Cost effectiveness of ceasing overuse of proton pump inhibitors, started as protective co-medication

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Background Proton pump inhibitors (PPIs) are frequently initiated as protective co-medication for nonsteroidal anti-inflammatory drugs (NSAIDs) and low-dose aspirin (ASA) Less attention is paid to their subsequent discontinuation after NSAID or ASA cessation.

Purpose To assess the extent of PPI overuse, as the proportion of subjects that started PPIs as protective co-medication and continued them after NSAID and ASA cessation; to estimate potential cost savings and effect gains from inappropriate PPI medication and resulting side effects.

Method Pharmacy dispensing data from the Dutch Foundation of Pharmaceutical Statistics were used to map PPI overuse in 2014. For the cost-effectiveness analysis strategies to whether or not PPI continuation were compared. The need for PPI therapy was assessed based on the Dutch GP NHG) treatment standards. For both strategies incremental costs and effects (QALYs) were estimated with a Markov model.

Findings Related to NSAID treatment 11.0% of the PPI users were found with inappropriate PPI continuation and in 5% of ASA users. Discontinuation of inappropriate PPI use in a 70-year-old subject suggested cost savings of ?170.46 (95% CI: 75 to 282) at 0.003 (95% CI: 0.001 to 0.005) increase of QALYs compared to their continuation. Total savings from inappropriate PPI use related to NSAID or ASA treatment in the Netherlands in 2014 were estimated at ?6,712,355 (95% CI: 2,600,809 to 11,287,994). Correspondingly a successful intervention to stop a patient’s inappropriate use could cost up to ?188 (95% CI ?73 to ?315) to pay for itself.

Conclusion Inappropriate continuation of NSAID or ASA related PPI initiation is substantial. Interventions to stop inappropriate PPI use should be stimulated and could easily pay for themselves.