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Streptococcal Program: Disease Prevention in Action

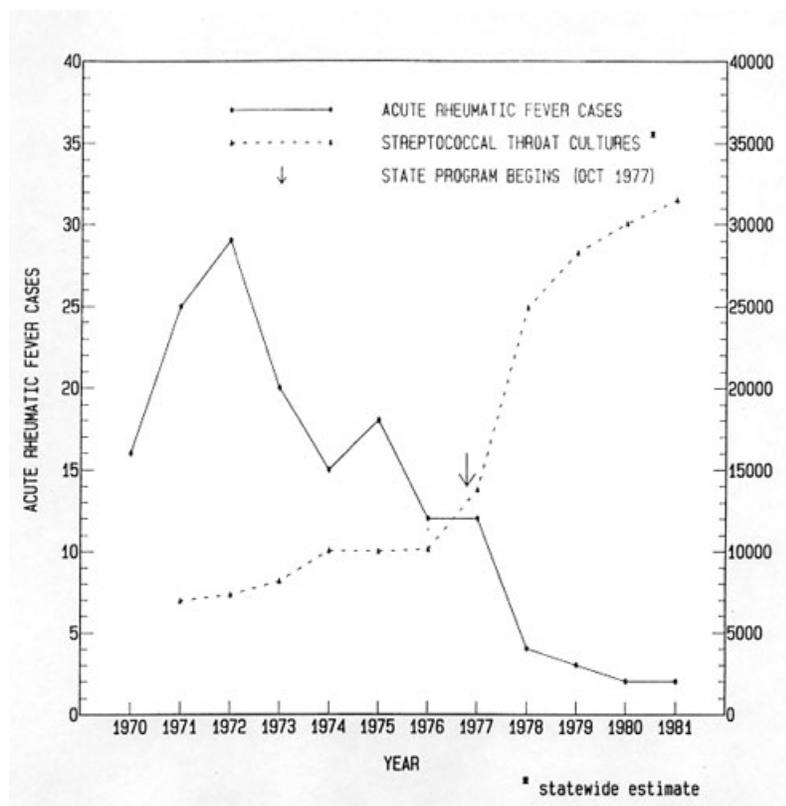
In October 1976, the Division of Public Health initiated a statewide Streptococcal Control Program with the goal of preventing cases of acute rheumatic fever and rheumatic heart disease. The State Streptococcal Control Program was begun as a result of epidemiological studies conducted by the Centers for Disease Control, Alaskan Activities, under the direction of Dr. Thomas Bender, which clearly indicated that acute rheumatic fever was very common, especially along the west coast of Alaska (Bethel, Kanakanak, and Kotzebue). As part of their extensive epidemiological studies, Centers for Disease Control, in cooperation with the Alaska Area Native Health Service, Native Health Corporations, and the Community Health Aides, established a widespread program to make available at the village level streptococcal throat culturing for patients with acute pharyngitis.

Additional epidemiologic studies documented an extremely high rate of rheumatic heart disease in Alaskan Natives, approaching 67 cases per 100,000 population—among the highest reported in the medical literature. Additional evidence of the seriousness of streptococcal disease in rural Alaska was highlighted by an epidemic of post-streptococcal glomerulonephritis which occurred in the Yukon-Kuskokwim Delta area in 1976 and 1977 which resulted in the hospitalization of 37 children.

During 1970 through 1976, the Centers for Disease Control and the Yukon-Kuskokwim Health Corporation developed a program of active surveillance and treatment which included developing capability of streptococcal culturing and penicillin therapy in the villages to attack the problem of streptococcal infection and acute rheumatic fever. In October 1976, the State of Alaska assumed the Streptococcal Control Program from the Centers for Disease Control and continued to work with the Yukon-Kuskokwim Health Corporation to support their local streptococcal laboratory and treatment program. In addition, the Streptococcal Control Program was expanded to include all villages in the State of Alaska to insure the availability of streptococcal culturing for symptomatic sore throat and to insure that penicillin therapy was readily available to patients who were culture-positive for beta-hemolytic, Group A streptococcus.

By 1981 streptococcal throat culturing and antibiotic treatment was available and readily accessible to all villages in the State of Alaska with a population greater than 200. Throughout the State, 207 villages are actively participating in the State Program. In 1981 approximately 31,509 throat cultures were performed by the State Laboratories, by the Yukon-Kuskokwim Health Corporation Streptococcal Program, and by the Centers for Disease Control. Information recorded on laboratory slips accompanying throat cultures is entered into the State computer to provide epidemiological information and logistical support for operation of the program.

Between 1958 and 1970, an average of 28 cases of acute rheumatic fever occurred in Alaskan Natives each year. The number of cases of acute rheumatic fever and the approximate number of streptococcal cultures performed by the State Laboratories, by the Yukon-Kuskokwim Health Corporation Streptococcal Program, and by the Centers for Disease Control are plotted in accompanying figure.



A dramatic reduction in the number of cases of acute rheumatic fever has been accomplished coincident with the increasing availability of streptococcal culturing and antibiotic treatment throughout Alaska. Major successes in preventing acute rheumatic fever have been achieved in the Yukon-Kuskokwim area due to the efforts of the Yukon-Kuskokwim Health Corporation, the Centers for Disease Control, the Alaska Area Native Health Service, and the Division of Public Health.

Since there are no control groups, it is impossible to prove that the Streptococcal Control Program, by increasing the availability of streptococcal culturing and treatment, caused by the dramatic reduction in the number of cases of acute rheumatic fever. However, this is most likely the case. The prevention of both acute rheumatic fever and rheumatic heart disease constitutes a

major public health success and has resulted in tremendous benefits and cost savings to the people of Alaska.