# ECONOMIC EVALUATION OF CATARACT PHACOEMULSIFICATION IN THE RUSSIAN FEDERATION

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## BACKGROUND

Health technology assessment (HTA) of medical devices still remains emerging direction. As a part of HTA we provide comparative cost analysis of different phacoemulsification platforms, available in Russia.

## OBJECTIVE

**TO DETERMINE COSTS ASSOCIATED WITH USE OF DIFFERENT PHACO-EMULSIFICATION PLATFORMS IN TREATMENT OF CATARACT IN THE RUSSIAN FEDERATION.**

CENTURION

INFINITI

STELLARIS

STELLARIS PC



WHITESTAR SIGNATURE

VISALIS 500

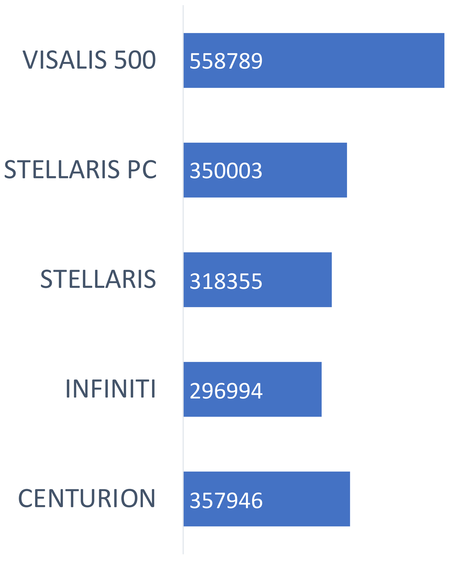
## METHODS

We performed cost analysis from public healthcare system perspective for six available in the Russian Federation phacoemulsification platforms based on public data of government procurement average prices for the period of 2016-2018 years. We considered only direct costs for platforms and its consumables, those include cassettes, sleeves, needles and BSS solutions. We made assumption of usage only original consumables for each platform. Time horizon of the analysis was up to five years. Exchange rate was €1 = 72 Rub.

## RESULTS&DISCUSSION

We involved into analysis following phacoemulsification platforms: Centurion© and Infiniti© by Alcon Inc., Stellaris© and Stellaris PC© (StPC) by Bausch&Lomb, Whitestar Signature© (WhSg) by AMO and Visalis 500© (Vis500) by Zeiss. The prices of the platforms (and ultrasound grip) were €73 311, €34 386, €43 426, €75 074 and €61 478 for Centurion©, Infiniti©, Stellaris©, StPC and Visalis©, respectively. The price for WhSg platform was not available. The average costs for consumables for the treatment of one patient with cataract were €127, €117, €123, €123, €310 and €222 for Centurion©, Infiniti©, Stellaris©, StPC, WhSg and Vis500, respectively. Nevertheless, depend on choosen consumables options there was meaningful change in costs. The total annual costs of platforms and consumables for 2240 patients were €357 946, €296 994, €318 355, €350 003 and €558789 for Centurion©, Infiniti©, Stellaris©, StPC and Vis500, respectively (Fig. 1). The share of platforms in total costs vary from 10 to 20%. When five year time horizon was selected, the share of platform costs dropped down to less than 5%.

**FIG. 1. ANNUAL COSTS, EURO**




We considered only direct costs for platforms and its consumables, but maintenance expenditures, educational costs are relevant for full economic evaluation as well. Up to date there is no available public data for each platform to compute such costs, but we believe in its necessity and hope, that manufacturers would be encouraged to create and provide such kind of data for more robust assessment. Also we recognized problem with consumables codification (absence of universal codification of consumables types) due to availability of using for same platform different types of consumables by different manufacturers. This leads to problem in the identification of certain items, while Russian national regulators do not permit to provide bids with brand names.

## CONSLUSION

We have determined costs for phacoemulsification of cataract through six platforms in the Russian Federation. Data on training and maintenance costs for each platform is required for more comprehensive economic evaluation of platform usage. The results for the five-year time horizon cost analysis perform conclusion, that Centurion platform is characterized by minimal budgetary impact among the latest generation platforms.

## REFERENCES

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