

Riding High: SARS-CoV-2 seroprevalence, vaccination, and breakthrough infections in Manitoba, Canada

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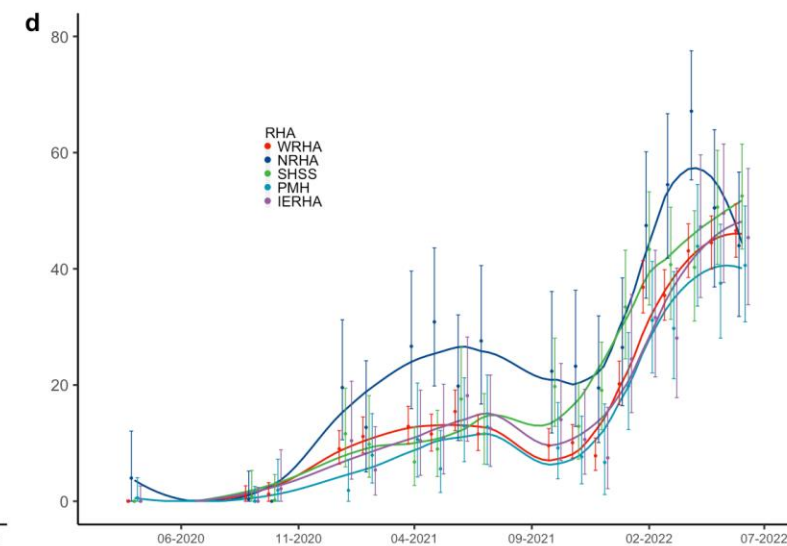
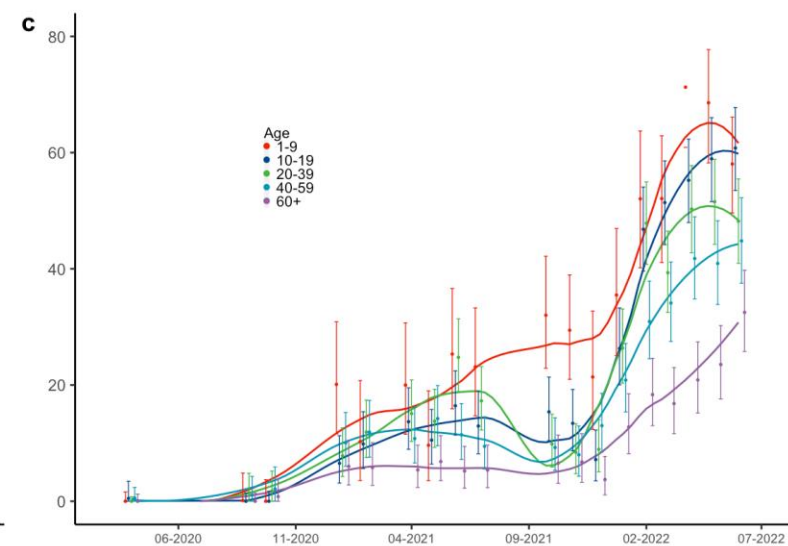
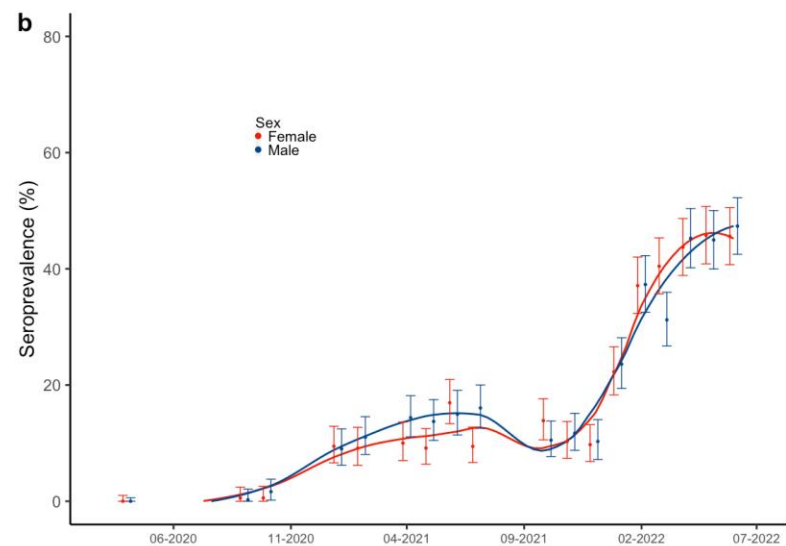
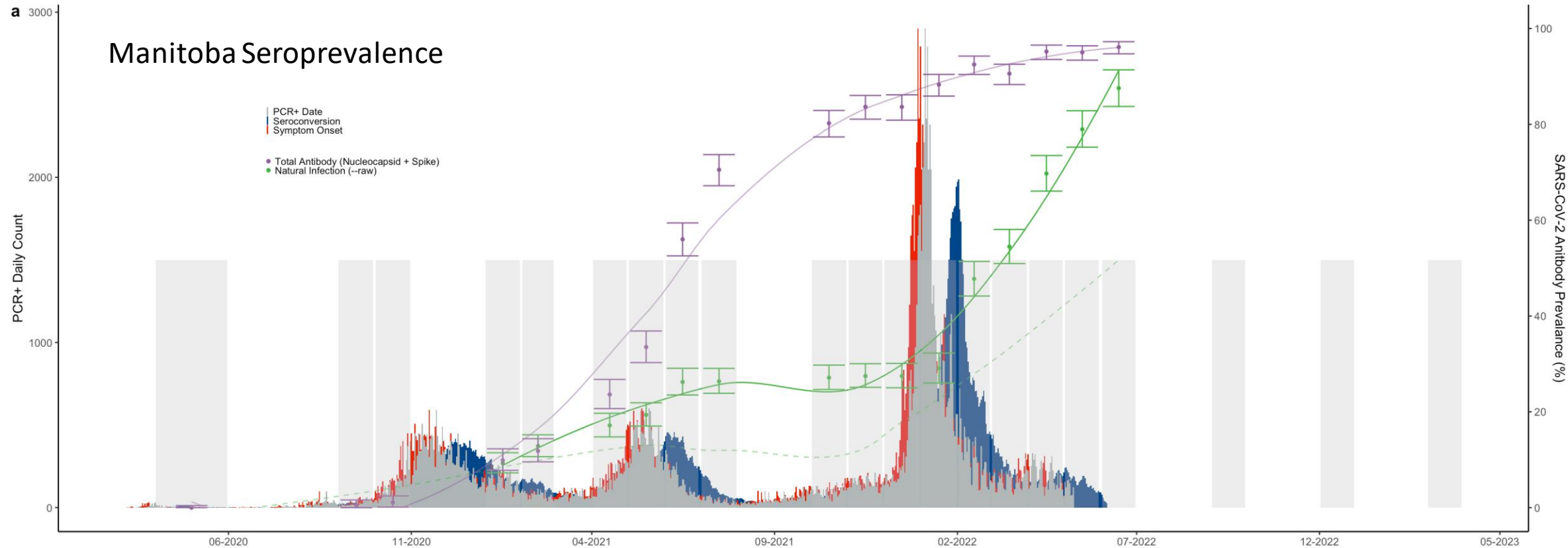




