AI-Powered Dashboard Builder: Adding Value to HEOR Payer Communications

Sekhar Kumar Dutta[1], Sheetal Sharma[1], Subhajit Gupta[1] and Ray Gani[2]

1. PharmaQuant Insights Pvt. Ltd., India
2. PharmaQuant International, London

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Background

Effective market access requires rapid, transparent, evidence-driven communications to a diverse set of payers. Health technology manufacturers (HTMs) generate substantial HEOR evidence[1] to meet these needs but when communicating this to payers, a value gap continues to exist.

Visually compelling communication tools can reduce this gap and are critical during payer interactions where funding decisions are actively discussed. Well-designed dashboards can fulfill this need without losing scientific rigor and maintain flexibility. Dashboards are therefore a vital part of the field team's armamentarium.

HEOR payer tools are often developed in Excel and subsequently incorporated into dashboards. While often effective, they have limitations due to their development time; for example, a small window to develop the HEOR tools, program them into dashboards, and undergo a medical-legal-compliance (MLR) review. These time limitations may comprise scope and quality. Also, once rolled out, adjusting HEOR tools to meet any changes in the environment is difficult, based on field-based feedback, user-experience, and evolving payer landscapes, because of the required effort.

*"PharmaQuant has developed an **AI-based dashboard builder** that transforms Excel HEOR evidence into fully interactive, payer-ready dashboards"*

This paper will demonstrate how recent advances in AI remove these limitations, enabling more sophisticated and flexible payer tools to be developed and rapidly updated with real-world real-time feedback.

The Challenge

Dashboard development traditionally requires two teams: the HEOR team creating HEOR evidence and a programming team to create the dashboard. The skill sets of these teams are rarely transferable, leading to additional costs and delays.

The traditional development process from HEOR evidence to final deployable interactive dashboard is demonstrated in Figure 1. This process may take 12-14 weeks, creating a barrier to access.

[1]Such as cost effectiveness and budget impact analyses (CEA & BIA), real world evidence (RWE), and statistical analyses.

Figure 1: Traditional Development Process for HEOR Dashboards

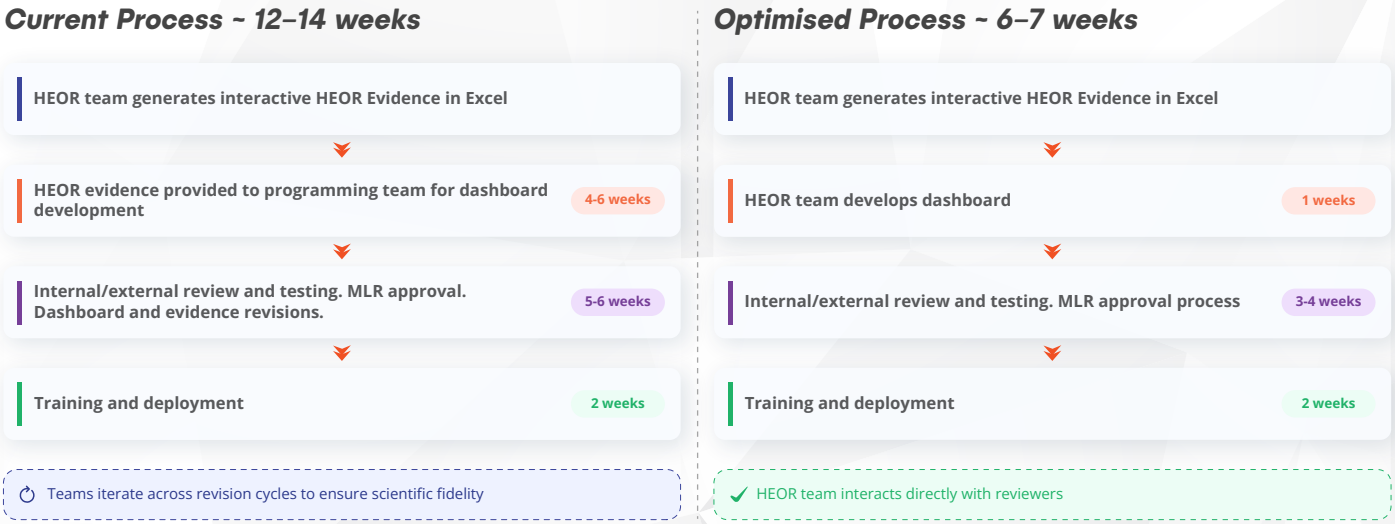


The Solution – the AI Powered Dashboard Builder (AI-DB)

PharmaQuant has created a suite of AI agents: AI powered dashboard builder (AI-DB). The AI-DB empowers the HEOR team to independently build, iterate, and deploy dashboards, unlocking dynamic scenario modeling, and data visualization that are different from earlier traditional development timelines. The AI-DB converts HEOR evidence within Excel into fully interactive, web-deployable payer dashboards in a matter of days, eliminating weeks from the development cycle (see Figure 2).

