ISONIAZID PROPHYLAXIS IN AN UNDEVELOPED AREA

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INTRODUCTION

The remarkable therapeutic effectiveness of isoniazid led the U.S. Public Health Service, among others, to study its usefulness as a prophylactic agent against tuberculosis. After large-scale animal studies had shown that isoniazid could prevent tuberculosis under laboratory conditions (1, 2), controlled field trials were initiated among humans. A primary consideration in selecting populations for field trials was the expectation that their risk of developing serious tuberculosis would be high. But it was also important to study isoniazid prophylaxis under conditions similar to its potential application in tuberculosis control programs. Thus, the first trial by the Public Health Service cooperative groups involved children with asymptomatic primary tuberculosis (3); the second, household associates of persons with active tuberculosis (4, 5); and the third, patients in mental institutions (6). The fourth trial, in the Bethel area of Alaska, was designed to test the prophylactic usefulness of isoniazid among entire communities in an undeveloped area with a serious tuberculosis problem.

BACKGROUND OF STUDY

The Bethel Hospital Service area, shown in figure 1, lies in southwestern Alaska, north of the Alaskan peninsula but south of the Arctic Circle. Encompassing the entire drainage area of the Kuskokwim River as well as that of the lower Yukon, its area of 98,116 square miles is exceeded by that of only eight states of the United States. The locations of the 28 villages participating in the trial are shown in figure 2. All are within the sixteenth and twenty-fourth election districts, which together roughly correspond to the combined deltas of the Yukon and Kuskokwim Rivers—a flat, nearly treeless expanse where meandering rivers and countless lakes compete with tundra and bog as the dominant features of the landscape.