Manitoba COVID Seroprevalence

Objectives:

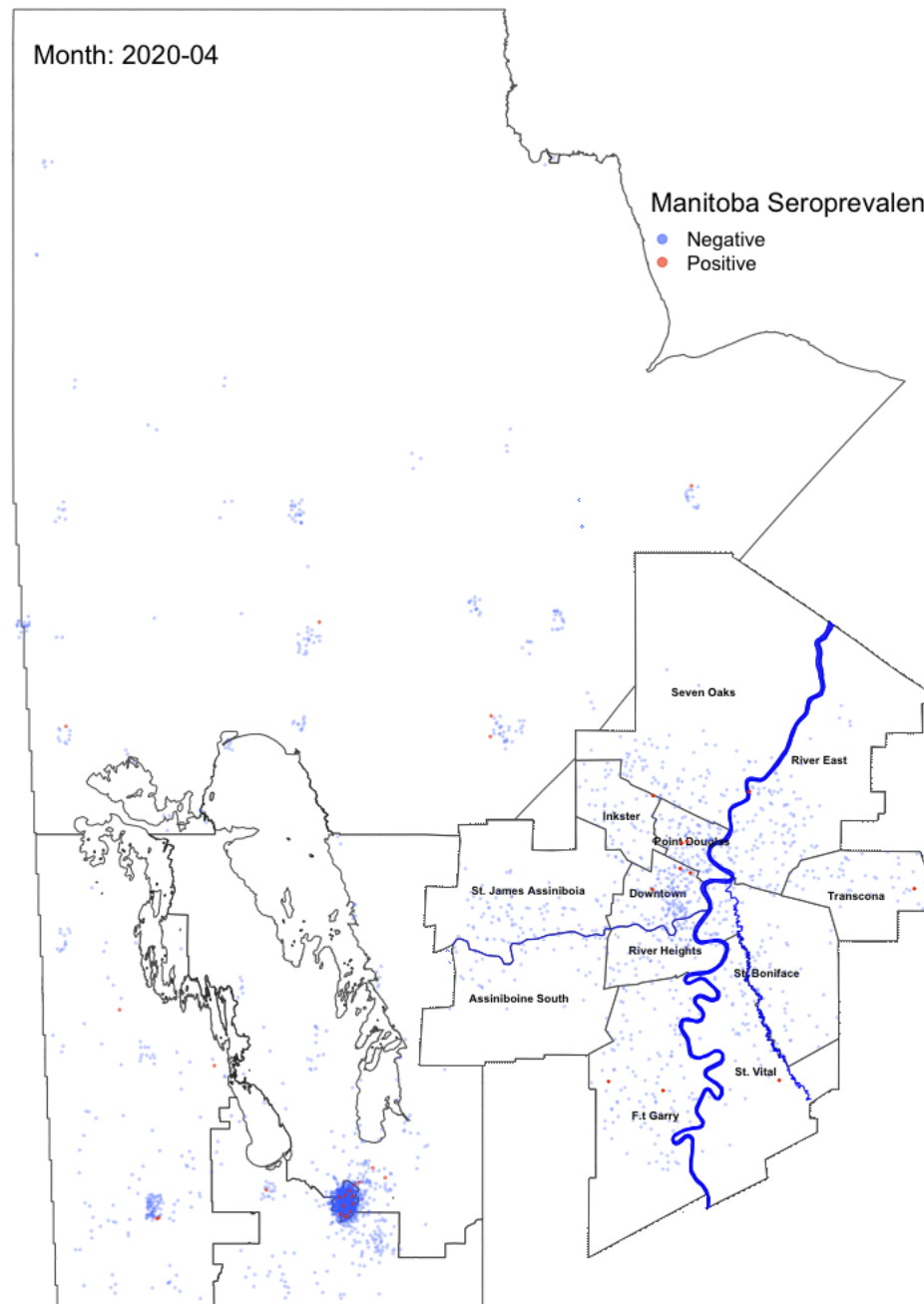
- **Estimate the proportion of Manitobans that have been exposed to COVID-19**
 - Determine the prevalence based on sex, age, geography
 - Improved estimates of infection fatality ratio
- **Monitoring Vaccine/Infection Immunity**
 - Waning Immunity & Vaccination Rollout
- **Breakthrough Infections**
 - Define an antibody threshold for Delta & Omicron



