

U.S. and Mexican Medical Students *Draft and Pretest Questionnaires* for Border Health Resources Survey

RICHARD E. KETTLER, M.D., NORMAN C. AHL, M.D., and CARL N. MUCHNICK, M.D.

THE CONCEPT of resource and need surveys to identify and quantify deficiencies in the delivery of health care is widely accepted as the intelligent response of society in attempting to improve the health of its population. This report is an account of a summer experience (July through August 1968) in which Mexican and American medical students jointly drafted and pretested questionnaires in English and Spanish for a survey of existing hospitals, nursing homes, and public health department facilities in the El Paso-Juarez sector of the Mexico-United States border. The students' work was the first step in a complex borderwide health survey being conducted by the U.S.-Mexico Border Public Health Association. It also introduced the students in a practical way to many aspects of preventive medicine.

Need for a Border Health Resources Survey

The United States and especially Mexico are nations of substantial population growth. This is particularly true along the border where in El Paso, for example, the 1967 birth and death rates were 21.9 and 5.5 per 1,000 respectively as compared to equivalent U.S. national figures of 17.8 and 9.4 (1, 2). El Paso's 1965 population was 312,200; that of Juarez, just across the border from El Paso, 330,000 (3). These figures have been projected to reach 501,500 and 570,

500 by 1985 (4a). Where such rapid expansion is taking place, health resources are bound to lag behind needs unless both are monitored, potential disparities anticipated, and corrective action initiated.

The border population is mixed: in El Paso County, Mexican-Americans make up 42.6 percent, "Anglo-Americans" 54.2 percent, and non-whites 3.1 percent (4b). The population is young; the median age is 22.6 years, and 27.8 percent are under age 10 (4c). Also, a significant proportion are indigent or economically depressed. The 1962 per capita income in El Paso was \$1,755, only 85 percent of the equivalent national average (4b). Manifest cultural differences, emphasized by language barriers, have resulted in inadequate communication concerning the availability of health care services

When this paper was written the authors were senior medical students at the University of California School of Medicine, Los Angeles. Serving their internships at present, Dr. Kettler is at the Cedars-Sinai Medical Center, Los Angeles, Dr. Ahl is at the Wadsworth Veterans' Administration Hospital, Los Angeles, and Dr. Muchnick is at the Rochester General Hospital, Rochester, N.Y. The research was supported in part by an apprenticeship training grant from the Public Health Service to the School of Medicine's department of preventive medicine.

on the one hand and inadequate recognition of the extent of health care needs on the other. The data suggest that a large number of persons along the border cannot make use of private resources.

The geographic fact of an international border separating peoples of differing cultural modes and economic means—particularly one where many crossings occur (30 million at El Paso-Juarez in 1964, according to a border public health official) leads to a number of unique health problems. It is well known that infectious diseases, especially tuberculosis and venereal disease, are widespread and require close communication and cooperation between Mexican and American health officials to be satisfactorily controlled. A high incidence of rabies among stray dogs presents a similar challenge for intensified U.S.-Mexico teamwork.

Abortions, relatively easy to obtain in Mexico, are easily obtained by Americans as well. Drugs, available over the counter in Mexico but requiring prescription in the United States, present a control problem which is not yet being met. Many of the border health problems could be eased considerably by the augmentation and upgrading of health resources, particularly those available to the poor, in both Mexico and the United States.

Although previous attempts had been made to undertake a survey in El Paso, these efforts did not include the joint U.S.-Mexico features of the current work. In assessing the reports of past surveys and their impact on the community, we found that many of the present key persons in medicine and public health were barely aware of the existence of such documents, let alone of their contents. Furthermore, quantified data were seldom supplied in the surveys, and from one survey to the next the approach to and conception of the problem varied considerably. None of the surveys was comprehensive, and today most of the studies are out of date because no provision had been made for periodic updating.

The Border Survey

Recognizing the rapid population expansion and the consequent need for more and improved health resources along the border, the U.S.-

Mexico Border Public Health Association recommended at its 14th annual meeting in April 1967 that a survey of health resources and needs be undertaken. The association contacted members of the departments of preventive medicine at the medical schools of the University of California, Los Angeles, and the University of Chihuahua for consultation. It was decided that the survey be done in three stages, one in each of the next 3 years. The first stage of the survey was devoted to cataloging existing medical facilities (hospitals, nursing homes, public health departments); the second stage will focus on medical practitioners (physicians, nurses, curanderos) available along the border; the third stage will document health needs in border populations. To provide regular updating of the survey data after the first 3 years, the border will be re-surveyed cyclically in subsequent years with one part of the survey to be updated yearly. In this way, information relating to any portion of the survey will never be more than 2 years old.