*"PharmaQuant's **AI-powered dashboard builder** is built by HEOR scientists and validated against real-world market access scenarios, designed to integrate seamlessly into existing dashboard development workflows without disrupting established QC process or regulatory*

Figure 1: Dashboard Development with AI-DB Reduces Deployment Times by at Least 50%



Time savings occur at two points in the development cycle:

- The AI-DB builds a fully functional interactive dashboard from Excel. This dashboard includes dynamic graphical representations of model outputs, scenario toggles, sensitivity analyses, etc., with minimal manual coding. This is automated and the HEOR team QCs the results.[2]

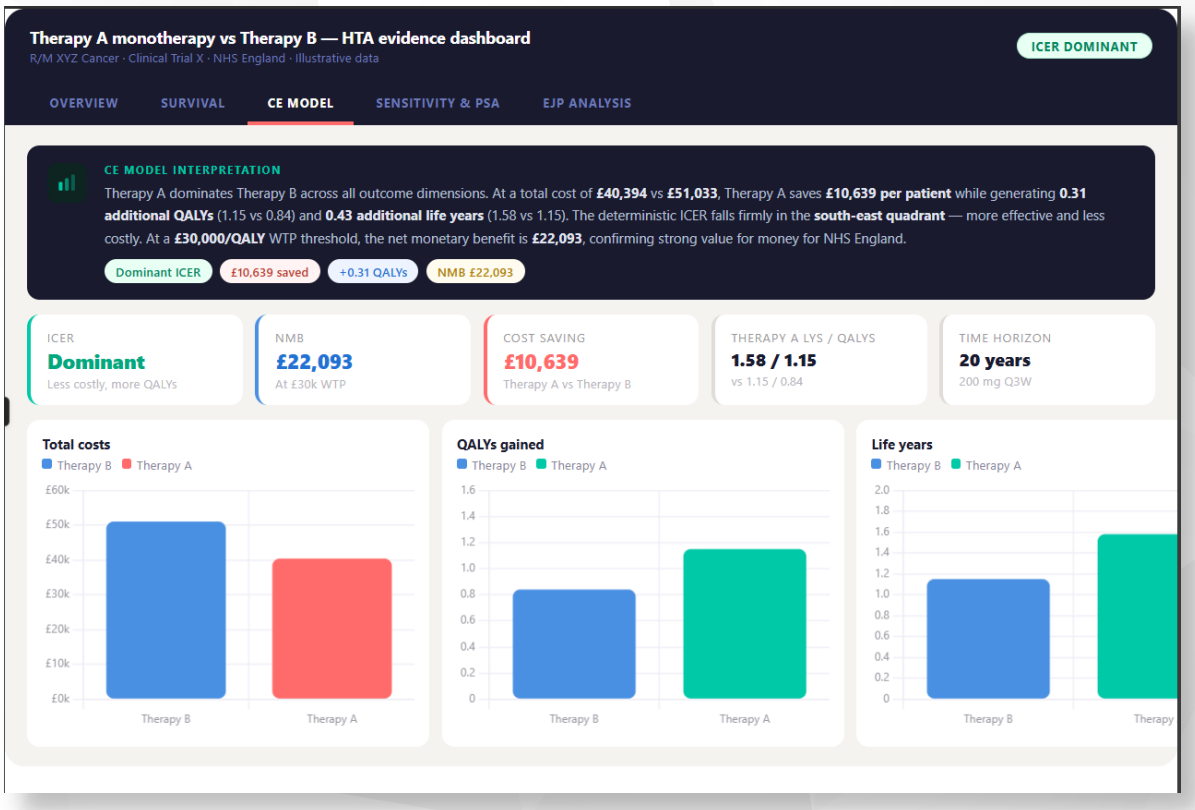
- Internal/external review and testing, and revisions based on an MLR review would be faster than the current process because the dashboards can be reprogrammed rapidly if required.

