Information Item:
Update on MCES Wastewater Covid-19 Monitoring

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Environment Committee: February 9, 2021

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MCES Wastewater Monitoring

1. MCES monitoring of Metro Plant Influent Wastewater

- weekly results posted internally:
  - https://metcmn.sharepoint.com/sites/EnvironmentalServices/SupportServices/ProcessEngineeringandRD/Pages/Home.aspx
- using University of Minnesota Genomic Center (UMGC) for RNA quantification analysis
- in working contact with Rochester and St. Cloud

2. UM Duluth-Med School Statewide project

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

3. National Wastewater Surveillance System CDC and HHS - Phase 1

- nationally funded project
- Phase 1 – 10% of US population – 6 weeks – started January

4. MCES/UMGC Variant/Strain Identification/Monitoring in Wastewater

- in discussion and coordination with UMGC and providing specific samples for their use

Updated on-line newsletter article published 1/29/21:
https://metrocouncil.org/News-Events/Wastewater-Water/Newsletters/Wastewater-COVID19-infections-2021.aspx

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MCES Metro Results

metcmn.sharepoint.com/sites/EnvironmentalServices/SupportServices/ProcessEngineeringandRD/Pages/Home.aspx

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Process Engineering and R&D

Welcome

The Process Engineering and Research & Development MetNet site contains information about this department.

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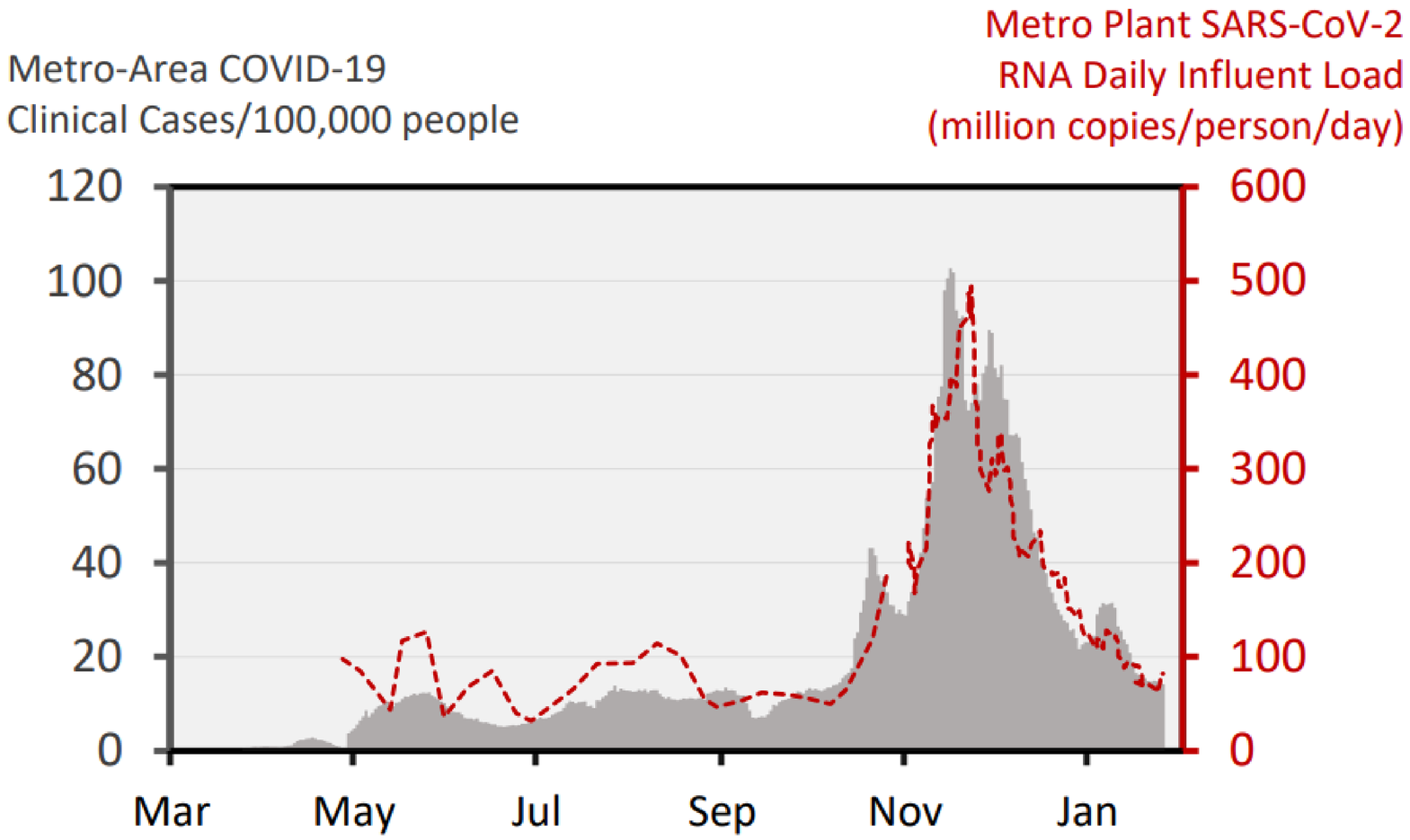
MCES Metro Plant Results

