# PHARMACOECONOMIC ANALYSIS OF ANTI-VEGF TREATMENTS IN PATIENTS WITH NEOVASCULAR AGE-RELATED MACULAR DEGENERATION IN RUSSIA



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# INTRODUCTION

- Age-related macular degeneration (AMD) is a leading cause of visual impairment for elderly in developed countries.
- Faricimab (FAR) is a novel antibody, targeting both angiopoietin-2 and vascular endothelial growth factor-A (VEGF-A)
  pathological angiogenesis pathways in AMD. It is available from 2022, but comparative studies with other angiogenesis
  inhibitors are limited.

### **OBJECTIVES**

 To conduct pharmacoeconomic analysis of using intravitreal injections (IVIs) of anti-VEGF drugs for patients with neovascular AMD (nAMD) in Russia.

# METHODS

- Analysis of published clinical trials was conducted to evaluate the comparative efficacy and safety of FAR 6 mg vs other registered in Russia first-line treatment options: ranibizumab (RAN) 0.5 mg, aflibercept (AFL) 2 mg.
- MS Excel model was developed for one patient with nAMD and medical care with anti-VEGF IVIs. Study designs were Cost Minimization Analysis (CMA) and Budget Impact Analysis (BIA). The model time horizon was 2 years.
- Direct medical costs included drugs and specialized inpatient care from the Russian healthcare system perspective.

# RESULTS

- The efficacy and safety of FAR with IVIs up to once every 16 weeks is comparable to AFL and RAN in various fixed and treat-and-extend treatment regimens.
- FAR (n = 10) is associated with less IVIs frequency per 2 years compared with AFL (n = 15) and RAN (n = 19).
- Over two years of nAMD therapy, maximum treatment costs are associated with RAN usage (€10,429.90), minimum costs are associated with FAR usage (€6,450.86) (Fig. 1).
- FAR usage is associated with less treatment cost over 2 years with 50% reduction compared with AFL (€3,122.3 and €2,899.4 in 24/7 and day care hospital, respectively) and 90% reduction compared with RAN (€5,620.2 and €5,219.0 in 24/7 and day care hospital, respectively).
- BIA demonstrated that increasing the FAR share up to 40% would result in cost savings of €830,414,724.4 (10.71%) within 2 years (Fig. 2, rate for June 1, 2024).



Fig.1. Drug therapy costs for two years of nAMD therapy, €



Fig.2. BIA results for two years of nAMD therapy, €

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- The sensitivity analysis (SA) demonstrated that the models are robust to changes in all input parameters.
- The CMA SA showed that the benefit of FAR use would be lost with FAR cost increase threshold of 45%.
- The BIA SA showed that even if the share of FAR was increased to 100% over 2 years, the cost reduction would be 33%.

### CONCLUSIONS

#### • FAR treatment as first-line therapy is a clinically effective and cost-saving approach for patients with nAMD in Russia.

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