Information Item:
Update on MCES Wastewater Covid-19 Monitoring

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Environment Committee: July 27, 2021

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MCES Wastewater Monitoring

1. Communication and Coordination with the Minnesota Department of Health (MDH)

- discussing our results and planning our future work with the MDH
- providing weekly data updates

2. MCES monitoring of Metro Plant Influent Wastewater

- monitoring the overall presence of SARS-CoV-2
- monitoring variants using targeted assays and evaluating the potential of whole genome sequencing
- our partnership with the University of Minnesota Genomics Center was highlighted in a recent Metropolitan Council YouTube Video: https://www.youtube.com/watch?v=jzwVf1rY9io

3. University of Minnesota Duluth – Medical School Statewide project

- ~40 plants from the state including all nine MCES plants
- samples provided twice per week

4. National Wastewater Surveillance System Center for Disease Control and Prevention and US Department of Health and Human Services

- nationally funded project
- Phase 1 ~ 10% of US population – 6 weeks, January through February - Metro
- Phase 2 ~ 30% of US population – 10 weeks, June through August – Metro, Blue Lake, Seneca, and Empire

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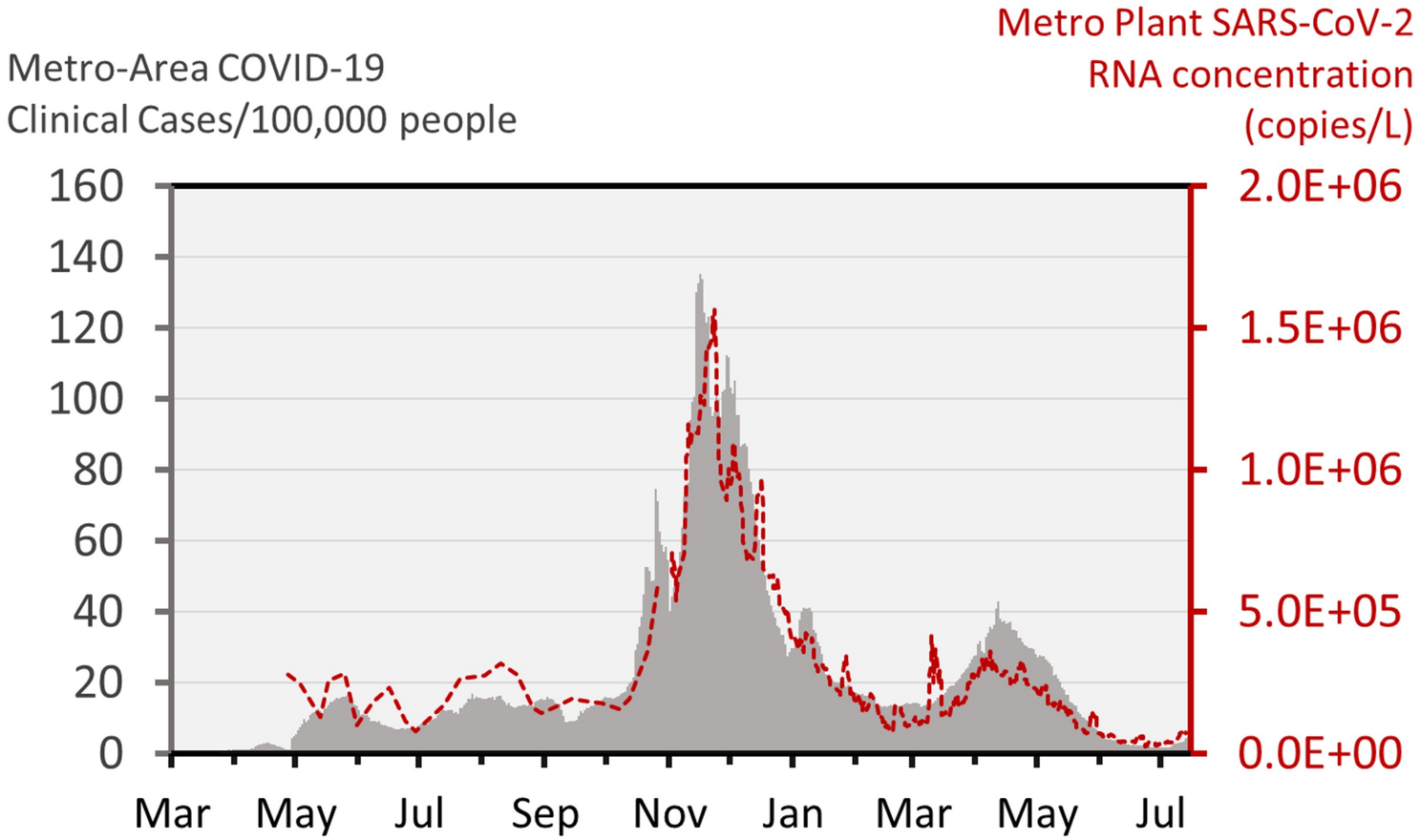
MCES Metro Results - Overall Presence of SARS-CoV-2 Long Term