Updates to field-based materials will follow the same process. Timelines savings means the dashboard can be updated in near real time.

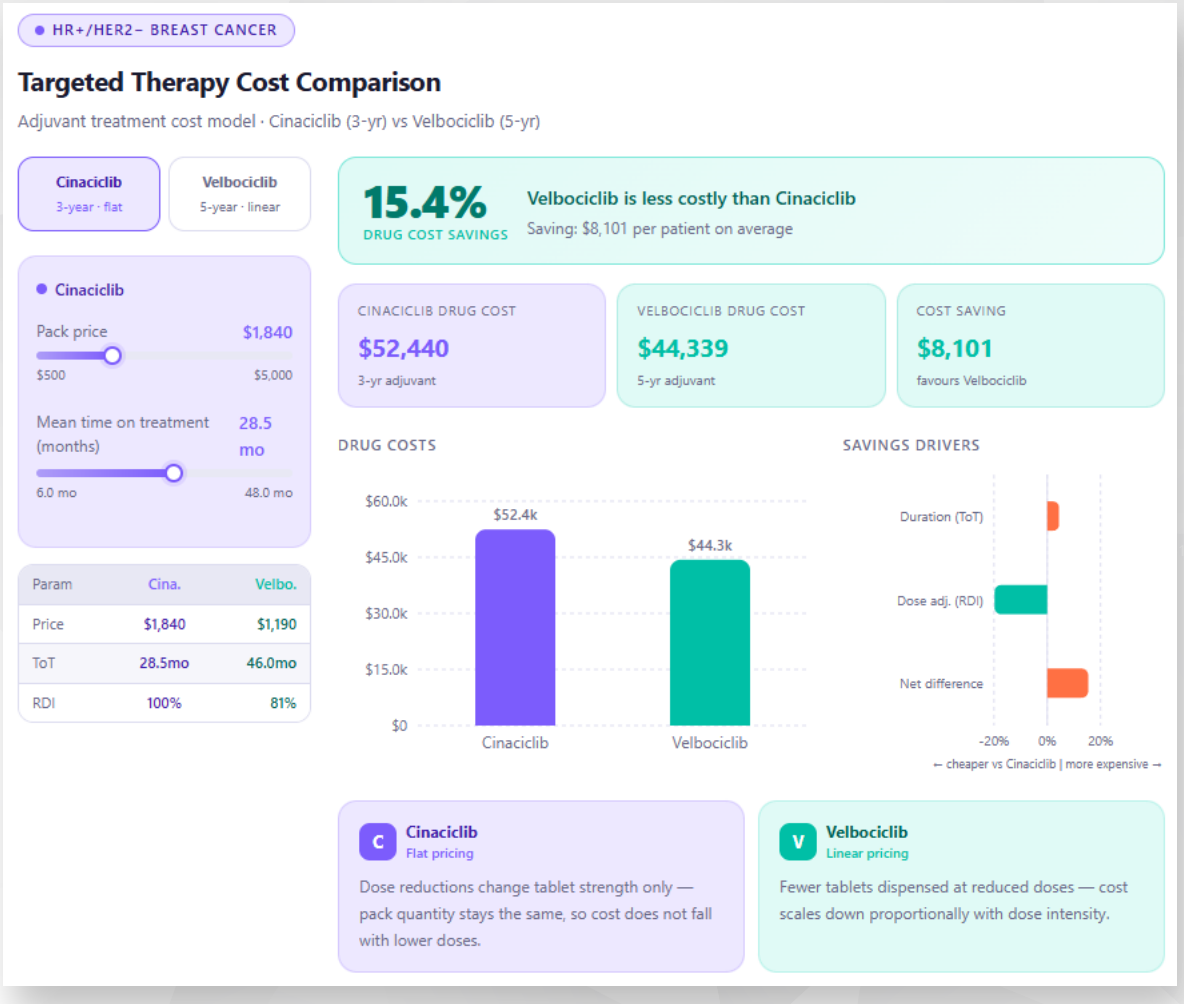
Outputs from the AI-DB

AI-DB produces similar outcomes with greater flexibility for future audit and additional enhancement. The following diagrams from **AI-DB** will demonstrate how cost-effective analysis (CEA) and budget impact analysis (BIM) models are converted into interactive dashboards using AI.

