Beyond Health Gains: Societal and Fiscal Value of Vorasidenib in the Early Treatment of IDH-Mutant Grade 2 Glioma in Germany

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Background

IDH-mutant grade 2 glioma is a rare, infiltrative brain tumour that predominantly affects adults during their working years, meaning that its clinical and economic consequences may extend over several decades.[1,2] Although generally slow-growing, the disease may progress and is associated with seizures, neurocognitive and functional impairment, leading to reduced participation in paid and unpaid activities. These effects may intensify when treatment escalates to radiotherapy and/or chemotherapy (RT/CT).[3,4,5,6]

Vorasidenib is an oral, brain-penetrant inhibitor of mutant IDH1/2 and the first approved targeted therapy for patients who do not require immediate RT/CT.[7,8] By extending time without progression, reducing seizure risk, and delaying irreversible RT/CT escalation and long-term co-medication, it may preserve functioning and productive capacity.[9,10]

Assessing societal and fiscal impact therefore complements clinical and payer-based outcomes by examining how health gains translate into value for patients, society and the public sector.

Objective

To quantify the societal impact (SI) and fiscal impact (FI) of vorasidenib versus active observation (AO) in Germany, capturing economic consequences beyond direct healthcare costs.

Methodology

The analysis builds on an existing global cost-effectiveness model (CEM), adapted to the German setting and extended to capture societal and fiscal impacts.

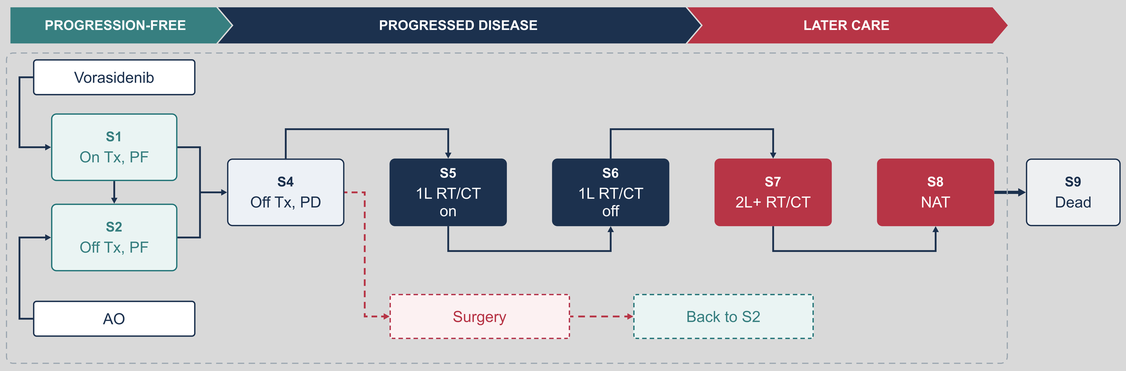
A patient-level microsimulation model with nine mutually exclusive health states, 28-day cycles, and a 10-year time horizon compared vorasidenib with active observation (AO) in an INDIGO-aligned population of patients who had undergone surgery and did not require immediate radiotherapy or chemotherapy (RT/CT). The model represents natural disease progression, first- and later-line RT/CT, monitoring, periods without active treatment and death. Clinical inputs, including time-to-event data, transition probabilities, and drug utilisation, were derived from the multinational INDIGO trial (through the CEM, data cut-off: March 2023) and targeted literature reviews.[9,10]

From the societal perspective, clinical gains were translated into changes in labour-force participation, absenteeism, presenteeism, premature mortality, and paid and unpaid work capacity. Paid work was valued using a human-capital approach, while unpaid activities were valued using a replacement-cost approach, capturing both market and non-market production.[11-13]

From the governmental perspective, fiscal impact was quantified as the net present value (NPV) of changes in income tax, value added tax, social-security contributions, healthcare costs, sick-leave payments, disability pensions and other public transfers.

Germany-specific inputs were sourced from the literature and publicly available databases, including the German Federal Statistical Office. Costs were valued in 2025 euros and discounted at 3%; parameter uncertainty was assessed using 1,000 Monte Carlo simulations.

