MedicalXpress

Study suggests additional benefits to HIV-prevention therapy

October 5 2016, by Leslie Shepherd

The anti-HIV drug Truvada has been shown to be very effective at preventing new infections when taken by people at high risk who strictly adhere to the drug therapy regime.

A new study suggests just how cost-effective this intervention—known as pre-exposure prophylaxis, or PrEP—could be in Toronto, and says there maybe additional benefits to a PrEP program if it brings high-risk individuals into contact with the health-care system and engages them in care.

Researchers at St. Michael's Hospital developed a mathematical model to evaluate the impact of PrEP on the number of new HIV infections among gay men in Toronto, the number of HIV-related deaths averted and the cost impact on the health-care system. Their findings were published online recently in the *Journal of the International AIDS Society*.

Previous studies have found that a daily dose of Truvada, a Health-Canada approved preventative oral medication, could reduce HIV acquisition in men who have sex with men by 44 per cent, or as much as 99 per cent with high adherence.

The model developed at St. Michael's suggests that over 20 years, PrEP use in 25, 50, 75, and 100 per cent of the highest risk gay men would prevent 1,166, 2,154, 2,816 and 3,012 new HIV infections, and 70, 117, 137, and 140 HIV-associated deaths. The estimated cost of

implementing PrEP would increase as more high-risk men used it, from $80 million with 25 per cent PrEP coverage to $270 million with 100 per cent PrEP coverage.

Putting gay men on preventative therapy could have the added benefit of bringing them into contact with the health care system, meaning they are more likely to be tested regularly for HIV and to have other health issues diagnosed and-or attended to, said one of the paper's authors, Dr. Darrell Tan, an infectious disease specialist who led a PrEP clinical trial at St. Michael's.

Dr. Tan and his colleagues found that although testing alone prevented fewer infections than use of PrEP, there was a reduction in cost to the health care system ($11,359 per infection prevented) by screening these high-risk patients regularly.

Dr. Tan said one thing that makes this study different is that it focuses exclusively on Toronto. Most models of PrEP's clinical- and-or cost-effectiveness are based on national-level sexual behaviours and data. But Dr. Tan said a national perspective can ignore local or regional differences, whereas strong local data can be more persuasive in shaping local policy and programs.

Of the estimated 57,400 gay men living in Toronto, nearly 20 per cent have HIV. Despite the availability of anti-retroviral therapy drugs and sustained investments in behavioural prevention programs, rates of newly diagnosed HIV infections and HIV-attributable deaths have not markedly declined in this demographic group in the last 10 years.

Finally, Dr. Tan said the growing evidence of PrEP's clinical and cost effectiveness comes at a time when some provinces are considering whether to cover the expensive drug on publicly funded insurance plans. The drug now costs between $12,000 and $15,000 a year, meaning it is

affordable only to people in clinical trials or with private insurance.

"This study makes a strong argument for public reimbursement of this drug," said Dr. Tan. "It's more evidence the drug is both clinically and cost effective when targeted at men at highest risk. A large benefit comes from engaging non-diagnosed HIV-infected men into care."

Provided by St. Michael's Hospital