

Calculating economic outcomes of innovative technologies using a novel health-economic modelling tool

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In the innovator's shoes

- Substantial spending in R&D, regulatory and marketing efforts to access the market
- Able to show clinical benefits towards standard-of-care (or at least potential)

In the innovator's shoes

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In the innovator's shoes

- Substantial spending in R&D, regulatory and marketing efforts to access the market
- Able to show clinical benefits towards standard-of-care (or at least potential)
- The pricing of my innovation is greater than SoC
- Regardless of potentially eligible further funding

In the innovator's shoes

How can we translate **clinical benefits** into **economical attractiveness** for providers?



Structure-economical problems

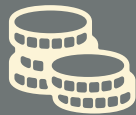
Regulatory approval
mainly assesses
clinical outcomes



Costing and
reimbursement vary
across national systems



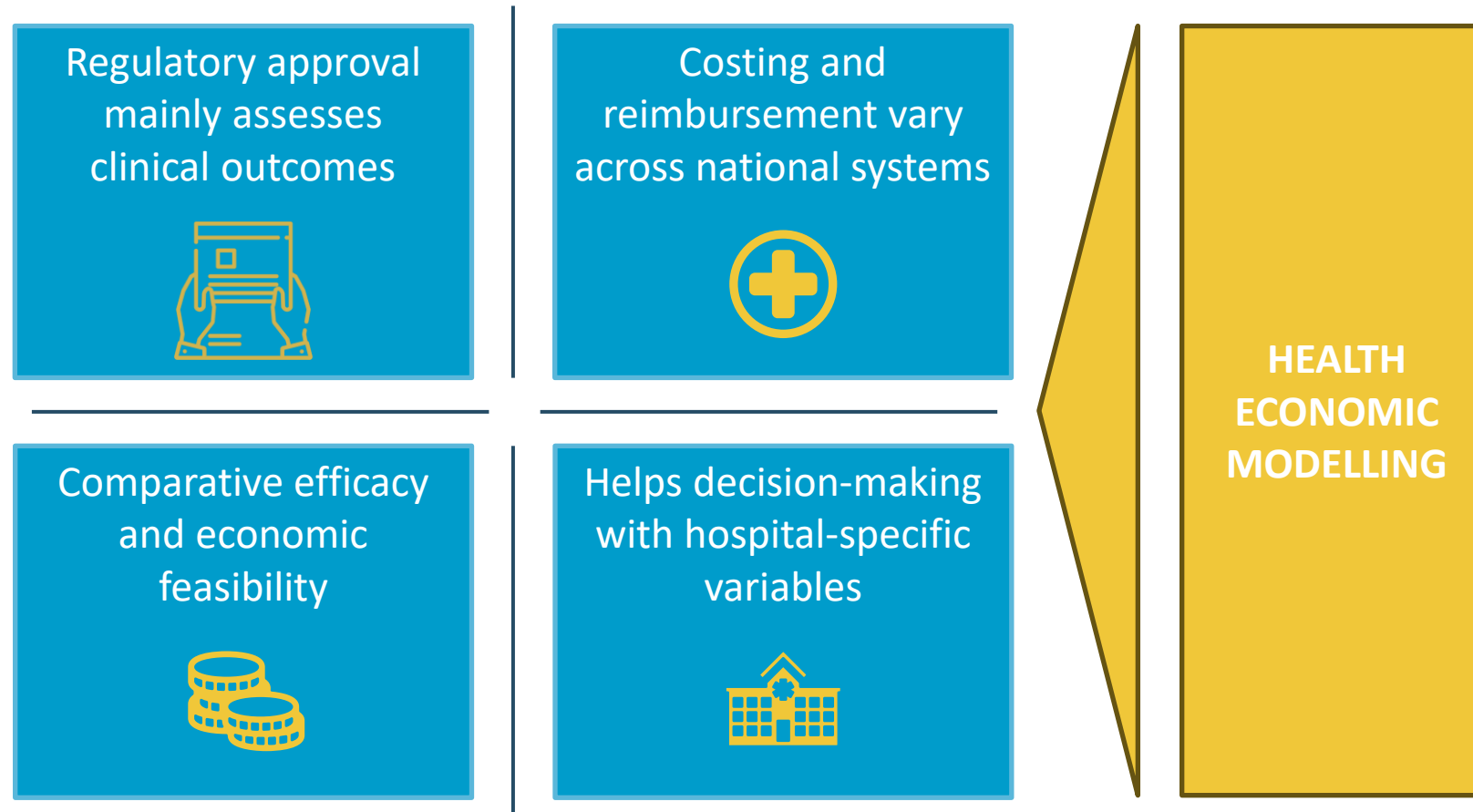
Economic
significance?



