

# The opportunity cost of managing Toric IOL rotation cases for a private cataract surgery centre in India: A decision-analytic model comparing three Toric IOLs

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## BACKGROUND

- Toric IOL rotation post-surgery could impact patients' visual outcomes leading to unplanned office visits and can, in some cases, require toric IOL repositioning surgery
- Any unplanned office chair-time and operating room requirement to perform repositioning surgery adds to the clinical workload for cataract centres in India and as such the associated costs are absorbed by the clinic
- A health economic analysis is a comparison of costs and outcomes for two (or more) healthcare interventions or treatment strategies, which is used to study chair-time and cost associated with different toric IOLs<sup>1</sup>
- Opportunity costs, the losses of potential gain (or benefits foregone) from best alternative options, was introduced to evaluate scenarios of implanting certain toric IOLs<sup>2</sup>

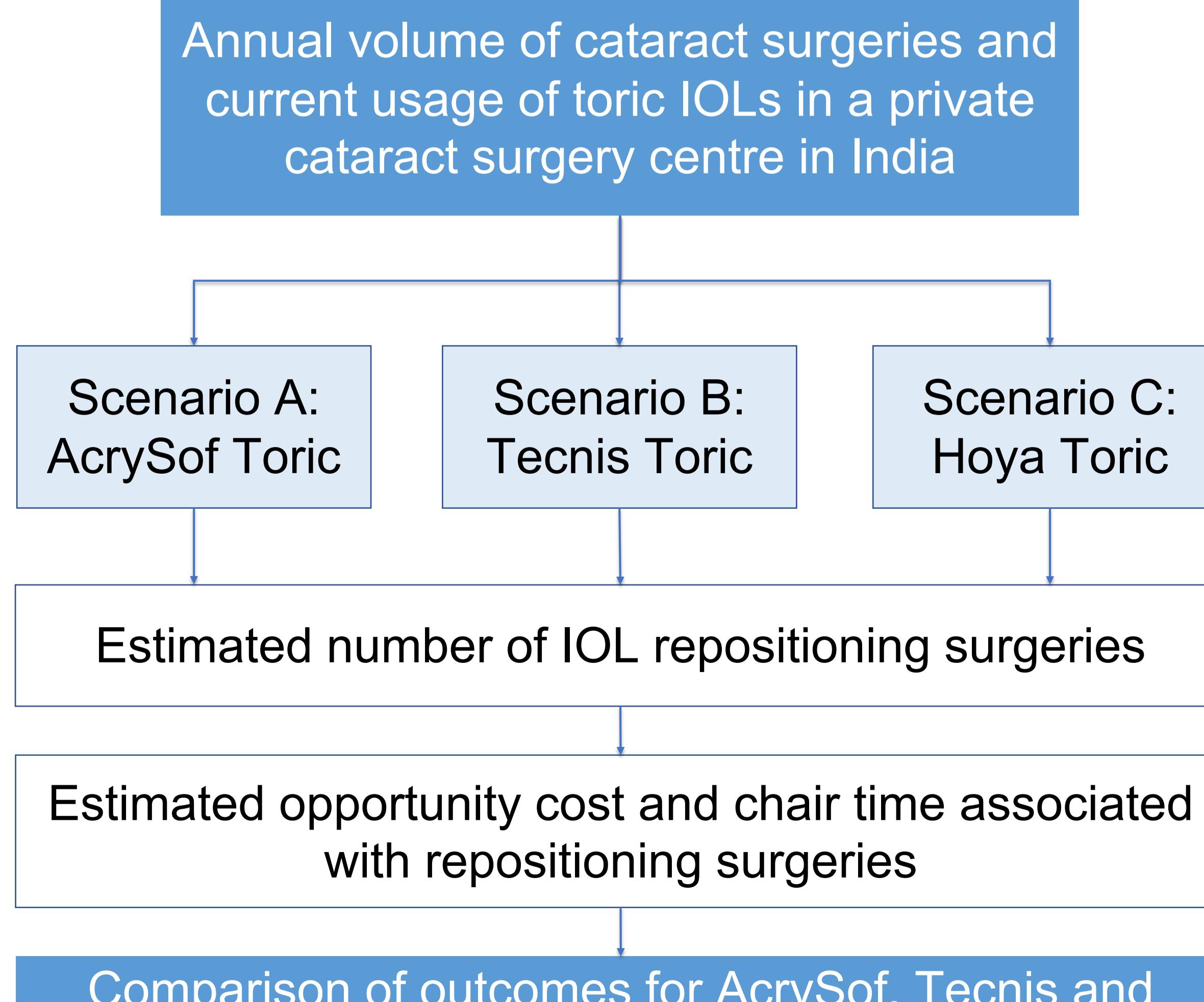
## OBJECTIVE

- This analysis was to compare overall clinical workload (post-operative chair-time and operating room time for Toric IOL rotation cases requiring repositioning surgeries) with three Toric IOLs and estimate the opportunity cost for a private Cataract surgery centre in India
- A decision analytical model was built to compare the opportunity cost and post-operative chair time due to repositioning surgery with three hydrophobic acrylic toric IOLs (AcrySof Toric, J&J Tecnis Toric and Hoya Toric) in India

