

AN ANALYSIS OF THE 1875-1877 SCARLET FEVER
EPIDEMIC OF CAPE BRETON ISLAND, NOVA SCOTIA

Joseph M^{ac}Lean Parish

Dr. Lisa Sattenspiel, Dissertation Supervisor

ABSTRACT

An epidemic of scarlet fever on Cape Breton Island, Nova Scotia, Canada between 1875 and 1877 is analyzed in the context of a larger, world-wide pandemic of scarlet fever that occurred between 1825 and 1885. Data derived from public records on national censuses, provincial vital death records and parish records suggest that the epidemic impacted the two main ethnic groups of the island, the Acadians and the Scots, in very different ways. Statistical analysis was done considering the temporal and socio-cultural context of cause of death reporting in order to examine if this initial reading is valid. A deterministic computer model was also created to analyze the effects of each factor on the overall course of the epidemic. Results suggest that although the two groups did experience the epidemic in different ways, this difference is partially attributed to the terms used to describe cause of death information. Occupation, and household type resulting from occupation, is found to be a key indicator of epidemic experience. Differences in person to person contact rate are associated with the different occupations/household types. Ethnic group preferences for the occupations of fishing or farming inextricably tie the issues of ethnicity and occupation together. The number of contacts people have per unit of time was found to be one of the major factors correlated

to the epidemic experience. These results emphasize the importance of socio-cultural factors in an age where drug therapies are becoming less effective. They point to a need to understand the interactions between biology and behavior when examining such complex phenomena as human epidemics.