Figure 2: AI_DB CEA Model Dashboard



[2]Note that confidential information is not included in the AI tools at any time. Re-QC will be required prior to incorporating confidential information and resubmitting for MLR review. Dashboard can then be rolled and used externally.


HR+/HER2− BREAST CANCER
Targeted Therapy Cost Comparison
Adjuvant treatment cost model · Cinaciclib (3-yr) vs Velbociclib (5-yr)
Cinaciclib
3-year · flat
Velbociclib
5-year · linear
15.4%
DRUG COST SAVINGS
Velbociclib is less costly than Cinaciclib
Saving: $8,101 per patient on average
Cinaciclib
Pack price
$1,840
$500
$5,000
Mean time on treatment (months)
28.5 mo
6.0 mo
48.0 mo
Param
Cina.
Velbo.
Price
$1,840
$1,190
ToT
28.5mo
46.0mo
RDI
100%
81%
CINACICLIB DRUG COST
$52,440
3-yr adjuvant
VELBOCICLIB DRUG COST
$44,339
5-yr adjuvant
COST SAVING
$8,101
favours Velbociclib
DRUG COSTS
$60.0k
$45.0k
$30.0k
$15.0k
$0
$52.4k
$44.3k
Cinaciclib
Velbociclib
SAVINGS DRIVERS
Duration (ToT)
Dose adj. (RDI)
Net difference
-20%
0%
20%
← cheaper vs Cinaciclib | more expensive →
Cinaciclib
Flat pricing
Dose reductions change tablet strength only — pack quantity stays the same, so cost does not fall with lower doses.
Velbociclib
Linear pricing
Fewer tablets dispensed at reduced doses — cost scales down proportionally with dose intensity.

