

## **EXECUTIVE SUMMARY FOR MSS 231 R**

### **Therapeutic Drug Monitoring for optimizing HIV treatment Phase III**

**Objectives.** Therapeutic Drug Monitoring (TDM) serves an important role of optimizing highly active antiretroviral therapy (HAART) for HIV infected patients. As TDM is not routinely available, a pilot system was established in 2010. MSS231R is a followup project which carried the objective of providing TDM tests on commonly prescribed antiretrovirals for patients of public HIV services in Hong Kong.

**Design/Setting.** A pilot TDM service was set up at the Chinese University of Hong Kong to provide testing of the plasma levels of antiretrovirals according to clinical indications, as requested by HIV physicians of Integrated Treatment Centre of Department of Health, HIV services at the Queen Elizabeth Hospital and Princess Margaret Hospital.

**Participants.** Between August 2014 and July 2015, a total of 304 patients' samples have been tested for TDM

**Results.** Testing protocols for the following antiretrovirals were in place: Protease Inhibitors (PI): indinavir, nelfinavir, saquinavir, atazanavir, ritonavir, lopinavir, tipranavir and darinavir; Non-nucleoside reverse transcriptase inhibitors (NNRTI): nevirapine, efavirenz, rilpivirine and etravirine; Integrase inhibitor (INSTI): raltegravir. No requests have been received for 4 of the antiretrovirals: tipranavir (a very uncommonly used antiretroviral in Hong Kong), indinavir (an older generation medicine with significant side effects), nelfinavir (compound withdrawn because of potential contamination, in 2007), etravirine (uncommonly used compound for treatment-experienced patients). The variation in the frequency of testing reflected the prevalent pattern of prescribing practice. Testing for rifabutin also became available for patients co-infected with *Mycobacterium tuberculosis*. The TDM service has joined the International Interlaboratory Quality Control programme for TDM in HIV infection administered by the Dutch Association for Quality Assessment in Therapeutic Drug Monitoring and Toxicology (KKGt). Regular rounds of assessment have been performed for upholding the standard of TDM testing.

**Conclusions.** TDM is a useful investigation in Hong Kong, which serves to enhance the quality HIV service according to standard clinical indications. The Project Team, as a committed research unit, has been able to provide the supplemental service for optimizing antiretroviral therapy.

**PUBLICATIONS.** nil