Angel A. Vega

Prof. Hunter

R.A. Rough Draft

**Controlling the Spread of Disease in Schools**

The spread of new diseases is a delicate issue threatening our overpopulated world. Because of this many health experts have turned their efforts to the containment of disease. Experts like Bruce Y. Lee, who was one of the major contributors on a report on the findings of an investigation conducted in Allegheny county, PA that tested the effectiveness of school closing as a containment method. The following text will be a rhetorical analysis on the report published in the Journal of Public Health Management & Practice and discusses the results found by a team of investigators led by Benjamin J. Ridenhour in “Controlling the Spread of Disease in Schools”.

The most recent pandemic the United States of America had to battle was the 2009 H1N1 spread. The new year has brought upon humanity a new strain of coronavirus. As more countries indulge in the combat against a new global health hazard, many experts look at spread control as one of the main tools against battling this pandemic and others that may come in the future. Diseases like the new coronavirus and H1N1 are spread airborne and by physical contact. Schools across the country serve as contagion hotspots for diseases.  As of 2018 Census Bureau reports that more that 76 million students are enrolled in schools across the nation. This means that over twenty percent of the United States population attend these contagion hotspots for around 8 hours, daily. It comes as no surprise then, that many health experts focus contagion suppression strategies on lower-education facilities.

    The most common of strategies employed to stop disease spreading in schools is to close schools in sectors at risk. Of course, there are different statistical and analytical methods to determine which schools in which sectors are in danger. These methods serve to identify which schools to close with efficacy and speed, which are key in the containment of epidemics within communities.

However, school closing isn't an easy task. The actual effectiveness of school closings is unclear, and many have commented on the social, economic detrimental effects of closing schools. Because of this, amid 2009’s H1N1 pandemic, a couple of health experts decided to challenge the common disease containment strategies of school closing. Using an agent-based computer simulation model (ABM), they simulated school closure strategies. In ABM, a system is modeled as a collection of autonomous decision-making entities called agents. Each agent individually assesses its situation and makes decisions on the basis of a set of rules.  This state-of-the-art technology would test the efficacy of school closing strategies at containing the spread of influenza. The analysis was carried out by an investigative team led by Benjamin J. Ridenhour.

The lead contributor for the report published in the Journal of Public Health Management & Practice was Bruce Y. Lee M.D. Dr. Lee is an expert in entrepreneurship, systems modeling, computational and digital health, and health journalism and communications. He's a seasoned health issues reporter. Dr. Lee is a well-versed media contributor, with over 700 published articles. He is a Senior Contributor for Forbes, covering a wide range of health-related topics. He has over 20 years’ experience in mathematical and computational models to assist a wide range of decision makers in the private and public health industry. Additionally, Dr. Lee is a professor at City University of New York (CUNY) Graduate School of Public Health & Health Policy. Here he instructs in Health Policy and Management. He is also the Executive Director of PHICOR (Public Health Computational and Operations Research) at CUNY. He is an expert on health computational application, an expert confident source to voice its opinion on the issue.

The purpose of this report is to inform the community of health experts who are in charge of coming up and implementing health policies. The results of the agent-based computer simulation models represent important information for the effective containment of diseases. Based on the recovered data, great leaps on improvements can be made to the epidemic containment in schools across the nation.

The audience is the community of health experts that are looking for more effective ways to solve the containment of diseases at the lower-level education facilities.

The analysis was published as an electronic article in the Journal of Public Health Management & Practice. This journal “publishes articles which focus on evidence-based public health practice and research. The journal is a bi-monthly peer-reviewed publication guided by a multidisciplinary editorial board of administrators, practitioners and scientists.”

    Upon the analysis of the many simulation results, the team came up with strategies that could, potentially increase the efficacy of school closing policies. Dr. Lee, along with all of the other contributors present the data in a very objective manner. They let it be clear that they believe the experiments and simulations were carried out with rigorous methods. They analyzed and explained the different used model calibrations, epidemic simulations and school closure strategies put to the test. They agree with the conclusion that the original investigators came up with. “School closures alone may not be able to quell an epidemic but, when maintained for at least 8 weeks, could delay the epidemic peak for up to a week, providing additional time to implement a second more effective intervention such as vaccination” was the final conclusion. However, Dr. Lee and his colleagues agree that this method is dependent on the fact that decision-makers must have enough data at hand to take countermeasures quickly. This problem is yet to be tackled and is perhaps the most challenging aspect of the containment issue.