Simulating the Resource and Capacity Impact of Faricimab in an Irish Ophthalmology Clinic

Martha Goodwin[1], Tomás Burke[2], Jeroen de Greeff[3]

[1]Roche Products Ireland Limited, Dublin 24, Ireland, [2]Mater Misericordiae University Hospital, Dublin, Ireland, [3]Roche Nederland B.V., Woerden, UT, Netherlands

Introduction & Objectives

As the prevalence of neovascular Age-Related Macular Degeneration (nAMD) continues to rise, the growing capacity challenges and high treatment burden place considerable pressure on the healthcare system and can lead to suboptimal outcomes for patients.

nAMD is the leading cause of blindness in people over the age of 50 in Ireland, with over 7,000 new cases diagnosed each year[1]. Intravitreal anti-vascular endothelial growth factor (anti-VEGF) is established as standard of care for the treatment of nAMD[2], with licensed IVTs and off-license treatments both utilised in clinical practice.

Objective: Estimate the organisational impact of incorporating faricimab into clinical practice in an Irish HSE ophthalmology clinic and to assess the impact of more durable intravitreal injections such as faricimab on clinic capacity, as well as the potential to treat additional patients.

Methods

Patient data included in our de-novo TIM was sourced from an Irish ophthalmology clinic and includes total patient caseload, time spent by health care professionals on treatment administration (table 1), treatment administration costs (table 2) and annual injection frequencies (table 3). Data for faricimab was informed by the TENAYA (NCT03823287) and LUCERNE (NCT03823300) clinical trials. Any additional inputs were quantified using data from publicly available sources. Preliminary findings were validated by the ophthalmology clinic.

Table 1: Time spent by healthcare professionals on intravitreal injection administration

HCP	Time (minutes)	Source
Ophthalmology Nurse	20	Validated by clinic
Ophthalmologist	10	Validated by clinic

Table 2: Estimated treatment administration costs associated with intravitreal treatment

Administration costs	Value (EUR)	Source
Optical coherence tomography (OCT) scan	€70.00	Clinic validation
Injection Administration costs	€65.20	NICE NG82 guidelines[3]
Personnel costs		
Ophthalmologist time/injection	€26.36	Time validated by clinic, Salary informed by HSE Payscales[4]
Ophthalmology nurse time/ injection	€13.29	Time validated by clinic, Salary informed by HSE Payscales[4]

Table 3: Average injection frequency for year 1 and year 2 treatment with faricimab and bevacizumab

Product	Injections Y1	Injections Y2	Source
Faricimab	6.8	4.7	TENAYA/LUCERNE Clinical Trials[5]
Bevacizumab	10.0	8.4	Informed by clinic

Organisational impact was assessed through the reduced number of injections required, and potential to treat additional patients.
Time inputs were informed by data provided by the clinic as well as bevacizumab injection frequency. Faricmab injection frequency was informed by TENAYA/LUCERNE clinical trial data. Administration cost inputs were informed by hospital data, Irish health service data and NICE guidelines.

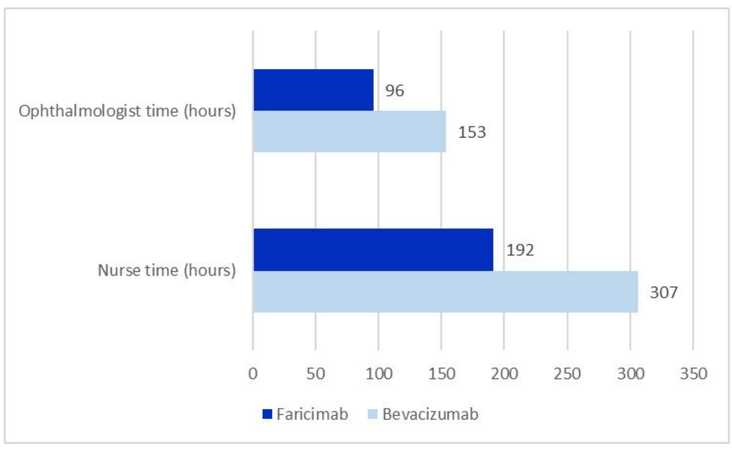
A number of treatment switch scenarios from bevacizumab to faricimab were explored, ranging from 10-50% of total patient caseload, and the resulting impact on resource use, administration costs and additional capacity assessed.

