

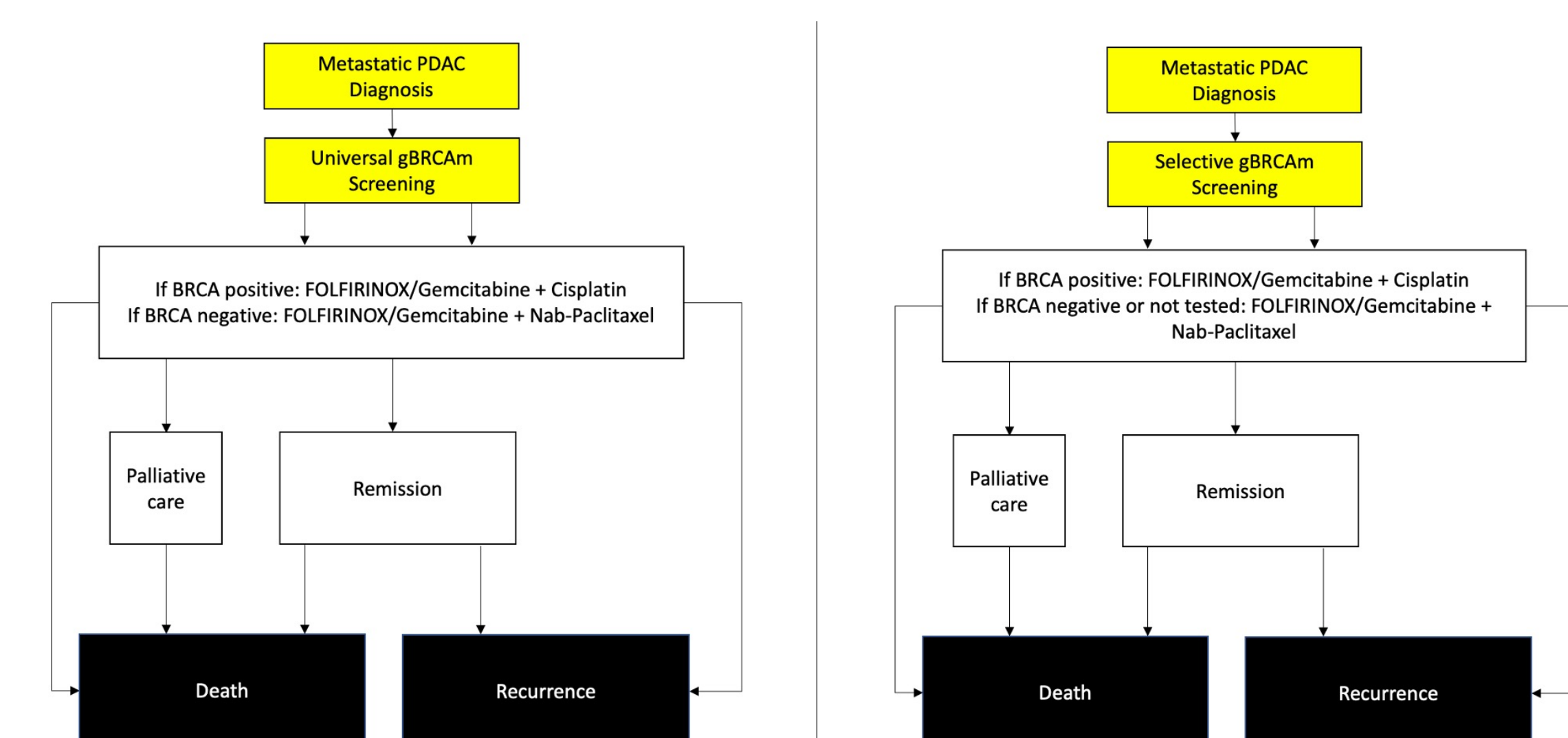
Background:

- Germline BRCA1/2 mutations (gBRCAm) increase the risk of pancreatic ductal adenocarcinoma (PDAC).
- The NCCN 2022 guidelines recommend genetic testing for gBRCAm in all newly diagnosed metastatic PDAC patients. Previously, gBRCAm screening in PDAC patients was done selectively for patients with a familial history of PDAC.
- Additionally, gBRCAm screening is free-of-charge under the Invitae Detect Hereditary Pancreatic Cancer program, which prior models have not considered.
- The purpose of our study was to explore the cost-effectiveness, treatment outcomes, costs, and quality-of-life impact of universal gBRCAm screening.