Month: 2020-04

Manitoba Seroprevalence

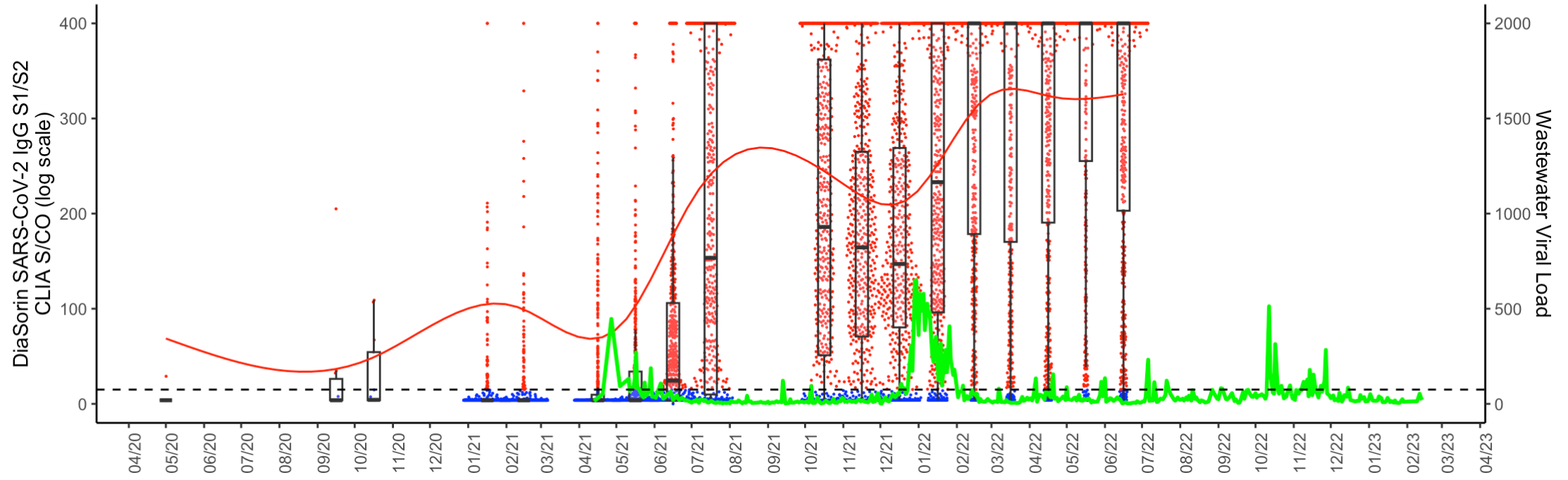
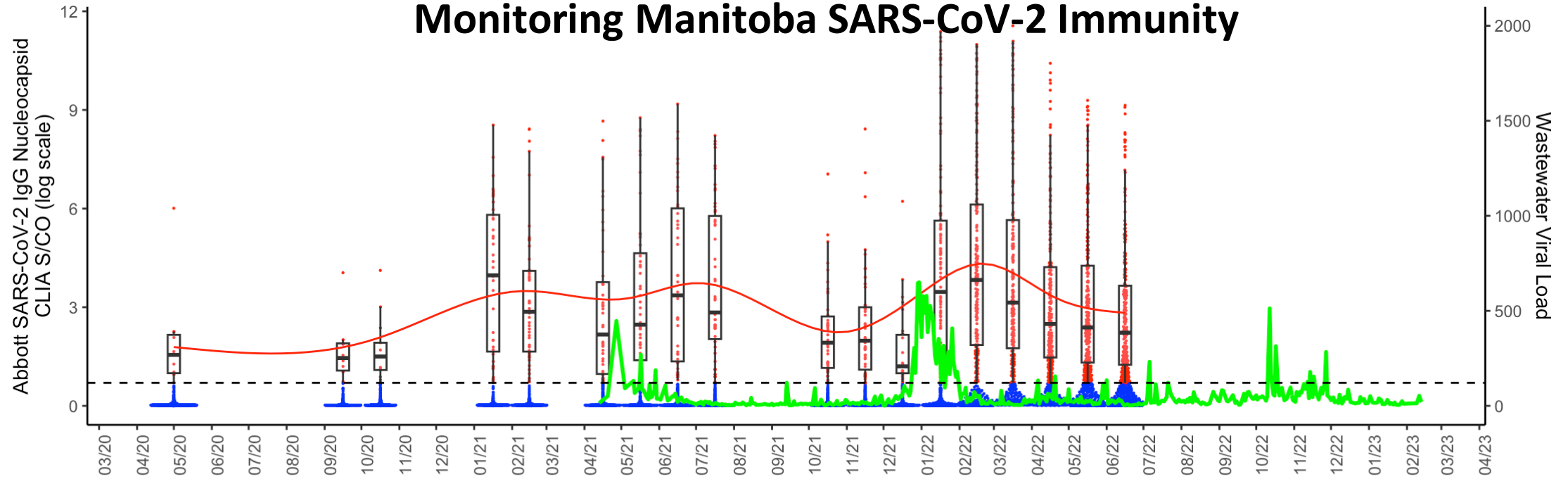
- Negative
- Positive