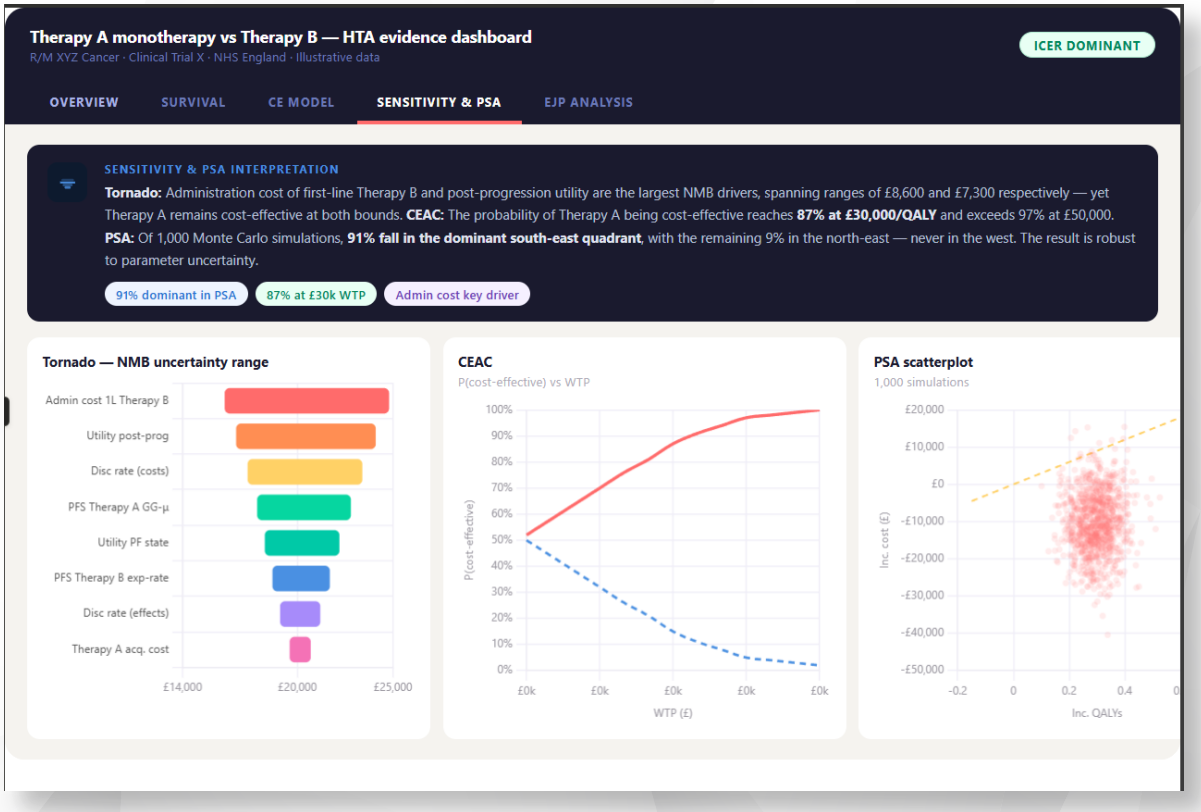
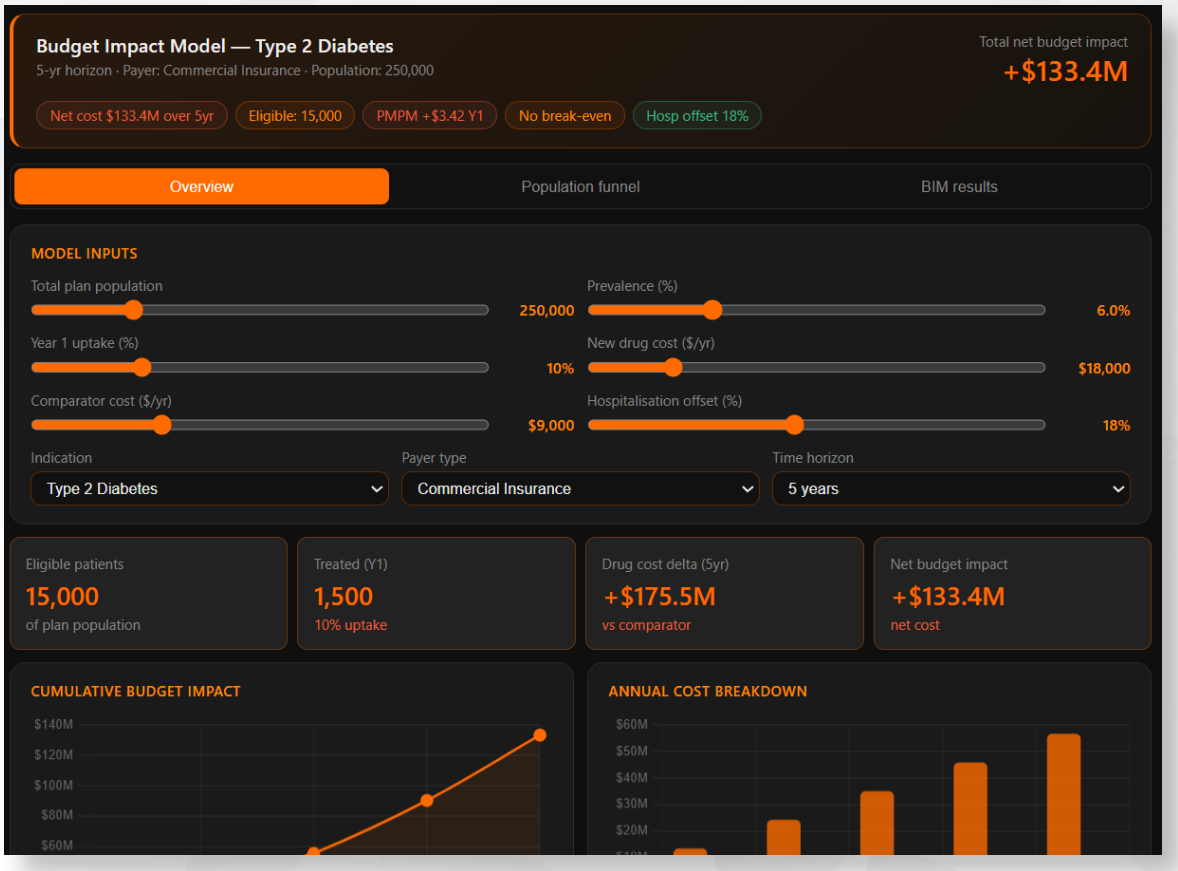