Methods:

- We developed a decision-analytic mathematical model comparing the cost and health outcomes of universal gBRCAm screening against selective gBRCAm screening.
- Patients were followed until disease progression or death.
- The primary endpoint was incremental cost-effectiveness ratios (ICERs)

Model Schematic

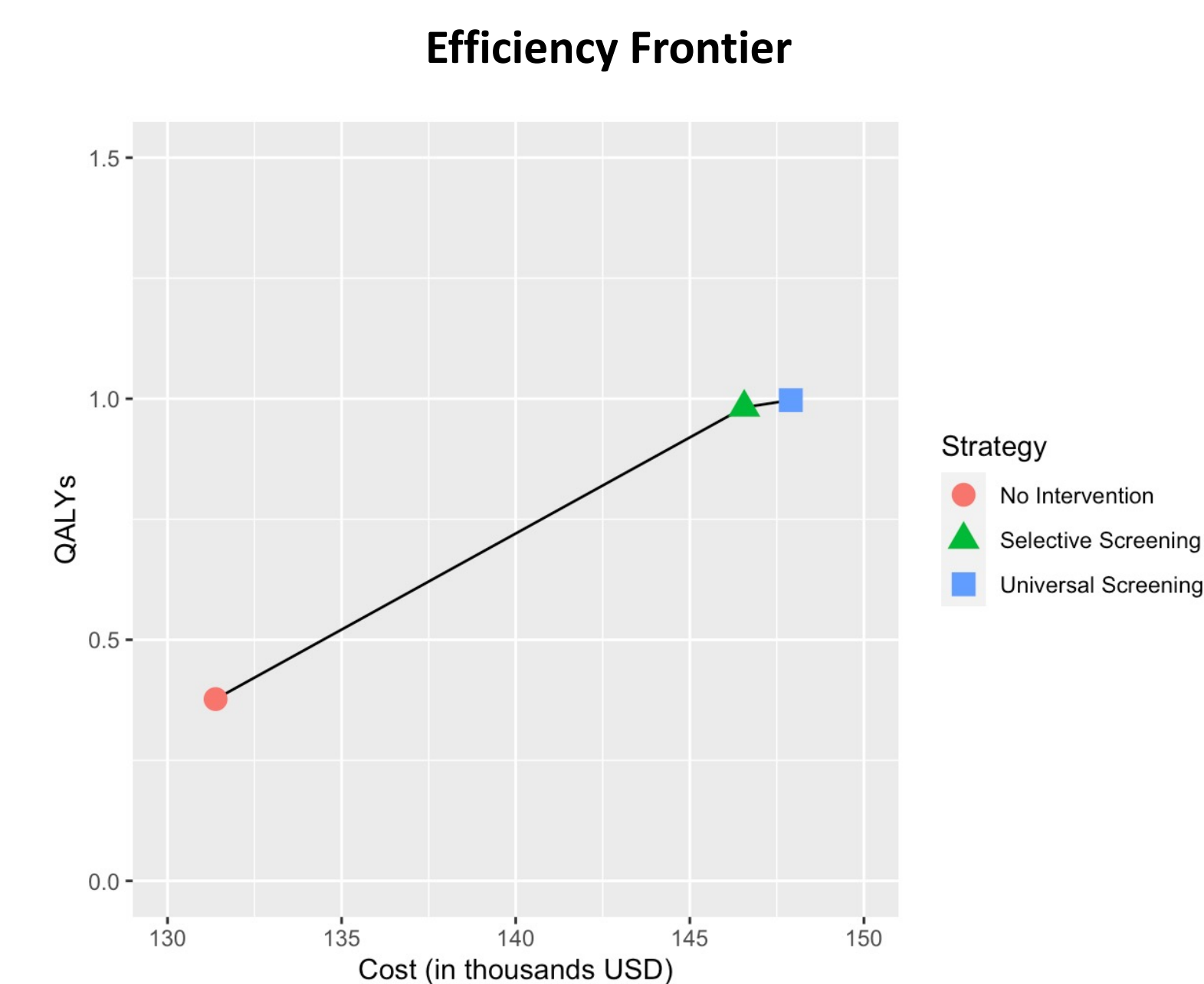


Universal gBRCAm screening is cost-effective over *selective* gBRCAm screening and produces higher *progression-free survival* AND *quality of life scores*

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Results:

- Universal gBRCAm screening was the optimal strategy with an ICER of \$40,983 compared to selective gBRCAm screening.
- The universal screening arm had a slightly higher median PFS and slightly higher 5-year PFS compared to the selective screening arm



Model Results

	Life Years	Cost (USD)	QALYs	BRCA Status (%)	Median PFS	5 Year PFS	ICERs
No Intervention	0.856	\$131,382	0.377	N/A	4.94	0.00%	--
Selective Screening	1.34	\$146,563	0.982	1.4%	9.25	1.30%	\$25,511
Universal Screening	1.38	\$147,900	0.997	7%	9.32	1.70%	\$40,983

Future Directions for Research:

- Include effect of cascade testing on cost-effectiveness