

TIME FROM HIV INFECTION TO VIROLOGICAL SUPPRESSION: DRAMATIC FALL FROM 2007-2016.

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Background: Treatment as prevention at the community level requires that individuals are diagnosed HIV positive soon after infection and rapidly achieve virological suppression. We examined the time from HIV infection to virological suppression in men who have sex with men (MSM) who were first diagnosed at Melbourne Sexual Health Centre between 2007 and 2016.

Methods and Materials: Time from HIV infection to diagnosis was imputed from the date of most recent negative HIV test or serological evidence of recent infection (negative or indeterminate Western Blot) or baseline CD4 cell count. Time from diagnosis to suppression was measured using clinical viral load data. We analysed predictors of being diagnosed with serological evidence of recent infection (logistic regression) and time from diagnosis to suppression and from infection to suppression (cox regression) using demographic, clinical and behavioural covariates.

Results: Between 2007 and 2016 the median imputed time between HIV infection and diagnosis fell from 6.8 to 4.3 months ($p=.001$), the proportion of diagnoses with serological evidence of recent infection increased from 15.6% to 34.3% ($p=.002$), the median time from diagnosis to suppression fell from 22.7 to 3.2 months ($p<.0001$), and the time from infection to suppression fell from 49.0 to 9.6 months ($p<.0001$). In the multivariate analysis, age, being recently arrived from a non-English speaking country, history of injecting drug use, other STIs and sexual risk were not associated with any of these measures.

Conclusion: The duration of infectiousness in MSM diagnosed with HIV infection at MSHC in Victoria has fallen dramatically between 2007 and 2016 and the proportion diagnosed with serological evidence of recent infection has increased. This effect is across all population subgroups and marks a very positive milestone for the treatment as prevention paradigm.