



AMERICAN ACADEMY OF FAMILY PHYSICIANS

F O U N D A T I O N

Abstract of Study Funded by the Research Stimulation Grant Program in 2013

Asymptomatic pharyngeal carriage of *Neisseria Meningitidis* serogroup B in Ohio University undergraduates (G1308RS)

Principal Investigator: Daryn R. Straley, DO, FAAFP, FAWN
Co-investigator: Erin R. Murphy, PhD
Institution: Ohio University

Abstract

Meningococcal meningitis is a rapidly fatal form of bacterial meningitis caused by infection with *Neisseria meningitidis*, a bacterial species carried asymptotically in the throats of 8-20% of Americans³. The incidence of meningococcal meningitis is directly proportional to the percentage of individuals in the population harboring *N. meningitidis*⁴. The Centers for Disease Control declared an outbreak of meningococcal meningitis at Ohio University (in Athens, OH) after they determined that four of seven students diagnosed with the disease between February of 2009 and February of 2010 were infected with a genetically identical strain of *N. meningitidis* serogroup B serotype 269—rarely found in the United States. In the remaining three cases, we have not found a strain identification.

The overall **goal** of this study is to complete a cross-sectional evaluation of *N. meningitidis* in healthy undergraduate students at Ohio University. This goal will be achieved via completion of the following specific **aims**: 1) Determine carriage rate and serogroup distribution of *N. meningitidis* at Ohio University; 2) Evaluate the antibiotic resistance profile of *N. meningitidis* at Ohio University; 3) Identify demographic and/or behavioral factors associated with carriage of *N. meningitidis*. The **significance** of the project is to determine the carriage and resistance patterns of *N. meningitidis* among students at Ohio University. Through collaboration with family physicians and public health departments, education projects can be developed to reduce exposure while improving treatment options. The global significance of the project is to generate an understanding of the impact of disease outbreaks while reducing community prevalence.