

## Combining antiretroviral treatments with methadone maintenance in HIV-positive drug users in Estonia

### Summary

**Objectives:** To evaluate the cost-effectiveness of methadone maintenance therapy (MMT) scenarios and to integrate antiretroviral therapy (ART) with MMT in HIV-positive opioid-dependent injection drug users in Estonia.

**Methodology:** A review of the literature described European opioid substitution therapy practices and quality standards, and the evidence on the effectiveness and cost-effectiveness of MMT in patients undergoing ART provision scenarios. The cost-effectiveness analysis was based on two Markov models that compared a) the current MMT practice to alternative high- and low-threshold service scenarios, and b) integrated MMT and ART with both separately administered services and provision of ART alone. In both cases the base-case analyses included a hypothetical cohort of 1,000 30-year-old injection drug users (IDUs) who were followed in monthly cycles for one year. Treatment effectiveness and quality of life data were derived from published literature. Drug use parameters, costs and mortality were based on available Estonian data. In order to reflect parameter uncertainty a one-way sensitivity analysis was performed. Budget-impact analyses was carried out for both models from the healthcare payers' perspective.

**Results:** Compared to the overall costs of €1,904 and 0.732 QALYs per IDU in the current MMT practice, a hypothetical high-threshold MMT scenario would be less costly (-€79) but also less effective (-0.002 QALYs), whereas a low-threshold MMT scenario would result in an incremental cost-effectiveness ratio (ICER) of €15,075 per QALY. The provision of integrated MMT and ART results in 0.054 additional QALYs with an added cost of €2,101 per person compared to ART alone. Providing ART and MMT in separate locations enables 0.049 QALYs to be gained with an added cost of €2,077 compared to ART alone. Deterministic ICER per QALY is €38,904 for integrated ART and MMT and €42,307 for ART and MMT provided in separate facilities compared to ART alone. In the sensitivity analysis the ICER was most influenced by ART treatment retention and variation in quality of life parameters.

**Conclusions:** Based on the results, a hypothetical low- or high-threshold MMT service is not likely to have substantial benefits over the current MMT practice, especially when equal treatment coverage is assumed. The integrated MMT and ART treatments – already available in Estonia – would have an advantage over the provision of ART alone as well as separately provided ART and MMT treatments.

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