- RNA concentration is the average of N1 and N2 gene concentrations
- RNA concentration trend lines and clinical case data are 7-day moving averages
- Data through the end of October is from Biobot
- Data since November is from MCES/R&D

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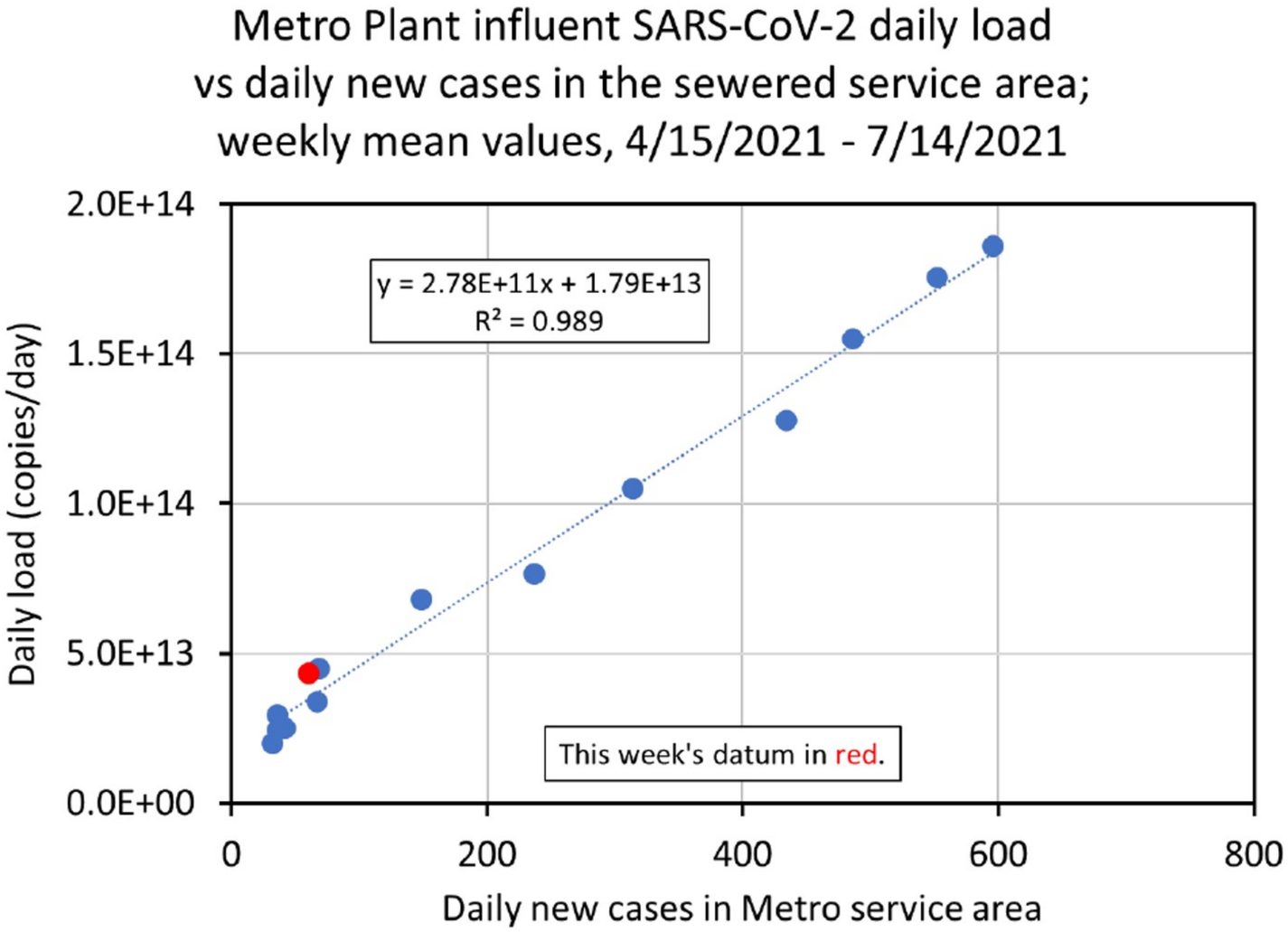
MCES Metro Results - Overall Presence of SARS-CoV-2 Correlation



