



PROJECT SUMMARY FORM

Project Title	The effects of the COVID-19 pandemic on Incidence and Severity of Human Metapneumovirus in children
Supervisor name	Dr Deepti Raina
CHS/ACTHD position	Staff Specialist, General Paediatrics
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Lead discipline (please select one)

- | | |
|---|---|
| <input type="checkbox"/> Nursing and Midwifery | <input type="checkbox"/> Health Economics |
| <input type="checkbox"/> Allied Health | <input type="checkbox"/> Biostatistics |
| <input checked="" type="checkbox"/> Medicine- Yes | <input type="checkbox"/> Epidemiology |
| <input type="checkbox"/> Pre-clinical | <input type="checkbox"/> Health Policy |
| <input type="checkbox"/> Other | |

Does this project involve research led by, or relating to Aboriginal or Torres Strait Islanders?
 No
Outline of the project (250 words max)

The COVID-19 pandemic led to decreased hospital admissions due to respiratory infections but the ratio of the number of admissions to the total number of admissions due to Lower respiratory tract infections, bronchiolitis and asthma increased ⁽²⁾. We have planned his research to identify if there was a change in severity of presentation of Human Metapneumovirus post COVID pandemic.

The primary of this research is to investigate the change in severity of hMPV in the pre and post covid pandemic era. The secondary aims are: (1) To investigate the change in incidence of hMPV post Covid pandemic, and (2) To assess the difference in age wise severity of presentation of hMPV infection.

We will be collecting deidentified data on NPA swabs on all patients presented to paediatrics (Emergency Department and admitted in the Paediatrics Department) at the Canberra Hospital from 1st January 2018 to 31st December 2019 (Pre COVID group) and from 1st July 2022 to 30th June 2023 (post COVID group). These 2 groups will then be compared for incidence of hMPV infection. These groups will then be subdivided in age based 3 groups to look for age-based difference in severity of presentation of hMPV infection: < 1 year, 1-5 years and 6-16 years. Severity of the disease will be assessed on ViVI Disease Severity Score ⁽²⁰⁾.

This can direct our attention on further emphasis in prevention of these infections. This also will aid in our preparedness to deal with these infections and understanding the expectant burden on health infrastructure. This research will also

pave way to further research in understanding the complex mechanisms which may be due to immunomodulatory changes in the post COVID era and also development of vaccines or antivirals focussing on these viruses.

Proposed research methods

STUDY OBJECTIVES

The primary objective of the study is to investigate the change in severity of hMPV in the pre and post covid pandemic, while the secondary aims are the following:

To investigate the change in incidence of hMPV post Covid pandemic

To assess the difference in age wise severity of presentation of hMPV infection.

STUDY DESIGN, MATERIAL AND METHOD

This study includes a retrospective review of the presentations of hMPV in paediatrics (Emergency Department and admitted in the Paediatrics Department) at the Canberra Hospital for the pre and post COVID period [(1st Jan 2018 to 31st Dec 2019) and (1st July 2022 to 30th June 2023)]

Data collection:

Inclusion Criteria:

We will be collecting deidentified data retrospectively on NPA swabs on all patients presented to paediatrics (Emergency Department and admitted in the Paediatrics Department) at the Canberra Hospital from 1st January 2018 to 31st December 2019 (Pre COVID group) and from 1st July 2022 to 30th June 2023 (post COVID group).

The time frame has been specifically chosen to ensure that COVID related lockdowns and precautions that led to reduction in viral transmission, does not affect our data. The post COVID group has been selected from the time when government implemented precautions were no longer in place, in most places.

This data will then be analysed to compare the 2 groups (pre and post COVID) in their incidence of hMPV in their NPA swabs.

These groups will then be subdivided in age based 3 groups to look for age-based difference in severity of presentation of hMPV infection.

- < 1 year
- 1-5 years
- 6-16 years

Those who test positive for hMPV in both the groups will then be compared for their severity of infection.

For assessing the severity, a standard score- Disease severity score, will be used. ViVI Disease Severity Score was developed as a 22-item weighed clinical composite score, according to WHO-criteria of uncomplicated and complicated disease ⁽²⁰⁾.

Preferred study discipline being undertaken by the student

The student will be engaged in data collection and analysis. This will expose him/her to research methodologies and its use in routine medical practice

Benefits to the student and to the department

The student will be exposed to medical research and understand its use in routine medical practice. He/she will also be a part of any publications/ presentation of the data in various conferences/ seminars

How does this project align with any or all of the three strategic objectives of *Better Together: A strategic plan for research in the ACT health system* (100w max)

[Better together - A strategic plan for research in the ACT health system 2022–2030](#)

This research project aligns with all the 3 objectives of Better together. By understanding the viral infection presentation and management along with its implication on health infrastructure, the student will learn more about the health system.

This project is a high value research that will benefit the health system in the long run.

The hospital infrastructure should also be easily able to support the research project as it is a retrospective analysis of data

ACTHD/CHS Department where the student will be based

Department of paediatrics, centenary Hospital for Women and Children

Will the student be in a patient facing role at any time during the project?

No

Will the student require access to CHS and/or ACTHD network / DHR / applications / database? If yes, please identify

Yes.

Will the student require CHS / ACT Health building access? If yes, please identify

No.

Supervisor availability across key dates

Friday 10 Nov – Preplacement presentation session,
Canberra Hospital Auditorium

Yes

UNOFFICIAL

<i>Approximate duration 9am-12pm – supervisors are not required for full session. Possible Webex option.</i>	
Placement period 10 Nov – 9 Feb Please indicate availability across this time. <i>E.g. leave over Christmas/New Year</i>	<i>On call from 20-23rd Nov, 11-14 Dec and 29-31 Dec- Subject to change. Will not be available during this period</i>
At least two face-to-face sessions with the student each week during their 6-week placement.	Yes
Friday 9 Feb – Final presentation session, Canberra Hospital Auditorium <i>Approximate duration 9am-1pm – supervisors are not required for full session. Possible Webex option.</i>	Yes

I have read and I agree to the [ACT Health privacy policy](#) which includes statements on how the ACT Health Directorate acts lawfully to collect and use data to report on activities and to plan for future events and initiatives; including that we may use your details to contact you if required for program delivery and/or evaluation and to inform you of future similar opportunities.

Please submit form to health.research@act.gov.au