

**Title:** Defining risk and mechanisms of permucosal transmission for acute HCV infection within high-risk populations (RAMPT-C) PhD Scholarship.

**Background:** Hepatitis C (HCV)-related liver disease has emerged as a major contributor to morbidity and mortality among people with HIV. Recently, epidemics of acute HCV among HIV-infected men who have sex with men (MSM) have been reported in UK, Europe, USA and Australia. All of these cohorts report permucosal, including high-risk sexual, rather than parenteral, usually injecting drug use (IDU), risk associated with HCV transmission. The epidemiology and potential transmission mechanisms responsible for these “outbreaks” are still unclear, particularly in Australia. The relative contribution of biological factors, including HIV immunosuppression, semen HCV load, and co-existing sexually transmitted infections (STIs), versus socio-behavioural risk factors requires further exploration.

**Study plan:** The proposed study explores the epidemiology and transmission mechanisms of HCV using three distinct substudies, based on existing cohorts.

1. Molecular phylogenetic analysis of the NS5b and E1/E2 region of the HCV genome will be performed in all HCV RNA positive cases identified from HIM, pH, ATAHc, HITS cohorts and eligible hospital clinic patients.
2. HCV virological analysis of serum, semen and STI screening at two time points in four sub-groups: 1) newly identified acute HCV cases among HIV-positive MSM; 2) newly identified acute HCV cases among HIV-negative MSM; 3) chronic HCV cases among HIV-positive MSM; and 4) chronic HCV cases among HIV-negative MSM from baseline and then 12-24 weeks later. The reason for this is that some participants will receive combination HCV treatment from week 12.
3. Detailed behavioural and qualitative assessment of sexual and drug risk behaviour and attitudes following diagnosis of acute HCV in HIV co-infected MSM cases from the HITS-i cohort and clinic patients which will then be repeated 24 weeks later. A social network analysis will be performed.

**Techniques used:** Will involve both quantitative and qualitative techniques. The laboratory based methods will involve RT-PCR, sequencing and phylogenetic analysis. This will be combined with qualitative data collection and analysis.

**Eligibility:** All applicants must hold a medical or biological science degree (eg. Biochemistry, Physiology, Pathology, Pharmacology). Local and international applicants will be considered, but international applicants must hold appropriate visas. Applicants should have a particular interest in the project on offer and, ideally, have some experience with PCR techniques and phylogenetics.

**Award:** The scholarship is valued at **\$28,000 per annum** (tax exempt) and may be renewed for up to three years, subject to satisfactory progress.

**Application Process:** All applications should be emailed to **Dr Mark Danta** ([m.danta@unsw.edu.au](mailto:m.danta@unsw.edu.au)). Applicants should include the following documents:

- Cover Letter
- Curriculum Vitae
- Copy of an academic transcript
- Names and contact details for at least 2 referees.