## METHODS

- A decision analytic model was developed in MS excel to conduct the analysis (see Figure 1: Model Methodology and Structure)
- Model inputs:
  - Toric IOL repositioning surgery incidence rate for AcrySof (0.2%), Tecnis (1.80%) and Hoya (1.94%) Toric IOLs was sourced from a published study<sup>3</sup>
  - Annual volume of cataract surgeries (N=1000) with 25% current usage of Toric IOLs (N=250) at the centre
  - Post-operative chair-time and operating room time for each case requiring Toric IOL repositioning surgery (60 minutes) and foregone office chair-time and operating room cost for the centre (INR 45,000) were informed by surgeon inputs

Figure 1: Model Methodology and Structure



## RESULTS

- The model compared three scenarios of annual Toric IOL surgeries (N=250) conducted with AcrySof Toric (Scenario 'A'), Tecnis Toric (Scenario 'B') or Hoya Toric (Scenario 'C') IOLs
- The overall additional annual clinical workload for the centre in Scenario A, B, and C was estimated to be 30, 270 and 291 minutes respectively (Figure 2)
- The annual cost impact to the centre to manage cases requiring Toric IOL repositioning surgeries in Scenario A, Scenario B, and Scenario C was estimated to be INR 22,500 (EUR 287), INR 202,500 (EUR 2,582) and INR 218,475 (EUR 2,785) respectively (Figure 3)
- Therefore, the annual opportunity cost to the centre in Scenarios B and C when compared to Scenario A would be INR 180,000 (EUR 2,295) and INR 195,975 (EUR 2,498) respectively