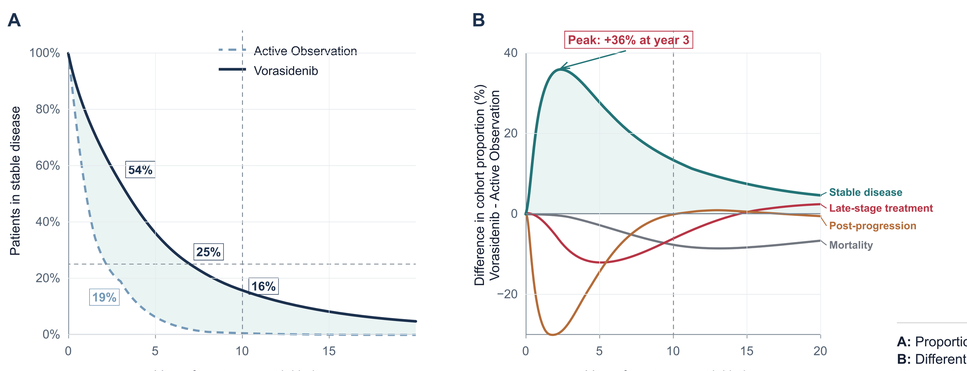
Nine-state disease and treatment pathway



Source: WifOR 2026. AO: active observation; PD: progressed disease; PF: progression-free; NAT: no active treatment; RT/CT: radiotherapy/ chemotherapy; 1L/2L+: first-/second-line; Tx: treatment. Re-surgery may return patients from S4 or S6 to S2, or directly to S8.

Results

Clinical results: +36 percentage points progression-free at Year 3



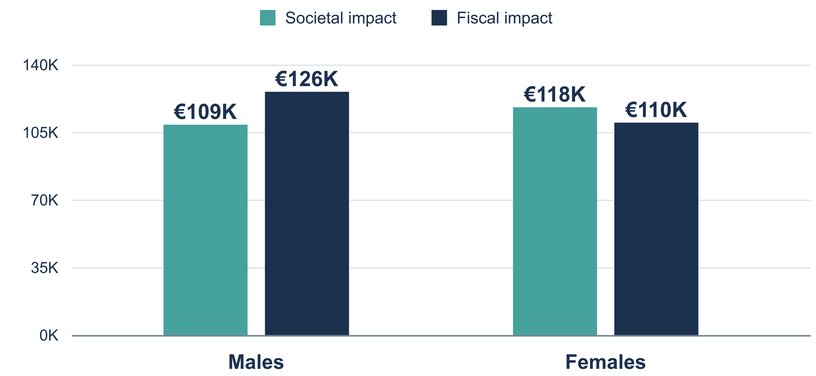
A: Proportion in Stable Disease (S1+S2) Over Time;
B: Differential State Occupancy (Vorasidenib vs Active Observation).

At year 3, 36% more of the vorasidenib cohort remains in stable disease compared to active observation.

Positive values = Vorasidenib advantage | **Negative values** = delayed effect (patients reach that state later)

Improved progression-free survival, with long-term state-occupancy trajectories shown to year 20.

Gender-specific societal and fiscal value



Female SI is higher because unpaid work contributes more;
Male FI is higher because of labour-market and earnings patterns.

Incremental Societal and Fiscal Impact of Vorasidenib versus Active Observation, by Gender

+2,376 hours
Productive time preserved per patient

+€112,922
Net societal impact per patient

Group	Productive hours	Paid work (€)	Unpaid work (€)	Net SI (€)
Males	2,237	75,845	33,306	109,151
Females	2,550	68,623	49,224	117,847
Average	**2,376**	**72,713**	**40,209**	**112,922**

Paid work: €72,713 (64%) | Unpaid work: €40,209 (36%) | Per patient; €2025; 3% discount rate.

Unpaid productivity included household, care, childcare, and voluntary activities, valued using a replacement-cost approach based on gross value added per hour in comparable formal-economy sectors.

