Supplementary Material S1. Full Large Language Model Prompt Used in the CANEAT App

This supplement provides the complete prompt submitted to the Gemini large language model (LLM) to generate each participant's meal plan and grocery list. The app was first built as a Streamlit/Python prototype (Implementation A) and subsequently migrated to the final Next.js/React version (Implementation B). These reflect sequential development stages rather than separate study conditions. The patient-specific core prompt (Section S1.1) was identical in both versions; Implementation B appended the output-formatting instructions in Section S1.2.

S1.1. Core prompt (identical in Implementations A and B)

Bracketed fields were populated automatically from the participant's inputs in the app.

```
Develop an optimal grocery list and meal plan for one day for a [age] year-old [gender] [cancer stage] breast cancer patient [comorbidities] and a household of [adults] [with kids/with no kids] living in zip code [ZIP] who needs to eat a [culture] healthy diet with a daily budget of $[budget] [bulk instruction] from [grocery stores] [likes instruction] and [dietary restrictions/dislikes]. You do not need to incorporate the ingredients suggested if it will not make a healthy meal plan.
```

S1.2. Output-formatting instructions appended in Implementation B

The following text was appended to the core prompt in the Next.js version and is reproduced verbatim. In the application source code, ${budget} is a template variable replaced by the participant's daily budget, so "$${budget}" is rendered as a dollar sign followed by the budget amount (e.g., "$25"). Placeholders such as [item] and $X.XX are instructions to the model describing the expected output format.

```
BUDGET: Stay within $${budget} total. All costs in $X.XX format.

FORMAT (be concise):

# MEAL PLAN

## Breakfast:
[Meal Name]
[Brief description]
Ingredients:
- [item] ($X.XX)
- [item] ($X.XX)
Estimated Cost: $X.XX
Nutrients: Xg protein, Xg carbs, Xg fat, X calories

## Lunch:
[Same format as breakfast]

## Dinner:
[Same format as breakfast]

## Snack 1:
[Same format as breakfast]

## Snack 2:
[Same format as breakfast]

# GROCERY LIST

## Proteins:
- [item] - $X.XX
```

```
- [item] - $X.XX

## Vegetables:
- [item] - $X.XX
- [item] - $X.XX

## Fruits:
- [item] - $X.XX
- [item] - $X.XX

## Grains:
- [item] - $X.XX
- [item] - $X.XX

## Other:
- [item] - $X.XX
- [item] - $X.XX

TOTAL GROCERY LIST COST: $X.XX

**NOTE:** *Groceries provide multiple days of meals, daily cost is $${budget}.*

# NUTRITIONAL TIPS

1. [Breast cancer specific tip]
2. [Breast cancer specific tip]
3. [Breast cancer specific tip]
4. [Breast cancer specific tip]
5. [Breast cancer specific tip]

Keep responses concise. Focus on breast cancer nutrition needs.
```