Therapy A monotherapy vs Therapy B — HTA evidence dashboard
R/M XYZ Cancer · Clinical Trial X · NHS England · Illustrative data
ICER DOMINANT
OVERVIEW
SURVIVAL
CE MODEL
SENSITIVITY & PSA
EJP ANALYSIS
SENSITIVITY & PSA INTERPRETATION
Tornado: Administration cost of first-line Therapy B and post-progression utility are the largest NMB drivers, spanning ranges of £8,600 and £7,300 respectively — yet Therapy A remains cost-effective at both bounds. CEAC: The probability of Therapy A being cost-effective reaches 87% at £30,000/QALY and exceeds 97% at £50,000. PSA: Of 1,000 Monte Carlo simulations, 91% fall in the dominant south-east quadrant, with the remaining 9% in the north-east — never in the west. The result is robust to parameter uncertainty.
91% dominant in PSA
87% at £30k WTP
Admin cost key driver
Tornado — NMB uncertainty range
Admin cost 1L Therapy B
Utility post-prog
Disc rate (costs)
PFS Therapy A GG-µ
Utility PF state
PFS Therapy B exp-rate
Disc rate (effects)
Therapy A acq. cost
£14,000
£20,000
£25,000
CEAC
P(cost-effective) vs WTP
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
P(cost-effective)
£0k
WTP (£)
PSA scatterplot
1,000 simulations
£20,000
£10,000
£0
-£10,000
-£20,000
-£30,000
-£40,000
-£50,000
Inc. cost (£)
-0.2
0
0.2
0.4
Inc. QALYs