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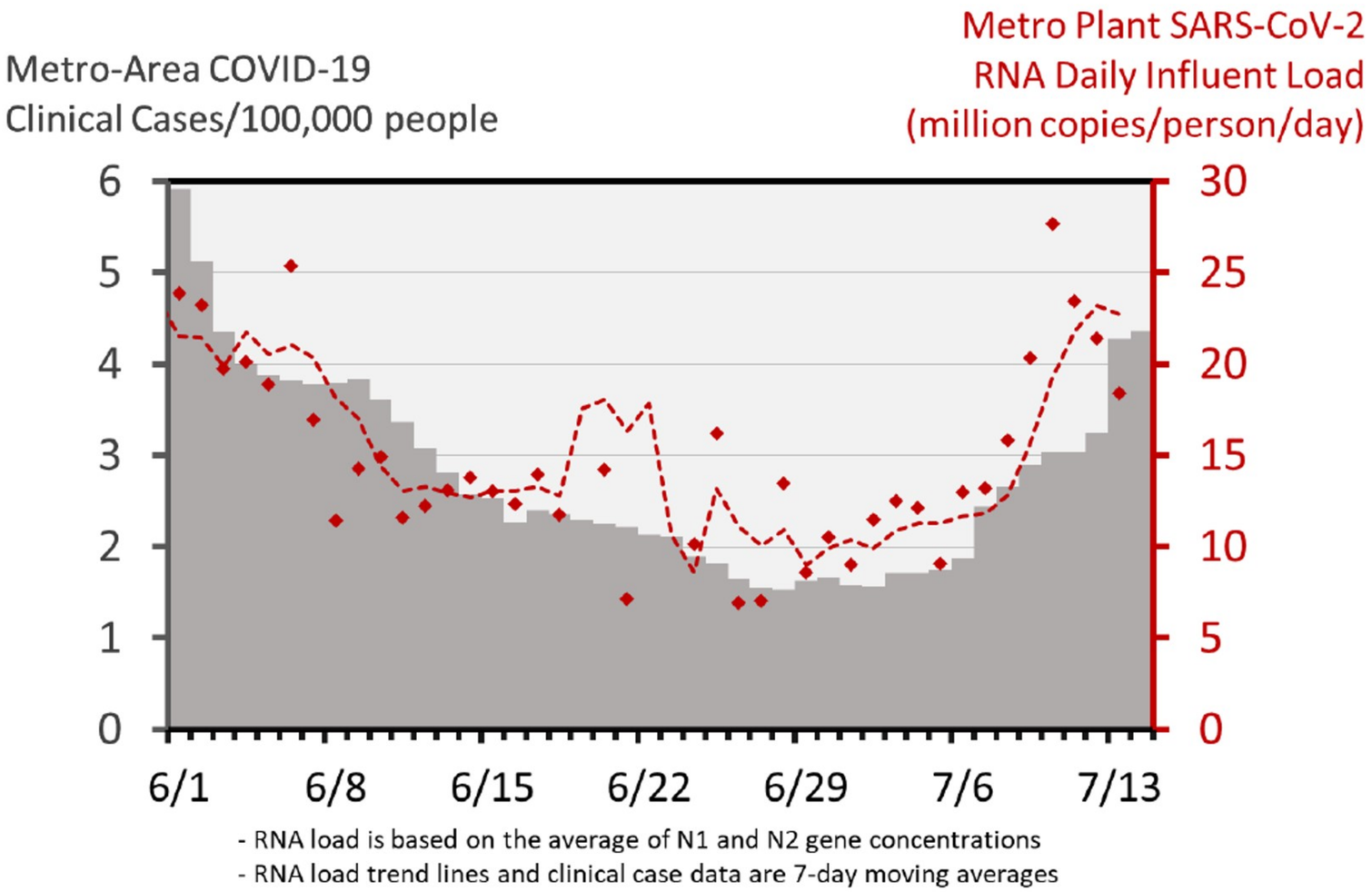
MCES Metro Results - Overall Presence of SARS-CoV-2 Near Term