Hospital-specific
costing and
reimbursement?

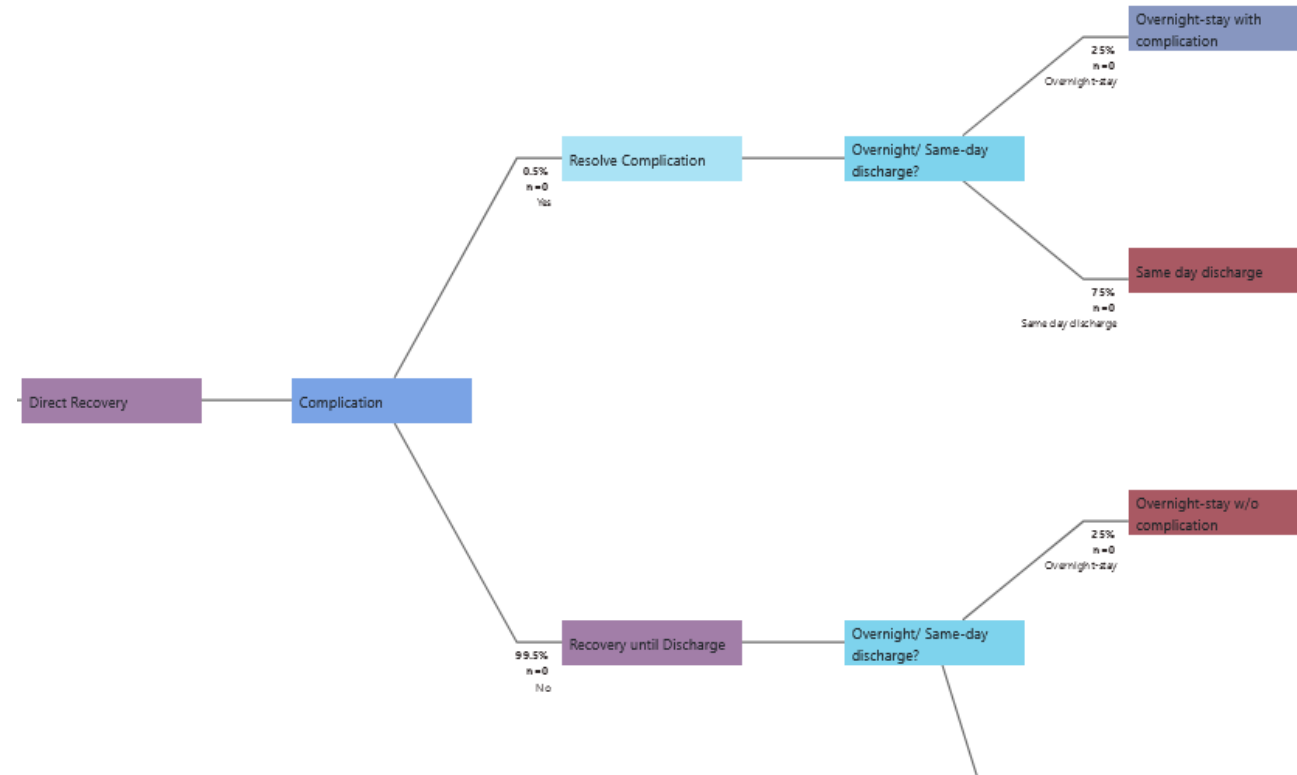
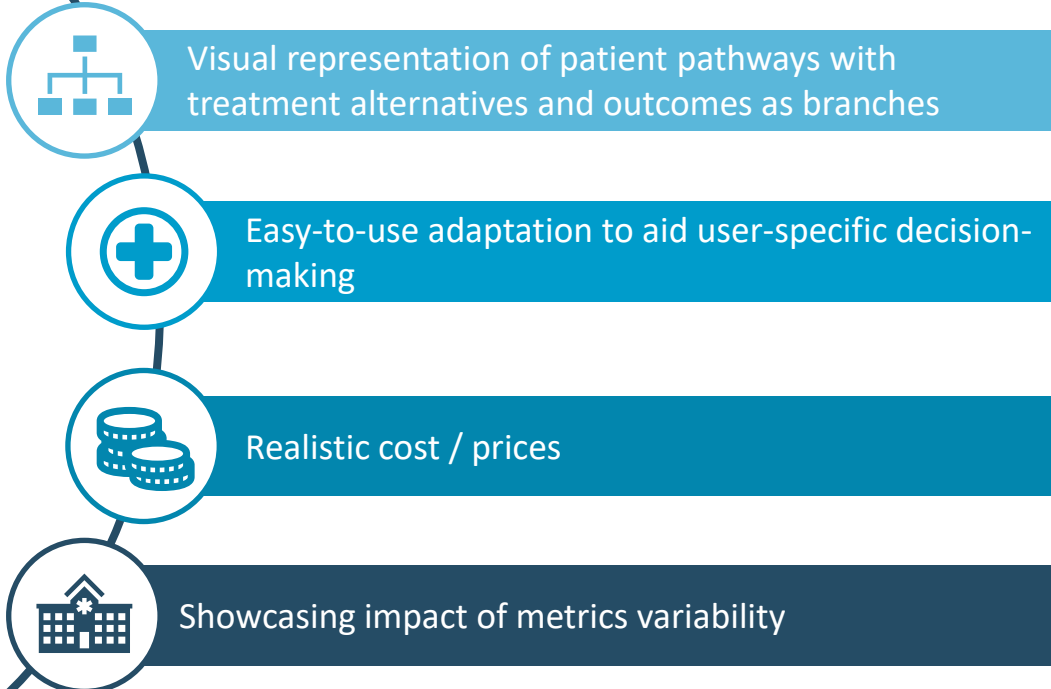


