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Otitis Media and Hearing Loss

The Epidemiology Unit, Division of Public Health, recently completed field work in a major study of Otitis Media and Hearing Loss in selected rural sites in Alaska. The following discussion of background and methodology will be supplemented in a later bulletin with highlights of the study's findings.

Commissioner Beirne's Blue Ribbon Committee met March-June 1980. Identifying a need for current information about ear morbidity using state of the art diagnostic techniques, the Committee charged the Epidemiology Unit with the tasks of generating reliable prevalence information and field testing the usefulness of various approaches to discovering ear problems in Alaska.

Well over a year was spent planning and designing the study. We depended heavily on techniques developed by Charles Bluestone, M.D. and Jack Paradise, M.D., and their many associates in Pittsburgh, because we believe their work to be among the best in this field. We pilot tested the methods and equipment with the tremendous cooperation of over 300 people in Port Graham and English Bay during visits in February and May, 1981. This field test enabled us to further refine the study, streamline our procedures, and to insure adequate communications with other State and Federal agencies.

We chose four villages to study in different parts of Alaska - Kake, Selawik, Togiak, and Nikolaevsk - representing diverse geography, climate, and ethnic makeup. We examined virtually every school aged child in each village and a high proportion of younger children and adults in Kake and Selawik. Our approach was three pronged.

First, a Public Health Nurse recorded the best available history of ear problems such as recent infections, suspected hearing loss, "draining ears", and so on. The PHN used her own knowledge, information provided by the person being tested, parents, teachers, Health Aides, or others, and any local records that might exist.

Second, the Medical Epidemiologist examined every ear using pneumatic otoscopy and recorded his findings about scarring, infection, perforations, drainage, mobility of the eardrum, and the presence or absence of middle ear fluid. The Medical Epidemiologist, a Board Certified pediatrician, spent two weeks in intensive training with Dr. Bluestone at the Children's Hospital of Pittsburgh.

Third, a battery of audiologic tests were performed by a Board Certified Audiologist with many years of experience in Alaska. The Audiologist tested air and bone hearing thresholds at frequencies ranging from 500-8000 decibels, and also tested eardrum mobility using a Madsen impedance audiometer. The results of this test may be used to make inferences about the presence or absence of fluid in the middle ear. We chose this specific brand of machine because it is the only one of the many brands available that has been tested objectively (by Dr. Bluestone and his associates) to see just how reliably it diagnoses middle ear fluid. Our Audiologist also spent time in training with Dr. Bluestone's group, becoming familiar with their techniques and methods and checking our equipment against theirs for comparability of test results.

Since finishing the field work in February, we have been processing the data - involving well over a 1000 people - into a computer. That task is now complete, and analysis has begun. We are planning further consultation with Dr. Bluestone to help us refine the analysis and presentation of our results. Although some analysis may be available for release as soon as May or June, the tremendous volume of collected data will provide a source for information that may be tapped for years. Future bulletins will report some of the findings.

We would like to express our thanks and appreciation to all the residents and public health workers who have made this study possible, including Vincent Kvasnikoff, Kathy Kvasnikoff, Eleanore McMullin, Alice Anahonak, Aggie Magnack, Stella Meganack, Augusta Kvasnikoff, Rosie Ray, Lottie Nannauck, Tillie Lyons, Emma Ramoth, Mildred Foster, Magdeline Tikik, Anecia Active, Sophie Nick, Emma Ayojiak, and Bob Moore.

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