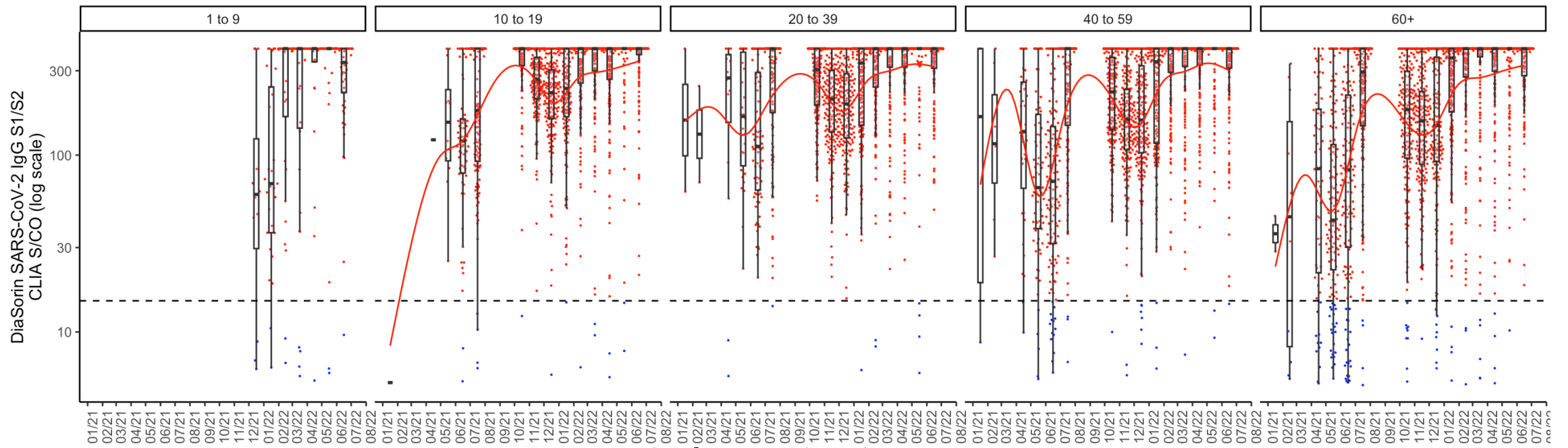


Monitoring Vaccination

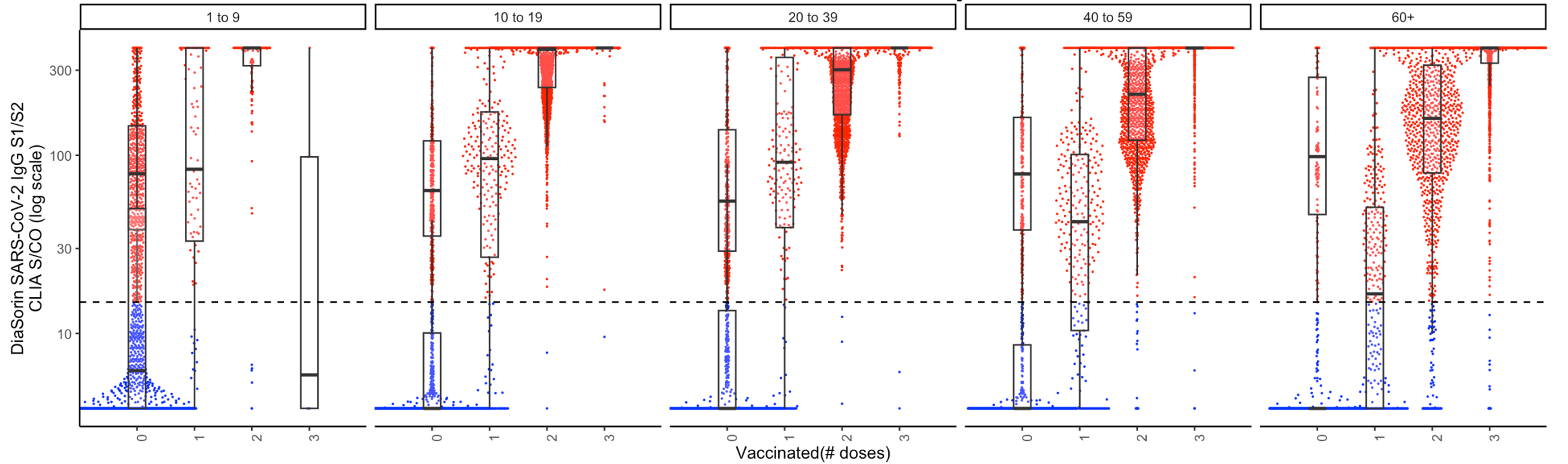


Monitoring Manitoba SARS-CoV-2 Immunity





Manitoba Vaccination Report

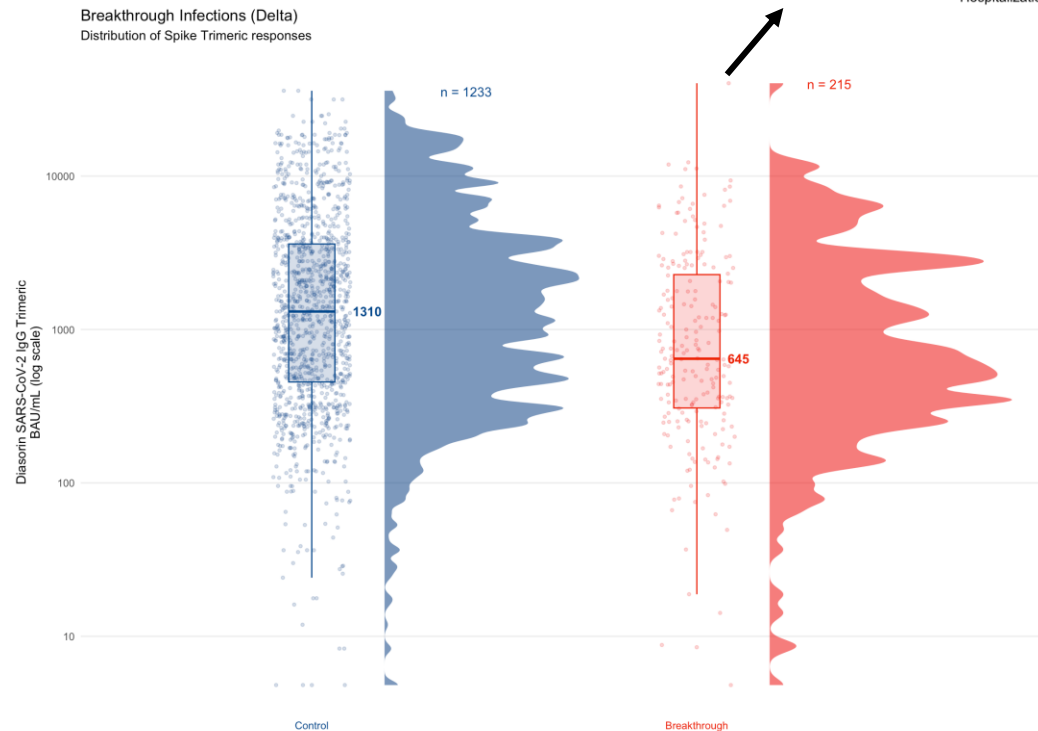
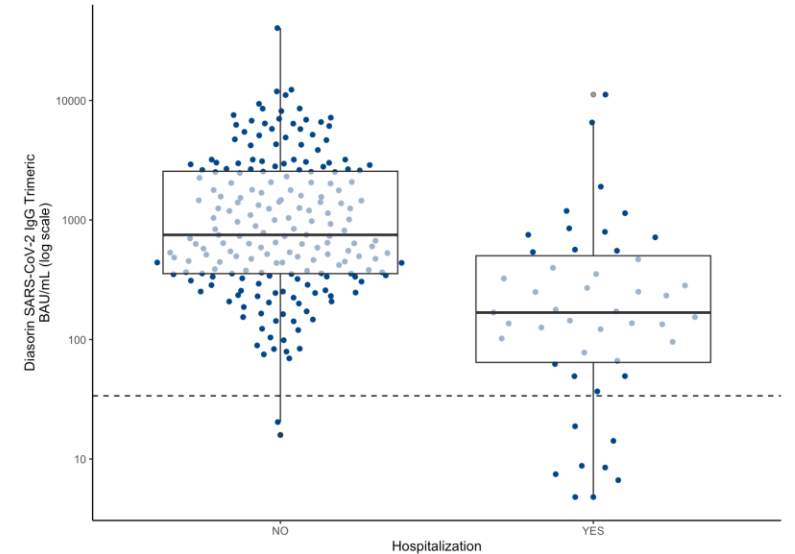


Breakthrough Infections



Delta Breakthrough Infections

- Case – Control Study
- Case – 2 doses + PCR positive
- Control – 2 doses + Nucleocapsid negative
- Matched on age and time
 - 1 case : 5 controls
- Conditional Logistic Regression
- 404 BAU/ml OR - 4.58 (2.71-7.74)
- 1150 BAU/ml OR - 2.89 (1.72-4.86)
- 3332.5 BAU/ml OR - 2.09 (1.27-3.44)



Provincial Serological Surveillance

- Lessons Learned

- The good ...

- Strong communication between ethical review boards and institution conducting surveillance
 - Data sharing between Public Health (GOM) and Cadham Provincial Laboratory (Shared Health, formally GOM)
 - Strong partnerships between University of Manitoba and Cadham Provincial Laboratory

- The not so good ...

- Administrative barriers to timely expenditure of funds
 - Availability of cost effective assays compatible with existing equipment

Acknowledgments

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 - Jared Bullard
 - Serology & Parasitology Department
 - Ainsley Gretchen
 - Josh Titus
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 - Julian Burtniak (BSc Med)
 - Adam Hedley (MSc)

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COVID-19
IMMUNITY
TASK FORCE

GROUPE DE TRAVAIL
SUR L'IMMUNITÉ
FACE À LA COVID-19

