**Healthcare System Modeling: Draft as of 2/25/2020**

CDC is interested in understanding the potential impact of coronavirus disease 2019 (COVID-2019) on the healthcare system. Below are questions of interest to the CDC and suggested scenarios for estimating impact. CDC is interested in estimating the following:

1. Etiologic fraction of all COVID-2019 cases that are the result of likely healthcare-associated transmission
2. Etiologic fraction of COVID-2019 associated deaths that are attributable to healthcare-associated transmission

CDC is interested in evaluating the following types of healthcare-associated interventions:

(1) Strategies to conserve PPE supplies by limiting healthcare personnel (HCP) exposure via administrative controls (e.g., control banding, see: https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirator-supply-strategies.html)

(2) Strategies for the conservation of PPE (e.g., through extended use or reuse, including optimization strategies)

(3) Strategies to consider regional treatment referral schemes (e.g., a tiered approach)

CDC is interested in evaluating the effect of healthcare-associated interventions on the following:

(1)  overall size of the outbreak (i.e., does the intervention reduce the total number of cases, hospitalizations, or deaths over the whole outbreak),

(2)  time to the peak of the outbreak (i.e., does the intervention delay the time of the outbreak peak),

(3)  magnitude of the peak of the outbreak (i.e. does the intervention reduce the peak number of cases, hospitalizations, or deaths), and

(4) personnel protective equipment (PPE) utilization, where applicable.

*Table 1. Description of healthcare system scenarios*

|  |  |  |
| --- | --- | --- |
| **Intervention** | **Intervention Trigger** | **Intervention Duration** |
| **HCP administrative controls** | XX illness prevalence | X weeks |
| X weeks |
| X weeks |
| Planned implementation on [DATE] | X weeks |
| X weeks |
| X weeks |
| **PPE conservation strategies** | XX illness prevalence | X weeks |
| X weeks |
| X weeks |
| Planned implementation on [DATE] | X weeks |
| X weeks |
| X weeks |
| **Regional treatment referral schemes** | XX illness prevalence | X weeks |
| X weeks |
| X weeks |
| Planned implementation on [DATE] | X weeks |
| X weeks |
| X weeks |