a large percentage of the practice of physicians in Nassau County—it has the highest incidence rate of any reportable disease—having the physician or nurse report all such cases in detail would be impossible, even with a telephone system.

The patient's name, address, age, sex, and other such personal data must be sacrificed in order to increase the reporting of streptococcal sore throat and to provide the health department with more accurate checks on this condition.

Orientation of Physicians

As the telephone surveys revealed, many pediatricians in Nassau County are not aware of the reporting requirement for streptococcal sore throat, and many of the county's internists do not know that malignancies are reportable. Yet these pathological conditions account for the large majority of the reports that the Nassau County Department of Health receives daily.

As in other places, physicians in Nassau County implied that they felt uncomfortable about revealing the names of patients suffering from socially embarrassing diseases. Lack of confidence in the health department, compounded by the fear of jeopardizing the physician-patient relationship, obviously contributes to the negligence of physicians in reporting disease to the health department. Also, many physicians, not seeing the results of their reporting efforts, have come to regard the reporting as valueless.

One way to stimulate increased reporting by physicians would be for the county health department to publish and mail to private practitioners a biweekly or monthly news bulletin containing useful news items.

Such a bulletin would inform the physician of the diseases occurring in the county in above-average frequency and point out the symptoms to look for. If carefully prepared and current, such a publication should increase the physician's confidence in the health department and allay his fears and misgivings about reporting certain diseases. When information from the physician's own report is combined

with that from other physicians and fed back to him in a bulletin, he is better able to see the value of his own reporting. The bulletin would try to keep physicians informed and abreast of current trends in public health. Increased reporting of disease and closer ties between the county health department and private practitioners should result.

Telephone Reminders

To supplement the proposed reporting procedures, an automatic dialing system via the county's computer center might be initiated. Through time-sharing of the computer, a comprehensive list of the physicians in Nassau County and their telephone numbers could be fed into the computer. The computer could then be programed so that it would dial physicians periodically to remind them of their obligation to report diseases; it could assure them at the same time that the information supplied would be kept confidential.

Conclusion

The innovations described are designed to facilitate the reporting of communicable and notifiable diseases by helping the physician to comply with public health laws and the State sanitary code. The practicability of the changes proposed can be tested on a pilot basis and the results compared with the current reporting input in the county.

If statistics are to be meaningful in program evaluation, a modern and efficient system for reporting diseases is mandatory. Physicians must also be alerted to the contribution that their consistent reporting of notifiable diseases can make to the creation of such statistics. It is only with the physicians' full support and participation that public health programs can succeed.

REFERENCES

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(*3*) Metropolitan Life Insurance Company: Facts show Record-O-Fone speeds physicians' replies. Field News, May 1971.

TIZES, REUBEN (Nassau County Department of Health, N.Y.), and PRAVDA, DOUGLAS: *Proposed toll-free telephone reporting of notifiable diseases. Health Services Reports, Vol. 87, August–September 1972, pp. 633–637.*

Analysis of the replies of physicians in Nassau County, N.Y., surveyed by telephone, as well as a study of hospital and other reports available in the county, indicate that current methods of collecting statistics on legally reportable diseases are unsatisfactory. The telephone surveys revealed extensive failure by physicians to report cases of streptococcal sore throat, tuberculosis, and cancer to the county health department.

A toll-free telephone system to the health department for use of physicians has been proposed to improve the reporting of notifiable diseases. A telephone survey of practicing internists and pediatricians indicated that the overwhelming majority surveyed favored it.

A revision of the county health department's current method of listing reportable diseases has also been proposed. In this revision, reportable diseases would be classified as: emergency, where immediate reporting is requested; serious, where urgent reporting is requested; or other notifiable, where collective reporting (without identifying personal data on the patient) is sufficient.

If statistical data on Nassau County are to be meaningful, the disease reporting system will have to be modernized. That physicians in the county would support a toll-free telephone system has been determined.