THE EFFECTS OF ACTIVE SURVEILLANCE AND RESPONSE TO ZOONOSES AND ANTHROPONOSIS

by

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Promoter: Professor Michael C Herbst

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DECLARATION

I declare that THE EFFECTS OF ACTIVE SURVEILLANCE AND RESPONSE TO ZOONOSES AND ANTHROPONOSIS is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

CHRISTOPHER ANTHONY SCAGLIONE August 2005

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Abstract

Seventy-five percent of human emerging infectious diseases are zoonotic, while Group B Streptococcus (GBS) is anthroponotic and life threatening, especially for newborns. Eight emerging infectious diseases (EIDs) were studied in reference to their surveillance systems, zoonoses, anthroponosis and case definitions: Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome (HIV/AIDS), Monkeypox virus (MPXV), Severe Acute Respiratory Syndrome (SARS), Ebola virus, Nipah virus, Dengue virus, West Nile Virus (WNV) and Group B Streptococcus (GBS). Using inferential statistical analyses on data researched for four EIDs—HIV/AIDS, SARS, Ebola virus and GBS, one-way ANOVA and F tests were completed. Correlations were done on HIV/AIDS incidence rates and the number of surveillance systems and HIV/AIDS incidence rates and prevalence rates using Excel Microsoft Word 2003 data analysis tools and hand calculations of Pearson correlation coefficients by the raw score method. There is sufficient evidence to reject H_o (null hypothesis) in favour of H_1 (alternative hypothesis). If governments, countries, localities and municipalities want to decrease case fatality rates and to lower both incidence rates and prevalence rates, they should consider increasing the number of their surveillance systems.

Key Words: Active surveillance, anthroponosis, case, case fatality rate, incidence rate, incidence, monitoring, passive surveillance, prevalence, prevalence rate, recrudescence, reservoir of infection, sentinel surveillance, seroconversion, surveillance, vector, zoonosis.

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