Fiscal impact: Net present value, revenues and avoided expenditure

+€118,628
Net fiscal impact per patient

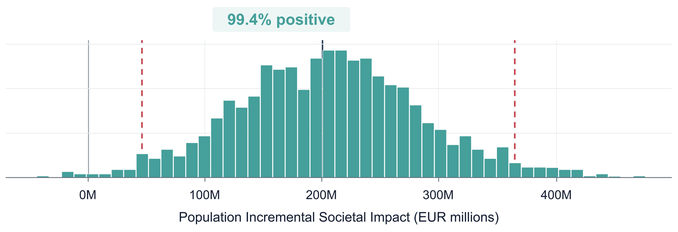
+€105,825
Avoided public expenditure per patient

Scenario	Revenues (€)	Expenditures (€)	R - E (€)
Active observation NPV	90,856	-480,035	-389,179
Vorasidenib NPV	103,659	-374,210	-270,552
Vora - AO impact	**12,803**	**105,825**	**118,628**

Average fiscal NPV improves from -€389,179 under AO to -€270,552 with vorasidenib.

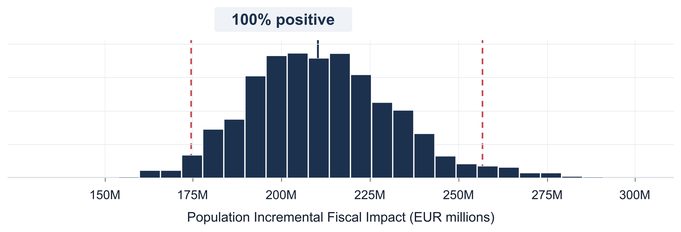
Of net FI, 11% reflects preserved tax/social-insurance revenues and 89% avoided healthcare, sick-leave, disability and transfer expenditure. Per patient; €2025; 3% discount rate.

Uncertainty: probabilistic distributions and 95% confidence intervals



SOCIETAL IMPACT

€112,922 per patient
95% CI: €24,373–€200,139
99.4% positive



FISCAL IMPACT

€118,628 per patient
95% CI: €98,484–€145,032
100% positive

Discussion: wider value and policy context

First comprehensive German assessment. To our knowledge, this is the first study to quantify the wider societal and fiscal benefits of vorasidenib for patients with IDH-mutant grade 2 glioma in Germany, combining disease-specific clinical evidence with country-specific labour market, healthcare and social-security inputs.

Interpretation and wider value

- By modifying the disease course, delaying progression and subsequent RT/CT, vorasidenib may preserve paid and unpaid productive activity and generate favourable public-finance effects—benefits largely outside conventional payer perspectives.[3,9,10]
- Monetised outcomes capture only measurable value. Potential effects on quality of life, equity, access and caregivers remain important and were not included.

Economic evidence and adoption

- Conventional cost-effectiveness findings differ across settings because acquisition price, commercial arrangements, comparators, treatment pathways and long-term survival assumptions shape estimates.[14,15,16]
- The adoption landscape continues to evolve and remains country-specific; regulatory, HTA and reimbursement decisions reflect local evidence requirements and the clinical benefits expected from modelling.

Key modelling considerations

- Acquisition cost and an ICER were not included; this complementary analysis is not a formal value-for-money or narrow budget-impact assessment.
- A common GVA per hour and proportional absenteeism/ presenteeism were used; occupation, wages, workplace substitution and task redistribution were not modelled.
- Unpaid work used pre-illness activity patterns and replacement-cost valuation; household adaptation and informal provision may alter estimates.
- Long-term results depend on clinical extrapolation and macroeconomic conditions; demographic, labour-market and productivity dynamics were not modelled explicitly.

Overall, SI and FI are complementary and should not be summed. They show how modelled clinical gains may generate wider value beyond direct healthcare costs, but do not replace cost-effectiveness analysis.

Conclusions

1. Vorasidenib extends progression-free time, reducing seizure risk, and delaying irreversible RT/CT escalation and long-term co-medication during patients' working years.
2. Over 10 years, these health benefits translate into societal value through preserved paid and unpaid productivity and fiscal value through lower healthcare costs and increased public revenues.
3. A broader perspective can complement payer-based HTA by capturing societal and fiscal effects of disease-modifying therapies such as vorasidenib beyond direct healthcare outcomes.

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Disclosure

All authors declare no conflict of interest.

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