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Christina J Edholm* (cedholm@scrippscollege.edu). *Investigating the Role of “Silent Spreaders” in COVID-19 Dynamics.*

The dynamic nature of the COVID-19 pandemic has demanded a public health response that is constantly evolving due to the novelty of the virus. Many jurisdictions in the US, Canada, and across the world have adopted social distancing and recommended the use of face masks. Considering these measures, it is prudent to better understand the contributions of subpopulations – such as “silent spreaders” – to disease transmission dynamics in order to better inform public health strategies in a jurisdiction-dependent manner. Our model includes two classes of individuals: silent spreaders, who neither have symptoms nor disease-induced mortality; and symptomatic spreaders, who experience symptoms and a resultant mortality rate. We fit the model to real-time COVID-19 confirmed cases and deaths to derive the transmission rates, death rates, and other relevant parameters for geographically-defined outbreaks. We seek to answer whether a blanket public health strategy in which all individuals are required to engage in social distancing and encouraged to wear masks is appropriate, or whether a response that targets symptomatic individuals and those at high-risk of disease-induced mortality is more efficient. (Received September 04, 2020)