Relevance of Health-economic modelling

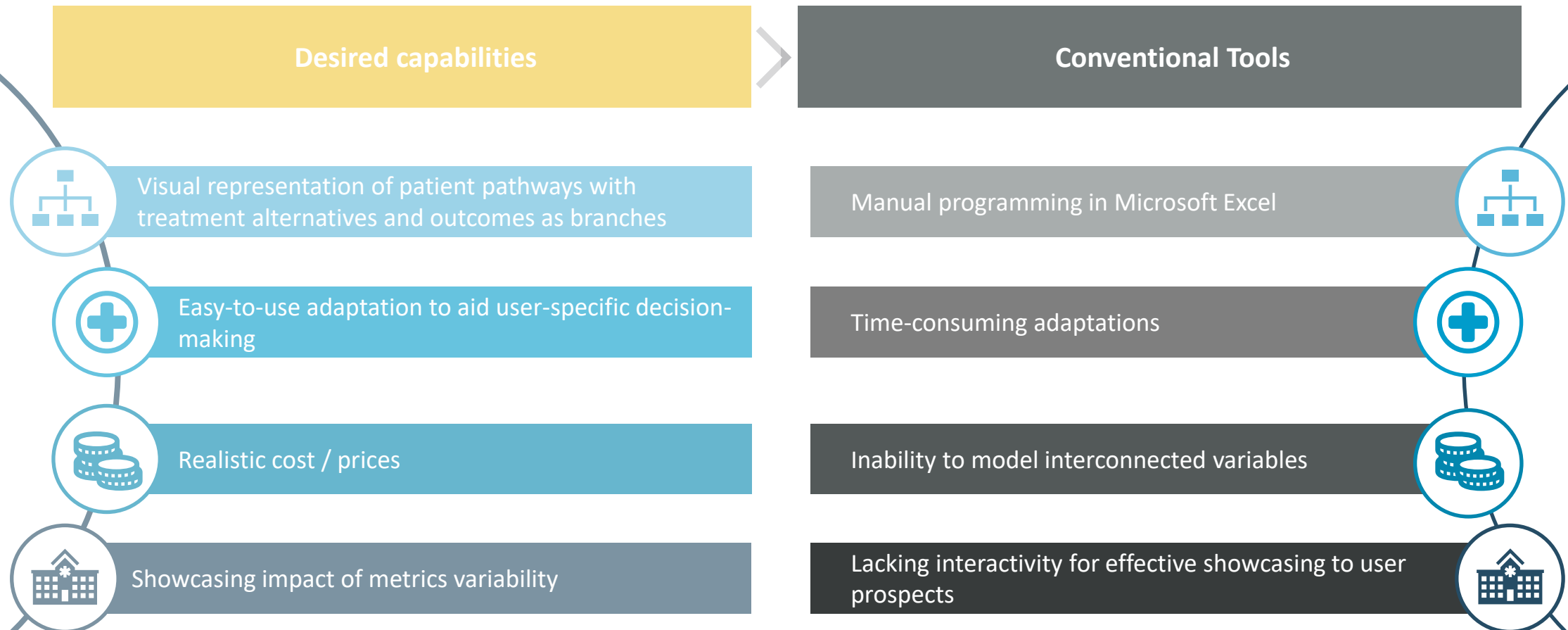


Health-economic modelling: Desirable

Desired capabilities



Health-economic modelling: Status-quo lacks adaptability



Health Economic Modelling: Need for adaptable & interactive tools



Parameters	Pathways	
	S1 - DRG F50A (InEK)	S2 - with Vessel Closure
10 Device Utilization (%)	<input type="text" value="0"/> - 100	<input type="text" value="75"/> - 25
20 Pre-Intervention (%)	<input type="text" value="60"/> - 40	<input type="text" value="0"/> - 100
30 No. Closure Systems	<input type="text" value="0"/>	<input type="text" value="2"/>
40 Complication Rate (%)	<input type="text" value="5"/> - 95	<input type="text" value="0.5"/> - 99.5
50 Overnight / Day-Case (%)	<input type="text" value="100"/> - 0	<input type="text" value="25"/> - 75
Revenue cumulative	2.582.681,85 €	2.220.146,84 €
Cost cumulative	2.463.949,41 €	2.087.567,01 €
Revenue per case	8.608,94 €	7.400,49 €
Cost per case	8.213,16 €	6.958,56 €
Length of stay per case	3,38	1,03
Physician in minutes per case	814,2	594,6
Nursing in minutes per case	930,5	144,8
Technician in minutes per case	896,7	874,9

