Data Request Form (Centre for Victorian Data Linkage)

To be submitted at <https://forms.office.com/Pages/ResponsePage.aspx?id=H2DgwKwPnESciKEExOufKL-kegtrNetJojD2FROuIlFUQ09STTJaRUgxNEE1WTI3TkpPTVJET0NWRy4u>

# Project title

Inferring individual-level estimates of RC for COVID-19 cases

# Project summary (provide a concise summary of your project)

This project will use individual-level linelist data including spatial, temporal, genomic and contact tracing variables to reconstruct estimates of transmission chains. This will build on network modelling methods used in malaria in low-transmission settings and establish a system to determine at-risk communities at more granular resolutions than simpler models.

# Project aims (provide detailed aims of your project)

By establishing a probabilistic framework for reconstructing transmission chains, this project aims to:

1. Provide detailed RC (case-level reproduction number) estimates per-person, allowing estimates of R to be aggregated and monitored for the population in any geographic region for any time period, rather than all-of-state or LPHU-level estimates.
2. Provide more accurate reconstructions of the true transmission chain than contact tracing, genomics, or geostatistical methods alone, allowing factors leading to transmission to be analysed.
3. Develop methods to infer the likelihood of unobserved, unknown cases in the community (in low transmission or near-elimination settings only).
4. Develop generic methods that are applicable to other infectious diseases in Victoria using all or some of the factors that are available for COVID.

# Describe the public interest of your research project and, if relevant, how it supports the Department of Health strategic plan priority actions. (The department's strategic plan can be accessed at: <https://dhhs.vic.gov.au/publications/department-health-and-human-services-strategic-plan>)

This research project is targeted at disease outbreak surveillance, initially for COVID-19 but then for generic notifiable infectious diseases. As COVID becomes endemic at lower levels, this project will enable alerts for epidemic disease behaviour at fine resolutions and/or in smaller communities, allowing public health interventions to be accelerated. The implementation will be compatible with the existing Victorian COVID-19 data.

# Describe the linkage design. (Describe (or provide a data flow as a supporting document) how the input and output will be transferred and processed by specific parties involved in the project)

# Describe the security plan and measures taken to ensure the security of information collected for, used in, or linked data generated for this project from misuse, loss or unauthorised access during and after the research project.

# Describe how the results of the linked data will be used (including any publication) and how confidentiality of participants will be maintained.

# Specify the anticipated project duration. (This period should cover e.g. data collection, data analysis through to report writing)

# Within the above project timelines, is there a specific deadline that you require access to the linked data by?

# Data retention and disposal plan (How long will the information be stored after the completion of the project, and why has this period been chosen)?

# Date data will be destroyed?

# Are you requesting a one off data extraction? (Please specify the number of expected updates and frequency)