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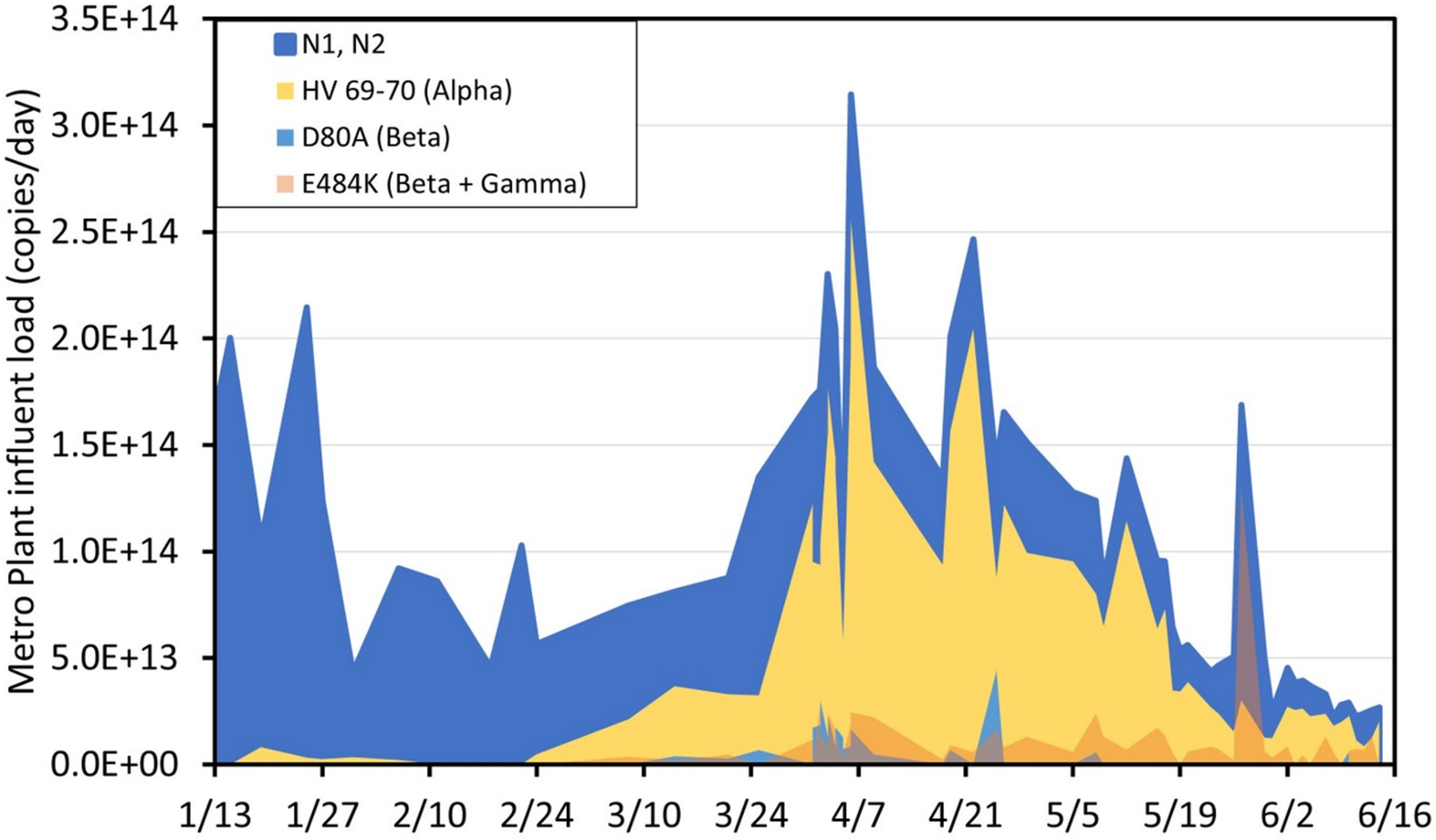
MCES Metro Results - Variants



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Future

- **MCES monitoring of Metro influent**
  - continue monitoring the concentration of the virus
  - continue tracking the prevalence of variants
    - Validation of our targeted Delta assay is complete, and data is being generated.
    - We will continually update the mutations and variants we monitor based on consultation with MDH.
    - We are evaluating a sequence-capture technique to identify new mutations as they arise.

- **National Wastewater Surveillance System Center for Disease Control and Prevention and US Department of Health and Human Services**
  - continue participation

- **University of Minnesota Duluth – Medical School Statewide project**
  - continue participation

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Questions

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