Figure 2: Annual clinical workload for the centre in Scenario A, B, and C

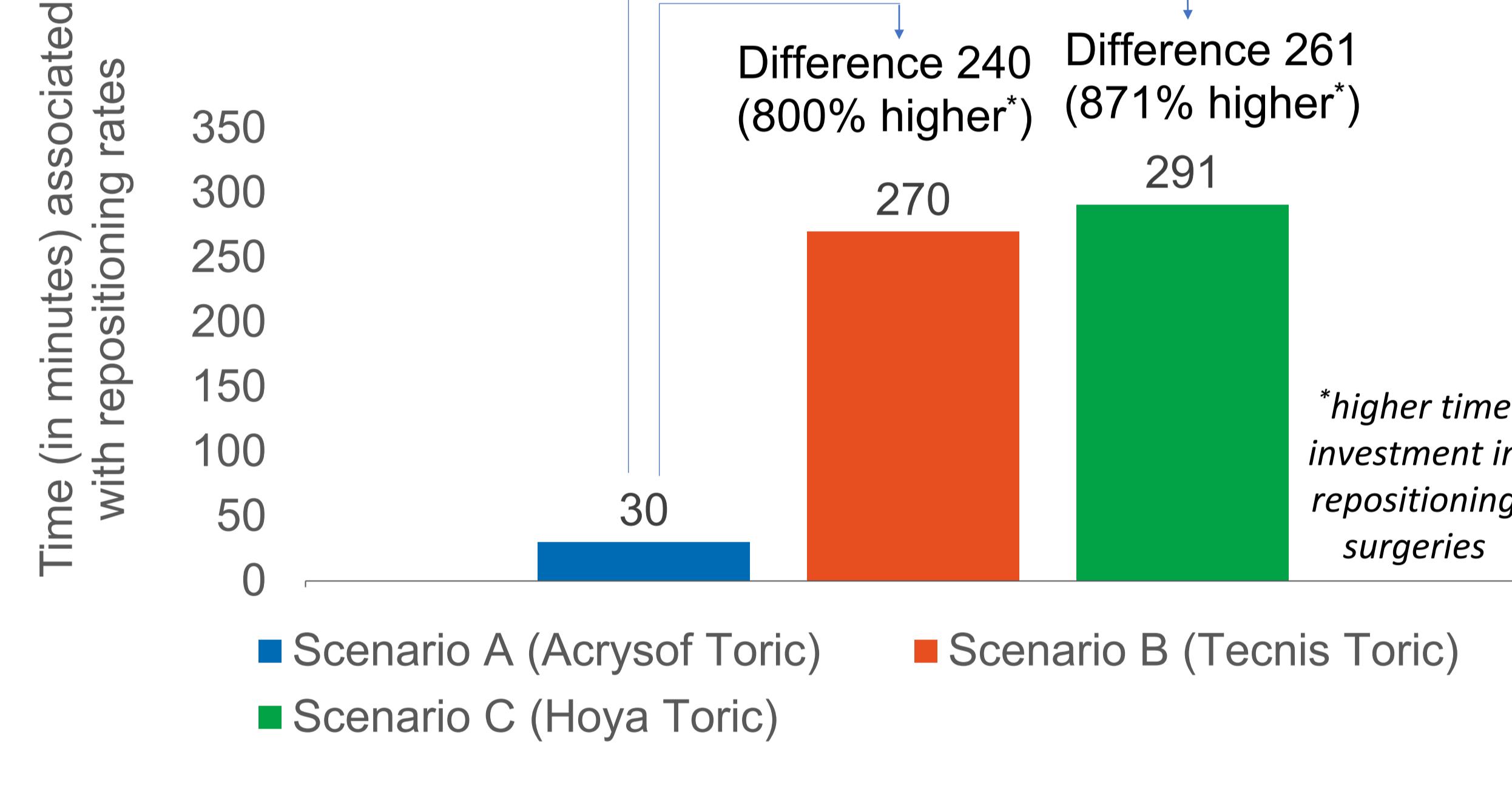
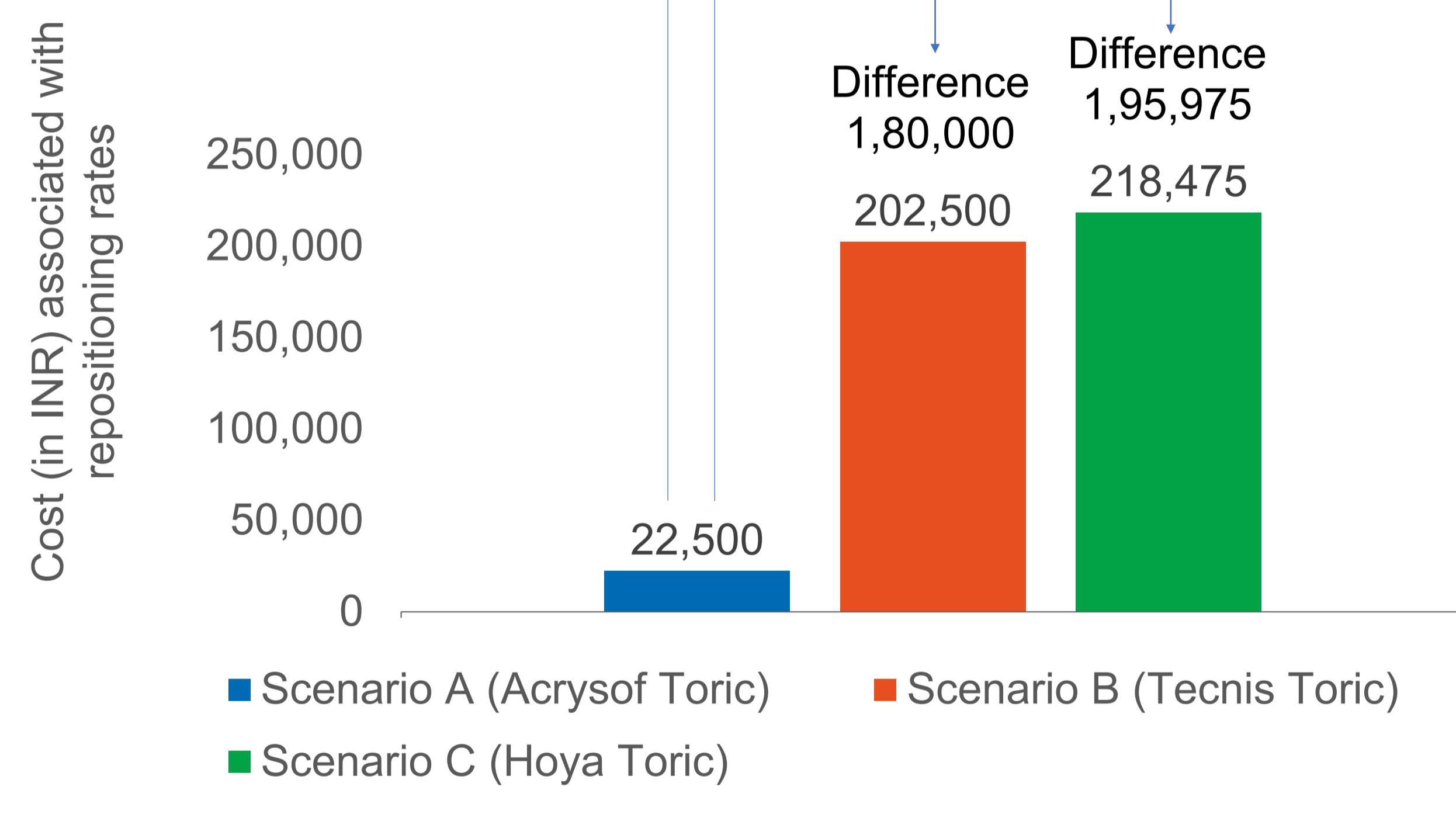


Figure 3: Annual cost impact to the centre in Scenario A, Scenario B, and Scenario C



## CONCLUSION

The findings from this decision analytic model indicates that:

- Compared to implanting AcrySof Toric IOLs at the time of cataract surgery both Tecnis Toric or Hoya Toric IOLs were associated with a higher clinical workload and increased costs related to repositioning surgery

## REFERENCES

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