Utilisation of the Cost-saving Impact of Biosimilar Switching in Ophthalmological Diseases in the NHS: A Case-study for a Ranibizumab Biosimilar

EE313

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Introduction

The pressure to provide consistent, high-quality care for ophthalmological conditions, such as neovascular wet age-related macular degeneration (nAMD), across the National Health Service (NHS) is limited by key capacity issues.

For nAMD, these include long-lasting challenges in clinical space, staffing (Table 1), equipment, support and quality, and funding[1] exacerbated by the pressure of a growing, aging population.

Objectives

This study aims to calculate savings generated from the switch of the reference ranibizumab molecule to a ranibizumab biosimilar and explore how savings could be reinvested.

Methods

National budget impact model (BIM)

A national budget impact model was developed to forecast the financial impact of switching from the reference ranibizumab over a period of 12 months for 265,597 units.

Three potential discount scenarios (10%, 20% and 30% off list price) and four uptake scenarios were modelled (30%, 60%, 80% and 100% uptake switching to a biosimilar).

The patient access scheme price of the reference biologic and cost of switching were not considered.

NHS resources

Secondary research was used to identify nurse salary bands from NHS resources as nurses administer intravitreal injections in the UK.

- Accurate as of January 2023.

Results

Switching

Switching from a reference biologic to a biosimilar would expect to result in cost-savings across all discount and uptake scenarios after 12 months (Figure 1).

- The minimum cost-difference (10% discount; 30% uptake scenario) was £2,195,159.
- The maximum cost-difference (30% discount; 100% uptake scenario) was £49,023,894.

Salaries

Senior nurses who could be involved in provision of care would be expected to be between the Band 6 and Band 8a level.

- Salaries for highly-qualified nurses in NHS England start at £33,706 (entry at Band 6) and reaches a top point of £54,619 (top step point at Band 8a).
- These salaries can be up to 20% higher (up to a maximum payment of £7,377) for employment in London due to Higher Cost Area Supplements (HCAS) rates.

Utilisation of cost-savings

The annual cost-savings from biosimilar adoption could fund the annual salaries of 40 (minimum) to 897 (maximum) additional highly-qualified nurses (Figure 2).

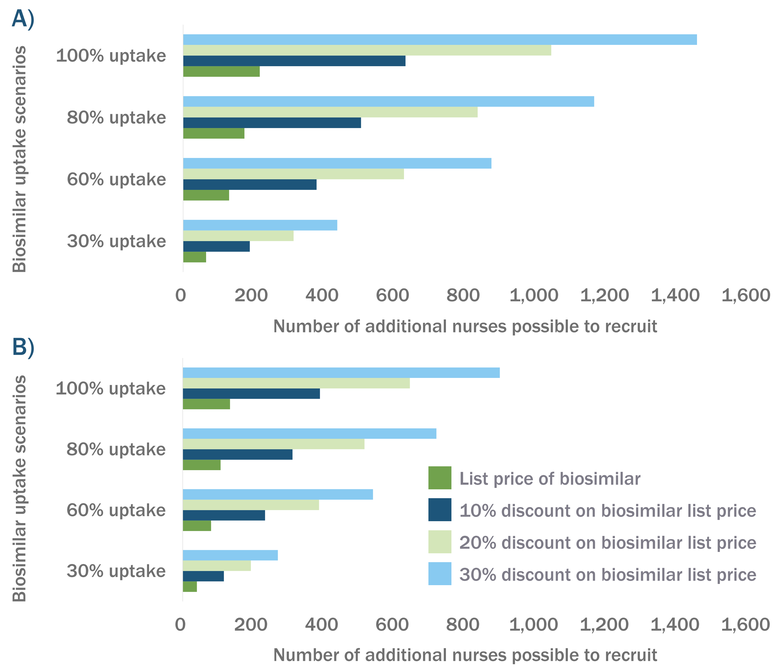
- At the Band 6 entry salary level, the minimum number (based on no discount to biosimilar list price, and 30% uptake) would be 65 nurse salaries funded.
- At the Band 6 entry salary level, the maximum number (based on 30% discount to biosimilar list price, and 100% uptake) would be 1,454 nurse salaries funded.
- At the top step point at Band 8a, these minimum and maximum scenarios would pay the annual salary of 40 to 897 additional nurses respectively.

Table 1. Staffing Issues and potential consequences in the provision of nAMD care identified by Amoaku et al. (2012)[1]

Type	Issue	Potential consequences
Staffing	Shortage of staff: • Retinal consultants and other medical retinal staff • Other staff shortages (eg, Eye Clinic Liaison Officer, AMD coordinator)	• Increased patient waiting times during clinic visit • Increased patient waiting times for appointments • Increased pressure on medical retinal staff • Potential negative effects on clinic co-ordination and efficiency, auditing, general patient care and time spent with patients
	Deficits in staff skills and training	• Limited staff roles and responsibilities • Patient safety concerns of inferior quality care

Figure 1. Cost-savings across biosimilar price levels (biosimilar list price; 10-30% off biosimilar list price) and uptake (30-100% biosimilar uptake) scenarios between biosimilar and reference biologic

Figure 2. Utilisation of cost-savings for the funding of annual salaries of nurses at Band 6 entry (A) and top step point at Band 8a (B)



Conclusions

Cost savings generated from biosimilar switching could be reinvested to address local capacity pressures faced across NHS England in the provision of nAMD care.

The reinvestment could be focused on addressing staffing issues, particularly the shortage of medical retinal staff that results in delays in patients accessing treatment[1].

Overcoming these challenges could facilitate meeting NHS commissioning recommendations in the reduction in unwarranted variation, maintenance of clinical choice and making best use of NHS resources[2].

Ophthalmologic centres could measure the real-world impact of a ranibizumab biosimilar through tracking uptake of new patients, switched patients and the degree of cost-savings.

References

1. Amoaku W et al. Action on AMD. Optimising patient management: act now to ensure current and continual delivery of best possible patient care. Eye. 2012; 26: S2-S21.
2. Operational note: Commissioning recommendations following the national procurement for medical retinal vascular medicines. Aug 2022.

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