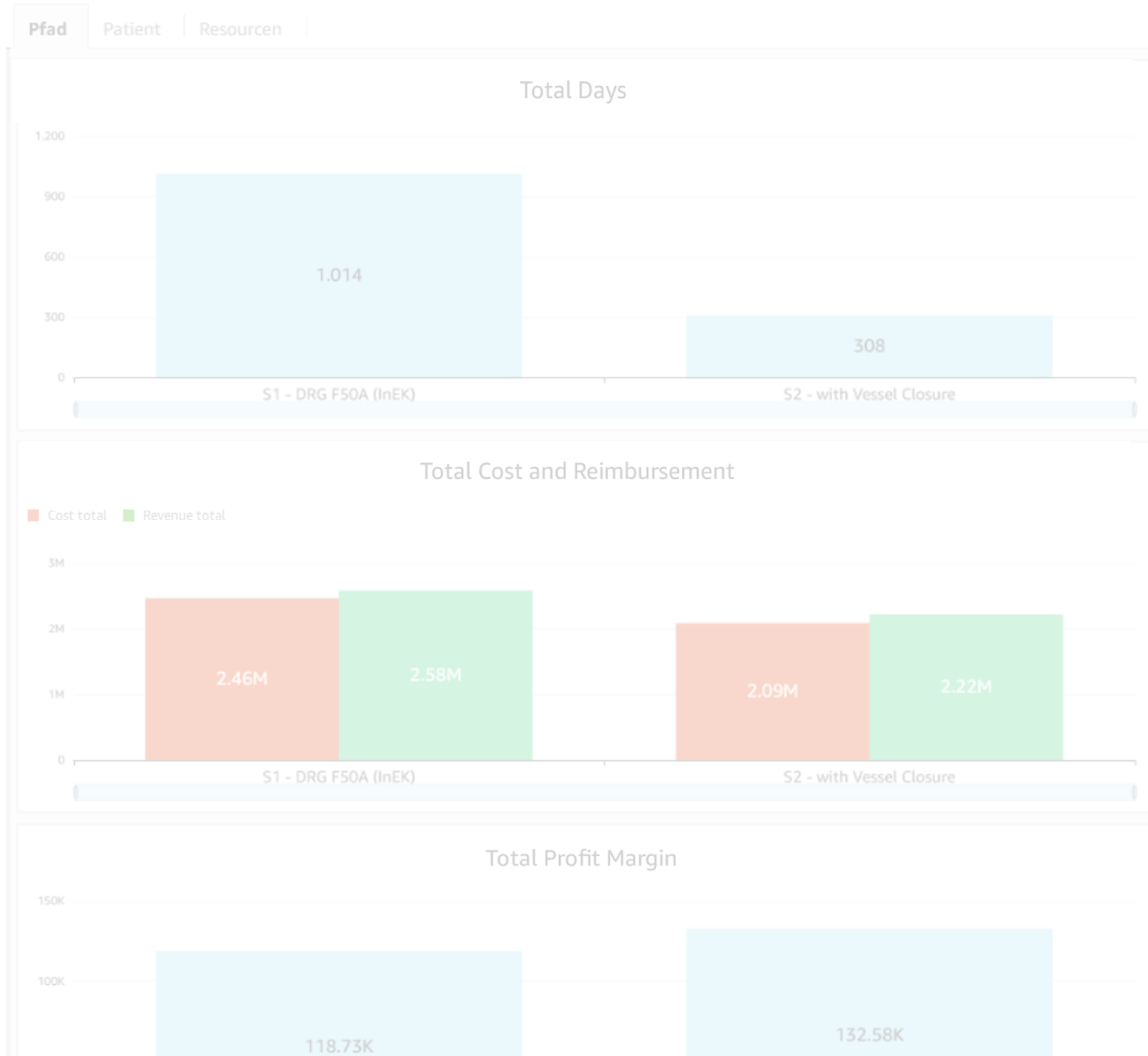
INPUT

Procedure-specific Costs:

- Staff minutes per procedure
- Product cost
- LOS w/ & w/o complications
- [...]