SARS-CoV-2 influent load, in million copies/person/day (based on the average of the N1 and N2 concentrations; normalized to the service area population (1.95 million))



- RNA load is based on the average of N1 and N2 gene concentrations
- RNA load 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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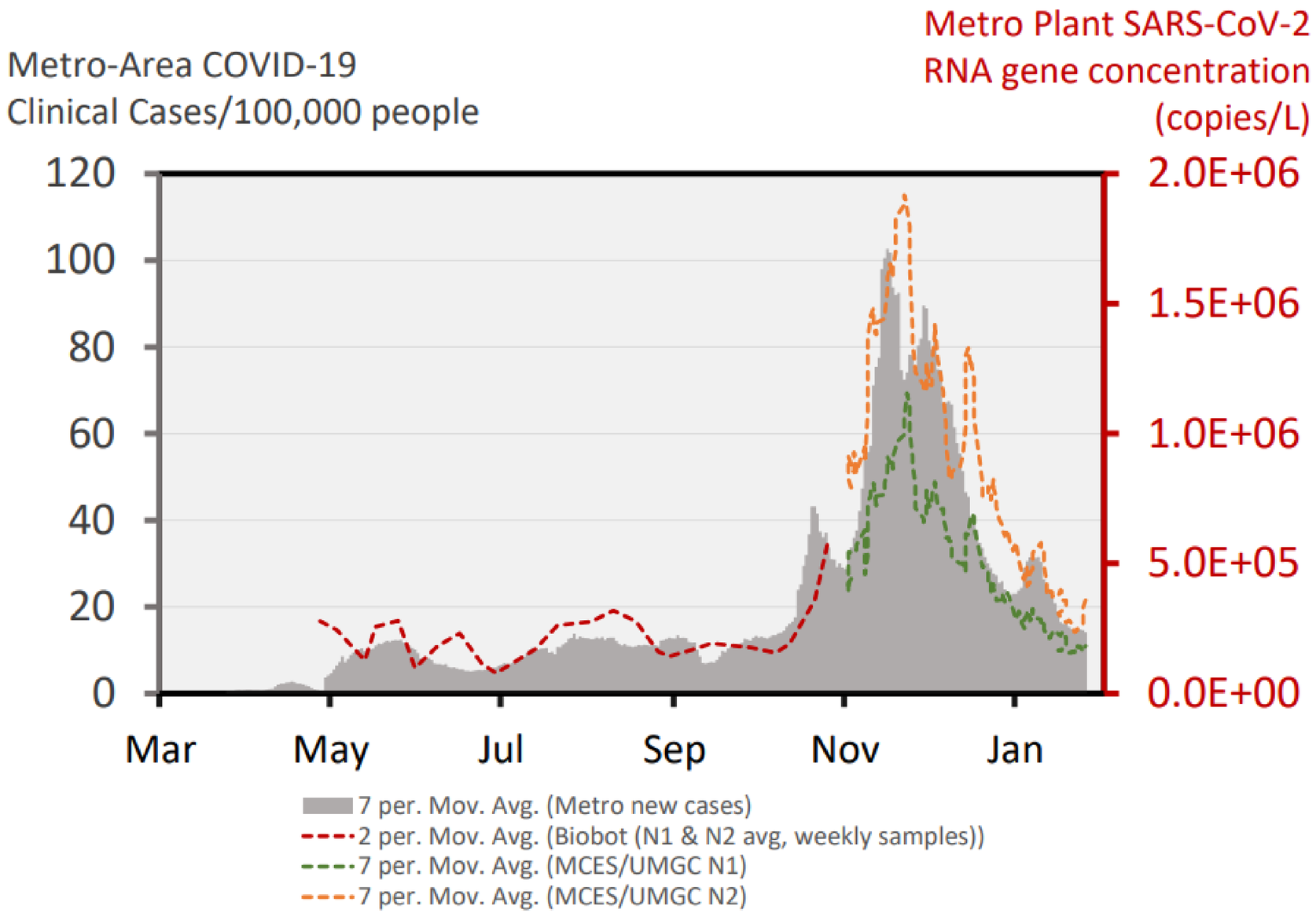
MCES Metro Plant Results – the details

SARS-CoV-2 concentration: showing individual N1 and N2 concentration data



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Current Status

- **MCES monitoring of Metro influent**
  - we are producing good data,
  - we are improving our method to lower detection limit, which will be more important in the next phases of the pandemic (new outbreak vs current conditions),
  - these capabilities will have uses beyond the current SARS-CoV-2 monitoring (other epidemiology uses and wastewater treatment process monitoring and trouble shooting)

- **UMD project**
  - we believe the project will continue through September
  - they report they will have a dashboard up soon

- **National Wastewater Surveillance System CDC/HHS – Phase 1**
  - no results or feedback from this team yet
  - we have requested that the Metro Plant be included in Phase 2

- **MCES/UMGC Variant/Strain Identification/Monitoring in Wastewater**
  - UMGC are the experts and need to lead this, to a degree
  - they are interested but their resources are spread thin
  - we have floated the idea of providing some funding but that does not seem to be the limiting constraint for them at this phase – it appears to be staff and system resource availability

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Questions

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