OBJECTIVES: Since 2009, 12-year-old Dutch teenage girls are vaccinated against human papilloma virus (HPV) infection. The current uptake of HPV vaccination, being approximately 60% nowadays, is however comparatively low. Consequently, a large group of women are still at risk of developing HPV-induced cervical cancer later on in life. Therefore, alternative HPV vaccination scenarios have been proposed, in addition to the current one, to provide additional protection against cervical cancer. Here, we assessed the cost-effectiveness of three different vaccination scenarios: (i) increased coverage of the existing programme, (ii) vaccination of girls at an older age, and (iii) vaccination of 12-year-old boys. Methods: A dynamic model was used to estimate the full health-economic consequences of the existing programme with and without the above alternative scenarios. Costs and health effects of the alternative scenarios, expressed as life years (LYs) or quality-adjusted life years (QALYs) gained, were compared with the costs and outcomes of the existing programme. The robustness of the model predicted outcomes was evaluated. Results: We found the incremental cost-effectiveness ratio of the existing HPV vaccination programme to be $574/QALY gained. The cost-effectiveness of alternative programmes highly depends on the coverage at 12 years of age. The cost-effectiveness of girls 24 years of age remained below $50,000/QALY if coverage at 12 years of age increased up to 70%. Cost-effectiveness of vaccination boys at 12 years of age becomes uncertain with a 30% increase in coverage. Conclusions: From a health-economic perspective, alternative HPV vaccination programmes should be considered in the Netherlands to further reduce the burden of HPV-induced cancer. Until a high coverage among 12-year-old girls in reached the addition of older girls to the current vaccination program is most cost-effective.

PINF7
A SYSTEMATIC REVIEW OF COST-EFFECTIVENESS ANALYSIS OF CD4 COUNT COUNTER VS HIV VIRAL LOAD IN PRIMARILY RESOURCE-LIMITED SETTING
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OBJECTIVES: Utilization of routine viral load (VL) and CD4 cell count coupled to clinical monitoring of HIV patients needs to be carefully deliberated in cost-effectiveness analyses. To compare the cost-effectiveness of these strategies individually and in combination.

METHODS: A literature review was conducted for studies published in English from 2004 to 2014 on Pubmed, Web of Science, Ovid, Google Scholar, with keywords HIV, viral load, CD4, economic evaluation, and cost analysis. All underlying assignment of Levels of Evidence (LOE) by Oxford Center for Evidence-Based Medicine (CEBM), as well as Drummond scoring criteria.

RESULTS: Thirty English publications were identified, including 14 modeling studies, 7 randomized clinical trials (RCTs), and 5 cohort studies among others. A total of 24 were based on resource-limited settings such as Africa, Latin America, and Asia. Compared with CD4, VL alone had incremental cost-effectiveness ratios (ICERs) ranging from $2525/ly to $375/ly (life-year), while use of CD4 compared to viral monitoring was from $411/QALY to $5768/quality-adjusted life-year (QALY). The combination of CD4 and VL, which is recommended in real-life practice, compared to CD4 alone yielded ICERs ranging from $3956/QALY to $16139/QALY. The cost-effectiveness of these strategies was affected by factors such as the reference threshold for ICER, costs and monitoring regimens of the strategies and antiretroviral treatment.

CONCLUSIONS: From the studies, it is critical to evaluate the cost-effectiveness of CD4 compared with VL, contextually, with the being more appropriate in resource-limited settings. VL is associated with better health outcomes, Quality of Life (QoL), and costs of an unselected cohort of patients switch from the Russian epidemiologic model designed for three TB possible searching scenarios in three hypothetical cohorts of 1000 patients with different CD4 count (<300, 200–499, >500). The following scenarios were examined: “Base” — the current diagnostic scheme, according to the National Program, “Addition”— the current diagnostic scheme and Xpert/Rf test only. Inputs’s from the country report and Russian epidemiologic data were used. The results was compared with those from the Russian epidemiologic model with an analytic horizon of 2 years. RESULTS: CD 4+ <200 cohort CER in “Base” is 541871, in “Addition” — 643771, “Replacement” — 648087. Additional cost per one successfully treated RUB11238 (2389 $), cost per death averted pts RUB5035, (1072 $), in “Replacement” compared to “Base” CD 4+ <200 cohort CER in “Base” is 596293, in “Addition” — 556015, “Replacement” — 66529. Additional cost per one successfully treated RUB54228 (115361 $), cost per death averted pts RUB52696 (111911) in “Addition” compared to “Base”. CD 4+ >500 cohort CER in “Base” is 408581, in “Addition” — 642173, “Replacement” — 59740. Additional cost per one successfully treated RUB69039 (129638 $), cost per death averted pts RUB66449 (141468 $) in “Addition” compared to “Base”. CONCLUSIONS: If it needs to solve, which of diagnostic scenarios we finance, we should take into account not only CER, but opportunity to miss TB cases. Using “Addition” is especially effective for diagnostic research in CD 4+ <200 cohort.

PINF9
SWITCHING FROM AN EFV-BASED STRAIGHT TO A RPV-BASED STR is EFFECTIVE, SAFE AND IMPROVES HIV PATIENTS’ HEALTH OUTCOMES
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OBJECTIVES: The objective was to assess the cost-effectiveness of 3 scenarios for the diagnosis of TB among PLWH depending on CD 4+ count and their influence to treatment outcomes. A deterministic Markov model was designed for three TB possible searching scenarios in three hypothetical cohorts of 1000 patients with different CD4 count (<300, 200–499, >500). The following scenarios were examined: “Base” — the current diagnostic scheme, according to the National Program, “Addition”— the current diagnostic scheme and Xpert/Rf test only. Inputs’s from the country report and Russian epidemiologic data were used. The results was compared with those from the Russian epidemiologic model with an analytic horizon of 2 years. RESULTS: CD 4+ <200 cohort CER in “Base” is 541871, in “Addition” — 643771, “Replacement” — 648087. Additional cost per one successfully treated RUB11238 (2389 $), cost per death averted pts RUB5035, (1072 $), in “Replacement” compared to “Base” CD 4+ <200 cohort CER in “Base” is 596293, in “Addition” — 556015, “Replacement” — 66529. Additional cost per one successfully treated RUB54228 (115361 $), cost per death averted pts RUB52696 (111911) in “Addition” compared to “Base”. CD 4+ >500 cohort CER in “Base” is 408581, in “Addition” — 642173, “Replacement” — 59740. Additional cost per one successfully treated RUB69039 (129638 $), cost per death averted pts RUB66449 (141468 $) in “Addition” compared to “Base”. CONCLUSIONS: If it needs to solve, which of diagnostic scenarios we finance, we should take into account not only CER, but opportunity to miss TB cases. Using “Addition” is especially effective for diagnostic research in CD 4+ <200 cohort.