

20.H. Oral session: HIV screening and interventions

Moving forward: Cost-Effectiveness of PrEP in HIV prevention for Men Who Have Sex with Men in Italy

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Globally, in 2018 1.7 million people contracted Human Immunodeficiency Virus (HIV) and 770,000 people died from AIDS-related illnesses. Men Who Have Sex with Men (MSM) have one of the highest probabilities of HIV transmission.

In Italy, in 2018 2,847 new HIV cases were diagnosed, of which 39% among MSM. The MSM population accounts for 16,690 individuals whereof 50% already underwent the Highly Active Antiretroviral Therapy (HAART). The aim of this study is to evaluate the cost-effectiveness of daily Pre-Exposure Prophylaxis (PrEP) in the Italian MSM susceptible population. A Markov transition model was calibrated to the HIV epidemic among MSM in Italy, comparing PrEP to naïve patients (NP). Model parameters were retrieved by querying scientific databases. Transition probabilities were adjusted for incidence of HIV while costs and benefits were discounted at an annual rate of 3%. The impact on results of critical parameters was explored through a Monte Carlo-based sensitivity analysis. The cost-effectiveness analysis results were reported as Incremental Cost-Effectiveness Ratio (ICER) expressed as € per Quality Adjusted Life Year (QALY) gained.

The introduction of such a PrEP program would result in a total cost of €822,398,199 million and lead to a gain of 70,762 discounted QALYs over an 85-year time horizon.

Assuming a 92% efficacy of PrEP therapy, the ICER for the PrEP program is €4,346.16/QALY gained. This value is definitively lower than acceptability NICE threshold (£20,000). PrEP can reduce the infection rate up to 60% in a five-year period. The Monte Carlo simulation confirmed the robustness of the model results.

This analysis showed PrEP to be cost-effective when used in a susceptible population. Even if PrEP doesn't protect from other sex-related infectious diseases, it could prevent HIV transmission, thus breaking down HIV-infection incidence rate. Each country should reflect on the real possibility to

implement a robust Public Health program pondering the adoption of PrEP.

Key messages:

- PrEP is very effective at reducing HIV infection when taken correctly. It is the backbone in the “combination prevention”, necessary to reach the SDG of ending the AIDS epidemic by 2030.
- This preliminary analysis suggests that the introduction of a daily PrEP program for MSM in Italy is cost-effective and possibly cost saving in the long term.