Estimates of COVID-19 Patient Hospitalizations with Social Distancing Practice in Stanislaus County

As COVID-19 (coronavirus) spreads across the world, many jurisdictions, including California, have required people to implement social distancing, including closing non-essential business operations, asking people to work from home when possible, closing schools, eliminating group gatherings, and maintaining at least a six-foot separation from other people. These measures are taken with the hope of “flattening the curve,” or slowing the spread of this disease, so that hospitals are not overwhelmed with a large amount of patients who seek care at once (which could mean an insufficient number of hospital beds, medical staff, and ventilators for those who need them). Overall, the publicly available platforms (e.g., unacast, cuebiq) reported that these control measures have led to about 40% reduction in physical contact with people outside of a household.

Having an estimated percentage of reduction in physical contact, data scientists from universities and private sectors have been creating mathematical and/or statistical forecast models to show the impact of social distancing on the hospital bed capacity and to predict the highest number of hospital beds needed during this COVID-19 spread, often referred to as the “Peak” in a geographic area. These models not only consider a local

![The Impact of Social Distancing in Stanislaus County, CA](image)

**Figure 1** Impact of Social Distancing on Hospital Beds in Stanislaus County, CA

*Note: The graph provides an overview of the projected hospital bed availability during the COVID-19 pandemic. The lines represent different models and their peak hospital bed usage. The graph highlights the importance of social distancing in managing hospital bed capacity.*

This model is based on the data available as of April 24th. Please note that there is considerable uncertainty in the estimates of this and all epidemiologic models at this time, driven by the unknowns in key aspects of the virus and lack of data on prevalence of infection.
transmission rate but also incorporate multiple pieces of local information such as when the COVID-19 epidemic started, the amount of social distancing that has been practiced, and the number of patients with COVID-19 that are hospitalized. The models focusing on the region of Stanislaus County use the same parameters of some variables, but some of them are different from the others. For example, the models include 25 – 40% of social distancing being practiced. As a result, they predict different timing and growth of hospital beds needed for COVID-19 patients.

Figure 1 shows four different predictions, generated by four different models, for the anticipated impact of social distancing on the number of hospital beds needed by COVID-19 patients in Stanislaus County. Each model’s growth curve is represented by a different color. The black dotted line shows the anticipated number of hospital beds needed if the virus was allowed to spread without any social distancing. The straight grey and straight blue lines show the number of hospital beds in Stanislaus County and the number of those beds that are not in use and are available for COVID-19 patients. The black squares show numbers of confirmed Stanislaus County COVID-19 patients who were in a local hospital each day. The current numbers of hospitalized patients (black squares) are tracking closely with the social distancing projections (blue and red lines). It indicates that social distancing measures are helping to limit the spread of COVID-19 in Stanislaus County. It is important to note that the variance of these models indicates how difficult it is to predict the course of this disease spread.

In anticipation of a need for additional hospital resources for COVID-19 patients, Stanislaus County is tracking what is currently in use and available for new patients.

<table>
<thead>
<tr>
<th>Hospital Bed Availability in Stanislaus County, CA</th>
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</thead>
<tbody>
<tr>
<td><strong>Hospital Bed</strong></td>
</tr>
<tr>
<td>In Use</td>
</tr>
<tr>
<td>693 (57%)</td>
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</tbody>
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**Note:** Please note that the availability of each measure is subject to change throughout each day. It is based on data provided at a point in time each day and reflects the 7-day average of available figures from April 1st to April 24th, 2020.

**Figure 2** Hospital Bed Availability in Stanislaus County, CA
Figure 2 shows the number of hospital beds, ICU beds, and ventilators for all five hospitals in Stanislaus County, and the percentage of these currently available and in use. As of April 24th, 2020, out of 1,209 hospital beds, 43% are currently in use and 57% are available. Out of 179 ICU beds, 63% are currently in use, and 37% are available. (Please note that, during this emergency, hospitals have some capability to convert bed types.) Thus, the number of ICU beds could fluctuate based on changing needs.) Out of 208 ventilators, 19% are in use and 81% are available. Stanislaus County is coordinating with local hospitals to monitor the availability of these resources daily.