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BACKGROUND

- PCO is a common complication after cataract surgery, and the condition is treated by Nd:YAG laser capsulotomy^{1, 2}
- Although considered a safe procedure, Nd:YAG laser capsulotomy is associated with increased risks of complications and may be associated with additional costs to patients and health care providers³
- Reduction in PCO can potentially decrease PCO related clinic visits, chair time and Nd:YAG laser capsulotomy induced complications. The chair time could be redirected to other potential revenue opportunities³
- We conducted a cost consequence analysis which is a comparison of costs and outcomes for two healthcare interventions or treatment strategies⁴

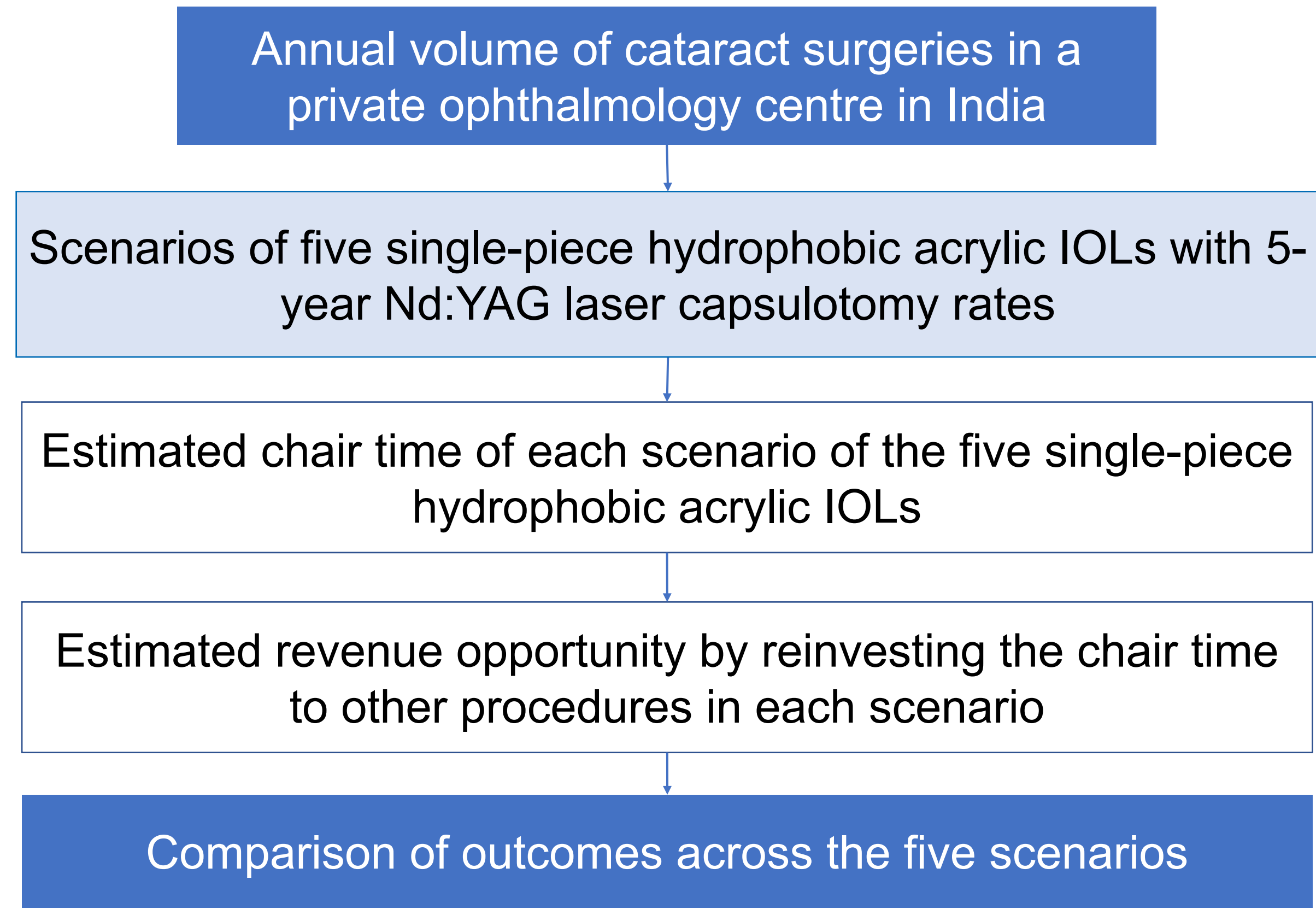
OBJECTIVE

- The purpose of the study is to compare the clinic chair time due to Nd:YAG laser capsulotomy associated with five single-piece hydrophobic acrylic IOLs (AcrySof, Hoya Vivinex iSert, B&L Envista MX60, J&J Tecnis ZCB00 and Zeiss CT Lucia) at a private ophthalmology centre in India
- In addition, the analysis explores the potential revenue opportunity by reinvesting the Nd:YAG procedure chair time to other procedures over a 5-year period

METHODS

- A cost consequence model was developed in MS excel to conduct the analysis
- Model Inputs-
 - Nd: YAG laser capsulotomy incidence at 5 years*: AcrySof – 6.90%, Hoya Vivinex iSert – 8.52%, B&L Envista MX60 – 10.89%, J&J Tecnis ZCB00 – 11.00% and Zeiss CT Lucia – 18.02%