Figure 3: AI-DB Generated BIM Dashboard





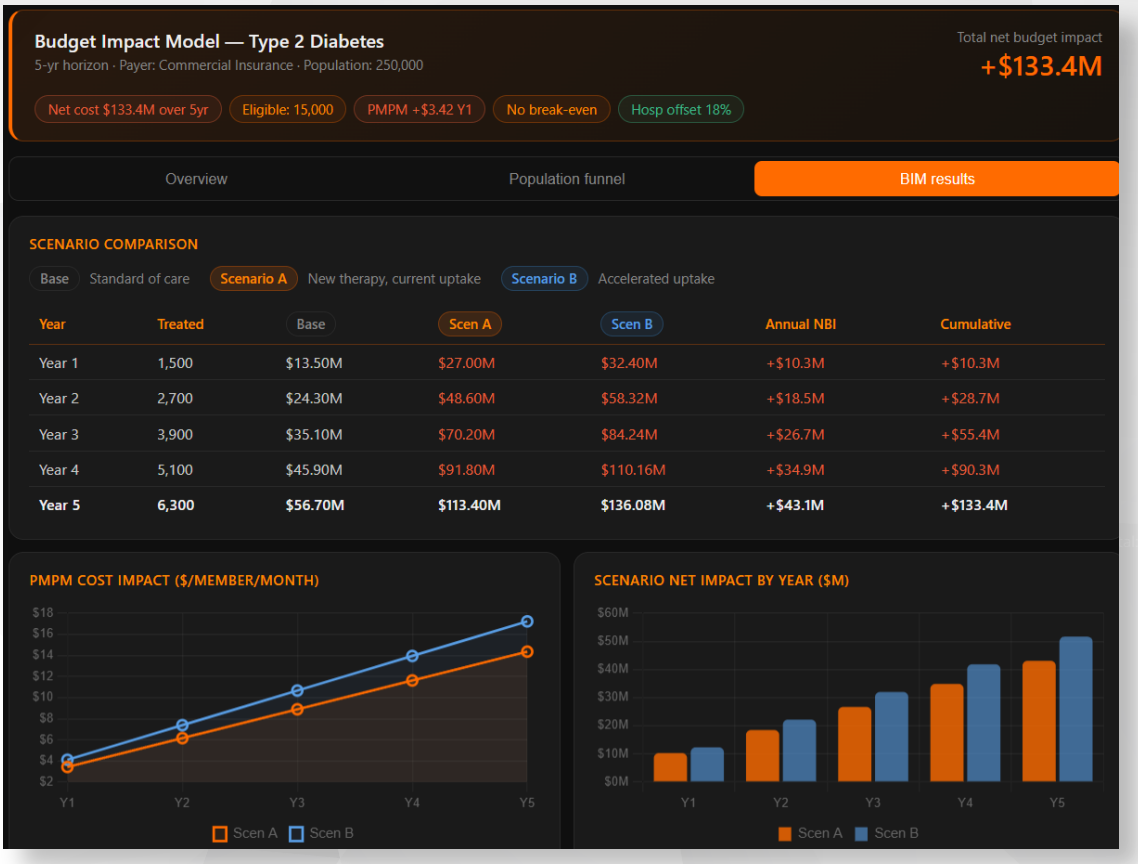
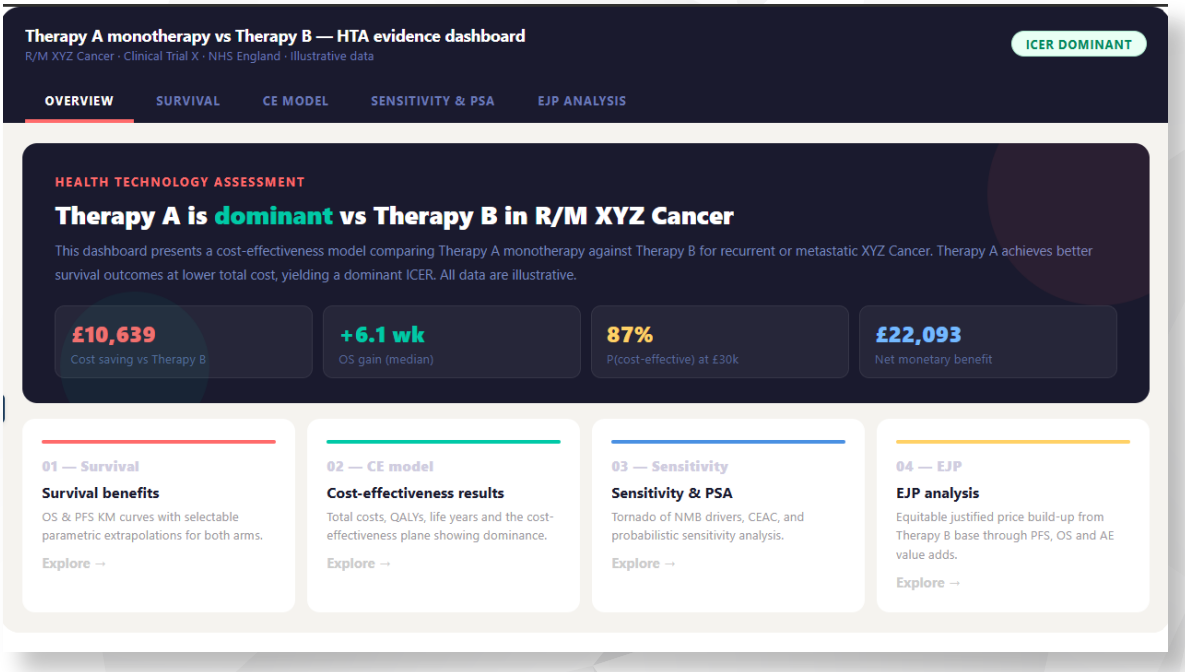


Figure 3: AI-DB Generated BIM Dashboard





This approach does not replace humans with AI but leverages powerful AI tools to reduce human efforts and deliver more scope and options to the payer-facing team.

The AI-DB is designed explicitly to serve the needs of payer-facing field teams. Specific key benefits are identified on the left.

KEY BENEFITS

Productivity Savings

Significant reduction in development time and cost compared to traditional builds

Payer/HTA Ready Dashboards

Interactive dashboards tailored for payer and HTA decision-maker needs with full interactivity

Rapid Iteration & Updates

AI-powered workflow enables fast model revisions and real-time updates without rebuilding from scratch

Next Steps

Communicating economic value clearly, credibly, and rapidly to the right payer audience at the correct time is a strategic imperative for pharmaceutical market access. The traditional model, which requires months of developer time, multiple revision cycles, and significant financial investment, is no longer fit for purpose.

PharmaQuant's AI-DB is fast, cost-effective, and responsive to the real-time needs of payer-facing field teams. Empowering HEOR teams to convert their materials into interactive, web-ready dashboards with AI assistance, without developer dependency, fundamentally transforms the economics and logistics of value communication.

For further information, please contact

Ray Gani (ray@pharmaquant.org) or Sheetal Sharma (sheetal@pharmaquant.org)

To arrange a demo and discuss further opportunities available with AI-DB.

Visit us:- https://www.pharmaquant.org