Patientenpfad abgeleitet aus den ... Dieser Pfad zeigt folgende ...

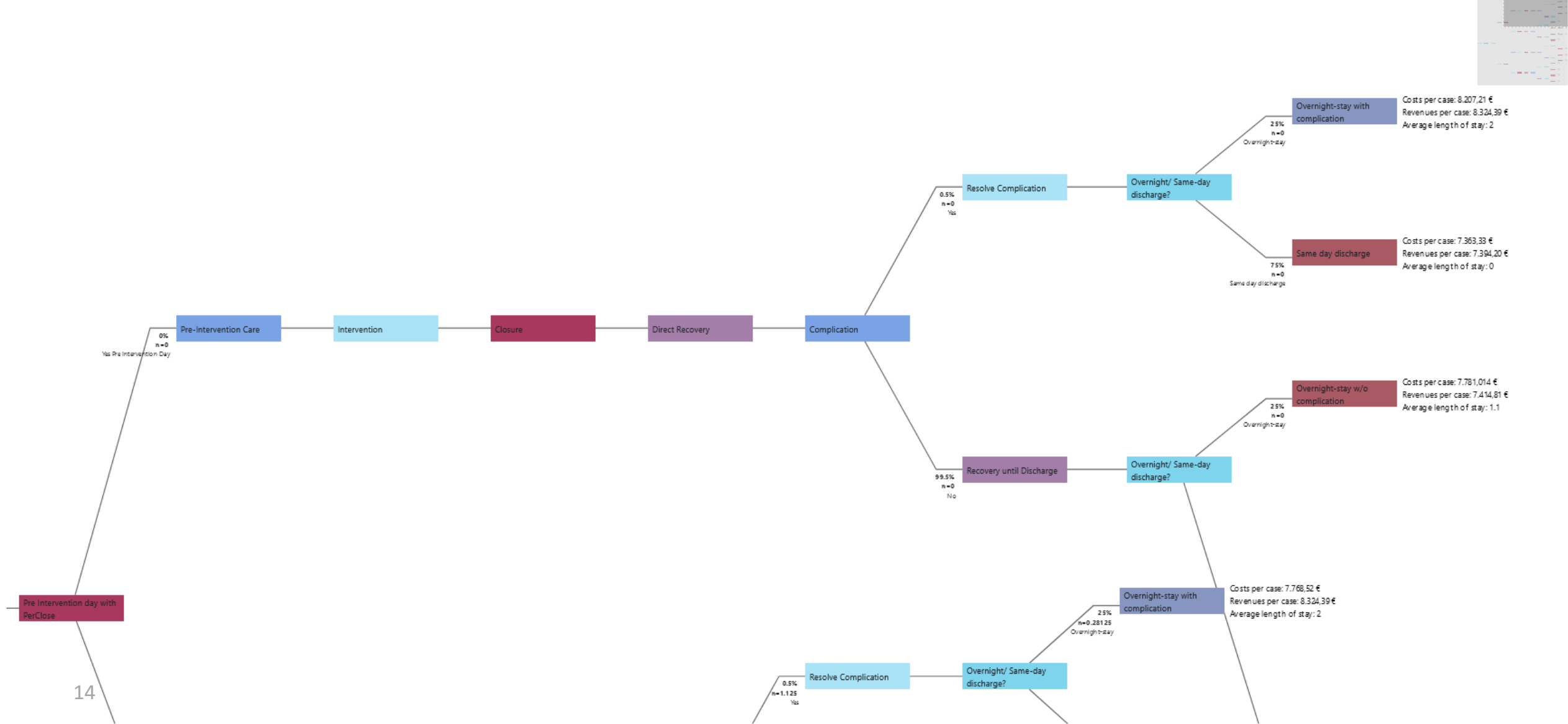
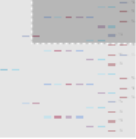