 - Annual cataract procedures: N=25,000
 - Chair time and centre fee for YAG procedure, treatment cost of YAG laser complications, chair time and centre fee for conducting other procedures (LASIK, successful patient counselling on ATIOL procedure and anti-VEGF injection) were informed by surgeon inputs

Figure1: Model Methodology and Structure



*Methodology of estimating Nd:YAG capsulotomy rates: Weighted averages of capsulotomy rates based on a recent systematic literature review of publications for various IOL models

RESULTS

- The model demonstrates that the use of AcrySof IOLs could save chair time (range: 487- 3,333 hours) compared to other 4 IOLs (Hoya Vivinex iSert, B&L Envista MX60, J&J Tecnis ZCB00 and Zeiss CT Lucia) due to the reduction of the requirement of Nd:YAG procedures at the centre over a 5-year period (Figure 1)

- The analysis shows that although adoption of Alcon Acrysof IOL could lead to the loss of YAG procedure revenue (INR 1.3 to 8.6 million / € 16,000 to 109,600) for the centre, the saved YAG procedure chair time, if re-invested in performing other ophthalmology procedures, could potentially result in higher overall centre revenue over the five-year period (Figure 2)
- Examples:
 - Additional revenue if the saved chair-time is reinvested in LASIK or ATIOL: INR 48.8 to 333.8 million (€ 0.6 to 4.3 million)
 - Additional revenue if the saved chair-time is reinvested in Anti-VEGF: INR 8.1 to 55.6 million (€ 0.1 to 0.7 million)

