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Keisha J Cook* (kcook7@tulane.edu), **Sherry Scott** and **Kamal Barley**. *The Effects of Pre-symptomatic Spread on COVID-19 Mortality*. Preliminary report.

Reports have shown that the spread of COVID-19 involves individuals passing through a pre-symptomatic stage in addition to the incubation period following infection. We develop a 10-compartment system, including both exposed and exposed but pre-symptomatic individuals. We explore topics related to how pre-symptomatic and asymptomatic individuals affect the mortality population given different scenarios. We are interested in the affects before lockdown, during lockdown, after lockdown, and throughout the entirety of the pandemic. Our model simulations, using the COVID-19 Data Repository from the Center for Systems and Engineering at Johns Hopkins University, show the dynamics of the system when including the pre-symptomatic stage for New York State, Florida, Washington State, and Arizona. With the results, we discuss how to use this information to determine and guide post-lockdown strategies. (Received August 27, 2020)