Results

For every 100 patients switched from bevacizumab to faricimab:

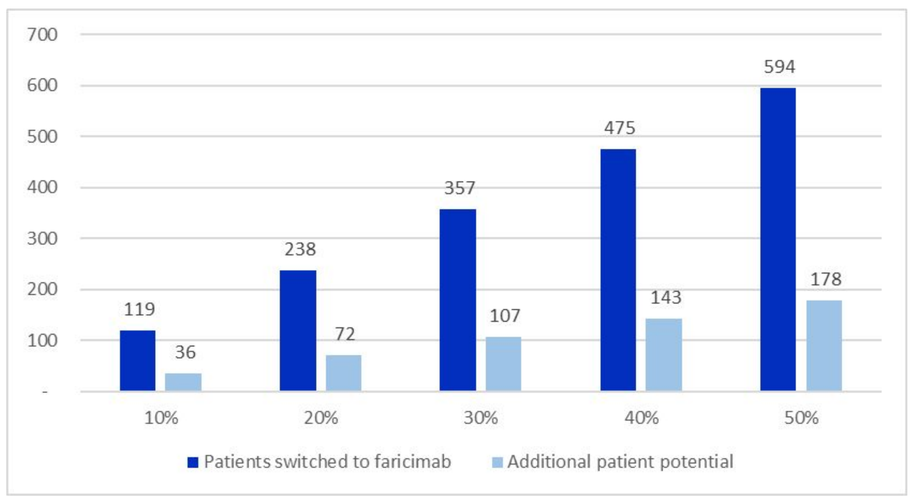
- 345 less IVT treatments are estimated to be administered in clinic per year.
- There is potential for time savings of 57 hours of ophthalmologist time, and 115 hours of nurse time per year (Figure 1).

Figure 1: Time spent by Ophthalmologist and ophthalmology nurse time administering bevacizumab and faricimab to 100 patients annually



A range of treatment switching scenarios were analysed ranging from 10% of total patient caseload to 50% of total patient caseload. The potential to treat additional patients on an annual basis as a result of the increased capacity is shown in Figure 2 also. Switching 10% of current patient caseload from bevacizumab to faricimab creates the capacity to treat an additional 36 patients with faricimab.

Figure 2: Additional capacity created as a result of switching patients from current treatment to faricimab



Conclusion

These are the first results published examining the impact of switching patients from bevacizumab to faricimab in an Irish ophthalmology clinic. These findings strongly suggest that implementing more durable intravitreal agents such as faricimab could lead to more efficient use of clinic time and resources, allowing for an increase in clinic capacity to treat additional patients.

This simulation demonstrates that faricimab has the potential to provide substantial time-savings for ophthalmology clinics, which can lead to increased capacity to treat additional patients. As the prevalence of retinal conditions such as nAMD continue to rise, this simulation highlights the benefit for clinics of more durable antiVEGF treatments.

Future studies are warranted to determine the long-term outcomes and cost-effectiveness of these agents to further validate these benefits,

References

1. Munier, A et al. “Causes of blindness in the adult population of the Republic of Ireland.” The British journal of ophthalmology vol. 82,6 (1998): 630-3. doi:10.1136/bjo.82.6.630
2. Schmidt-Erfurth, U et al. “Guidelines for the management of neovascular age-related macular degeneration by the European Society of Retina Specialists (EURETINA).” The British journal of ophthalmology vol. 98,9 (2014): 1144-67. doi:10.1136/bjophthalmol-2014-305702
3. NICE. Age-related Macular Degeneration: diagnosis and management. National Institute for Health and Care Excellence (NICE); 2018.
4. Health Service Executive. Consolidated salary scales in accordance with the FEMPI acts, the public service agreements and the public service pay and pensions act 2017; 2024
5. Heier JS, Khanani AM, Quezada Ruiz C, Basu K, Ferrone PJ, Brittain C, et al. Efficacy, durability, and safety of intravitreal faricimab up to every 16 weeks for neovascular age-related macular degeneration (TENAYA and LUCERNE): two randomised, double-masked, phase 3, non-inferiority trials. The Lancet. 2022;399(10326):729-40.