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**Terrance Pendleton\*** (terrance.pendleton@drake.edu), **Ryan Hynd** (rhynd@msri.org) and **Dennis Ikpe** (dikpe@msri.org). *Two Critical Times for The SIR Model*. Preliminary report.

We consider the SIR model and study the first time the number of infected individuals begins to decrease and the first time this population is below a given threshold. We interpret these times as functions of the initial susceptible and infected populations and characterize them as solutions of a certain partial differential equation. This allows us to obtain integral representations of these times and in turn to estimate them precisely for large populations. (Received September 15, 2020)