Cost comparison of interventional treatments for benign prostatic obstruction (BPO) in Israel

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Introduction & Objective

- TURP continues to be the standard of care for treatment of Lower Urinary Tract Symptoms (LUTS) due to BPO in Israel.
- Interventions which reduce length of stay (LOS) and can be performed as day case procedures may help to reduce patient waiting lists and hospital resource utilisation.

Methods

A cost minimisation analysis^{2,3,4} was conducted to compare the four-year costs of different surgical treatment options for BPH available in Israel, including:

- Transurethral Resection of the Prostate (TURP)
- In Israel, prevalence of BPO increased by 4.8% per year from 2000 to 2019, equating to estimated 87.900 patients in 2019.¹
- Higher initial device cost to the hospitals may be a barrier for adoption of innovative medical devices and subsequently hinder patient access.

We present the budget and capacity impact of interventional treatments for LUTS secondary to BPO in Israel over a four-year time horizon.

- Water Vapour Thermal Therapy (WVTT)
- Holmium Laser Enucleation of the Prostate (HoLEP) using Moses 2.0 technology (Boston Scientific Corporation)
- Photoselective vaporization of the prostate (PVP)
- Aquablation robotic therapy (ART)

Costs included	
in the analysis	

- Equipment costs
- Theatre overheads
- Hospital stay
- Adverse Events
- Repeat procedures
- Follow-up visits

Assuming an annual cohort of 4.000 BPO patients eligible for surgery⁵, a budget- and capacity impact analysis highlighted the implication of changing 8% of TURP procedures to WVTT.

Results

Cost per patient in Israel over a four-year time horizon was 12,7k ILS with WVTT and HoLEP using Moses 2.0 technology, 14k ILS with TURP





and PVP and 18k ILS with ART. Cost drivers were consumables, reduced LOS and operating time, to lesser extent also the avoidance of complications and retreatment. Budget impact and capacity analysis suggests adoption of WVTT in 8% of the annual Israeli BPO procedures may induce net savings of 451.634 ILS as well as free up 480 hospital bed days and 319 theatre hours.

Table 1. Market share distribution assumptionsfor the budget and capacity impact analysis

	WVTT	TURP	PVP	Holep	ART		
Cohort Size		4.000 patients referred to surgery each year ⁵					
Current Scenario	0% 0	74,5% 2.980	0,5% 20	24% 960	1% 40		



Alternative	8%	67,5%	0,5%	24%	1%
Scenario	320	2.660	20	960	40

Current Alternative

■WVTT ■Holep ■TURP ■PVP ■ART

Bed-days Theatre hours

Current Alternative

Limitations

Cost inputs partly stem from non-Israeli sources, inflated & converted to ILS 2024 values. Local expert opinion was leveraged for the model validation.

Conclusions

Cost per patient with innovative treatment options for BPH, such as WVTT and HoLEP using Moses 2.0 technology were lower compared to that of TURP and ART, realised through shorter hospital stay and operating time. This may improve surgical capacity and induce overall cost savings to Israeli Healthcare System.

References

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⁵ Assumption based on Israeli market insights and expert opinion