Rapid Reviews COVID-19

Review 2: "Wastewater Surveillance of SARS-CoV-2 across 40 U.S. states"

Ahmed Yousef¹

¹Department of Chemistry, Khalifa University of Science and Technology, Abu Dhabi, United Arab Emirates

Published on: Jun 16, 2021

License: [Creative Commons Attribution 4.0 International License \(CC-BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

RR:C19 Evidence Scale rating by reviewer:

- **Reliable.** The main study claims are generally justified by its methods and data. The results and conclusions are likely to be similar to the hypothetical ideal study. There are some minor caveats or limitations, but they would/do not change the major claims of the study. The study provides sufficient strength of evidence on its own that its main claims should be considered actionable, with some room for future revision.

Review:

The paper reports results from wastewater SARS-CoV-2 measurements that took place in the USA between March and May of 2020. While these types of studies are common and increasingly being reported by different research groups and jurisdictions, what sets this study apart is the number of samples that were analyzed and the geography and population covered by the sampling. The group reporting the work are also amongst the first to carry out this type of sampling and analysis.

The limitations of the study, which were also acknowledged by the authors, are the low number of samples analyzed in March compared to April and May and the fact that the different jurisdictions mailed samples to the authors' laboratory. The different sampling methods carried out by the different groups could affect the results, as indicated by the authors as well.

The methods used to quantify SARS-CoV-2 levels are appropriate and the manner in which the analysis was carried out on the generated data can be used to justify the conclusions made by the study. What would strengthen the work would be data that covers the USA over the past year as opposed to only 3 months early in the pandemic. If similar trends and predictability with regards to wastewater values preceding or mirroring hospital admissions and SARS-CoV-2 infection incidence rates, then stronger support for the conclusions of the paper would be possible.