Epic: PCSI Case Study: Innovative Ablation System / Path ways / Path way graphic: S2 - with Vessel Closure

Export to PNG

Export to SVG

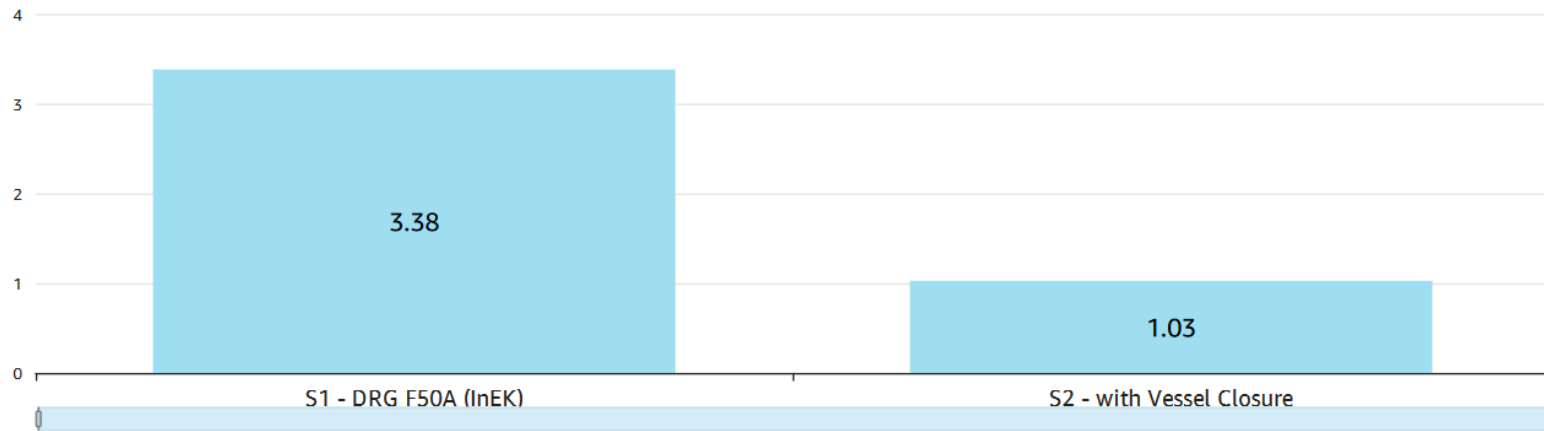
Show sub paths



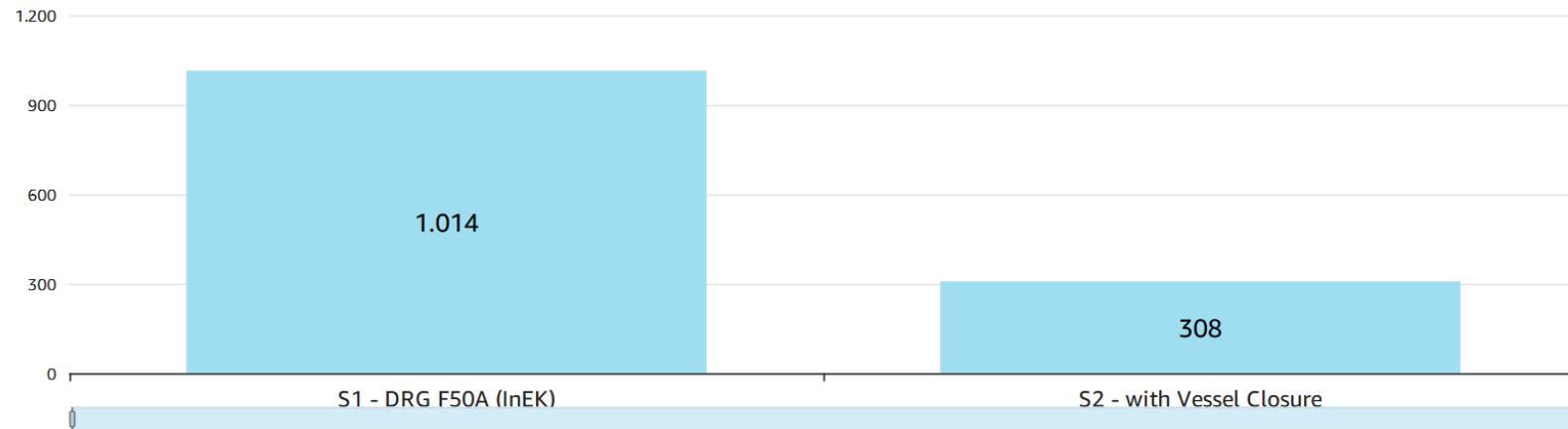
Key findings PathModeler™

- ✓ Average LOS reduction by 2.35 days

Length of Stay per Patient



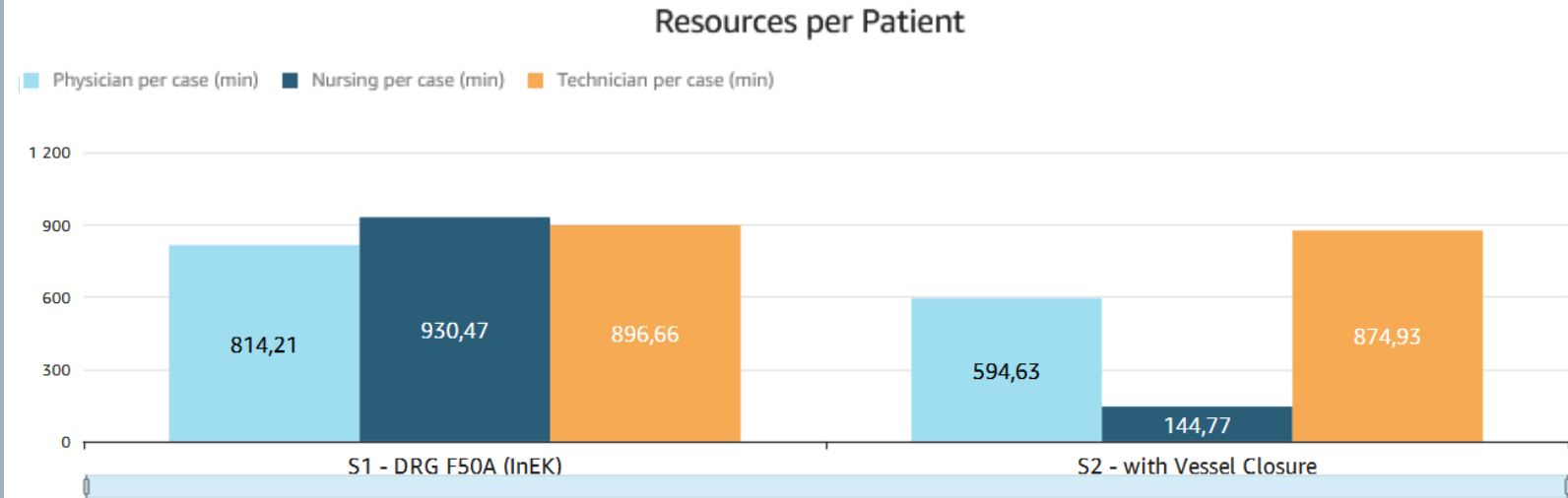
Total Days



Key findings

PathModeler™

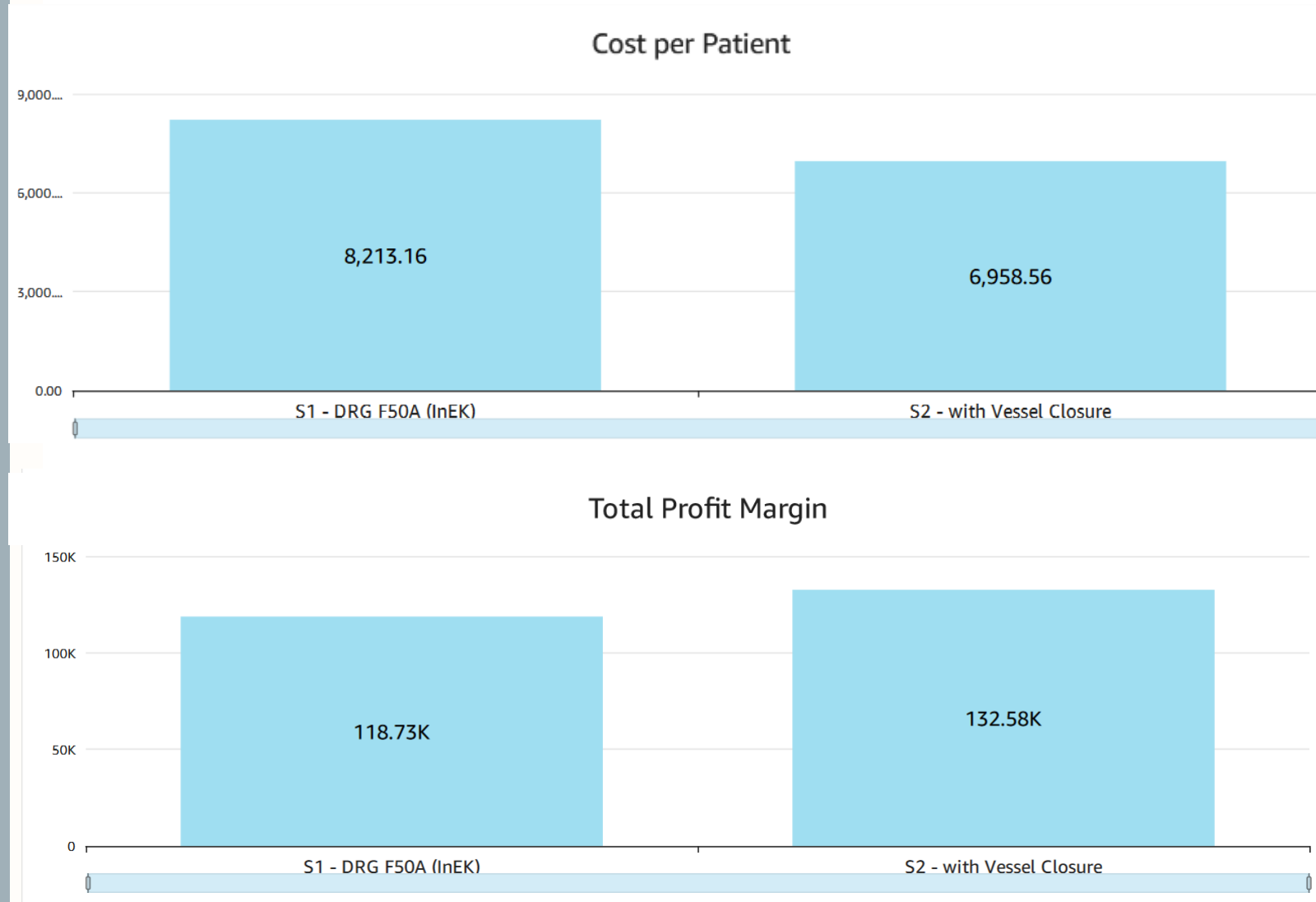
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- ✓ Average reduction in nursing time: 786 minutes



Key findings

PathModeler™

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PathModeler™

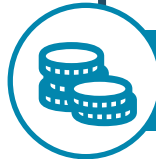
- ✓ Web-based
- ✓ Interactive design
- ✓ Standardized data integration
- ✓ Real time adaptation



Visual representation of patient pathways with treatment alternatives and outcomes as branches



Easy-to-use adaptation to aid user-specific decision-making



Realistic cost / prices



Showcasing impact of metrics variability

Impact on decision-making

- Quantification of health-economic benefits
- Assistance in handling higher patient volumes
- Clear presentation for stakeholders

Potential for broader application

- Displaying health-economic superiority of innovative interventions
- Distilling intricate data into clear value messages
- Future tool developments and improvements



Prof. Dr. Michael Wilke
Founder & CEO

Questions or deeper insights?

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