American medical students supported by Public Health Service apprenticeships and Mexican medical students supported by their school were to undertake, with supervision, the initial development and pretesting of the survey instruments during three summers. The actual surveying will be carried out later in each year under the direction of the heads of the various local public health departments along both sides of the border who will distribute and collect the questionnaires in their respective areas.

To help the local health departments with the initial survey, regional meetings with health department heads will be held under the auspices of the Pan American Health Organization to answer specific questions and provide general consultation in relation to completion of the questionnaires. The regional meetings will be organized and chaired by Dr. Jorge Jiménez-Gandica, Secretary, U.S.-Mexico Border Public Health Association. With the completion of each stage of the survey, the results will be tabulated and published. Project directors are Dr. Arnold I. Kisch at the University of California, Los Angeles, and Josué Martínez-Berumén at the University of Chihuahua.

Rather than hurriedly scan large portions of the border in preparation for constructing their

questionnaires, the medical students were to study in depth a representative but small area—the El Paso-Juarez sector.

Method and Progress in the Field

During the 2 months in the field, the project progressed through five stages, roughly according to a preset timetable: (a) orientation, (b) research and interviews, (c) writing of the working draft, (d) pretesting, and (e) final draft and presentation.

Orientation began when the students arrived in El Paso early in July 1968. The four Mexican and three American medical students and their faculty advisers met, and they were welcomed by representatives of the U.S.-Mexico Border Public Health Association, the Pan American Health Organization, and the El Paso City-County Health Department. A short while later, when the Mexican students returned to school for several weeks to complete final exams, the American students started to interview and acquaint themselves with El Paso as well as to draft tentative versions of the questionnaire. The Mexican students, having grown up near Juarez and already having a hospital questionnaire drafted earlier by the department of preventive medicine at their school, were somewhat more advanced at the start of the summer's work.

With the assistance of personnel at the El Paso City-County Health Department, the students met hospital and nursing home administrators as well as other prominent persons in community medicine on the northern side of the border. In subsequent lengthy interviews these people contributed greatly to the students' knowledge of the operation of the various facilities. Thus it was possible for the students to become acquainted with the general spectrum of health resources in El Paso, gain detailed knowledge about the facilities which would specifically concern the survey, and obtain valuable insights into the border's special health needs—all in a brief period of time.

The following are five of the preliminary findings in El Paso. (Problems similar to these had been observed also in Juarez.)

Nursing and skilled paramedical personnel. Administrators in almost all the facilities con-

tacted complained of crippling shortages of nursing and paramedical personnel. Lacking were not only persons with sufficient education and interest to be trained for these positions but also appropriate education facilities to train them. A further problem was presented by the meager salaries provided for these positions.

Physicians. Shortages were noted in most of the medical specialties, particularly psychiatry.

Facilities for the care of the aged and chronically ill. A general hospital with 42 extended care beds, seven nursing homes with 310 beds, and the Visiting Nurse Association working at a capacity of 200 individual home care visits per month fall far short of what is needed to care for El Paso County's estimated 20,954 citizens over the age of 65 and thousands more afflicted with chronic, debilitating disease (4d).

Facilities and staff for low-cost prenatal and well-baby care. The city-county health department, according to its director, Dr. M. D. Hornedo, provides most of the prenatal and well-baby care, but it is severely handicapped by the self-reinforcing problems of low budget allotment for staff nurses and physicians as well as the nursing shortages mentioned earlier.

Low-cost obstetric services. The limited facilities available cannot begin to meet the rising need. The shortage is further accentuated by a high birth rate among low-income families.

Around mid-July the American and Mexican students were benefited by a visit from a PAHO official from the Washington, D.C., headquarters. His suggestions and practical experience stimulated the group's thinking considerably and further aided progress on the questionnaires.

Toward the end of July the two student teams began long, arduous work sessions to hammer out similar questionnaires in English and Spanish. Questionnaires in the two languages were prepared for hospitals and for health departments. It was extremely gratifying at the conclusion of this set of meetings to realize that it was actually possible to make the questionnaires uniform, thanks to the students on both teams who had a working knowledge of the other's language. At this time, with the approval of the faculty advisers, the questionnaires were declared ready for pretesting. This was scheduled for the first 3 weeks in August.

For the pretest, the questionnaires were distributed to several dozen hospitals, nursing homes, and the El Paso City-County Health Department. A similar pretest south of the border was undertaken by the Mexican students. Facilities chosen were partly those with which the students had previous contact and partly those which were new to the students.

