Abstract

Evaluation of MyCOVIDRisk App Users: An Updated Risk Evaluation and Mitigation Tool for Public Use

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Abstract

Background: The MyCOVIDRisk app is a free web-based tool for the public to quickly estimate the likelihood of COVID-19 infection based on individual behavior, environmental factors, and local case counts. User input of activities and mitigation measures impact the modifiable risk estimates. Originally launched in October 2020, an updated version was released in November 2021 to account for the transmission dynamics of delta and omicron variants and the protective effects of vaccination.

Objective: This study aims to assess trends in (1) user characteristics, (2) projected risk level, and (3) mitigation measures selected by users since the app's inception.

Methods: We tracked overall site usage with Google Analytics. To describe user inputs (preferred activities, gathering sizes, vaccination status, and other risk mitigation steps), we aggregated back-end app data logging at every run of the risk analysis algorithm. We calculated descriptive statistics.

Results: As of March 1, 2022, the MyCOVIDRisk app has been used 1,339,940 times (1,231,546 times in v1 and 108,394 times in v2). Multiple characteristics of activities changed across the 2 versions. For example, the top activity in v1 was "Visiting Friend's House" (22.6%, n=146,399); versus "Family Dinner" in v2 (21.3%, n=19,724). In v1, only 0.7% of users who were originally "high risk" and 10.8% of those who were originally "moderate risk" decreased their predicted risk to "low" using layered mitigation steps. In v2, in comparison, 24.4% of high-risk and 24.8% of moderate-risk activities were decreased to low risk. Self-reported mask use also changed across versions. In v1, 83.7% planned to wear a mask, versus only 68.8% in v2. Of those masking, more users reported use of N95s and surgical masks in v2 (50.5%) compared with v1 (18.1%). Vaccination status was not asked in v1. In v2, 97% (n=37,346) reported having received at least 1 dose of vaccine, and 81.7% had received 3 doses. Among those participating in indoor activities in v2, 75.7% (n=83,728) indicated that they were participating in indoor activities with people who had received at least 2 doses of Pfizer or Moderna or 1 dose of Johnson and Johnson vaccines.

Conclusions: The MyCOVIDRisk App allows individuals to assess in real time risk of being infected by SARS-CoV-2. Using app-directed mitigation steps, users were able to reduce their predicted risk of COVID-19 transmission during daily activities. Patterns of mask use and types of activities changed over time. In v2, users were more likely to report being vaccinated or boosted and wearing masks compared to what national statistics suggest. Future iterations of the app should assess actual change in behavior and should aim to reach those who are not currently vaccinated or masking.

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