Figure 1: Total chair-time spent on Nd:YAG capsulotomy procedures

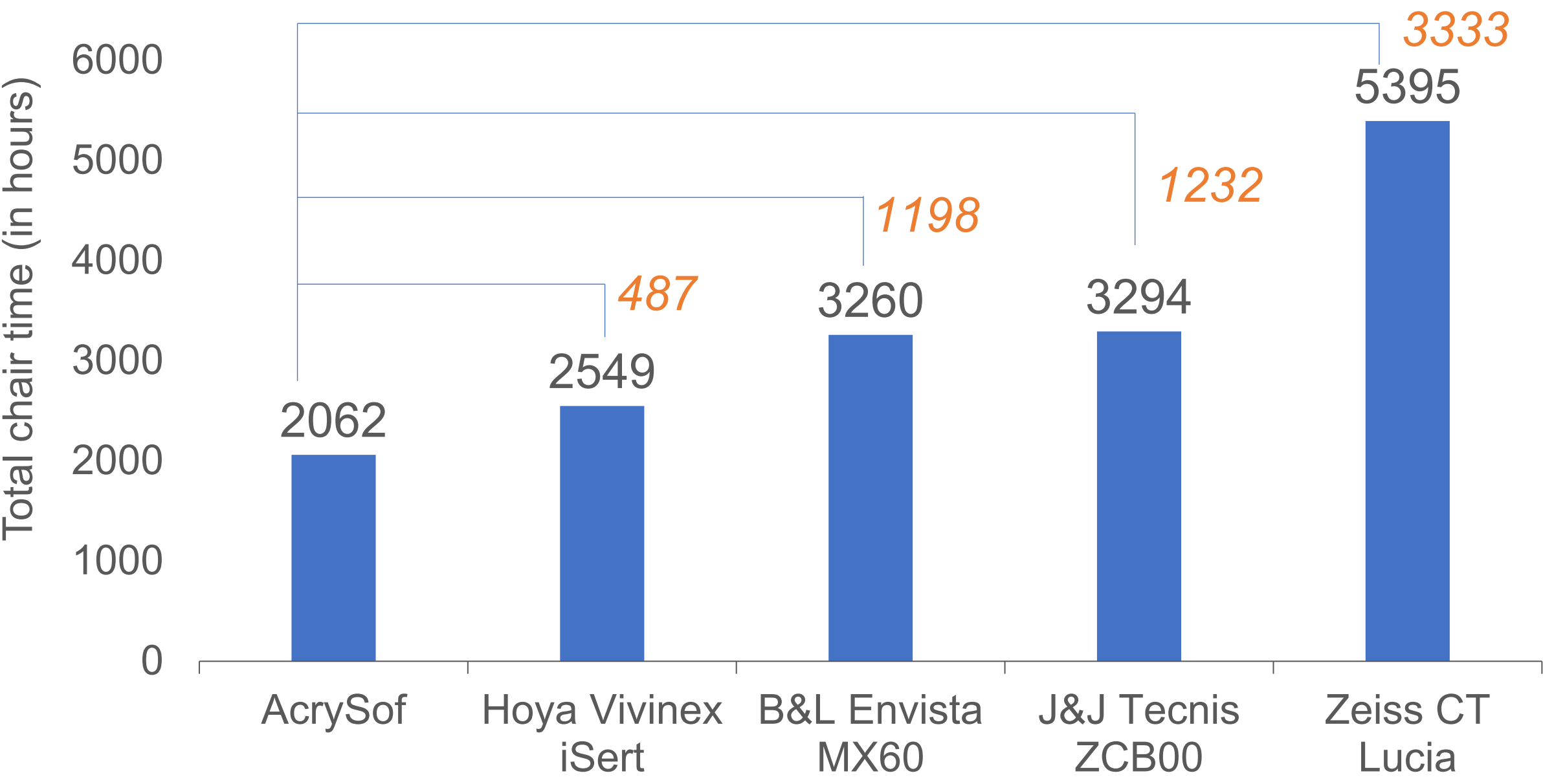
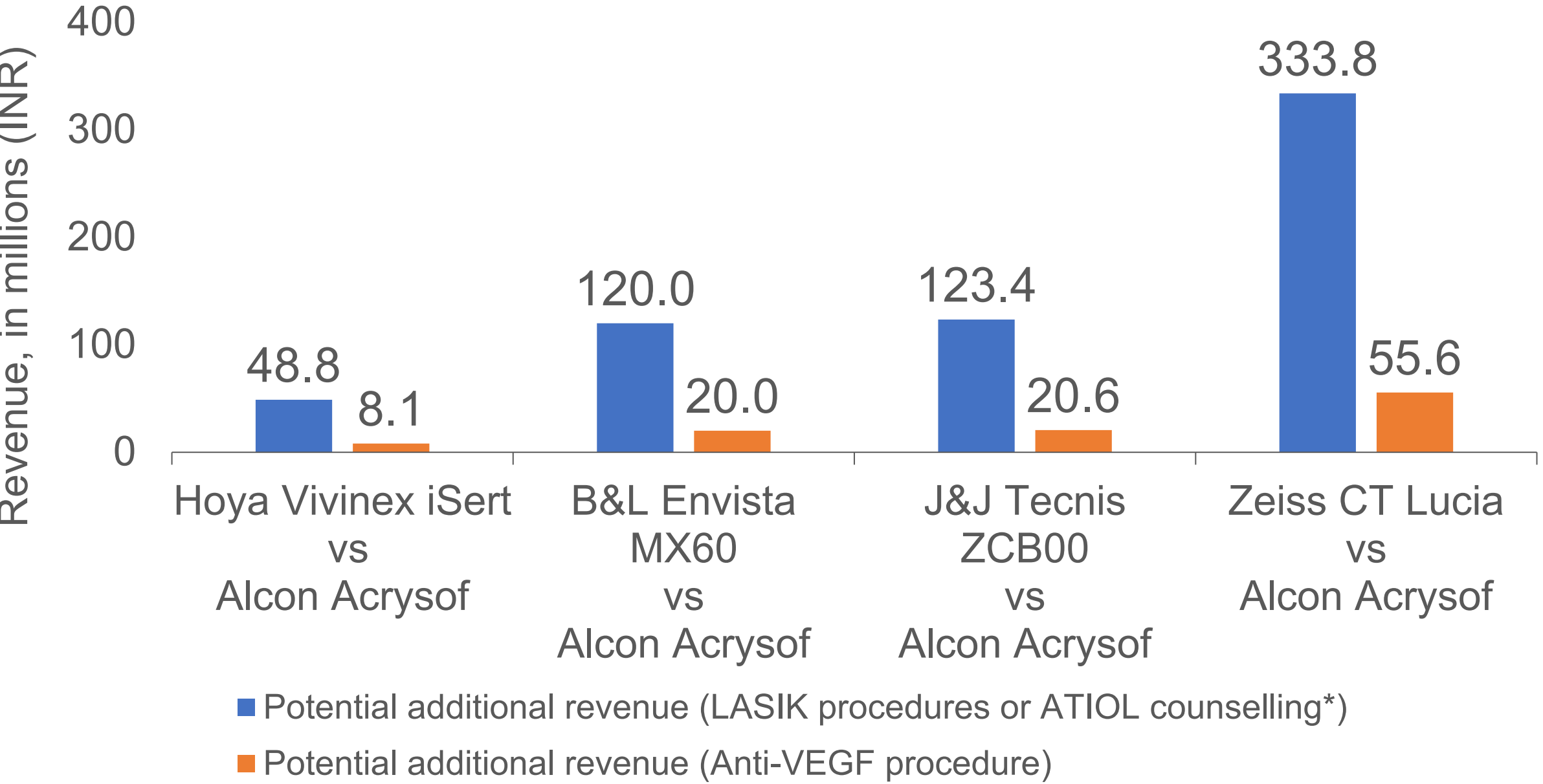


Figure 2: Potential additional revenue by re-deploying clinical chair time from Nd:YAG capsulotomy to other procedures



*In the scenario of ATIOL counselling, the success rate in implanting ATIOLs was assumed to be 100%, however, ideally a real-world estimation should be used in the model

CONCLUSION

The findings from this cost-consequence model indicate that:

- The probability of performing the Nd:YAG capsulotomy procedure is linked to the choice of IOL implanted at the time of cataract surgery.
- The Nd:YAG procedure has an impact on clinic chair time and has a limited revenue potential.
- Choosing AcrySof IOLs could reduce the requirement for the procedure and as such: the saved chair-time could be utilized to perform other ophthalmology procedures with a higher revenue potential

Other considerations:

- While this model sets out to assess the impact of Nd:YAG capsulotomy on chair time and the potential for additional revenue by reallocating this time, there are other factors at play when considering the broader economic impact of PCO, such as:
 - The patients’ perspective, i.e., patient burden of visual acuity loss, additional visits to the hospital due to PCO or Nd:YAG procedures, time and cost of transportation and caregivers’ time and cost
 - Direct hospital costs associated with Nd: YAG procedures: cost and maintenance of the equipment, OR, staff time- doctors, nurses and technicians

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