COVID Project

Minutes for Tuesday, August 4, 2020 - 10 AM - 11 AM PDT via Microsoft Teams Meeting

Present: John Braun, Patrick Brown, Maggie Ma, Kaitlyn Hobbs (Minutes), Ngan Lyle, Shahrukh Alvi

Agenda

- PHU regions analysis presented (Ngan)
- Spatial modeling of LTC presented (Maggie & Patrick)

Meeting Notes

PHU regions analysis

1 — Principal components regression

- Predictors: census data, proximity data (weighted population mean), health data, Public Health Unit (PHU) level COVID case information.
- Principal component analysis of variables against proportion of COVID-19 in each PHU showed PC1 was significant.
- PC1 represents more urban regions.

2 — LTC spatial modeling

- Zero inflated poisson model offset by number of beds (twice number of beds incurs twice number of deaths) with a spatial model.
- Number of deaths between 1 and 4 were treated as a 1.
- Spatial random effects all close to 1; therefore, there isn't anything spatial influencing outcome.
- Nursing home effect is present (the type of nursing home, complaints were not significant).

3 — Next Steps

- Ideas
  - Expansion of LTC homes analysis nationally and/or globally.
  - Non-spatial model using TMB (template model builders) to consider covariance.
  - Assess binary outcome - outbreak vs no outbreak.
  - Death data is more complete than case numbers in the community but likely high rates of testing in LTC homes with an outbreak.

  - To consider temporal effect, could restrict data to before June 2020 (the first wave).
  - Literature reviews.
- Additional parameters to investigate:
  - Potential stratified analysis including staff cases.
  - Staffing - turnover, levels and part-time status.
  - Home age and design.
  - Number of rooms and occupancy (single or multiple)

Action Items

- Request additional room data for Ontario LTC homes from Nathan Stall for death outcome analysis (Ngan).
- Binary logistic regression on outbreak status (Patrick's team).

Next Meeting:

- Proposed team meeting on Microsoft Teams Monday Aug 17, 2020 at 10 AM PDT / 1 PM EDT