

PD208 Optimal Scheme For Molecular Diagnosis Of *BRCA1/2* Gene Mutations In Patients With Breast Cancer In Poland - Cost-Utility Analysis

Paweł Książek, Maurycy Muzyka,
Agnieszka Nadziejka-Kozioł,
Karolina Dziadek (karolina.dziadek@mahta.pl) and
Cezary Pruszko

Introduction: Breast cancer is the most frequently diagnosed cancer among women in Poland. Molecular diagnosis of cancer, including identification of mutations in the *BRCA1* and *BRCA2* (*BRCA1/2*) genes, is publicly funded in Poland. However, the diagnostic process is hampered by various billing models that use different testing materials and methods, so the diagnostic scheme is not considered optimal by physicians or patients.

Methods: A cost-utility analysis was conducted to evaluate the cost effectiveness of modifying the molecular diagnosis protocol for breast cancer in Poland. The analysis compared the current diagnostic method with a new schema, which involves next-generation sequencing (NGS) for mutations in the *BRCA1/2* genes for all patients with breast cancer. The model was developed using a comprehensive review of relevant literature, reimbursement data, and consultations with clinical experts.

Results: If all patients with breast cancer undergo molecular diagnosis, the number of *BRCA1/2* gene mutation carriers detected will increase from 213 to 971 per year. Despite the increase in costs to the public payer, compared with the existing scenario, the incremental health effect of the new scenario generated an incremental cost-effectiveness ratio of EUR37,274 per quality-adjusted life-year. This finding effectively disproves the claim that it is not cost effective to perform tests using the NGS technique in all patients with breast cancer.

Conclusions: As a part of the cost-utility analysis it was shown that patients newly diagnosed with breast cancer should undergo molecular testing for mutations in the *BRCA1/2* genes using NGS. This schema ensures patients' access to appropriate targeted therapy. In addition, extended diagnosis of family members can prevent cancer in relatives who carry the mutation.

PD209 Social Burden Of Inflammatory Bowel Diseases In Poland: Impact Of Changes In Drug Programs On Social Security Expenditures

Grzegorz Binowski, Dominik Strządała,
Karolina Dziadek (karolina.dziadek@mahta.pl),
Agnieszka Nadziejka-Kozioł, Monika Jakubowska and
Cezary Pruszko

Introduction: Crohn's disease and ulcerative colitis are chronic conditions that primarily affect young individuals of working age and can lead to severe and irreversible complications, which may result in the temporary or permanent inability to work. The objective of this report was to determine whether including broader reimbursement of innovative drugs would result in tangible benefits from a public expenditure perspective.

Methods: Social security and social insurance fund benefits paid to incapacitated patients between 2012 and 2021 were used to measure the effectiveness of the innovative drug reimbursement policy. The analysis included expenditures per patient and the full population. Disability and sickness benefits were classified as public transfers and were not included in the costs for the pharmacoeconomic analyses. However, they are crucial in evaluating the efficacy of treatment for a specific disease because they broaden the perspective of public spending. An increase in social benefit expenses per patient suggests a decline in the patient's health status, whereas a decrease indicates an improvement.

Results: The cost of disability benefits for patients diagnosed with Crohn's disease and ulcerative colitis was approximately EUR5,814 annually. However, the cost of reimbursing drugs used in drug programs per patient was notably lower. The analysis results indicated positive changes in the amount and structure of social benefits for this patient population (e.g., fewer patients receiving disability benefits). This conclusion was further strengthened by an analysis of the data for each province separately.

Conclusions: The expansion of reimbursement for innovative drugs in the treatment of inflammatory bowel disease provides benefits for public spending.