

ABSTRACT

The aim of current diploma project is to develop a program model to analyze the equilibrium strategies of prevention and treatment of rotavirus infection which provides an optimal strategy for vaccination against rotavirus infection that ensure equilibrium in which the value of vaccination not exceed the cost of treatment.

The study of existing mathematical models of disease were chosen model of disease immunity is lost over time.

The result of this diploma project is developed software model of equilibrium in the analysis of strategies for prevention and treatment of rotavirus infection, which helps determine the optimum vaccination. The software model can be used in epidemiology to determine the optimal strategy for vaccination.

Total volume of work: 102 pages, 35 figures, 15 tables, 5 appendices, 31 bibliographic titles.

Keywords: vaccination, RVI, disease, DCI, Nash equilibrium, the cost of treatment, the cost of vaccination equilibrium.