After a specified period of time the questionnaires were collected by appointment. At this time the students met with the persons who had filled out the questionnaires and worked through them, question by question, checking to see if each had been correctly understood and the desired information supplied. When problems arose, discussion clarified the difficulty and frequently resulted in some alteration. Numerous minor points of clarification were validly raised by respondents, and there were also occasional insightful additions and suggestions for large-scale improvement. Without exception the questionnaires were well received as materially relevant and comprehensive without being overly long.

Constant communication between the student groups was the key feature of the summer's experience. Each team profited enormously from the others' knowledge and perspectives.

The Survey Questionnaires

The questionnaires developed by the students cover the following range of topics relative to health facilities along the border: (a) identification of facility, (b) services offered, and (c) personnel employed.

For hospitals, identification headings include such items as sponsorship and accreditation, sources of revenue, operating budget allotment for nonreimbursable care, the percentage contribution to total patient load by various geographic areas, and the condition of the physical plant. Similar questions in less detail were asked of the public health departments. Because of their more limited range of services provided and patients served, nursing homes were also questioned in less detail.

The core material of the questionnaires covers the services provided by the various facilities. For hospitals, "medical services" were sub-

divided into (a) inpatient services and (b) other departments, including outpatient clinics, emergency service, and auxiliary diagnostic and treatment services (pathology, radiology, blood banks, anesthesia, physical therapy, inhalation therapy, pharmacy, clinical laboratory, and preventive medicine services). Public health department services were grouped into (a) preventive medicine services, including environmental sanitation, disaster control, vital statistics, education programs, communicable disease control, and rabies, (b) clinic programs, and (c) laboratory services. Nursing home services were categorized into (a) extended care, (b) long-term skilled nursing care, and (c) custodial care.

Questions about personnel and staffing were incorporated into each of the services' sections in the public health department questionnaires, whereas for hospitals a separate section was devoted exclusively to staffing—physicians, nurses, paramedical personnel, and volunteers. A similar but less detailed format was used for the nursing home questionnaires.

Each of the questionnaires concluded with the following questions to be answered by the facility administrator: "As a person knowledgeable in health care, what in your opinion are the major unmet health needs in your community? Are any of these problems related to your border location?"

The English and Spanish versions of the public health department questionnaires were virtually identical and the hospital questionnaires also were similar except for a series of questions, not included in the English questionnaire, detailing certain features of the physical plant (elevators, electricity, energy powerplant, heating facilities, sewage system). Since there are no nursing homes on the Mexican side of the border, a nursing home questionnaire was not prepared in Spanish.

The pretest indicated that the questionnaires could be accurately and consistently completed by administrators without the benefit of an interviewer and at minimum inconvenience. The questionnaires did not attempt to investigate quality of services except within broad limits. Rather, the attempt was to compile basic information cataloging a facility's ability to deliver various components of medical care.

Conclusions

Because the summer's effort was unique in several respects—the short period of time allotted, the use of medical students, the international features of the work—the following rather obvious conclusions take on an increased significance.

- The students' experience clearly demonstrated that it is feasible for medical students, participating in a short-term summer project, to come to a geographic area previously unfamiliar to them and learn a sufficient amount about its health resources to draft and pretest comprehensive questionnaires for cataloging existing medical facilities.

- If the border is an example, such projects are currently receiving enthusiastic response by professionals concerned with the upgrading of community health resources.

- The presence of such ongoing survey activity seems in itself to catalyze greater communication and cooperation among physicians, administrators, public health officials, and others directly or indirectly involved in the delivery of medical care.

A less-evident conclusion, based on our reflections and consultations with a number of health professionals, is that in all likelihood the questionnaires, or easily derived modifications, might well prove serviceable as survey instruments in other U.S. communities.

Federal funds are more and more being made available to supplement local health needs only so long as disparities between resources and needs can be clearly demonstrated. We found

that to begin the job of gathering accurate data is not as awesome as one might suppose.

Future Directions

Now that the facility questionnaires are in final form, it will be possible for the project to move ahead in two regards: first, by starting the actual survey of hospitals, nursing homes, and health departments along the entire 1,000 mile stretch of border; and second, by developing, in the summers of 1969 and 1970, questionnaires covering medical practitioners and health needs along the border. Presumably, the second part of the work can be managed by students in much the same manner as it was accomplished earlier.

With the completion of all questionnaires and the surveying of all three areas of interest, it is our opinion that it will be possible for planners on either side of the border to intelligently assess present health conditions and future needs and to set priorities for improved resource allocation. Tentative completion date is June 1971.

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